

Compliance with Solid and Liquid Waste Management (O A No- 606/2018)



1

Sewage Management



2

Solid Waste Management

Presented by
Chief Secretary, Government of Bihar

Date:04-05-2023

State's Priority

- 
- Strong willingness to develop Solid and Liquid Waste Management Strategies and Solutions.

- Compliance of Hon'ble NGT orders issued time to time.

- Meet the obligatory and environmental requirements.

- Compliance with the Waste Management Rules.



Sewage Management

Key Points

➤ Status of Sewerage Infrastructure on:

- 1) Main Stem of River Ganga
- 2) Tributaries of River Ganga
- 3) STPs Under Other Schemes
- 4) Bioremediation of Drains

➤ Compliance of NGT order in OA- 606/2018, Dated 30.11.2021

1. Main Stem of River Ganga

A total of 23 towns are situated on the bank of the River Ganga. The estimated sewage generation is 632.56 MLD. A total of 25 Sewage Treatment Plants (STPs) & 3 Faecal Sludge Treatment Plants (FSTPs) are planned for these 23 towns.

❖ Project Sanctioned for – 17 Towns (STPs- 22, Capacity- 598 MLD)

- Completed & Operational – 7 STPs (Capacity- 224.5 MLD)
- Completed & Under Trial run – 1 STP (Capacity- 9 MLD)
- Under Construction – 12 STPs (Capacity- 352.5 MLD)

[Completion timeline : 3 STPs by June 23, 6 STPs by Dec 23, 1 STP by June 24 & 2 STPs by Dec 24]

- Under Tender - 2 STPs (Capacity – 12 MLD)

❖ Under Revised Sanction - 2 STPs (Capacity- 20.5 MLD)

❖ DPR Stage –

- DPRs for 3 FSTPs (Capacity – 68KLD) for 3 Towns (Manihari, Teghra and Dighwara) sent to NMCG for approval.
- DPR for 1 town (Jamalpur) is under preparation.

1.1 Progress of STPs in Main Stem

S. No.	City/ Town	STP capacity (MLD)	Physical Progress (%)	Expected Date of Completion
STP completed and under O&M				
1	Patna, Beur STP	43	100	1.Completed. O&M going on. 2. *NGT Parameters of discharge standards is followed at STPs.
2	Patna, Karmalichak STP	37	100	
3	Patna, Saidpur STP	60	100	
4	Barh I&D and STP	11	100	
5	Sonepur I&D and STP	3.5	100	
6	Sultanganj I&D and STP	10	100	
7	Patna, Pahari STP	60	100	
STP under Trial Run				
8	Naugachia I&D and STP	9	100	O&M to start by June 2023

** Each STP has a lab for daily testing of treated sewage & third-party NABL lab is hired for monthly testing of treated sewage.*

1.1 Progress of STPs in Main Stem (Conti...)

S. No.	City/ Town	STP capacity (MLD)	Physical Progress (%)	Expected Date of Completion
STPs Under Construction				
9	Digha STP and Sewerage Network	100	20	Dec- 2024
10	Kankarbagh STP and Sewerage Network	50	10	
11	Mokama I&D and STP	8	95	June 2023
12	Bakhtiyarpur I&D and STP	10	88	
13	Chhapra I&D and STP	32	92	
14	Begusarai STP and Sewerage Network	17	75	Dec 2023

1.1 Progress of STPs in Main Stem (Conti...)

S. No.	City/ Town	STP capacity (MLD)	Physical Progress (%)	Expected Date of Completion
15	Danapur I&D and STP	25	47	Dec 2023
16	Maner I&D and STP	6.5	50	
17	Fatuha I&D and STP	7	27	
18	Hajipur STP and Sewerage Network	22	73	
19	Munger STP and Sewerage Network	30	74	
20	Bhagalpur I&D and STP	45	29	Jun 2024
Tender stage/Revised Administrative Approval (AA) to be obtained				
21	Buxar STP	16		Sent to NMCG for approval
22	Kahalgaon STP	6		Bid under evaluation.
23	Barahiya STP	6		Bid under evaluation.

5 Sewage network schemes were sanctioned separately for Patna. 4 completed. 1 by June 2023

2. Tributaries of River Ganga

1. Total of 16 towns are situated on 7 tributaries of the river Ganga. The estimated sewage generation is 288.45 MLD. Total of 34 STPs planned for these 16 towns.
 - ❖ Project Sanctioned for – 8 Towns (STPs-21, Capacity – 170.9 MLD), Under Construction – 2 Towns (STPs-6, Capacity - 66 MLD), and in tender stage – 6 Towns (STPs-15, Capacity – 104.9 MLD)
 - ❖ DPR for 8 towns (117.55 MLD) sent to NMCG for approval.
2. Most Polluted River Towns - 4 towns (Ramnagar, Narkatiyaganj, Raxaul & Jogbani).
 - ❖ Total capacity planned – 32.25 MLD. Under tender – Ramnagar & Narkatiyaganj & rest 2 under sanctioning.
3. Other Important Towns - 4 towns (Gaya, Arra, Betiya & Katihar). Total capacity planned – 219.5 MLD. DPR sent to NMCG for approval.

2.1 Progress of I&D and STP in Tributaries

S. No.	City/ Town	STP		Current Status
		Numbers	Capacity (MLD)	
STPs under construction				
1	Phulwarisharif I&D and STP	2	13	Progress – 40%. To be completed by Dec-23
2	Muzaffarpur	4	53	Progress in Amrut – 8% Progress in Smart City – 30% To be completed by Mar-24
STPs under Tender stage				
3	Dehri On Sone STP	3	21	Agency selected
4	Supaul STP	3	12.1	Bid to be opened on 10.05.23
5	Motihari	4	23	Bid to be opened on 10.05.23
6	Lakhisarai	2	22	Bid to be opened on 10.05.23
7	Daudnagar	1	10.5	Bid to be opened on 10.05.23
8	Jamui	2	16.3	AA & ES recently obtained.

2.2 Progress of I&D and STP in Tributaries

Sl. No.	City/ Town	STP		Current Status
		Numbers	Capacity (MLD)	
		AA & ES to be obtained		
9	Madhepura	1	10.73	DPR submitted in NMCG for approval.
10	Darbhanga	2	24.4	
11	Bagaha	1	11	
12	Saharsha	2	30.45	
13	Kishanganj	4	19.97	
14	Arwal	1	3.5	
15	Gopalganj	1	14	
16	Samastipur	1	3.5	
	Total (MLD)	34	288.45	

STPs for 2 towns are under construction, 6 towns under bidding and 8 towns under approval stage.

3. STPs Under Other Schemes (Central / State)

S. No.	City/ Town	STP capacity (MLD)	Current Status	Likely completion time
1	Rajgir STP & Sewerage Network	10	O&M under State fund	-
2	Bodhgaya STP & Sewerage Network	10	Ongoing under State fund	To be completed by Dec 2023
3	Madhubani Storm water Drainage & STP	15	Ongoing under State fund	To be completed by March 2024
4	Biharsharif STP & Sewerage Network	25	Ongoing under Smart City	
	Total (MLD)	60		

4. Bio-remediation of Drains

In O/A no. 200/2014, Hon'ble NGT directed not to allow untreated sewage to flow into river till commissioning of STPs. In compliance of above order, **200 drains catering 1450 MLD flow in 71 ULBs are being treated through Bio-remediation to avoid untreated sewage to flow into river.**

NIT, Patna is performing Third Party Inspection (TPI) to ensure quality of treated sewage. NIT Patna has submitted test reports (raw and treated sewage) of 200 drains for the months of Feb & March 2023.

Update Compliance in NGT order in OA- 606/2018, Dated 30.11.2021

- Estimated Sewage Generation for Urban areas is 1100 MLD and schemes for 844.60 MLD have been sanctioned. The state has installed 234.5 MLD capacity STP. In addition, 477.5 MLD under construction, 116.60 MLD under tender stage, approx. 373.3 MLD in approval stage and 238 MLD in DPR Stage. Thus, a total capacity of 1439.90 MLD STPs for the treatment of sewage from the urban households.
- Present utilization of 8 STPs is 104.73 MLD (46%) from 234.5 MLD installed STPs. Hence present gap is 995.27MLD.
- FSTPs taken up in Bihar- DPR for 3 towns proposed to be covered with 68KLD capacity have been sent to NMCG for approval. 76 smaller towns are planned to cover with 1287kld capacity of FSTPs.
- Reuse of treated wastewater-
 - IOCL to utilize treated wastewater of Begusarai STP (17 MLD) and land is already given for establishment of Tertiary Treatment Plant.
 - For Barh STP, MOU has been signed with NTPC Barh for utilizing treated waste water.
 - For Bhagalpur STP, feasibility report is under preparation by NTPC Kahalgaaon

Solid Waste Management

Achievements

1. Nearly 100% Door-to-Door collection have been achieved.
2. Action plans for Solid Waste Management (SWM) have been approved by the Ministry of Housing and Urban Affairs (MoHUA), Govt. of India in March 2023 for 141 ULBs.

Dry
Waste

- Material Recovery Facility (MRF) and Refuse Derived Fuel (RDF) dry waste processing facility of **2443 TPD** has been approved in March, 2023. Fund awaited.

Wet
Waste

- Compost and Bio-methanation based wet-based processing facility of **2258 TPD** has been approved in March, 2023. Fund awaited.

Process
Reject

- Sanitary Landfill (SLF) of **1141 TPD** for process reject has been approved in March, 2023. Fund awaited.

3. Plastic waste management by-laws have been amended for complete ban on **single-use plastic** in the State.
4. State Solid Waste Management Strategy is formed and approved by the State in **PPP mode**. Submitted to GoI for approval.

Accolades

- | | |
|--|---|
| <p>1 Supaul achieved 1st rank in the “Improvement in citizen feedback” category in Swachh Survekshan 2021</p> | <p>6 32 ULBs are ODF+ Certified
Patna is ODF++ certified</p> |
| <p>2 State Solid Waste Management Strategy is formed and approved by state in PPP mode</p> | <p>7 Manihari achieved 1st award in fastest mover City in Swachh Survekshan 2022</p> |
| <p>3 Formation of Responsible Sanitation Unit (RSA) and Emergency Response Sanitation Unit (ERSU) in ULBs with more than 1 lakh population for eradication of manual scavenging and promotion of mechanical cleaning of sewers and septic tank</p> | <p>8 20838 sanitation workers honored in 115 ULBs during Azadi ka Amrit Mahotsav</p> |
| <p>4 Initiation of ‘Swachhagini Programme’ with focus on women empowerment through promotion of mechanical cleaning of sewers in Patna Municipal Corporation</p> | <p>9 Patna achieved 38th rank in SS 2022 for ULBs with more than ten lakh population in comparison to 44th in SS 2021</p> |
| <p>5 All existing 141 ULBs are Open Defecation Free (ODF)</p> | <p>10 Appointment of 286 “Assistant Public Sanitary and Waste Management officers” are under process where the exam has already been conducted.</p> |

Best Practices adopted by ULBs

Patna Municipal Corporation

- **Patna Municipal Corporation** in support with UNFPA is working on promoting a **women-led enterprise model (*Swacchangni*)** by collectivizing the sanitation worker community from slums.

Ghoghardia Nagar Panchayat

- **Ghoghardia** is working on an innovative, economical, and eco-friendly scheme named **eco-bricking** comprising of plastic bottles filled with solid non-biodegradable waste to set density.

Gaya Municipal Corporation

- **Bihiya Nagar Panchayat** has setup a **Biomethanation plant** that is producing 150 kg of biogas per day. At present, biogas is being used to make tea and snacks for the employees working under solid waste management.

Glimpse of IEC activities



Swachh Bharat Urban @SwachhBharatGov · Mar 23
 क्या आप हैं तैयार, स्वच्छता ऐप की मदद से गन्दगी को साफ करने के लिए?
 क्योंकि हम सब हैं तैयार अपने शहर को स्वच्छ सर्वेक्षण २०२१ में 'नंबर १' बनाने के लिए!
 #MyCleanIndia #SwachhSurvekshan2021



Urban Development & Housing Dept, Govt Of Bihar @U... · Mar 21
 To inculcate the value of cleanliness and encourage the students to keep their surroundings clean school-level awareness activity was organized by Nagar Panchayat #Mehsi. This would go a long way in ensuring a cleaner, healthier and better India.
 #SwachhSurvekshan2021

Ministry of Housing and Urban Affairs and 9 others

प्लास्टिक का थैला
 करे जमीन प्रदूषित,
 पानी विषैला

प्लास्टिक के थैलों का बेहिसाब उपयोग, पर्यावरण को स्थायी नुकसान पहुंचा रहा है। इसकी जगह कपड़े या जूट के थैले का प्रयोग करें।

स्वच्छ बिहार

जैसा कूड़ा वैसा कूड़ेदान
 छोटा कदम दे
 बड़ा योगदान

सूखे, गीले और रासायनिक कूड़े को अलग अलग कूड़ेदान में डाल, कूड़ा प्रबंधन में भागीदार बनें।

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Compliance in continuation of earlier orders

Order No.	Compliance	Status
Order No-3	<ul style="list-style-type: none"> • Constitution of a four-membered Special Task Force 	<ul style="list-style-type: none"> • Special Taskforce has been formed in every district of Bihar.
Order No-5	<ul style="list-style-type: none"> • Setting up of Environmental Cell 	<ul style="list-style-type: none"> • Environmental Cell has been constituted at the state level. • 27 Environment Officers have been appointed in the ULBs as a part of the environmental cell.

Compliance on Solid Waste Management

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
1	Number of ULBs	Submitted	141 ULBs	--
2	Overall Waste Management Status			
2(a)	Quantity of Municipal Solid Waste (MSW) Generated (TPD)	Submitted	5437 TPD	100% collection and transportation
2(b)	Quantity of MSW Collected (TPD)	Submitted	5437 TPD	
2(c)	Quantity of MSW Transported (TPD)	Submitted	5437 TPD	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
2(d)	Quantity of MSW processed (TPD)	Submitted	1365 TPD	<ul style="list-style-type: none"> • Processing of municipal solid waste with the help of 51 units of Material Recovery Facility (MRF) and 185 units of compost plant.
2(e)	Quantity of MSW disposed in secured landfill site (TPD)	Submitted	--	<ul style="list-style-type: none"> • 4072 TPD of MSW is disposed to the landfill sites. • State has initiated a tender for getting Environmental Clearance to develop 32 Secure Landfills.

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
2(f)	Gap in Solid waste Management (TPD)	Submitted	4072 TPD	To overcome the existing gap, a cluster-based Solid Waste Management (SWM) strategy is proposed in 24 clusters in Public Private Partnership mode. Proposal submitted to Gol.

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
3. Waste Collection				
3(a)	ULBs in which waste door-to-door collection is implemented	Submitted	Nearly 100%	Collection, Segregation and Transportation of MSW are implemented in 141 ULBs.
3(b)	ULBs in which segregation of waste is implemented	Submitted	Nearly 100%	
3(c)	ULBs in which transportation of waste is implemented	Submitted	Nearly 100%	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(a) Material Recovery Facilities (MRFs)				
4(a)(i)	Total Capacity (TPD)	Not submitted	Submitted (699 TPD MRF)	The report has been submitted through Quarterly Report "Jan-23 to Mar- 23" vide letter no.1851, Dated 25-04-2023.
4(a)(ii)	Number of MRFs	Submitted	51 MRFs	
4(a)(iii)	Number of ULBs covered	Submitted	35 ULBs	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(b) Recycling				
4(b)(i)	Total Capacity (TPD)	Not submitted	Submitted (5 TPD MRF)	Plastics recovered from MRFs are used to make pellets and further recycled.
4(b)(ii)	Number of Recycling plants	Not submitted	Submitted (1 unit)	
4(b)(iii)	Number of ULBs covered	Not submitted	Submitted (1 ULB)	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(c) Composting				
4(c)(i)	Total Capacity (TPD)	Not Submitted	Submitted (2244 TPD)	Submitted through quarterly report January 2023 to March 2023, vide letter no.1851, Dated 25-04-2023.
4(c)(ii)	Number of Composting plants	Submitted	185 units	
4(c)(iii)	Number of ULBs Covered	Submitted	87 ULBs	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(d) Bio-methanation				
4(d)(i)	Total Capacity (TPD)	Not Submitted	Submitted (3 TPD)	Submitted through quarterly report Jan 23 to Mar 23, vide letter no.1851, Dated 25-04-23
4(d)(ii)	Number of bio-methanation plants	Submitted	Pilot project in Bihiya.	--
4(d)(iii)	Number of ULBs covered	Not Submitted	Approved for Patna in March, 2023	Submitted through quarterly report Jan 23 to Mar 23, vide letter no.1851, Dated 25-04-23

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(e) Refused Derived Fuel (RDF)				
4(e)(i)	Total Capacity (TPD)	Not Submitted	Submitted (RDF given to cement plants)	Refuse Derived Fuels (RDFs) derived from MSW are used in cement plant and road construction.
4(e)(ii)	Number of RDF plants	Not Submitted	Submitted (RDF given to cement plants)	
4(e)(iii)	Number of ULBs covered	Not Submitted	Submitted (RDF given to cement plants)	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
4. Waste Processing				
4(f) Waste to Energy (WTE)				
4(f)(i)	Total Capacity (TPD)	Not Submitted	Proposed in Patna	15 MW plant is proposed under the solid waste management plan for the Patna cluster.
4(f)(ii)	Number of WTE plants	Not Submitted	Proposed in Patna	
4(f)(iii)	Number of ULBs covered	Not Submitted	Proposed in Patna	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
5. Waste Disposal				
5(a) Landfill				
5(a)(i)	Total Capacity (TPD)	Not Submitted	Submitted for EC	Environmental Clearance is under process. <i>Remaining ULBs shall be covered under the Solid Waste Management Plan approved by Gol by Dec, 2024</i>
5(a)(ii)	Number of Landfill sites	Not Submitted	Submitted (32 units)	
5(a)(iii)	Number of ULBs covered	Not Submitted	Submitted (32 ULBs)	

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
6. Legacy Waste Management				
6(a) Dumpsite				
6(a)	Number of Dumpsites	Submitted	26 dumpsites	26 dumpsites were shortlisted having dumped waste of more than 1000 tons.
6(b)	Quantity of waste dumped at dumpsites (Tons)	Submitted	11,74,471 Tons	
6(c)	Number of dumpsites cleared	Submitted	1 dumpsite	Muzaffarpur has cleared 100% legacy waste.
6(d)	Number of dumpsites in which biomining has commenced	Submitted	3 dumpsites	Patna, Munger, and Gaya have cleared approx. 75% of legacy waste
6(e)	Time frame for clearing all dumpsites	Not Submitted	Action plan approved. Fund awaited	Action plan has been approved by Govt of India. By Dec 2024 all dumpsites will be cleared.

Compliance with the quarterly report on Solid Waste Management (Conti...)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
7. Other Information				
7(a)	Development of Model Towns	Submitted	6 Towns	6 towns (Muzaffarpur, Munger, Biharsharif, Supaul, Rajgir & Bodhgaya) are being developed as Model towns.
7(b)	Creation of Environmental Cell	Submitted	Created	Environmental cell has been formed at the State level.
7(c)	Standardization of rates for procurement of services	Not Submitted	Through the GeM portal	A direction is issued for using the GeM (Government e Marketplace) portal of the procurement.

Compliance of Solid Waste Management for Million Plus Cities (Patna Municipal Corporation)

S. No.	Particular	Compliance Status (as per NGT Order)	Compliance Status (as at present)	Description
1. Municipal Solid Waste				
(a)	MSW Generated (TPD)	Not submitted	Submitted (895 TPD)	
(b)	Quantity of MSW Processed (TPD)	Not submitted	Submitted (647 TPD)	Approx. 72% waste processing
(c)	Quantity of MSW disposed in secured landfill (TPD)	Not submitted	Being developed	Approved in March, 2023. Funds awaited.
(d)	Gap in Solid Waste Management (TPD)	Not submitted	248 TPD	Action plan has been approved by Govt of India. Fund awaited.

State's Commitment

- To initiate the strategic interventions under Municipal Solid Waste Management, a **cluster-based Solid Waste Management (SWM) strategy** is proposed in PPP and is under approval of GoI.

Proposed Strategy

- Development of processing and disposal facilities at the cluster level
- 24 clusters developed considering waste generation, treatment capacities, land availability and optimal waste transportation distance (40 Kms).

Need for PPP

- Considering the scale of the project, large processing and disposal facilities, and lack of technical and financial capacity of the ULBs, the project is taken on PPP mode



Concession Period

- 23 Clusters- 16 years 3 months & OM period - 15 years
- Patna Cluster-22 Years 06 months & OM period-20 Years

Stakeholders

- Urban Development & Housing Department, GoB
- Developers, Lead ULB, Member ULB

- The state has made a strong commitment to **remediate existing legacy waste** in a timely and efficient manner.