

Assessment of Domestic Pollution Load from Urban Agglomeration in Ganga Basin: Bihar

GRBMP: Ganga River Basin Management Plan

by

Indian Institutes of Technology



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Preface

In exercise of the powers conferred by sub-sections (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government has constituted National Ganga River Basin Authority (NGRBA) as a planning, financing, monitoring and coordinating authority for strengthening the collective efforts of the Central and State Government for effective abatement of pollution and conservation of the river Ganga. One of the important functions of the NGRBA is to prepare and implement a Ganga River Basin Management Plan (GRBMP).

A Consortium of 7 Indian Institute of Technology (IIT) has been given the responsibility of preparing Ganga River Basin Environment Management Plan (GRBMP) by the Ministry of Environment and Forests (MoEF), GOI, New Delhi. Memorandum of Agreement (MoA) has been signed between 7 IITs (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and MoEF for this purpose on July 6, 2010.

This report is one of the many reports prepared by IITs to describe the strategy, information, methodology, analysis and suggestions and recommendations in developing Ganga River Basin Management Plan (GRB EMP). The overall Frame Work for documentation of GRBMP and Indexing of Reports is presented on the inside cover page.

There are two aspects to the development of GRB EMP. Dedicated people spent hours discussing concerns, issues and potential solutions to problems. This dedication leads to the preparation of reports that hope to articulate the outcome of the dialog in a way that is useful. Many people contributed to the preparation of this report directly or indirectly. This report is therefore truly a collective effort that reflects the cooperation of many, particularly those who are members of the IIT Team. Lists of persons who have contributed directly and those who have taken lead in preparing this report is given on the reverse side.

Dr. Vinod Tare
Professor and Coordinator
Development of GRBMP
IIT Kanpur

The Team

1. A AKazmi, IIT Roorkee *kazmifce@iitr.ernet.in*
2. A K Gupta, IIT Kharagpur *akgupta18@rediffmail.com,akgupta@iitkgp.ac.in*
3. A K Mittal, IIT Delhi *akmittal@civil.iitd.ernet.in*
4. A K Nema, IIT Delhi *aknema@gmail.com*
5. Ajay Kalmhad, IIT Guwahati *kajay@iitg.ernet.in*
6. Anirban Gupta, BESU Shibpur *guptaanirban@hotmail.com*
7. Arun Kumar, IIT Delhi *arunku@civil.iitd.ac.in*
8. G J Chakrapani, IIT Roorkee *gjcurfes@iitr.ernet.in*
9. GazalaHabib, IIT Delhi *gazalahabib@gmail.com*
10. Himanshu Joshi, IIT Roorkee *himanshujoshi58@gmail.com*
11. Indu Mehrotra, IIT Roorkee *indumfce@iitr.ernet.in*
12. I M Mishra, IIT Roorkee *imishfch@iitr.ernet.in*
13. Ligy Philip, IIT Madras *ligy@iitm.ac.in*
14. M MGHangrekar, IIT Kharagpur *ghangrekar@civil.iitkgp.ernet.in*
15. MukeshDoble, IIT Bombay *mukeshd@iitm.ac.in*
16. P K Singh, IT BHU *dr_pksingh1@rediffmail.com*
17. Purnendu Bose, IIT Kanpur *pbose@iitk.ac.in*
18. R Ravi Krishna, IIT Madras *rrk@iitm.ac.in*
19. Rakesh Kumar, NEERI Nagpur *r_kumar@neeri.res.in*
20. S M Shivnagendra, IIT Madras *snagendra@iitm.ac.in*
21. SaumyenGuha, IIT Kanpur *sguha@iitk.ac.in*
22. Shyam R Asolekar, IIT Bombay *asolekar@iitb.ac.in*
23. SudhaGoel, IIT Kharagpur *sudhagoel@civil.iitkgp.ernet.in*
24. Suparna Mukherjee, IIT Bombay *mitras@iitb.ac.in*
25. T R Sreekrishanan, IIT Delhi *sree@dbeb.iitd.ac.in*
26. Vinod Tare, IIT Kanpur *vinod@iitk.ac.in*
27. Vivek Kumar, IIT Roorkee *vivekfpt@iitr.ernet.in*

Lead Persons

1. Vinod Tare, IIT Kanpur
2. Purnendu Bose, IIT Kanpur
3. Shashikant Patel, IIT Kanpur
4. Swatantra Pratap Singh, IIT Kanpur

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1. Introduction

Bihar has the total area of 94163 sq km, which is about 2.86 % of the total area of the country. Bihar has total 38 districts and the third largest populated state with ~8.6% of the total population in India. Bihar shares its boundaries with Uttar Pradesh to west, Nepal to the North, West Bengal to the east and by Jharkhand to the south. Bihar is divided by the river Ganges into two and flows from west to east. It is also known for its historically rich heritage and culture and religious tourism. Patna is the capital as well as the most populated city of Bihar.

River Ganga touches the Bihar near Chausa (Buxar) and share around 110 km boundary with Uttar Pradesh and then finally enters to Bihar near Chhapra and exits near Manihari (Katihar). During her course in Bihar many tributaries such as Gandak, Bodhi Gandak, Kosi, Son and Ghaghara, which flow through Bihar, join the river, both from the left as well as from the right. The entire state of Bihar is in Ganga River Basin (GRB), and in terms of catchment area is the third largest contributor. The salient features of some major tributaries and sub-tributaries contributing directly or indirectly to the river Ganga in the state of Bihar are presented in Table 1.

Table 1: The Salient Features of Tributaries of the Ganga River Basin Contributing to the River Ganga in the State of Bihar.

| Characteristics | Ghaghara | Gandak | Kosi | Burhi Gandak | Son |
|--|--------------------------------------|--|---|---|------------|
| Position | Left bank | Left bank | Left bank | Left bank | Right bank |
| Region of origin | Tibetan Plateau near Lake Mansarovar | Tibetan Plateau near Nhubine Himal Glacier | Tibetan Plateau near Tribenighat, Nepal | near Bisambhar pur, West Champaran district Bihar | Amarkantak |
| Mouth | Ganga | Ganga | Ganga | Ganga | Ganga |
| Total length (km) | 1,080 | 630 | 720 | 320 | 784 |
| Total catchment area (sq km) | 127,950 | 46,300 | 61,788 | 10,150 | 11,100 |
| Catchment area in Bihar (sq km) | 43,488 | | 30,437 | - | 6,184 |

| River bed/ Soil texture | Clay, sand, loam and deep black soil | Clay, sand, | Sand, silt, clay and | Clay, silt, and sand | Red soil, |
|-------------------------|--------------------------------------|-------------|----------------------|----------------------|-----------|
| | | | | | |

The major tributaries (Ghaghara, Gandak, Kosi, Burhi Gandak and Son) of the river Ganga cover the catchment area of nearly 67% of the total area of the state of Bihar. Burhi Gandak is one of the largest tributary of river Ganga in Bihar, having a total catchment area of 35,572 sq km. The total annual average rainfall in the state of Bihar is in the order of 1,183 mm and it contributes approximately 31.99% of the total rainfall in the catchment of the Ganga basin.

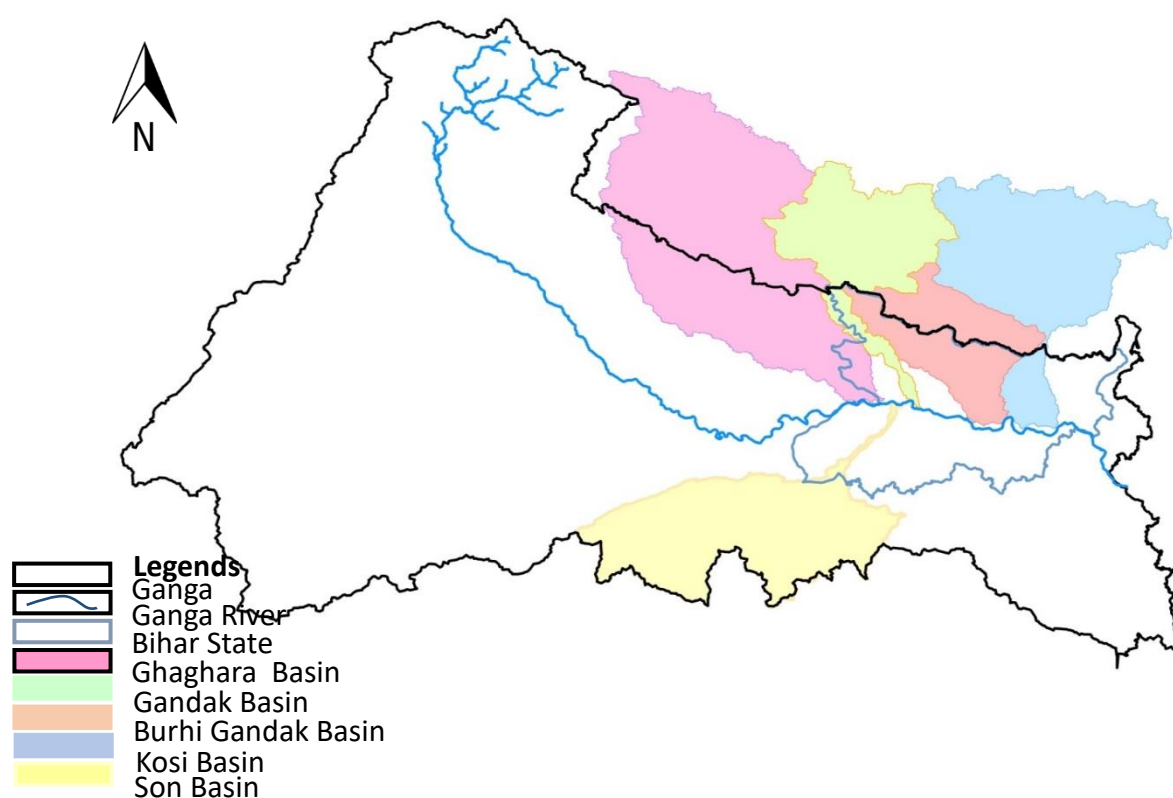


Figure 1: Ganga River Basin with its Major Sub-Basins of Bihar within the Indian Territory

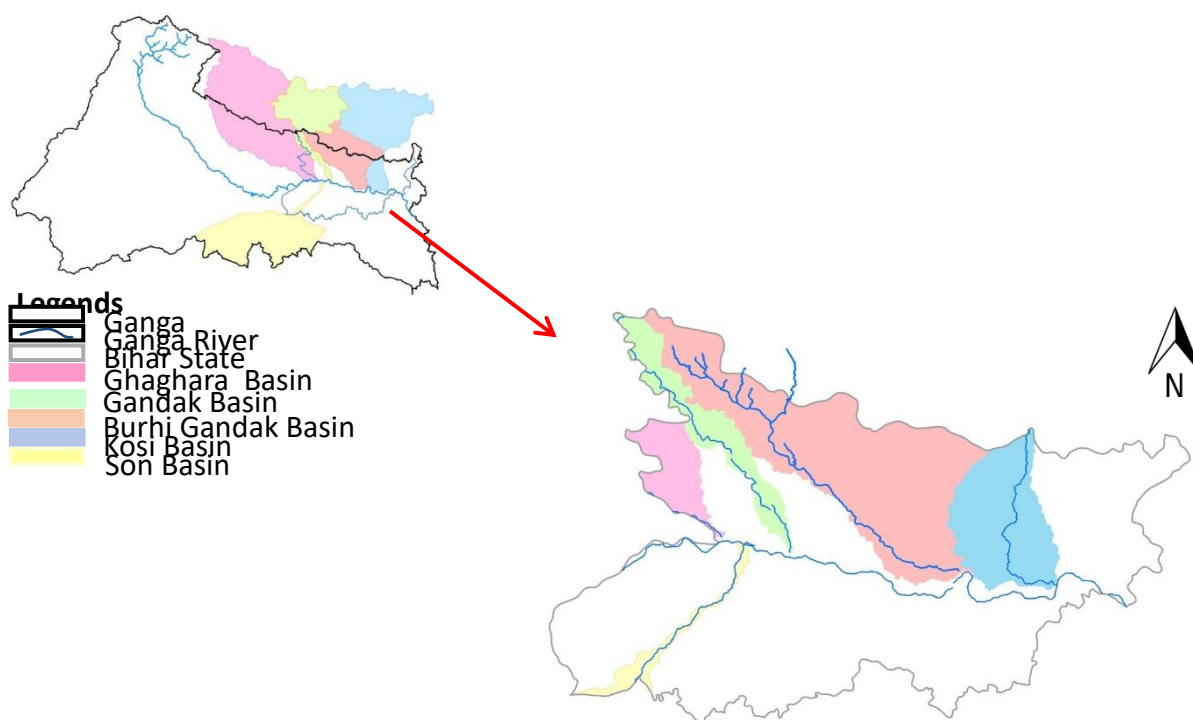


Figure 2: Major Sub-Basins or their Portions under the Ganga River Basin in the State of Bihar

2. Major Obstruction and Abstraction Projects on the Tributaries of the River Ganga Executed in the State

The natural flow regime in the river Ganga and her tributaries have been altered due to construction of number of dams and barrages in the mountainous reaches. The mountainous region of the main stem river Ganga is obstructed due to the ongoing hydroelectric projects *i.e.*, Maneri Bhali I, Maneri Bhali II, Tehri and Koteshwar. Further downstream, Bhimgauda barrage diverts nearly all water during non-monsoon season to upper Ganga canal through Har ki Pauri, Haridwar. As the river enters in the state of Uttar Pradesh, further obstacles are in the Bijnor and Narora districts in form of diversions in madhya (Kharif canal) and lower Ganga canal, respectively. The madhya and lower Ganga canal has capacities of 290 and 254 cumec, respectively. A parallel canal system of 130 cumec was added later by the state of Uttar Pradesh. Substantial portion of the river flow is diverted to support agricultural activities through these canal systems. Further downstream at Kanpur the river is interrupted by Luvkush barrage. Bihar has 21 Dams, 35 Barrage /Weir/Annicuts under Ganga river basin. These Dams and barrages are essentially for

irrigation and domestic water supplies. The list of the major dams on Ganga River and its tributaries in Bihar are mentioned underneath.

Table 2: Details of the Major Dams on the River Ganga and Her Tributaries in the State of Bihar (WRIS-wiki)

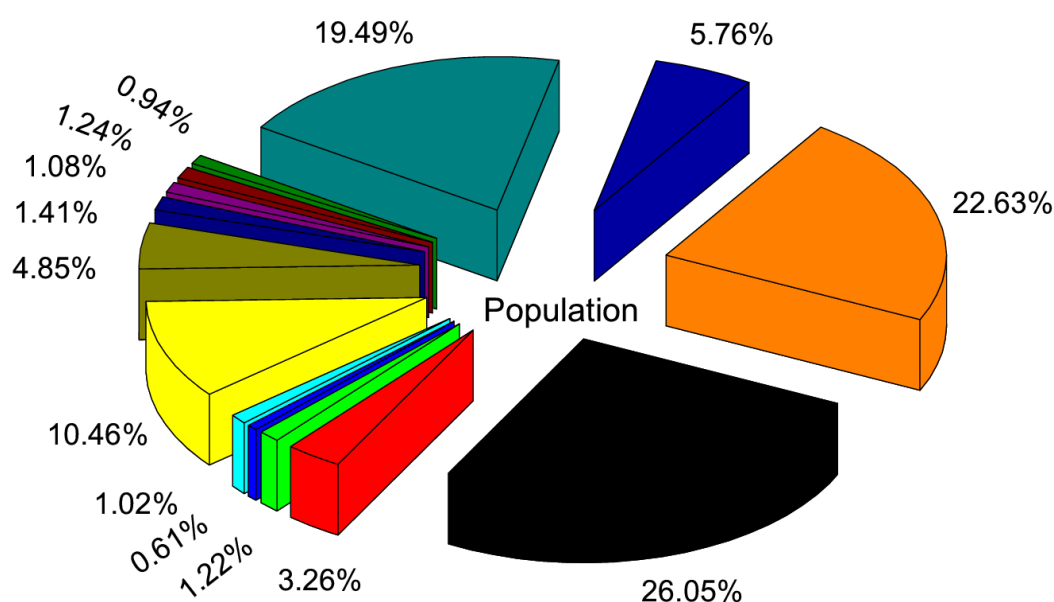
| Projects | River | Year of Completion | Remark |
|-------------------|---------------------|--------------------|--------------------------|
| Ajan Dam | Ajan | 1989 | Major Irrigation Project |
| Badua Dam | Badua | 1965 | Major Irrigation Project |
| Baskund Dam | Baskund | 1984 | Major Irrigation Project |
| Belharna Dam | Belharna | 1987 | Major Irrigation Project |
| Bilasi Dam | Bilasi | 2001 | Major Irrigation Project |
| Chandan Dam | Chandan | 1968 | Major Irrigation Project |
| Jalkund Dam | Jalkund | 1968 | Major Irrigation Project |
| Job Dam | JOB | 1977 | Major Irrigation Project |
| Kailash Ghati Dam | Kailash Ghati | 1980 | Major Irrigation Project |
| Khargpur Lake Dam | Man | 1876 | Major Irrigation Project |
| Kohira Dam | Kohira | 1962 | Major Irrigation Project |
| Kolmahadeo Dam | Kolmahadev(bhusari) | 1966 | Major Irrigation Project |
| Morwy Dam | Morwe | 1960 | Major Irrigation Project |
| Nagi Dam | Nagi | 1958 | Major Irrigation Project |
| Nakti (Bihar) Dam | Nakti | 1980 | Major Irrigation Project |
| Orhni Dam | Orni | 2000 | Major Irrigation Project |
| Phulwaria Dam | Tilaiya | 1988 | Major Irrigation Project |
| Srikhandi Dam | Srikhandi | 1965 | Major Irrigation Project |
| Upper Kiul Dam | Kiul | 2004 | Major Irrigation Project |

3. Demographic Profile of Ganga Basin in the State

Bihar has 26 Class I cities, 28 Class II cities and 75 Class III cities (Figure 4-6). The total population of the state according to the Census 2011 is 102 million out of which 11.3% belong to the urban area. The density in the state is about 881 people per square kilometre.

According to the Population Census 2011, some of the Class I cities are Arrah, Aurangabad, Bagaha, Bhagalpur, Buxar, Darbhanga, Gaya, Hajipur, Katihar, Muzaffarpur, Patna, Saharsa, and Siwan. The details of the area, population and the major river systems of all the Class I, II and III cities are presented in Table 3-5, respectively.

Figure 3 shows the population distribution of Class I cities, Class II and III towns in the major basins of river Ganga in the state and along the main stem of the river Ganga, Kosi, Bodhi Gandak and Gandak. Map in the Figure 4, 5 and 6 showing the distribution of Class I cities, Class II, and Class III towns, respectively in the state under Ganga River Basin. The average population of class I town in the state is 0.26 million, approximately four times and eight times higher than the population of class II and class III towns, respectively. Patna is the highly populated class I city having the population of 1.7 million while Aurangabad is the least populated (0.1 million) class I city. Lakhisarai and Bhabua are the cities having maximum and minimum population under class II towns, contains 0.09 and 0.05 million, respectively. In class III towns where the population is less than 0.05 million, the maximum population is in the Narkatiaganj town (0.049 million) while minimum is in the Nirmali (0.02 million).



Class I cities Ganga main stem
 Class II towns Ganga main stem
 Class I cities Ghaghara Basin
 Class II towns Ghaghara Basin
 Class I cities Gandak Basin

Class I cities Bodhi Gandak Basin
 Class II towns Bodhi Gandak Basin
 Class I cities Kosi Basin
 Class II towns Kosi Basin
 Class I cities Son Basin

Class II towns Son Basin
 Class I cities outside the defined basins
 Class II towns outside the defined basins
 Class III towns contribution in state

Figure 3: Population Distribution of Class I Cities and Class II, Class III Towns in the Major Basins of River Ganga in the Bihar State and Along the Main Stem of the River Ganga

Table 3: Demography of Class I Cities in Portion of the Ganga Basin Lying in the State of Bihar

| S No. | Details | River System | Total Area (sq km) | Population (Census 2011) |
|-------|------------------------|----------------------|--------------------|--------------------------|
| 1 | Arrah (M Corp.) | Ganga River | 30.97 | 261430 |
| 2 | Aurangabad (NPP) | Adari River | 21.33 | 102244 |
| 3 | Bagaha (NPP) | Gandak River | 46.83 | 112634 |
| 4 | Begusarai (M Corp.) | Ganga River | 47.51 | 252008 |
| 5 | Bettiah (NPP) | Gandak River | 8.01 | 132209 |
| 6 | Bhagalpur (M Corp.) | Ganga River | 30.17 | 400146 |
| 7 | Biharsharif (M Corp.) | Panchane River | 23.50 | 297268 |
| 8 | Buxar (NPP) | Ganga River | 5.16 | 102861 |
| 9 | Chapra (NPP) | Ganga River | 16.96 | 202352 |
| 10 | Darbhanga (M Corp.) | Baghmata River | 19.18 | 296,039 |
| 11 | Dehri (NPP) | Sone | 21.32 | 137231 |
| 12 | Danapur Nizamat (NPP) | Panchane River | 16.41 | 182429 |
| 13 | Gaya (M Corp. + OG) | Falgu River | 50.17 | 474093 |
| 14 | Hajipur (NPP) | Gandak & Ganga River | 19.64 | 147688 |
| 15 | Jamalpur (NPP) | Ganga River | 10.65 | 105434 |
| 16 | Jehanabad (NPP) | Dardha River | 20.23 | 103202 |
| 17 | Katihar (M Corp. + OG) | Ganga River | 51.70 | 240838 |
| 18 | Kishanganj (NPP) | Mahananda River | 30.12 | 105782 |
| 19 | Motihari (NPP) | Bahuri Gandak | 16.38 | 126158 |
| 20 | Munger (M Corp.) | Ganga River | 17.50 | 213303 |
| 21 | Muzaffarpur (M Corp.) | Bahuri Gandak River | 26.43 | 354462 |
| 22 | Patna (M Corp. + OG) | Ganga River | 107.69 | 1684297 |
| 23 | Purnia (M Corp.) | Kosi & Ganga River | 92.29 | 282248 |
| 24 | Saharsa (NPP) | Koshi River | 21.13 | 156540 |
| 25 | Sasaram (NPP) | Kadir & Sone River | 10.90 | 147408 |
| 26 | Siwan (NPP) | River Daha | 13.05 | 135066 |

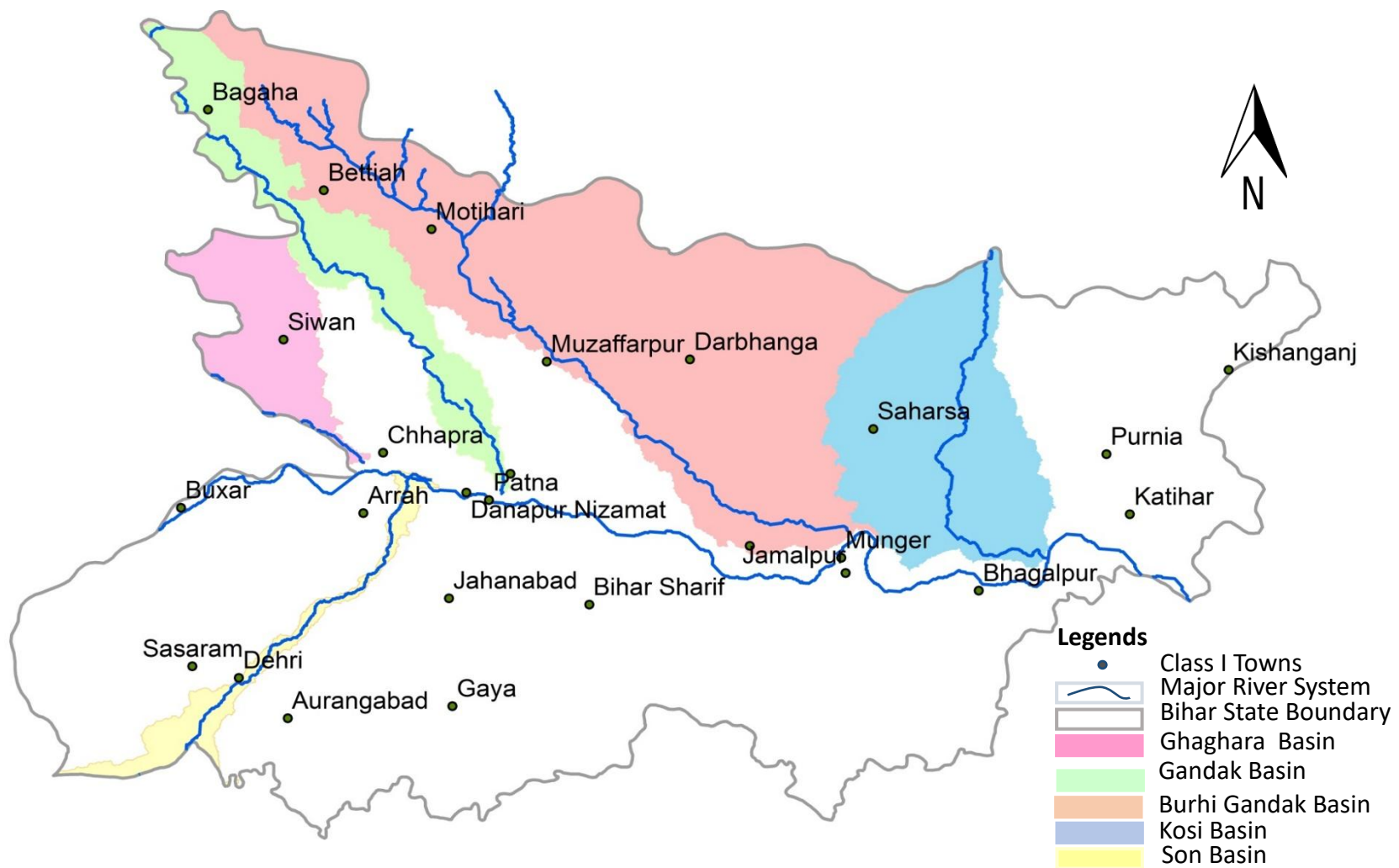


Figure 4: Class I Cities in the state of Bihar under Ganga River Basin

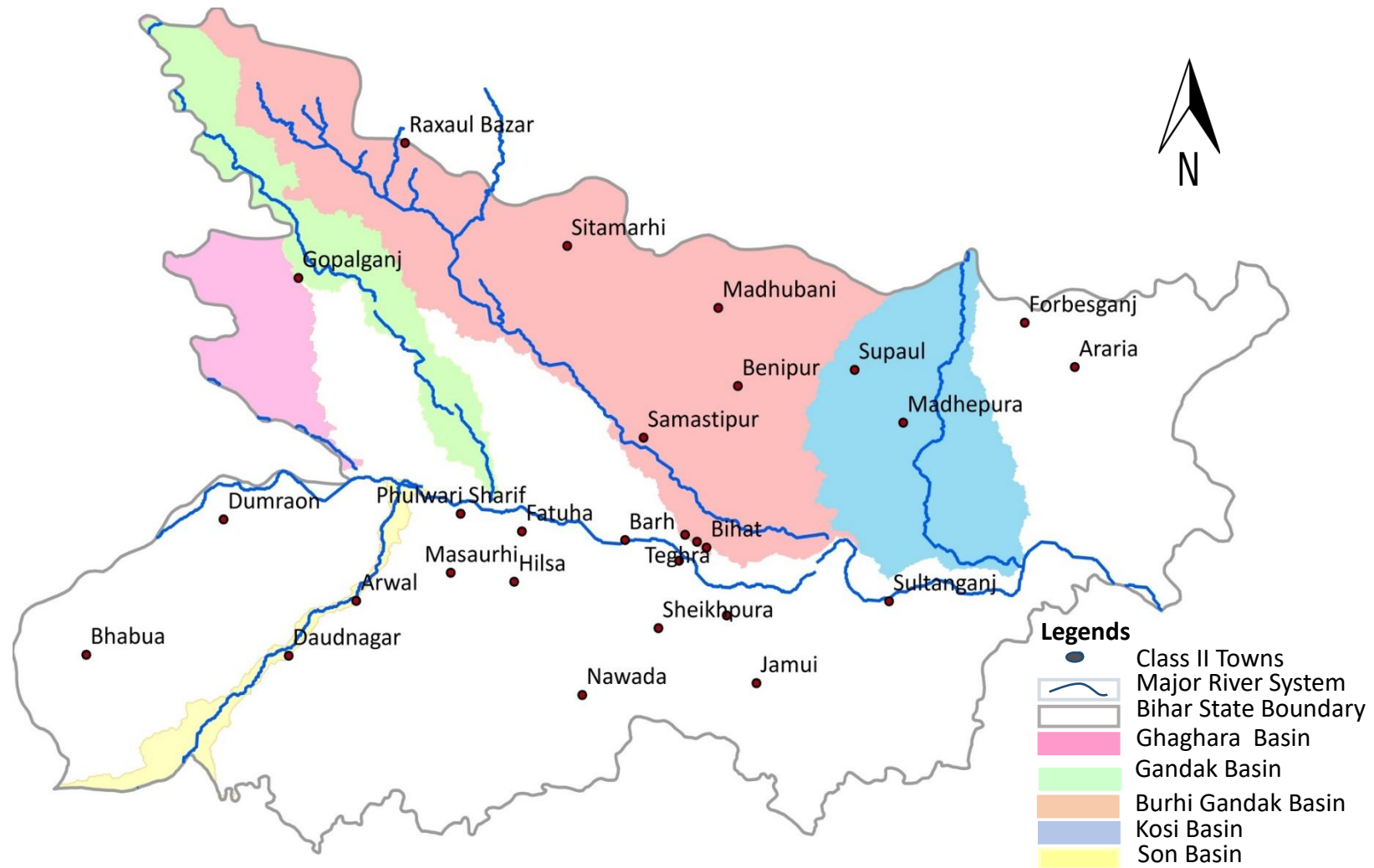


Figure 5: Class II Cities in the state of Bihar under Ganga River Basin



Figure 6: Class III Cities in the state of Bihar under Ganga River Basin

Table 4: Demography of Class II Cities in Portion of the Ganga Basin Lying in the State of Bihar

| S No. | Details | River System | Total Area (sq km) | Population (Census 2011) |
|-------|-----------------------|----------------------|--------------------|--------------------------|
| 1 | Araria (NPP) | Panar River | 30.97 | 79021 |
| 2 | Arwal (NPP) | Sone River | 24.43 | 51849 |
| 3 | Barauni (NPP) | Ganga River | 17.55 | 71660 |
| 4 | Barh (NPP) | Ganga River | 4.50 | 61470 |
| 5 | Benipur (NPP) | Kamla River | 46.02 | 75317 |
| 6 | Bhabua (NPP) | Suwara River | 7.12 | 50179 |
| 7 | Bihat (NPP) | Ganga River | 23.45 | 67952 |
| 8 | Daudnagar (NP) | Sone River | 13.96 | 52364 |
| 9 | Dumraon (NPP) | Ganga River | 15.33 | 53618 |
| 10 | Fatwah (NP) | Ganga River | 4.90 | 50961 |
| 11 | Forbesganj (NPP) | Koshi River | 4.98 | 50475 |
| 12 | Gopalganj (NPP) | Gandak River | 11.11 | 67339 |
| 13 | Hilsa (NPP) | Falgu River | 22.96 | 51052 |
| 14 | Jamui (NPP) | Kiul River | 26.45 | 87357 |
| 15 | Lakhisarai (NPP) | Kiul River | 24.79 | 99979 |
| 16 | Madhepura (NPP) | Koshi River | 25.84 | 54472 |
| 17 | Madhubani (NPP) | Kamla River | 2.52 | 75736 |
| 18 | Masaurhi (NPP) | Sone and Ganga River | 9.43 | 59803 |
| 19 | Mokameh (NPP) | Ganga River | 14.18 | 60678 |
| 20 | Nawada (NPP) | Panchane River | 5.68 | 98029 |
| 21 | Phulwari Sharif (NPP) | Ganga River | 6.48 | 81740 |
| 22 | Raxaul Bazar (NPP) | Sirsiya River | 5.82 | 55536 |
| 23 | Samastipur (NPP + OG) | Burhi Gandak River | 3.45 | 67925 |
| 24 | Sheikhpura (NPP) | Tati River | 27.90 | 62927 |
| 25 | Sitamarhi (NPP) | Gandak River | 4.35 | 67818 |
| 26 | Sultanganj (NPP) | Ganga River | 12.29 | 52892 |
| 27 | Supaul (NPP) | Koshi River | 22.37 | 65437 |
| 28 | Teghra (NP) | Ganga River | 15.80 | 56234 |

Table 5: Demography of Class III Cities in Portion of the Ganga Basin Lying in the State of Bihar

| S No. | Details | River System | Total Area (sq km) | Population (2011) |
|-------|----------------------|--------------------|--------------------|-------------------|
| 1 | Amarpur (NP) | Chandan River | 11.18 | 25336 |
| 2 | Areraj (NP) | Gandak River | 13.70 | 26014 |
| 3 | Bahadurganj (NP) | Kankai River | 29.17 | 36993 |
| 4 | Bairgania (NP) | Bagmati River | 14.32 | 42895 |
| 5 | Bakhri (NP) | Burhi Gandak River | 10.65 | 40043 |
| 6 | Bakhtiarpur (NP) | Ganga River | 13.18 | 47897 |
| 7 | Balia (NP) | Ganga River | 14.74 | 47550 |
| 8 | Banka (NP) | Chandan River | 18.87 | 45977 |
| 9 | Banmankhi Bazar (NP) | Koshi River | 20.15 | 30336 |
| 10 | Barahiya (NP) | Ganga River | 26.54 | 43032 |
| 11 | Barauli (NP) | Gandak River | 22.21 | 41877 |
| 12 | Barbigaha (NP) | Falgu River | 15.60 | 46075 |
| 13 | Behea (NP) | Ganga River | 4.06 | 26707 |
| 14 | Belsand (NP) | Bagmati River | 10.09 | 20566 |
| 15 | Bhadauni (CT) | Panchane River | 3.14 | 20739 |
| 16 | Bihta (NP) | Sone River | 25.91 | 47549 |
| 17 | Bikram (NP) | Sone River | 13.99 | 22486 |
| 18 | Bikramganj (NP) | Sone River | 15.64 | 48465 |
| 19 | Bodh Gaya (NP) | Falgu River | 19.58 | 38439 |
| 20 | Chakia (NP) | Burhi Gandak River | 6.23 | 20686 |
| 21 | Chanpatia (NP) | Burhi Gandak River | 7.57 | 27095 |
| 22 | Colgong (NP) | Ganga River | 0.63 | 33700 |
| 23 | Dalsinghsarai (NP) | Balaan River | 2.94 | 23862 |
| 24 | Dhaka (NP) | Bagmati River | 12.93 | 42063 |
| 25 | Dighwara (NP) | Ganga River | 13.27 | 32741 |
| 26 | Gogri Jamalpur (NP) | Ganga River | 9.49 | 37753 |
| 27 | Hisua (NP) | Tilaiya River | 6.33 | 32585 |
| 28 | Islampur (NP) | Falgu River | 6.00 | 35641 |
| 29 | Jagdishpur (NP) | Ganga River | 25.63 | 32447 |
| 30 | Jainagar (NP) | Kamla River | 1.61 | 21782 |
| 31 | Jhajha (NP) | Ulai River | 9.87 | 40646 |
| 32 | Jhanjharpur (NP) | Kamla River | 12.44 | 30590 |
| 33 | Jogabani (NP) | Koshi River | 15.12 | 39281 |
| 34 | Kanti (NP) | Burhi Gandak River | 16.16 | 25051 |

| | | | | |
|--------------|--------------------|---------------------|---------------------------|--------------------------|
| 35 | Kasba (NP) | Koshi River | 15.74 | 30421 |
| 36 | Kataiya (NP) | Koshi River | 12.06 | 20193 |
| S No. | Details | River System | Total Area (sq km) | Population (2011) |
| 37 | Khagaria (NPP) | Burhi Gandak River | 2.97 | 49406 |
| 38 | Khagaul (NPP) | Ganga River | 3.66 | 44364 |
| 39 | Kharagpur (NP) | Mani Nadi | 9.74 | 31385 |
| 40 | Lalganj (NP) | Gandak River | 7.86 | 37098 |
| 41 | Maharajganj (NP) | Daha River | 7.60 | 24282 |
| 42 | Mahnar Bazar (NP) | Ganga River | 10.02 | 48293 |
| 43 | Mairwa (NP) | Siahi River | 6.23 | 23565 |
| 44 | Makhdumpur (NP) | Dardha River | 20.39 | 31994 |
| 45 | Maner (NP) | Sone & Ganga River | 12.00 | 40068 |
| 46 | Manihari (NP) | Ganga River | 11.31 | 26629 |
| 47 | Marhaura (NP) | Ganga River | 12.62 | 29932 |
| 48 | Mehsi (NP) | Burhi Gandak River | 7.16 | 25995 |
| 49 | Mirganj (NP) | Daha River | 5.48 | 26240 |
| 50 | Motipur (NP) | Burhi Gandak River | 12.77 | 28572 |
| 51 | Murliganj (NP) | Koshi River | 14.07 | 28691 |
| 52 | Nabinagar (NP) | Sone River | 17.42 | 23984 |
| 53 | Narkatiaganj (NPP) | Burhi Gandak River | 10.96 | 49507 |
| 54 | Nasriganj (NP) | Sone River | 8.69 | 23819 |
| 55 | Naubatpur (NP) | Ganga River | 14.39 | 25011 |
| 56 | Naugachhia (NP) | Koshi River | 11.24 | 49069 |
| 57 | Nirmali (NP) | Koshi River | 5.30 | 20189 |
| 58 | Nokha (NP) | Sone River | 13.45 | 27302 |
| 59 | Pakri Dayal (NP) | Burhi Gandak River | 19.13 | 29582 |
| 60 | Piro (NP) | Sone River | 6.47 | 33785 |
| 61 | Puraini (CT) | Koshi River | 9.33 | 30829 |
| 62 | Rafiganj (NP) | Dhava Nadi | 4.56 | 35536 |
| 63 | Rajauli (NP) | Dhanarjay River | 18.08 | 30170 |
| 64 | Rajgir (NP) | Panchane River | 50.18 | 41587 |
| 65 | Ramnagar (NP) | Ramrekha Nadi | 16.20 | 48411 |
| 66 | Revelganj (NP) | Ganga River | 12.48 | 39039 |
| 67 | Rosera (NP) | Burhi Gandak River | 1.03 | 31155 |
| 68 | Sahebganj (NP) | Gandak River | 9.81 | 23224 |
| 69 | Sheohar (NP) | Bagmati River | 9.33 | 28116 |
| 70 | Sherghati (NP) | Morhor | 10.79 | 40666 |
| 71 | Silao (NP) | Panchane River | 9.00 | 25674 |
| 72 | Sonepur (NP) | Gandak River | 8.27 | 37776 |
| 73 | Sugauli (NP) | Burhi Gandak River | 19.25 | 38815 |
| 74 | Tikari (NP) | Falgu River | 2.66 | 21324 |

| | | | | |
|----|-------------------|-------------|-------|-------|
| 75 | Warisaliganj (NP) | Sakri River | 13.11 | 34056 |
|----|-------------------|-------------|-------|-------|

4. Religious Places and Their Importance

Bihar, a state in the Indo-Gangetic basin is home to many holy places, marked with the presence of sages, seers, devotees and mystics. Gaya, Patna, Bodhgaya, Sitamadhi, Bhagalpur, Vikramshila and Rajgir are major holy cities for Hindu, Buddhist and Jain communities. The hordes of pilgrims and devotees visit these places of pilgrimage every year and participate in festivals.

Gaya is the second largest city in Bihar having population of 0.47 million. The city has ancient historical significance and one of the major tourist attractions of Bihar. This place has great importance for the Hindu, Buddhist, and Jain followers. Gaya is situated on the bank of Phalgu River and other three sides by small rocky hills. Bodhgaya is approximately 15 km from Gaya and one of the most important site for Buddhists. UNESCO world heritage site Mahabodi temple is situated here.

Patna city is the capital of Bihar state and largest city with 1.7 million population, situated on the bank of Ganga. The city was founded in 490 BCE by the king Magadha with the name Pataliputra. Patan Devi temple, which is known as the oldest and one of the most revered place of worship for Hindus situated in Patna. This city is also important for the Sikh community as the birth place of tenth guru, Guru Gobind Singh. Similarly Vaishali, Sitamadi, Nalanda, Rajgir, Vikramshila and Bhagalpur have the importance for Hindu, Buddhist, and Jain religions. Some major religious events and their features in Bihar state have been illustrated in Table 6.

Table 6: Major Religious Events on River Banks in Bihar

| S No | Religious Events | Place | River Bank | Duration | Period |
|------|------------------|-----------------|-----------------------|------------------|--------|
| 1 | Chatth Puja | All river banks | Ganga and Tributaries | October-November | Annual |
| 2 | Kartik Poornima | All river banks | Ganga and Tributaries | November | Annual |
| 3 | Krishna Leela | All river banks | Ganga | October–November | Annual |
| 4 | Ganga Dusshera | All river banks | Ganga | June | Annual |

5. Pollution Load

The major pollution load in the area of basin under the state is due to point and nonpoint sources. Discharges of untreated/partially treated sewage from urban centres, discharge from open drain carrying sewage, discharges from the tributaries and discharge of untreated/partially treated wastewater from industrial units are the major point sources that contribute to the pollution load in the state. The major cities contributing the wastewater discharge of approximately 579 MLD through 25 numbers of drains in river

Ganga are in Buxer, Patana, Munger, Bhagalpur, and kahalgaon (CPCB, 2013). The discharge of wastewater through the state of Bihar is 9.5 % of the total discharge through 4 major states (Uttarakhand, Uttar Pradesh, Bihar, West Bengal) covered under the GRB. The Central Pollution Control Board (CPCB) and Central Water Commission (CWC) have planned to install 13 Real Time Water Quality Monitoring Station for monitoring in-situ river water quality parameters of the river Ganga and her tributaries (Gomti and Ramganga). One stations to be installed in Patna. The report published by CPCB in 2009 revealed that the total sewage generation of class I cities in Ganga basin is 15,305.55 MLD while its treatment capacity is only one third (32%) of the total sewage generation (4,886.28 MLD). The situation getting more critical in the class II towns as the difference between the sewage generation (1,083.85 MLD) and its treatment capacity (91.82 MLD) increased. The sewage treatment capacity is only 8% of the total sewage generation in class II town in the states under Ganga river basin.

The maximum sewage generated by class I cities and class II towns of Bihar are 1003.5 and 174.2 MLD. The comparison of the total sewage generation and sewage treatment capacity of the class I cities and Class II towns of the states lying under Ganga basin has been represented in Figure 7. The assessment shows that there is also a massive gap between the generation and treatment capacity in the main stretch of the Ganga. The trends of the data in Bihar depicted that the maximum share of sewage generation (58.53%) is from class I cities followed by class II and III towns, 17.48 and 23.99%, respectively (Figure 8). The BOD and COD load for Class I cities, Class II and Class III towns are in the range of 68.78, 16.53 and 22.69%, respectively. The TKN load almost showing the same trend as BOD and COD load. CPCB in 2013 has been identified 64 STPs (Sewage Treatment Plants) under Ganga river Catchment, out of which 5 STPs in Bihar having the total installed capacity is 140 MLD utilized the waste water of 100 MLD. A single STP was found to be nonoperational.

The assessment of the total water supply and total sewage generation of class I cities in the state revealed that the maximum sewage generation is in Patna 182 MLD, approximately 79.9% of the water supply. In case of the class II towns the sewage generation in Lakhisari is maximum 10.8 MLD, ~80% of its total water supply. The total BOD and COD load in Kg/day has been estimated on the per capita basis in Class I towns and its average are approximately 6.98 and 11.87 tons/day, respectively. The average BOD and COD load from the Class II towns is 1.75 and 2.99 tons/day, respectively whereas Class III towns contribute approximately 0.9 tons/day and 1.55 tons/day of BOD and COD, respectively. The maximum and minimum BOD and COD contributing cities in Class I towns are Patna and Aurangabad, respectively. In Class II towns maximum BOD and COD is from Lakhisarai, whereas minimum BOD and COD are from Bhahua. In class III towns maximum and minimum BOD and COD is from Narkatiaganj and Nirmali respectively.

The total TKN in metric tons/day contributed by Class I, Class II and Class III towns are approximately 1.39, 0.38 and 0.18 tons/day, respectively. The maximum and minimum contribution of TKN from class I towns are from Patna and Aurangabad respectively. The maximum and minimum contribution of TKN from class II towns is from Lakhisarai and

Bhahua, respectively while the maximum and minimum contribution of TKN from class III towns is from Narkatiaganj and Nirmali, respectively. The estimates of total water supplied, total sewage generated, BOD, COD and TKN loads are summarized and illustrated in Figures (9a-11b) for class I cities and class II towns. The comparative account of all the classes (I, II and III) for its population, sewage generation, water supply and BOD, COD and TKN load are presented in Figure 12.

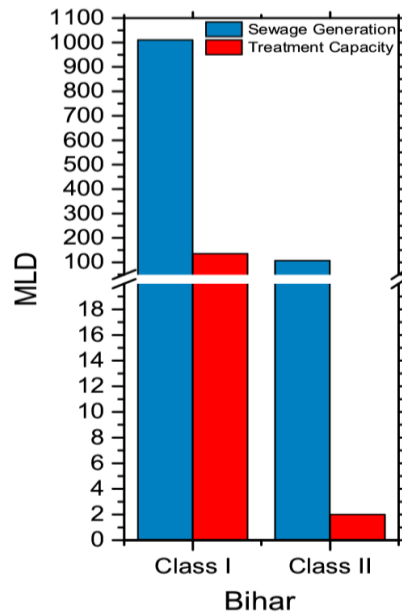


Figure 7: Assessment of Total Sewage Generation (MLD) and Sewage Treatment Capacity of Class I and II Cities in the State of Bihar

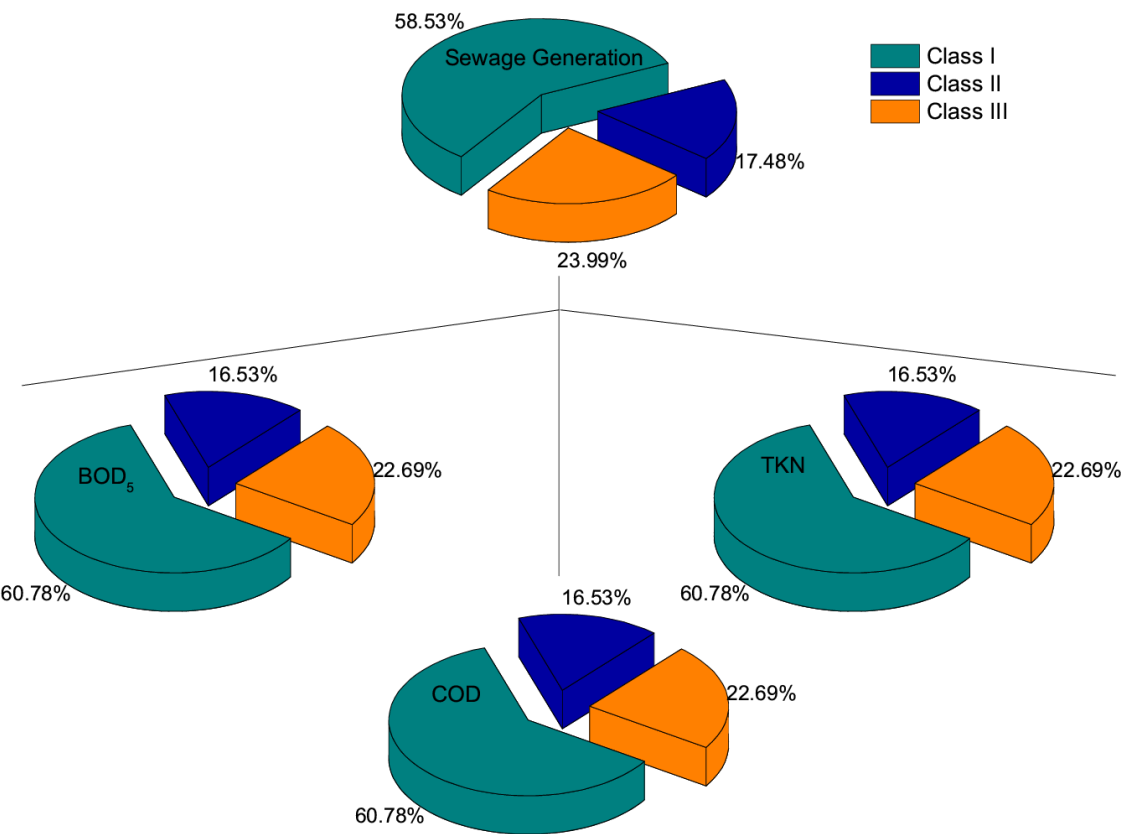


Figure 8: Distribution of Pollution Load of Class I Cities and Class II, Class III Towns in Bihar

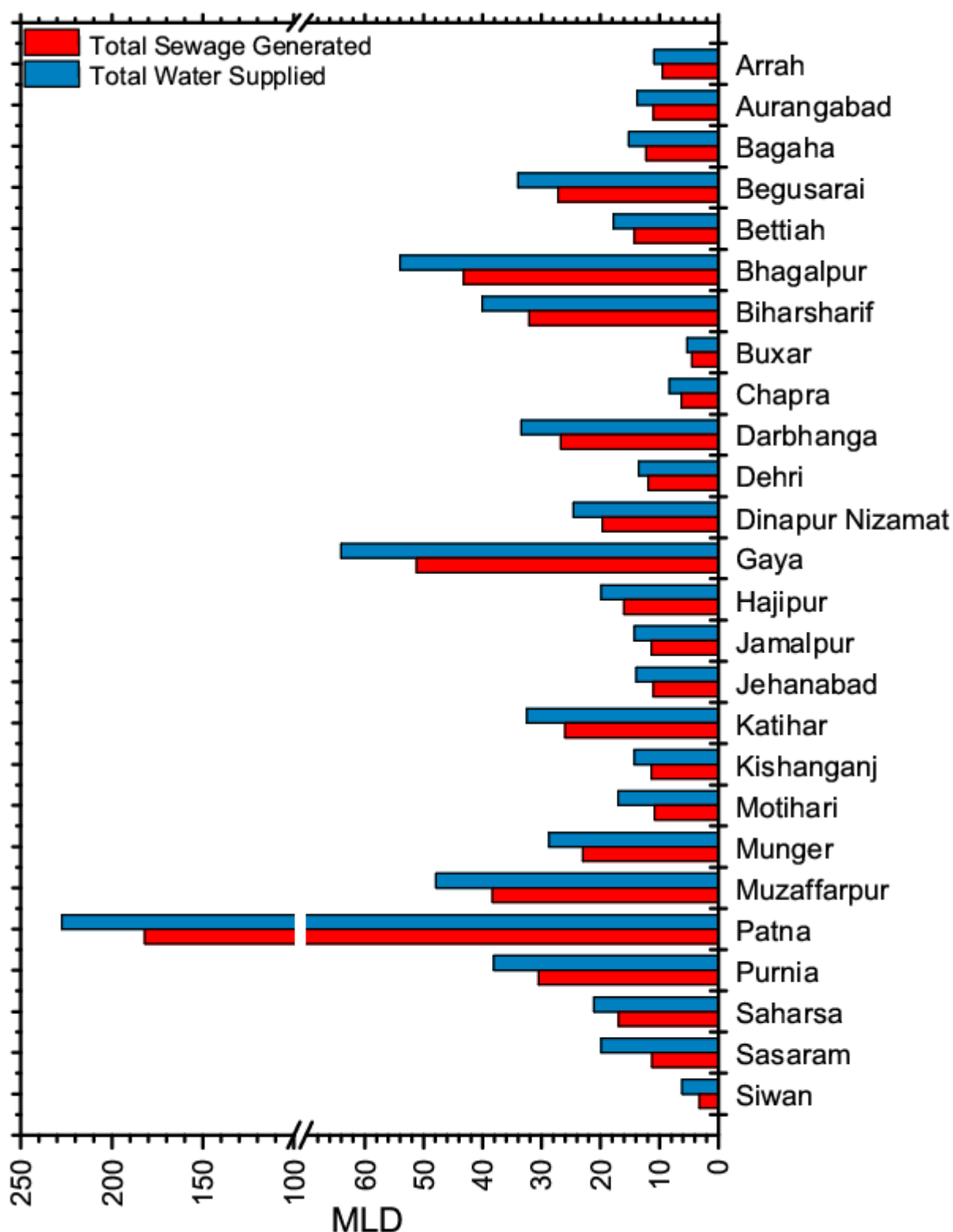


Figure 9a: Assessment of water supply and sewage generation (MLD) in Class I towns in the Ganga river Basin lying in the State of Bihar

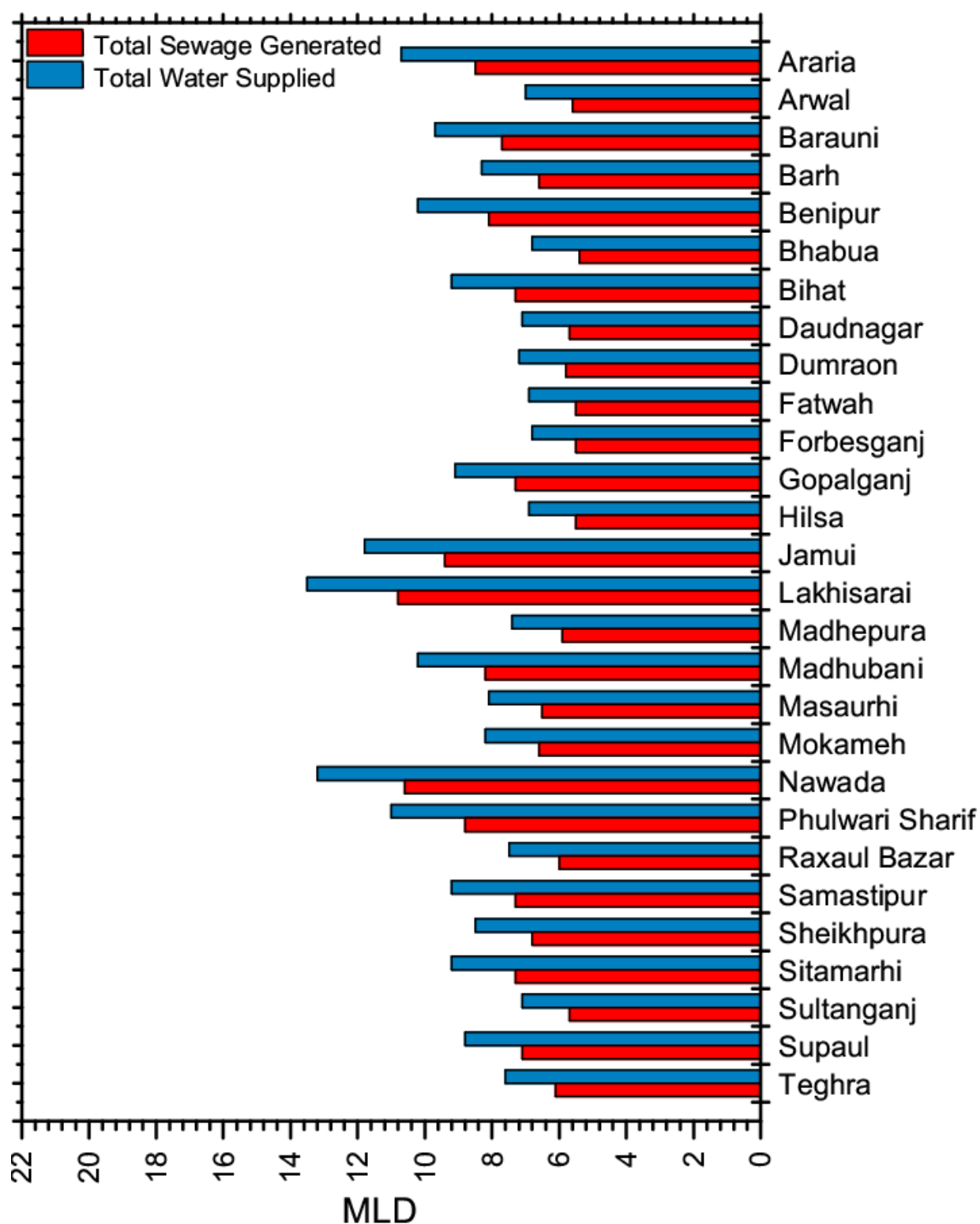


Figure 9b: Assessment of water supply and sewage generation (MLD) in Class II towns in the Ganga river Basin lying in the State of Bihar

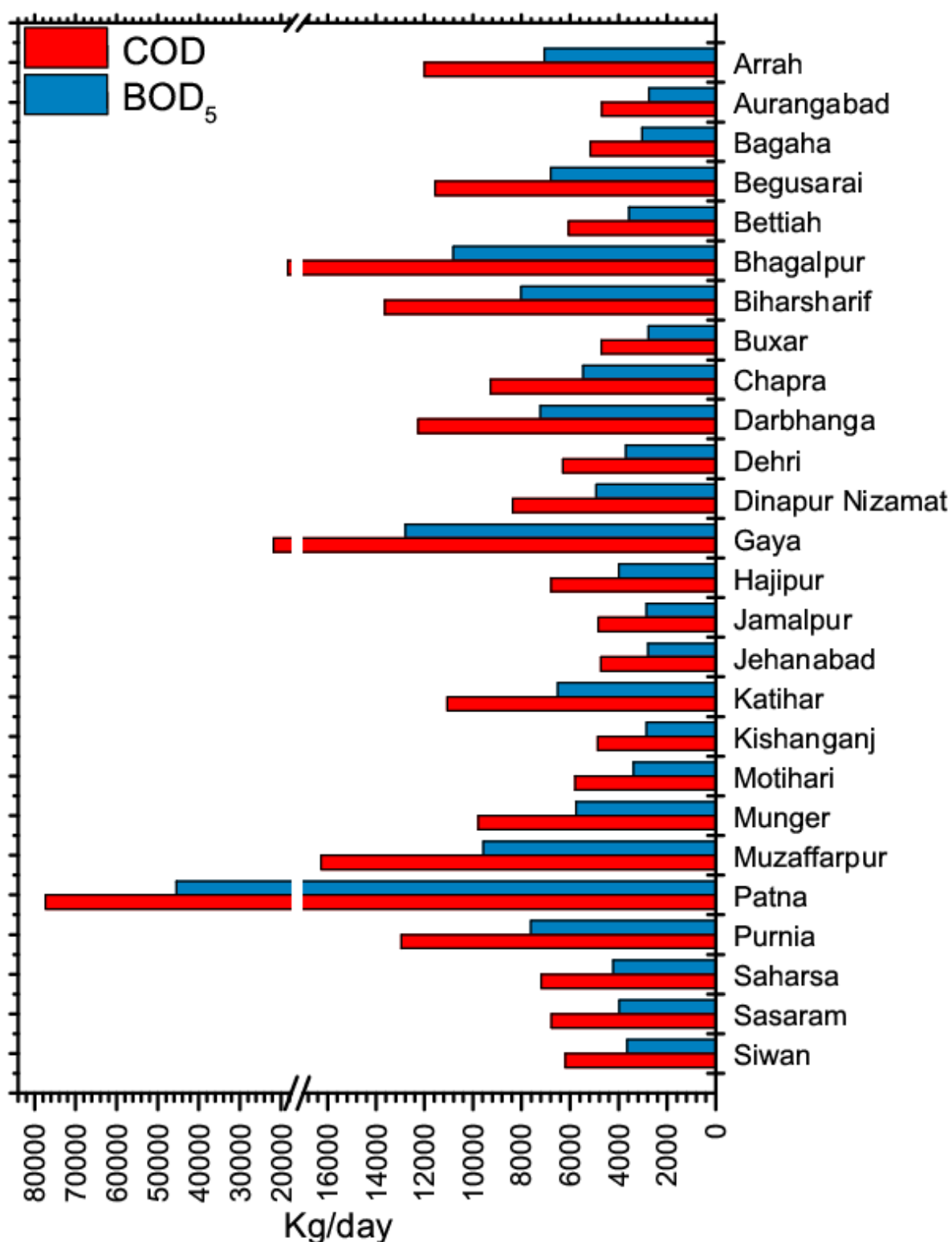


Figure 10a: Assessment of Organic Pollution Load (kg/day) from Class I Towns in the Ganga River Basin lying in the State of Bihar

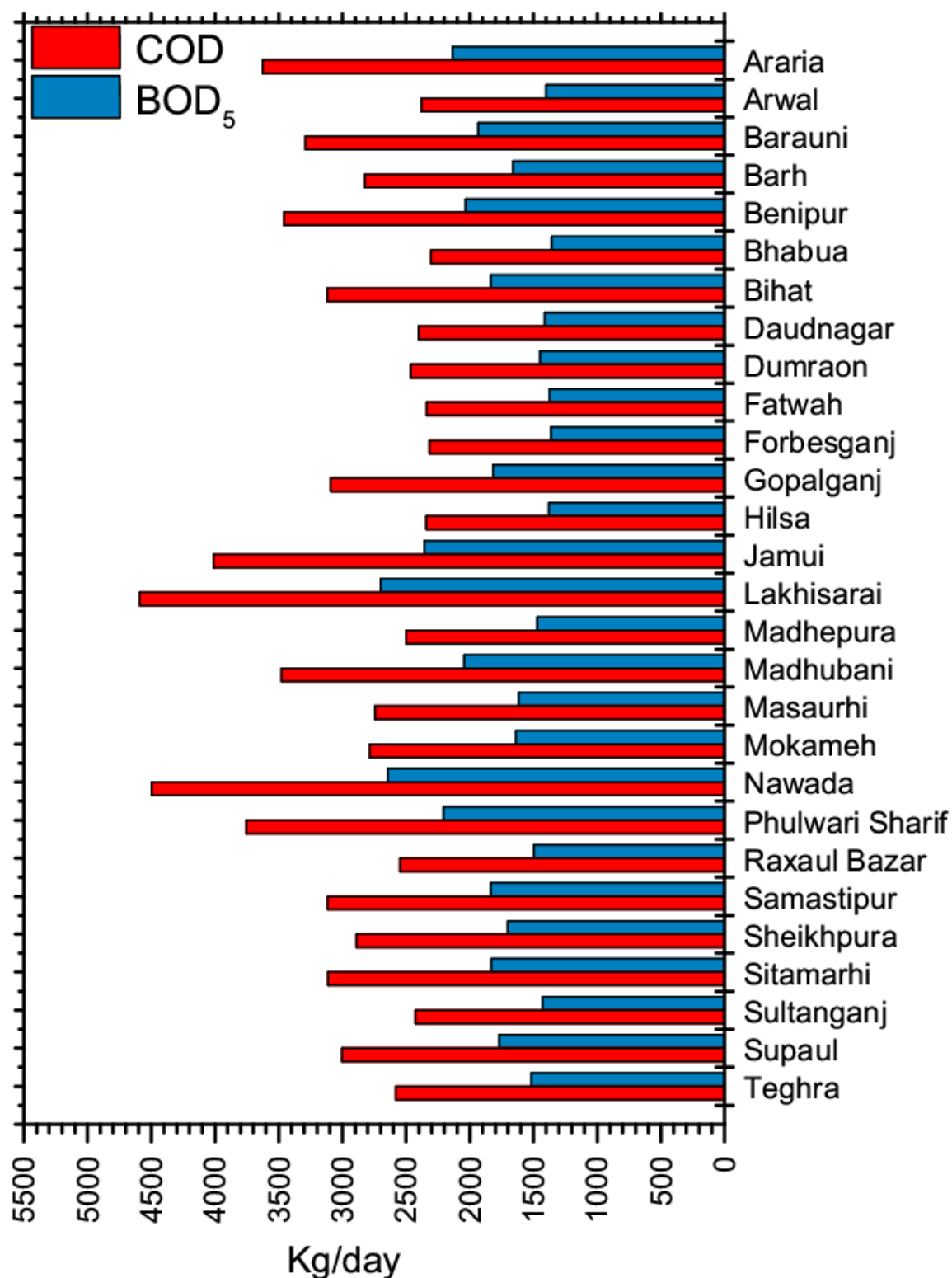


Figure 10b: Assessment of Organic Pollution Load (kg/day) from Class II Towns in the Ganga River Basin lying in the State of Bihar

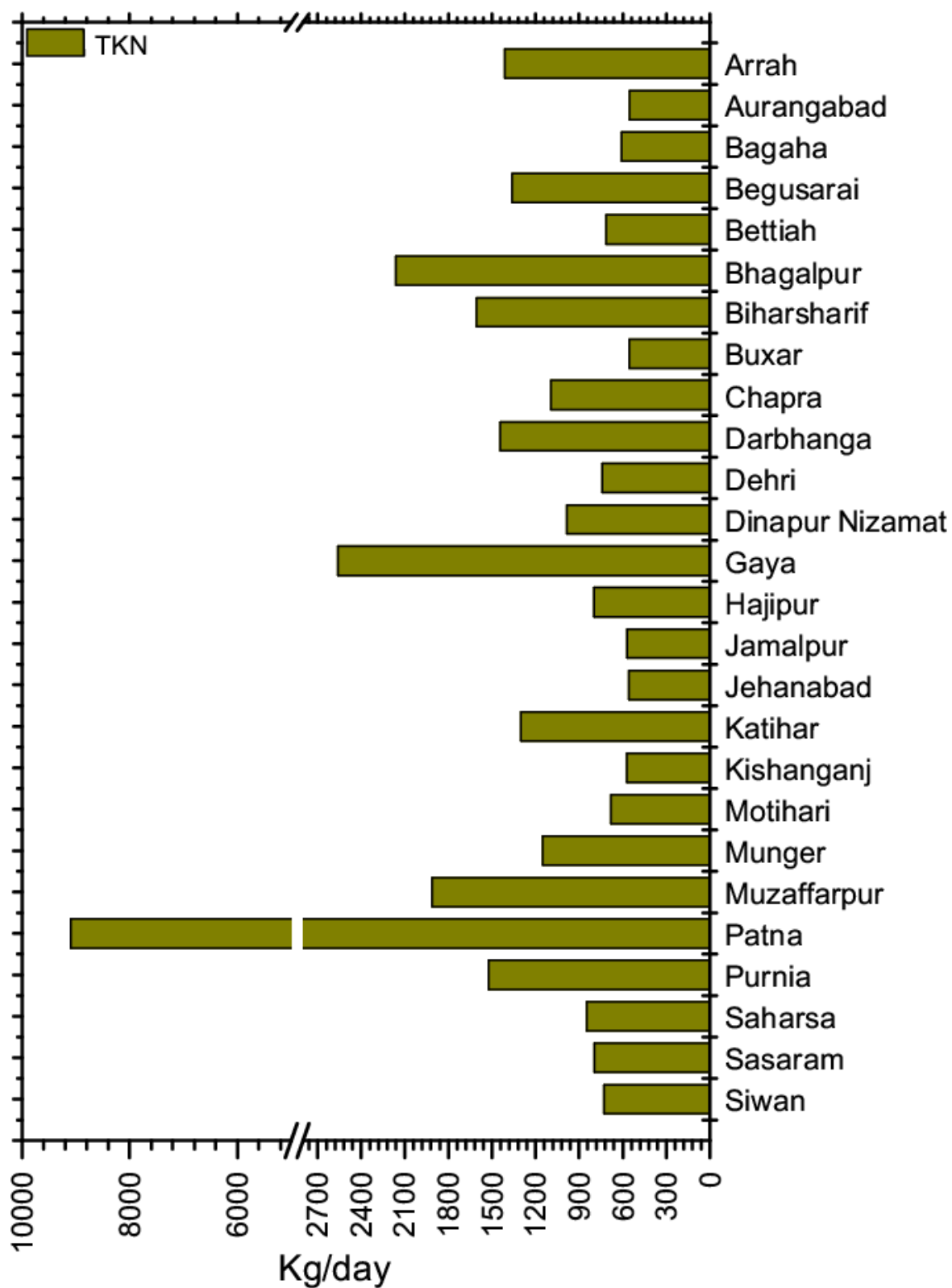


Figure 11a: Assessment of TKN Load (kg/day) from Class I Towns in the Ganga River Basin Lying in the State of Bihar

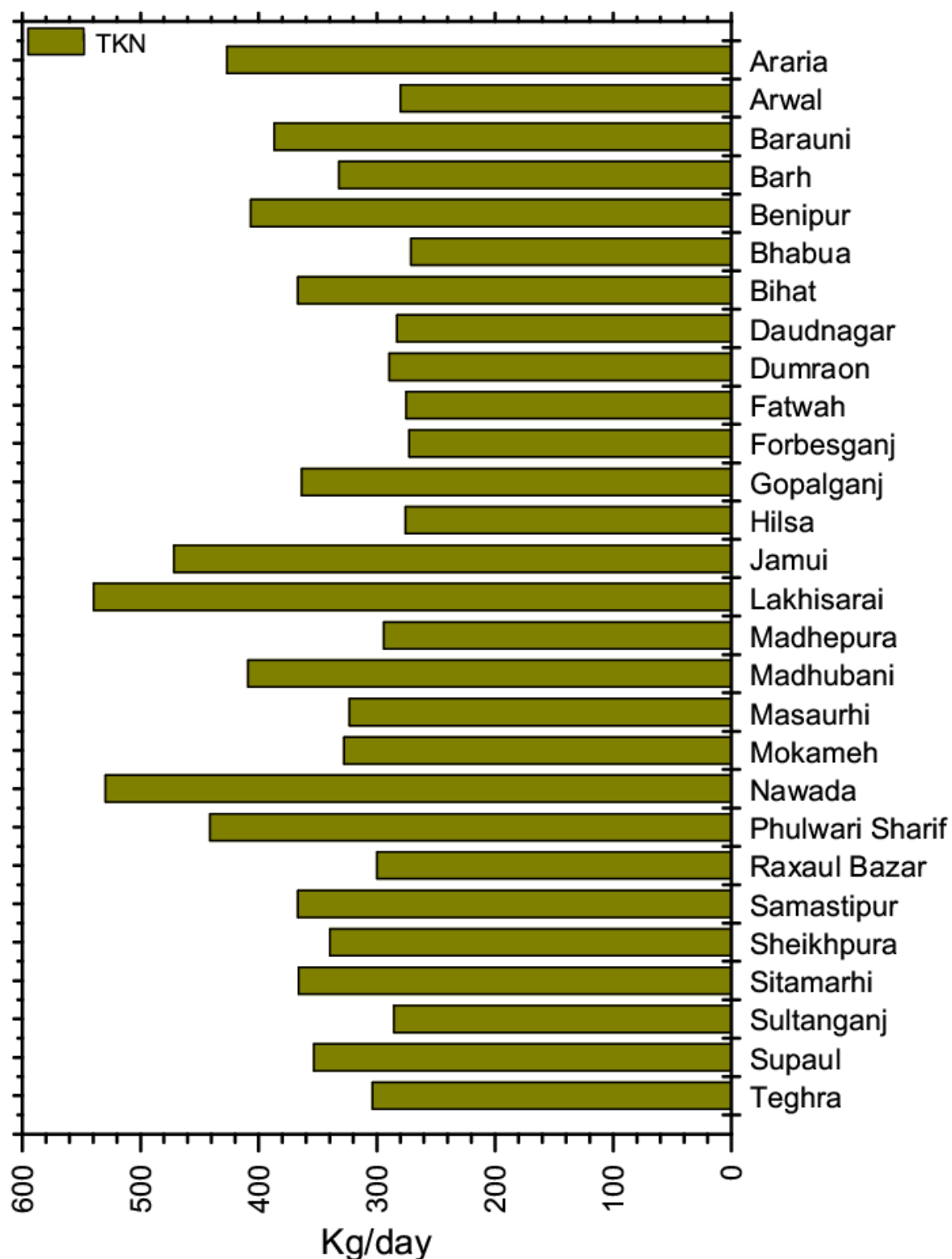


Figure 11b: Assessment of TKN Load (kg/day) from Class II Towns in the Ganga River Basin Lying in the State of Bihar

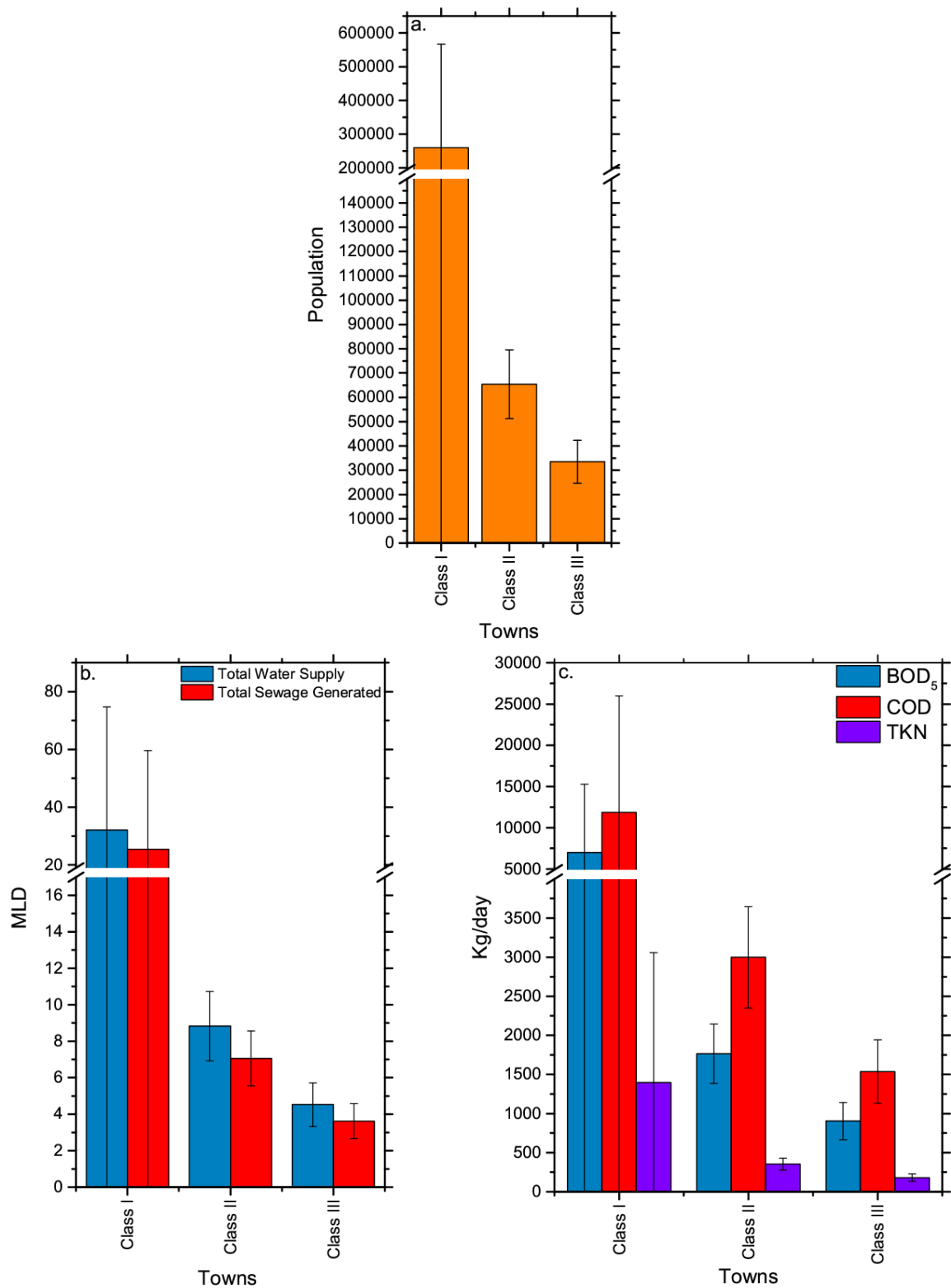


Figure 12: Comparative Analysis of Class I, Class II and Class III Cities/Towns Lying Under the Bihar State: (a) Population (b) Total Water Supply and Sewage Generation (c) Pollution Load

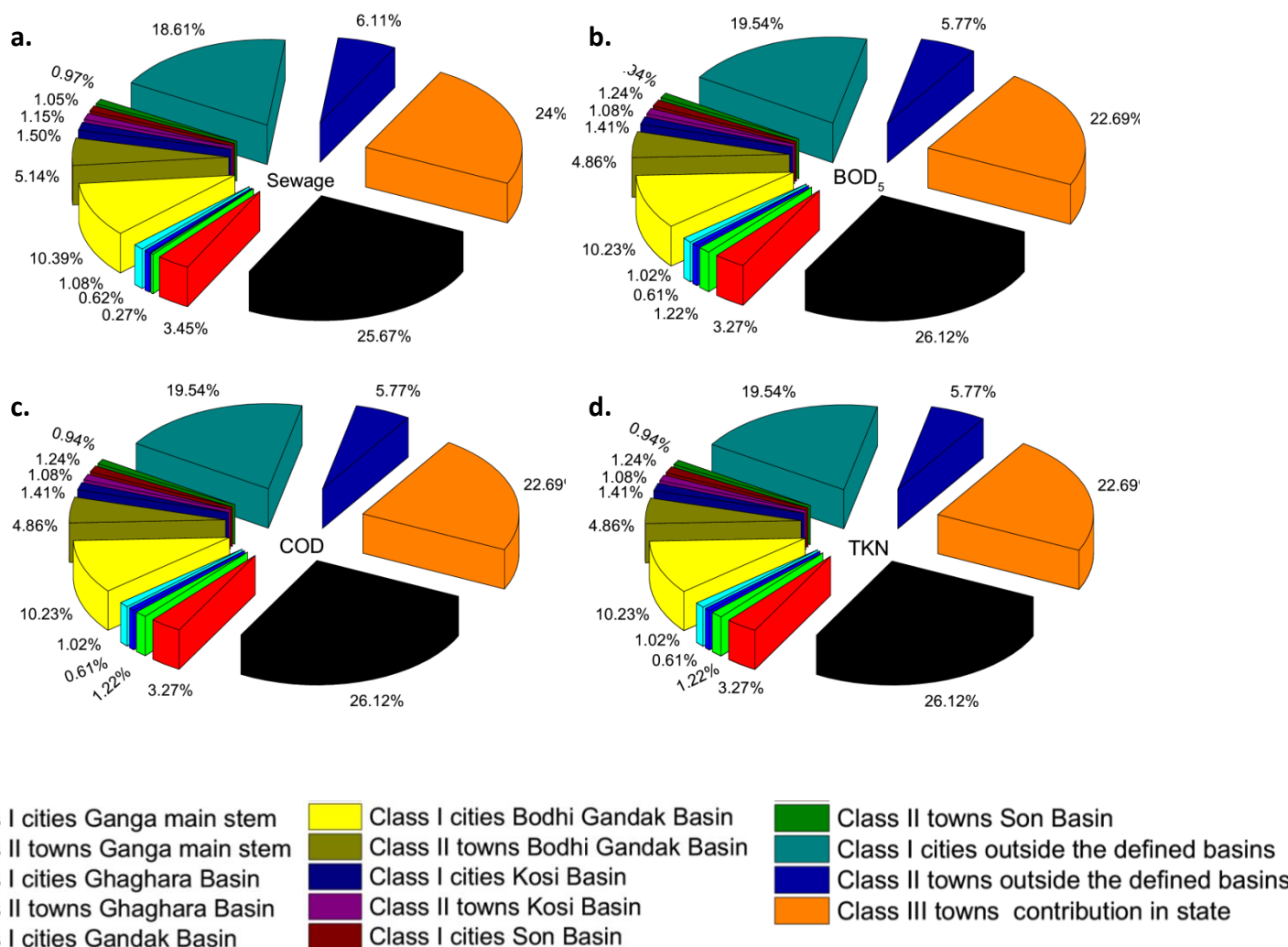


Figure 13 (a-d): Pollution load of Class I Cities and Class II, Class III Towns in the Major Basins of River Ganga in the State and Along the Main Stem of the River Ganga: (a) Sewage Generation; (b) BOD₅; (c) COD; (d) TKN

The results of the pollution load of Class I cities, Class II and Class III towns under the major basins of river Ganga in the state has been evaluated (Figure 13a-d) and the results revealed that the percentage of the total sewage generation is maximum in the Class I cities situated along the main stem of Ganga (25.67%). The sewage generation in the Buhri Gandak basin is highest for Class I cities (10.39%) and is higher than the Kosi (6.11%), Son basin (1.05%) and Ghaghara (0.27) compared with the total sewage generation. The sewage generation in all Class II towns in all the basins in the state is contributed ~9% of the total sewage generation. The Class I cities and Class II towns outside the major defined basins combinedly

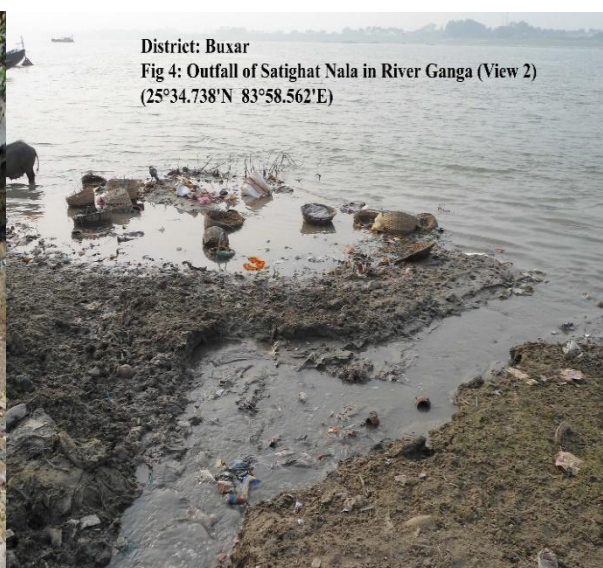
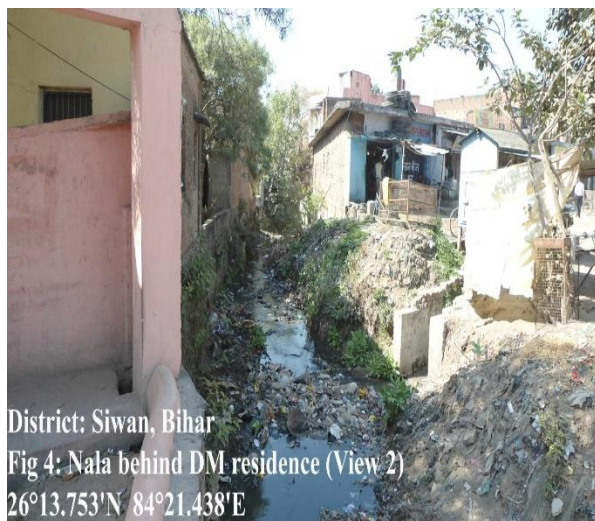
release 24.71% of waste water. The percentage sewage generation by Class III towns of the entire state is 24% of the total sewage generated by the state.

The BOD, COD and TKN load contributed by Class I cities of the main stem of Ganga and Burhi Gandak are 26.12 and 10.23%, respectively. The Class II and Class III towns of the state imparted around 9% and 22.69% respectively of the total BOD, COD, and TKN load. The basin wise major contributors of Class I cities for BOD, COD, and TKN load are Kosi (1.41%), Son(1.24%) and Ghaghara (0.61%). The significant BOD, COD, and TKN load contributed by the Class I cities and Class II towns lying outside the selected basins (BOD: 19.54%; COD: 19.54%). The details of the BOD and COD load in the state are presented in Figure 12b and c.

6. Conclusions:

River Ganga flows in the Indo-Gangetic plains of the state is one of the most sacred river in India, yet it is being polluted by many sources. Pollution levels in the river contributed 9-12% of the total burden of diseases in the state (Mallikarjun, 2003). The catchment of the river addressed the load of 63 Class I cities, 59 Class II towns and 232 Class III towns, directly or indirectly. The scenario of water quality in the system is fluctuating from bad to worse base on the spatial and temporal alterations. The multitudinous problems are also arising during lean season due to the continuous discharge of untreated and/or partially treated sewage and industrial wastewater. The Ghaghara, Gandak, Kosi, Burhi Gandak and Son tributaries discharges their partially treated and untreated effluent into river Ganga.

The maximum sewage generation is in the Class I cities (58.53%) followed by Class III (23.99%) and Class II towns (17.48%). Pollution load (BOD, COD and TKN load) also follows the same trend with maximum values for Class I cities. Patna and Lakhisarai are the Class I and Class II towns showing maximum amount of sewage generation in comparison to their water supply. The maximum BOD, COD and TKN contributing Class I cities, Class II and III towns are Patna, Lakhisarai and Narkatiaganj respectably. All calculations related to pollution load were done on per capita basis. There is lack of real data (Drains, water supply, etc.) for the Bihar state and suggested to be done for more accurate pollution situation.



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Appendix-1

Compilation of Fact Sheets of Water Balance & Pollution Load (Domestic) of Major Class I Cities/Towns in Bihar

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|---|---|------------------|---------------------|--------------|
| City: Arrah | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 30.97 |
| 2 | Population as in 2011 | : | | 261430 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 28.5 |
| 4 | Total Number of Wards | : | | 45 |
| 5 | Population per Ward (Thousands) | : | | 5810 |
| 6 | Total Number of Household as in 2011 | : | | 39,274 |
| 7 | Number of Household per Ward | : | | 873 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | 10.62 |
| 10 | Number of Bore Wells | : | | 16 |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | 0.66 |
| 12 | Number of Hand Pumps/ Tubewells | : | | 510 |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | 40.67 |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 10.88 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | | 41.70 |
| 19 | Total Sewage Generation (MLD)* | : | | 9.55 |
| 20 | Per Capita Sewage Generation (lpcd) | : | | 36.52 |
| 21 | Sewage Collection (MLD) | : | | NA |
| 22 | Percentage of Sewage Collection (%) | : | | NA |
| 23 | Number of STPs | : | | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |
| | | TKN | : | NA |

| | | | | |
|----|--|------------------|---|----------------|
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 7058.61 |
| | | COD | : | 11999.64 |
| | | TKN | : | 1411.72 |
| 30 | Wastewater Disposal Means | | : | River Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | 11 |
| 33 | Number of Water Bodies | | : | 4 |
| 34 | Gross Area of Water Bodies (Hectare) | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | : | NA |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|---|---|------------------|---------------------|--------------|
| City: Aurangabad | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 21.33 |
| 2 | Population as in 2011 | | : | 102244 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 28.78 |
| 4 | Total Number of Wards | | : | 33 |
| 5 | Population per Ward (Thousands) | | : | 3,098 |
| 6 | Total Number of Household as in 2011 | | : | 15782 |
| 7 | Number of Household per Ward | | : | 478 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 13.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | : | 11.0 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) | BOD ₅ | : | NA |

| | | | | |
|---|--|------------------|---------------------|-----------------------|
| | (kg/d) | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 2760.6 |
| | | COD | : | 4693.0 |
| | | TKN | : | 552.1 |
| 30 | Wastewater Disposal Means | | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Adari River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | NA |
| 33 | Number of Water Bodies | | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
| City: Bagah River | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 46.83 |
| 2 | Population as in 2011 | | : | 112634 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 23.14 |
| 4 | Total Number of Wards | | : | 35 |
| 5 | Population per Ward (Thousands) | | : | 3,218 |
| 6 | Total Number of Household as in 2011 | | : | 20980 |
| 7 | Number of Household per Ward | | : | 599 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 15.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | : | 12.2 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |

| | | | |
|----|--|------------------|-----------------------|
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3041.1 |
| | | COD | : 5169.9 |
| | | TKN | : 608.2 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|---|---|---|---------------------|--------------|
| City: Begusarai | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 47.51 |
| 2 | Population as in 2011 | : | | 252008 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 168.83 |
| 4 | Total Number of Wards | : | | 45 |
| 5 | Population per Ward (Thousands) | : | | 5,600 |
| 6 | Total Number of Household as in 2011 | : | | 47030 |
| 7 | Number of Household per Ward | : | | 1045 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | NA |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 34.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | | 27.2 |
| 20 | Per Capita Sewage Generation (lpcd) | : | | 108.0 |
| 21 | Sewage Collection (MLD) | : | | NA |
| 22 | Percentage of Sewage Collection (%) | : | | NA |
| 23 | Number of STPs | : | | NA |

| | | | |
|--|--|------------------|-----------------------|
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 6804.2 |
| | | COD | : 11567.2 |
| | | TKN | : 1360.8 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Bettiah | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 8.01 |
| 2 | Population as in 2011 | : | 132209 |
| 3 | Population Growth Rate as in 2011 (%) | : | 13.32 |
| 4 | Total Number of Wards | : | 39 |
| 5 | Population per Ward (Thousands) | : | 3,390 |
| 6 | Total Number of Household as in 2011 | : | 24463 |
| 7 | Number of Household per Ward | : | 627 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 17.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 14.3 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |

| | | | |
|---|--|------------------|-----------------------|
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3569.6 |
| | | COD | : 6068.4 |
| | | TKN | : 713.9 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | 9 |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Bhagalpur | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 30.17 |
| 2 | Population as in 2011 | : | 400146 |
| 3 | Population Growth Rate as in 2011 (%) | : | 17.43 |
| 4 | Total Number of Wards | : | 51 |
| 5 | Population per Ward (Thousands) | : | 7,846 |
| 6 | Total Number of Household as in 2011 | : | 69984 |
| 7 | Number of Household per Ward | : | 1372 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 54.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 43.2 |

| | | | |
|----|--|------------------|-----------------------|
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 10803.9 |
| | | COD | : 18366.7 |
| | | TKN | : 2160.8 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Biharsharif | | | State: Bihar | |
|-------------------|---|---|--------------|--------|
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 23.50 |
| 2 | Population as in 2011 | : | | 297268 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 28.09 |
| 4 | Total Number of Wards | : | | 46 |
| 5 | Population per Ward (Thousands) | : | | 6,462 |
| 6 | Total Number of Household as in 2011 | : | | 48641 |
| 7 | Number of Household per Ward | : | | 1057 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | NA |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 40.1 |

| | | | |
|----|--|------------------|-----------------------|
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 32.1 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 8026.2 |
| | | COD | : 13644.6 |
| | | TKN | : 1605.2 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Panchane River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Buxar | | State: Bihar | |
|--------------------|---|---------------------|--------------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 5.16 |
| 2 | Population as in 2011 | : | 102861 |
| 3 | Population Growth Rate as in 2011 (%) | : | 23.68 |
| 4 | Total Number of Wards | : | 34 |
| 5 | Population per Ward (Thousands) | : | 3025 |
| 6 | Total Number of Household as in 2011 | : | 16,710 |
| 7 | Number of Household per Ward | : | 491 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | 5.18 |
| 10 | Number of Bore Wells | : | 6 |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | 0.86 |
| 12 | Number of Hand Pumps/ Tubewells | : | 240 |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |

| | | | |
|----|--|------------------|---------------------|
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | 50.54 |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 5.30 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 51.70 |
| 19 | Total Sewage Generation (MLD)* | : | 4.46 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 43.34 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2777.25 |
| | | COD | : 4721.32 |
| | | TKN | : 555.45 |
| 30 | Wastewater Disposal Means | : | River&Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 5 |
| 33 | Number of Water Bodies | : | 5 |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<<1% |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Chhapra | | State: Bihar | |
|----------------------|---|---------------------|--------------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 16.96 |
| 2 | Population as in 2011 | : | 202352 |
| 3 | Population Growth Rate as in 2011 (%) | : | 12.93 |
| 4 | Total Number of Wards | : | 44 |
| 5 | Population per Ward (Thousands) | : | 4,599 |
| 6 | Total Number of Household as in 2011 | : | 31501 |
| 7 | Number of Household per Ward | : | 716 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | 4.35 |
| 10 | Number of Bore Wells | : | 13 |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | 0.33 |
| 12 | Number of Hand Pumps/ Tubewells | : | 515 |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | 500 |

| | | | |
|----|--|------------------|----------------|
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | 21.58 |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.3 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 109.6 |
| 19 | Total Sewage Generation (MLD)** | : | 6.3 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 31.2 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 5463.5 |
| | | COD | : 9288.0 |
| | | TKN | : 1092.7 |
| 30 | Wastewater Disposal Means | : | River Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 1 |
| 33 | Number of Water Bodies | : | 7 |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | NA |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Darbanga | | | State: Bihar | |
|-----------------------|---|---|---------------------|--------------|
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 19.18 |
| 2 | Population as in 2011 | : | | 2,96,039 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 10.73 |
| 4 | Total Number of Wards | : | | 48 |
| 5 | Population per Ward (Thousands) | : | | 6,167 |
| 6 | Total Number of Household as in 2011 | : | | 56,492 |
| 7 | Number of Household per Ward | : | | 1177 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | 13.37 |
| 10 | Number of Tube Wells | : | | 8 |
| 11 | Ground Water Extraction per Tube Well (MLD) | : | | 4.5 |

| 12 | Number of Hand Pumps | : | 3000 |
|--|--|---------------------|-----------------------|
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | 4 |
| 15 | Total Pumping Capacity (MLD) | : | 1.7 |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | 135 |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 33.4 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 124.8 |
| 19 | Total Sewage Generation (MLD) | : | 26.7 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 99.9 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 7218.4 |
| | | COD | : 12271.3 |
| | | TKN | : 1443.7 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Baghmati River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 19 |
| 33 | Number of Water Bodies | : | 206 |
| 34 | Gross Area of Water Bodies (sq km) | : | 4.16 |
| 35 | Area of Water Bodies as % of Total Area | : | 21.69 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Dehri | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 21.32 |
| 2 | Population as in 2011 | : | 137231 |
| 3 | Population Growth Rate as in 2011 (%) | : | 15.26 |
| 4 | Total Number of Wards | : | 39 |
| 5 | Population per Ward (Thousands) | : | 3519 |
| 6 | Total Number of Household as in 2011 | : | 23,234 |
| 7 | Number of Household per Ward | : | 596 |
| 8 | Surface Water Supply (MLD) | : | 8 |

| | | | |
|---|--|------------------|---------------------|
| 9 | Ground Water (GW) Supply (MLD) | : | 5.47 |
| 10 | Number of Bore Wells | : | 6 |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | 0.91 |
| 12 | Number of Hand Pumps/ Tubewells | : | 30 |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | 135 |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 13.49 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.00 |
| 19 | Total Sewage Generation (MLD)* | : | 11.89 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 86.63 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3705.24 |
| | | COD | : 6298.90 |
| | | TKN | : 741.05 |
| 30 | Wastewater Disposal Means | : | River Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Sone |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 5 |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | NA |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Dinapur Nizamat | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 16.41 |
| 2 | Population as in 2011 | : | 182429 |
| 3 | Population Growth Rate as in 2011 (%) | : | 39.07 |
| 4 | Total Number of Wards | : | 40 |
| 5 | Population per Ward (Thousands) | : | 4,561 |
| 6 | Total Number of Household as in 2011 | : | 28932 |
| 7 | Number of Household per Ward | : | 723 |

| | | | |
|---|--|------------------|-----------------------|
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 24.6 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 19.7 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 4925.6 |
| | | COD | : 8373.5 |
| | | TKN | : 985.1 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Panchane River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Gaya | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 50.17 |
| 2 | Population as in 2011 | : | 474093 |
| 3 | Population Growth Rate as in 2011 (%) | : | 21.81 |
| 4 | Total Number of Wards | : | 53 |
| 5 | Population per Ward (Thousands) | : | 8,945 |

| | | | |
|----|--|------------------|-----------------------|
| 6 | Total Number of Household as in 2011 | : | 72978 |
| 7 | Number of Household per Ward | : | 1377 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 64.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 51.2 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 12800.5 |
| | | COD | : 21760.9 |
| | | TKN | : 2560.1 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Falgu River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|--|-----------------------|---|--------------|--------|
| City: Hajipur | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 19.64 |
| 2 | Population as in 2011 | : | | 147688 |

| | | | |
|----|--|------------------|-----------------------|
| 3 | Population Growth Rate as in 2011 (%) | : | 23.68 |
| 4 | Total Number of Wards | : | 39 |
| 5 | Population per Ward (Thousands) | : | 3,787 |
| 6 | Total Number of Household as in 2011 | : | 24033 |
| 7 | Number of Household per Ward | : | 616 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 19.9 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 16.0 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3987.6 |
| | | COD | : 6778.9 |
| | | TKN | : 797.5 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Gandak & Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|--|-------|--|--------------|-------|
| City: Jamalpur | | | State: Bihar | |
| S. No. | Items | | | Value |

| | | | |
|---|--|------------------|-----------------------|
| 1 | Total Area (sq km) | : | 10.65 |
| 2 | Population as in 2011 | : | 105434 |
| 3 | Population Growth Rate as in 2011 (%) | : | 8.71 |
| 4 | Total Number of Wards | : | 36 |
| 5 | Population per Ward (Thousands) | : | 2,929 |
| 6 | Total Number of Household as in 2011 | : | 20372 |
| 7 | Number of Household per Ward | : | 566 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 14.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 11.4 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2846.7 |
| | | COD | : 4839.4 |
| | | TKN | : 569.3 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |

| City: Jehanabad | | | State: Bihar | |
|-----------------|--|------------------|--------------|-----------------------|
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 20.23 |
| 2 | Population as in 2011 | | : | 103202 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 26.62 |
| 4 | Total Number of Wards | | : | 33 |
| 5 | Population per Ward (Thousands) | | : | 3,127 |
| 6 | Total Number of Household as in 2011 | | : | 16802 |
| 7 | Number of Household per Ward | | : | 509 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 13.9 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | : | 11.1 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 2786.5 |
| | | COD | : | 4737.0 |
| | | TKN | : | 557.3 |
| 30 | Wastewater Disposal Means | | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Dardha River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | NA |
| 33 | Number of Water Bodies | | : | NA |

| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
|---|--|------------------|-----------------------|
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Katihar | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 51.70 |
| 2 | Population as in 2011 | : | 240838 |
| 3 | Population Growth Rate as in 2011 (%) | : | 26.18 |
| 4 | Total Number of Wards | : | 45 |
| 5 | Population per Ward (Thousands) | : | 5,352 |
| 6 | Total Number of Household as in 2011 | : | 47059 |
| 7 | Number of Household per Ward | : | 1046 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 32.5 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 26.0 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 6502.6 |
| | | COD | : 11054.5 |
| | | TKN | : 1300.5 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |

| | | | |
|----|---|---|-------|
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|--|--|------------------|--------------|--------|
| City: Kishanganj | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 30.12 |
| 2 | Population as in 2011 | : | | 105782 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 23.59 |
| 4 | Total Number of Wards | : | | 33 |
| 5 | Population per Ward (Thousands) | : | | 3,206 |
| 6 | Total Number of Household as in 2011 | : | | 20698 |
| 7 | Number of Household per Ward | : | | 627 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | NA |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 14.3 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | | 11.4 |
| 20 | Per Capita Sewage Generation (lpcd) | : | | 108.0 |
| 21 | Sewage Collection (MLD) | : | | NA |
| 22 | Percentage of Sewage Collection (%) | : | | NA |
| 23 | Number of STPs | : | | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 2856.1 |
| | | COD | : | 4855.4 |
| | | TKN | : | 571.2 |

| | | | |
|---|--|---------------------|-----------------------|
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Mahananda River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Motihari | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 16.38 |
| 2 | Population as in 2011 | : | 126158 |
| 3 | Population Growth Rate as in 2011 (%) | : | 25.30 |
| 4 | Total Number of Wards | : | 38 |
| 5 | Population per Ward (Thousands) | : | 3,320 |
| 6 | Total Number of Household as in 2011 | : | 22224 |
| 7 | Number of Household per Ward | : | 585 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 17.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd)! | : | NA |
| 19 | Total Sewage Generation (MLD)*** | : | 10.8 |
| 20 | Per Capita Sewage Generation (lpcd)! | : | NA |
| 21 | Sewage Collection (MLD) | : | 3.7 |
| 22 | Percentage of Sewage Collection (%) | : | 100 |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |

| | | | | | |
|--|--|------------------|------------------|--------------|---------------|
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | | BOD ₅ | : | 3406.3 |
| | | | COD | : | 5790.7 |
| | | | TKN | : | 681.3 |
| 30 | Wastewater Disposal Means | | | : | River & Lake |
| 31 | Name of River/Streams for Wastewater Disposal | | | : | Bahuri Gandak |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | | : | 17 |
| 33 | Number of Water Bodies | | | : | 3 |
| 34 | Gross Area of Water Bodies (Hectare) | | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | | : | NA |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | | |
| City: Munger | | | | State: Bihar | |
| S. No. | Items | | | | Value |
| 1 | Total Area (sq km) | | | : | 17.50 |
| 2 | Population as in 2011 | | | : | 213303 |
| 3 | Population Growth Rate as in 2011 (%) | | | : | 13.43 |
| 4 | Total Number of Wards | | | : | 45 |
| 5 | Population per Ward (Thousands) | | | : | 4,740 |
| 6 | Total Number of Household as in 2011 | | | : | 38921 |
| 7 | Number of Household per Ward | | | : | 865 |
| 8 | Surface Water Supply (MLD) | | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | | : | NA |
| 10 | Number of Bore Wells | | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | | : | 28.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | | : | 23.0 |
| 20 | Per Capita Sewage Generation (lpcd) | | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | | : | NA |
| 23 | Number of STPs | | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | | | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual | BOD ₅ | : | NA | |

| | | | | |
|----|--|------------------|---|-----------------------|
| | Flow) (kg/d) | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 5759.2 |
| | | COD | : | 9790.6 |
| | | TKN | : | 1151.8 |
| 30 | Wastewater Disposal Means | | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | NA |
| 33 | Number of Water Bodies | | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Muzaffarpur | | | State: Bihar | |
|-------------------|---|--|--------------|--------|
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 26.43 |
| 2 | Population as in 2011 | | : | 354462 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 16.02 |
| 4 | Total Number of Wards | | : | 49 |
| 5 | Population per Ward (Thousands) | | : | 7,234 |
| 6 | Total Number of Household as in 2011 | | : | 65870 |
| 7 | Number of Household per Ward | | : | 1344 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 47.9 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD) | | : | 38.3 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |

| | | | |
|----|--|------------------|------------------------|
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 9570.5 |
| | | COD | : 16269.8 |
| | | TKN | : 1914.1 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Bahuri Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 20 |
| 33 | Number of Water Bodies | : | 14 |
| 34 | Gross Area of Water Bodies (sq km) | : | 3.02 |
| 35 | Area of Water Bodies as % of Total Area | : | <<1.0 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Patna | | State: Bihar | |
|--------------------|---|---------------------|---------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 107.69 |
| 2 | Population as in 2011 | : | 1684297 |
| 3 | Population Growth Rate as in 2011 (%) | : | 17.60 |
| 4 | Total Number of Wards | : | 72 |
| 5 | Population per Ward (Thousands) | : | 23,393 |
| 6 | Total Number of Household as in 2011 | : | 294631 |
| 7 | Number of Household per Ward | : | 4092 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 227.4 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD) | : | 181.9 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |

| | | | |
|--|--|---------------------|-----------------------|
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 45476.0 |
| | | COD | : 77309.2 |
| | | TKN | : 9095.2 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (sq km) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<1.0 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Purnia | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 92.29 |
| 2 | Population as in 2011 | : | 282248 |
| 3 | Population Growth Rate as in 2011 (%) | : | 64.40 |
| 4 | Total Number of Wards | : | 46 |
| 5 | Population per Ward (Thousands) | : | 6,136 |
| 6 | Total Number of Household as in 2011 | : | 54058 |
| 7 | Number of Household per Ward | : | 1175 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 38.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD) | : | 30.5 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |

| | | | |
|----|--|------------------|--------------------|
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 7620.7 |
| | | COD | : 12955.2 |
| | | TKN | : 1524.1 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kosi & Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (sq km) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<1.0 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Saharsa | | State: Bihar | |
|---------------|---|--------------|--------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 21.13 |
| 2 | Population as in 2011 | : | 156540 |
| 3 | Population Growth Rate as in 2011 (%) | : | 25.06 |
| 4 | Total Number of Wards | : | 41 |
| 5 | Population per Ward (Thousands) | : | 3,818 |
| 6 | Total Number of Household as in 2011 | : | 28862 |
| 7 | Number of Household per Ward | : | 704 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 21.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD) | : | 16.9 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |

| | | | |
|----|--|------------------|-----------------------|
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 4226.6 |
| | | COD | : 7185.2 |
| | | TKN | : 845.3 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Koshi River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (sq km) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<1.0 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Sasaram | | State: Bihar | |
|----------------------|---|---------------------|--------------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 10.9 |
| 2 | Population as in 2011 | : | 147408 |
| 3 | Population Growth Rate as in 2011 (%) | : | 12.38 |
| 4 | Total Number of Wards | : | 40 |
| 5 | Population per Ward (Thousands) | : | 3685 |
| 6 | Total Number of Household as in 2011 | : | 23,866 |
| 7 | Number of Household per Ward | : | 597 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 19.90 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.00 |

| | | | |
|---|--|---------------------|----------------|
| 19 | Total Sewage Generation (MLD)* | : | 11.29 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 76.62 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3980.02 |
| | | COD | : 6766.03 |
| | | TKN | : 796.00 |
| 30 | Wastewater Disposal Means | : | River and Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kadir & Sone |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 9 |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<<1% |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Siwan | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 13.05 |
| 2 | Population as in 2011 | : | 135066 |
| 3 | Population Growth Rate as in 2011 (%) | : | 22.88 |
| 4 | Total Number of Wards | : | 38 |
| 5 | Population per Ward (Thousands) | : | 3,554 |
| 6 | Total Number of Household as in 2011 | : | 21223 |
| 7 | Number of Household per Ward | : | 559 |
| 8 | Surface Water Supply (MLD) | : | 3 |
| 9 | Ground Water (GW) Supply (MLD) | : | 2.84 |
| 10 | Number of Bore Wells | : | 8 |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | 0.38 |
| 12 | Number of Hand Pumps/ Tubewells | : | 550 |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |

| | | | |
|----|--|------------------|-----------------------|
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 6.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 45.3 |
| 19 | Total Sewage Generation (MLD) | : | 3.2 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 24.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 3646.8 |
| | | COD | : 6199.5 |
| | | TKN | : 729.4 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | River Daha |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 2 |
| 33 | Number of Water Bodies | : | 2 |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | NA |

Appendix-2

Compilation of Fact Sheets of Water Balance & Pollution Load (Domestic) of Major Class II Cities/Towns in

Bihar

| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | | |
|--|---|---|---------------------|--------------|
| City: Araria | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 30.97 |
| 2 | Population as in 2011 | : | | 79021 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 29.84 |
| 4 | Total Number of Wards | : | | 32 |
| 5 | Population per Ward (Thousands) | : | | 2,469 |
| 6 | Total Number of Household as in 2011 | : | | 15248 |
| 7 | Number of Household per Ward | : | | 477 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |

| | | | |
|----|--|------------------|-----------------------|
| 12 | Number of Hand Pumps | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | 500 |
| 14 | Number of Pumping Stations for Water Supply | : | 4 |
| 15 | Total Pumping Capacity (MLD) | : | 4 |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 10.7 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD) | : | 8.5 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2133.6 |
| | | COD | : 3627.1 |
| | | TKN | : 426.7 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Panar River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | 13 |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (sq km) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<1.0 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Arwal | | State: Bihar | |
|--------------------|---------------------------------------|---------------------|-------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 24.43 |
| 2 | Population as in 2011 | : | 51849 |
| 3 | Population Growth Rate as in 2011 (%) | : | NA |
| 4 | Total Number of Wards | : | 25 |
| 5 | Population per Ward (Thousands) | : | 2,074 |
| 6 | Total Number of Household as in 2011 | : | 8453 |
| 7 | Number of Household per Ward | : | 338 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |

| | | | |
|--|--|---------------------|-----------------------|
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 7.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.6 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1399.9 |
| | | COD | : 2379.9 |
| | | TKN | : 280.0 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Sone River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Barauni | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 17.55 |
| 2 | Population as in 2011 | : | 71660 |
| 3 | Population Growth Rate as in 2011 (%) | : | 416.21 |
| 4 | Total Number of Wards | : | 4 |
| 5 | Population per Ward (Thousands) | : | 17,915 |
| 6 | Total Number of Household as in 2011 | : | 12964 |
| 7 | Number of Household per Ward | : | 3241 |

| | | | |
|--|--|------------------|-----------------------|
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 9.7 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 7.7 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1934.8 |
| | | COD | : 3289.2 |
| | | TKN | : 387.0 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Barh | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 4.50 |
| 2 | Population as in 2011 | : | 61470 |
| 3 | Population Growth Rate as in 2011 (%) | : | 26.89 |
| 4 | Total Number of Wards | : | 27 |
| 5 | Population per Ward (Thousands) | : | 2,277 |

| | | | |
|---|--|------------------|-----------------------|
| 6 | Total Number of Household as in 2011 | : | 9310 |
| 7 | Number of Household per Ward | : | 345 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.3 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 6.6 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1659.7 |
| | | COD | : 2821.5 |
| | | TKN | : 331.9 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Banipur | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 46.02 |
| 2 | Population as in 2011 | : | 75317 |
| 3 | Population Growth Rate as in 2011 (%) | : | NA |

| | | | |
|--|--|------------------|-----------------------|
| 4 | Total Number of Wards | : | 29 |
| 5 | Population per Ward (Thousands) | : | 2,597 |
| 6 | Total Number of Household as in 2011 | : | 15078 |
| 7 | Number of Household per Ward | : | 520 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 10.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 8.1 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2033.6 |
| | | COD | : 3457.1 |
| | | TKN | : 406.7 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kamla River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Bhabua | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 7.12 |

| | | | |
|---|--|------------------|-----------------------|
| 2 | Population as in 2011 | : | 50179 |
| 3 | Population Growth Rate as in 2011 (%) | : | 20.12 |
| 4 | Total Number of Wards | : | 25 |
| 5 | Population per Ward (Thousands) | : | 2,007 |
| 6 | Total Number of Household as in 2011 | : | 7855 |
| 7 | Number of Household per Ward | : | 314 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 6.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.4 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1354.8 |
| | | COD | : 2303.2 |
| | | TKN | : 271.0 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Suwara River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Bihat | | | State: Bihar |

| S. No. | Items | | Value |
|--------|--|------------------|-----------------------|
| 1 | Total Area (sq km) | : | 23.45 |
| 2 | Population as in 2011 | : | 67952 |
| 3 | Population Growth Rate as in 2011 (%) | : | NA |
| 4 | Total Number of Wards | : | 7 |
| 5 | Population per Ward (Thousands) | : | 9,707 |
| 6 | Total Number of Household as in 2011 | : | 12958 |
| 7 | Number of Household per Ward | : | 1851 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 9.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 7.3 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1834.7 |
| | | COD | : 3119.0 |
| | | TKN | : 366.9 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|---|--|------------------|---------------------|-----------------------|
| City: Daudnagar | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 13.96 |
| 2 | Population as in 2011 | : | | 52364 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 37.75 |
| 4 | Total Number of Wards | : | | 23 |
| 5 | Population per Ward (Thousands) | : | | 2,277 |
| 6 | Total Number of Household as in 2011 | : | | 8111 |
| 7 | Number of Household per Ward | : | | 353 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | NA |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 7.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | | 5.7 |
| 20 | Per Capita Sewage Generation (lpcd) | : | | 108.0 |
| 21 | Sewage Collection (MLD) | : | | NA |
| 22 | Percentage of Sewage Collection (%) | : | | NA |
| 23 | Number of STPs | : | | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 1413.8 |
| | | COD | : | 2403.5 |
| | | TKN | : | 282.8 |
| 30 | Wastewater Disposal Means | : | | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | | Sone River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | | NA |
| 33 | Number of Water Bodies | : | | NA |

| | | | |
|--|--|---------------------|-----------------------|
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Dumaraon | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 15.33 |
| 2 | Population as in 2011 | : | 53618 |
| 3 | Population Growth Rate as in 2011 (%) | : | 17.05 |
| 4 | Total Number of Wards | : | 26 |
| 5 | Population per Ward (Thousands) | : | 2,062 |
| 6 | Total Number of Household as in 2011 | : | 8621 |
| 7 | Number of Household per Ward | : | 332 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 7.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.8 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1447.7 |
| | | COD | : 2461.1 |
| | | TKN | : 289.5 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |

| | | | |
|--|--|---------------------|--------------|
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Fatwah | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 4.90 |
| 2 | Population as in 2011 | : | 50961 |
| 3 | Population Growth Rate as in 2011 (%) | : | 31.78 |
| 4 | Total Number of Wards | : | 23 |
| 5 | Population per Ward (Thousands) | : | 2,216 |
| 6 | Total Number of Household as in 2011 | : | 8225 |
| 7 | Number of Household per Ward | : | 358 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 6.9 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.5 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1375.9 |
| | | COD | : 2339.1 |
| | | TKN | : 275.2 |

| | | | |
|--|---|---------------------|-----------------------|
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City:Forbesganj | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 4.98 |
| 2 | Population as in 2011 | : | 50475 |
| 3 | Population Growth Rate as in 2011 (%) | : | 21.63 |
| 4 | Total Number of Wards | : | 25 |
| 5 | Population per Ward (Thousands) | : | 2,019 |
| 6 | Total Number of Household as in 2011 | : | 9632 |
| 7 | Number of Household per Ward | : | 385 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 6.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.5 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita | BOD ₅ | : 1362.8 |

| | | | | |
|---|---|------------------|---------------------|-----------------------|
| | Contribution) (kg/d) | COD | : | 2316.8 |
| | | TKN | : | 272.6 |
| 30 | Wastewater Disposal Means | | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Koshi River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | NA |
| 33 | Number of Water Bodies | | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
| City: Gopalganj | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 11.11 |
| 2 | Population as in 2011 | | : | 67339 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 23.67 |
| 4 | Total Number of Wards | | : | 28 |
| 5 | Population per Ward (Thousands) | | : | 2,405 |
| 6 | Total Number of Household as in 2011 | | : | 10796 |
| 7 | Number of Household per Ward | | : | 386 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 9.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | : | 7.3 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 110.5 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |

| | | | | |
|---|--|------------------|---------------------|--------------|
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 1818.2 |
| | | COD | : | 3090.9 |
| | | TKN | : | 363.6306 |
| 30 | Wastewater Disposal Means | | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | | : | Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | : | NA |
| 33 | Number of Water Bodies | | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
| City:Hilsa | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | | : | 22.96 |
| 2 | Population as in 2011 | | : | 51052 |
| 3 | Population Growth Rate as in 2011 (%) | | : | 35.15 |
| 4 | Total Number of Wards | | : | 26 |
| 5 | Population per Ward (Thousands) | | : | 1,964 |
| 6 | Total Number of Household as in 2011 | | : | 8681 |
| 7 | Number of Household per Ward | | : | 334 |
| 8 | Surface Water Supply (MLD) | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | : | NA |
| 10 | Number of Bore Wells | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | : | 6.9 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | : | 5.5 |
| 20 | Per Capita Sewage Generation (lpcd) | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | : | NA |
| 23 | Number of STPs | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | | : | NA |

| | | | | | |
|--|--|------------------|---|---------------------|--------------|
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA | |
| | | COD | : | NA | |
| | | TKN | : | NA | |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 1378.4 | |
| | | COD | : | 2343.3 | |
| | | TKN | : | 275.7 | |
| 30 | Wastewater Disposal Means | | | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | | | : | Falgu River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | | | : | NA |
| 33 | Number of Water Bodies | | | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | | | : | NA |
| 35 | Area of Water Bodies as % of Total Area | | | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | | | |
| City:Jamui | | | | State: Bihar | |
| S. No. | Items | | | | Value |
| 1 | Total Area (sq km) | | | : | 26.45 |
| 2 | Population as in 2011 | | | : | 87357 |
| 3 | Population Growth Rate as in 2011 (%) | | | : | 30.78 |
| 4 | Total Number of Wards | | | : | 30 |
| 5 | Population per Ward (Thousands) | | | : | 2,912 |
| 6 | Total Number of Household as in 2011 | | | : | 14509 |
| 7 | Number of Household per Ward | | | : | 484 |
| 8 | Surface Water Supply (MLD) | | | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | | | : | NA |
| 10 | Number of Bore Wells | | | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | | | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | | | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | | | : | NA |
| 14 | Number of Pumping Stations for Water Supply | | | : | NA |
| 15 | Total Pumping Capacity (MLD) | | | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | | | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | | | : | 11.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | | | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | | | : | 9.4 |
| 20 | Per Capita Sewage Generation (lpcd) | | | : | 108.0 |
| 21 | Sewage Collection (MLD) | | | : | NA |
| 22 | Percentage of Sewage Collection (%) | | | : | NA |
| 23 | Number of STPs | | | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | | | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | | | : | NA |

| | | | |
|--|--|---------------------|--------------|
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2358.6 |
| | | COD | : 4009.7 |
| | | TKN | : 471.7 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kiul River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Lakhisarai | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 24.79 |
| 2 | Population as in 2011 | : | 99979 |
| 3 | Population Growth Rate as in 2011 (%) | : | 28.38 |
| 4 | Total Number of Wards | : | 33 |
| 5 | Population per Ward (Thousands) | : | 3,030 |
| 6 | Total Number of Household as in 2011 | : | 17214 |
| 7 | Number of Household per Ward | : | 522 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 13.5 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 10.8 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |

| | | | |
|----|--|------------------|--------------|
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2699.4 |
| | | COD | : 4589.0 |
| | | TKN | : 539.9 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kiul River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Madhepura | | State: Bihar | |
|-----------------|---|--------------|-------|
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 25.84 |
| 2 | Population as in 2011 | : | 54472 |
| 3 | Population Growth Rate as in 2011 (%) | : | 20.97 |
| 4 | Total Number of Wards | : | 26 |
| 5 | Population per Ward (Thousands) | : | 2,095 |
| 6 | Total Number of Household as in 2011 | : | 10577 |
| 7 | Number of Household per Ward | : | 407 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 7.4 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.9 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |

| | | | |
|--|--|---------------------|--------------|
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1470.7 |
| | | COD | : 2500.3 |
| | | TKN | : 294.1 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Koshi River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Madhubani | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 2.52 |
| 2 | Population as in 2011 | : | 75736 |
| 3 | Population Growth Rate as in 2011 (%) | : | 14.16 |
| 4 | Total Number of Wards | : | 30 |
| 5 | Population per Ward (Thousands) | : | 2,525 |
| 6 | Total Number of Household as in 2011 | : | 13583 |
| 7 | Number of Household per Ward | : | 453 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 10.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 8.2 |

| | | | |
|---|--|---------------------|--------------|
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2044.9 |
| | | COD | : 3476.3 |
| | | TKN | : 409.0 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Kamla River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Masaurhi | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 9.43 |
| 2 | Population as in 2011 | : | 59803 |
| 3 | Population Growth Rate as in 2011 (%) | : | 32.17 |
| 4 | Total Number of Wards | : | 26 |
| 5 | Population per Ward (Thousands) | : | 2,300 |
| 6 | Total Number of Household as in 2011 | : | 10210 |
| 7 | Number of Household per Ward | : | 393 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.1 |

| | | | |
|--|--|---------------------|----------------------|
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 6.5 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1614.7 |
| | | COD | : 2745.0 |
| | | TKN | : 322.9 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Sone and Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Mokameh | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 14.18 |
| 2 | Population as in 2011 | : | 60678 |
| 3 | Population Growth Rate as in 2011 (%) | : | 7.18 |
| 4 | Total Number of Wards | : | 28 |
| 5 | Population per Ward (Thousands) | : | 2,167 |
| 6 | Total Number of Household as in 2011 | : | 9742 |
| 7 | Number of Household per Ward | : | 348 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |

| | | | |
|--|--|---------------------|-----------------------|
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 6.6 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1638.3 |
| | | COD | : 2785.1 |
| | | TKN | : 327.7 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Nawada | | State: Bihar | |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 5.68 |
| 2 | Population as in 2011 | : | 98029 |
| 3 | Population Growth Rate as in 2011 (%) | : | 19.71 |
| 4 | Total Number of Wards | : | 33 |
| 5 | Population per Ward (Thousands) | : | 2,971 |
| 6 | Total Number of Household as in 2011 | : | 15399 |
| 7 | Number of Household per Ward | : | 467 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | NA |

| | | | |
|--|--|------------------|---------------------|
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 13.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 10.6 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2646.8 |
| | | COD | : 4499.5 |
| | | TKN | : 529.4 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Panchane River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Phulwari Sharif | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 6.48 |
| 2 | Population as in 2011 | : | 81740 |
| 3 | Population Growth Rate as in 2011 (%) | : | 52.93 |
| 4 | Total Number of Wards | : | 28 |
| 5 | Population per Ward (Thousands) | : | 2,919 |
| 6 | Total Number of Household as in 2011 | : | 13404 |
| 7 | Number of Household per Ward | : | 479 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |

| | | | |
|---|--|------------------|-----------------------|
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 11.0 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 8.8 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 2207.0 |
| | | COD | : 3751.9 |
| | | TKN | : 441.4 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Raxaul Bazar | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 5.82 |
| 2 | Population as in 2011 | : | 55536 |
| 3 | Population Growth Rate as in 2011 (%) | : | 33.47 |
| 4 | Total Number of Wards | : | 25 |
| 5 | Population per Ward (Thousands) | : | 2,221 |
| 6 | Total Number of Household as in 2011 | : | 9513 |
| 7 | Number of Household per Ward | : | 381 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |

| | | | |
|----|--|------------------|-----------------------|
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 7.5 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 6.0 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1499.5 |
| | | COD | : 2549.1 |
| | | TKN | : 299.9 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Sirsiya River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Samastipur | | | State: Bihar | | |
|-------------------------|---------------------------------------|---|---------------------|--|-------|
| S. No. | Items | | | | Value |
| 1 | Total Area (sq km) | : | | | 3.45 |
| 2 | Population as in 2011 | : | | | 67925 |
| 3 | Population Growth Rate as in 2011 (%) | : | | | 9.56 |
| 4 | Total Number of Wards | : | | | 28 |
| 5 | Population per Ward (Thousands) | : | | | 2,426 |
| 6 | Total Number of Household as in 2011 | : | | | 13135 |
| 7 | Number of Household per Ward | : | | | 469 |

| | | | |
|----|--|------------------|-----------------------|
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 9.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 7.3 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1834.0 |
| | | COD | : 3117.8 |
| | | TKN | : 366.8 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Burhi Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Water Balance & Pollution Load (Domestic) Fact Sheet

| City: Sheikhpura | | | State: Bihar | |
|-------------------------|---------------------------------------|---|---------------------|--------------|
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 27.90 |
| 2 | Population as in 2011 | : | | 62927 |
| 3 | Population Growth Rate as in 2011 (%) | : | | 45.96 |
| 4 | Total Number of Wards | : | | 27 |
| 5 | Population per Ward (Thousands) | : | | 2,331 |

| | | | |
|---|--|------------------|-----------------------|
| 6 | Total Number of Household as in 2011 | : | 10181 |
| 7 | Number of Household per Ward | : | 377 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.5 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 6.8 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1699.0 |
| | | COD | : 2888.3 |
| | | TKN | : 339.8 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Tati River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Sitamarhi | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 4.35 |
| 2 | Population as in 2011 | : | 67818 |
| 3 | Population Growth Rate as in 2011 (%) | : | -6.77 |

| | | | |
|--|--|------------------|---------------------|
| 4 | Total Number of Wards | : | 28 |
| 5 | Population per Ward (Thousands) | : | 2,422 |
| 6 | Total Number of Household as in 2011 | : | 12718 |
| 7 | Number of Household per Ward | : | 454 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 9.2 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 7.3 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1831.1 |
| | | COD | : 3112.8 |
| | | TKN | : 366.2 |
| 30 | Wastewater Disposal Means | : | River & Land |
| 31 | Name of River/Streams for Wastewater Disposal | : | Gandak River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| <u>Water Balance & Pollution Load (Domestic) Fact Sheet</u> | | | |
| City: Sultanganj | | | State: Bihar |
| S. No. | Items | | Value |
| 1 | Total Area (sq km) | : | 12.29 |

| | | | |
|---|--|------------------|-----------------------|
| 2 | Population as in 2011 | : | 52892 |
| 3 | Population Growth Rate as in 2011 (%) | : | 26.06 |
| 4 | Total Number of Wards | : | 25 |
| 5 | Population per Ward (Thousands) | : | 2,116 |
| 6 | Total Number of Household as in 2011 | : | 9410 |
| 7 | Number of Household per Ward | : | 376 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 7.1 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 5.7 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1428.1 |
| | | COD | : 2427.7 |
| | | TKN | : 285.6 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |
| Water Balance & Pollution Load (Domestic) Fact Sheet | | | |
| City: Supaul | | | State: Bihar |

| S. No. | Items | | Value |
|--------|--|------------------|-----------------------|
| 1 | Total Area (sq km) | : | 22.37 |
| 2 | Population as in 2011 | : | 65437 |
| 3 | Population Growth Rate as in 2011 (%) | : | 20.99 |
| 4 | Total Number of Wards | : | 28 |
| 5 | Population per Ward (Thousands) | : | 2,337 |
| 6 | Total Number of Household as in 2011 | : | 12495 |
| 7 | Number of Household per Ward | : | 446 |
| 8 | Surface Water Supply (MLD) | : | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | NA |
| 10 | Number of Bore Wells | : | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | NA |
| 14 | Number of Pumping Stations for Water Supply | : | NA |
| 15 | Total Pumping Capacity (MLD) | : | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | 8.8 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | 7.1 |
| 20 | Per Capita Sewage Generation (lpcd) | : | 108.0 |
| 21 | Sewage Collection (MLD) | : | NA |
| 22 | Percentage of Sewage Collection (%) | : | NA |
| 23 | Number of STPs | : | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : NA |
| | | COD | : NA |
| | | TKN | : NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : 1766.8 |
| | | COD | : 3003.6 |
| | | TKN | : 353.4 |
| 30 | Wastewater Disposal Means | : | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | Koshi River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | NA |
| 33 | Number of Water Bodies | : | NA |
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

| Water Balance & Pollution Load (Domestic) Fact Sheet | | | | |
|---|--|------------------|---------------------|-----------------------|
| City: Teghra | | | State: Bihar | |
| S. No. | Items | | | Value |
| 1 | Total Area (sq km) | : | | 15.80 |
| 2 | Population as in 2011 | : | | 56234 |
| 3 | Population Growth Rate as in 2011 (%) | : | | NA |
| 4 | Total Number of Wards | : | | 5 |
| 5 | Population per Ward (Thousands) | : | | 11,247 |
| 6 | Total Number of Household as in 2011 | : | | 10772 |
| 7 | Number of Household per Ward | : | | 2154 |
| 8 | Surface Water Supply (MLD) | : | | NA |
| 9 | Ground Water (GW) Supply (MLD) | : | | NA |
| 10 | Number of Bore Wells | : | | NA |
| 11 | Ground Water Extraction per Bore Well (MLD) | : | | NA |
| 12 | Number of Hand Pumps/ Tubewells | : | | NA |
| 13 | Ground Water Extraction per Hand Pump (lpcd) | : | | NA |
| 14 | Number of Pumping Stations for Water Supply | : | | NA |
| 15 | Total Pumping Capacity (MLD) | : | | NA |
| 16 | Average Water Supply Rate from ULB Sources (lpcd) | : | | NA |
| 17 | Total Water Supply from ULB and Non-ULB Sources (MLD) | : | | 7.6 |
| 18 | Average Water Supply Rate from ULB & Non-ULB Sources (lpcd) | : | | 135.0 |
| 19 | Total Sewage Generation (MLD)* | : | | 6.1 |
| 20 | Per Capita Sewage Generation (lpcd) | : | | 108.0 |
| 21 | Sewage Collection (MLD) | : | | NA |
| 22 | Percentage of Sewage Collection (%) | : | | NA |
| 23 | Number of STPs | : | | NA |
| 24 | Total Installed Capacity of STPs under GAP & YAP I & II (MLD) | : | | NA |
| 25 | Current Utilized Capacity of STPs (MLD) | : | | NA |
| 26 | Percentage Utilization of Installed Capacity (%) | : | | NA |
| 27 | Capacity of STPs Sanctioned under JNNURM & Others (MLD) | : | | NA |
| 28 | Pollution Load (Domestic) (Method 1: Actual Flow) (kg/d) | BOD ₅ | : | NA |
| | | COD | : | NA |
| | | TKN | : | NA |
| 29 | Pollution Load (Domestic) (Method 2: Per Capita Contribution) (kg/d) | BOD ₅ | : | 1518.3 |
| | | COD | : | 2581.1 |
| | | TKN | : | 303.7 |
| 30 | Wastewater Disposal Means | : | | River & Land Disposal |
| 31 | Name of River/Streams for Wastewater Disposal | : | | Ganga River |
| 32 | Number of Drains/Nallah for Wastewater Disposal | : | | NA |
| 33 | Number of Water Bodies | : | | NA |

| | | | |
|----|---|---|-------|
| 34 | Gross Area of Water Bodies (Hectare) | : | NA |
| 35 | Area of Water Bodies as % of Total Area | : | <<< 1 |

Appendix-3

Compilation of the total sewage discharge through point sources in river Ganga basin (Adopted from CPCB, 2013)

| State | Region | | Name of the Drains | Discharge | Remark |
|---------------|------------------------|---|---|-----------|----------------------------|
| Uttarakhand | Uttarkashi & Devprayag | 1 | Storm Water Drain Uttarkashi | 1.73 | Domestic, industrial waste |
| | | 2 | Kodia nala, Devprayag | 1.73 | |
| | Rishikesh | 1 | Triveni Drain/ Saraswati Nala | 11.5 | |
| | | 2 | Rambha nadi/drain | 152 | |
| | | 3 | Lakkar Ghat STP Drain | 12 | |
| | | 4 | IDPL- STP Drain | 3 | |
| | | 5 | Swarg Ashram STP Drain | 2.5 | |
| | | 6 | Gadhi Shyampur Drain | 0 | |
| | Haridwar | 1 | Jagjeetpur STP Drain | 42 | |
| | | 2 | Kassavan Drain | 11 | |
| | | 3 | Pandey wala Drain | 0 | |
| | | 4 | Matra Sadan Drain | 3.8 | |
| | | 5 | Rawlirao Drain | 2.8 | |
| | Laksar | 1 | Laksar drain | 196 | |
| Uttar Pradesh | Sukratal | 1 | Banganga River (at confluence with river Ganga) | 0 | Domestic, industrial waste |
| | Bijnor | 1 | Hemraj Drain | 0 | |
| | | 2 | Bijnor Sewage Drian | 7.6 | |
| | | 3 | Malan River (at confluence with river Ganga) | 16.5 | |
| | | 4 | Chhoiya Drain (at conf. with river Ganga) | 124 | |
| | Gajrola and Babrala | 1 | Bagad River | 1.8 | |
| | Garh | 1 | Garh Drain | 14 | |
| | | 2 | Fuldehra Drain (at confluence with river Ganga) | 32 | |
| | Badaun | 1 | Badaun Sewage Drain | 29.9 | |
| | | 2 | Sot River | 42 | |
| | Anupshar | 1 | Anupsahar STP Drain-1 | 0.85 | |

| | | | | | |
|--|-------------------------|----|-----------------------------|-------|--|
| | | 2 | Anupsahar STP Drain-2 | 1.75 | |
| | Kanpur | 1 | Dabka Nalla-1 (Kachha nala) | 94 | |
| | | 2 | Dabka Nalla-2 (Pakka nala) | 25 | |
| | | 3 | Dabka Nalla-3 (Pakka nala) | 0.26 | |
| | | 4 | Shetla Bazar (Kachha nala) | 29 | |
| | | 5 | Wazidpur Nalla | 54 | |
| | | 6 | Satti Chaura | 1.1 | |
| | | 7 | Golaghat Nala | 0.83 | |
| | | 8 | Bhagwatdas Nala | 11 | |
| | | 9 | Sisamau Nala | 197 | |
| | | 10 | Permiya Nala | 186 | |
| | Unnao | 1 | Loni Drain | 41.9 | |
| | | 2 | City Jail Drain | 35.86 | |
| | Fatehpur to Raibareilly | 1 | Pandu River | 1396 | |
| | | 2 | Seepage | 0 | |
| | | 3 | Arihari Drain | 34.25 | |
| | | 4 | NTPC drain | 60.29 | |
| | Allahabad | 1 | Rasulabad-1 (Pakka nala) | 29.8 | |
| | | 2 | Rasulabad-2 (Pakka nala) | 20.2 | |
| | | 3 | Rasulabad-3 (kachha nala) | 14.2 | |
| | | 4 | Rasulabad-4 (Kachha nala) | 48.5 | |
| | | 5 | Nehru Drain | 7 | |
| | | 6 | Kodar Drain | 20 | |
| | | 7 | Pongaghat Drain | 8 | |
| | | 8 | Solari Drain | 34.8 | |
| | | 9 | Maviya Drain | 65 | |

| | | | | | |
|-------|-----------|----|-------------------------|-------|-----------------------------|
| | | 10 | Mugalaha Drain | 46 | |
| | Mirzapur | 1 | Ghore Saheed drain | 86.4 | |
| | | 2 | Khandwa drain | 62.21 | |
| | Varanasi | 1 | Rajghat drain | 16.19 | |
| | | 2 | Nagwa drain | 66.45 | |
| | | 3 | Ramnagar drain | 23.65 | |
| | | 4 | Varuna drain | 304.5 | |
| | | 5 | Shivala Drain | 0 | |
| Bihar | Buxer | 1 | Sidhharth Drain | 7.5 | Domestic , industrial waste |
| | | 2 | Sati Ghat Drain | 7.7 | |
| | | 3 | Nath Baba Drain | 5.2 | |
| | | 4 | Tadka Drain | 6.8 | |
| | | 5 | Sariupur Drain | 6.7 | |
| | Patna | 1 | Danapur Cantt Drain | 10.1 | |
| | | 2 | Digha Ghat Drain | 9.6 | |
| | | 3 | Kurzi Drain | 120.4 | |
| | | 4 | Rajapur Drain | 40.7 | |
| | | 5 | Bansh Ghat Drain | 6.6 | |
| | | 6 | Collectriate Ghat Drain | 14.3 | |
| | | 7 | Mittan Ghat Drain | 5.4 | |
| | | 8 | Mahavir Drain | 5.4 | |
| | | 9 | Badshahi Drain | 21.4 | |
| | Munger | 1 | ITC Drain | 10.13 | |
| | | 2 | Lal Darwala Drain | 8.5 | |
| | Bhagalpur | 1 | Jamunia Drain | 82.61 | |
| | | 2 | Adampur Drain | 11.75 | |
| | | 3 | Sarkikal Drain | 6.62 | |

| | | | | | |
|-------------|-----------|----|--|--------|----------------------------|
| | | 4 | Saklichand Drain | 7.7 | |
| | | 5 | Hathiya Drain | 11.8 | |
| | | 6 | Chama Drain | 10.6 | |
| | | 7 | Barari Ghat Drain | 9.7 | |
| | Kahalgaon | 1 | Kowa Drain | 147.28 | |
| | | 2 | Kagzi Drain | 5.2 | |
| West Bengal | Left bank | 1 | Circular Canal adjacent to River Hooghly | 320.3 | Domestic, industrial waste |
| | | 2 | Tolly Nala adjacent to Dahighata | 380.2 | |
| | | 3 | Dhankheti Khal Near CESE Intake Point | 65.2 | |
| | | 4 | Akhra Food Ghar Adjacent to Hooghly River | 83.4 | |
| | | 5 | Khardah Municipal Drain Connected to Hooghly River | 63 | |
| | | 6 | Debitala Pancha Khal, Ichapore (Adjacent to R.N.S Brick Field) | 46 | |
| | | 7 | Khal Near Nimtala Burning Ghat | 20.7 | |
| | | 8 | MuniKhali Khal Adjacent to Arun Mistri Ghat | 19.4 | |
| | | 9 | Kashipur Khal Adjacent to Khamarhati Jute Mill | 16.1 | |
| | | 10 | In front of S.P Bunglow, S.N Banerjee Road, Mistry Ghat, Barrackpore | 22.7 | |
| | | 11 | Adjacent to Cossipore ferryghat & gunshell factory | 19.8 | |
| | | 12 | Chitpur Ghat, Dilarjung Road | 15 | |
| | | 13 | Majher Char Khal & Kalyani combined waste sewage near brick field with foam near sluice gate | 16.5 | |
| | | 14 | Drain Opposite to Fort William , Judges Court Ghat | 7.65 | |
| | | 15 | Adjacent to Garifa Rly.Stn., Patterson road, adjacent to Ram Ghat | 7.78 | |
| | | 16 | Adjacent to Garifa Rly. Stn.(North side) on Patterson road(domestic) | 9.68 | |
| | | 17 | Baranagar Khal Adjacent to Ratan Babu Ghat | 10.3 | |
| | | 18 | Mohan Misra lane & crossing of Ghosh para road, Halisahar, adjacent to Prabhat Sangha playground | 10.7 | |
| | | 19 | Bagher Khal, adjacent to Hotel Dreamland, near sluice gate, open pucca | 11.1 | |

| | | | | | |
|--|------------|----|---|------|--|
| | | | drain | | |
| | | 20 | Drain between Pratapnagar and Rajbari | 4.19 | |
| | | 21 | By the side of Alliance jute mill, Jagatdal Jetty, opposite side of bank Chandannagar Jetty | 4.96 | |
| | | 22 | Adjacent to boundary wall of Gandhighat & near Upashak Social Welfare Organization, Gandhighat, South gate-1, Barrackpore | 3.61 | |
| | | 23 | Balughat, Manirampur pucca drain | 2.28 | |
| | | 24 | Bishalakshmi Ghat, adjacent to CESC Power House, Titagarh | 4.01 | |
| | | 25 | Thanar Khal, adjacent to Thana & over tank by Naihati Municipality | 5.29 | |
| | | 26 | Sasan ghat | 2.92 | |
| | | 27 | Open pucca drain carrying waste for ward nos. 9 & 10 | 1.2 | |
| | | 28 | Saidabad kunja Bhata(opposite to auto center)ward no. 25 | 1.26 | |
| | | 29 | Shovabazar Canal Near Shovabazar Launch Ghat | 0.42 | |
| | | 30 | Open pucca drain flowing adjacent to Diamond club, | 0.96 | |
| | | 31 | Open Kuccha drain carrying domestic waste for Ward 16 | 0.66 | |
| | | 32 | Adjacent to boundary wall of Jangipur College and B D Office | 1.08 | |
| | | 33 | Shasan (burning) Ghat, Bhairabpur, Purbapara word 9 no 16 | 0.54 | |
| | | 34 | Radhar Ghat(Old Ichagra shasan Ghat) Bhairabpur, Purbapara | 0.48 | |
| | Right bank | 1 | Bhagirathi lane, Mahesh, Serampore | 41.5 | |
| | | 2 | Hastings Ghat road, adjacent to Hastings jute mill, Rishra, Hooghly | 42 | |
| | | 3 | Najerganj Khal, north side of Shalimar paint, near Hans Khali Poll, Sankrail | 326 | |
| | | 4 | Singhi More Khal (Singhi mara Khal), Manikpur, Sankrail, near brick field | 26.1 | |
| | | 5 | Chatra Khal, Beniapara, Serampore, Behind Ganga Darsan, Raja K. L Goswami street, Serampore | 28.4 | |
| | | 6 | Bagh Khal, border of Rishra & Konnagar Municipality on G.T Road | 18.4 | |
| | | 7 | Telkal Ghat | 21.9 | |
| | | 8 | Ramkrishna Mullickghat Road | 12.2 | |

| | | | | | |
|--|--|----|---|--------|--|
| | | 9 | 130 Foreshore Road Martin Burn | 17.6 | |
| | | 10 | Shibpur Burning Ghat | 13.3 | |
| | | 11 | Jagannath Ghat Road, opposite to China pharmacy, by the side of Bijoy lakshmi rolling mill | 17.3 | |
| | | 12 | Combined of Swarasati Khal and Rajganj Khal, near Sankrail Police station, near Pareshnath Hazra Ghat | 2.77 | |
| | | 13 | Chamdpany Ferry Ghat, opposite nabal garrage, Chamdpany , Poura bhavan road, Pin-712222 | 4.15 | |
| | | 14 | South side of Dawnagazi Ghat, Bally Municipality, Bally | 1.31 | |
| | | 15 | Jagatnath Ghat, Ward No.-14, Lalababu Saha Rd., South side of Kathgola Ghat | 9.33 | |
| | | 16 | 101,Foreshore Road | 6.24 | |
| | | 17 | Kuthighat South Side of Belur Math | 5.76 | |
| | | 18 | N.C.Pal Khal, Sankrail | 3.87 | |
| | | 19 | Adjacent to bazarpara and Garighat (ward no. 18) Kuccha drain | 1.2 | |
| | | 20 | Shalimar Coal Deposit No 1Naresh Kumar Ward | 0.16 | |
| | | | Total Discharge | 6088.4 | |

