Summary of the Proceedings of State Level Committee as per the direction of Hon'ble NGT in order dated 12.07.2019 Delhi in O.A. No. 606 /2018 :-

Status of compliance of SWM Rule, 2016, Plastic Waste Manag. Rules, 2016 and Bio-Medical Waste Manag. Rules, 2016 in their respective areas.

BIO-MEDICAL WASTE MANAGEMENT RULES, 2016 (Attached as Annexure -A)

Name of State	Number of Health care Facilities (HCFs)	Authorization details of HCFs	Qty. of BMW generated (In kg/day)	Qty. of BMW treated & disposed (in kg/day)	No. of CBWTF	No. of Captive facilities installed by HCFs	CBWTFs installed OCEMS
Jharkhand	Bedded:**1066** Non bedded:**492** Total: **1558**	Applied: ..... Granted: ..... Under scrutiny:	**12418.6**	**5205**	**2**	**17**	**2**

S. No.	Issues	Proposed Action Points
1.	Inventory of non-bedded HCFs such as clinics, Path laboratories, research institutes etc. is incomplete.	Inventory of all HCFs including non-bedded HCFs like clinics, pathological laboratory, veterinary hospitals, research institutions etc. in time bound manner.
2.	CBWTFs are not upgraded to comply with new emissionnorms.	Upgraded and Complied.
3.	OCEMS data not being transmitted by 01 nos. of CBWTF to JSPCB and CPCB.	Upgraded and Complied.
4.	Deep Burial is allowed only in remote and rural areas. About 107 kg/day of bio medical waste is disposed through deep burial.	Deep burial is not allowed, where there is access of CBWTF. New CBWTFs are required so as to discourage operation deep burial within hospital premises.

- St. Xavier Institute of Social Sciences (XISS) has been assigned by JSPCB to carry out the Inventory of Bio-Medical Waste generated in Ranchi District. Hand Holding Cum Interaction sessions were organized by JSPCB with various stakeholders on **25.06.2019, 22.08.2019 & 24.09.2019 and next session is planned on 16.10.2019**.

		• Bar Coding is made mandatory for Health Care Facilities operating within the State from **30.09.2019.** • The details of the action taken by the State towards Bio-medical Waste Management Rules, 2016 along with their subsequent documents is annexed herewith as **Annexure A**
	SOLID WASTE MANAGEMENT RULES, 2016 (Attachedas Annexure -B)	Following are the compliances: • Total number of towns/cities: - **42** • Total number of ULBs: - **42** • Total number of Municipalities:- **42** • Number of class-I & class-II cities/towns:- **Jamshedpur, Ranchi, Dhanbad** • Landfill sites identified – **35** • Solid waste generation in the state (TPD) – **2052** • Treated (TPD) - **1150 (Through decentralized composting & recycling of dry waste throughrecyclers)** • Good practices in cities/towns – **Jamshedpur, Deoghar & Giridih** • House-to-house collection – **Partly in mostcities** • Segregation – **Partly in most cities and 97.75% & 77.09% (wards) respectively in Deoghar & Giridih.** • Storage - **Partly in most cities** • Covered transportation - **Partly in mostcities.** • The various actions taken against Solid Waste Management Rule, 2016 by the State is annexed herewith and marked as **Annexure B** • Hand Holding Cum Interaction sessions were organized by JSPCB with various stakeholders on **22.08.2019 & 24.09.2019 and next session is planned on 16.10.2019.**
	PLASTICWASTE MANAGEMENT RULES, 2016 (Attached as Annexure -C)	Status of Plastic Waste Management Rules, 2016 in Jharkhand: • Estimated Plastic Waste generation Tons Per Annum (TPA) - **15006.24** • Implementation of thickness >50 µm carry bags (virgin/ recycled) as per Rule 4(c & d)- **Total Ban on plastic carry bag** • Partial/Complete ban on use of Plastic carry bags (through Executive Order) - **Complete Ban by notification Letter No.3900Dated-15.09.2017.** Number of Municipal Authority or Gram Panchayat under jurisdiction – **42** • The various actions taken against Plastic Waste Management Rules-2016 by the State is annexed herewith and marked as **Annexure C** • Hand Holding Cum Interaction sessions were organized by JSPCB with various stakeholders

		on 22.08.2019 & 24.09.2019 and next session is planned on 16.10.2019.
B. Status of functioning of Committees constituted.		Status of functioning of Committees constituted by this order. • The functioning of the 7 (Seven) member State Committee constituted under the Chairmanship of retired Justice R.K. Merathiya vide Notification No.1241 dated 02.04.2019 may continue its proceedings further or may be disabled as per the direction taken by Additional Chief Secretary, Govt. of Jharkhand. The Minutes of meeting held on 16.09.2019 under the chairmanship of the Chief Secretary, Jharkhand is attached as **Annexure D**
C. Amount collected from erring industries on the basis of 'Polluter Pays' principle, 'Precautionary principle' and details of utilization of funds collected.		Following are the status reports: • Total amount collected from erring industries on the basis of 'Polluter Pays' principle, • 'Precautionary principle' is INR 1,93,00,000.00. However, under 'Polluter Pays' principle, approx. 15 units have been asked to pay an Environmental Compensation of approx. Rs. 5 Cr.

D. As per directions of Hon'ble NGT order dated 19.02.2019in O.A.No–593/2017, status reportof ETPs/STPs/CETPs to be sent to CPCB.		a) Following are the statusreports: • The provision of ETPs is a mandatory condition in consents. The consents are only granted when the ETPs are installed and for renewal of consents Effluent Quality Reports are alsoconsidered. • JSPCB has been continuously providing status reports on monthly basis toCPCB. • JSPCB had updated information till August'19 regarding the status of STP, ETP and CETP through online portal. • Mr. Dinesh Prasad Singh (Environment Engineer) had been appointed as the Nodal officer and the details had been communicated to CPCB vide Letter No. B-415 dated 24.04.2019 The copy is annexed as **Annexure E** • As per the discussion with Chief Secretary, Govt. of Jharkhand, Industries Department will be developing a website/portal for updating the status of CETPs and ETPs operating within the State. The Minutes of meeting held on 16.09.2019 under the chairmanship of the Chief Secretary, Jharkhand is attached as **Annexure F.**
E. As per directions of Hon'ble NGT order dated 10.05.2019 in O.A. No. 325/2015, the Committee constituted under Compliance of Municipal Solid Waste Rules, 2016 in O.A. No. 606 shall take appropriate actions forrestoration of water bodies in the State of Jharkhand.		Following are the statusreports: • UD&HD has submitted the detailed plan of water body restoration. The copy is attached as **Annexure – G.** The Action Plan on restoration of water bodies is under preparation.
F. As per directions of Hon'ble NGT order dated 07.05.2019 in O.A. No. 341/2018, the Committee constituted under Compliance of Municipal Solid Waste Rules, 2016 in O.A. No. 606 shall take appropriate		Following are the compliances: • The UD&HD has taken action in Sahebganj and Rajmahal. The report is attached as **Annexure – H**

actions to prevent dumping of solid waste on the banks of river.		
G. The non-compliance of the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 in Original Application No. 804/2017. The Chief Secretary may look into the issue of capacity building of the SPCBs/PCCs to deal with the issue of compliance of the Rules.		Following are the compliances: • The non-compliance of the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 in Original Application No. 804/2017 to CPCB vide Letter NoB-1212 dated 04/10/2019. The report is attached as **Annexure – I.** The annual report 2018-2019 on Hazardous and Other Waste Generation and their Management, 2016 was sent to CPCB vide Letter No B-1202, dated 30/09/2019. The copy of the report is annexed as **Annexure J.**
H. As per directions of Hon'ble NGT in order dated 27.11.2018 in O.A. No. 148/2018" All states and Union Territory ought to prepare and furnishtheir action plans for utilization of treated water in theirrespective states/UTs within 3 months and such action plansmay be furnished toCPCB.		Following are the compliances: • The Revised Action Plan as per the direction issued by Hon'ble NGT on recommendation of CPCB had been prepared by UD&HD and sent to CPCB vide letter SPMG/UD&HD/NGTREUSE/2019/16/254 dated 13/08/2019. The report is attached as **Annexure – K 1** • Action taken by Municipal Corporations for Utilization of treated sewage water from STP. **(Annexure K 2)**
I. As per directions of Hon'ble NGT in order dated 12.03.2019in O.A. No. 710/2017 "All the states may also preparetheirrespective Action plans for compliance of rules within onemonth andreportsin		Following are the compliances: The revised compliance report had been sent by Healthcare and Public Welfare Dept. The copy is annexed as **Annexure - L**

terms of Rule-13.		
J. Original Application No1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels" dated 13.12.2018: wherein the Tribunal directed preparation of time bound Action Plans to ensure that all industrial clusters comply with the parameters laid down in Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.		Following are the compliances: • The Draft Action Plan for Severely Polluted cities of Jharkhand (Ramgarh & Hazaribagh) based on the revised CEPI Score as per the direction of Hon'ble NGT in O.A. No. 1038/2018, dated 10.07.2019 has been prepared and the copy is annexed as **Annexure M.** The Action Plan for Saraikela is under preparation. • The polluting industries were identified and violators are being directed to pay Environmental Compensation, accordingly.
K. Status of functioning of Committees constituted in News Item Published in "The Times of India' Authored by Shri Vishwa Mohan Titled "NCAP with Multiple timelines to Clear Air in 102 Cities to be released around August 15" dated 08.10.2018.		The revised Action plan for improving air quality in Dhanbad has been submitted as per the recommendations made by the 3 member committee constituted by the Hon'ble NGT is attached as Annexure – N.
L. Status of the Action Plan in compliance vide order dated 20.09.2018 in the News Item published in "The Hindu" authored by Shri Jacob Koshy		Status of Action Plan in compliance to NGT order is attached as Annexure - O

Titled "More river stretches are now critically polluted: CPCB (Original Application No. 673/2018).		
M. Atleast three major cities, and three major towns in the State, and at-least three villages in every District of the State may be notified on the website within two weeks from today (if not already notified) as model villages which will be made fully compliant within the next six months. Remaining cities, towns and villages of the State may be made fully compliant in respect of environmental norms within one year.		Status of the identification and development of Model Cities and Towns in the State in the first phase which can be replicated later for other cities and towns of the State. • UD & HD had identified Deogarh, Gridih, Godda, & Chakuliya as model towns and the same had been notified vide Notification No. 1375, dated 02.08.2019 and the copy is annexed as annexed as **Annexure P** • Rural Development had identified three (3) villages per District as model village (Draft Proposal) which will be made fully complied within next Six (6) months. The copy is attached of **Annexure Q** After successful completion, the model will be considered for implementation in other major cities of theState.
N. The District Magistrates may monitor the status of compliance of environmental norms, atleast once in two weeks. The District Magistrates or other Officers may be imparted requisite training.		The District Magistrates are monitoring the status of compliance of the environmental norms, once in two weeks. After the Performance Audit they will be imparted with requisite training.

O. Estimate of value of environmental degradation and cost of restoration be prepared and compensation be planned and recovered from polluters for environmental restoration and restitution on that basis.		Following are the compliances: • JSPCB has floated EoI for empanelment of Environmental Auditors as third-party auditors to estimate the degree of environmental degradation and to determine the cost of restoration. • JSPCB is organizing, meetings with Premier Institutes of Jharkhand for their empanelment for the role of as Environment Auditor, and to access the Environmental Compensation based on the damage done to the environment and restoration & remediation techniques to be adopted. The Minutes of Meeting held on 19.09.2019, 21.08.2019 and 03.07.2017 under the chairmanship of Chairman, JSPCB is annexed as **Annexure R**
P. Performance audit of functioning of all regulatory bodies may be got conducted and remedial measures be taken, within six months.		Following are the compliances: • The Minutes of Meeting held on 16.09.2019 under the chairmanship of Chief Secretary is attached as **Annexure S**
Q. Introduction of a policy of giving ranking, based on performance on the subject of environment and giving of rewards or other incentives on that basis to individual areas, localities, institutions or individuals may be considered. This may also include encouraging students or other citizens significantly contributing to the cause of		Following are the compliances: • This has already been taken up by JSPCB under the Star Rating Program.

environment. The best practices may be evolved, if necessary, in the light of experiences on the subject. This may help in educating and involving public at large which may help in enhancing of environmental laws.		
R. The Chief Secretary may personally monitor the progress, at least once in a month, with all the District Magistrates.		The Chief Secretary is personally monitoring the progress once in a month, with all the District Magistrates.
S. A quarterly report be furnished by the Chief Secretary, every three months. First such report shall be furnished by October, 10, 2019		Following are the compliances; • The report will be submitted to NGT, accordingly.

BIOMEDICAL WASTE MANAGEMENT

Authority Responsible For Compliance - Health and Family Welfare Department

SL. NO	Specific Points As Per Rule	Rule No	Compliance Status			Current Status as on 30th Sep, 2019
17	To ensure implementation of the rule in all health care facilities or occupiers.	Schedule III (rule 6 and 9(3))	Health Care Facilities of 11 Districts have made agreement with nearest available CBWTF for collection, transportation, and disposal of Bio Medical Waste. Rests facilities have opted other alternative options like disposal through deep burial pit, Sharp pit, disinfection with Hypochlorite solution.			1. Two CTF at Lohardaga&Ramgarh is functioning. 2. Proposed CTF at Adityapur (Kolhan region) has applied for CTO from JSPCB. 3. Three pvt. agency has submitted proposal to JSPCB to set up CTF in Santhal and Palamu region. 4. Within Six months of availability of authorized Common Bio Medical Waste Treatment Facility

18	To allocate adequate funds to government Health Care Facilities for bio-medical waste management.	Schedule III (rule 6 and 9(3))	Yes. Total fund of Rupees 269.00 Lakh has been made available to 24 districts. Rs. 300.00 Lakh allotted for consutruction of BMW storage center at DH & SDH/CHC level facilities			1. Fund has been allotted to districts and constructions of BMW storage center in SDH/CHC is in process . 2. The payment to agency for giving the services for collection and disposal of biomedical waste is being done by district authorithy. 3. Through NHM fund. ROP 2019-20. **(Annexure-1)**
19	To procure and allocate treatment Equipments and make provision for consumables for bio-medical waste management in Government Health Care Facilities.	Schedule III (rule 6 and 9(3))	Yes		Through NHM Untied fund of Hospital Management Society, items can be purchased.	Colour coded bins, three buckets system , non chlorinated bags etc are being procured by districts.
20	To constitute State or District Level Advisory Committees under the District Magistrate or Additional District Magistrate to oversee the biomedical waste management in the Districts.	Schedule III (rule 6 and 9(3))	Yes		Constituted under the Chairmanship of Secretary, Dept of MEH&FW vide Letter no 9/RCH-234/2014-980 (3) dated 10/8/2017 **(Annexure-2)**	Last meeting of State Advisory committee held on 5th September, 2019.
21	To advise State Pollution Control Boards or Pollution Control Committees on implementation of these Rules.	Schedule III (rule 6 and 9(3))	Yes		Constituted under the Chairmanship of Deputy Collector, vide Letter no 9/RCH-234/2014-979 (3) dated 10/8/2017.	

					(Annexure-3)	
22	To implement recommendations of the Advisory Committee in all the health care facilities	Schedule III (rule 6 and 9(3))	Yes		Rate for collection & disposal was fixed by SAC. The rate is Rs.7/=per bed/day.	JSPCB has been advised to speed up the process of selection of agency for establishing CTF for rest of the Jharkhand. And also take necessary actions against defaulters.
23	The Ministry of Environment Forest and Climate Change shall review the implementation of the rules in the country once in a year through the State Health Secretaries and Chairman or Member Secretary of State Pollution Control Board and Central Pollution Control Board and may also invite experts in the field of Bio medical Waste Management, if required	Schedule III (rule 6 and 9(3))	Yes			Secretary Health review the progress . Last meeting held on 5th Sept, 2019
24	To grant license to Health Care Facilities or nursing homes with a condition to obtain authorization from the prescribed authority for Bio-medical Waste Management	Schedule III (rule 6 and 9(3))	Yes		Provisional license is being issued with condition to take authorization from JSPCB.	This is being followed
25	To Monitor, Refuse or Cancel license for Health Care Facilities or nursing homes for violations of conditions of authorization or provisions under these Rules	Schedule III (rule 6 and 9(3))	Health care Facilities are registered under clinical Establishment Action and are being control under the provision of the act.	Within two months of recommendation of JSPCB		
26	To publish list of registered Health Care Facilities with regard to Bio-medical Waste generation, treatment and disposal	Schedule III (rule 6 and 9(3))	Separate website for Bio Medical Waste Management is being developed and list will be uploaded in the same along with Annual report in prescribed format.		By March, 2020	Separate Website for Bio medical Waste Management has been made and linked with **www.jrhms.jharkhand.gov.in**
27	To undertake or support operational research and assessment with reference to risks to environment and health due to Bio-medical	Schedule III (rule 6 and 9(3))	No		Within one years in consultation	

	Waste and previously unknown disposables and wastes from new types of equipment				with JSPCB	
28	To coordinate with State Pollution Control Boards for organizing training programs to staff of Health Care Facilities and municipal workers on Bio-medical waste Management	Schedule III (rule 6 and 9(3))	Yes			Training is being organized. Last training for all Hospital Manager was conducted on 16th July, 2019. JSPCB has sent resources person,
29	To Constitute Expert Committees at National or State level for overall review and promotion of clean or new technologies for Bio-medical Waste Management	Schedule III (rule 6 and 9(3))	No		March, 2020	March, 2020
30	To organize or Sponsor trainings for the regulatory authorities and health care facilities on Bio-medical Waste Management related activities	Schedule III (rule 6 and 9(3))	Yes Fund of Rs 4.95 Lakh has been also allotted under Kayakalp Training for improving the cleanliness & infection control activities in health care facilities.		Infection Management and Environmental Plan training module for Health care services providers. Rs Twenty thousand are allotted per district per batch. **(Annexure- 4)**	Training is being organized. Last training for all Hospital Manager was conducted on 16th July, 2019. JSPCB has sent resources person,
31	To Sponsor mass awareness campaigns in electronic media and print media	Schedule III (rule 6 and 9(3))	Yes		Through Kayakalp Program and swachhata Pakwada, Public awareness is being generated.	Through Kayakalp Program and swachhata Pakwada, Public awareness is being generated.

Progress report of NGT directions O.A. No. 710-713 of 2017 dated 15.07.2019 on Bio Medical Waste Management

Meeting Scheduled on 16th September, 2019 at 10.30 AM at Conference Hall, Project Bhawan

- Health Department Action plan for ensuring the compliance of Bio Medical Waste Management Rules, 2016 has been prepared as per format provided by JSPCB (*point no. 17 to 31 is related to Health Dept*) and submitted to JSPCB with approval of Secretary, HME&FW. **(Copy of the action plan is enclosed)**
- Instructions have been issued to all Civil Surgeon to obtain the Consent to Operate (CTO) & Authorization from Jharkhand State Pollution Control Board within 31st July, 2019. Further follow up instruction has been issued to all Civil Surgeon to obtain CTO & authorization and also to implement Bar code tracking system for ensuring regular monitoring of Bio medical waste Management. **(Copy of Letter enclosed)**
- Fund has been allotted to all districts under Quality Assurance for payment to agency of Common Treatment Facility for the services of transportation, collection and disposal of Bio Medical Waste generated in Govt Health Care facilities.
- Civil Surgeons of district Lohardaga, Kunti, Gumla, Simdega , Chatra, Palamu, Latehar, Garhwa and Ranchi has made agreement with CTF of M/S Medicare Env Pvt Ltd at Lohardga for collection, transportation & disposal of Bio-medical Waste.
- One day Training on Infection Management & Environment Plan for Hospital Managers, & District Consultant-QA was conducted by QA cell on 16th July, 2019. Resources person from JSPCB also took 2 hrs sessions for filling the application for Consent to Operate (CTO) and Authorization from JSPCB.
- All 24 districts have initiated the process of obtaining the CTO & Authorization from Jharkhand State Pollution control Board. All 23 District Hospitals has registered online for obtaining the CTO and Authorization from JSPCB. Applicable Fee has been paid to JSPCB. Till date JSPCB has issued CTO to District Hospital Ranchi. JSPCB is doing the verification and CTO & authorization will be issued by JSPCB after verification of documents.
- Three new agencies has submitted proposal to JSPCB for establishing Common Bio medical waste treatment Facility in the Santhal Pargans other part of the state. The agencies have been instructed to get the Environment clearance from SEIAA.
- Meeting of State Advisory Committee for Biomedical Waste Management was held on 05.09.19, where JSPCB has been advised to speed up the process in selection of new Agencies for setting up CTF in other Districts of Jharkhand.
- Regarding Inventory of HCFs and Biomedical Waste Generation, 254 public health facilities have registered for CTO & Authorization, rest are in process.
- Regarding implementation status of Barcode system, JSPCB has empanelled one Agency for the state and health care facilities are in process of making agreement with them.

BIO-MEDICAL WASTE MANAGEMENT

S. No.	Specific Points As Per Rule	Rule No.	Compliance Status	Targeted Date Of Compliance If Not Complied	Remarks
Authority Responsible For Compliance - Jharkhand State Pollution Control Board					
1.	Inventorization of Occupiers and data on bio-medical waste generation, treatment & disposal.	Schedule III (rule 6 and 9(3))			
2.	Compilation of data and submission of the same in annual report to Central Pollution Control Board within the stipulated time period.	Schedule III (rule 6 and 9(3))			
3.	Grant and renewal, suspension or refusal cancellation or of authorization under these rules.	Rule 7, 8 and 10			
4.	Monitoring of compliance of various provisions and conditions of authorization.	Schedule III (rule 6 and 9(3))			
5.	Action against health care facilities or common biomedical waste treatment facilities for violation of these rules.	Rule 18			
6.	Organizing training programs to staff of health care facilities and common bio-medical waste treatment facilities and State Pollution Control Boards or Pollution Control Committees Staff on segregation, collection, storage, transportation, treatment and disposal of bio-medical wastes.	Schedule III (rule 6 and 9(3))			
7	Undertake or support research or operational research regarding bio medical waste management.	Schedule III (rule 6 and 9(3))			
8	Any other function under these rules assigned by Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.	Schedule III (rule 6 and 9(3))			
9	Implementation of recommendations of the Advisory Committee.	Schedule III (rule 6 and 9(3))			
10	Publish the list of Registered or Authorized (or give consent) Recyclers.	Schedule III (rule 6 and 9(3))			
11	Undertake and support third party audits of the common bio-medical waste treatment facilities in their State.	Schedule III (rule 6			

		and 9(3))			
12	The Ministry of Environment Forest and Climate Change shall review the implementation of the rules in the country once in a year through the State Health Secretaries and Chairman or Member Secretary of State Pollution Control Board and Central Pollution Control Board and may also invite experts in the field of Bio medical Waste Management, if required.	Schedule III (rule 6 and 9(3))			
Authority Responsible For Compliance - Urban Development & Housing Department and Rural Development Department					
13	Provide or allocate suitable land for development of common bio-medical waste treatment facilities in their respective jurisdictions as per the guidelines of Central Pollution Control Board	Schedule III (rule 6 and 9(3))			
14	Collect other solid waste (other than the biomedical waste) from the health care facilities as per the Solid Waste Management Rules, 2016 or as amended time to time	Schedule III (rule 6 and 9(3))			
15	Bio –medical waste generated in households during health care activities shall be segregated as per Bio-Medical Waste Management Rules 2016 and handed over in separate bags or containers to municipal waste collectors. Urban Local Bodies shall have tie up with the common bio-medical waste treatment and disposal facility to pick this waste from the Material Recovery Facility (MRF) or from the household directly, for final disposal in the manner as prescribed	Schedule III (rule 6 and 9(3))			
16	Any other function stipulated under these Rules	Schedule III (rule 6 and 9(3))			

Authority Responsible For Compliance - Health and Family Welfare Department					
17	To ensure implementation of the rule in all health care facilities or occupiers.	Schedule III (rule 6 and 9(3))	Health Care Facilities of 11 Districts have made agreement with nearest available CBWTF for collection, transportation, and disposal of Bio Medical Waste. Rests facilities have opted other alternative options like disposal through deep burial pit, Sharp pit, disinfection with Hypochlorite solution.	Within Six month of availability of authorized Common Bio Medical Waste Treatment Facility	More authorized CBWTF is to be made available for districts of Santhal, Palamu and Kolhan region
18	To allocate adequate funds to government Health Care Facilities for bio-medical waste management.	Schedule III (rule 6 and 9(3))	Yes. Total fund of Rupees 269.00 Lakh has been made available to 24 districts. Rs. 300.00 Lakh allotted for consutruction of BMW storage center at DH & SDH/CHC level facilities		Through NHM fund. ROP 2019-20. **(Annexure-1)**
19	To procure and allocate treatment Equipments and make provision for consumables for bio-medical waste management in Government Health Care Facilities.	Schedule III (rule 6 and 9(3))	Yes		Through NHM Untied fund of

					Hospital Management Society, items can be purchased.
20	To constitute State or District Level Advisory Committees under the District Magistrate or Additional District Magistrate to oversee the biomedical waste management in the Districts.	Schedule III (rule 6 and 9(3))	Yes		Constituted under the Chairmanship of Secretary, Dept of MEH&FW vide Letter no 9/RCH-234/2014-980 (3) dated 10/8/2017 **(Annexure-2)**
21	To advise State Pollution Control Boards or Pollution Control Committees on implementation of these Rules.	Schedule III (rule 6 and 9(3))	Yes		Constituted under the Chairmanship of Deputy Collector, vide Letter no 9/RCH-234/2014-979 (3) dated 10/8/2017. **(Annexure-3)**
22	To implement recommendations of the Advisory Committee in all the health care facilities	Schedule III (rule 6 and 9(3))	Yes		Rate for collection & disposal was fixed by SAC. The rate is Rs.7/=per

					bed/day.
23	The Ministry of Environment Forest and Climate Change shall review the implementation of the rules in the country once in a year through the State Health Secretaries and Chairman or Member Secretary of State Pollution Control Board and Central Pollution Control Board and may also invite experts in the field of Bio medical Waste Management, if required	Schedule III (rule 6 and 9(3))	Yes		
24	To grant license to Health Care Facilities or nursing homes with a condition to obtain authorization from the prescribed authority for Bio-medical Waste Management	Schedule III (rule 6 and 9(3))	Yes		Provisional license is being issued with condition to take authorization from JSPCB.
25	To Monitor, Refuse or Cancel license for Health Care Facilities or nursing homes for violations of conditions of authorization or provisions under these Rules.	Schedule III (rule 6 and 9(3))	Health care Facilities are registered under clinical Establishment Action and are being control under the provision of the act.	Within two months of recommendation of JSPCB	
26	To publish list of registered Health Care Facilities with regard to Bio-medical Waste generation, treatment and disposal	Schedule III (rule 6 and 9(3))	Separate website for Bio Medical Waste Management is being developed and list will be uploaded in the same along with Annual report in prescribed format.		By March, 2020
27	To undertake or support operational research and assessment with reference to risks to environment and health due to Bio-medical Waste and previously unknown disposables and wastes from new types of equipment	Schedule III (rule 6 and 9(3))	No		Within one years in consultation with JSPCB

28	To coordinate with State Pollution Control Boards for organizing training programs to staff of Health Care Facilities and municipal workers on Bio-medical waste Management	Schedule III (rule 6 and 9(3))	Yes		
29	To Constitute Expert Committees at National or State level for overall review and promotion of clean or new technologies for Bio-medical Waste Management	Schedule III (rule 6 and 9(3))	No		March, 2020
30	To organize or Sponsor trainings for the regulatory authorities and health care facilities on Bio-medical Waste Management related activities	Schedule III (rule 6 and 9(3))	Yes Fund of Rs 4.95 Lakh has been also allotted under Kayakalp Training for improving the cleanliness & infection control activities in health care facilities.		Infection Management and Environmental Plan training module for Health care services providers. Rs Twenty thousand are allotted per district per batch. **(Annexure- 4)**
31	To Sponsor mass awareness campaigns in electronic media and print media	Schedule III (rule 6 and 9(3))	Yes		Through Kayakalp Program and swachhata Pakwada, Public awareness is being generated.

Authority Responsible For Compliance - Animal Husbandry and Veterinary Department					
32	To grant license to Health Care Facilities or nursing homes or veterinary establishments with a condition to obtain authorization from the prescribed authority for Bio-medical Waste Management.	Schedule III (rule 6 and 9(3))			
33	To Monitor, Refuse or Cancel license for Health Care Facilities or nursing homes or veterinary establishments for violations of conditions of authorization or provisions under these Rules.	Schedule III (rule 6 and 9(3))			
34	To publish list of registered Health Care Facilities with regard to Bio-medical Waste generation, treatment and disposal.	Schedule III (rule 6 and 9(3))			
35	To undertake or support operational research and assessment with reference to risks to environment and health due to Bio-medical Waste and previously unknown disposables and wastes from new types of equipment	Schedule III (rule 6 and 9(3))			
36	To coordinate with State Pollution Control Boards for organizing training programs to staff of Health Care Facilities and municipal workers on Bio-medical waste Management.	Schedule III (rule 6 and 9(3))			
37	To Constitute Expert Committees at National or State level for overall review and promotion of clean or new technologies for Bio-medical Waste Management.	Schedule III (rule 6 and 9(3))			
38	To organize or Sponsor trainings for the regulatory authorities and health care facilities on Bio-medical Waste Management related activities.	Schedule III (rule 6 and 9(3))			
39	To Sponsor mass awareness campaigns in electronic media and print media	Schedule III (rule 6 and 9(3))			
40	The Ministry of Environment Forest and Climate Change shall review the implementation of the rules in the country once in a year through the State Health Secretaries and Chairman or Member Secretary of State Pollution Control Board and Central Pollution Control Board and may also invite experts in the field of Bio medical Waste Management, if required.	Schedule III (rule 6 and 9(3))			
Authority Responsible For Compliance - Central Pollution Control Board					
41	To prepare guidelines on bio-medical waste Management and submit to the Ministry of Environment, Forest and Climate Change.	Schedule III (rule 6 and 9(3))			
42	To co-ordination with State Pollution Control Boards or Pollution Control Committees on biomedical waste.	Schedule III (rule 6			

		and 9(3))			
43	To conduct training courses for authorities dealing with management of bio-medical waste.	Schedule III (rule 6 and 9(3))			
44	To lay down standards for new technologies for treatment and disposal of bio-medical waste (Rule 7) and prescribe specifications for treatment and disposal of bio-medical wastes.	Rule 7			
45	To lay down Criteria for establishing common biomedical waste treatment facilities in the Country.	Schedule III (rule 6 and 9(3))			
46	To inspect or monitor health care facilities and common bio-medical waste treatment facilities randomly.	Schedule III (rule 6 and 9(3))			
47	To review and analyze data submitted by the State Pollution Control Boards on bio-medical waste and submit compiled information in the form of annual report along with its observations to Ministry of Environment, Forest and Climate Change on or before 31st August every year.	Schedule III (rule 6 and 9(3))			
48	To Inspect and monitor Health Care Facilities operated by the Director General, Armed Forces Medical Services.	Rule 9			

झारखण्ड सरकार
झारखण्ड ग्रामीण स्वास्थ्य मिशन समिति
स्वास्थ्य चिकित्सा शिक्षा एवं परिवार कल्याण विभाग,
झारखण्ड, नामकुम, राँची।

पत्रांक: 9/RCH-234[12015-3304(RCH) दिनांक : 22.08.19

प्रेषक,

डॉ० बी० सरांडी
अपर निदेशक सह
नोडल पदाधिकारी, राज्य गुणवत्ता कोषांग
झारखण्ड, राँची।

सेवा में,

सभी सिविल सर्जन,
झारखण्ड।

विषय : JSPCB से CTO एवं Authorization लेने में विलंब के संबंध में।

प्रसंग : Letter no-719(MD) date 17.07.2019

महाशय / महाशया,

उपरोक्त प्रासंगिक विषयक संबंध में कहना है कि स्वास्थ्य संस्थानों के संचालन हेतु Consent To Operate (CTO) Application DH, SDH, CHC, PHC एवं UCHC/UPHC के निबंधन हेतु **50 प्रतिशत शुल्क** में छुट का प्रावधान की अंतिम तिथि 31 August 2019 है। दिनांक 01.09.2019 से शुल्क में छुट समाप्त हो जायेगी, ऐसी परिस्थिति में शेष बचे संस्थानों का निबंधन में 50 प्रतिशत शुल्क की भरपाई की जिम्मेदारी संबंधित सिविल सर्जन एवं जिला लेखा पदाधिकारी की होगी।

राज्य में जोहरदगा एवं रामगढ़ में CTF संचालित है। लगभग 100–150 km की परिधि में अवस्थित स्वास्थ्य संस्थानों यथा– DH, SDH, CHC, PHC एवं UCHC/UPHC का MOU CTF से अविलंब करा लें। जिन संस्थानों ने MOU कर लिया है वे **QR Code tracking** का भी निबंधन करना सुनिश्चित करेंगे।

अतः उपरोक्त अंतिम तिथि तक निबंधन अथवा समय MOU नहीं किये जाने की स्थिति में अगर Court जुर्माने की रकम भुगतान करने का आदेश पारित करती है उस स्थिति में पूर्ण जवाबदेही आपकी होगी।

इसे अतिआवश्यक समझा जाए।

अनुलग्नक: **Status report of application for CTO/payment as per JSPCB**

विश्वासभाजन
22/8/19
अपर निदेशक सह
नोडल पदाधिकारी, राज्य गुणवत्ता कोषांग
झारखण्ड, राँची।

ज्ञापांक 3304(RCH) दिनांक : 22.08.19

प्रतिलिपि:

1. सचिव स्वा०चि०शि०एवं प०कल्या० विभाग, झारखण्ड, राँची को सूचनार्थ।
2. अभियान निदेशक,एन०एच०एम, झारखण्ड, राँची को सूचनार्थ ।
3. निदेशक प्रमुख, स्वा० सेवाएं, झारखण्ड, राँची को सूचनार्थ ।

22/8/19
अपर निदेशक सह
नोडल पदाधिकारी, राज्य गुणवत्ता कोषांग
झारखण्ड, राँची।

Draft Bylaw for Solid Waste Management in areas under the Jurisdiction of Panchayat Raj Institutions

Part:1

General

1. The jurisdiction of the bylaw is limited to Solid Waste management of the villages and tolas within the Gram Panchayats.
2. These bylaws are prepared keeping in view the solid waste management rules 2016 issued by the ministry of environment, forest and climate change.
3. These bylaws are prepared keeping in view the constitution of India (Article 243G.243H,243 I and 280) article 75,76 and 77 of Jharkhand Panchayat Raj Act 2001 and the guidelines of Swachch Bharat Mission (G) for solid waste management in rural areas.
4. The Health, Education and Environment, standing committee is hereby appointed Executive Authority to plan, collect, treat and dispose kitchen waste and other domestic waste generated by the households, shops and other establishments within the boundaries of the Panchayats.
5. The standing committee shall put in place a proper system for SWM for the Gram Panchayat. It shall fix terms and rates under which waste generated by residents shall be collected and disposed in a manner that is healthy and overall cleanliness of the villages shall be maintained.. The terms and rates shall be approved by the Gram Sabha of the Gram Panchayat.
6. Solid waste generated by households, shops and establishments, and marriage halls within the jurisdiction of the GP shall be handled by a team of sanitation workers trained and approinted by the GP with the approval of the GP executive committee.
7. Differentials rates will be applicable to different category of residents such as households, tea stalls, haats, bazaars, eataries, marriage halls, schools and offices if any.
8. The rates fixed by this bylaw are hereby imposed on all category of waste generators in the villages and the rates shall be levied and collected in accordance with the tariff fixed.
9. The rates shall be revised once in a year to reflect changes in the cost incurred in SWM services.
10. The revenue collected for providing the SWM services shall be used only for the purpose of operations and manaintenance of the said services including workers' salary, employed additionally for this purpose.
11. Any person breaches of this bylaw shall be liable to a fine as stipulated in this bylaw.

Part-II

1. The Gram Panchayat shall conduct a survey and sort out residents under different category. There will be a series of community education programmes conducted with the help of SHGs of NRLM, Block coordinators under Jharkhand Swasashan parishad on sanitation and waste management issues.
2. Residents, shops and various other vendors involved in different activities in the Gram Panchayat shall be intimated which category they fall under for the purpose of payment of service charges for SWM.

User Category

1. Households
2. Tea stalls
3. Village Dhabas
4. Haat bazaar vendors
5. Marriage Halls
6. Butcher house
7. Grocery shops
8. Religious places
9. Schools and Offices if any

It is at the discretion of the Gram Panchayat that a destitute woman or aged person above 65 years running small petty shop with an investment of less than Rs. 1000 may be exempted from paying service charge, provided she/he pays as ahousehold. This shall not be applicable to others such as those who run a village eatery, vegetable vending, and butcher shops (with no proper disposal of wastes).

Technical Stipulations

1. The panchayat shall pass a resolution banning the use of, use and throw carry bags and use and throw tea cups and seek the cooperation of community to carry reusable cloth bags, and insist on petty shopkeepers to use only biodegradable alternatives in order to help the buyers who forget to bring cloth bags.
2. Gram panchayats under 14th FC funds shall provide each household with two coloured baskets- one for WET Waste and other for DRY Waste. SHGs of NRLM will educate the households on using of baskets.
3. Primary segregation shall take place at SWM shed of the GP.
4. Special arrangements shall be made for cleanliness during temple festivals and local festivals.

Inspection

1. Respective ward members of panchayats along with the members of Standing committee and also VWSC shall pay inspection visits to make sure that the community members, shopkeepers and others keep their surroundings clean.
2. Every ward member shall be responsible for promoting SWM practices in his/her tola/hamlet. All SHG members of each hamlet/tola/ward shall discuss the issue of SWM in its meeting.

Non-Compliance

1. Where some households/shopkeepers are found not abiding by the Panchayat norms and are dumping waste on the street corners shall be liable to pay penalty as decided by the GP.
2. In the event of a household's/shopkeepers persistent non-cooperation, the panchayat may take strict action.

Payment of Services

The tariffs set for the SWM services with respect to different category of users are listed below. Gram panchayat may use the suggestion or may work out a budget of likely expenditure to be incurred on SWM and accordingly work out the service charges for each category of user. This user charge will serve as own source of revenue and will also help in meeting the expenditure.

Suggestive tariff for different users:

1. The service charges for SWM shall be payable to the member of standing committee. Each ward member who is also member of the standing committee shall be responsible to collect the service charge from the households/ vendors in his/her ward before 5th of every month.
2. Alternatively, households may also pay the user charge in GP secretariat.
3. Gram panchayat shall furnish receipt to the household/vendor on payment of user fee.
4. Waste baskets given for SWM purpose shall not be put to any other use, causingSWM to suffer. In such case of occurance the amount spent on the basket shall be recovered at double the price.
5. Households/vendors not willing to involve themselves in primary segregation can do so. Provided they are agreed to pay Rs 150/pm instead of Rs 50/pm.
6. Those found dumping waste at the streets shall be liable to pay penalty of Rs 500.

S.No	Category of user	Service charge	Remark
1	Household	Rs 50/- and Rs 100/- (Type A: If segregation done at	Payable monthly (Type A) If primary

		primary level) (Type B: If segregation not done at primary level)	segregation is not done by household then opt for Rs 100/- (Type b)
2	Tea Stalls	Rs.50	monthly
3	Village dhabas or small eataries (Thellas)	Rs100/-	Payable monthly
4	Marriage halls	Rs 500/-	Payable in advance i.e. before marriage
5	Vegetable haats/bazaars	Rs. 100/- Rs 50/-	On every day of haat/bazaar if it is weekly (Type A) Monthly payable (Type B)
6	Butcher Shops	Rs 300/-	Monthly payable
7	Grocery shops/ration shops	Rs 100/-	Payable monthly
8	Schools/offices if in GP premises	Rs 500/-	Payable monthly
9	Religious places	Rs 100/-	Payable monthly
10	Dispensaries or clinics if in GP premises	Rs 500/-	Payable monthly

Penalty

1. Anyone wilfully or negligently throwing waste on the street shall be considered to have violated and shall be punished with a fine of Rs. 500 in the case of households and shops; and Rs 2000 in the case of marriage hall.
2. GP executive committee may also decide differential penalties in the case of one time violation and repeated non-compliance/negligence

Responsibilities of households/waste generators

1. Each household shall segregate waste into wet and dry waste and put in the bin given specifically for each purpose. This is called primary segregation which shall take place at the household/shopkeeper level. Those who do not want to segregate waste can do so on extra payment as prescribed by the GP.
2. As far as possible leftover food items such as fish bones, mutton and chicken bones may be given to pet cats/dogs, if available at the household level else may be wrapped in a paper and handed to the sanitation worker (preferably with a green X (Cross) so that it can be identified.
3. Vegetable peels, fruit peels egg shells used tea leaves, leftover cooked vegetables may be put in wet waste bin.

4. Certain items such as used sanitary pads, children diapers, condoms shall be securely picked from every household wrapped in newspaper or some other paper before it is handed to sanitation worker.
5. The sanitary worker shall collect waste from every household with a cart/tri-cycle and a ring bell. It is the responsibility of each household to give waste regularly.
6. No waste generator shall throw, burn or burry the solid waste generated by him/her on streets, open public spaces, in drains or water bodies.
7. All waste generators shall pay such user fee for SWM as specified in the by-laws of the local bodies.
8. Every street vendor/eataries shall keep suitable containers for storage of waste generated during the course of his activity such as food waste, disposable plates, cups, cans etc
9. All households and vendors shall within one month from the date of notification of these rules and in partnership with the local body ensure segregation of waste at the source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams.
10. The complaints if any from the residents may be written or informed in GP secretariat office.

Responsibilities of the sanitation worker:

1. The sanitation worker shall collect waste primarily segregated at the household level and after reaching the segregated shed allotted shall involve secondary segregation, where they segregate recyclable items from the items that must go for composting etc.
2. Households making direct payment of service charges at GP secretariat is to be promoted as a system. Where some shopkeepers feel uncomfortable, the sanitation worker shall collect service charges from such households and give account to the panchayat secretary to keep accounts.

Responsibilities of Health, Education and Environment and Sanitation standing committee/Gram Panchayat

1. Arrange door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non-residential premises and ensuring hygienic conditions.
2. Collect separately waste from seeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the population coverage, commercial activity and local conditions.
3. Transport segregated bio degradable waste to the processing facilities like compost plant.
4. Educate and aware the waste generators not to litter/dump waste in open and to segregate the waste at the source as prescribed under these rules .

5. Arrange for composting of wet waste and also arrange segregation and sale of recyclable wastes.
6. Identify waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit hazardous waste at this centre for its safe disposal.
7. Provide training on SWM to waste pickers and waste collectors.
8. Involve communities in waste management and promotion of home composting, bio gas generation, decentralised processing of waste at community level subjects to odour control and maintenance of hygienic conditions around the facility.
9. Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities.

What to include in a waste Survey?

1. Source of waste (Household, hotel/dabhas, haat/bazaars)
2. Type of waste generated?
3. Amount of waste generated type wise (Wet/Dry and Hazardous)
4. Identify vulnerable spots/infamous spots- for dumping sites
5. Existing disposal practice- at household level and market place.
6. How do institutions like schools, ICDS, local clinics dispose waste?
7. What is the capacity of the GP to implement an SWM Plan?

Report format from waste survey

S.No	Name of Area	Waste Generated per day in GP				Total KGs
		Wet	Dry	Hazardous	Road sweeping	
1.	Ward 1					
2.	Ward 2					
3.	AWC					
4.	Schools					
5.	Ration Shop					
6.	Haats					
7.	Grocery shops					
8.	Religious places					
9.	Misc					

Detailed Project Report (DPR)

- Name of the GP

- Block:
- District:
- Population
- Households
- Populations:
- Total; HHs:
- No of wards:

S.No	Name of Tola/Hamlet	No of Households	No of shops and other establishments	Approx vol of solid waste generated.

List of Gram Panchayats and Villages for Piloting Solid Waste Management and Treatment Process in Rural Areas				
Sl No.	**District**	**Block**	**Gram Panchayat**	**Revenue Villege**
1	Ranchi	Kanke	Gagi	Gagi
		Ratu	Futkal Toli	Jhiri
		Namkum	Dugri	Dugri
2	Hazaribagh	Hazaribagh sadar	Singhani	Singhani
			Oriya	Oriya
		Katkamdag	Kud	Rewali
3	Gumla	Gumla sadar	Tel Goan	Tel Goan
			Pugu	Pugu
			Dumardih	Dumardih
4	Chatra	chatra Sadar	Paradih	Babne
			Dara	Pakariya
			Dewariya	Dewariya
5	koderma	Koderma	karma	karma
			lokai	lokai
		Domchanch	Domchanch Purvi	chainpur
6	East Singbhum	chakuliya	kuchiya soli	Balibagh
			Bhatkunda	Bhatkunda
			Barmara	Barmara
7	Lohardga	Lohardga Sadar	Jori	Jori
			Nimni	Nimni
			Manho	Manho
8	Bokaro	Chas	Khamrbendi	Khamrbendi
			Kandra	Kandra
			Narayanpur	Narayanpur
9	Saraikela	Gamhariya	Rapcha	Rapcha
			Burudih	Burudih
			Dumra	Dumra

10	Jamtara	Jamtara Sadar	Bewa	Bewa
		Jamtara Sadar	Udalbani	udalbani
		Jamtara Sadar	Duladih	Duladih
11	Simdega	Thethaitangar	Tukupani	pindripani
			meromedka	Tapudega
		Simdega	Garja	Garja
12	Ramghar	Patratu	Masmohana	Masmohana
		Ramghar Sadar	Barlong	barlong
		Chitarpur	Borobin	Borobin
13	West Singbhum	Chaibasa Sadar	diliyamarcha	Aachu
14	Garhwa	Garhwa Sadar	Nawada	Nawada
			Achala	Achala
			kalyanpur	kalyanpur
15	Deoghar	Deoghar Sadar	Gidhani	Gidhani
		Mohanpur	Sarasani	Pandeytari
		Sarwan	Baijukura	Parsodih
16	Godda	Godda Sadar	bhatdiha	bhatdiha/sarkanda
			pairadih	kandih gaon
			kanwara	Kanwara
17	Sahebganj	sahebganj sadar	Ganga prasad purab	sohanpur bhatta
			Ganga prasad madhya	mahadevganj
			Ganga prasad west	chotti kodarjanna
18	Giridih	Giridih Sadar	Maheshlundi	Maheshlundi
			Patrodih	Patrodih
			Sihodih	shankrachak
19	Latehar	Latehar sadar	Dhankara	Baajkum
			Parsahi	Jalta
			Pandepura	kinamaadh

20	Palamu	Sadar Medininagar	Jamune	Pokhrakala
			Chiyaki	Chiyaki
			Rajwadih	Rajwadih
21	Dumka	Dumka sadar	Purana Dumka	Purana Dumka
			Sarua	Sarua
			Lakhikundi	Lakhikundi
22	Pakur	Pakur	Kolajoda	Kolajoda
			Maalpahadi	Bishunpur
			Kalidapur	Kalidaspur
23	Dhanbad	Dhanbad Sadar	Nawadih	Nawadih
			Siyalgudri	Siyalgudri
			Damudarpur	Damodarpur
24	Khunti	Khunti block	Tirla	Tirla
		Murhu	Kunjla	Kunjla
			Hassa	Hassa

COMPLIANCE REPORT IN RESPONSE NATIONAL GREEN TRIBUNAL REPORT

DEPARTMENT OF RURAL DEVELOPMENT (PANCHAYAT RAJ)

Rule	Specific Points As per Rule	Compliance	Timeline	STATUS AS ON 1ST OCT'2019
Rule 7	**PLASTIC WASTE**			
Clause a	Ensuring segregation, collection, transportation, Plastic waste and channelization of recyclable plastic waste fraction to recyclers having valid registration, ensuring that no damage is caused to the environment during the process	1: Under the capacity building and training project supported by Ministry of Culture Government of India "Orientation **of Gram Panchayat Standing Committee member on Swachch Bharat Abhiyan and role of Panchayats in addressing the sanitation issue"** - Sessions of SWM and waste management incorporated. 2: TOT of 60 MTs done at state level. Cascade training in Gram Panchayat commences from 20th July'2019 to 10th Sept'2019.	20TH July to 10th Sept '2019 Total GP ERs to be trained: 21835	Total 160 Master trainers oriented on SWM . Total 5982 Elected representatives of Gram panchayats oriented in SWM.
Clause b	Creating awareness among all stakeholders about their responsibilities			
Clause c	Ensuring that open burning of plastic waste does not take place. Enforcement of the provisions of these rules relating to waste management by the waste generators, use of plastics carry bags, plastic sheets or like , cover made of plastic sheet and multi layered packaging in the rural areas of the state.	Rural Waste Management Rules will be prepared as per the roles and functions of PRIs mentioned in Jharkhand Panchayat Raj Act 2001 and SWM Model Rules 2016	Draft will be prepared by 30th Sept'2019	Draft of Plastic waste management By-Laws in process. Will be completed by 30th Oct'2019
Rule	**Biomedical Waste**			
Schedule III (Rule 6 and 9) (3)	Provide or allocate suitable land for development of common bio-medical waste treatment facilities in their respective jurisdiction as per the guidelines of Central Pollution Control Board	ZP will be given directions through notification/Letter to identify land under its jurisdiction (Rural) for treatment facilities of Biomedical waste and SWM treatment plant.	20th July'2019	Letter issued to ZP and CEO ZP for identification of land for treatment of Bio medical waste.
	Collect other solid waste (other than			

	biomedical waste) from the health care facilities as per the SWM rules 2016			
Rule	**Solid Waste Management**			
Rule 15, Sub Rule a	The local Authorities will prepare a SWM plan as per state policy within six months	1. Elected Representatives of 760 Villages (khunti) under Deen dayal Gram Swawalamban Yojana will be trained on SWM and suggested to take SWM awareness generation/Treatment of waste /Vermi composting as community scheme in Gram Panchayat Vikas Yojana 2020-21	September-October'2019	The program has been initiated on pilot basis in 760 villages of Khunti . In last one month 40 Villages covered. 2 SHG members trained as MTs and ward members oriented on SWM .
Rule 15 Sub rule C	SWM Rules for Rural Local Bodies :	SWM rules will cover all the sub rule of Rule 15: 1. Arrange door to door waste collection of segregated solid waste; integrate rag pickers/informal waste collectors in SWM. 2. Orientation of Rag pickers/waste collectors 3. Promote setting up of decentralised compost plant at suitable location in the market vicinity. 4. Involve communities in waste management and promotion of home composting, bio gas generation,	SWM Rural Rules-Nov'2019	Solid Waste Management By-Laws drafted for Gram Panchayats. Document also shared with Jharkhand state pollution control borad . File in process for approval. (Copy enclosed) List of 71 Villages identified for SWM treatment plants uploaded on: www.jharkhand.gov.in/www.jharkhandpanchayats.gov.in. Copy enclosed. Draft of Rural Sanitation Policy prepared and also shared with Jharkhand State Pollution Control Board.

		decentralised processing of waste at community level subject to control of odour and maintenance 5. Educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste. 6. Ensure that provisions for setting up of centres for collections, segregation and storage of segregated wastes are incorporated in building plan while granting approval of building plan of a group housing society or market facility. 7. Bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines. 8. Create public awareness on SWM		

Government of Jharkhand
Department of Rural Development (Panchayat Raj)

Circular no: .....

Ranchi, Date:.....

Subject: **Jharkhand State Rural Sanitation Policy – 2019**

Brief Name & Implementation:

I. This Policy will be called as "Jharkhand State Rural Sanitation Policy – 2018"
II. This Policy will be with effective from the date of notification.
III. This Policy will be applicable for all Rural Local Bodies of the Jharkhand State.

CHAPTER 1

NEED FOR RURAL SANITATION POLICY

1.1 Introduction

The Central Rural Sanitation Programme, which was started in 1986, was one of India's first effort to provide safe sanitation in rural areas. This programme focused mainly on providing subsidies to people to construct sanitation facilities. Later with time through various subsidies and observation reports it was concluded that it is more important to raise awareness about sanitation as a whole rather than just to provide subsidies for construction. This understanding marked the first shift in the programme. In 1999, a restructured Total Sanitation Campaign (TSC) was initiated to create supply led sanitation by promoting local sanitary marts and a range of technological options.

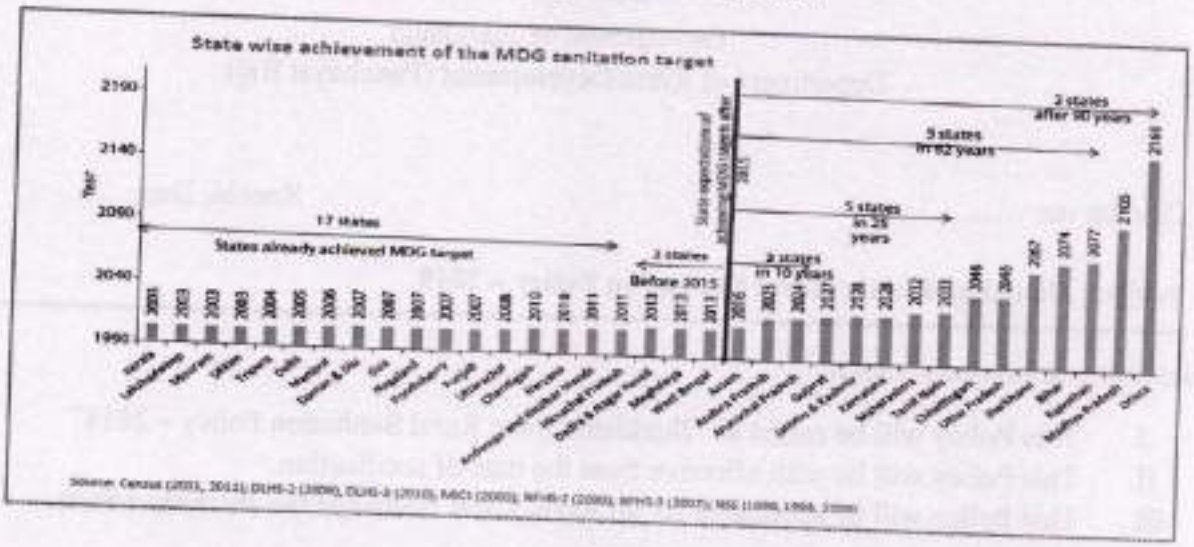
Inadequate sanitation causes India considerable economic losses, equivalent to 6.4 per cent of India's GDP in 2006 at US$53.8 billion (Rs.2.4 trillion), according to The Economic Impacts of Inadequate Sanitation in India, a report from the Water and Sanitation Program. The study analyzed the evidence on the adverse economic impacts of inadequate sanitation, which include costs associated with death and disease, accessing and treating water, and losses in education, productivity, time, and tourism. The findings are based on 2006 figures, although a similar magnitude of losses is likely in later years.

Initiatives by Indian Government

The importance of the State Sanitation Policy may be understood with the few of the steps taken by the Central Government for the last 10 years. Jharkhand government do realizes the importance of sanitation at all the levels and therefore it is committed to have healthy sanitation practices in both the rural and the urban area.

Presently, in its new avatar "Swachch Bharat Mission" is an ambitious initiative of Government of India and is being taken at war foot level. The situation of rural sanitation is graver than the urban sanitation. In this context, the role of Local Self Government (LSG) becomes important. The situation in rural sanitation can only be addressed by the LSGs when they are properly and

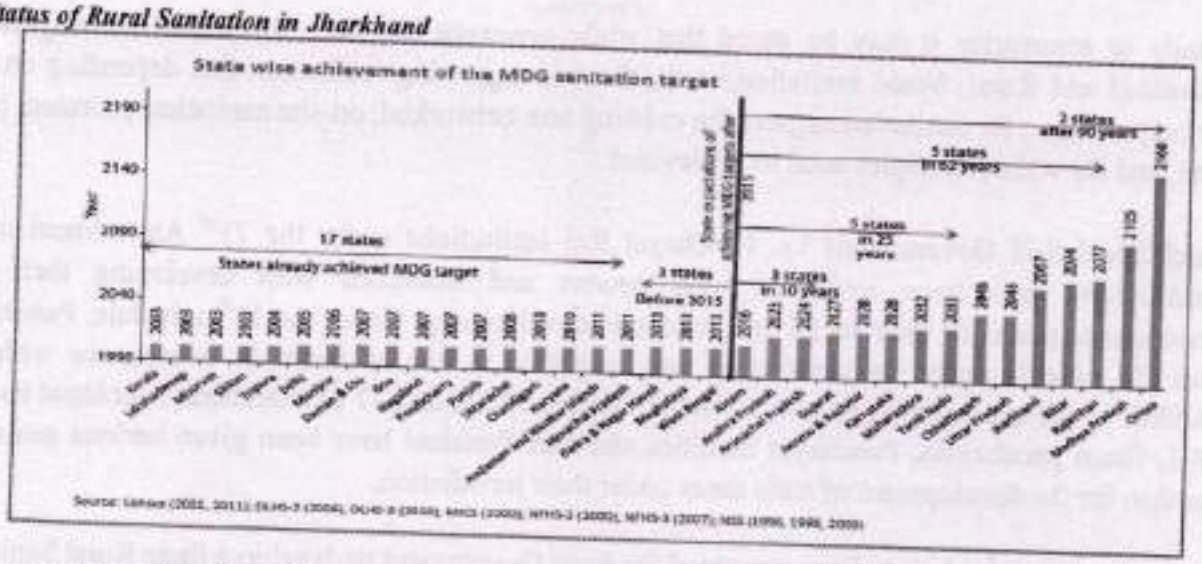
rightly informed and they work under proper sanitation policy.



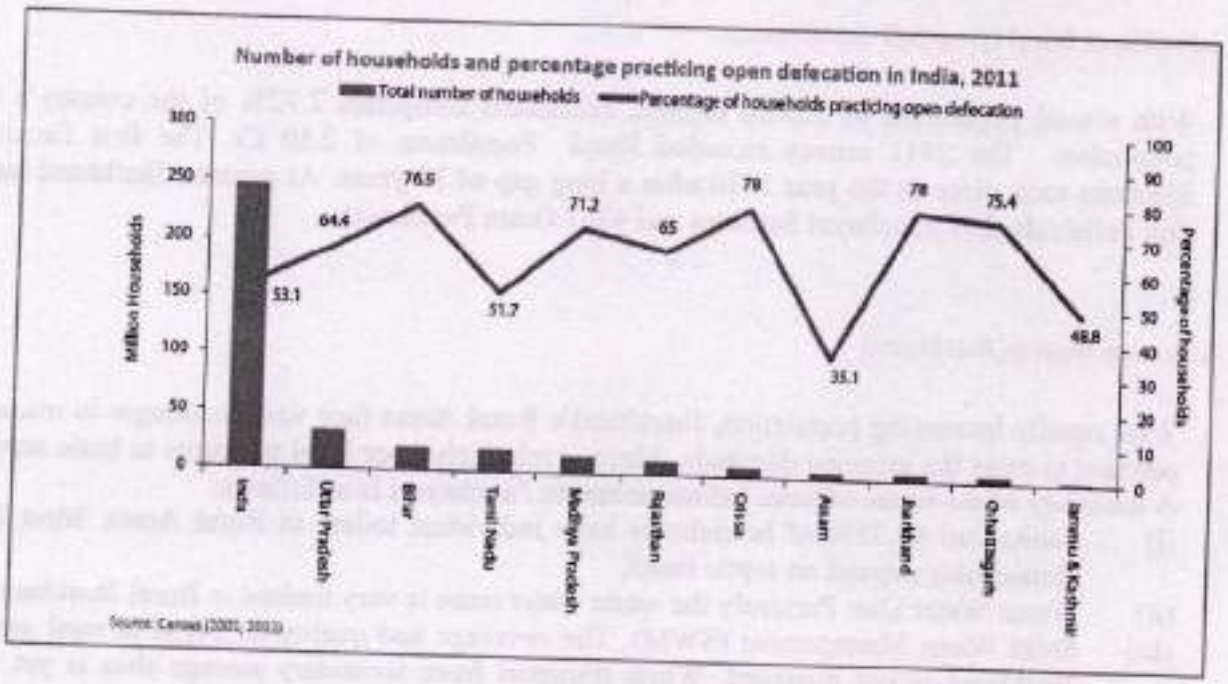
The First major step was taken on 2nd October 2014, when the Government of India launched the Swachh Bharat Mission (SBM) in urban and rural areas of India with a vision to ensure hygiene, waste management and sanitation across the nation. In his address to both houses of Parliament in May 2014, the Hon'ble President of India stated that "***Swachhata is an article of faith for my government.*** Swachhata will have an overarching impact on the quality of life and wellbeing of a person, particularly the poor. Swachh Bharat Mission has been launched to achieve a Clean and Open Defecation Free India and scientifically managed municipal solid waste by October 2019".

The second step by the government was taken in September 2015 when India became signatory to the Sustainable Development Goals (SDGs). Goal 6 demanded universal access to clean water and sanitation. Within this, Target 6.2 aimed at achieving ***access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations***. The SDGs are a follow-up to the Millennium Development Goals (MDGs), which aimed at extending improved sanitation coverage to the un- served households. The difference between the SDGs and the MDGs is that where the latter focused on household-level infrastructure provision within an understanding of "improved sanitation", the SDGs covers the whole sanitation service chain, infrastructure and service provision, and aim to mitigate the adverse effects of public health due to poor sanitation.

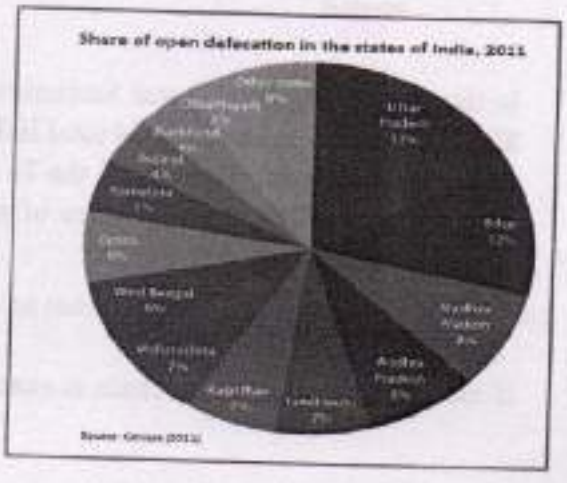
Status of Rural Sanitation in Jharkhand



The targets of MDGs with respect to sanitation had to be achieved by 2015. Only 17 states in the country were able to achieve the targets. With the current trends, Jharkhand will be able to achieve the target by 2067. There is also a wide gap in rural and urban coverage in state.



There has been a very slow progress in the state since its formation. Drinking water and sanitation initiative has always been prime agenda in the action plans of the state yet the indicators have not improved. Observations and studies by UN and other development agencies indicate that there is a need to change the strategy of interventions. Focus has to be shifted from quantity to quality or behavior change. Here the role of LSGs becomes vital.



Finally to summarize it may be stated that while sewerage has been the traditional response to household and Rural- based sanitation needs, there is a growing realization that depending on it as the only solution for sanitation negates the existing non-networked, on-site sanitation prevalent in the state, and for which strategies need to be devised.

Rural Local Self Governments i.e. Panchayat Raj Institutions under the 73rd Amendment of the constitutions have been enshrined with powers and mandated with developing their own development plans for their social and economic development. Under the 11th schedule, Panchayats have 29 subjects under its jurisdiction and sanitation is one of them. In consonance with 11th schedule of the constitution, provisions under Section 75, 76 and 77 of Jharkhand Panchayat Raj Act 2001, Gram panchayats, Panchayat Samities and Zila Parishad have been given various powers to function for the development of rural areas under their jurisdiction.

The recent robust initiatives have prompted the State Government to develop a State Rural Sanitation policy in line with the national goals, both for infrastructure and services provision, as well as behavior change and capacity development of Rural Areas for sanitation service delivery and scientific management of Solid Waste.

1.2 Profile of Rural Local Self Governance

With a total population of 329.66 million, Jharkhand comprises 2.72% of the country's total population. The 2011 census recorded Rural Population of 2.50 Cr. The first Panchayat Elections took place in the year 2010 after a long gap of 32 years. At present, Jharkhand has 24 Zila Parishads, 263 Panchayat Samities and 4367 Gram Panchayats.

1.3 Service level In Jharkhand

With rapidly increasing population, Jharkhand's Rural Areas face vast challenges in managing services to meet the growing demands. There is relatively poor level of access to basic services. A summary of the status of basic infrastructure in Panchayats is as follows:

(i) Sanitation: 83.75% of households have individual toilets in Rural Areas. Most Rural Households depend on septic tanks,
(ii) Waste Water Use: Presently the waste water reuse is very limited in Rural Jharkhand.
(iii) Solid Waste Management (SWM): The coverage and quality of SWM in rural areas of Jharkhand is not managed. Waste transport from secondary storage sites is yet to be started.

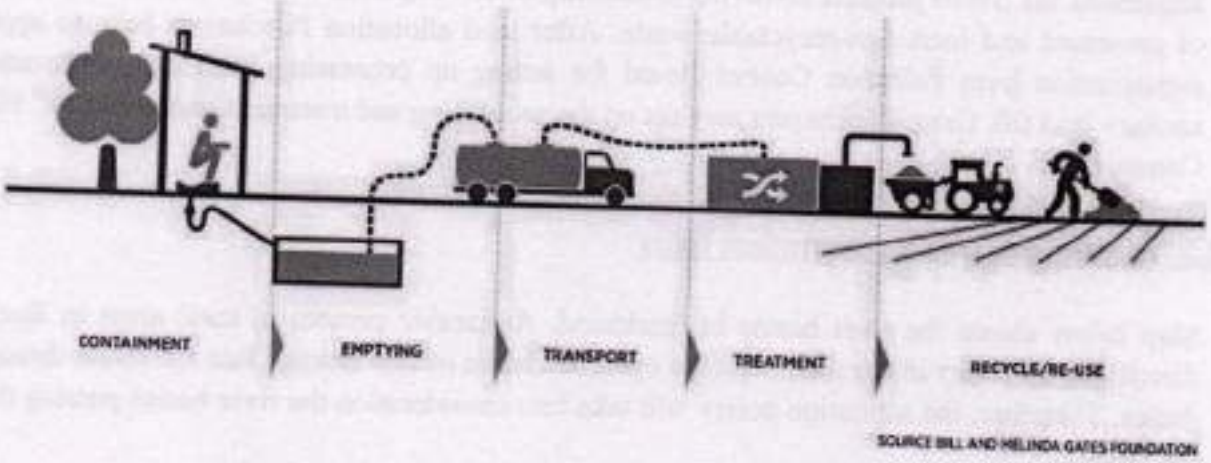
In the year 2014, Total Rural Sanitation coverage in the state was 16.25 %. With the launch of SBM (G) in new avatar in 2014 total IHHT constructed in 2018-19 increased to 83.75% (3466624 toilets constructed). Though all the 24 districts in the state, 4367 GPs and 29564 villages have been declared ODF yet the situation of waste management is a grave issue.

1.4 The full sanitation value chain needs to be covered

If the full sanitation value chain is examined, then ***the lack of safe containment, transportation***

and treatment or disposal also become significant factors in the poor sanitation outcomes of the state. The figure below is a sludge flow diagram (SFD). In the Rural areas treatment facilities for waste water and septage, even from sanitary latrines, is negligible. The practice of constructing soakpits and connecting it to open drains is rampant and most of the soakpits are reportedly poorly constructed.

SANITATION VALUE CHAIN



SOURCE BILL AND MELINDA GATES FOUNDATION

Of more concern is the method of sludge disposal, which is generally dumped into an unsecured pit in a designated open area. With the growing number of toilets now being constructed and a lack of available land, sludge disposal is a major issue of concern. The state is concerned that it is constructing facilities and infrastructure without paying much paying attention to appropriate low cost technologies.

1.5 A clear policy for Feacal Sludge Management (FSM) / Septage management in addition to conventional underground sewerage systems is needed for Rural Areas

Data from Census 2011 on types of latrines, indicates that ***as rural area sizes decreases, the dependence on on-site sanitation and open defecation increases***. This underlines the importance of going beyond traditional sewerage solutions, and moving towards faecal sludge management (FSM) / septage management. The policy, however must place this action within a wider policy of septage management across rural areas of Jharkhand. Keeping the above in mind Government of Jharkhand came out the Faecal Waste and Septage Management Policy to address the issue of sanitation.

Presently, the collection of Solid Waste (MSW) from haats and community bins, street sweeping, bush cutting and drain cleaning, transportation and disposal at the dump yard is negligible in Panchayat areas. Scientific disposal of waste is a distant dream yet to occur. There is no mechanism in rural areas, so the waste is dumped at the dump yard without processing or treatment; the dump yard is not scientifically designed. This has led to environmental degradation and air pollution, ground water table pollution and poses grave health hazards.

The MSW Rules 2016 and directions of National Green Tribunal, designates the Rural Local Governance bodies as solely responsible for managing solid waste in their area and states that "within the territorial area of the panchayats, are responsible for the implementation of the

provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes". However, the Panchayats in Jharkhand are yet to comply with SWM rules 2016.

1.7 Site Authorization for SWM Projects

Like the Urban local bodies, the State Government may allocate land to Panchayats to gradually implement the SWM projects involving processing of bio-degradable waste and scientific disposal of processed and inert non-recyclable waste. After land allocation Panchayats have to apply for authorization from Pollution Control Board for setting up processing plant and construction of sanitary land fill. Gram Panchayats may set up the processing and treatment unit under 14th Finance Commission.

1.8 The river basin pollution abatement policy

Map below shows the river basins in Jharkhand. A sizeable percent of rural areas in Jharkhand directly affect rivers in the state with the open discharge of raw sewage into the rivers through the drains. Therefore, the sanitation policy will take into consideration the river basins passing through the villages.

List of major rivers flowing in the state is:

1. Damodar
2. Baitarani
3. Ganga
4. Barakar
5. Ajay N
6. Son River
7. South Koel
8. Subarnarekha

1.9 The governance of Rural Sanitation must be aligned to outcomes and should be supported by capacity building of institutions

The primary institution for governance in rural areas is the Panchayat Raj Institutions in Jharkhand which comprise Zila Parishads, Panchayat Samitis and Gram Panchayats. The Panchayat Raj Institutions are Governed by the Jharkhand Panchayat Raj Act 2001. Besides the local bodies, there are other state department sub-divisions which are responsible for the water and sanitation in all Rural Areas. The Water Resource department is responsible for allotment of water to different sectors like drinking water, irrigation, hydropower, industry, etc., flood control and drainage, and maintenance of water quality. The Drinking Water and Sanitation Department (DWSD), are responsible for water supply and sewerage services in all panchayats. The Jharkhand Pollution Control Board (JPCB) is responsible to ensure standards and guidelines produced under the CPCB are followed in the state.

1.10 Capacities of Panchayat Raj Institutions in Jharkhand to manage an expanding need for sanitation and FSM

The capacity constraints of Panchayat Raj Institutions include a lack of clarity in roles and responsibilities of various stakeholders and institutions, the overarching responsibilities and functions, and the mixed system of personnel deployment followed in the state; the shortage of skilled staff for adequate coverage as well as enforcement; and both technical and financial shortfalls that do not allow for corrective infrastructural or management interventions.

There is a shortfall of technical manpower and other support staff in the PRIs. Recently a cadre of Panchayat Volunteers has been created in each Gram Panchayat for assisting the daily work of GP Secretariat. This cadre, of volunteers need to be organized and trained to deliver faecal sludge / septage management services at the Panchayat level base on the policy made.

There are also issues related to a lack of adequate data for better planning and management, across the sanitation cycle; to ensuring access to the un-served rural poor and the floating population; to the lack of awareness amongst communities, service providers and city managers on the consequence of poor sanitation; to the need for enhanced community participation and above all buildings. Adequate capacities of all stakeholders, especially the PRIs; and to the need for an integrated approach and adequate and sustained investments for both asset and facility creation as well as O&M. PRIs are especially constrained by 'inadequate personal and systemic capacities' for social mobilization and implementing user-participatory programs. Finally, the PRIs almost complete dependence on government grants and schemes prevents them from developing their own capacities for planning and management as the funds do not make adequate provisions for sustained capacity building of this kind.

Currently capacity building is limited to departmental trainings on various thematic and functional issues through the Rural Development Department (Panchayati Raj) and its training partners, which also includes water and sanitation interventions. The capacity building interventions are limited to structured trainings and exposure visits within the framework of programs like RGSA on the lines of the guidelines provided by Government of India.

CHAPTER 2

VISION, GOALS & PRINCIPLES OF THE POLICY

2.1 Vision

To make Villages and Panchayats in Jharkhand totally clean, sanitized, healthy (safe), pollution free, having zero waste, good quality of life and ensuring good public health and healthy environment to all its citizens in line with the Sanitation Policy of Government of India

2.2 Goals

To ensure Rural Areas in Jharkhand become totally clean, sanitized, healthy (safe), pollution free, having zero waste, having good quality of life and ensuring good public health and healthy environment to all its citizens.

2.3 Principles of the policy

The policy will be based on the following principles:

1. **Sanitation will be treated as a basic service**: The state government shall create basic infrastructure and opportunities and provide necessary support through which, all citizens can have access to sanitation services as their basic entitlement.

   Equity and safety of access and use, particularly to the vulnerable and un-served populations: The state shall endeavour to ensure that no rural citizen, irrespective of socio-economic status, caste, gender, age, or legal status of land/status of migration is denied access to and the use of sanitation services in Jharkhand's rural areas. In the case of families with no tenure security, the state will make effort to resolve tenure issues in providing individual household sanitation facilities or community sanitation facilities. However, where sanitation services are provided in areas without tenure security, the provision of these services will not entitle the individual/household any legal right to the land. In addition to this, the state and PRIs will ensure that access to such facilities (especially community and public) are maintained with an adequate level of cleanliness, and safety of access, especially for women. Adequate arrangements for access for the differently abled will also be made at these facilities (new / upgraded facilities).

2. **Increased awareness and ensuring better participation of the rural community for achieving the collective goal of sanitised villages and panchayats, recycle and reuse of waste water and scientifically managed municipal solid waste:** The causal linkages of sanitation and solid waste with public and environmental health need to be made more explicit to citizens, communities and institutions. In addition to the provision of facilities, sustained improvements in the quality of life are possible when supplemented by hygiene and behavior change. The state will aim to generate demand for safe sanitation, and scientifically managed solid waste especially among the un-served households/families. Citizens, communities,

institutions, and Panchayats as a whole will be encouraged to play an active role in both behaviour change towards safe sanitation, and ensuring the adoption and use of safe technology to protect the environment. To achieve the goal the government will make all efforts to increase the participation of the citizens for better sanitation facilities.

3. **Institutional roles, responsibilities and capacity development**: The policy will hinge on progressive articulation in policy and law followed-up by operations that are in line with the spirit of the 73rd Constitutional Amendment Act, 1992. Devolution of functions, funds and functionaries will need to be progressively ensured to the panchayats with adequate support for building planning, and management capacities.

4. **Emphasis on operations and maintenance of sanitation and solid waste management infrastructure**: One of the key reasons for poor sanitation infrastructure as well as high capital expenditure on sanitation is the lack of operations and maintenance of existing sanitation infrastructure. PRIs will be responsible to ensure that existing sanitation infrastructure is maintained at adequate operational levels, either through official funds, or in partnership with the private sector. The applicable user charges to be collected from the people using the services for collection, transportation and collection. Penalty to be imposed in the households where households, establishment, institutions etc. don't adhere to the norms.

5. **Integrating broader environmental concerns in the provision of urban sanitation and solid waste management service delivery**: The environment (land, air, and water resources) must be considered in all development activities for sanitation provision and management. All planning and implementation will seek to ensure that adverse risks to public health and the environment are adequately minimized at all stages in the sanitation chain and solid waste management. In sanitation the containment, collection, transportation or conveyance, treatment and re-use or disposal of septage/sewerage and waste water will be worked on and in solid waste management the entire chain of collection, transportation, processing and disposal will scientifically managed. Appropriate protection of the environment shall be applied, including prosecution under the law as required. The state government will prioritize those Panchayats that directly or indirectly affect rivers or river basins in the state due to discharge of untreated domestic wastewater for setting up pollution abatement systems.

6. **Choosing technology and solutions appropriate to the context**: Under the policy, the choice of technology and solutions will be contingent upon the needs of that context. For example, if, in the course of evaluation, decentralized and on-site technologies and solutions are context appropriate, then those should be chosen as opposed to blindly applying the choice of networked sewerage systems.

CHAPTER 3

3.1 OUTCOMES

Under the policy, over the next 10 years, the policy will concentrate on achieving the following 10outcomes:

1. Rural areas are Open-defecation free (ODF) and open discharge free(ODF)
2. Solid waste is safely managed, processed & scientifically treated
3. Use the principal of 5 R, reduce, reuse, recycle, refurbish and recover in waste management
4. Sewage, septage / faecal sludge and liquid waste is safely managed, treated, recycled anddisposed
5. Safety standards and guidelines are followed in the physical handling and management ofwaste
6. Women and girls have access to safe menstrual hygiene management
7. Villages/Panchayats do not discharge untreated waste (water and faecal waste) into the water bodies of Jharkhand.
8. Efficient processing and scientific management of solid waste in the panchayats
9. Scientific handling, processing and management of Hazardous waste, Bio-medical/ hospital waste, plastic waste and e-waste.
10. Proper handling, processing and use of construction and demolition waste.

SECTION 1 - SANITATION

3.2Outcomes of the policy

3.2.1 Rural Areas are open-defecation free and discharge free

This shall be a key outcome of the sanitation policy. In addition to infrastructure provision, this outcome requires behavior change at the individual, household, community, institutional and village levels. It is therefore the most crucial and challenging to achieve.

Open defecation free under this policy is understood as the termination of faecal- oral transmission determined by:

A. No observed open defecation;
B. All families have access to and use of household, community, and/or public latrines;
C. There is adequate access and use of latrines in all Gram Panchayat institutions, Academic institutes, religious bodies etc;
D. All insanitary latrines (including single pit latrines) are converted to sanitary latrines, and no incidence of Manual Scavenging is practised
E. All village community are engaged in safe hygiene practices, including handwashing;
F. All the latrines have access to piped water

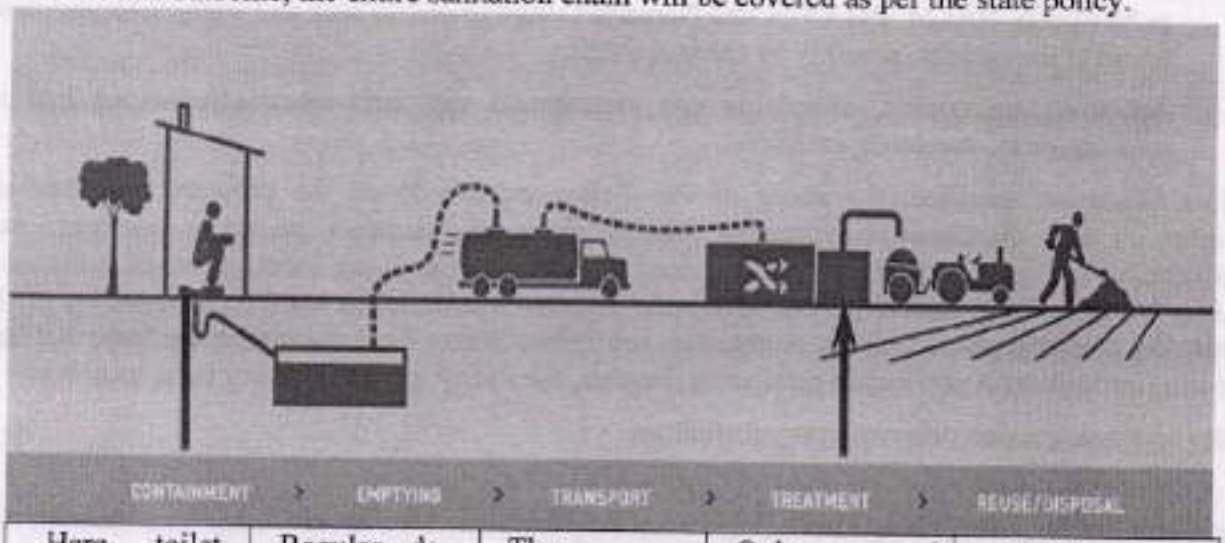
In addition, open discharge free, under this policy shall be understood to mean an environment free from human waste which shall be determined as follows:

A. There is no open discharge of faecal and liquid waste, or raw sewage into the open drains or environment
B. There is safe containment, collection, transportation, treatment, recycle and disposal of sewage, septage, and waste water.

3.2.2 Fecal Sludge and Septage Management

This outcome shall aim to ensure that wherever faecal waste is generated in the rural environment, it is safely confined, regularly collected, safely transported, and disposed after adequate treatment; with due care being taken of persons, machinery, materials and surroundings involved in the process. In Jharkhand, where the majority of households and institutions have access to on-site sanitation, the focus in the coming years of the policy will be on septage/ faecal sludge management (FSM).

Under this outcome, the entire sanitation chain will be covered as per the state policy.



Here toilet construction technologies will ensure safe containment of human faeces from the environment	Regular de-sludging of septic tanks and other on-site systems will be undertaken in a safe and scientific manner	The transportation of this sludge to the treatment site shall be undertaken to approved treatment sites designated by Panchayats	Only approved and designated treatment facilities by panchayats shall be used. This may be either at an existing Sewage Treatment Plant (STP) designated for treatment of sewage and sludge.	This involves treatment of solid sludge for reuse by composting, with the final effluent discharged into surface water, or re-used for gardening or agricultural purposes after due processing

The key objective of the FSSM Policy is to set the context, priorities, and direction for, and to

facilitate, state-wide implementation of FSSM services in all panchayats such that safe and sustainable sanitation becomes a reality for all in each and every household, street, town and city. More specifically, the Policy will:

i. Mainstream FSSM by the year 2019, and ensure that all benefits of wide access to safe sanitation accrue to all citizens across the sanitation value chain from containment, extraction, transportation, treatment, and disposal / re-use of all Faecal sludge, septage and other liquid waste and their by-products and end-products.

ii. Suggest and identify ways and means, including the methods and resources, towards creation of an enabling environment for realising safe and sustainable FSSM in Jharkhand

iii. Define the roles and responsibilities of various government entities and agencies, and of other key stakeholders such as the private sector, civil society organisations and citizens for effective implementation of FSSM services.

iv. Enable and support synergies among relevant Central and State Government programs such as SBM (G), NRLM, PMAY-R and Namami Gange to realise safe and sustainable sanitation for all at the earliest, possibly by the year 2020.

v. Adopt an appropriate, affordable and incremental approach towards achieving laid out environmental standards for FSSM.

Unless otherwise specified, the scope of this Policy extends to all the projects, programs and schemes of the Jharkhand Government that facilitate and support sanitation services, rural development and improved delivery of services in rural areas and any other approved program or scheme by the private sector. It also covers the initiatives undertaken and/or supported by all the Ministries, Departments, Agencies, Authorities and Public Sector Undertakings in the State that have a bearing on sanitation services in rural areas. Further, the Policy applies to every rural local body.

Policy implementation roles and responsibilities

Responsibility for Establishing Basic Regulatory Requirements for Faecal Sludge Management rests with PRIs. Jharkhand Swasashan Parishad (JSP) will maintain an oversight role and will Integrate and interpret the requirements of the several applicable Federal laws and issue regulations and guidance to ensure that they are applied consistently toward sludge management in PRI areas.

Establish regulatory requirements that promote beneficial sludge use:

1. Provide standards that establish contaminant levels and management practices for acceptable municipal sludge use and disposal:

2. Establish minimum requirements for Jharkhand State sludge management programs providing sufficient discretionary authority for States to tailor their programs and actions to local variation:

3. Enforce adherence to Federal requirements where not enforced by PRIs:

4. Provide guidance and information on sludge treatment technologies and practices and direct technical assistance to States and local governments:

5. Support research and development, and encourage the demonstration of projects to facilitate the advancement and use of new or improved technologies.

Responsibility to Operate and Maintain Appropriate Sludge Management Systems Rests with Panchayat Raj Insitutions.

i. Panchayats are responsible for operating and maintaining sludge management systems which comply with applicable Federal and State regulatory requirements.

ii. Panchayats are responsible for maintaining sludge use and disposal capacity sufficient to meet the needs of their wastewater treatment systems.

iii. Panchayats are responsible for controlling the discharge of contaminants into their sewerage systems so that sludge quality is suitable for meeting regulatory requirements and local management

The policy specifically endorses the following core principles:

i. To protect public health

ii. To protect the environment and the State's water resources

iii. Treatment of sewage and sludge is required prior to discharge into the environment

iv. Promoting recycle & reuse of treated sewage/septage for non-portable applications.

v. To make Sewerage/septage project economical and environmentally sustainable.

vi. Inclusive and participatory decision making.

vii. Transparent decision making processes to achieve socio-environmental as well as economic financial objectives

viii. Capacity building for enhanced institutional ability to govern the sector effectively.

x. Public Private Partnership (PPP) in the most appropriate manner.

xi. Public outreach for environmental and health related outcomes.

xiii. Establishment of an efficient, effective, affordable and accountable system for managing urban sewerage and septage management

3.4 Safety standards and guidelines are followed in the physical handling and management of liquid waste

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act was passed by the Union Government on 19th September 2013 (MSA 2013). While the list of definitions is exhaustive under the MSA 2013, the following definitions are important for the current Policy and have been reproduced below for ready reference:

- "***manual scavenger***" means a person engaged or employed, at the commencement of this Act or at any time thereafter, by an individual or a local authority or an agency or a contractor, for

manually cleaning, carrying, disposing of, or otherwise handling in any manner, human excreta in an insanitary latrine or in an open drain or pit into which the human excreta from the insanitary latrines is disposed of, or on a railway track or in such other spaces or premises, as the Central Government or a State Government may notify, before the excreta fully decomposes in such manner as may be prescribed, and the expression "manual scavenging" shall be construed accordingly

"***hazardous cleaning***" means cleaning by an employee, in relation to a sewer or septic tank, means its manual cleaning by such employee without the employer fulfilling his obligationsto provide protective gear and other cleaning devices and ensuring observance of safety precautions, as may be prescribed or provided in any other law, for the time being in force or rules made there under

- "***insanitary latrine***" means a latrine which requires human excreta to be cleaned or otherwise handled manually, either in situ, or in an open drain or pit into which the excreta are discharged or flushed out, before the excreta fully decomposes in such manner as may be prescribed. Provided that a water flush latrine in a railway passenger coach, when cleaned by an employee with the help of such devices and using such protective gear, as the Central Government may notify in this behalf, shall not be deemed to be an in sanitary latrine.

3.5 Women and girls have access to safe menstrual hygiene management(MHM)

In 2012, the Joint Monitoring Programme (JMP) of the WHO and UNICEF defined Menstrual Hygiene Management as follows: "Women and adolescent girls are using a ***clean menstrual management material*** to absorb or collect menstrual blood, that can be ***changed in privacy as often as necessary*** for the duration of a menstrual period, ***using soap and water for washing*** the body as required, and having ***access to safe and convenient facilities to dispose*** of used menstrual management materials. They ***understand the basic facts*** linked to the menstrual cycle and ***how to manage it with dignity and without discomfort or fear".***

The key challenges faced by women and girls during their periods of menstruation include:

1. A lack of sanitary protection materials leading to embarrassment and stress due to leakage andmalodour.
2. A lack of menstrual hygiene-friendly facilities in the home, workplace, and common/community areas, which results in a number of women being unable to change materials in dignity and safety. This results in absence from work and schools.
3. A fear of using the latrine due to staining, the lack of privacy, inadequate disposal facilities, or unsafe location of latrine facilities.

3.6 Cities/towns do not discharge untreated waste (solid, liquid, and faecal waste) into the water bodies of Jharkhand

The aim of this outcome is the elimination of pollutants – septage / faecal sludge, and solid waste – into the rivers and river basins of the state and thus ensuring the protection, conservation restoration, regeneration and integrated development of river sand river basins in Jharkhand.

At present, disposal of septage /sludge is directly discharged into water bodies, either though non-functional drains, natural drains, or through open defecation. This is compounded by solid waste being disposed into rivers/river basins. Under this outcome, focus will be on a combination of strengthening the constructed drainage systems, strong FSM / septage management, and/or underground sewerage networks where relevant (including treatment plants), and interception, diversion, and treatment of septage and waste water flowing through natural drains

3.7Waste Water Recycling and Reuse

On Resource Development

Wastewater is a perennial water source and shall form an integral part of renewable water resources and the State water budget. All local governance bodies will make panchayat wastewater reuse plan for a period of 10 years considering future development.

Treatment of wastewater shall be targeted towards producing an effluent fit for reuse in irrigation or horticulture. Coordination shall be maintained with the official bodies in charge of rural development to account for the treatment and disposal of their liquid wastes. Treatment plants shall be built to serve areas, and collection of wastewater can be made initially through trucking until collection systems are justified. Specifications and minimum standards as stipulated by Central Public Health and Engineering Department (CPHEEO) shall be applicable for the use of septic tanks in rural areas. Particular attention shall be paid to the protection of underlying aquifers.

On Wastewater Collection and Treatment

Panchayat Plan A proper and updated panchayat plan is an essential pre-requisite for proper planning and design of all utilities and more so for the Sewerage Systems and water recycled from houses. The State shall endeavor to have proper digital panchayat maps showing the levels prepared through modern available technology. The digital panchayat maps should clearly show the city feature over ground and underground including all utilities. Geographical Information System (GIS), Ground Penetrating Radar (GPR), Total station etc. tools may be used for preparation of panchayat map. The panchayat maps should be updated for every 5 years. An effective and comprehensive GIS based data base and Management Information System correctly mapping the assets, user base and status of operations shall be established.

Design Period: Every panchayat has to prepare a Wastewater Recycling Plan for next 10 years along with 5 year short term plan. The plan for the panchayat should take into account the likely changes in

the panchayat in next 10 years and plan for them and will be according to city Master plan. The Detailed Project Report (DPR) for recycling should be in accordance to waste water recycling plan.

On Reuse of Treated Effluent and Sludge

i. Treated wastewater effluent is considered a water resource and is added to the water stock for reuse.
ii. Blending of treated wastewater with fresh water shall be made to improve quality where possible.
iii. Crop nutrient requirements shall be determined taking into consideration the prevailing effluent quality. Overuse of nutrients shall be avoided.
iv. Accumulation of heavy metals and salinity shall be monitored, managed and mitigated. Leaching of soils shall be advocated by the irrigation authorities.
v. Treated effluent quality should be monitored and users alerted to any emergency causing deterioration of the quality so that they will not use such water unless corrective measures are taken.
vi. Studies should be conducted and projects designed and implemented to store the excess treated wastewater in surface reservoirs but artificial recharge is not permitted. Due attention shall be given to the quality of treated and groundwater and the characteristics of the strata.

Re-use Options: The following options or re–use of effluent have been identified: In general, public health concern is the major issue in any type of reuse of wastewater, be it for irrigation or non-irrigation utilization, especially long-term impact of reuse practices. It is difficult to delineate acceptable health risks and is a matter that is still debated. Potential reuse of wastewater depends on the hydraulic and biochemical characteristics of wastewater, which determine the methods and degree of treatment required. While agricultural irrigation reuses, in general, require lower quality levels of treatment, domestic reuse options (direct or indirect potable and non-potable) reuses need the highest treatment level. Level of treatment for other reuse options lie between these two extremes. The reuse options may be (artificial recharge of aquifers is not permitted):

i. Irrigation (a) Agriculture, horticulture and forestry (b) Landscaping
ii. Fish – farming
iii. Industry
iv. Non-potable Domestic Reuse:

The detailed project report should clearly define the best reuse option particular to town and strategy to obtain it. Action plan with clarity should be the part of Detailed Project Report (DPR), while preparing sewerage Projects. Before deciding the reuse of treated waste water authority must full fill the water quality norms and its legal implications.

Governing local body may sell the treated waste water and digested sludge to generate the revenue.

CHAPTER 4

SECTION II –SOLID WASTE MANAGEMENT

4.0 Solid Waste is safely managed and treated

Between March and April 2016, the Ministry of Environment, Forest and Climate Change, Government of India notified the following rules:

i. Solid Waste Management Rules, 2016;
ii. E- Waste (Management) Rules, 2016;
iii. Plastic Waste Management Rules, 2016;
iv. Construction and Demolition Waste Management Rules, 2016;
v. Bio-Medical Waste Management Rules, 2016; and
vi. Hazardous and Other Wastes (Management and Transboundary Movement) Rules,2016 and
vii. Batteries (Management and Handling) Rules 2001

4.1 Solid Waste

According to the SWM Rules 2016, solid waste includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste, and other non-residential waste, street sweeping, silt removed or collected from surface drains, horticultural waste, agriculture and dairy waste, treated bio-medical waste. This excludes industrial hazardous waste, untreated bio-medical waste and e-waste, battery waste, and radio-active waste. Municipal Solid Waste Management (MSWM) refers to a systematic process that comprises of waste segregation and storage at source, primary collection, secondary storage, transportation, resource recovery, processing, treatment, and final disposal of solid waste.

4.2 Approaches for Solid Waste Management

4.1.1Decentralized and Centralized approach

4.1.2 Management of Multiple Solid Waste streams

4.1.3 Hierarchy of Waste Management – 5 Rs (Reduce - waste generator, Reuse – waste generator/ companies/ government, Recycle/ Refurbish - waste generator/ NGOs/ companies, Recover - company and Remove – NGO/ company/ government).

4.1.4 Strategy and Service outcomes:

The overall strategy is to ensure 100% compliance to the SWM Rules 2016 and related legislations and judgement of NGT w.r.t to solid waste in all the cities, towns and rural areas through multi stakeholder partnership approach.

- The specific strategy are: 100% Door to Door collection and Source Segregation
- Efficient collection and safe and segregated transportation of wastes generated in the cities 100%
- treatment and scientific disposal facility & cost recovery
- Better awareness among the rural population and community mobilization participation

- ❖ Capacity Enhancement and Optimization of the human resources in SWM
- ❖ Strengthen the existing bye-laws for better regulation and user charges
- ❖ Encourage PPP in developing integrated treatment and disposal in scientific & safe manner.

4.3 Key Issues of Solid Waste Management:

- ➢ Panchayats lack resources, systems and capacity for development of treatment and disposal of solid waste.
- ➢ Lack of substantial capital and O&M expenses without corresponding and matching revenues
- ➢ Lack of support in financial, technical and project development at state level to Panchayats in identifying right technologies, processes, structuring projects and implementation. The role of the technical and advisory agencies.
- ➢ Lack of awareness about the importance of good SWM practices especially about waste segregation
- ➢ Lack of technical expertise and institutional arrangements Inadequate equipment and inappropriate technology choices
- ➢ Lack of willingness to charge user fees provisions in Panchayat Act for levy of user charges
- ➢ Lack of Capacity in Panchayats with reference to the processing technologies and scientific landfills even after a decade.
- ➢ Involving rag pickers and SHG in the waste management.

4.4 Strategic Interventions

The proposed Strategy employs the eleven (11) main elements:

I. Providing land for the setting up processing plant and Scientific Landfill facility
II. Segregation of waste at source
III. Door to Door Collection of Waste generated
IV. Waste minimization and promotion of recycling of waste
V. Engaging stakeholders in implementation
VI. Promotion of in-house composting facilities
VII. Promotion of reuse of plastic waste
VIII. Processing, Treatment and Disposal of Waste
IX. Strengthening the capacities of the Panchayats
X. State Level Institutional arrangements & Program support
XI. Funding of the SWM projects

4.5 Future Plan:

Department of Rural Development (Panchayati Raj) will initiate the process of preparation of an action plan to provide efficient management of Solid Waste Management. The cluster approach is viable for the all panchayats of the state for processing and landfilling site.

Considering the facts that the operation and maintenance of the SWM projects require considerable skill and marketing of by products, the Government may decided to execute these projects on PPP mode on the basis of " Design, Built, Operate and Transfer" on a concession period of minimum 20 years.

4.6 Technology Approach and Initiatives:

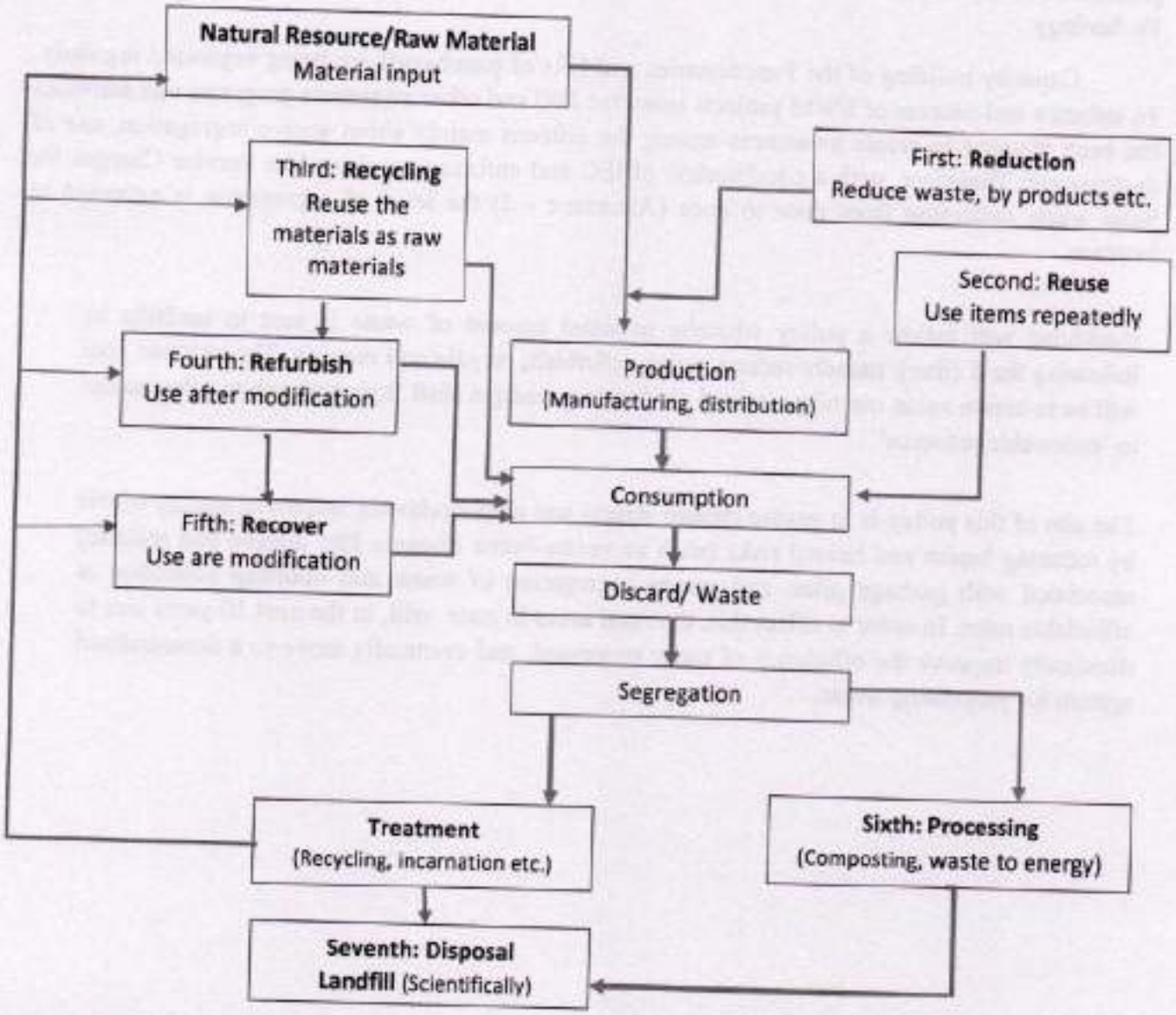
All the treatment strategies for Solid Waste (MSW) are directed towards reducing the amount of MSW that needs be land filled as well as utilizing the materials present in the waste as a resources

to the largest possible extent. Study as to be done on characteristic and quantity of the waste generated in Rural areas. Based on the study, DPRs may be prepared based on Waste to Composting Technology.

Capacity building of the Functionaries and ERs of panchayats are being organised regularly. To enhance and success of SWM projects intensive IEC and other awareness programs and activities has been planned to create awareness among the citizens mainly about source segregation, use of dustbins etc. Therefore, with a combination of IEC and enforcement drive like Service Charges for Solid waste collection from door to door (Annexure – I) the level of segregation is expected to increase.

Jharkhand will follow a policy whereby minimal amount of waste is sent to landfills by following the 5 (five), namely reduce, reuse, refurbish, recycle and recover. The ultimate goal will be to create value out of waste and produce a paradigm shift from garbage as 'disposable' to 'renewable resource'.

The aim of this policy is to ensure cleaner streets and neighborhoods, improved quality of life by reducing health and hazard risks (such as vector-borne diseases like dengue and malaria) associated with garbage piles, and ensure segregation of waste and doorstep collection at affordable rates. In order to effect this, the rural areas in state will, in the next 10 years aim to drastically improve the efficiency of waste processed, and eventually move to a decentralized system for processing waste..



Schematic Diagram for Waste Management

Minutes of Meeting held on 16.09.2019 in the Conference Hall of Chief Secretary Office, Project Bhawan, Ranchi.

A meeting under the Chairmanship of Dr. D.K. Tiwari, IAS, Chief Secretary, Govt. of Jharkhand on the compliance of direction order dated 12.07.2019 of Hon'ble NGT, Principal Bench, New Delhi in O.A No. 606 of 2018 held on 16.09.2019 in the conference hall of Chief Secretary, Govt. of Jharkhand. The attendance sheet is annexed as Annexure 1.

The new issues as per the direction of Hon'ble NGT in order dated 12.07.2019 Delhi in O.A. No. 606 /2018 in which the Chief Secretary needs to address during his personal appearance are as follows:-

a) Atleast three major cities, and three major towns in the State, and atleast three villages in every District of the State may be notified on the website within two weeks from today(if not already notified) as model villages which will be made fully compliant within the next six months. Remaining cities, towns and villages of the State may be made fully compliant in respect of environmental norms within one year.

b) A quarterly report be furnished in every three months. First such report shall be furnished by October, 10, 2019.

c) The District Magistrates may monitor the status of compliance of environmental norms, atleast once in two weeks. The District Magistrates or other Officers may be imparted requisite training.

d) The District Magistrates or other Officers may be imparted requisite training.

e) Estimate of value of environmental degradation and cost of restoration be prepared and compensation be planned and recovered from polluters for environmental restoration and restitution on that basis.

f) Performance audit of functioning of all regulatory bodies may be got conducted and remedial measures be taken, within six months.

g) Introduction of a policy of giving ranking, based on performance on the subject of environment and giving of rewards or other incentives on that basis to individual areas, localities, institutions or individuals may be considered. This may also include encouraging students or other citizens significantly contributing to the cause of environment. The best practices may be evolved, if necessary, in the light of experiences on the subject. This may help in educating and involving public at large which may help in enhancing of environmental laws.

After deliberation and subsequent discussion, Chief Secretary has given the following directions:-

1. Government will ban certain single use plastic products from all government and attached offices from 2nd Oct, 2019. Government will also issue instructions for

minimum use of some other Single Use Plastic products in all government and attached offices from 2nd October, 2019.

2. Secretary, Urban Development and Housing Department shall identify two more towns (apart from 3 cities which have been already notified and uploaded on their website) to be made fully compliant.
3. The concerned departments will submit their revised updated reports to JSPCB w.r.t. Solid Waste Management Rules, 2016; Plastic Waste Management Rules, 2016; Bio-Medical Waste Management Rules, 2016 & Construction & Demolition Waste, 2016 by 30/09/2019 to JSPCB.
4. Secretary, Panchayati Raj will identify 3 villages from each district (which shall be notified and upload the same on their website) to be made fully compliant.
5. Secretary, Industries Department will get a website developed and upload the details of STPs, ETPs, CETPs on the Website and link it to the website of JSPCB also.
6. Secretary, Department of Health and Family Welfare will issue notices to those healthcare units who have not applied for Consent/Authorization/Bar Code till 31.09.2019.
7. Air Quality Action Plan for the non-attainment city, Dhanbad will be sent to CPCB by 30.09.2019 after addressing the queries raised by CPCB.
8. Updated timeframe and budgetary provisions will be given for the non-attainment city by the Director, SUDA, Transport Commissioner and Director Industries.
9. Details on total sewage generation and budgetary provisions for treatment of sewage will be furnished for all the river stretches by the Secretary, Urban Development and Housing Department.
10. Secretary, Water Resource Department will provide information about action taken with respect to the E-Flow of the seven-polluted river stretches.
11. Secretaries of Water Resource Department; Agriculture, Animal Husbandry and Co-Operative; Panchayti Raj Department and Urban Development and Housing Department shall provide to JSPCB by 27.09.2019 the necessary information required to prepare the action plan on restoration of water bodies in compliance of the directions as mentioned by Hon'ble NGT in O.A. No.- 325/2015.
12. Additional Chief Secretary, Govt. of Jharkhand, may take decision whether the Regional Monitoring committee constituted earlier in compliance of the Hon'ble NGT order in O.A. 606/2018 should continue its proceedings further or should be disabled.
13. JSPCB will prepare a format for District Environment Plan based on the Rules for a district and the same shall serve as a model for the other districts of the State.

14. UDD will prepare a proposal in co-ordination with the Industries Department for utilization/reuse of treated sewage water by the thermal power plants or other industries operating in Adityapur Industrial Cluster.
15. Secretary, Urban Development and Housing Department will sign a MoU with Patratu Thermal Power Plant (NTPC) after approval from the cabinet, to reuse the treated sewage water from all the STPs operating within 50 Kms. of Ranchi.
16. A single committee will be constituted at the District Level to look into all matters pertaining to O.A. No. 606/2018.
17. JSPCB will appoint an agency or may itself conduct an Environmental Performance Audit of all the local bodies of Jharkhand.
18. All concerned departments will submit reports by 30.09.2019 to JSPCB, so that the data can be reviewed and compiled.

The meeting ended with a vote of thanks to the Chief Secretary, Jharkhand.

Sd/-
D.K.Tiwari
(Chief Secretary)

झारखण्ड सरकार

वन, पर्यावरण एवं जलवायु परिवर्तन विभाग

ज्ञापांक –7/पर्या0प्रदू0(पाद)–05/2019– 3846 प0प0 राँची दिनांक– 03/10/2019

प्रतिलिपि–अपर मुख्य सचिव, जल संसाधन विभाग, झारखण्ड, राँची/प्रधान सचिव, ग्रामीण विकास विभाग, झारखण्ड, राँची/सचिव, नगर विकास एवं आवास विभाग, झारखण्ड, राँची/सचिव, स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग, झारखण्ड, राँची/सचिव, परिवहन विभाग, झारखण्ड, राँची/सचिव, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड, राँची/सचिव, उद्योग विभाग, झारखण्ड, राँची/परिवहन आयुक्त, परिवहन विभाग, झारखण्ड, राँची/निदेशक, राज्य शहरी विकास अभिकरण, नगर विकास एवं आवास विभाग, झारखण्ड, राँची/निदेशक, उद्योग विभाग, झारखण्ड, राँची/निदेशक, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड, राँची/सदस्य सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण पर्षद, राँची को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

3/10/19
(सुनील कुमार)
विशेष कार्य पदाधिकारी

Annexure- E

JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.:2400852, 2400851, Fax:0651- 2400850, Web Site – www.jspcb.nic.in

Ref. No:- B-415

Ranchi, Dated:- 24.04.2019

From,

Rajeev Lochan Bakshi,
Member Secretary

To,

Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, Karkarduma,
Delhi- 110032

Sub:- **Nomination of Sri Dinesh Prasad Singh, Environmental Engineer as Nodal Officer for compliance of the Hon'ble NGT order dated 03.08.2018 in the matter of Paryavaran Suraksha Samiti & Anr. V/S Union of India & Ors. (OA NO. 593/2017) -regarding.**

Ref: Letter No.B-29012/IPC-VI/2019-20/667 dated 11.04.2019.

Sir,

With reference to above it is to inform you that Sri Dinesh Prasad Singh, Environmental Engineer, Mobile NO- 8987790969, 9431371137, e mail id- ranchijspcb@gmail.com is hereby nominated as Nodal Officer for compliance of the Hon'ble NGT order dated 03.08.2018 in the matter of Paryavaran Suraksha Samiti & Anr. V/S Union of India & Ors. (OA No. 593/2017).

It is for your kind information and necessary action.

Yours faithfully,

(Rajeev Lochan Bakshi)
Member Secretary

Trkey/Missl/194

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Sd/-
D.K.Tiwari
(Chief Secretary)

झारखण्ड सरकार

वन, पर्यावरण एवं जलवायु परिवर्तन विभाग

ज्ञापांक –7/पर्या0प्रदू0(पाद)–05/2019– 3846 प0प0 राँची दिनांक– 03/10/2019

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3/10/19
(सुनील कुमार)
विशेष कार्य पदाधिकारी

कार्यालय, नगर निगम, आदित्यपुर

पत्रांक 1748

प्रेषक,

कार्यपालक पदाधिकारी
नगर निगम, आदित्यपुर।

सेवा में,

श्री अमीत कुमार,
निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखण्ड सरकार, राँची।

दिनांक 18.6.19

विषय : प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग : मवदीय पत्रांक 1099 दिनांक 14.06.19।

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध के कहना है कि OA No. 325/2015 में माननीय NGT का दिनांक 10.06.19 के द्वारा निम्न बिन्दुओं पर प्रतिवेदन की मांग की गई है, जो इस प्रकार है :–

क्र0 सं0	प्रश्न	प्रतिवेदन
1	No. of water bodies selected for restoration.	03
2	Details of fund received from Central Govt. (Water Body wise fund received and the funding agency)	NIL
3	No. of Water bodies restored completely so far and no. of water bodies under restoration at present.	No. of water bodies under restoration : 03
4	Water body wise action plans proposed and implemented for restoration.	1) Swarnrekha River – Construction of Chhath Ghat. 2) Kharkai River – Constrcution of Sewerage Plan is on Process so that sewer water not flow directly to river. 3) Yamuna Bandh Talab - Cleaning of Jalkumbhi and waste thrown in water.

विश्वासभाजन,

18/6/19

कार्यपालक पदाधिकारी
नगर निगम, आदित्यपुर

पत्रांक - SUDA/SBM/ SWM/ 18 – 2017...1099.....

झारखण्ड सरकार
नगर विकास एवं आवास विभाग
राज्य शहरी विकास अभिकरण

प्रेषक,

अमीत कुमार, भा०प्र०से०
निदेशक।

सेवा में,

नगर आयुक्त /कार्यपालक पदाधिकारी / विशेष पदाधिकारी,
सभी नगर निकाय
झारखण्ड।
परियोजना निदेशक (तकनिकी), JUIDCO

राँची/दिनांक 14/06/19

विषय: प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग: केन्द्रीय प्रदूषण नियंत्रण बोर्ड का पत्रांक: A-14011/1/2019-WQM-I, दिनांक: 30.05.19

महाशय,

उपर्युक्त प्रासंगिक विषयक पत्र (छायाप्रति संलग्न) के संबंध में कहना है कि OA No – 325/ 2015 में माननीय NGT का दिनांक 10.05 in the ULB:

1. No. of water bodies selected for restoration:
2. Details of fund received from Central Govt. (Water Body wise fund received and the funding agency.)
3. No. of water bodies restored completely so far and no. of water bodies under restoration at present.
4. Water body wise action plans proposed and implemented for restoration.

अतः निदेशित किया जाता है कि उक्त सूचनाएं तीन दिनों के अन्दर अधोहस्ताक्षरी को उपलब्ध कराना सुनिश्चित करें ।

अनु०: यथोक्त।

विश्वासभाजन
14/06/19
(अमीत कुमार)
निदेशक।

कार्यालय नगर पंचायत, राजमहल

पत्रांक : 493 /न0पं0 दिनांक : 18/06/19

प्रेषक,

कार्यपालक पदाधिकारी,
नगर पंचायत,
राजमहल।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखंड, राँची।

विषय : प्रतिवेदन समर्पित करने के संबंध में।

प्रसंग : भवदीय पत्रांक :– 1099 दिनांक :– 14.06.2019

महाशय,

उपर्युक्त प्रासंगिक विषय के संबंध में कहना है कि इस निकाय क्षेत्रान्तर्गत एक Water Body है। Water Bodies से संबंधित वाँछित बिन्दुवार प्रतिवेदन इस प्रकार है :–

Sl. No.	Questions	Answers
1	No. of water bodies selected for restoration	0
2	Details of fund received from Central Govt. (Water Body wise fund received and the funding agency)	Nil
3	No. of water bodies restored completely so far and no. of water bodies under restoration at present	0
4	Water body wise action plan proposed and implemented for restoration	0

सादर सूचनार्थ समर्पित।

विश्वासभाजन

18/06/19

कार्यपालक पदाधिकारी
नगर पंचायत
राजमहल।

christina.n 18/06/19

कार्यालय नगर परिषद गढ़वा

पत्रांक 672

प्रेषक,

कार्यपालक पदाधिकारी,
नगर परिषद गढ़वा।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखण्ड, राँची।

गढ़वा, दिनांक 17/04/19

विषय :– प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग :– भवदीय पत्रांक 1099 दिनांक 14.06.2019

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में कहना है कि OA No. – 325/2015 में माननीय NGT का दिनांक 10.05.2019 द्वारा माँगी गई की सूचनाओं की विवरणी निम्नांकित हैं :–

Sl. No.	Question	Answer
1	No. of water bodies selected for restoration	03
2	Details of fund received from Central Govt. (Water Body wise fund received and the funding agency)	Nil
3	No. of water bodies restored completely so far and no. of water bodies under restoration at present.	01
4	Water body wise action plans proposed and implemented for restoration.	Only 02 water body restoration under process.

विश्वासभाजन

17/04/19

कार्यपालक पदाधिकारी,
नगर परिषद गढ़वा।

पत्रांक - SUDA/SBM/ SWM/ 18 – 2017...1099...

झारखण्ड सरकार
नगर विकास एवं आवास विभाग
राज्य शहरी विकास अभिकरण

प्रेषक,

अमीत कुमार, भा०प्र०से०
निदेशक।

सेवा में,

नगर आयुक्त /कार्यपालक पदाधिकारी / विशेष पदाधिकारी,
सभी नगर निकाय
झारखण्ड।
परियोजना निदेशक (तकनिकी), JUIDCO

राँची/दिनांक 14/06/19

विषय: प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग: केन्द्रीय प्रदूषण नियंत्रण बोर्ड का पत्रांक: **A-14011/1/2019-WQM-I, दिनांक: 30.05.19**

महाशय,

उपर्युक्त प्रासंगिक विषयक पत्र (छायाप्रति संलग्न) के संबंध में कहना है कि OA No – 325/ 2015 में माननीय NGT का दिनांक 10.05 in the ULB:

1. No. of water bodies selected for restoration:
2. Details of fund received from Central Govt. (Water Body wise fund received and the funding agency.)
3. No. of water bodies restored completely so far and no. of water bodies under restoration at present.
4. Water body wise action plans proposed and implemented for restoration.

अतः निदेशित किया जाता है कि उक्त सूचनाएं तीन दिनों के अन्दर अधोहस्ताक्षरी को उपलब्ध कराना सुनिश्चित करें।

अनु०: यथोक्त।

विश्वासभाजन
14/06/19
(अमीत कुमार)
निदेशक।

कार्यालय नगर पंचायत, राजमहल

पत्रांक : 492 /न0पं0 दिनांक : 18/06/19

प्रेषक,

कार्यपालक पदाधिकारी,
नगर पंचायत,
राजमहल।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखंड, राँची।

विषय : जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट के डंपिंग संबंधी प्रतिवेदन समर्पित करने के संबंध में।

प्रसंग : भवदीय पत्रांक :– 1107 (अनु0) दिनांक :– 18.06.2019

महाशय,

उपर्युक्त प्रासंगिक विषय के संबंध में कहना है कि इस निकाय क्षेत्रान्तर्गत जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट नहीं फेंका/डंप किया जाता है। नगर पंचायत, राजमहल क्षेत्रान्तर्गत ठोस अपशिष्ट प्रबंधन हेतु भूमि अधिग्रहित किया गया है, जिसकी नदी से पर्याप्त दूरी है एवं उपरोक्त भूमि पर ही ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट फेंका/डंप किया जाता है। संबंधित प्रतिवेदन इस पत्र के साथ संलग्न कर सादर सूचनार्थ समर्पित।

अनु0 :– यथोक्त।

विश्वासभाजन

18/06/19

कार्यपालक पदाधिकारी
नगर पंचायत
राजमहल।

christina.k
18/06/19

कार्यालय नगर पंचायत, राजमहल

पत्रांक :– ...../न0 पं0 दिनांक :– .....

कार्यालय आदेश

स्वच्छ भारत मिशन के अन्तर्गत निम्नलिखित गंगा नदी के घाटों एवं नालों की सप्ताह में एक बार झाड़ू एवं सफाई कार्य करने हेतु निम्नलिखित योजनानुसार स्वीपर (सफाई कर्मचारी) को अगले आदेश तक के लिए प्रतिनियुक्त किया जाना है :–

क्र0	गंगा नदी के घाटों का नाम	संबंद्ध वार्ड	प्रतिनियुक्त किये जाने हेतु सप्ताह का दिन	प्रतिनियुक्त किये जाने हेतु सफाई कर्मियों की संख्या
1	महाजनटोली घाट	01	सोमवार, बुधवार, शनिवार	01
2	नीलकोठी घाट	02	सोमवार, बुधवार, शनिवार	01
3	कासिम बाजार घाट	03	सोमवार, बुधवार, शनिवार	01
4	एल.सी.टी. घाट	06	सोमवार, बुधवार, शनिवार	01

वार्ड जमादार/PIU को आदेश दिया जाता है कि गंगा नदी के घाटों एवं नालों की सप्ताह में तीन दिन झाड़ू एवं सफाई कार्य करने हेतु उपरोक्त योजनानुसार स्वीपर (सफाई कर्मचारी) की प्रतिनियुक्ति करेंगे।

उक्त आदेश अगले आदेश तक के लिए प्रभावी होगा। 7.6.19

कार्यपालक पदाधिकारी
नगर पंचायत
राजमहल।

ज्ञापांक :– 468 दिनांक :– 07/06/19

प्रतिलिपि :– वार्ड ज़मादार/श्री जंग बहादुर यादव, PIU, नगर पंचायत, राजमहल को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित। 7.6.19

कार्यपालक पदाधिकारी
नगर पंचायत
राजमहल।

DC SBG

RAJAMAHL (JHARKHAND)

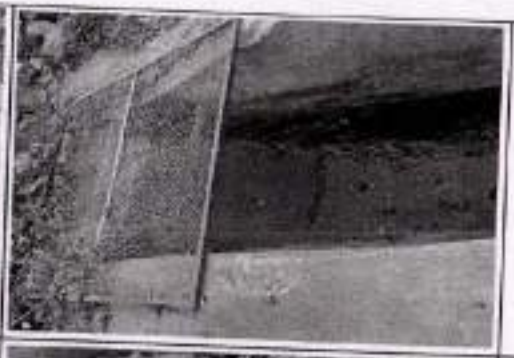
POPULATION CATEGORY- <1LAKH (22,514 AS PER 2011 CENSUS)

REPORT OF DRAINS HAVING SCREENS INSTALLED

SL NO.	CATEGORY	PARAMETERS	RAJMAHAL	INFERENCE BY QCI	COMPLIANCE BY ULB
1	NULLAHS & SCREENS	NULAHS DISCHARGED INTO RIVER	3 NULLAHS	THREE NULLAS GETTING DISCHARGED DIRECTLY INTO THE RIVER	NULLAS ARE GETTING WEEKLY CLEAN UP
		NULLAHS HAVING SCREENS INSTALLED	0N	NO FUNCTIONAL SCREENS INSTALLED ON IT	SCREENS IN ALL THE 4 DRAINS ARE INSTALLED

TOTAL DRAINS- 4

SL NO.	WARD	LOCATION	SCREEN	PICTORIAL EVIDENCE	PICTORIAL EVIDENCE	REMARKS
1	2	NILKOTHI GHAT	1			
2	2	MAHAJANTOLI GHAT	1			SCREEN IS PLACED INSIDE THIS DRAIN WHILE CONSTRUCTION BY NPCC

3	3	KASIM BAZAR GHAT	1			
4	6	LCT/LAUNCH GHAT	1			

MOMENTUM JHARKHAND
The investment destination

झारखण्ड सरकार

कार्यालय नगर पंचायत, बासुकिनाथ
(बासुकिनाथ, जिला–दुमका)

email-nagarpanchayatbasukinath@gmail.com/nagarpanchayatbasukinath@yahoo.in

पत्रांक...661.../ न0पं0

प्रेषक,

कार्यपालक पदाधिकारी,
नगर पंचायत, बासुकिनाथ

सेवा में,

निदेशक,
नगरीय प्रशासन निदेशालय,
नगर विकास एवं आवास विभाग,
झारखण्ड, राँची

बासुकिनाथ, दिनांक...12/6/2019

विषयः- जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट के डपिंग के संबंध में।

प्रसंगः- भवदीय पत्रांक 1107/ दिनांक 18.06.2019

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में सादर कहना है कि निकाय अंतर्गत जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट को फेका / डंप नही किया जाता है।

विश्वासभाजन
For: [illegible]
कार्यपालक पदाधिकारी
नगर पंचायत, बासुकिनाथ

कार्यालय, देवघर नगर निगम, देवघर

पत्रांक 1629

प्रेषक,

नगर आयुक्त,
देवघर नगर निगम, देवघर।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण (SUDA),
नगर विकास एवं आवास विभाग,
झारखण्ड सरकार, राँची।

देवघर/दिनांक 20.06.2019ई0।

विषय :– जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट के डंपिंग के संबंध में।

प्रसंग :– भवदीय पत्रांक 1107, दिनांक 16.06.19

महाशय,

उपरोक्त विषय के संबंध में कहना है जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट नहीं फेंका/डंपिंग किया जाता है। देवघर नगर निगम क्षेत्रान्तर्गत ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट का Processing ठोस अपशिष्ट प्रबंधन प्लांट में किया जाता है।

सादर सूचनार्थ।

विश्वासभाजन

नगर आयुक्त
देवघर नगर निगम, देवघर।

देवघर नगर निगम क्षेत्र में प्लास्टिक कैरी बैग प्रतिबंधित है।

कार्यालय नगर परिषद्, मधुपुर

पत्रांक :- 822/6-5

प्रेषक,

कार्यपालक पदाधिकारी,
नगर परिषद्, मधुपुर।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखण्ड, सरकार राँची।

मधुपुर दिनांक 20/6/2019

विषय :- जल निकायों के निकट ठोस अपशिष्टि एवं प्लास्टिक अपशिष्टि के डंपिंग के संबंध में।

प्रसंग :- भवदीय पत्रांक 1107, दिनांक - 18.06.2019

महाशय,

उपयुक्त विषयक प्रासंगिक पत्र के संबंध में कहना है कि मधुपुर नगर परिषद् क्षेत्रान्तर्गत जितने भी जल निकाय यथा नदी तालाब आदि हैं, के निकट ठोस एवं प्लास्टिक अपशिष्टि डंप नहीं किया जाता है। ठोस अपशिष्टि प्रबंधन नियम, 2016 का अनुपालन किया जाता है।

विश्वासभाजन

कार्यपालक पदाधिकारी
नगर परिषद्, मधुपुर।
22/6/19

मानगो नगर निगम का कार्यालय,जमशेदपुर –831012

पत्रांकः– em/2019/22

प्रेषक :

कार्यपालक पदाधिकारी,
मानगो नगर निगम,
जमशेदपुर।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एंव आवास विभाग,
झारखण्ड सरकार, राँची।

मानगो/दिनांकः– 20-06-19

विषयः– जल निकायो के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट डंपिंग के सम्बंध में ।
प्रसंगः– भवदीय का पत्रांक 1107 दिनांक 18.06.2019

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के सम्बंध में कहना है कि मानगो नगर निगम क्षेत्रान्तर्गत जितने भी जल निकाय यथा तलाब आदि के ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट डंपिंग नही किया जाता है। ठोस अपशिष्ट प्रबंधन नियम 2016 का अनुपालन किया जाता है।

विश्वासभाजन

20/06/19
20-06-19

कार्यपालक पदाधिकारी,
मानगो नगर निगम,
जमशेदपुर।

कार्यालय, नगर परिषद, मिहिजाम।

पत्रांक – 698 /एम0एन0पी0

प्रेषक,

कार्यपालक पदाधिकारी
नगर परिषद मिहिजाम।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखण्ड सरकार, राँची।

मिहिजाम, दिनांक 19/6/19

विषय – जल निकायों के निकट ठोस अपशिष्ट एवं प्लस्टिक अपशिष्ट के डम्पिंग के संबंध में।

प्रसंग – भवदीय पत्रांक–1107, राँची, दिनांक–18.06.2019

महाशय,

उपर्युक्त विषयक एवं प्रसंगाधीन पत्र के आलोक में सूचित करना है कि नगर परिषद, मिहिजाम क्षेत्रान्तर्गत अवस्थित लखू साव तालाब–वार्ड सं0–19 एवं भंडारी तालाब–वार्ड सं0–15 के निकट ठोस अथवा प्लास्टिक अपशिष्ट फेंकना प्रतिबंधित है तथा वर्तमान में इन स्थलों पर फेंका/डंप नही किया जाता है।

सादर सूचनार्थ समर्पित।

विश्वासभाजन

19/6/19

कार्यपालक पदाधिकारी
नगर परिषद, मिहिजाम

अनुलग्नक :– फोटोग्राफ।

17/06/19

19/6/19

19/6/19

17/06/19

कार्यालय नगर परिषद फुसरो (बोकारो)

पत्रांक 841 /न.प.

प्रेषक,

कार्यपालक पदाधिकारी,
नगर परिषद फुसरो।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग,
झारखण्ड राँची।

फुसरो, दिनांक 19/6/19

विषय – जल निकायों के निकट ठोस अपशिष्ठ एवं प्लास्टिक अपशिष्ट के डंपिंग के संबंध में।

प्रसंग – भवदीय पत्रांक–1107 दिनांक–18.06.2019

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में कहना है कि फुसरो नगर परिषद क्षेत्रान्तर्गत जितने भी जल निकाय यथा नदी तालाब आदि है, के निकट ठोस एवं प्लास्टिक अपशिष्ट डंप नही किया जाता है। ठोस अपशिष्ट प्रबंधन नियम, 2016 का अनुपालन किया जाता है।

सादर सूचनार्थ समर्पित।

विश्वासभाजन

20/6/19

कार्यपालक पदाधिकारी,
नगर परिषद फुसरो।

कार्यालय, नगर पंचायत, श्री बंशीधर नगर।

पत्रांक ..251.. / दिनांक 19.06.2019

प्रेषक,

कार्यपालक पदाधिकारी,
नगर पंचायत, श्री बंशीधर नगर।

सेवा में,

निदेशक,
राज्य शहरी विकास अभिकरण,
नगर विकास एवं आवास विभाग, रांची।

विषय :– जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट के डंपिंग के संबंध में।

प्रसंग :– भवदीय पत्रांक 1107, दिनांक 18.06.2019

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र द्वारा नगर पंचायत, श्री बंशीधर नगर क्षेत्रांतर्गत जल निकायों यथा नदी, तालाब आदि के निकट ठोस एवं अपशिष्ट फेंकना या डंप करने से संबंधित प्रतिवेदन उपलब्ध कराने हेतु निदेश प्राप्त है, के संदर्भ में कहना है कि नगर पंचायत क्षेत्रांतर्गत नदी, तालाब आदि के निकट ठोस एवं अपशिष्ट फेंकना या डंप नहीं किया जाता है।

सादर सूचनार्थ समर्पित।

विश्वासभाजन

19/6/19

कार्यपालक पदाधिकारी,
नगर पंचायत, श्री बंशीधर नगर।

19.6.19

पत्रांक:SUDA/SBM/विविध/45/2017 /..1107 (897)

झारखण्ड सरकार
नगर विकास एवं आवास विभाग
राज्य शहरी विकास अभिकरण

प्रेषक,

अमीत कुमार, भा०प्र०से०
निदेशक।

सेवा में,

नगर आयुक्त /कार्यपालक पदाधिकरी / विशेष पदाधिकारी,
सभी नगर निकाय
झारखण्ड।

रांची/दिनांक: 18/06/2019

विषय: **जल निकायों के निकट ठोस अपशिष्ट एवं प्लास्टिक अपशिष्ट के डंपिंग के संबंध में।**

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि माननीय NGT का आदेश दिनांक 07.05.2019 (छायाप्रति संलग्न) के आलोक में कहना है कि जल निकायों यथा नदी, तालाब आदि के निकट ठोस एवं प्लास्टिक अपशिष्ट फेकना या डंप नहीं किया जाना है।

अतः उक्त के आलोक में निदेश दिया जाता है कि यह सुनिश्चित किया जाए कि निकाय अंतर्गत जल निकायों के निकट ठोस एवं प्लास्टिक अपशिष्ट नहीं फेका / डंप किया जाए। इस आशय का प्रतिवेदन तीन दिनों के अन्दर उपलब्ध कराया जाए कि निकाय अंतर्गत जल निकायों के निकट ठोस एवं प्लास्टिक अपशिष्ट नहीं फेका / डंप किया जाता है।

जल निकायों के निकट ठोस अपशिष्ट डंप किया हुआ पाए जाने पर ठोस अपशिष्ट प्रबंधन नियम, 2016 के आलोक में कार्रवाई की जाएगी।

अनु०: यथोक्त

विश्वासभाजन

18/06/19

(अमीत कुमार)
निदेशक।

Annexure-I

CPCB recommendations related to compliance of recommendation of Monitoring Committee in its interim report for Jharkhand State Pollution Control Board

SN	Recommendation	Remarks
1.	Board may ensure:	
a)	To process applications within the stipulated time	Complied
b)	Inspection of units before grant of authorization, and enclosing uniform inspection format along with authorizations granted.	Complied
c)	Proper evaluation of the application, process of industry to identify additional hazardous and other waste generated (other than declared by unit) to include the same in authorization and ensure proper disposal of the same.	Complied
d)	Verification of closing of manifest documents and reconciliation of the same, alongwith verification of Annual return submitted by units.	Complied
e)	That all the domestic hazardous waste and fluorescent & other mercury containing lamps which are disposed at TSDF are reflected in their annual return.	As per information till date domestic hazardous waste and fluorescent & other mercury containing lamps not disposed.
f)	That mandatory amount is being deposited by common SLF in the Escrow Account and annually deposited amount is displayed on TSDF operator website.	Escrow Account has been opened recently.
2.	Board may initiate actions against such units who violated one or other provisions of HOWM Rules, 2016 such as failing to submit annual return within stipulated time.	Complied
3.	Initiate actions for setting up Domestic Hazardous waste collection centers in state and management of the same as per the HOWM Rules, 2016.	A Joint Waste Management Committee at district level under the chairmanship of DC/DM along with the member as specified in various waste management has been constituted.
4.		
a)	Formation of sectoral range of Hazardous waste generation.	Under Process
b)	Setting up lab for analysis of all HW parameters as required under HOWM Rules, 2016.	Central Laboratory, Ranchi is being facilitating for analysis of all hazardous waste parameters.
c)	Develop approach in recycle and utilization of HW in terms waste management hierarchy mandated in the rules across all the States in order to ensure the level playing field for the industry.	Complied

(Rajeev Lochan Bakshi)
Member Secretary

JHARKHAND STATE POLLUTION CONTROL BOARD

TOWNSHIP ADMINISTRATION BUILDING, HEC COMPLEX, DHURWA, RANCHI 834004
Telephone: 0651-2400850 (Fax)/ 2400851/2400852/2401847/2400979/2400139

Ref. No. B-1202 Ranchi, Dated 30/09/2019

From,

Rajeev Lochan Bakshi,
Member Secretary.

To,

The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi-110032.

Sub: - Annual Inventory Report of Hazardous and Other Waste Generation and their Management for year 2018-2019 – regarding.

Sir,

With reference to the above subject, this is to inform that the annual inventory report of Hazardous and Other Waste Generation and their Management for year 2018-2019 are enclosed for your needful action.

Thanking You.

Encl: A/a

Yours sincerely,

30/09/2019

(Rajeev Lochan Bakshi)
Member Secretary

KMB/75

O/C

Submission of Annual Inventory on Hazardous and Other Waste Management

Name of SPCB/PCC: Jharkhand State Pollution Control Board, Ranchi

Year: 2018-2019

A1 Details on Hazardous Waste Generation

S.No.	Name of the District	Total Number of HW Generating Industry	Number of Units possessing authorisation	Number of Units exempted from obtaining Authorisation	Number of HW Units submitted annual returns	Authorized Quantity of Hazardous Waste (Metric Tonne)				Total Quantity	*Quantity of Hazardous Waste generated as per Annual Return within the State/UT (Metric Tonne)				Total Quantity	Details on Import and Export of Hazardous Waste			
						Landfillable	Incinerable	Recyclable	Utilizable		Landfillable	Incinerable	Recyclable	Utilizable		Quantity of HW imported during the year	Type of HW	Quantity of HW exported during the year	Type of HW
					1	2	3	4	5		6	7	8	9		10	11	12	13
1	East Singhbhum	61	Nil	608	30	177089.53	1497.64	16628.97		195216.14	8900.16	387.76	9450.53	387479	406217.45	Nil	Nil	Nil	Nil
2	West Singhbhum	11	Nil	310	8	4057.37	284.85	651.04		4992.46	Nil	0.025	86.65		86.67	Nil	Nil	Nil	Nil
3	Saraikela Kharsawan	170	2	645	48	642.87	210.98	176.88		1030.73	201.36	139.68	104.68		445.72	Nil	Nil	Nil	Nil
4	Ranchi	43	41	712	10	2.5	2	2914.5	0	2919	2.5	2	2914.5	0	2919	Nil	Nil	Nil	Nil
5	Palamu.	8	8	536	2	1	0	15.6	0	16.6	1	0	15.6	0	16.6	Nil	Nil	Nil	Nil
6	Garhwa	5	1	117	0	0	0	1	0	1	0	0	1	0	1	Nil	Nil	Nil	Nil
7	Latehar.	3	3	189	0	0	0	3	0	3	0	0	3	0	3	Nil	Nil	Nil	Nil
8	Lohardaga	3	3	139	0	0	0	8	0	8	0	0	8	0	8	Nil	Nil	Nil	Nil
9	Simdega	4	0	68	0	0	0	0.3	0	0.3	0	0	0.3	0	0.3	Nil	Nil	Nil	Nil
10	Gumla	5	2	141	0	0	0	2.4	0	2.4	0	0	2.4	0	2.4	Nil	Nil	Nil	Nil
11	Khunti	3	1	99	0	0	0	0.2	0	0.2	0	0	0.2	0	0.2	Nil	Nil	Nil	Nil
12	Dhanbad	103	91	0	73	1000.99	294.5873	2287.564	219.2574	3802.3987	1.35005	275.15	115.85626	24.21477	416.57108	Nil	Nil	Nil	Nil
13	Bokaro	38	34	0	25	2830.2922	1195.925	11016.5607	45866.65	60909.4279	2497.51425	1182.00	2053.872338	43359.808	49093.194588	Nil	Nil	Nil	Nil
14	Giridih	21	Nil	286	1	0.942	....	50.884	17.932	69.758					0.091	Nil	Nil	Nil	Nil
15	Ramgarh	53	Nil	202	9	....	....	70.271	9.8532	80.1242			16.24	3.5258	19.7658	Nil	Nil	Nil	Nil
16	Chatra	6	Nil	111	0	....	....	16.684	.....	16.684						Nil	Nil	Nil	Nil
17	Hazaribagh	15	Nil	211	0		....	365.594	1.84	367.434									
18	Koderma	7	Nil	196	0			2.438	4.807	7.245									
19	Jamtara	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
20	Godda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
21	Pakur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
22	Deoghar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
23	Dumka	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
24	Sahebganj	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total		**559**	**186**	**4570**	**206**	**185625.4942**	**3485.9823**	**34211.8857**	**46120.3396**	**269442.9018**	**11603.8843**	**1986.615**	**14772.8286**	**430866.5486**	**459229.9625**	**0**	**0**	**0**	**0**

A2 Details on Inter-state Movement of Hazardous Waste for Recycling/ Utilisation/ Disposal

S. No.	Hazardous Waste	Hazardous Waste received from other State/UT		Hazardous Waste sent to	
		Name of State/UT from which waste received	Quantity received (MT)	Name of State/UT where waste sent (MT)	Quantity sent (MT)
		14	15	16	17
1	For disposal at common secured landfill	Nil	Nil	Nil	Nil
2	For disposal at common incinerator	Nil	Nil	Nil	Nil
3	For recycling by Schedule IV recyclers	Bihar,U.P,Assam,Uttarakhand,New Delhi,Rajasthan,Orrisa,Maharastra,Haryana,Himachal Pradesh,Punjab,Gujrat,W.B	1712	W.B.	2735.56
				Gujrat	39.98
				Maharashtra	217.098
				Haryana	118.58
				Punjab	149.59
				U.P.	20.721
4	For utilization in co-processing (cement plants)	Nil	Nil	Nil	Nil
5	For non-captive utilization based on CPCBs SOPs	Nil	Nil	Nil	Nil

A3 Details on Hazardous Waste Recycled and Utilized

S.No.	Name of the District	Recycling/Utilization of hazardous waste (generated within the State/UT)							Recycling/Utilization of hazardous waste (received from other State/UT)		
		Quantity of waste Recycled (listed under Schedule-IV Hazardous Wastes) (MT)		Quantity Utilized (MT)					Quantity of waste Recycled (listed under Schedule-IV Hazardous Wastes) (MT)	Quantity Utilized (MT)	
				Co-processing in		Non-captive		Captive utilization of hazardous waste and Other Wastes for which SOP has not been prepared by CPCB		Co-processing in Cement plant	Non-captive utilization based on CPCBs SOPs
		Generated within state	Imported	Generated within state	Imported	Generated within state	Imported				
		18	19	20	21	22	23	24	25	26	27
1	S. kharsawan	183.68	Nil	Nil	Nil	Nil	Nil	Nil	94.13 (Bolbum & Jamshedpur Lubricant	Nil	Nil
2	E. Singhbhum	9450.53	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	W. Singhbhum	86.65	Nil	3284	Nil	Nil	Nil	Nil	Nil	Nil	Nil
4	Dhanbad	194.79465	Nil	Nil	Nil	Nil	Nil	24.687229	Nil	Nil	Nil
5	Bokaro	2085.855088	Nil	Nil	Nil	Nil	Nil	43359.52	Nil	Nil	Nil
6	Ranchi	2914.5	6023.798	Nil	Nil	Nil	Nil	Nil	1712 MT	Nil	Nil
7	Palamu.	15.6	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
8	Garhwa	1	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
9	Latehar.	3	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
10	Lohardaga	8	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
11	Simdega	0.3	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
12	Gumla	2.4	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
13	Khunti	0.2	Nil	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil
14	Deoghar	16	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
15	Giridih	69.758	Nil	Nil	Nil	Nil	Nil	Nil		Nil	Nil
16	Ramgarh	80.1242	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
17	Chatra	16.684	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
18	Hazaribagh	367.434	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
19	Koderma	6.245	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total		15502.75494	6023.798	3284	0	0	0	43384.20723	0	0	0

A4 Details on Hazardous Waste Disposed

S.No.	Name of the District	Disposal of hazardous waste (generated within the State/UT)				Disposal of hazardous waste (received from other State/UT)	
		Quantity Disposed in Secured Landfill (MT)		Quantity Disposed through Incinerator (MT)		Quantity Disposed in common (MT)	
		Common	Captive	Common	Captive	SLF	Incinerator
		28	29	30	31	32	33
1	S. Kharsawan	539.304	Nil	Nil	Nil	Nil	Nil
2	E. Singhbhum	Nil	Nil	Nil	Nil	Nil	Nil
3	W. Singhbhum	Nil	Nil	Nil	168	Nil	Nil
4	Dhanbad	Nil	1.0568	Nil	275.983	Nil	Nil
5	Bokaro	Nil	2497.51	Nil	1182	Nil	Nil
6	Jamtara	Nil	Nil	Nil	Nil	Nil	Nil
7	Godda	Nil	Nil	Nil	Nil	Nil	Nil
8	Pakur	Nil	Nil	Nil	Nil	Nil	Nil
9	Deoghar	Nil	Nil	Nil	Nil	Nil	Nil
10	Ranchi	0	2.5	0	2	NA	NA
11	Palamu.	0	1	0	0	NA	NA
12	Garhwa	0	0	0	0	NA	NA
13	Latehar.	0	0	0	0	NA	NA
14	Lohardaga	0	0	0	0	NA	NA
15	Simdega	0	0	0	0	NA	NA
16	Gumla	0	0	0	0	NA	NA
17	Khunti	0	0	0	0	NA	NA
18	Giridih		0.942	Nil	Nil		
19	Ramgarh	Nil	9.8532	Nil	Nil	Nil	Nil
20	Chatra	Nil	Nil	Nil	Nil	Nil	Nil
21	Hazaribagh	Nil	1.84	Nil	Nil		
22	Koderma	Nil	4.807	Nil	Nil		
Total		539.304	2519.509	0	1627.983	0	0

A5 Details on Hazardous Waste Stored at Occupier Premises

S.No.	Name of the District	Total Quantity of HW stored at Occupier premises at the beginning of the financial year i.e. 1st April (MT)				Total Quantity of HW stored at Occupier premises at the end of financial year i.e. 31st March (MT)			
		Landfillable	Incinerable	Recyclable	Utilizable	Landfillable	Incinerable	Recyclable	Utilizable
		34	35	36	37	38	39	40	41
1	E. Singhbhum	15415.17	30.65	2136.27	0.85	8900.16	387.76	9450.53	387079
2	S. Kharsawan	215.04	33.73	29.18	4.34	201.36	139.68	183.68	Nil
3	W. Singhbhum	1873	269.5	55.18	0.5	Nil	0.025	86.65	Nil
4	Dhanbad	0.0052	0.8331	81.7867	0.5281	0.2987	Nil	2.84831	0.055641
5	Bokaro	Nil	Nil	475.9807	2.0296	0.00525	Nil	443.99795	2.3356
6	Godda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
7	Pakur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
8	Jamtara	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
9	Deoghar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
10	Ranchi	2.5	2	1792	0	2.5	2	2914.5	0
11	Palamu.	1	0	6	0	1	0	15.6	0
12	Garhwa	0	0	1	0	0	0	1	0
13	Latehar.	0	0	3	0	0	0	3	0
14	Lohardaga	0	0	8	0	0	0	8	0
15	Simdega	0	0	0.3	0	0	0	0.3	0
16	Gumla	0	0	2.4	0	0	0	2.4	0
17	Khunti	0	0	0.2	0	0	0	0.2	0
18	Giridih							1	1
19	Ramgarh							50.884	2
20	Chatra							16.684	
21	Hazaribagh							365.594	0.5
22	Koderma							2.438	1
Total		**17506.7152**	**336.7131**	**4591.297**	**8.2477**	**9105.324**	**529.465**	**13549.30626**	**387085.8912**

A6 Details on management of Other Waste (Domestically generated and Imported)

S.No.	Name of the District	Number of units authorized for		Authorized capacity		Quantity of other waste imported from other country (MT)	Quantity of other waste exported to other country (MT)	Quantity of other		Other waste sent for disposal to Common TSDF (MT)	Quantity of HW generated during recycling/ utilization of other waste (MT)	Quantity of other	
		Other Waste Schedule III-Part B	Other Waste Schedule III-Part D	Other Waste Schedule III-Part B	Other Waste Schedule III-Part D			Imported	Domestically generated			at the beginning of the financial year	at the end of financial year
		42	43	44	45	46	47	48	49	50	51	52	53
1	Godda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	Pakur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	Jamtara	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
4	Deoghar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5	Ranchi	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
6	Palamu.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
7	Garhwa	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
8	Latehar.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
9	Lohardaga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
10	Simdega	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
11	Gumla	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
12	Khunti	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total													

A7-A	Details of Domestic						
S.No.	Name of the District	Name and Address of deposition centres authorized for collection	Authorized capacity (MT)	Quantity of domestic HW received at deposition centres during April-March (MT)	Qunatity of domestic HW sent to common TSDF during the year April-March (MT)	Quantity of hazardous waste stored at deposition centres (MT)	
						at the beginning of the financial year i.e. 1st April	at the end of financial year i.e. 31st March
		54	55	56	57	58	59
		Nil	Nil	Nil	Nil	Nil	Nil
	S. Kharsawan	Nil	Nil	Nil	Nil	Nil	Nil
	East Singhbhum	Nil	Nil	Nil	Nil	Nil	Nil
	West Singhbhum	Nil	Nil	Nil	Nil	Nil	Nil
	Dhanbad	Nil	Nil	Nil	Nil	Nil	Nil
	Bokaro	Nil	Nil	Nil	Nil	Nil	Nil
	Godda	Nil	Nil	Nil	Nil	Nil	Nil
	Pakur	Nil	Nil	Nil	Nil	Nil	Nil
	Jamtara	Nil	Nil	Nil	Nil	Nil	Nil
	Deoghar	Nil	Nil	Nil	Nil	Nil	Nil
Total							
*Please refer section 3.1.4 of the guidelines for preparation of inventory on hazardous waste management							

A7-B	Details of Fluorescent and Other Mercury containing lamps* resulting from Enforcement of Other Regulation						
S.No.	Name of the District	Name and Address of collection centres authorized for collection	Authorized capacity (MT)	Quantity of waste received at collection centres during the year April-March (MT)	Quantity of waste sent to common TSDF during the year April-March (MT)	Quantity of hazardous waste stored	
						at Occupier premises at the beginning of the financial year i.e. 1st April	at Occupier premises at the end of financial year i.e. 31st March
		60	61	62	63	64	65
		Nil	Nil	Nil	Nil	Nil	Nil
	S. Kharsawan	Nil	Nil	Nil	Nil	Nil	Nil
	East Singhbhum	Nil	Nil	Nil	Nil	Nil	Nil
	West Singhbhum	Nil	Nil	Nil	Nil	Nil	Nil
	Dhanbad	Nil	Nil	Nil	Nil	Nil	Nil
	Bokaro	Nil	Nil	Nil	Nil	Nil	Nil
	Total						
*Please refer section 3.1.4 of the guidelines for preparation of inventory on hazardous waste management							

B Annual Inventory on Recycling / Utilization/Pre-processing/Co-Processing of Hazardous and Other Waste

Name of SPCB/PCC: Jharkhand State Pollution Control Board, Year: 2018-19

S. No	Type of Recycling Facilities	No of Facilities authorized for recycling / utilization / Pre-processing/ Co-processing of HW (MT)	Total Authorized Capacity (MTA)	Quantity Recycled/ Utilized/ Pre-processed/ Co-processed (MT) during the year
		76	77	78
A	**Commonly Recyclable HW**			
1	Brass Dross	Nil	Nil	Nil
2	Zinc Bearing Wastes	1	3.6	3.6
3	Copper Bearing Waste	Nil	Nil	Nil
4	Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt	Nil	Nil	Nil
5	Lead bearing waste including battery waste	1	3000	Return not submitted
6	E-Waste	Nil	Nil	Nil
7	Paint and ink Sludge/residues	Nil	Nil	Nil
8	Used oil - M/s Jamshedpur Lubricant	3	23432	4049.52
9	Waste Oil - M/s Bolbum Petrolium	1	5734	375
	Add row for recycling of hazardous waste (listed under schedule IV) apart from above and provide relevant details required under the respective columns			
	Total			
B	**Non-captive utilization based on CPCBs SOPs**			
1	Recovery of solvents from spent solvents			
2	Utilization of APCD Dust / Residue generated from LD Furnace/EAF/Blast Furnace for producing cold briquettes for use in Blast Furnace for production of Pig Iron	Nil	Nil	Nil
3	Utilization of Spent Catalyst – to recover - Platinum, Iridium, Osmium, Palladium, Rhodium, Ruthium, Rhenium, Gold & Silver	Nil	Nil	Nil
4	Utilization of Spent H_2SO_4 generated form Pickling operations for manufacturing Ferrous Sulphate	Nil	Nil	Nil
5	Utilization of Spent Acid containing Molybdenum generated from filament industries for producing Molybdenum Trioxide by heating process	Nil	Nil	Nil
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns	Nil	Nil	Nil
	Total			
C	**Captive utilization of hazardous and other wastes for which SOP has not been prepared by CPCB**			
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns	Nil	Nil	Nil
	Total			
D	**Pre-processing of hazardous and other waste**	Nil	Nil	Nil
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			
E	**Co-processing in Cement Plants**	Nil	Nil	Nil
1				
2				
	Add row for utilization of hazardous and other wastes and provide relevant details required under the respective columns			
	Total			

List of Authorized Recyclers / Utilizers /Pre-processors/ Co-processors of Hazardous Waste

Name of SPCB/PCC: JSPCB **Year: 2018-19**

S.No	Name and Address of the Facility	Type of Hazardous Waste authorised for recycling	Authorized Recycling / Utilization / Co-Processing Capacity (MTA)	Quantity Recycled/ Utilized/ Co-processed (MT)
	79	80	81	82
A	List of Authorized Recyclers of hazardous waste			
1	M/s Bolbum Petroleum, 3rd-phase, AIA, S. Kharsawan	Used Oil & Waste Oil	3312 MT & 1656 MT	1161.94
2	M/s Jamshedpur Lubricant, 8th-phase, AIA, S. Kh	Oil & Waste oil	3312 MT	430.58
3	M/s. Trident Metal Energy Pvt. Ltd., At+PO- Karharia, Dist-Bokaro	Lead metal from scrap batteries	3000	Return not submitted
4	M/S Ammoni Agriform Input Pvt Ltd, Jasidih, Deoghar	Zinc Bearing Waste Mud	16 T/A	16 T/A
5	M/s Mangalam Lubricants Pvt. Ltd., At.-Ranchi Khunti Road, Po-Hardag, Dist.-Ranchi- 835221	i. Used Oil, ii waste Oil	Recycling Capacity Used Oil-16650KL/annum (15152 MT). Waste Oil- 7400KL/annum (6734 MT). Registration certificate no.-B-29016(44)1(Reg.)/09HMM0, dated-19.08.2009	Quantity Recycle Used oil-2457 MT/annum. (Approx) Waste Oil-375 MT/annum. (Approx)
6	M/s Tirupati Chemicals and Industries, At.+Po-Mahilong, Dist.-Ranchi.	i. Zinc Ash Powder ii. Zinc Dross	Zinc Ash Powder and Zinc Dross-3.6TPD	Zinc Ash Powder and Zinc Dross- 600-700MT/annum
7	M/s Poddar Agrotech, At.-Tupudana Industrial Area, Po-Hatia, Dist.-Ranchi.	1. Processed Lead acid batteries 2. Lead Ash 3. Lead Metal from Scrap Battery	Processed Lead acid batteries- 7.80 T Lead Ash - 6.50 T Lead Metal from Scrap Battery - 600 T(02.0 TPD)	Processed Lead acid batteries- 7.80 T Lead Ash - 6.50 T Lead Metal from Scrap Battery - 600 T(02.0 TPD)
	Total			
B	List of Authorized Utilizers (under Rule 9) of hazardous and other wastes			
1		Nil	Nil	Nil
2				
	Total			
C	List of Authorized Utilizers (under captive utilization) of hazardous and other wastes			
1	Nil	Nil	Nil	Nil
2				
	Total			
D	List of Authorized Pre-processors of hazardous and other wastes			
1	Nil	Nil	Nil	Nil
2				
	Total			
E	List of Authorized Co-processors of hazardous and other wastes			
1	M/s ACC, Jhinkpani, Chaibasa, West Singhbhum	Co-processing of different H.W.	23500 MT	3284
2	M/s Jamujara Lubricants Pvt. Ltd, 6th-phase, AIA, S. Kh	Co-processing	9750 MT	Closed
	Total			

D1-A Details on disposal of Hazardous Waste in Common TSDF(s)

Name of SPCB/PCJSPCB **Year: 2018-19**

S.No	Name and Address of the TSDF	Quantity in Stock at		*Quantity of		Quantity of		Quantity in Stock at		Cumulative HW		Capacity		
		Landfillable	Incinerable	For landfill	For Incineration	For landfill	Quantity Incinerated	Landfillable	Incinerable	SLF	Incinerator	Incinerator (T/H)	Incinerator (Kcal)	Landfill (MT/A)
	83	84	85	86	87	88	89	90	91	92	93	94	95	96
	Adityapur Waste Manage	3.412	5.98	1941.55	246.59	1941.55	Nil	Nil	251.486	1944.96	Nil	N.A.	N.A.	17400

* Including wastes received from other State/UT

D1-B Details on disposal of Other Waste in Common TSDF(s)

Name of SPCB/PCCJSPCB **Year: 2018-19**

S.No	Name and Address of the TSDF	Quantity in Stock at		*Quantity of Other		Quantity of Other		Quantity in Stock at		Cumulative other		Capacity	
		Landfillable	Incinerable	For landfill	For Incineration	Quantity Landfilled directly	Quantity Incinerated	Landfillable	Incinerable	SLF	Incinerator	Incinerator (T/H)	Landfill (MT/A)
	97	98	99	100	101	102	103	104	105	106	107	108	109
	Adityapur Waste Manage												
		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil		

* Including wastes received from other State/UT

D2 Details on Captive TSDF (s)

Name of SPCB/PCC: JSPCB

Year: 2018-19

S. No.	Name and Address of Captive facility	Type of facility (landfillable/ Incinerable/ both)	Capacity		HW disposed		Cumulative HW	
			Incinerator (MT/H)	Landfill (MT/A)	SLF	Incinerator	SLF	Incinerator
	110	111	112	113	114	115	116	117
1	M/s Tata Motors Ltd, Jamshedpur, East Singhbhum							
		Incinerable	0.250 T/h	N.A.	N.A.	168 MT	0.31	84.43
Total								

D3 Details on Common TSDF(s) involved in disposal of Domestic Hazardous Waste and Fluorescent and Other Mercury containing lamps

Name of SPCB/PCC: JSPCB

Year: 2018-19

S.No	Name and Address of the TSDFs involved in disposal of domestic Hazardous waste and Fluorescent and other mercury containing lamps	Quantity of domestic HW received	Name and address of deposition center from where such waste received	Quantity of fluorescent and other mercury containing lamps received	Name and address of collection centre from where such waste received	Quantity of		Quantity of waste stored (MT)			
								Quantity of waste		Fluorescent and other	
						Domestic HW	Fluorescent and other mercury containing lamps	at Occupier premises at the beginning of the financial year	at Occupier premises at the end of financial year	at the beginning of the financial year	at the end of financial year
	118	119	120	121	122	123	124	125	126	127	128
	Adityapur Waste Management Pvt. Ltd, Dugni, S. Kharsawan										
		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total											

ANNEXURE - K1

Letter No.: SPMG/UD&HD/NGT/REUSE/2019/16/254

Govt. of Jharkhand

Urban Development & Housing Department

From,

Ajoy Kumar Singh, IAS
Secretary to Govt.

To,

Shri S.P.S. Parihar, IAS
Chairman,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
New Delhi-110032

Ranchi/Date 13.06.19

Sub: Regarding submission of revised Action Plan for **"Utilization of treated waste water from the STPs".**

Ref: Hon'ble NGT Case OA No. 148/2016 (MA no. 686/2017) matter of Mahesh Chandra Saxene Versus South Delhi Municipal Corporation & Ors. order dated 10.05.2019.

Sir,

With reference to the abovementioned subject, the Jharkhand State Action plan for **"Utilization of treated waste water from the STPs"** was submitted earlier vide letter no. 113 dated 25.04.2019 to CPCB and the same was furnished by the CPCB to Hon'ble NGT Court, that was reviewed by the Hon'ble Court on date of hearing 10.05.2019.

As per the order of Hon'ble NGT dated 10.05.2019, para-5, Hon'ble Court has observed 4 short comings in the action plan submitted by the State.

The revised Action plan complying the short comings observed by the Hon'ble Court is hereby enclosed for your reference and necessary action please.

Enclosure:

i. Hon'ble NGT order dated 10.05.2019.
ii. Revised Action Plan of the State.

Yours faithfully,

(Ajoy Kumar Singh)
Secretary to Govt.

ANNEXURE - K1

साहिबगंज नगर परिषद् कार्यालय, साहिबगंज।

Email :- nagarparishadsahibganj@yahoo.in

पत्रांक 1861 / न0प0,

प्रेषक,

कार्यपालक पदाधिकारी,
साहिबगंज नगर परिषद।

प्रेषित,

परियोजना निदेशक,
एस0एम0सी0जी0
नगर विकास एवं आवास विभाग,
झारखण्ड सरकार, रांची।

साहिबगंज, दिनांक 30/07/2019

विषय :- STP से उपचारित अपशिष्ट जल के उपयोग की कार्य योजना समर्पित करने के संबंध में।
प्रसंग :- भवदीय पत्रांक - SMCG/UD&HD/NGT/REUSE/2019/16/183 Ranchi, Date - 25.06.2019

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में साहिबगंज नगर परिषद क्षेत्रान्तर्गत STP से उपचारित अपशिष्ट जल के उपयोग की कार्य योजना इस पत्र के साथ संलग्न कर समर्पित की जा रही है।

भवदीय को आवश्यक कार्रवाई हेतु समर्पित।

विश्वासभाजन

30/7/19

कार्यपालक पदाधिकारी,
साहिबगंज नगर परिषद।

D/: S.han Office order [illegible]

PROPOSED ACTION PLAN FOR UTILIZATION OF TREATED MUNICIPAL WASTE WATER

1. **Agricultural Reuse:**
   i. Availability of suitable irrigation fields in the vicinity of the 5MLD and 7MLD capacity plants,
   ii. Survey of the agricultural area and crops to be irrigated,
   iii. Construction of reservoir for the storage of treated water,
   iv. Supply of Water to agricultural Area through drain/pipeline/tankers.
   v. Prior to allocation of treated water for irrigation purposes in any area, soil hydraulic tests for those areas, water requirements for the crops/vegetation in the respective area and water quality of irrigation water to be used in those respective areas according to these tests should be computed. *(Treated Water Parameters attached)*

2. **Environmental/Recreational Reuse:**
   The treated water shall be used by Sahibganj ULB for the following applications in their administrative boundaries:
   i. Maintenance of parks, gardens and developing landscaping. (Ganga Vihar Park and Sidhu Kanu Stadium),
   ii. Rejuvenation of ponds and streams for recharging ground water during lean seasons,
   iii. Water Supply for emergency purposed like Fire Brigade etc.

3. **Construction Purposes:**
   Sahibganj ULB may propose to use the treated water for the following construction activities:
   i. Supply of treated water to the new construction sites/developing area through tankers against a fixed predetermined charge,
   ii. Location for setting up filling stations for treated water in tankers/lories shall be developed after assessment of the demand at local level.
   iii. Laying of special supply line for treated water in developing areas/new localities if found feasible.
   iv. Stop supply of fresh water once the above infrastructure is functional and found satisfactory by the user.

4. **Dual Water Supply System in Houses/Offices/Business Establishments:**
   i. Provision of dual water pipeline; independent of each other, one for potable water supply and another for supplying treated water,
   ii. Treated water shall be used for flushing and watering the lawns/gardens,
   iii. Local ULB shall make and endeavor to create conveyance network for supplying treated water to institutional areas, business districts or areas having large numbers of such users to cater to their need.

PROPOSED USES OF TREATED WATER IN SAHIBGANJ

Sahebganj is the only district in Jharkhand through which River Ganges flow. The National Thermal Power Corporation(NTPC) Ltd. plant at Kahalgaon was identified for using the Treated Waste Water, however the plant is located more than 50 Kms away from the Sahebganj town hence was not viable.

It has been planned by the state government to use the treated water for the below identified areas:

Railway Junction: Sahibganj is on the Sahibganj Loop of Eastern Railway.[6] This loop line branches off the main line from Howrah at Khana Junction, goes through Bolpur (Shantiniketan), Rampurhat, Pakur, Sahibganj, Bhagalpur, Jamalpur before meeting the main line again at Kiul Junction. It has been planned to re-use the treated water for the water requirments such as washing, flushing, maintenance of the railway junction

Crusher Units: Sahebganj and its periphery has many stone crushers. The treated water shall be used against the water requirements of theses crusher such as sprinkling of the dust in the crusher.

Urban Local Bodies(ULBs): A large portion of the treated water is planned to be used for against the water requirements of the ULBs. The treated water shall be used for Solid Waste Management(SWM) plant, horticulture, maintenance of parks, public toilet flushing and other construction activities in the town.

Table 3.2

Ward-wise Sewage generated of Sahibganj Town for year 2011, 2015, 2025, 2030 and 2045

ZONE-2

Ward No.	2011		2015		2025		2030		2045	
	Ward wise Population (2011)	Sewage Generated in MLD (Assuming WS@ 135 litre/capita & LF 0.80)	Ward wise Population (2015)	Sewage Generated in MLD (Assuming WS@ 135 litre/capita & LF 0.80)	Ward wise Population (2025)	Sewage Generated in MLD Assuming WS@ 135 litre/capita & LF 0.80	Ward wise Population (2030)	Sewage Generated in MLD (Assuming WS@ 135 litre/capita & LF 0.80)	Ward wise Population (2045)	Sewage Generated in MLD (Assuming WS@ 135 litre/capita & LF 0.80)
14	3520	0.38	3701	0.4	4105	0.45	4381	0.47	5091	0.55
15	2501	0.27	2632	0.28	2951	0.32	3113	0.34	3598	0.39
17	2520	0.29	2775	0.30	3063	0.33	3230	0.35	3731	0.4
18	2976	0.32	3131	0.34	3513	0.38	3707	0.4	4282	0.46
19	4158	0.45	4362	0.47	4920	0.53	5186	0.56	5990	0.65
20	3565	0.38	3726	0.4	4165	0.45	4405	0.49	5112	0.55
21	2530	[illegible]	[illegible]	0.53	[illegible]	0.20	[illegible]	[illegible]	[illegible]	[illegible]
22	2204	0.24	2367	[illegible]	2605	0.28	2798	[illegible]	3234	0.35
23	4335	0.47	4556	0.49	5113	0.56	5320	0.58	6253	0.67
24	4674	0.5	4915	0.53	5516	0.6	5816	0.63	6721	0.73
25	3304	0.35	3527	0.38	3971	0.43	4187	0.45	4837	0.52
26	4190	0.45	4408	0.48	4946	0.53	5217	0.56	6028	0.65
27	4305	0.79	4736	0.51	5219	0.57	0605	0.61	6476	0.7
28	5289	3.59	8228	0.73	7553	0.82	7988	0.86	9292	0.97
Total	51679	5.6	53780	5.79	60279	6.51	63958	6.88	73635	7.93
Add Floating Population WS@40lpcd	3190	0.18	3190	0.18	3190	0.18	3190	0.18	3190	0.18
Add Infiltration @.075 litres/ manhole				0.11		0.11		0.11		0.11
Total	54261	5.8	56970	6	63469	6.73	66758	7.07	76825	8.14
									SAY	8.0 mld

TRACTEBEL

1st Fortnightly Report @ July - 2019

Client : Jharkhand Urban Infrastructure Development Company (JUIDCO) & States Programme Management Level Group (SPMG)

Project Management Consultant : TRACTEBEL Engineering Pvt.Ltd.

Name of Contractor : Toshiba Water solution Pvt.Ltd.

Name of the District/ULB	Name of the Project	Total Project cost in Rs Crore / Approval Order No / Date / Head	Agreement No / Date / Contract Price in Rs Crore	As per Agreement, Project Start Date / Total Duration / Completion Date	Major Project Components	Unit	Till last fortnight: Total Quantity Revised (DOS)	Till last fortnight: Qty As Per Site	Till last fortnight: Achieved Quantity	Till last fortnight: Achieved %	Current fortnight: Planned Quantity (as per milestones set for the project)	Current fortnight: Achieved Quantity	Current fortnight: Achieved %	Cumulative Progress: Quantity	Cumulative Progress: Percentage	Remarks
1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
Sahibganj / Sahibganj Nagar Parishad	Sahibganj Municipal Waste Water Project	[illegible]	[illegible]	[illegible]	1. Sewerage Treatment Plant											STP 01 & STP 02 testing and commissioning [illegible] in progress
					STP - 1 (5 MLD)	%	100	100	95%	95%	100%	0%	0%	95%	95%	
					STP - 2 (7 MLD)	%	100	100	95%	95%	100%	0%	0%	95%	95%	
					2. RCC Pipe network											Work is in progress at Zone 1 & 2. [illegible]
					Zone 1	m	[illegible]	[illegible]	[illegible]	99%	100%	[illegible]	[illegible]	[illegible]	99%	
					Zone 2	m	[illegible]	[illegible]	[illegible]	99.79%	100%	[illegible]	[illegible]	[illegible]	99.79%	
					3. House service connections											Work is in progress at Zone 2
					Zone 1	nos	2000		1830	91.50%	100%	0	0%	1830	91.50%	
					Zone 2	nos	4200		[illegible]	[illegible]	100%	6	[illegible]	[illegible]	[illegible]	
					4. Construction of manholes											Work is in progress at Zone 01 and Zone 2 [illegible]
					Zone 1	nos	750	[illegible]	617	[illegible]	100%	2	[illegible]	620	[illegible]	
					Zone 2	nos	1464	[illegible]	1424	[illegible]	100%	4	[illegible]	1428	[illegible]	
					5. Road restoration work											Work is in progress at Zone 01 and Zone 2
					[illegible] Zone 1 & 2	sqm	[illegible]		[illegible]	89%	100%	[illegible]	[illegible]	[illegible]	[illegible]	
					[illegible] Zone 1 & 2	sqm	[illegible]		[illegible]	[illegible]	100%	[illegible]	[illegible]	[illegible]	[illegible]	
					6. SPS & MPS											MPS and SPS work in progress
					Zone 1	nos	[illegible]		1	[illegible]	100%	0%	0%	[illegible]	[illegible]	
					Zone 2	nos	[illegible]		1	84%	100%	0%	1%	84%	84%	
					7. Rising Main											[illegible] in progress
					[illegible]	mtr	[illegible]		[illegible]	[illegible]	100%	[illegible]	[illegible]	[illegible]	[illegible]	
					8. Low Cost Sanitation											[illegible]
					New work	nos	[illegible]		100%	100%	100%	0%	0%	100%	100%	
					Renovation work	nos	[illegible]		100%	100%	100%	0%	0%	100%	100%	
					9. Nallah Restoration Work											[illegible] work in progress
					[illegible] Nalla [illegible]	[illegible]	100%		[illegible]	[illegible]	100%	0%	[illegible]	[illegible]	[illegible]	
					[illegible] Nalla [illegible]	[illegible]	100%		[illegible]	[illegible]	100%	[illegible]	[illegible]	[illegible]	[illegible]	
					[illegible] Nala	[illegible]	100%		[illegible]	[illegible]	100%	[illegible]	[illegible]	[illegible]	[illegible]	
					10. Electromechanical Works (Procurement & supply)											[illegible] testing & commissioning in progress
					Zone 1 & Zone 2	nos	114		114	100%	100%	0	0.00%	114	100%	

Overall Physical Progress	Planned %	Achieved %	No. of appended photographs (Showing progress till last fortnight)	No. of appended photographs (Showing progress during current fortnight)
	100%	96%		

Financial Progress (Amount spent in Rs Crore): Spent till last month Amount (in crores)	Spent in current month Amount (in crores)	Total Amount Spent Amount (in crores)	Time spend (Year & Month)	Indicating reason for delay in the project time schedule and the issues, if any	Instruction given during the last meeting	Follow up action taken
17	18	19	20	21	22	23
₹ 82.97	₹ 4.24	₹ 88.01	Extension of time 31.08.2019	[illegible]		
Overall Financial Progress		Planned %	Achieved %			
		100%	74.58%			

TRACTEBEL | **1st Fortnightly Report @ July - 2019**

Client : Jharkhand Urban Infrastructure Development Company (JUIDCO) & State Programme Management Level Group (SPMG)

Project Management Consultant : Tractebel Engineering Pvt.Ltd.

Name of Contractor : [illegible] Infra Contract (India) Pvt.Ltd.

Name of the District/ULB	Name of the Project	Total Project cost in Rs Crore / Approval Order No. / Date/ Head	Agreement No./ Date/Contract Price in Rs.Crore	As per Agreement, Project Start Date / Total Duration / Completion Date	Major Project Components	Till last fortnight: Unit	Till last fortnight: Total Quantity Agreement	Till last fortnight: Achieved Quantity	Till last fortnight: Achieved %	Current fortnight: Planned Quantity as per milestone set for the project - slippage during	Current fortnight: Achieved Quantity	Current fortnight: Achieved %	Cumulative Progress: Quantity	Cumulative Progress: Percentage	Reason for slippage (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
[illegible]	[illegible] Sewerage Project	[illegible]	JUD/[illegible]/ 01.07.2018 / Rs. [illegible]	02.07.2018 / 31 months / [illegible]	1. Sewerage Treatment Plant	lumsum									Staff quarter [illegible] building. Work [illegible] in progress.
					STP 15.5 MLD	%	100%	18%	18%	57.85%	1%	1%	19%	19%	
					2. UPVC & RCC Pipe network	Mtr	14010								Zone 1,2&3 pipe laying works in progress
					(A) UPVC Pipe network	M	11885	12758.4	[illegible]	57.85%	863.5	7.71%	13622	28.59%	
					(B) RCC Pipe network	M	2125	47.00	2.04%	57.85%	0.00	0.00%	47.00	2.04%	Zone 1,2&3 pipe laying works in progress
					3. House service connections	NOS	2107								Contractor has to start the work
					Zone 1	nos		0.00	0.00%	57.85%		0.00%	0.00	0.00%	
					Zone 2	nos		0.00	0.00%	57.85%		0.00%	0.00	0.00%	
					Zone 3	nos		0.00	0.00%	57.85%		0.00%	0.00	0.00%	
					4. Construction of manholes	NOS	1429	325	22.74%	57.85%	24	2%	349	24.42%	Zone 1,2&3 manhole [illegible] work under progress
					5. Road Restoration Work	SQM	1611.09								[illegible] work in progress
					Zone 1	sqm									
					Zone 2	sqm		997.04	19.37%	57.85%	65.00	[illegible]	1062.14	65.43%	
					Zone 3	sqm									
					6. SPS & MPS	lumsum	4								MPS and [illegible] [illegible] completed
					SPS-01 (Zone 1)	%	1	18%	18%	57.85%	0%	0%	18%	18%	
					SPS-02 (Zone II)	%	1	13%	13%	57.85%	0%	0%	13%	13%	
					SPS-03 (Zone III)	%	1	5.00%	5.00%	57.85%	0%	0%	5%	5%	
					MPS (Zone II)	%	1	6.00%	6.00%	57.85%	2%	2%	8%	8%	
					7. Rising Main	Mtr	1050								Work not started
					8. Low Cost Sanitation	NOS	14								Work in progress for all zone [illegible]
					New work	nos	5	24%	24%	57.85%	7%	7%	31%	31%	
					Renovation work	nos	9	-	-	57.85%	-	-	-	-	
					9. Nallah Restoration Work	SQM	119.2								
					10. Electromechanical Works Zone-1, Zone-2 & Zone-3	NOS		-	-	-	-		-	-	Design and Drawing submitted for Approval at [illegible]

Overall Physical Progress	Planned %	Achieved %	No. of appended photographs (Showing progress during current fortnight)
	57.85%	14.00%	

Financial Progress (Amount spent in Rs Crore): Spent till last month Amount (in crore)	Spent in current month Amount (in crore)	Total Amount Spent Amount (in crore)	Time spend (Year & Month)	Indicating reason for delay in the project time schedule and the basis, if any	Instruction given during the last meeting	Follow up action taken
17	18	19	20	21	22	
₹8.14	₹1.16	₹9.30	12 Month			
Overall Financial Progress		Planned %	Achieved %	Including Mobilization advance [illegible] paid		
		11.85%	22.14%			

River Front Development (RFD) – Sahibganj

Name of the Agency/Contractor	M/S Sri Ram Enterprises
Agreement No	Agt no. 270-(JUIDCO) Dated 21.04.18
Contract Value	Rs 10,12,81,027
Date of start of work	21.04.2018
Date of Completion of work	20.03.2019 (EOT upto 15th June 2019)
Physical progress	88.05%
Financial progress	73.41% (7.43 Cr.)upto RA# 03

S. No	Name of Sub-work	Status	Total Physical Progress (%)	Cum. Physical Progress (%)	Remarks
1	**Bathing Ghat & Paribharman path**		100%	94.66%	
a	Ghat works	work in progress	16.66%	14.50%	kota stone and finishing works in progress.
b	Vishram Sthal		16.66%	15.00%	
c	Toilet block		16.66%	15.50%	
d	Changing Room		16.66%	15.00%	
e	Planter		16.66%	15.50%	
f	Chabutra		16.66%	14.16%	
2	**Cremation Ghat**		100%	70%	
a	Ghats works	work in progress	25%	15%	Renovation of existing structure work in progress
d	Miscellaneous works		75%	50%	
3	**Ferry Ghat**		100%	99.5%	
b	RORO structure		100%	94.5%	Miscellaneous works in progress

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River Front Development (RFD) – Rajmahal

Name of the Agency/Contractor : M/S Sri Ram Enterprises
Agreement No : 277-JUIDCO
Contract Value : Rs 9, 35, 48,010
Date of start of work : 16.05.2018
Date of Completion of work : 15.04.2019 (EOT upto 15th June 2019)
Physical progress : 99.83%
Financial progress : 78.18% (7.31 Cr.)upto RA# 05

S. No	Name of Sub-work	Status	Total Physical Progress (%)	Cum. Physical Progress (%)	Remarks
1	**Singhi Dalan Ghat**	Completed	100%	100%	
A	Chatri				Completed.
B	Ghat str.				
C	Toe wall				
D	Miscellaneous				
E	Planter				
2	**Ferry Ghat**	In progress	100%	99.5%	work in progress
A	RORO		100%	84.5%	Miscellaneous works in progress
3	**Madhusudan Cremation Ghat**	Completed	100%	100%	
A	Toe wall				Completed.
B	Miscellaneous				
C	Planter				
D	Boundary Wall				
E	Body washing				
F	River Diversion				
G	Ghat Structure				
H	Water Spot				

TABLE 1.5
ARITHMATICAL PROGRESSION METHOD

Year	Population	Increment	Total Increment	Increase Per Decade
1961	31409			
1971	35640	4231		
1981	45154	9514		
1991	49257	4103	56805	11381
2001	80154	30897		
2011	88214	8060		
TOTAL		56805		
2015	92758			
2025	104119			
2030	109800			
2045	126841			

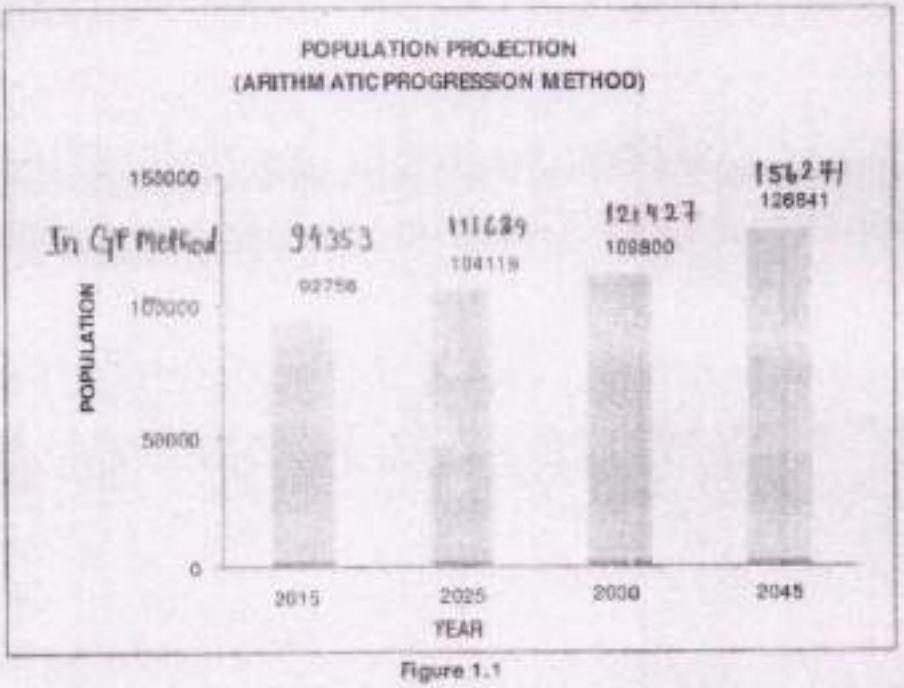

Figure 1.1

1.3.2.2 Geometrical Progression Method

In this method, percentage increase is assumed to be the rate of growth and average of percentage increase is used to find out future increment in the population.

$$P_n = P1(1+r_g)^n$$

3.4.3 Characteristics of Treated Effluent

The characteristics of treated effluent would be given as under:

Table-3.11
Characteristics of Treated Effluent

S.No	Parameters	Treated Effluent Quality
1	Suspended Solids (mg/l)	<50
2	BOD (5 days at 20°C) max. mg/l	<20
3	Faecal Coliform MPN/100 ml	<1000

3.4.4 Disposal of Treated Effluent

The treated effluent from Sewage Treatment Plant shall be utilized in irrigation and excess would be discharged into the Ganga River. During monsoon entire quantity of sewage (treated and untreated) shall be discharged into the Ganga River because of dilution of sewage.

3.4.5 Life Cycle Cost Analysis for Different Technologies of Treatment of Waste

Sewage Treatment Plant shall be provided as per the land availability at the project site, Sahibganj and would be based on the **Life Cycle Cost analysis** of various treatment options to achieve the desired result and the most economic one.

The following alternatives of Wastewater Treatment shall be considered for evaluation:

a) Waste stabilization pond (Anaerobic Pond followed by facultative Pond)
b) Aerated Lagoon with maturation pond
c) Activated Sludge process
d) Extended aeration
e) Up flow Anaerobic Sludge Blanket (UASB)Process
f) Facultative Aerated Lagoon
g) Sequential Batch Reactor
h) Moving Bed Bio Film Reactor/ Fluidized Aerobic Bed Reactor (FAB)

Brief Description of various Sewage Treatment Processes has been described in the subsequent paras:

- **Anaerobic Ponds**
  Anaerobic ponds are commonly 2-5 m deep and receive such high organic loading (usually > 100 g BOD/m3 .d) equivalent to 3000 kg/ha. d for a depth of 3 m.) that they contain no dissolved oxygen and no algae. They function much like open septic tank and their primary function is BOD removal. Anaerobic pond works extremely well in warm climate. A properly designed and not significantly

3.4.7 Design of Sewage Treatment Plant 5.0 MLD-Zone -1 (Ghormara STP)

1. Design Flow

Average flow for the plant	=5.0 MLD
Sky	=5.0 MLD=5000 m^3/day (57.87 LPS)
Peak flow	=11250 m^3/d (130.21 LPS)
Lean flow	=0.5x5000=2500 m^3/d (28.94 LPS)

2. Sewage Characteristics

a. Raw Sewage Quality

pH	=7-7.5
BOD	=150-200 mg/l
COD	=450 mg/l
Oil & grease	=7-8 mg/l
S.S	=300 mg/l
Coliform count	=10^6-10^7 MPN/100ml

b. Treated Effluent Quality

pH	=7-8
BOD	less than 20 mg/l
S.S	less than30 mg/l
Oil & Grease	=10

3. Treatment Scheme

The proposed scheme here is based on attached growth moving bed biological reactor(MBBR) type activated sludge process better known as Fluidized Aerobic Bed(FAB) and consists of following main units.

i. Screen chamber
ii. Grit chamber and proportional weir
iii. Aeration system comprising of: Moving bed biological reactor (FAB) and clarifier
iv. Sludge handling system comprising of sludge thickener and sludge drying beds
v. Tertiary treatment in the shape of sand filtration

The aerobic process is based on attached growth of aerobes on suspended media. In this process, sewage after screening and de-gritting is taken in fluidized bed reactors provided in series. Both reactors are filled with desired quantities of plastic media specially designed and manufactured for this service. Air is injected from the bottom of the reactor and air bubbles lift the media and keep in suspension for biological growth. After growth of bacteria up to certain level, the media becomes heavy and it tends to settle down. Gradually the layer on this surface pills off and goes as MLSS. Due to loss of attached growth material, the media becomes lighter and it goes upwards with air. In this way all media remain in circulation. Attached bacteria consumes organic matter by metabolism and biological process is much faster and ultimate sludge from these reactors are matured and stabilized.

3.4.8 Design of Sewage Treatment Plant 7.0 mld -Zone -2 (Kabootar Khopl)

1. Design Flow

Average flow for the plant	=7.0 MLD
Say	=7.0 MLD=7000 m^3/day (81.02 LPS)
Peak flow	=15750 m^3/d (182.29 LPS)
Lean flow	=0.5x7000=3500 m^3/d (40.51 LPS)

2. Sewage Characteristics

Raw Sewage Quality	
pH	=7-7.5
BOD	=150-200 mg/l
COD	=450 mg/l
Oil & grease	=7-8 mg/l
S.S	=300 mg/l
Coliform count	=10^6-10^7 MPN/100ml
Treated Effluent Quality	
pH	=7-8
BOD	less than20 mg/l
S.S	less than30 mg/l
Oil & Grease	=10

3. Treatment Scheme

The proposed scheme here is based on attached growth moving bed biological reactor(MBBR) type activated sludge process, better known as Fluidized Aerobic Bed(FAB) and consists of following main units.

i. Screen chamber
ii. Grit chamber and proportional weir
iii. Aeration system comprising of: Moving bed biological reactor (FAB) and clarifier
iv. Sludge handling system comprising of sludge thickener and sludge drying beds
v. Tertiary treatment in the shape of rapid sand filtration.

The aerobic process is based on attached growth of aerobes on suspended media. In this process, sewage after screening and de-gritting is taken in fluidized bed reactors, provided in series. Both reactors are filled with desired quantities of plastic media specially designed and manufactured for this service. Air is injected from the bottom of the reactor and air bubbles lift the media and keep in suspension for biological growth. After growth of bacteria up to certain level, the media becomes heavy and it tends to settle down. Gradually the layer on this surface pills off and goes as MLSS. Due to loss of attached growth material, the media becomes lighter and it goes upwards with air. In this way all media remain in circulation. Attached bacteria consumes organic matter by metabolism and biological process is much faster and ultimate sludge from these reactors are matured and stabilized.

ANNEXURE - K1

Action Plan for Utilization of Treated Waste Water from Sewage Treatment Plants (STPs)

झारखण्ड सरकार

Urban Development & Housing Department,
Government of Jharkhand

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1. Introduction

Urbanization in Jharkhand has picked up pace since its formation in year 2000, due to migration and associated economic activities in the urban areas. As seen in other growing economies, the state has experienced a corresponding increase in urbanization. While the 2001 census recorded an urban population of 5.9 million, corresponding to 22.24 percent of the total state population of 26.9 million; the 2011 census recorded an urban population of 7.9 million, corresponding to 24.05 percent of the total population of 32.9 million. Considering these projections, urbanization in the state can be expected to continue, and increasingly contribute to the state's GSDP.

Due to the rapid economic growth, urbanization and population growth, Jharkhand, like other states of India, faces serious environmental issues. These include pollution in urban and industrial areas and resource constraints with respect to water, land, forests and energy. Growing water scarcity and water pollution are the most severe environmental problems in the country. In addition to these, inadequate rainfall due to climate change has had a compounding effect on these resources. Erratic and unfavourable monsoon conditions have led to over-exploitation of ground water resources. Less than normal precipitation has resulted in less accumulation of fresh water. The low level of water inflow coupled with increased exploitation has resulted in depleting water levels in reservoirs and rivers.

Wastewater generation has increased along with the increase in water consumption and the quantity of untreated wastewater discharged into local water bodies have resulted in their becoming polluted and unattractive for most beneficial uses. The State has several rivers and river basins and the increased pollution has turned most of the rivers into a 'dead' waterway with high BOD concentrations (about 100 mg/L) and no dissolved oxygen.

Despite polluted conditions; farmers and communities in the downstream continue to use the River water as raw water source for various purposes such as agricultural, irrigation and for drinking as well. The strain on water resources has led to the excessive pumping of groundwater and groundwater levels are dropping fast. The ever-increasing urban population coupled with poor sanitation facilities has put a severe strain on India's freshwater resources, such as rivers, lakes and aquifers.

Industrialization and economic growth has increased the demand for fresh water while inadequate management and treatment of industrial and domestic wastewater has polluted such water sources. The combined effect of these has not only resulted in scarce and dwindling resources but has also made it difficult for cities to meet their increasing water needs. As a result, cities are adopting unsustainable practices, such as bringing

water from distant places thereby increasing pumping stages (which increase the cost of landed water) and over-exploitation of groundwater resources.

2. Background

Water recycling is reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing, and replenishing a ground water basin (referred to as ground water recharge). Water recycling offers resource and financial savings. Wastewater treatment can be tailored to meet the water quality requirements of a planned reuse. Recycled water for landscape irrigation required less treatment than recycled water for drinking water. A common type of recycled water is water that has been reclaimed from municipal wastewater, or sewage. The term water recycling is generally used synonymously with water reclamation and water reuse. Gray water is reusable waste water for residential, commercial and industrial bathroom sinks, bath tub shower drains, and clothes washing equipment drains. Gray water is reused onsite, typically for landscape irrigation.

Through the natural water cycle, the earth has recycled and recused water for millions of years. Water recycling though, generally refers to projects that use technology to speed up these natural processes. Water recycling is often characterized as "unplanned" or "Planned".

3. Why Water Recycling

Recycled water can satisfy most water demands, as long as it is adequately treated to ensure water quality appropriate for the use.

4. Uses for Recycled Water

The recycled water can be used in various ways, the major among them are listed below. The recycled water can also be used for drinking purposes.

a. Landscaping

b. Public parks

c. Cooling water for power plants and oil refineries

d. Processing water for mills, plants

e. Toilet flushing

f. Dust control

g. Construction activities

h. Concrete mixing

i. Artificial lakes

j. Car, Cloth & floor washing

k. Garden and irrigation using a hose spray or drip irrigation.

l. Construction activities

m. Artificial Lakes

Although most water recycling projects have been developed to meet non-potable water demands, a number of projects use recycled water indirectly for potable purposes. These projects include recharging ground water aquifers and augmenting surface water reservoirs with recycled water. In ground water recharge projects, recycled water can be spread or injected into ground water aquifers to augment ground water supplies, and to prevent saltwater intrusion.

5. Environmental Benefits of Water Recycling

In addition to providing a dependable, locally-controlled water supply, water recycling provides tremendous environmental benefits. By providing an additional source of water, water recycling can help us find ways to decrease the diversion of water from sensitive ecosystems. Other benefits include decreasing wastewater discharges and reducing and preventing pollution. Recycled water can also be used to create or enhance wetlands and riparian habitats.

Recycling Water Can Save Energy

As the demand for water grows, more water is extracted, treated, and transported sometimes over great distances which can require a lot of energy. If the local source of water is ground water, the level of ground water becomes lower as more water is removed, and this increases the energy required to pump the water to the surface. Recycling water on site or nearby reduces the energy needed to move water longer distances or pump water from deep within an aquifer. Tailoring water quality to a specific water use also reduces the energy needed to treat water. The water quality required to flush a toilet is less stringent than the water quality needed for drinking water

and requires less energy to achieve. Using recycled water that is of lower quality for uses that don't require high quality water saves energy and money by reducing treatment requirements.

6. Jharkhand Waste Water Policy, 2017

The main purpose of the work is to strengthen/ promote reuse of wastewater in the wake of increase in demand for water from increased urbanization, climate change among others. The sector needs to be guided and regulated effectively so that it can meet the overall objective.

Accordingly, Urban Development & Housing Department, Government of Jharkhand has framed **'JHARKHAND WASTE WATER POLICY, 2017'**. Attached hereto as **Annexure-1.**

The Vision of **'Jharkhand Waster Water Policy 2017'** is **"All Jharkhand cities and towns achieve the water recycling capability from STPs, household, commercial and industrial areas in a sustainable manner and reduce the fresh water demand to a sizeable extent"**.

7. Goal of the Jharkhand Waste Water Policy, 2017

This policy is to ensure increase use of recycled water for other purposes apart from drinking, through the provision of appropriate technologies for water recycling and protection of environment.

The policy specifically will endorse the following core principles:

- To protect the environment and the ULB/City water resources.
- To promote proper functioning of network based sewerage systems and ensure connections of household so as to prevent dry weather flow in drains & streets.
- Treatment of sewage, sludge and grey water and recycle it for other uses.
- Promoting recycle & reuse of household, commercial and industrial grey water.
- To make waste water project economical and environmentally sustainable.
- Inclusive and participatory decision making in waste water recycling.
- Transparent decision making processes to achieve socio-environmental as well as economic financial objectives.
- Capacity building for enhanced institutional ability to govern the sector effectively.

- Ensuring, protecting and optimizing investments.
- Public Private Partnership (PPP) in the most appropriate manner.
- Public outreach for environmental and health related outcomes.
- Establishment of an efficient, effective, affordable and accountable system for managing the water recycling form urban sewerage and Septage management.

8. Objectives of the Jharkhand Waste Water Policy, 2017

The objective of making this policy is to overcome the shortage of water by recycling and using it for different purposes so that the use of potable water should mostly be for drinking purposes. The re-use of water in a sizeable quantity up to a certain quality after proper treatment of water for non-drinking purpose and for scientific disposal of the remaining wastewater is the main object behind formulating this policy.

- To ensure 100 percent wastewater recycling in cities /towns.
- To improve wastewater supply service focusing on customer satisfaction, coverage, frequency and reliability.
- Supply of potable water that incurs large amount of money to be reduced and waste water to be used in non-drinking purposes.
- Promoting and augmenting waste water used for ensuring environmental sustainability by reducing burden on already stressed basin and aquifers and preventing their depletion.
- Promoting wastewater reuse from sewage discharge leading to reduction in environmental costs and health hazards.
- Wastewater reuse by ensuring resources conservation & preservation of sensitive eco-system and reducing pollutant loading.

  All cities and towns of Jharkhand become totally sanitized, healthy and ensure sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sewerage facilities for the urban poor and women. All urban dwellers will have access to and use safe and hygienic sewerage or sludge facilities and arrangements.

9. Wastewater Reuse and Opportunities

Urban Reuse

While there are several major categories of water reuse, urban water reuse is only now emerging in India. Some important components of the reclaimed water portfolio of many emerging urban reuse plans are:

- Landscape irrigation
- Fire protection and toilet flushing
- Recreational opportunities without human contact

Urban reuse is often divided into the following categories:

- ✓ Unrestricted: The use of reclaimed water for non-potable applications in municipal settings where public access is not restricted.
- ✓ Restricted: The use of reclaimed water for non-potable applications in municipal settings where public access is controlled or restricted by physical or institutional barriers, such as fences or timings of application of the reuse water or temporal access restriction.

When treated, wastewater is used to irrigate residential areas, public parks and related sports etc. or is used for toilet flushing and washing, it has to receive significant treatment and high-level disinfection so as to be not considered a threat to public health.

Agricultural Reuse

Use of wastewater in agriculture has a long history and currently represents a significant percentage of use worldwide, especially in emerging economies such as India. With increasing population and sanitation, more treated wastewater is available. The cost of treating wastewater to secondary (and sometimes even higher) standards is generally lower than the cost of pumping potable water from distant sources or for producing it from unconventional water sources (e.g., desalination).

The option of allocating treated wastewater to irrigation is often the preferred and least expensive alternative for municipalities. Irrigation of crops (both food and non-food) with untreated wastewater is widely practiced in many parts of the developing world with accompanying adverse public health outcomes. Nonetheless, this practice represents an economic necessity for many farming communities and for the rapidly expanding population at large, much of which is dependent on locally grown crops.

The WHO guidelines (WHO, 2006) for irrigation with treated wastewater have been successfully applied to irrigation reuse applications throughout the world.

Environmental/Recreational Reuse

Environmental reuse primarily includes the use of treated wastewater to support wetlands and to supplement stream and river flows. Aquifer recharge also may be considered environmental reuse, but because this practice is integral to management of many complex issues it is recommended as an area of future study.

Industrial Reuse

The industrial use of treated wastewater has grown in a variety of industries ranging from electronics to process industries, food processing, as well as a broader adoption by the power-generation industry. Over the past few years, these industries have embraced the use of such water for purposes ranging from process water, boiler feed water, and cooling tower. Since industry can control water quality within their processes, specific standards for industrial use are not being provided here.

Reuse by Construction Industry

The construction industry is the newest entrant to the industrial category and many urban utilities are now supplying treated wastewater for construction activities.

Ground Water Recharge

Groundwater recharge to aquifers not used for potable water, has been practiced for many years but has often been viewed as a disposal method for treated wastewater effluent. In addition to providing a method of treated effluent disposal, groundwater recharge of treated wastewater can provide a number of other benefits, including the following:

- Recovery of treated water for subsequent reuse or discharge
- Recharge of adjacent surface streams
- Seasonal storage of treated water beneath the site with seasonal recovery for agriculture.

In many cases, groundwater can be recharged in a manner that also utilizes the soil or aquifer system where such water is applied as an additional treatment step to improve the quality.

10. Actions taken/To be taken by the State of Jharkhand

Urban Development and Housing Department, Government of Jharkhand, considering the substantial need to bridge the gap of demand and supply of fresh water and resource conservation & preservation of sensitive eco-system, plans to re-use the wastewater by setting up treatment plants across the ULBs of the State. Government of Jharkhand is committed to ensure 100 percent waste water recycling in cities / towns. Currently 4 Municipal Waste Water Projects and 4 Municipal Septage Management Projects are under implementation in the State and city wise re-use of the treated water of these towns will be planned based on the ***Jharkhand Water Water Policy, 2017*** and the ***best suited option for the town*** will be implemented.

10.1 Time line of various on-going Municipal Sewerage Project in different ULBs of Jharkhand.

Sr. No.	Name of Project	Unit	Total STP Capacity (MLD)	Stage (Under Construction/ Completed)	Scheme under which STPs are proposed	Target date of Completion
1	Sewerage scheme for Zone 1, Ranchi under Ranchi Municipal Corporation	1	37	Under Construction	State	31.03.2020
2.	Sewerage scheme for Adityapur under Adityapur Municipal Corporation	4	36	Under Construction	AMRUT	20.05.2020
3.	Sewerage scheme for Sahibganj under Sahibganj Nagar Parishad	2	12	Construction completed under trial stage.	Namami Gange	Completed
4.	Sewerage scheme for Rajmahal under	1	3.5	Under Construction	Namami Gange	30.06.2020

	Rajmahal Nagar Panchayat					

10.2 Time line of various on-going Municipal Septage Management Project in different ULBs of Jharkhand.

Sr. No.	Name of Project	Septage Treatment Plant Capacity (SeTP) (KLD)	Design year of SeTP	Stage (Under Construction / Completed)	Scheme under which SeTP are proposed	Target date of Completion
1	Septage Management Scheme for Chas Municipal Corporation	89	2032	Under Construction	AMRUT	June, 2020
2.	Septage Management Scheme for Deoghar Municipal Corporation	101	2032	Under Construction	AMRUT	March, 2020
3.	Septage Management Scheme for Hazaribagh Municipal Corporation	64	2032	Under Construction	AMRUT	April, 2020
4.	Septage Management Scheme for Giridih Municipal Corporation	52	2032	Under Construction	AMRUT	August, 2020

10.3 Sewerage scheme for Zone 1, Ranchi under Ranchi Municipal Corporation

Ranchi is the capital of the State of Jharkhand and one of the largest cities of the State. Ranchi has been divided into 4 zones for implementation of the sewerage project.

The Ranchi Sewerage project (Zone 1) was awarded in an estimated cost of INR 359 crores and is currently under construction stage and is expected to be completed by March 2020.

The project will cover total sewerage network of 192 Kms and will have one treatment plant with capacity of 37 MLD. The project is being funded under State Budget.

10.3.1 Present & Projected Sewage Generation and Treatment Requirement

- The total sewer generation from the Zone -1 of the Ranchi city is as follow:

Sr. No.	Year	Total Wastewater generation (MLD)
1	2009 (Base year)	25.16
2	2024 (Intermediate year)	42.97
3	2039 (Ultimate Year)	71.83

*As per the DPR of Ranchi Sewerage System Scheme prepared by Meinhardt considering base year 2009.

- Considering the sewage generation for the intermediate year (i.e. year 2024) the STP for Zone -1, Ranchi is under Construction and is expected to be completed by March 2020.

10.3.2 Potential Usage of Treated wastewater for Ranchi City.

Sr. No.	Potential Options available for reuse of treated waste water	Remarks
1	Industrial processes	• Ranchi Municipal Corporation (RMC) has identified an upcoming Super Thermal Power Plant (STPP) at Patratu i.e. within the 50 km distance from the STP plant as one of the potential user of treated water water from the upcoming 37 MLD STP plant. • Patratu Vidyut Utpadan Nogam Ltd. (PVUNL) (A subsidiary of NTPC in JV with JBVNL) intend to use entire 37 MLD treated sewage water from the upcoming STP at Bargai, Ranchi for its under-construction Power Plant at Patratu for Non-potable water applications.
2	Metro Rail	
3	Indian Railways	
4	Infrastructure Projects	
5	Agriculture	
6	Bus Depots	

7	Horticulture	• PVUNL agree to bear all the cost (both Capex & Opex) of creating necessary infrastructure (like laying of pipeline from STP to STPP, Installation of Tertiary treatment Plant at STPP) for taking the secondary treated water from the STP. • On the meeting dated 18.07.2019 in this regard under the Chairman ship of Secretary, UD&HD, GoJ, PVUNL will submit the draft agreement format and after taking approval form the Competent Authority, the further process of agreement signing will take place. • The Correspondence in this matter is attached hereto as **Annexure -2.** • No Metro Rail is currently operational in Ranchi City. • At present there is no Sewage Treatment Plant operational under RMC. • STP under Zone – 1 of Ranchi Municipal area of capacity 37 MLD is currently under construction and expected to be completed by March 2020. • City level Action Plan for utilization of treated waste water from the STP is under preparation and that will be prepared within three months from the date of final commissioning of STP.
8	Lake/River Rejuvenation	

10.4 Sewerage scheme for Adityapur under Adityapur Municipal Corporation. (AMC)

The Ministry of Urban Development, Government of India has launched Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme with an objective to provide basic services (e.g. water supply, sewerage, parks) to households and build amenities in cities that will directly improve the quality of life, especially the poor. Under the AMRUT project Sewage Treatment Plants (STPs) are being constructed in various ULBs to treat the sewage water. The Adityapur sewerage scheme has been selected under the AMRUT funding. The scheme was awarded in Nov 2017 with project components ranging from building a total of 4 units of treatment plants with a total capacity of 36 MLD and covering entire town with the total sewerage network of 134 Kms. The project is expected to be completed by May 2020.

10.4.1 Present & Projected Sewerage Generation and Treatment Requirement

- The total amount of waste water generated from the Adityapur Municipal Corporation area and requirement of STPs are as follows:

Sr. No.	Year	Total Wastewater Generation (MLD) & Requirement of STP
1	2017 (Base year)	27.33
2	Year 2027	35.63
3	2032 (intermediate year)	40.27
4	2047 (Ultimate year)	56.15

*As per the DPR of Adityapur Sewerage System Scheme prepared by TCE, March 2017

- Considering the Sewerage generation for the intermediate year (i.e. year 2032) 4 units of STP of capacity 4 MLD in Zone-1, 20 MLD in Zone-2, 10 MLD in Zone-3 and 2 MLD in Zone-4 respectively, are under construction and expected to be completed by May 2020.

10.4.2 Potential Usage of Treated wastewater for Adityapur City.

Sr. No.	Potential Options available for reuse of treated waste water	Remarks
1	Industrial processes	• At present there is no Sewage Treatment Plant operational under AMC. • No Metro Rail is currently operational in Adityapur City. • Proposed Strategy for reuse of treated waste water in AMC is attached hereto as **Annexure-3.** • STP under AMC of capacity 36 MLD is currently under construction and expected to be completed by May 2020. • City level Action Plan for utilization of treated waste water from the STP is under preparation and
2	Metro Rail	
3	Indian Railways	
4	Infrastructure Projects	
5	Agriculture	
6	Bus Depots	
7	Horticulture	
8	Lake/River Rejuvenation	

		that will be prepared within three months from the date of final commissioning of STP.

10.5 Sewerage scheme for Sahibganj under Sahibganj Nagar Parishad

The Sahibganj town was selected for the Municipal Wastewater Project under the National Mission for Clean Ganga (NMCG) programme (Namami Gange) with the objective of effective abatement of pollution, through which we can achieve the aim of conservation and rejuvenation of the National River Ganga.

The Project was awarded at INR 132.59 Cr. in April 2016 and its completed. Two (2) Sewerage Treatment plant with capacities of 5 MLD and 7 MLD respectively have been constructed as part of the Project. The Project have a total of 53 Kms of sewerage network and household service connections will be provided.

10.5.1 Present & Projected Sewerage Generation and Treatment Requirement

- The total amount of waste water generated from the Sahibganj Nagar Parishad area and requirement of STPs are as follows:

Sr. No.	Year	Total Wastewater Generation (MLD) & Requirement of STP
1	2015 (Base year)	10
2	Year 2025	11.50
3	2030 (intermediate year)	12
4	2045 (Ultimate year)	14

*As per the DPR of Sahibganj Sewerage System Scheme prepared by Wapcos, December 2013

- Considering the Sewerage generation for the intermediate year (i.e. year 2032), 2 units of STP of capacity 5 MLD in Zone-1 and 7 MLD in Zone-2 is constructed and currently under trial stage.

10.5.2 Potential Usage of Treated wastewater for Sahibganj Town.

Sr. No.	Potential Options available for reuse of treated waste water	Remarks
1	Industrial processes	• The Construction of Sewage Treatment Plant of total 12 MLD has been completed and under trial stage. • Proposal for giving treated water to Power Plant to Kahalgaon (55 km away from Sahibganj) has been explored but doesn't find feasible. • No Metro Rail is currently operational in Sahibganj town. • As Sahibganj is situated on the bank of river Ganga, therefore, the land is highly fertile, so strategy for reuse of treated waste water in Agriculture, Environmental/Recreation, avenue plantation, Construction, Dual Water supply system in houses/offices/Business Establishments, Lake/pond rejuvenation purposes are explored by Sahibganj Nagar Parishad. • Proposed Strategy for reuse of treated waste water in Sahibganj NP is attached hereto as **Annexure-4**. • Accordingly, City level Action Plan for utilization of treated waste water from the STP is under preparation and that will be prepared within three months from the date of final commissioning of STP.
2	Metro Rail	
3	Indian Railways	
4	Infrastructure Projects	
5	Agriculture	
6	Bus Depots	
7	Horticulture	
8	Lake/River Rejuvenation	

10.6 Sewerage scheme for Rajmahal under Rajmahal Nagar Panchayat

The Rajmahal town was selected for the Municipal Waste Water Project under the National Mission for Clean Ganga (NMCG) programme (Namami Gange) with the twin objective of effective abatement of pollution, conservation and rejuvenation of National River Ganga.

The project was awarded at INR 52.97 Cr. in August 2018 and is expected to be completed by June 2020. One Sewerage Treatment Plant with capacity of 3.5 MLD will be constructed under the project. The project will have a total of 34.21 Kms of sewerage network and household service connections will be provided.

10.6.1 Present & Projected Sewerage Generation and Treatment Requirement

- The total amount of waste water generated from the Rajmahal Nagar Panchayat area and requirement of STPs are as follows:

Sr. No.	Year	Total Wastewater Generation (MLD) & Requirement of STP
1	2011 (Base year)	2.4
2	Year 2017	2.7
3	2032 (intermediate year)	3.4
4	2047 (Ultimate year)	4.0

*As per the DPR of Rajmahal Sewerage System Scheme prepared by Wapcos, April 2016

- Considering the Sewerage generation for the intermediate year (i.e. year 2032), STP of capacity 3.5 MLD is under construction and expected to be completed by June 2020.

10.6.2 Potential Usage of Treated wastewater for Rajmahal Town.

Sr. No.	Potential Options available for reuse of treated waste water	Remarks
1	Industrial processes	• At present there is no Sewage Treatment Plant operational under Rajmahal Nagar Panchayat. • As Rajmahal is situated on the bank of river Ganga, therefore, the land is highly fertile, so strategy for reuse of treated waste water in Agriculture, Environmental/Recreation, avenue plantation, Lake/pond rejuvenation purposes are explored by Rajhamal Nagar Panchayat. • Proposed Strategy for reuse of treated waste water in Rajmahal NP is attached hereto as **Annexure-5.** • Accordingly, City level Action Plan for utilization of treated waste water from the STP is under preparation and that will be prepared within
2	Metro Rail	
3	Indian Railways	
4	Infrastructure Projects	
5	Agriculture	
6	Bus Depots	
7	Horticulture	
8	Lake/River Rejuvenation	

		three months from the date of final commissioning of STP.

10.7 Potential Usage of Treated wastewater for Chas, Deoghar, Hazaribagh, & Giridih towns.

Sr. No.	Potential Options available for reuse of treated waste water	Remarks
1	Industrial processes	• Due to small quantity of Septage Treatment Plant of capacity 89 KLD, 101 KLD, 64 KLD & 52 KLD at Chas, Deoghar, Hazaribagh & Giridih respectively, the proposal for reuse of Water for industrial, Railways, Infrastructure, Agriculture are not found feasible. • Feasible options for reuse of treated waste water in these four towns are toilet flushing, gardening, landscape irrigation, washing of vehicles, road washing, and horticulture. • At present there is no Septage Treatment Plant operational under these four towns. • City level Action Plan for utilization of treated waste water from the SeTP is under preparation and that will be prepared within three months from the date of final commissioning of SeTP in the respective Urban Local Bodies.
2	Metro Rail	
3	Indian Railways	
4	Infrastructure Projects	
5	Agriculture	
6	Bus Depots	
7	Horticulture	
8	Lake/River Rejuvenation	

11. Way Forward

Urban Development & Housing Department plans to take up the below initiatives going ahead:

- Detailed Project Report (DPR) for Sewerage Scheme of 3 cities of Jharkhand namely (Mango, Jugsalai, Jamshedpur) is under preparation.
- DPR for Interception & Diversion (I&D) of drains to STP scheme, for Dhanbad and Phusro town is prepared and sent to National Mission for Clean Ganga (NMCG) for its approval. Consultant selection for I&D of drains to STP scheme, for Ramgarh town is in progress.

- DPR for Septage Management Scheme for 3 towns (namely Medininagar, Chaibasa, & Dumka) is under preparation.
- DPR for Fecal Sludge Management Scheme for 26 towns of Jharkhand is under Preparation.
- City level action plans will be prepared for reuse of the treated wastewater before commissioning of STPs/SeTPs in the towns.
- Water Bodies at Adityapur, Rajmahal and Sahibganj have been identified for restoration and rejuvenation, The details are attached hereto as **Annexure-6.**
- Water Bodies at all the ULBs of Jharkhand will be identified for restoration and rejuvenation.
- Institutional Development and Capacity Building Initiatives for reuse of treated waste water.

12. Monitoring the Mechanism of UD&HD with ULBs

12.1 At the state level, State Urban Development Agency (SUDA)/Jharkhand Urban Infrastructure Development Corporation (JUIDCO) will adopt San-Benchmark framework for revised service level benchmark for sanitation that assess performance of citywide waste water recycling and sewage water treatment.

12.2 SUDA/JUIDCO will develop an Monitoring & Evaluation (M&E) framework to measure cities performance, and also devise data collection and reporting systems using indicator framework developed for San-Benchmark. This will be aligned with the 14th Finance Commission condition of publishing the service level benchmark to avail performance grant. ULBs will develop robust reporting format to track compliance of the various stakeholders with outcomes and process standards.

12.3 A cell will be created inside JUIDCO for monitoring and evaluation of the waste water management operation. The cell will be created by funds from external agency funding or from the funds of 14th Finance commission or through the State Budget. Proposed Organogram of the cell is attached hereto as **Annexure-7.**

12.4 A Management Information System (MIS) will be developed accordingly to monitor the progress.

List of Annexures

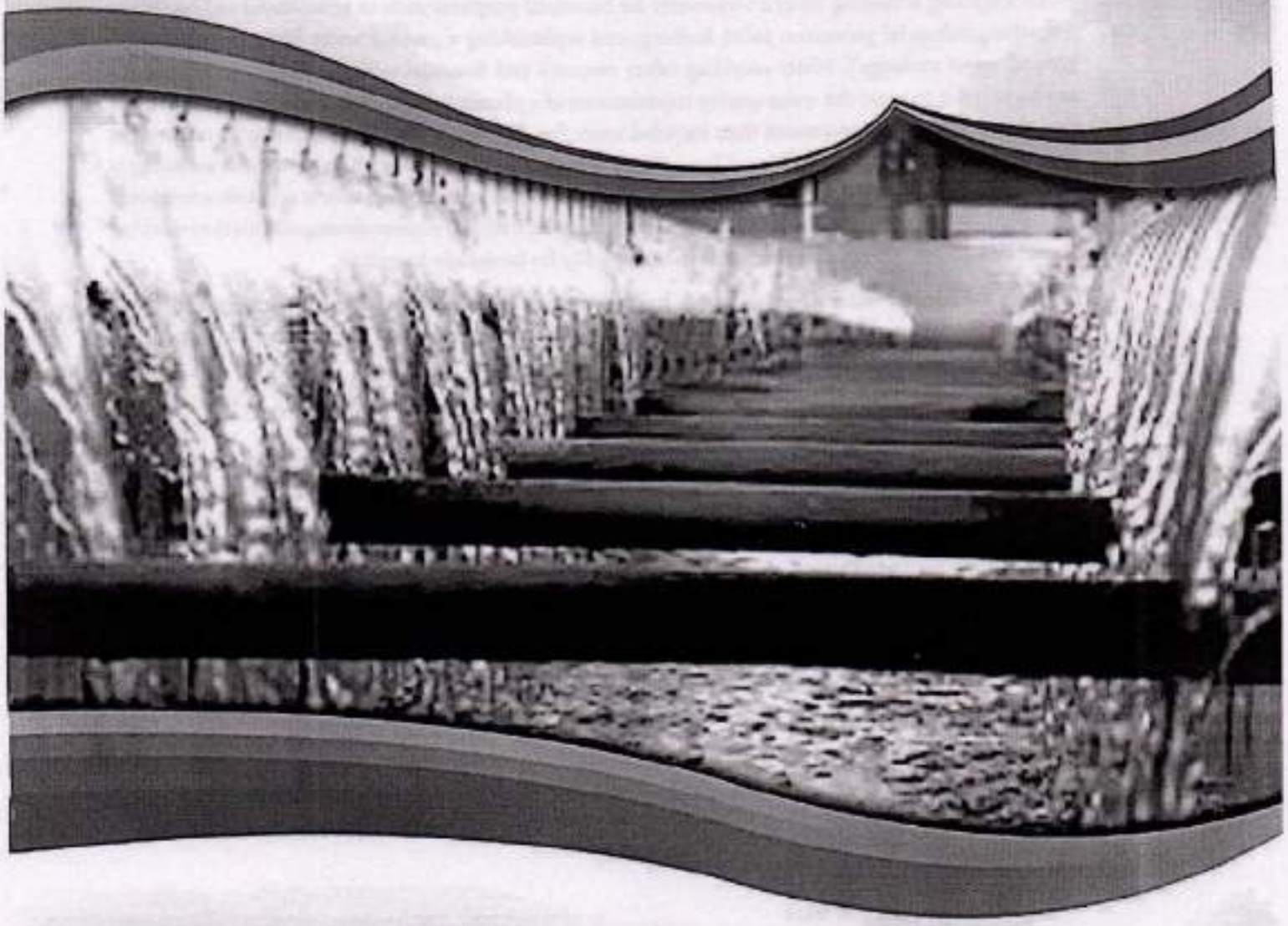
Sr. No.	Annexure Number	Details
1	Annexure-1	Jharkhand Waster Water Policy 2017
2	Annexure-2	Correspondence between PVUNL, RMC and UD&HD regarding utilization of treated waste water from the under Construction STP of RMC.
3	Annexure-3	Strategy for reuse of treated waste water by Adityapur Municipal Corporation.
4	Annexure-4	Strategy for reuse of treated waste water by Sahibganj Nagar Parishad.
5	Annexure-5	Strategy for reuse of treated waste water by Rajmahal Nagar Panchayat.
6	Annexure-6	Details of Water bodies identified at Adityapur, Rajmahal and Sahibganj.
7	Annexure-7	Proposed Organogram for Monitoring & Evaluation of the waste water management operation Cell.

अमृत
Atal Mission for Rejuvenation and Urban Transformation

Government of Jharkhand

स्वच्छ भारत
एक कदम स्वच्छता की ओर...

Jharkhand Waste Water Policy, 2017



Urban Development & Housing Department

Government of Jharkhand

4th Floor, Project Building, Dhurwa, Ranchi

Government of Jharkhand

Urban Development & Housing Department

RESOLUTION

No.- SUDA/AMRUT/Wastewater Policy/38/2017/2899 Ranchi, Dated 27/4/17

Subject:- Jharkhand Waste Water Policy, 2017

1. BACKGROUND

Water recycling is reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing, and replenishing a ground water basin (referred to as ground water recharge). Water recycling offers resource and financial savings. Wastewater treatment can be tailored to meet the water quality requirements of a planned reuse. Recycled water for landscape irrigation requires less treatment than recycled water for drinking water. A common type of recycled water is water that has been reclaimed from municipal wastewater, or sewage. The term water recycling is generally used synonymously with water reclamation and water reuse. Gray water is reusable wastewater from residential, commercial and industrial bathroom sinks, bath tub shower drains, and clothes washing equipment drains. Gray water is reused onsite, typically for landscape irrigation.

Through the natural water cycle, the earth has recycled and reused water for millions of years. Water recycling, though, generally refers to projects that use technology to speed up these natural processes. Water recycling is often characterized as "unplanned" or "planned."

2. WHY WATER RECYCLING

Recycled water can satisfy most water demands, as long as it is adequately treated to ensure water quality appropriate for the use. Recycled water can satisfy most water demands, as long as it is adequately treated to ensure water quality appropriate for the use.

2.1 Uses for Recycled Water

2.1.1 Landscaping
2.1.2 Public parks
2.1.3 Cooling water for power plants and oil refineries
2.1.4 Processing water for mills, plants
2.1.5 Toilet flushing
2.1.6 Dust control
2.1.7 Construction activities
2.1.8 Concrete mixing
2.1.9 Artificial lakes
2.1.10 Car, Cloth & floor washing
2.1.11 Garden and irrigation using a hose spray or drip irrigation.
2.1.12 Construction.
2.1.13 Artificial lakes

Although most water recycling projects have been developed to meet nonpotable water demands, a number of projects use recycled water indirectly for potable purposes. These projects include recharging ground water aquifers and augmenting surface water reservoirs with recycled water. In ground water recharge projects, recycled water can be spread or injected into ground water aquifers to augment ground water supplies, and to prevent salt water intrusion.

2.2 What are the Environmental Benefits of Water Recycling?

In addition to providing a dependable, locally-controlled water supply, water recycling provides tremendous environmental benefits. By providing an additional source of water, water recycling can help us find ways to decrease the diversion of water from sensitive ecosystems. Other benefits include decreasing wastewater discharges and reducing and preventing pollution. Recycled water can also be used to create or enhance wetlands and riparian habitats.

2.3 Recycling Water Can Save Energy

As the demand for water grows, more water is extracted, treated, and transported sometimes over great distances which can require a lot of energy. If the local source of water is ground water, the level of ground water becomes lower as more water is removed and this increases the energy required to pump the water to the surface. Recycling water on site or nearby reduces the energy needed to move water longer distances or pump water from deep within an aquifer. Tailoring water quality to a specific water use also reduces the energy needed to treat water. 'The water quality required to flush a toilet is less stringent than the water quality needed for drinking water and requires less energy to achieve. Using recycled water that is of lower quality for uses that don't require high quality water saves energy and money by reducing treatment requirements.

3. TITLE

This policy shall be called as Jharkhand Waste WaterPolicy, 2017

4. VISION

"All Jharkhand cities and towns achieve the water recycling capability from STPs, household, commercial and industrial areas in a sustainable manner and reduce the fresh water demand to a sizeable extent"

5. GOAL

Jharkhand Waste Water Policy, 2017 is to ensure increase use of recycled water for other purposes apart from drinking, through the provision of appropriate technologies for water recycling and protection of environment.

The policy specifically endorses the following core principles:

5.1 To protect the environment and the State's water resources.

5.2 To promote proper functioning of network based sewerage systems and ensure connections of household so as to prevent dry weather flow in drains & streets.

5.3 Treatment of sewage, sludge andgrey water and recycle it for other uses.

5.4 Promoting recycle & reuse of household, commercial and industrial grey water

5.5 To make waste water project economical and environmentally sustainable.

5.6 Inclusive and participatory decision making in waste water recycling.

5.7 Transparent decision making processes to achieve socio-environmental as well as economic financial objectives.

5.8 Capacity building for enhanced institutional ability to govern the sector effectively.

5.9 Ensuring, protecting and optimizing investments.

5.10 Public Private Partnership (PPP) in the most appropriate manner.

5.11 Public outreach for environmental and health related outcomes.

5.12 Establishment of an efficient, effective, affordable and accountable system for managing the water recycling form urban sewerage and septage management

6. OBJECTIVES

To overcome the shortage of water by recycling it and putting them for different purpose, so that the use of potable water should mostly be for drinking purposes. The re-use of water in a sizeable quantity up to a certain quality after proper treatment of water for non-drinking purpose and last but not the least scientifically disposal of the remaining waste is the object behind formulating this policy.

6.1 To ensure 100 percent wastewater recycling in cities/towns

6.2 To improve waste water supply service focusing on customer satisfaction, coverage, frequency and reliability

6.3 Supply of potable water that incurs large amount of money to be reduced and waste water to be used in non-drinking purposes.

6.4 Promoting and augmenting wastewater reuse for ensuring environmental sustainability by reducing burden on already stressed basin and aquifers and preventing their depletion.

6.5 Promoting wastewater reuse from sewage discharge leading to reduction in environmental costs and health hazards.

6.6 Wastewater reuse by ensuring resource conservation & preservation of sensitive eco-system and reducing pollutant loading.

All cities and towns of Jharkhand become totally sanitized, healthy and liveable and ensure sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sewerage facilities for the urban poor and women. All urban dwellers will have access to and use safe and hygienic sewerage or sludge facilities and arrangements.

7. COMPOSITION OF GREYWATER

7. Greywater from Bathroom

Water used in hand washing and bathing generates around 50 60% of total greywater and is considered to be the least contaminated type of greywater. Common chemical contaminants include soap, shampoo, hair dye, toothpaste and cleaning products.

7.2 Greywater from Cloth Washing Water

It is used in cloth washing generates around 25 - 35% of total greywater. Wastewater from the cloth washing varies in quality from wash water to rinse water to second rinse water. Greywater generated due to cloth washing can have faecal contamination with the associated pathogens and parasites such as bacteria.

7.3 Greywater from Kitchen

Kitchen greywater contributes about 10% of the total greywater volume. It is contaminated with food particles, oils, fats and other wastes. It readily promotes and supports the growth of microorganisms. Kitchen greywater also contains chemical pollutants such as detergents and cleaning agents which are alkaline in nature and contain various chemicals. Therefore kitchen wastewater may not be well suited for reuse in all types of greywater systems.

8. LEGISLATION AND GUIDANCE DOCUMENTS

The Waste water Policy should be read in accordance with the most current versions of the following: Legislation and document

8.1 Environmental (Protection) Act, 1986

8.2 The Environment (Protection) rules,1986

8.3 The water (Prevention and Control of Pollution) Act,1974

8.4 The water (Prevention and Control of Pollution) cess, Act,1974

8.5 The water (Prevention and Control of Pollution) Amended rules, 2011

8.6 The water (Prevention and Control of Pollution) Cess rules, 1978

8.7 The water (Prevention and Control of Pollution) Rules, 1975

8.8 National Urban sanitation Policy 2008

8.9 National Water Policy 2012

8.10 Quality standards suggested by Central Pollution Control Board and Jharkhand State Pollution Control Board.

8.11 Standards set by Bureau of Indian Standards (BIS)

9. WHAT NEEDS TO BE DONE

9.1 A Separate System: STPs water reuse and grey water reuse to encourage.

9.2 Water reclamation centers to reclaim water after treatment of domestic sewage and greywater.

9.3 Where water Reclamation centers are situated in the midst of residential area, these can be built under ground to avoid the problem odour and parks can be maintained on the roof of treatment facility.

9.4 One of the Scheme of treatment may be Grit chamber, Primary sedimentation tank, Reaction Tank, Secondary sedimentation tank, Chlorination Tank followed by sand filtration.

9.5 Reverse osmosis filtration may be used for tertiary treatment.

9.6 100% households, commercial area and industrial area to be covered for wastewater recycling

9.7 Sewerage and water supply activity should be coordinated.

9.8 Water tariff should be such as to discourage the people from wasteful use of water.

9.9 Provision of adequate wastewater collection and treatment facilities for all the cities and towns in Jharkhand.

9.10 Protection of the environment and public health in the areas affected by the proposed systems, especially, surface water and ground water.

9.11 Consideration of treated effluents as a source for reuse (irrigation/ industrial).

10. THE POLICY

10.1 On Resource Development

Wastewater is a perennial water source and shall form an integral part of renewable water resources and the State water budget. Each local body will consider it as a resource and make the plan for reuse as per the site conditions with the help of experts. All local bodies will make city wastewater reuse plan (CWP) for a period of 20 years considering future development and city development in line with city Master plan to avoid any conflicts in developing the city in the future.

Existing levels of wastewater services shall be maintained and upgraded where necessary to enhance public health and the environment and separate plan is to be prepared by local body as per their requirement. Treatment of wastewater shall be targeted towards producing an effluent fit for reuse in irrigation in accordance with WHO guidelines as a minimum. Reuse of treated wastewater in other purposes shall be subject to appropriate specifications. Coordination shall be maintained with the official bodies in charge of urban development to account for the treatment and disposal of their liquid wastes. Central treatment plants shall be built to serve semi-urban areas, and collection of wastewater can be made initially through trucking until collection systems are justified. Specifications and minimum standards as stipulated by CPHEEO shall be applicable for the use of septic tanks in urban areas. Particular attention shall be paid to the protection of underlying aquifers.

10.2 On Resource Management

It is highly imperative that Urban Local Body shall develop and manage wastewater systems as well as the treatment and reuse of the effluent.

A basin management approach shall be adopted where possible. The use of treated wastewater from sewerage, households, commercial and from industrial application shall be given the highest priority and shall be pursued with care. Effluent quality standards shall be defined based on the best attainable treatment technologies, and calibrated to support or improve ambient receiving conditions, and to meet public health standards for end users. Key factors will include the location of the discharge, its proximity to wells, the type of receiving water, and the nature and extent of end uses. Industries shall be encouraged to recycle part of its wastewater and to treat the remainder to meet standards set for ultimate wastewater reuse or to meet the regulations set for its disposal through the collection systems and/or into the receiving environment. Wastewater from industries with significant pollution should be treated separately to standards allowing its reuse for purposes identified by the city or to allow its safe disposal or water recharging. Consideration shall be given to isolating treated wastewater from surface and ground waters used for drinking purposes, and to the blending of treated effluent with relatively fresher water for suitable reuse. Urban Local Bodies can engage Experts from Government Engineering Colleges of Jharkhand NITs/Engineering colleges.

10.3 On Wastewater Collection and Treatment

10.3.1 **City Plan :** A proper and updated city plan is an essential pre-requisite for proper planning and design of all utilities and more so for the Sewerage Systems and water recycled from houses. The State shall endeavor to have proper digital city maps showing the levels prepared through modern available technology. The digital city maps should clearly show the city feature over ground and underground including all utilities. Geographical Information System (GIS), Ground Penetrating Radar (GPR), Total station etc. tools may be used for preparation of city map. The city maps should be updated for every 5 years. An effective and comprehensive GIS based data base and Management Information System correctly mapping the assets, user base and status of operations shall be established.

10.3.2 **Design Period:** Every city has to prepare a City Wastewater Recycling Plan (CWP) for next 20 years along with 5 year short term plan. The CWP for the city should take into account the likely changes in the city in next 20 years and plan for them and will be according to city Master plan. The Detailed Project Report (DPR) for recycling should be in accordance to CWP. The design of the sewers and planning of space should be for the 30 year projection requirements and for recycling from households and commercial establishments. However, the units which can be developed in modules (e.g. Sewage Treatment Facility, sewerage Pumping machinery, on site treatment facilities, etc.) can be designed for appropriate shorter period. Earmark of land for Sewage Pumping Station (SPS) and Sewage Treatment Plant (STP) should be done for all Urban Local Bodies (ULBs) and appropriate land allotment shall be done by Development Authority/Urban Improvement Trust/State Govt. on priority.

10.4 On Reuse of Treated Effluent and Sludge

10.4.1 Treated wastewater effluent is considered a water resource and is added to the water stock for reuse.

10.4.2 Blending of treated wastewater with fresh water shall be made to improve quality where possible.

10.4.3 Crop nutrient requirements shall be determined taking into consideration the prevailing effluent quality. Overuse of nutrients shall be avoided.

10.4.4 Accumulation of heavy metals and salinity shall be monitored, managed and mitigated. Leaching of soils shall be advocated by the irrigation authorities.

10.4.5 Treated effluent quality should be monitored and users alerted to any emergency causing deterioration of the quality so that they will not use such water unless corrective measures are taken.

10.4.6 Studies should be conducted and projects designed and implemented to store the excess treated wastewater in surface reservoirs but artificial recharge is not permitted. Due attention shall be given to the quality of treated and groundwater and the characteristics of the strata.

10.5 Industry:

Industrial reuse of reclaimed wastewater represents major reuse next only to irrigation in both developed and developing countries. Reclaimed wastewater is ideal for many industrial purposes. Where effluent is to be used in the industrial processes, it should be the responsibility of the industry to treat it to the quality standards required. Wastewater is to achieve adequate quality for reuse as cooling water.

The membrane filtration system can remove all suspended solids, faecalcoli forms, and giardia cysts. It could also significantly reduce human enteric viruses such as reovirusand enterovirus.

10.6 Industrial uses for reclaimed water include:

10.6.1 Evaporative cooling water:

10.6.1.1 once-Through cooling system

10.6.1.2 Re-circulating cooling system

10.6.1.3 cooling water quality requirements

10.6.2 Boiler –Feed water- The use of reclaimed water differs little from use of conventional public supplies for boiler-feed water,as both require extensive additional treatment quality requirement for boiler feed make up water are dependent upon pressure at which boiler is operated.

10.6.3 Industrial process water- Suitability of reclaimed water for use in industrial process depends upon particular use like-

10.6.3.1 Pulp and paper

10.6.3.2 chemical industry

10.6.3.3 Textile industry

10.6.3.4 Petroleum and coal

10.7 Re-use Options:

The following options or re–use of effluent have been identified: In general, public health concern is the major issue in any type of reuse of wastewater, be it for irrigation or non-irrigation utilization, especially long term impact of reuse practices. It is difficult to delineate acceptable health risks and is a matter that is still hotly debated. Potential reuse of wastewater depends on the hydraulic and biochemical characteristics of wastewater, which determine the methods and degree of treatment required. While agricultural irrigation reuses, in general, require lower quality levels of treatment, domestic reuse options (direct or indirect potable and non-potable) reuses need the highest treatment level. Level of treatment for other reuse options lie between these two extremes. The reuse options may be (artificial recharge of aquifers is not permitted):

10.7. Irrigation

10.7.1.1 Agriculture and forestry

10.7.1.2 Landscaping

10.7.2 Fish – farming

10.7.3 Industry

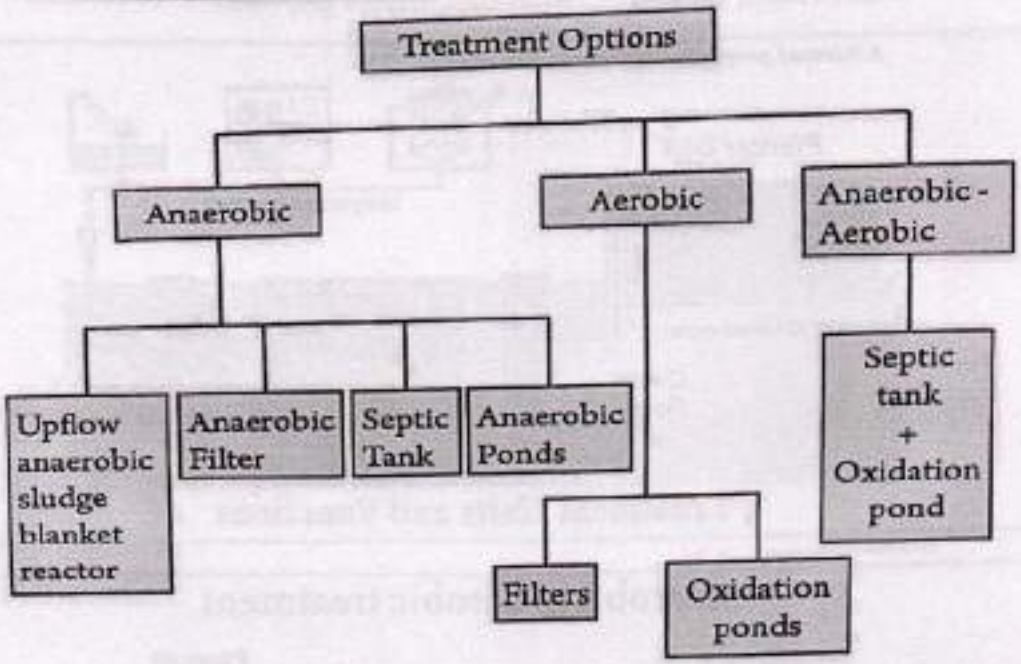
10.7.4 Non-potable Domestic Reuse:

The detailed project report should clearly define the best reuse option particular to town and strategy to obtain it. Action plan with clarity should be the part of Detailed Project Report (DPR), while preparing sewerage Projects. Before deciding the reuse of treated waste water authority must full fill the water quality norms and its legal implications.

Governing local body can sell the treated waste water and digested sludge to generate the revenue.

11. GREYWATER TREATMENT OPTIONS

Greywaterreuse methods can range from low cost methods such as the manual bucketing of greywater from theoutlet of bathroom, to primary treatment methods thatcoarsely screen oils, greases and solids from the greywater before other uses, to more expensive secondary treatment systems that treat and disinfect the greywater to a high standard before using it further. The choice of system will depend on a number of factors including whether a new system is being installed or a disused wastewater system is being converted because the household is connected to sewer.



11.1 Components of Greywater Treatment Systems

A number of technologies have been applied for greywater treatment worldwide varyingin both complexity and performance. The following in general greywater systems considered :-

11.1.1 Primary treatment pre-treatment to secondary treatment:

11.1.1.1 Screening

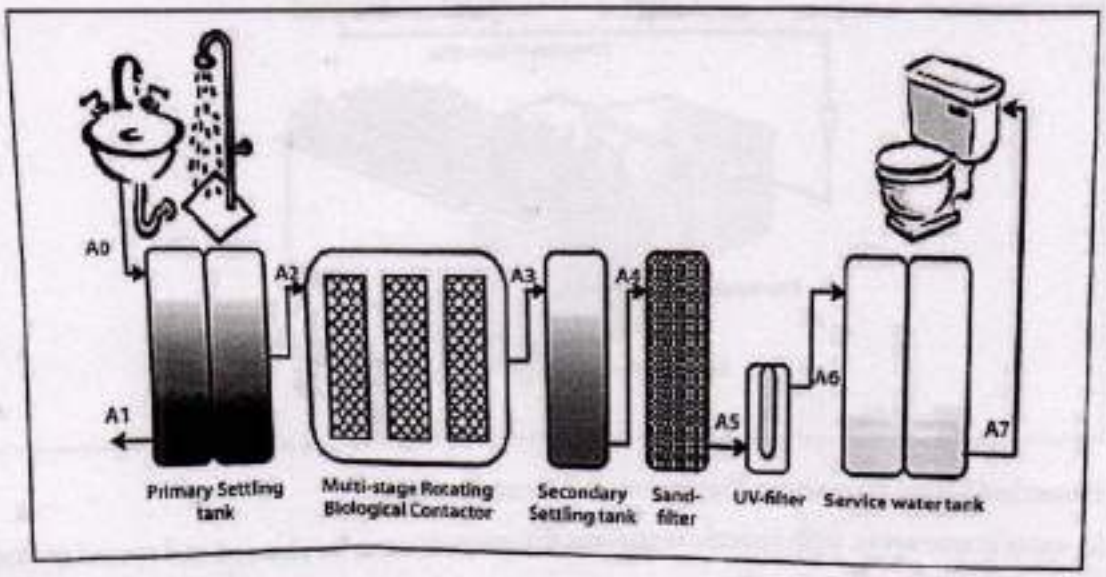
11.1.1.2 Equalization

11.1.2 Secondary treatment -1

11.1.2.1 Gravel filtration

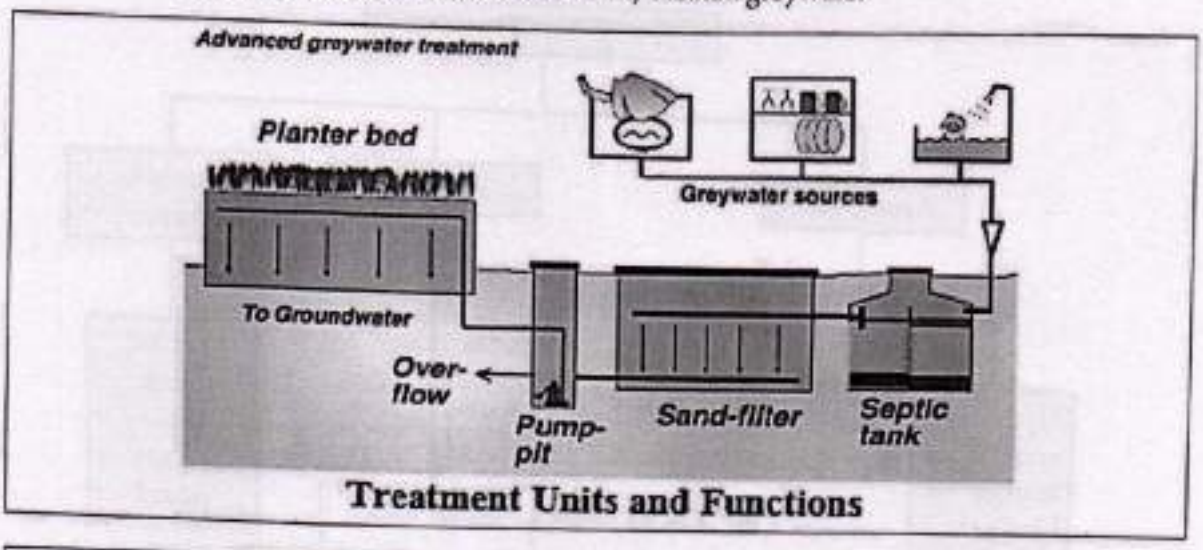
11.1.2.2 Sand filtration

11.1.2.3 Chlorination



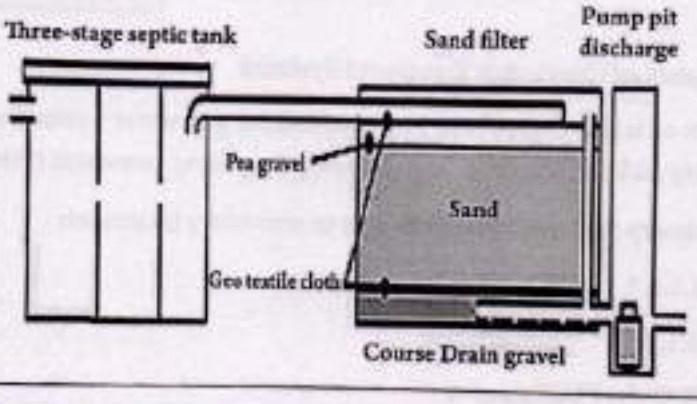
11.1.3 Secondary treatment -II.

Broken brick, Charcoal, Chlorination, Treated greywater

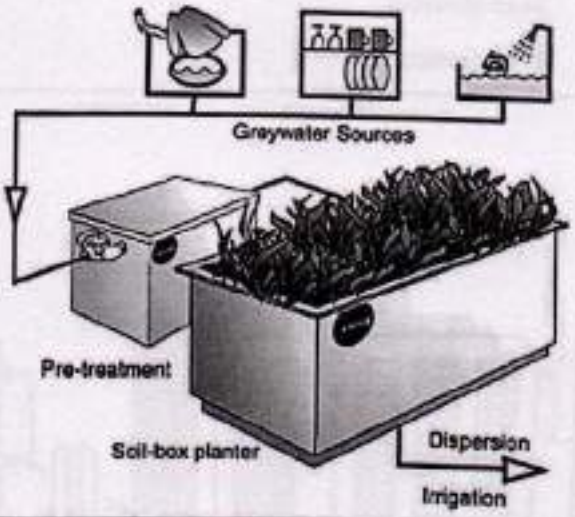


Treatment Units and Functions

Anaerobit to aerobic treatment



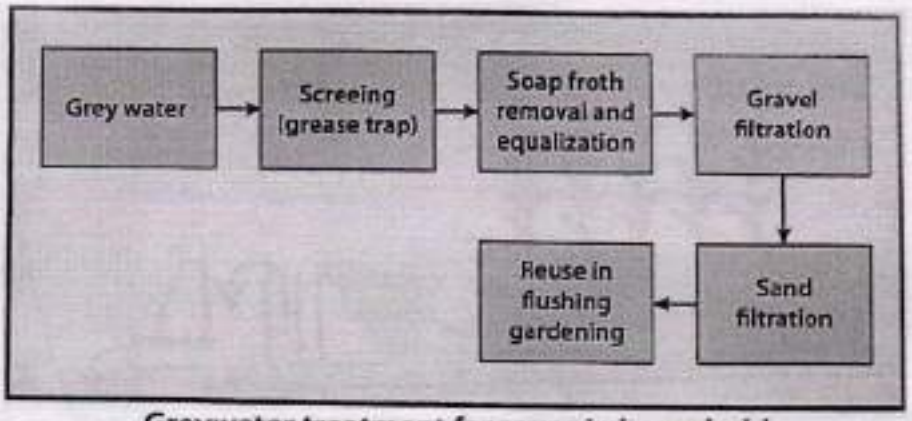
Aerobic Pre-treatment – suitable for showers, hand-washing and laundry* water treatment.



11.2 Household level Greywater Treatment and Reuse System

In water scarce areas, with specific treatment the greywatercan be cleaned and reused not only for gardening but for other use also.

Technological processGreywater treatment process at the household level mainly involves screening (grease and silt removal), soap froth removal, equalization and filtration. Flow diagram of household based greywater treatment system is shown below



Greywater treatment for reuse in household

Advantages:

11.2.1 Reduces fresh water requirement

11.2.2 Prevents greywater stagnation

11.2.3 Prevents vector breeding

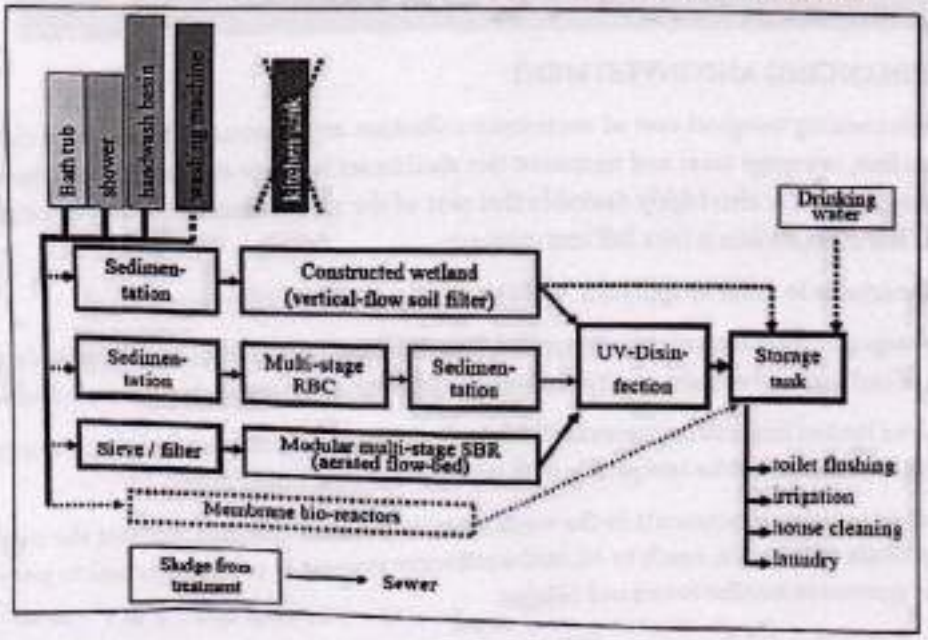
11.2.4 Use in flushing toilets to make toilets functional

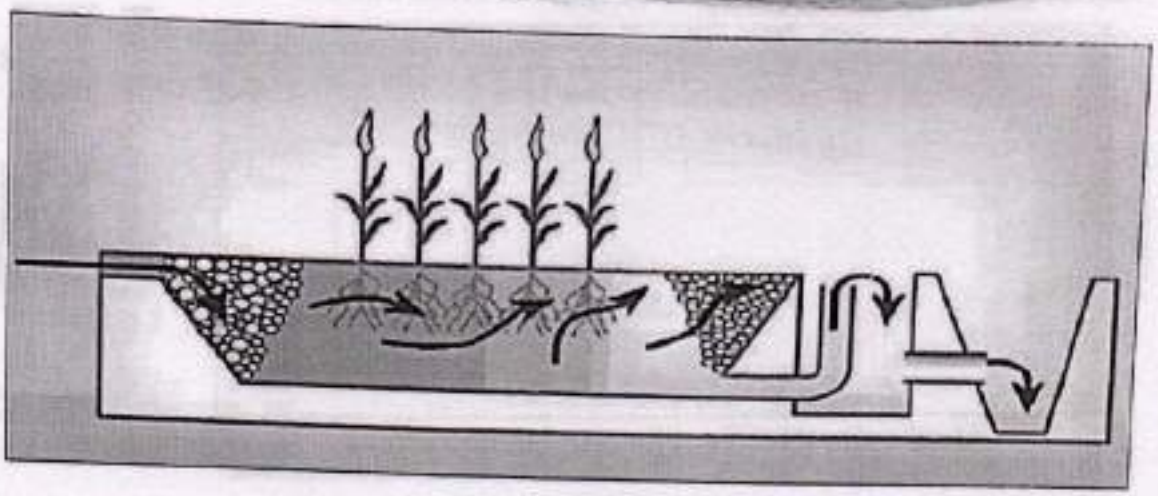
11.2.5 Use of greywater in gardening

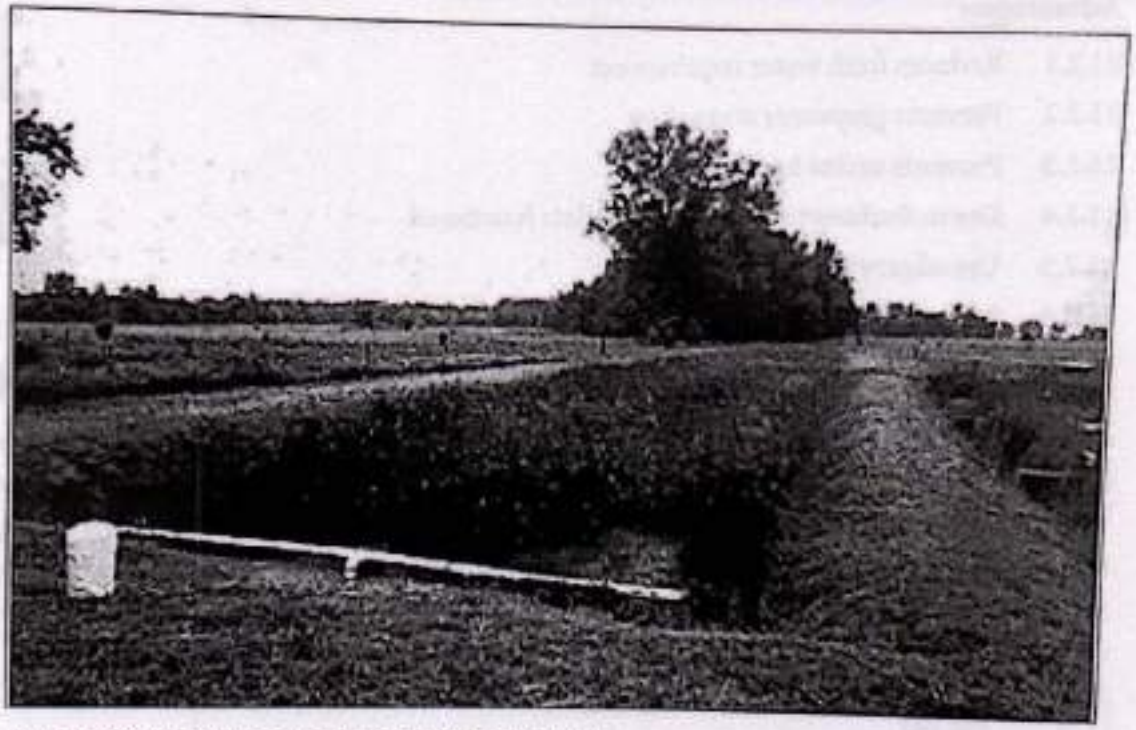
11.2.6 Minimal risk to users of greywater as it incorporates principles of water safety.

11.3 Constructed wetlands:

Constructed wetlands have been used successfully in the past for the treatment of wastewaters. Physical, chemical, and biological processes combine in wetlands to remove contaminants from wastewater. Greywater treatment is achieved by soil filtration in reed-bed systems which reduces the organic load of the greywater considerably, in addition to decreasing the concentrations of faecal bacteria. If properly designed, these systems would produce a clear and odourless effluent, which can be stored for several days without the need for disinfection.







12. ON PRICING FINANCING AND INVESTMENT

12.1 In view of increasing marginal cost of wastewater collection and treatment, wastewater charges, connection fees, sewerage taxes and treatment fees shall be set to cover at least the operation and maintenance costs. It is also highly desirable that part of the capital cost of the services shall be recovered. The ultimate aim is for a full cost recovery.

12.2 Appropriate criteria in order to apply the "polluter pays" principle shall be established.

12.3 Different charges for different areas may be applied. This shall be assessed for each geographical area as a function of end uses and effluent quality and will be subject to economic and social considerations.

12.4 Because of the limited financial resources available to Government of Jharkhand, setting investment priorities in wastewater will be compatible with government investment plans.

12.5 Criteria for prioritizing investments in the wastewater sector shall take into account the current and future needs of the state, needs to expand wastewater systems in urban areas and to provide wastewater systems to smaller towns and villages.

12.6 Priorities of wastewater projects shall not be disconnected from water supply projects and urbanization in general. Decisions will be made concerning them to attain optimum solutions to the need for services, availability of finance and availability of trained manpower.

12.7 Treated effluent shall be priced and sold to end users at a price covering at least the operation and maintenance costs of delivery.

12.8 It is the intention of the Government, through private sector participation, to transfer management of infrastructure and services from the public to the private sector, in order to improve performance and upgrade the level of service.

12.9 The role of the private sector will expand with management contracts, concessions and other forms of private sector participation in wastewater management.

12.10 The concepts of Built Operate Own/Built Operate Transfer shall be entertained, and the impact of such concepts on the consumers shall be continually addressed and negative impacts mitigated.

12.11 The private sector role in reuse of treated effluent shall be encouraged and expanded.

12.11.1 The costs will depend on the system/technology adopted for collection of sewerage and treatment and the administration costs. It is important that the full cost of the service is assessed for each urban area instead of adopting a typical cost assessment. The full cost shall cover the following:

12.11.1.1 Institutional aspect of the sanitation service e.g. the management information systems, accountancy and finance management, billing and collection, customer services, etc. and oversight activities.

12.11.1.2 Operating, maintaining (on a planned maintenance basis), repairing replacing and extending sanitation service physical infrastructure.

12.11.1.3 Keeping updated infrastructure and customer data on a GIS base.

12.11.1.4 Managers, staff, vehicles, equipment and consumables associated with above.

12.11.1.5 Consumable like chemicals etc.

12.11.1.6 Power charges.

12.11.1.7 Spare Parts.

12.11.1.8 Any other O&M contract amount

12.11.2 The urban local bodies are proposed to have following sources funds for O&M :-

12.11.2.1 The O&M cost will be met from the Government grants and contribution of the beneficiaries.

12.11.2.2 Revenue from sale of treated waste water.

The government in town policy shall include the provision of the recovery of full capital cost of lying sewerage system and prorate cost of STP for new colonies. It shall be mandatory for the ULBs to adhere to minimum 20% reuse and recycling of treated waste water. The treated waste water may be sold at a rate as decided by adopting transparent procedure as decided by State Government.

12.12 Public Private Partnership (PPP)/Engineering Procure Construct (EPC) and Operational &Maintenance (O&M) Contract

As there is budget constraint from the Central and the state side the option of the Sewerage Project through Public Private Partnership (PPP) will be explored. In case the PPP mechanism is not workable then the EPC mechanism will be explored and long term O&M Contract will be done.

13. ON STANDARDS, REGULATIONS AND QUALITY ASSURANCE

13.1 Particular attention shall be focused on adopting and enforcing effluent and sludge standards for municipal and industrial wastewater treatment plants and for discharges from industries, laboratories, hospitals, slaughterhouses and other businesses.

13.2 Extensive and comprehensive monitoring programs shall be developed. Influent to and effluent from the plants and throughout watercourses shall be measured and monitored against all appropriate parameters to ensure that public health objectives and treatment efficiency goals are attained.

13.3 Observation wells shall be installed near the treatment plants to monitor groundwater quality where necessary, and to mitigate adverse impacts where and when needed.

13.4 Data collected from the monitoring process shall be entered and stored, processed and analyzed through computer software, and results published periodically.

13.5 Roof and storm water connections to public sewers shall be prohibited. Collection of storm water shall be done separately and will be the subject of water harvesting.

13.6 Effluent and sludge standards for the disposal of hazardous liquid wastes shall be defined to ensure the safe disposal of such wastes.

13.7 State Pollution Control Board/ Central Pollution Control Board regulations for disposal norms shall be mandatory.

13.8 Industrial waste water is not allowed to disposed off in the sewer line. ULB can issue notification for penalties to be imposed on the such industrial units.

13.9 Laboratories shall be maintained and properly equipped to provide services and reliable data needed to ensure enforcement of and adherence to standards and regulations.

14. ON LEGISLATION AND INSTITUTIONAL ARRANGEMENTS

14.1 Legislation and institutional arrangements for the development and management of wastewater shall be periodically reviewed. Gaps shall be filled, and updating of the institutional arrangements with parallel legislation shall be made periodically to cope with varying circumstances and for this government shall notify an agency giving full power to take necessary action in this matter.

14.2 The role of the Government shall be fine-tuned and its involvement reduced to be regulatory and supervisory. Involvement of the stakeholders in wastewater management and support shall be introduced and expanded.

14.3 On Public Awareness

14.3.1 The public shall be educated through various means about the risks associated with the exposure to untreated wastewater and the value of treated effluents for the different end uses.

14.3.2 Programs on public awareness shall be designed and conducted to promote the reuse of treated wastewater.

14.3.3 Public awareness campaigns shall also be waged to educate the public on the importance of domestic hygiene, wastewater collection, treatment and disposal.

14.3.4 It is observed that the system is dependent on the appreciation of the beneficiaries to the advantages and importance of the system to them and thereby working together towards making it successful. The co-operation is vital for following areas:

14.3.4.1 Protecting the system from getting choked due to entry of extraneous material in the sewer system. A vigilant public will help prevent this.

14.3.4.2 The sewerage system yield full benefits or disease protection when there is 100% connectivity.

14.3.4.3 It is important that the beneficiaries appreciate the benefits and pay for their upkeep. The systems require proper upkeep and the cost associated with maintenance and upkeep should at least be recovered from the beneficiaries. The principal of the polluter pays will be adopted only by an enlightened and participating public.

14.3.5 A conscious campaign has to precede the planning and implementation of the sewerage Systems. ULB, Non Government Organizations and local neighborhood committees could give the process a thrust.

14.3.6 A public participation process will not only aid in identifying potential consumers but also serve as a public education program. Potential users will be mainly concerned with the quality of reclaimed water and reliability of its delivery and the constraints in using reclaimed water. Also, connection costs or additional sewerage treatment cost might affect their ability to use the product. Consultations with various stake holders will aid in structuring of tariff and discounts for adopting reuse technologies, awareness on dual piping system, water conservation and safety issues.

14.3.7 Municipal Bodies should decide and pass resolution regarding sewer connection charges. The provision should be widely publicized

14.3.8 Series of 'Sewer connection camps' may be organized. The time and venue should be publicized widely to inform residents. The days, time and venue should be to suit the convenience of public.

14.3.9 Ensure that all Government offices and schools are connected.

14.4 On the Human Resources Development & On Research and Development:

14.4.1 Capabilities of human resources in the management of wastewater shall be enhanced through training and continuous education. Work environment shall be improved and incentives provided.

14.4.2 Establishment of State Water & Waste water Training Center at state level. It will help in training of human resources in this sector.

14.4.3 Human resources performance will be continually appraised in order to upgrade capabilities, sustain excellence and provide job security and incentives to qualified individuals with excellent performance.

14.4.4 Applied research on relevant wastewater management topics shall be adopted and promoted. Topics such as the transfer of wastewater treatment technologies, low cost wastewater treatment technologies, reduction of energy consumption and others will receive adequate support.

14.4.5 Cooperation with specialized centers in the country and abroad shall be advanced, and raising of funds for this purpose shall be supported.

14.4.6 Transfer of appropriate technology suited for local conditions will be a primary target for the development activities and for adaptive research.

14.5 On Selected Priority Issues

14.5.1 To the extent that design capacities of wastewater treatment plants permit, priority of collection and house connections shall be accorded to expansion of urban areas served by treatment facilities. Users willing to contribute to the cost of the services in addition to fees and charges set by laws and regulations shall also be given priority.

14.5.2 Where design capacities of treatment facilities and of conveyance systems are approached or exceeded, priority shall be given to the expansion of such capacities.

14.5.3 Priority shall be accorded to situations and locations where waste-water disposal practices threaten the environmental integrity of freshwater resources, and where performance of cesspools and percolation pits pollute underground water aquifers.

More awareness campaigns will help to spread the work. The civic body should make it mandatory for new constructions to have a separate system to collect grey water.

15. OPERATION AND MAINTENANCE

There are several important factors that need to be considered when planning wastewater plants and options which will have a direct impact on O&M and monitoring. Since O&M aspects are important for the overall long-term success of the programme, O&M planning, including the financial provision of funds, should be included in the terms of references for the design of each plant. Furthermore, the O&M plan should be reviewed and approved alongwith engineering designs and specifications, including the operation and maintenance cost:

15.1 location of the wastewater treatment plants and its proximity to residential areas;

15.2 volumes and schedules of wastewater collection;

15.3 degree of mechanisation of technologies; and

15.4 final enduse or disposal of reuse

15.5 running it on PPP mechanism and charging the different users

16. STATE-LEVEL IMPLEMENTATION STRATEGY

16.1 State Urban Development Agency will develop and issue a Wastewater Implementation Strategy and Plan Guidelines. These Guidelines will provide an overall state-level framework, objectives, timelines and implementation plans to the ULBs. The Implementation Strategy will cover aspects such as implementation targets, framework for engagement of the private sector, training and capacity building, behavior change and social communication, M&E framework, specific roles and responsibilities of various entities, guidelines to develop ULB-level plans, and funding mechanisms.

16.2 ULB-specific Wastewater Strategy and Action Plan conforming to the State Policy will be developed by each ULB based on the State Faecal Sludge & Septage Management Implementation Strategy and Plan Guidelines.

16.3 How the policy will be executed in the in the cities/towns. Three phase approach will be designed to implement the policy.

16.3.1 In the financial year 2017-18 it will be implemented in all the notified Nagar Nigam.

16.3.2 In the financial year 2018-19 it will be implemented in all the notified Nagar Parisad.

16.3.3 In the financial year 2019-20 it will be implemented in in all the notified Nagar Panchayat.

All efforts will be done to follow the execution method outlined above for the cities towns, however, depending upon the centre/state programme and budget availability the cities/ towns might be chosen from any category in any financial year. Due to environmental factors the cities/towns may also be chosen out of these to implement the plan.

17. MONITORING & EVALUATION

17.1 At the state level, State Urban Development Agency (SUDA)/ Jharkhand Urban Infrastructure Development Corporation (JUIDCO) will adopt San-Benchmark framework for revised service level benchmark for sanitation that assess performance of citywide waste water recycling and sewage water treatment.

17.2 State Urban Development Agency (SUDA) / or JUIDCO will develop an M&E framework to measure cities' performance, and also devise data collection and reporting systems using indicator framework developed for San-Benchmark. This will be aligned with the 14th Finance Commission condition of publishing the service level benchmark to avail performance grant. ULBs will develop robust reporting format to track compliance of the various stakeholders with outcomes and process standards.

17.3 A cell will be created inside JUIDCO to monitor and evaluate the wastewater management operation. The cell will be created by funds from external agency funding or from the funds of 14th finance commission or through the state budget.

17.4 A Management Information System (MIS) will be developed accordingly to monitor the progress.

18. TAX INCENTIVE

The tax incentive will apply in following conditions:

18.1 All the Individual Households of RWAs will treat their waste water in a decentralised manner and reuse it inside their colonies as permissible will get a rebate of 10% in the property tax.

18.2 All the new apartments which will be constructed and compulsory treat and reuse the treated waste water in their apartment, will get a 10% rebate of 10%of the construction permit fee, or Rs. 2,00,000/- (Two lakhs) whichever is less.

18.3 All the new malls, big hotels, industries, clubs, colleges, universities, hospitals, sports stadiums etc. which will be constructed will compulsory treat and reuse the treated water. In doing so they will get a rebate of 10 % of the construction permit fee, or Rs. 2,00,000/- (Two lakhs) whichever is less.

18.4 A separate head of the tax namely called 'Waste Water Tax' will be created which may be levied in the property tax for the operation and maintenance of the sepatge.

19. POLICY EVALUATION:

19.1 Policy may be reviewed as and when required for assessing its effectiveness and making changes if necessary.

19.2 This policy shall come into force from the date of issue of this resolution.

20. POWER OF THE STATE GOVERNMENT

20.1 Notwithstanding anything contained in the foregoing paragraphs of the Jharkhand Waste Water Policy, 2017 the State Government by issuance of notification in the official gazette may amend or withdraw any of the provisions and / or the schemes mentioned herein above.

20.2 Interpretation - Should any doubt arise as to the interpretation of any of the provisions of these Rules, the matter shall be referred to the Urban Development and Housing Department, whose decision thereon shall be final.

Order: It is hereby ordered that the copy of this resolution be published in the Special Gazette and wide publicity be given and circulated among all Department/ Head of the Department.

By the order of the Governor of Jharkhand,

(Arun Kumar Singh)
Principal Secretary to Government

Memo No-Suda/Amrut/ Waste Water-Policy/38/2017/2879 Ranchi, Dated...27/4/17

Copy to : Copy of the resolution forwarded to the Superintendent, Government Press, Jharkhand, Ranchi for publication in the forthcoming issue of Government Gazette/Nodal officer, E-Gazette, Urban Development and Housing Department, Government of Jharkhand for information and necessary action.

Principal Secretary to Government

Memo No-Suda/Amrut/ Waste Water-Policy/38/2017/2879 Ranchi, Dated...27/4/17

Copy to : P.S to Minister, Urban Development and Housing Department/ All Additional Chief Secretary/ Principal Secretary/Secretary, Govt of Jharkhand/All Divisional Commissioners, Jharkhand/Director, SUDA / Director DMA/All Deputy Commissioners, Jharkhand / All Officers, UD&HD/ Municipal Commissioners/ Executive Officers/ Special Officers, urban local bodies for information and necessary action.

Principal Secretary to Government

ANNEXURE - X2

RANCHI MUNICIPAL CORPORATION, RANCHI

(ENGINEERING SECTION)
KUTCHERY ROAD, RANCHI, PIN – 834001
e-mail :- support@ranchimunicipal.com

LETTER No.- 350 (SAD) DATED :- 02/08/19.

From,

Municipal Commissioner
Ranchi Municipal Corporation,
Ranchi.

To,

Secretary to Government
Urban Development & Housing Department.

Sub:- **Regarding Submission of the action plan for utilization of treated sewage water from the under construction STP under RMC.**

Ref:- Your Letter No- 237 date-25-07-2019

Sir,

This has the reference of the said letter No- 237 date- 25-07-2019 through which we have been directed to submit the action plan for utilization of treated sewage water from upcoming 37 MLD Capacity STP under zone-I

The following is the status and proposed action plan for the treated sewage water from 37 MLD STP under construction.

(a) Status of Present construction of STP including SPS & Sewer lines - 45% Completed

(b) Expected date of completion - March 2020

(c) Regarding utilisation of treated sewage water, several round of meetings with NTPC Patratu has been held.

NTPC has requested for getting the entire 37 MLD treated water for their project at NTPC site patratu.

(d) On last meeting with them on 18-07-2019 following action plan was decided.

(e) NTPC will request JUIDCO for carrying deposit work in laying pipe line from, existing STP site to their plant site.

(f) NTPC will appoint a consultant of repute for DPR work and accordingly they will deposit the money with JUIDCO.

(g) NTPC requirement for this water will be after 2 to 3 years, all infrastructure will be readied in this period.

(h) RMC will ensure secondary treated water for which tariff will be decided and paid to RMC by NTPC.

(i) NTPC will be responsible for tertiary treated water required for their plant.

This is for your information and action please.

Yours faithfully

Municipal Commissioner
Ranchi Municipal Corporation, Ranchi

Government of Jharkhand
Urban Development and Housing Department

Minutes of Meeting of discussion on Patratu Vidyut Utpadan Nigam Ltd. (PVUNL) proposal of utilization of the entire 37.5 MLD of treated sewage water produced from the under construction STP at Ranchi under RMC held on 18.07.2019 at 12:00 Hrs. under the Chairmanship of Secretary, UD&HD, Govt. of Jharkhand.

Attendance: Enclosed.

The Meeting started with a welcome note from the Secretary, UD&HD.

1. GM (Projects), NTPC has briefed the proposal of PVUNL of intending to use treated sewage water from RMC's upcoming 37.5 MLD STP at Bargai, Ranchi for its under-construction Power Plant at Patratu for Non-potable water applications.

2. PVUNL requires tertiary treated sewage water in place of secondary treated sewage water for which the current under construction STP is designed.

3. PVUNL requested the RMC/UD&HD to do the laying of pipeline and installation of Tertiary Treatment Plant on behalf of PVUNL and all the cost (both Capex & Opex) involved in installation of tertiary treatment plant and laying of pipeline for supply of treated sewage water from STP to the Plant shall be borne by PVUNL.

4. Municipal Commissioner, RMC informed that pipeline from the STP site to Patratu Thermal Power Plant involves laying outside the Ranchi municipal boundary therefore he suggested to involve JUIDCO in the planning and execution of all the necessary infrastructures required to supply treated sewage water from STP to the Plant. It was agreed upon by everyone.

5. Secretary directed PVUNL, RMC & JUIDCO to jointly prepare the Terms of Reference (ToR) that should cover the complete planning, topographical survey, land identification, land acquisition plan, assistance in applying for various clearances (like Environmental, Railway, Road, Forest), Impact assessments, detailed estimate, BOQ etc. based upon which JUIDCO can appoint the Consultant for preparation of DPR and to take action for all approvals for its execution.

   (Compliance: PVUNL, RMC and JUIDCO)

6. PVUNL wants to sign a formal agreement with RMC and JUIDCO in which Secretary directed the PVUNL to discuss with RMC & JUIDCO and accordingly submit the draft agreement format that should be inline with the agreements that has already been done by NTPC with other Municipal Corporations.

   (Compliance: PVUNL)

7. Secretary informed PVUNL that after submission of Draft Agreement format, the approval of Hon'ble Minister, UD&HD on the proposal will be taken and thereafter further necessary action may be taken in this regard.

The meeting ended with vote of thanks.

19/7/19

(Ajoy Kumar Singh)
Secretary to Govt.

SMCG/UD&HD/Supply of treated water to PVUNL/2019/25...229.....date: 19/07/19

Copy To:- Municipal Commissioner, RMC/ DC, Ramgarh/ DC, Ranchi/Project Director (Technical), JUIDCO Ltd./GM (Project), NTPC/ All the representatives present in the Meeting.

19/7/19

Deputy Director, SUDA

पीवीयुएन
PVUN

पतरातु विद्युत उत्पादन निगम लिमिटेड
PATRATU VIDYUT UTPADAN NIGAM LTD.
(A subsidiary of NTPC in Joint Venture with JBVNL)
पतरातु / PATRATU

सुदर्शन चक्रवर्ती
मुख्य कार्यपाली अधिकारी
Sudarsan Chakrabarti
Chief Executive Officer, PVUN

27 JUN 2019
1433

Ref: 9585\999\STP-01/

Date: 22.06.2019

To,
The Secretary,
Urban Development
Govt. of Jharkhand, Ranchi

Subject: Supply of Treated Sewage water from STP, Ranchi of RMC to Patratu (3x 800 MW) STPP Plant of PVUNL

Dear Sir,

Patratu Vidyut Utpadan Nigam Ltd (PVUNL), a Joint Venture Company of NTPC Ltd. & JBVNL (Jharkhand Bijli Vitran Nigam Ltd) is constructing a 3 x 800 MW Coal Fired Power Plant at Patratu (PSTPP) situated in the Ramgarh District of State Jharkhand.

The water requirement of 27 Cusecs for the proposed Power plant is envisaged to be met from Patratu Dam on Nalkari River and the related work for the same is under way.

However, as per Government of India Guidelines and also one of the conditions made in Environment Clearance for Patratu Super Thermal Power Project at Patratu, PVUNL needs to explore the possibilities of using Treated sewage water from the Sewage Treatment Plant of Municipality / local bodies / similar organizations located within 50 km radius of the Power project to minimize the water drawl from surface water bodies.

In view of the above, NTPC / PVUNL approached Ranchi Municipal Corporation (RMC) in Oct-2016 to explore the possibility of using Treated sewage water from its upcoming 37.5 MLD STP at Bargai Ranchi.

RMC in the said meeting agreed to supply the secondary Treated sewage water to PVUNL.

Subsequently, a few rounds of discussions (the latest discussions held in February 2019 and in first week of June 2019) between PVUNL and RMC have taken place regarding detailed modalities / formal agreement with respect to the said work. However, since the cross-country pipeline from the said STP at Ranchi to Patratu Thermal Power Plant involve considerable length (approx. 50 Kms which will need a survey) criss-crossing various municipal / civic areas & districts, it is thought prudent to approach your good office regarding the matter.

Contd. page ..2/-

Office: Patratu Vidyut Utpadan Nigam Limited, Patratu, P.O. PTPS Patratu, Distt. Ramgarh, Pin - 829119 (Jharkhand) Tel. No. 06553-286031, Email: sudarsanchakraborty@ntpc.co.in

The salient points of PVUNL's proposal regarding the said work are brought out below for your kind consideration:

- PVUNL intends to use treated sewage water from RMC's upcoming 37.5 MLD STP at Bargai (Ranchi) for its under construction Power Plant (3X800 MW) at Patratu for Non-potable water applications.
- Further, in line with Draft Model Agreement prepared by CEA (Central Electricity Authority), Ministry of Power, GOI for use of Municipal sewage treated water for non-potable use by power industry/plant, PVUNL requested RMC to look in to the possibility of providing Tertiary treated sewage water to PVUNL in place of secondary Treated sewage water. It may also be noted that cost of Tertiary treatment plant (which is an additional requirement for use of treated water in power plant and can be installed at either at STP end or at Power plant end) both Capex and Opex would be borne by PVUNL.
- PVUNL is to consume the entire 37.5 MLD of treated water from the STP.
- PVUNL request RMC/ Ministry of Urban development (MOUD), GOJ to provide treated water to PVUNL at our Plant's door-step. We request RMC/ MOUD(GOJ) to do this job on behalf of PVUNL on deposit work basis i.e entire cost (both Capex and Opex) towards transportation of treated sewage water to our plant premises shall be borne by PVUNL.
- The cost of supply of treated water (Capex and Opex) associated with entire work pertaining to transportation of treated sewage water to plant end will be duly approved from CERC (Central Electricity Regulating Authority). The cost will be discovered through transparent bidding process by RMC/MOUD(GOJ) either in EPC mode or PPP mode in line with the model followed in Municipalities already in other states for NTPC.
- The minimum period of agreement for supply of treated sewage water shall be for 25 years from the date of start of operation & commencement of supply of treated sewage water to PVUNL by RMC. Renewal of agreement beyond 25 years shall be on mutually agreed terms.

Kindly note since the construction of the project has already been started since March 2018, the transmission pipeline works needs to be started at the earliest.

In view of the above, we request your kind support and direction for execution of the transmission pipeline works by RMC/MOUD(GOJ) on deposit work and an early confirmation in this regard will be highly appreciated.

Subsequently, a formal agreement between RMC/MOUD(GOJ) and PVUNL can be signed at any convenient time as has been done with other States.

With Warm Regards

(Sudarsan Chakrabarti)
Chief Executive Officer, PVUNL

RECORD NOTES OF DISCUSSION

A preliminary discussion was held between Ranchi Municipal Corporation, Ranchi and NTPC limited on 14th October 2016 at the office of Municipal Commissioner RMC -Ranchi on the issue of providing Sewage treated Water from Ranchi City Sewage Treatment Plant for NTPC – Patratu STPP (3x800 MW) project.

Presence

Ranchi Municipal Corporation, Ranchi	NTPC limited
Shri Prashant Kumar, IAS,	Soumitra Bhattacharyya,
Municipal Commissioner	AGM(PE – C&I), Proj Manager(Engg)
	EDC NOIDA
Shri Suresh Paswan, Chief Engineer	M.K. Asthana,
	AGM(PE-Mech, WS), EDC NOIDA

Shri Bijay Kumar Bhagat, Superintending Engineer
Shri U.N. Tiwary, Executive Engineer

Followings are the record notes of discussions in brief

1 NTPC informed that as per the Government guidelines, NTPC needs to explore the possibilities of using Sewage Treated Water from STPs in Ranchi City for the upcoming 3x800 MW Patratu STPP.

2 The preliminary date sought by Municipal Comissioner, RMC- Ranchi about quantity of water, expected water quality (chemistry), preliminary source of water etc. for the proposed units (3x800MW) was provided by NTPC.

3 Municipal Commissioner, RMC-Ranchi informed that they have already awarded the contract of sewage treatment work to M/s Jyoti Buildtech – Lucknow and work on several fronts in different parts of Ranchi is in progress.

The land where the Sewage Treatment Plant will come is already acquired. It will come at Bargai (near Booty Road) and demarcation of land is already done. The proposed location was visited by NTPC along with engineers of Municipal Corporation of Ranchi

Municipal Commissioner, RMC, Ranchi further informed that the proposed Sewage Treatment Plant is of 37.5 MLD capacity and expected to be ready by 2018 and they are ready to provide Sewage Treated Water (after Secondary Treatment) to desired chemical quality to NTPC. They further informed that the economics of water treatment will be further worked out by them and the same shall be further discussed with NTPC

4 NTPC requested RMC to set up the tertiary treatment plant as required based on the secondary treatment plant output quality for meeting the water quality requirement of power plant make up at STP complex only and also requested RMC to lay the cross country pipeline of tertiary treated water from STP complex to the doorstep of Patratu Station of NTPC necessary CAPEX and OPEX towards the same will be borne by NTPC. Further economics regarding this will be discussed between NTPC and RMC for drawing up the final agreement and terms and conditions.

Hence NTPC requested RMC to float a separate open tender for TTP and associated delivery pipelines and pumping also to arrive at the discovered rate of water per KL basis to be charged by RMC to NTPC. (NTPC needs this for taking up suitably subsequently with CERC as per the gazette notification for granting pass 'through in the electricity tariff to be charged from the consumer]

5 Municipal Commissioner, RMC suggested that it will be better if NTPC takes the secondary treated water through pipeline to their premises and do the tertiary treatment in their premises. Otherwise, the population on the way will tap tertiary treated water for drinking purpose causing loss to NTPC. Also it will be proper that NTPC does the pipeline laying work and erection of TTP on its own as it has better project handling and O&M capabilities.

RMC would like to charge NTPC for secondary treated sewage water based on mutual understanding and financial modelling.

Municipal Commissioner
Ranchi Municipal Corporation, Ranchi

कार्यालय, नगर निगम, आदित्यपुर

पत्रांक 2206

प्रेषक,

कार्यपालक पदाधिकारी
नगर निगम, आदित्यपुर।

सेवा में,

श्री अमीत कुमार
परियोजना निदेशक,
एसएमसीजी, झारखण्ड।

दिनांक 16.7.19

विषय: Regarding submission of the action plan or utilization of treated waste water from the STPs.

प्रसंग : भवदीय पत्रांक 1185 दिनांक 25.06.19।

महाशय,

उपर्युक्त प्रासंगिक विषय के संबंध में कहना है कि action plan for utilization of treated waste water from the STPs से संबंधित मांगी गई प्रतिवेदन तैयार कर पत्र के साथ संलग्न कर भेजी जा रही है।

सादर सूचनार्थ समर्पित।

अनु० : यथोक्त।

विश्वरंजन
16/7/19
कार्यपालक पदाधिकारी
नगर निगम, आदित्यपुर

16-7-19

PROPOSED STRATEGY FOR REUSE OF TREATED SEWAGE WATER IN ADITYAPUR MUNICIPAL CORPORATION

Sewerage System in Adityapur Municipal Corporation

In the absence of a sewerage system, the mode of disposal of waste water consists of septic tanks followed by soak pits or open drains for release of septic tank effluent. The surface drains are basically storm water drains and indiscriminate disposal untreated septic tank effluent in to the storm water drainage system results in pollution of the surface water bodies and ground water. The Adityapur Municipal Corporation is proposing to construct STPs under AMRUT Scheme for effective abatement of pollution of River Swarnarekha and Kharkai and its ecological rejuvenation through release of minimum flows in the river. The designs conform to the NGRBA guidelines.

After a techno-economic feasibility study, a partly decentralized system is adopted consisting of 4 MLD STP for Zone-1, 20 MLD STP for Zone-2, 10 MLD STP for Zone-3 and 2 MLD STP for Zine-4. Sequential Batch Reactor (SBR) technology is adopted for the STPs.

Reuse of Treated sewage

As per the SLBMs defined by MoHUA, 20% reuse or recycling of the treated sewage is to be attained. In the present project it is proposed to reuse/ recycle up to 80% of the treated sewage. The estimated capacity of treated water reuse is 3200 cu.m at 4 MLD, 16000 cu.m at 20 MLD, 8000 cu.m at 10 MLD and 1600 cu.m at 2 MLD plant. The recycling is proposed to be done through water tankers for which a pumping station and 20 water tankers are required along with adequate manpower to operate the facility. The O&M revenue model indicates that by pricing the recycled water at reasonable rate, the maintenance expenditure of the STPs can be fully recovered.

The targeted application of recycled water is as follows :

1. Adityapur Municipal corporation for watering parks and gardens within the Municipal Corporation limits. The supply will be through water tankers of 5000/10000 liter capacity.
2. Local residential communities and institutions for gardening of their landscape zones. These include playgrounds, educational institutions, commercial establishments and residential colonies. The supply will be through water tankers of 5000/10000 liter capacity.
3. For flushing of toilets and urinals at public place, commercial establishments, educational and government institution. The supply will be through water tankers 5000/10000 liter capacity into specifically constructed sumps at the sites.
4. For industrial processes and construction activities the supply will be through a specially laid pipeline or water tankers.

Supply of recycled water to various sectors is likely to be as shown below:

1. Commercial establishments : 5%
2. Parks and Gardens: 10%
3. Government establishments: 5%
4. Educational establishment: 5%
5. Educational establishment : 5%
6. Industries: 70%

15-7-19

कार्यालय नगर पंचायत, राजमहल

पत्रांक : 685 /न0 पं0 दिनांक : 02/08/19

प्रेषक,

कार्यपालक पदाधिकारी,
नगर पंचायत,
राजमहल।

सेवा में,

सरकार के सचिव,
राज्य शहरी विकास अभिकरण
नगर विकास एवं आवास विभाग,
झारखंड, राँची।

विषय : NGT एवं न्यायालय से सम्बंधित मामलों में प्रतिवेदन समर्पित करने के संबंध में।

प्रसंग : भवदीय पत्रांक :– 1334 दिनांक :– 25.07.2019

महाशय,

उपर्युक्त प्रासंगिक विषयक कहना है कि नगर पंचायत, राजमहल का कोई मामला न्यायालय में लंबित नहीं है। NGT सम्बंधित प्रतिवेदन तैयार कर इस पत्र के साथ संलग्न कर सादर सूचनार्थ समर्पित।

अनु0 :– यथोक्त।

विश्वासभाजन
2.8.19
कार्यपालक पदाधिकारी
नगर पंचायत
राजमहल।

Received
02/08/19

NAGAR PANCHAYAT RAJMAHAL

Under the 'Mission clean Ganga' no untreated municipal sewage or industrial effluent would be allowed to be discharged into the river Ganga by the year 2020. In Rajmahal, total estimated sewage generation of the town in the year 2027 is expected to be 3.0 mld and in the year 2047 it is 4.35 mld. Currently, the sewerage and storm water system in Rajmahal is under-construction. It aims to provide a complete sewerage facility in the town for which required trunk/ branch/ lateral sewer network has been taken in this proposal.

To achieve the desired BOD & TSS levels the treated effluent from conventional Activated Sludge process, Moving Bed Bio Reactor and Extended aeration shall need further Treatment in the shape of sand filtration. To reduce the coliform level, disinfection of treated effluent through chlorination is proposed.

PROPOSSED ACTION PLAN FOR UTILIZATION OF TREATED WASTE WATER FROM THE STP

1. AGRICULTURAL REUSE:
   - i) Availability of suitable irrigation fields in the vicinity of the 3.5 MLD capacity plants;
   - ii) Irrigation of agricultural areas and in farming;
   - iii) Construction of reservoir for the storage of treated water;
   - iv) Supply of Water to agricultural areas through drain/pipe line/ tankers;
   - v) Prior to allocation of treated water for irrigation purposes in any area, soil hydraulic tests for those areas, water requirements for the crops/vegetation in the respective area and water quality of irrigation water to be used in those respective areas according to these tests should be computed. (Treated Water Parameters attached)

2. ENVIRONMENTAL/RECREATIONAL REUSE:
   The treated water shall be used by Rajmahal ULB for the following applications in their administrative boundaries:
   - i) Maintenance of parks, gardens and developing landscaping. (Sanghi Dalan Park And Sharan Park).
   - ii) Rejuvenation of ponds and streams for recharging ground water during lean seasons,

3. CONSTRUCTION PURPOSES:
   Rajmahal ULB may propose to use the treated water for the following construction activities:
   - I) Supply of treated water to the new construction sites /developing area through tankers against a fixed Pre-determine charge,
   - ii) Location for setting up filling stations for treated water in tankers/lories shall be developed after assessment of the demand at local level.
   - iii) Laying of special supply line for treated water in developing areas /new localities if found feasible,
   - iv) Stop supply of fresh water once the above infrastructure is functional and found satisfactory by the user.

4. DUAL WATER SUPPLY IN HOUSES/OFFICES/BUSINESS ESTABLISHMENTS:
   - I. Provisions of dual water pipeline; independent of each other, one for potable water supply and another for potable water supply and another for supplying treated water,
   - ii. Treated water shall be used for flushing and watering the lawns/gardens,
   - iii. Local ULB shall make endeavour to create conveyance network for supplying treated water to institutional Areas having large numbers of such users to their need

5. URBAN LOCAL BODY (ULBs):
   A large portion of the treated water is planned to be used for against the water requirements of the ULBs. The treated water shall be used for Solid Waste Management (SWM) plant, horticulture, maintenance of parks, public toilet flushing and other construction activities in the town.

TEDCL

Jharkhand Urban Infrastructure Development Company (JUIDCO) & State Programme Management Level Group (SPMG)

Management Consultant : Tractebel Engineering Pvt.Ltd.

Name of Contractor : Annu Infra Construct (India) Pvt.Ltd.

2nd Fortnightly Report @ July - 2019

Name of the District/ULB	Name of the Project	Total Project cost in Rs Crore / Approval Order No. / Date/ Head	Agreement No./ Date/Contract Price in Rs Crore	As per Agreement, Project Start Date / Total Duration / Completion Date	Major Project Components	Unit	Till last fortnight: Total Quantity Agreement	Till last fortnight: Achieved Quantity	Till last fortnight: Achieved %	Current fortnight: Planned Quantity as per milestones set for the project	Current fortnight: Achieved Quantity	Current fortnight: Achieved %	Cumulative Progress: Quantity	Cumulative Progress: Percentage	Reason for slippage (if any)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Sahibganj / Rajmahal Nagar Panchayat	Rajmahal Municipal Waste Water Project	Rs. 50.28 Cr - [illegible] / Rajmahal Sewerage	[illegible] / 07.07.2018 / 31 [illegible]	03.07.2018 / 31 months / 03.02.2021	1. Sewerage Treatment Plants	Lumsum									Staff quarter PB-1 and centrifuge building Plinth beam work in progress
					STP (9.5 MLD)	%	100%	19%	19%	60.00%	1%	1%	20%	20%	
					2. UPVC & RCC Pipe network	Mtr	94210								Zone 1,2&3 pipe laying works in progress
					(A) UPVC Pipe network	M	51885	15522	29.59%	60.00%	715.1	2.24%	18117.1	43.83%	
					(B) RCC Pipe network	M	4245	47.50	2.04%	60.00%	0.00	0.00%	41.50	2.04%	Zone 1,2&3 pipe laying works in progress
					3. House service connections	NOS.	2307								Contractor has to start the work
					Zone 1	nos		0.00	0.00%	60.00%		0.00%	0.00	0.00%	
					Zone 2	nos		0.00	0.00%	60.00%		0.00%	0.00	0.00%	
					Zone 3	nos		0.00	0.00%	60.00%		0.00%	0.00	0.00%	
					4. Construction of manholes	NOS.	1439	339	24.47%	60.00%	32	2%	351	26.04%	Zone 1,2&3 manhole construction work under progress
					5. Road Restoration Work	SQM	1611.89								Soil compacting, brick soling and concreting in progress
					Zone 1	sqm		1022.34	63.47%	60.00%	50.15	1.11%	1002.49	66.34%	
					Zone 2	sqm									
					Zone 3	sqm									
					6. SPS & MPS	Lumsum	4								SPS 2&3 PS concrete work completed
					SPS-01 (Zone-1)	%	1	18%	18%	60.00%	1%	1%	19%	19%	
					SPS-02 (Zone-2)	%	1	13%	13%	60.00%	1%	1%	14%	14%	
					SPS-03 (Zone-3)	%	1	5.00%	5.00%	60.00%	1%	1%	6%	6%	
					MPS (Zone-3)	%	1	8%	8%	60.00%	1%	1%	9%	9%	
					7. Rising Main	Mtr	1050								Work not started
					8. Low Cost Sanitation	NOS.	14								Work in progress for all new LCS
					New work	nos.	5	31%	31%	60.00%	4%	4%	35%	35%	
					Renovation work	nos.	9	-	-	60.00%	-	-	-	-	
					9. Nallah Restoration Work	SQM	811.2								
					10. Electromechanical Works Zone-1, Zone-2 & Zone-3	NOS.		-	-		-	-	-	-	Design and Drawing submitted for Approval at IIT, Roorkee

Overall Physical Progress	Planned %	Achieved %		No. of appended photographs (Showing progress during current fortnight)
	60.00%	24.00%	-	

Financial Progress (Amount spent in Rs Crore): Spent till last month Amount (in crores)	Spent in current month Amount (in crores)	Total Amount Spent Amount (in crores)	Time spend (Year & Month)	Indicating reason for delay in the project time schedule and the issues, if any	Instruction given during the last meeting	Follow up action taken
17	18	19	20	21	22	23
₹ 8.14	₹ 1.68	₹ 9.82	12 Month	-	-	-
Overall Financial Progress		Planned %	Achieved %	Including Mobilisation advance [illegible] bill paid	-	-
		60.00%	22.14%			

River Front Development (RFD) – Rajmahal

Name of the Agency/Contractor	: M/S Sri Ram Enterprises
Agreement No	: 277-JUIDCO
Contract Value	: Rs 9, 35, 48,010.
Date of start of work	: 16.05.2018
Date of Completion of work	: 15.04.2019 (EOT upto 15th June 2019)
Physical progress	: 99.83%
Financial progress	: 78.18% (7.31 Cr.)upto RA# 05

S. No	Name of Sub-work	Status	Total Physical Progress (%)	Cum. Physical Progress (%)	Remarks
1	**Singhi Dalan Ghat**	Completed	100%	100%	
A	Chatri				Completed.
B	Ghat str.				
C	Toe wall				
D	Miscellaneous				
E	Planter				
2	**Ferry Ghat**	In progress-	100%	99.5%	work in progress
A	RDRD		100%	94.5%	Miscellaneous works in progress
3	**Madhusudan Cremation Ghat**	Completed	100%	100%	
A	Toe wall				Completed.
B	Miscellaneous				
C	Planter				
D	Boundary Wall				
E	Body washing				
F	River Diversion				
G	Ghat Structure				
H	Water Spot				

CHAPTER – 4

DESIGN DETAILS OF SEWERAGE NETWORK AND SEWAGE TREATMENT PLANT

4.1 POPULATION WITHIN THE PROJECT AREA

4.1.1 Census Population for the Last 3 Decades

The census population for the last three decade is already described in Chapter-2 and also given in Table-4.1.

Table-4.1: Census Population Details of Rajmahal Town

Year	Population
1991	13958
2001	17977
2011	22514

4.1.2 Details of Future Population Projections

The City Master Plan has not been prepared by Rajmahal Nagar Panchayat till date. The Population has been projected as described in CPHEEO Water Supply Manual. The population projection for Rajmahal town has been done by various methods and details are given in **Annexure-IV**. The projected population by various methods for various years is summarizes in Table-4.2 and depicted in Figures-4.1 to 4.3.

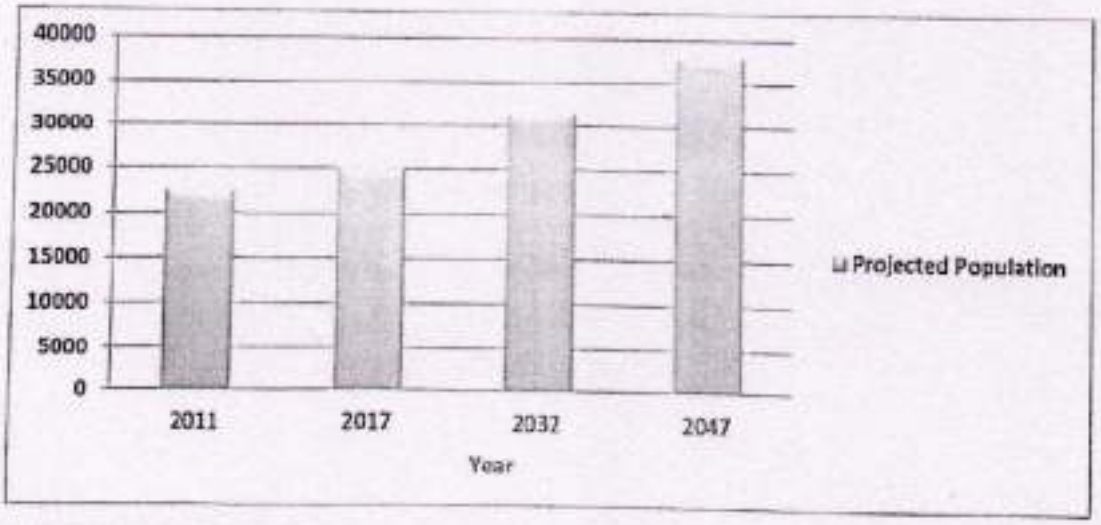


Figure-4.1: Population Projection by Arithmetical Progression Method

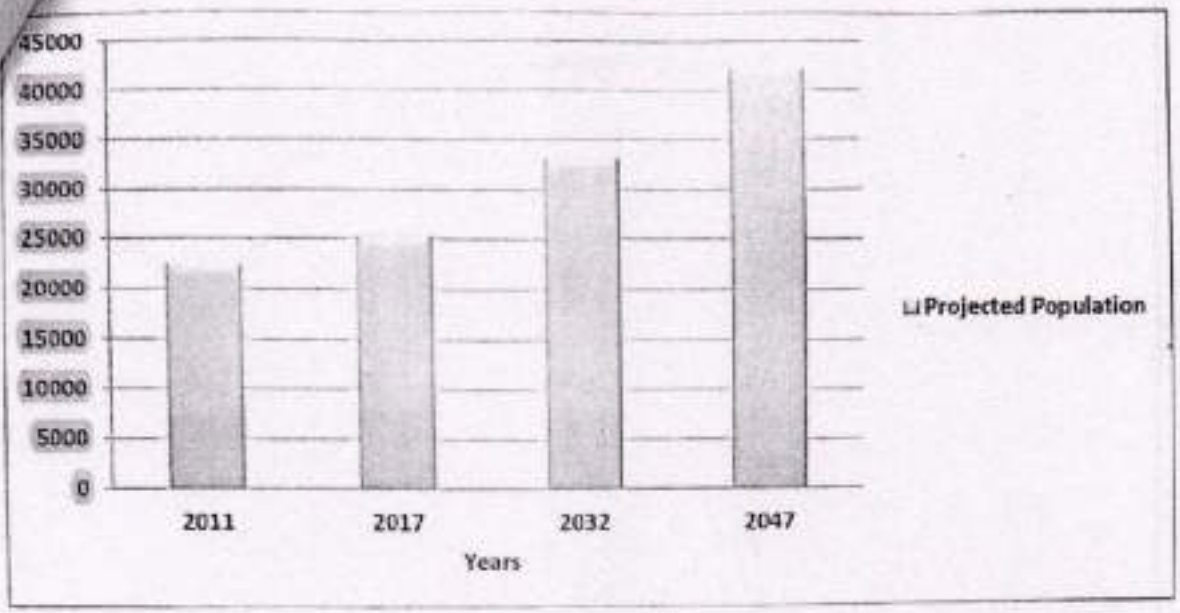


Figure-4.2: Population Projection by Geometrical Increase Method

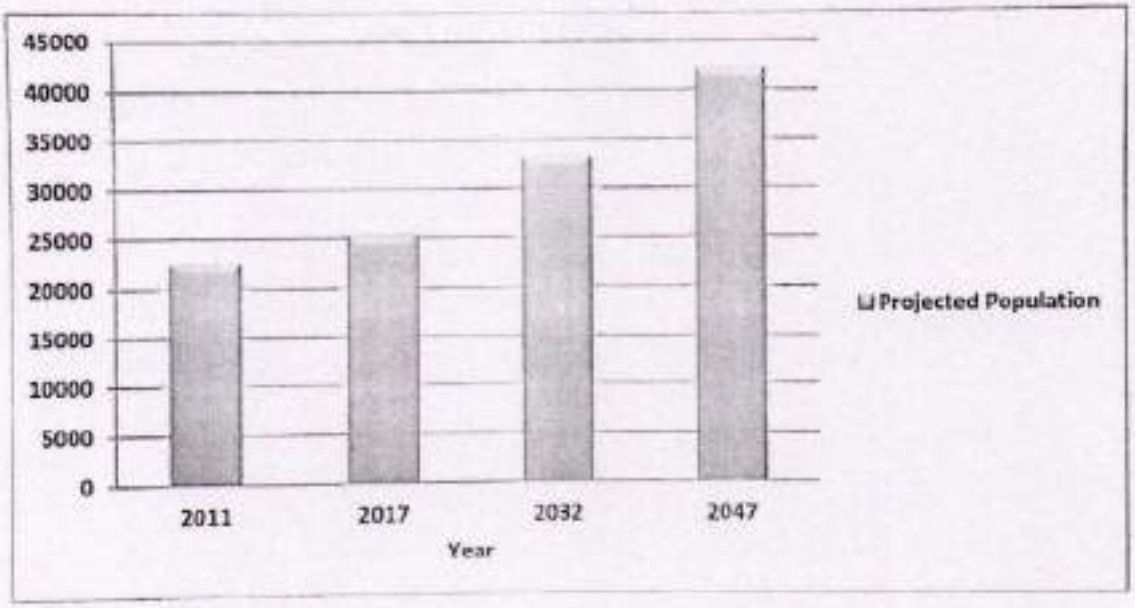


Figure-4.3: Population Projection by Incremental Increase Method

Table-4.2: Population projection by various methods for Rajmahal town

Year	Population Projection by Arithmetical Progression Method	Population Projection Geometrical Increase Method	Population Projection Incremental Increase Method
2011	22514	22514	22514
2017	25081	25080	25329
2032	31498	37165	33184
2047	37915	53163	42204

Projections done by Arithmetic Progression Method seems to be realistic. Hence the Adopted Population for year 2047 is 37,915.

4.1.3 Detail of Projected Population Ward Wise

The ward wise population for various years using Arithmetic Mean Method is given in Table-4.3.

Table-4.3: Ward-wise Projected Population

Rajmahal Nagar Panchayat	Population			
	2011	2017	2032	2047
W 01	1876	2090	2625	3159
W 02	1691	1905	2440	2974
W 03	1306	1520	2055	2589
W 04	1738	1952	2487	3021
W 05	2187	2401	2936	3470
W 06	1911	2125	2660	3194
W 07	1620	1834	2369	2903
W 08	1884	2098	2633	3167
W 09	1790	2004	2539	3073
W 10	1403	1617	2152	2686
W 11	2360	2574	3109	3643
W 12	2748	2962	3497	4031
Total	**22514**	**25081**	**31498**	**37915**

4.1.4 Details of Projected Water Demand Ward Wise

The per capita water supply needs to be enhanced 135 lpcd so that sewerage network can function. A separate water supply project is under planning stage which on completion shall increase water supply to 135 lpcd. A copy of the letter to this effect is enclosed as **Annexure-V.** The water demand for projected population is given in Table-4.4.

Table-4.4: Water Demand for Projected Population

Rajmahal Nagar Panchayat	Population	Water Demand @ 135 lpcd	Population	Water Demand @ 135 lpcd	Population	Water Demand @ 135 lpcd	Population	Water Demand @ 135 lpcd
	2011	2011	2017	2017	2032	2032	2047	2047
W 01	1876	0.253	2090	0.282	2625	0.354	3159	0.427
W 02	1691	0.228	1905	0.257	2440	0.329	2974	0.402
W 03	1306	0.176	1520	0.205	2055	0.277	2589	0.350
W 04	1738	0.235	1952	0.264	2487	0.336	3021	0.408
W 05	2187	0.295	2401	0.324	2936	0.396	3470	0.469
W 06	1911	0.258	2125	0.287	2660	0.359	3194	0.431
W 07	1620	0.219	1834	0.248	2369	0.320	2903	0.392
W 08	1884	0.254	2098	0.283	2633	0.355	3167	0.428
W 09	1790	0.242	2004	0.271	2539	0.343	3073	0.415
W 10	1403	0.189	1617	0.218	2152	0.290	2686	0.363
W 11	2360	0.319	2574	0.347	3109	0.420	3643	0.492
W 12	2748	0.371	2962	0.400	3497	0.472	4031	0.544
	22514	**3.039**	**25081**	**3.386**	**31498**	**4.252**	**37915**	**5.119**

4.1.5 Detail of Future Sewage Generation Ward Wise

The scheme is to be design complying with norms prescribed in the Central Public Health Environmental Engineering Organization (CPHEEO) manual. The manual describe that sewerage system should be designed with 135 lpcd rate of water supply. As per CPHEEO manual for Sewerage and Sewage Treatment (Revised edition), sewage generation rate would be 85% of the per capita water supply (lpcd) i.e. @ 115 per capita. The future sewage generation for projected population is given in Table-4.5.

Table-4.5: Sewage Generation for Projected Population

Rajmahal Nagar Panchayat	Population	Sewage @ 115 lpcd	Population	Sewage @ 115 lpcd	Population	Sewage @ 115 lpcd	Population	Sewage @ 115 lpcd
	2011	2011	2017	2017	2032	2032	2047	2047
W 01	1876	0.215	2090	0.240	2625	0.301	3159	0.363
W 02	1691	0.194	1905	0.219	2440	0.280	2974	0.341
W 03	1306	0.150	1520	0.174	2055	0.236	2589	0.297
W 04	1738	0.199	1952	0.224	2487	0.285	3021	0.347
W 05	2187	0.251	2401	0.276	2936	0.337	3470	0.398
W 06	1911	0.219	2125	0.244	2660	0.305	3194	0.367
W 07	1620	0.186	1834	0.210	2369	0.272	2903	0.333
W 08	1884	0.216	2098	0.241	2633	0.302	3167	0.363
W 09	1790	0.205	2004	0.230	2539	0.291	3073	0.353
W 10	1403	0.161	1617	0.186	2152	0.247	2686	0.308
W 11	2360	0.271	2574	0.295	3109	0.357	3643	0.418
W 12	2748	0.315	2962	0.340	3497	0.401	4031	0.463
	22514	2.583	25081	2.878	31498	3.614	37915	4.351

4.2 DESIGN OF SEWERAGE NETWORK

The proposed sewerage system has been divided into four Sewerage Zones namely Sewerage Zone 1, 2, 3 and 4 as per topography of the area. The ultimate population for the ultimate horizon year 2047, average and peak sewage flows to each Sewerage Zone is presented in Table-4.6. The flow chart for sewerage scheme for Rajmahal town is given in Figure-4.4.

2.6.1 Components of Proposed Sewerage Work

Comprehensive sewerage network is proposed for Rajmahal to cover entire area with sewerage system, so that sewage flows can be collected in an integrated manner and conveyed to STP for treatment before discharge into Ganga river via drain. The proposed sewerage system is designed for a 30 year period with base period of 2017 and design year 2047. The indicative influent characteristics of sewage to be considered for design aspects are given in Table-2.6.

Table 2.6: Influent Sewage Characteristics

Parameter	Concentration Range
pH	6.5-9.0
BOD (mg/l)	250-300
COD (mg/l)	500-600
Oil & Grease (mg/l)	10-15
S.S. (mg/l)	500-600
TDS (mg/l)	1200-1500
Coliform Count (MPN/100ml)	10^7-10^9

A. Sewer Network

(i) **Sewer Pipes:** It is proposed to lay approximately 34.206 km long sewer network intown. The sewer diameter and length in various zones is shown in Table-2.7.

Table 2.7: Size wise details of the sewers proposed

Sewerage Zones	Sewers Dia (mm)	Length (Km)
Zone I	200-450	7.565
Zone II	200-250	3.175
Zone III	200	1.210
Zone IV	200-600	22.256
Total		34.206

The proposed sewers are of Ductile Iron pipes with cement mortar lining inside for conveying the sewage from pumping stations to the other sewer manhole in case of invert level is more the 5.0-6.0 m deep / Sewage Treatment Plant sites.

(ii) **Manholes:** The ordinary circular manholes of brick masonry, RCC are proposed at alljunctions, change of diameters, and change in pipe gradients and on 30 m straight run of sewer. RCC manholes are proposed for sewer diameter upto 600mm to facilitate lowering of equipment for cleaning purpose.

(iii) **House Connection:** Laterals are proposed along the roads to connect sewage from individual houses and it is connected to branch sewers. 100% house connections are proposed for Rajmahal since this area is un-sewered.

C. Sewage Treatment Plant

STP is designed to discharge the treated sewage to River Ganga with following effluent standards as shown in Table-2.14.

Table-2.14: NRCD Standards for Discharge of Effluent into River

S.No.	Parameters	Units	Raw Sewage Quality (as per test results)	As per NRCD standards
1	Total Suspended Solids	mg/l	300	<10
2	BOD_5 at 20°C	mg/l	150	<10

The ultimate capacity of STP is 4.094 mld (average flow) for ultimate design year 2047. However, as per NGRBA framework and CPHEEO guidelines construction of STP is considered for 10 years i.e. for year 2027 from base year 2017. Accordingly the STP capacity is considered as 3.0 mld. The details are given in Table-2.15.

Table-2.15: Capacity of Sewage Treatment Plant for Year 2027

Population year 2027	Sewage generation @ 80% of W/S rate of 135 lpcd in MLD per day	Proposed STP Capacity
29359	3.170	3.0

A detailed comparison of Land requirement and efficiency of various treatment processes is given in Table-2.16. Land required for various components of sewerage system for the ultimate year 2047 will be acquired / transferred before the start of construction.

Table 2.16: Land Requirement for Various Processes

S.No.	Treatment Process	Capacity of STP (mld)	Land Required (Ha./MLD)	Total Land Requirement (ha.)
1	Anaerobic + Facultative + Maturation Pond	3.0	1.00	**3.00**
2	Aerated Lagoon with Maturation Pond	3.0	0.50	**1.50**
3	UASBR followed by Facultative Polishing Unit	3.0	0.30	**0.9**
4	Activated Sludge Process	3.0	0.20	**0.6**
5	Extended Aeration	3.0	0.25	**0.75**
6	Moving Bed Bio Reactor	3.0	0.10	**0.30**
7	Sequential Bed reactor	3.0	0.10	**0.30**

Selection of Technologies (stage I)

- The land requirement for Anaerobic + Facultative + Maturation Pond, Aerated Lagoon with Maturation Pond and UASBR followed by Facultative Polishing Unit is high and unavailable at site.

Annexure - (I)

(198)

New FMR	Particulars	Quantity/ Target	Budget (Rs. Lakhs)	GoI Remarks	Approved Budget (Rs. In lakhs)
	Implementation of Kayakalp			Traversing gaps & landscaping under kayakalp as per followings:- 1-23 DHH @ 2L=46L 2-12 SDH @ 1L=12L 3-188 CHC @ 0.50L=94L	
13.2.4	Contingencies	1	2.00	Approved Rs. 2 Lakhs as contingency money under kayakalp programme.	2.00
13.2.5	Swachh Swasth Sarvatra	48	480.00	Approved Rs 480.00L as per the annexure attached.	480.00
13.2.6	Any other (please specify)	1	88.00	Approved Rs 64.00 Lakhs towards as followings:-a)Landscaping at 5 DH@Rs 5.0 L /DH= Rs 25 Lakh for 5DH and at 5 SDH/CHC @Rs3 L/SDH/CHC =Rs 15 L for 5 CHC b)Landscaping at 1 PHC / district @ Rs.1.00 Lakh per PHC Rs.24.00 L c)Total fund for Landscaping is Rs64.00 L	64.00
13.3	**Any other activity (please specify)**		**984.00**		**984.00**
13.3.1		1	984.00	Approved Rs. 984.00L as detailed below: a) Fire safety measures like extinguisher, exit plan, smoke detector, Alarm system, installation of Lightening conductor etc @5 Lakh/DH and @Rs.3.00 Lakh/SDH-CHC b) Running cost for ensuring proper segregation at site of generation and collection, transporation & disposal of Bio medical waste by CTF agency @ the Rs. 300000 per DH per year= Rs 3.00 Lakh * 23 DH=Rs 69.00 Lakh for DH and for SDH/CHC @ Rs 1.00 Lakh per SDH/CHC per year=Rs.1.00 Lakh *200.	984.00

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New FMR	Particulars	Quantity/ Target	Budget (Rs. Lakhs)	GoI Remarks	Amount approved (Rs. In lakhs)
5.3.2	ASHA Ghar	218	15.70	Approved Rs 15.70 lakhs for Sahiya Rest rooms recurring cost. State to opt for high case load facilities.	15.70
5.3.3	Blood bank/ BCSU/ BSU/ Day care centre for hemoglobinopathies		0.00	0	0.00
5.3.4	Operationalization of FRUS		0.00		
5.3.5	Operationalization of 24 hour services at PHCs		0.00		
5.3.6	Operationalising Infection Management & Environment Plan at health facilities	200	300.00	Approved @ Rs 300 lakhs for 200 SDH/CHC. Approval accorded in FY 2016-17 for Rs 80.50 lakhs for construction of waste storage room @3.5 lakhs for **23 District Hospitals** (FMR B 5.9). Rs 34.50 lakhs also accorded in **2018-19 for 23 DH** (FMR 5.3.6).State to ensure that there is no duplication of activities for which approvals are accorded.	300.00
5.3.7	Infrastructure for paediatric OPD and ward	5	20.00	Approved Rs. 20 Lakhs as per guideline for construction/ renovation of 5 District ETAT and HDU Facility as per guideline (Rs. 4 Lakhs per district). State may share functionality report with GoI once construction/ renovation completed.	20.00
5.3.8	Assistance to State for Capacity building (Burns & injury): Civil Work		0.00	0	0.00
5.3.9	Safety Pits	72	7.20	Approved Rs 7.20 lakhs.	7.20
5.3.10	Establishment of IDD Monitoring Lab		0.00	0	0.00

Annexure-(4)

(192)

New FMR	Particulars	Quantity/ Target	Budget (Rs. Lakhs)	GoI Remarks	Approved Budget (Rs. In lakhs)
9.5.25.1	Quality Assurance Training (including training for internal assessors at State and District levels)	1.00	3.32	Approved Rs. 2.77 **lakhs for trainings as following:** 1) One batch Orientation Training for Assessor (SQAU & DQAU) Internal Assessor Training @ Rs. 1.57L 2) One Batch One day Refresher Training of Qualified Internal Assessor at State level @ 0.40L 3) Budget of Rs.0.80L for attending the EAT training for 4 cadidates @ 0.20L	2.77
9.5.25.2	Miscellaneous Activities under QA (Quality Course)	1.00	4.00	**Rs 4.00 lakhs is approved towards** Course fee for PGDQHM Course by TISS & NHSRC for 2 Participants	4.00
9.5.25.3	Kayakalp Trainings	1.00	4.95	**Rs. 4.95 lakhs is approved for training under Kayakalp as following:** 1.) One batch State Level Awaerness Training of State Officer & District Officer on Kayakalp Program @ Rs. 0.35L 2) One Batch Facility Level Training on Kayakalp Awaerness cum Kayakalp Assessment	4.95

(196)

1. Running cost for ensuring segregation of Bio Medical Waste at the site of generation and transportation & disposal of BM Waste through CTF agency:

Purpose: To ensure proper segregation of Bio Medical Waste at the site of generation and collection, transportation and disposal of Bio medical waste by CTF agency available in Jharkhand.

Common Treatment Facility:

1. **CTF at Lohardaga for 7 Districts**
2. **CTF at Ramgarh for 5 districts**
3. **CTF at Jamshedpur: proposed by M/S Medicare Pvt Ltd**
4. **CTF at Dhnabad: proposed by M/s Medicare Pvt Ltd**

Rate for Collection, Transportations & disposal of bio medical waste by Agency :	**Rs.7 per bed per day.**

Budget proposed:

Sl. No	Item	Unit cost	Quantity	Total Budget
1	For District Hospital, Average Running cost for ensuring proper segregation at site of generation and collection, transportations & disposal of Bio medical waste by CTF agency	3.00 Lakh/year	23	69.00Lakh
2	For SDH/CHC	1.00 Lakh/year	200	200.00Lakh
				269.00 Lakh

Total Amount required for 23 DH & 200 SDH/CHC is Rs. 269.00 Lakh only

Annexure - (2)

(93)70

झारखण्ड सरकार
स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग

अधिसूचना

सं० सं०- 9/RCH-234/2014 990(3) राँची / दिनांक- 10/8/17

राज्य में जैविक अवशिष्ट निष्पादन की समीक्षा एवं अनुश्रवण हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा जारी Bio-Medical Waste Management Rules, 2016 के नियम-11 (1) में प्रदत्त प्रावधानों के अनुपालन के लिए राज्य स्तरीय Advisory Committee का गठन किया जाता है जिसका स्वरूप निम्नवत् है :-

1. सचिव/प्रधान सचिव/अपर मुख्य सचिव, स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग, झारखण्ड — अध्यक्ष।
2. निदेशक प्रमुख, स्वास्थ्य सेवाएं, झारखण्ड-सह-नोडल पदाधिकारी, Bio Waste Management — सदस्य सचिव।
3. सचिव/प्रधान सचिव/अपर मुख्य सचिव, वन, पर्यावरण एवं जलवायु परिवर्तन विभाग, झारखण्ड — सदस्य।
4. सचिव/प्रधान सचिव/अपर मुख्य सचिव, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड — सदस्य।
5. सचिव/प्रधान सचिव/अपर मुख्य सचिव, शहरी विकास एवं आवास विभाग, झारखण्ड — सदस्य।
6. सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड, राँची — सदस्य।
7. मुख्य कार्यपालक पदाधिकारी, राँची नगर निगम, राँची — सदस्य।
8. अध्यक्ष, आई०एम०ए०, झारखण्ड — सदस्य।
9. Bio Waste Treatment हेतु चयनित एजेन्सी के प्रतिनिधि — सदस्य।
10. UNICEF, Jharkhand के प्रतिनिधि — सदस्य।

झारखण्ड राज्यपाल के आदेश से

10/8/2017
(अभिषेक प्रीतास्तव)
सरकार के उप सचिव

ज्ञापांक : 990(3) राँची / दिनांक : 10/8/17

प्रतिलिपि : अधीक्षक, राजकीय मुद्रणालय, डोरण्डा, राँची को झारखण्ड गजट में प्रकाशनार्थ प्रेषित।

10/8/2017
(अभिषेक प्रीतास्तव)
सरकार के उप सचिव

(194) 159

ज्ञापांक : 920(3) राँची / दिनांक : 10/8/17

प्रतिलिपि : प्रधान सचिव, वन, पर्यावरण एवं जलवायु परिवर्तन विभाग, झारखण्ड / प्रधान सचिव, शहरी विकास एवं आवास विभाग, झारखण्ड / सचिव, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड / सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड, राँची / मुख्य कार्यपालक पदाधिकारी, राँची नगर निगम, राँची / अध्यक्ष, आई०एम०ए०, झारखण्ड / UNICEF, Jharkhand को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

प्रतिलिपि : माननीय मुख्यमंत्री के प्रधान सचिव / मुख्य सचिव के विशेष कार्य पदाधिकारी / सभी अपर मुख्य सचिव / सभी प्रधान सचिव / सभी सचिव, झारखण्ड / सभी प्रमण्डलीय आयुक्त / अभियान निदेशक, एन०एच०एम०, झारखण्ड, राँची / सभी उपायुक्त / निदेशक प्रमुख, स्वास्थ्य सेवाएं, झारखण्ड, राँची / सभी क्षेत्रीय उप निदेशक, स्वास्थ्य सेवाएँ / सभी अशैनिक सदर चिकित्सक–सह–मुख्य चिकित्सा पदाधिकारी को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

प्रतिलिपि : माननीय विभागीय मंत्री के आप्त सचिव / अपर मुख्य सचिव के प्रधान आप्त सचिव / विभाग के सभी पदाधिकारी को सूचनार्थ प्रेषित।

10/8/2017
(अभिषेक श्रीवास्तव)
सरकार के उप सचिव

Annexure - (3)

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झारखण्ड सरकार
स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग

अधिसूचना

सं० सं०- 9/RCH-234/2014 979(3) राँची/दिनांक- 10/8/17

राज्य में जैविक अवशिष्ट निष्पादन की समीक्षा एवं अनुश्रवण हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा जारी Bio-Medical Waste Management Rules, 2016 के नियम-12 (4) में प्रदत्त प्रावधानों के अनुपालन के लिए जिला स्तरीय Monitoring Committee का गठन किया जाता है जिसका स्वरूप निम्नवत् है :-

1. उपायुक्त - अध्यक्ष।
2. असैनिक शल्य चिकित्सक-सह-मुख्य चिकित्सा पदाधिकारी - सदस्य सचिव।
3. झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड के प्रतिनिधि - सदस्य।
4. कार्यपालक अभियंता, पेयजल एवं स्वच्छता विभाग - सदस्य।
5. मुख्य कार्यपालक पदाधिकारी/कार्यपालक पदाधिकारी, नगर निगम/नगर पालिका के प्रतिनिधि - सदस्य।
6. स्थानीय आई०एम०ए० शाखा के प्रतिनिधि - सदस्य।
7. Bio Waste Treatment हेतु चयनित एजेन्सी के प्रतिनिधि - सदस्य।

झारखण्ड राज्यपाल के आदेश से

10/8/2017
(अभिषेक श्रीवास्तव)
सरकार के उप सचिव

ज्ञापांक : 979(3) राँची/दिनांक : 10/8/17
प्रतिलिपि : अधीक्षक, राजकीय मुद्रणालय, डोरण्डा, राँची को झारखण्ड गजट में प्रकाशनार्थ प्रेषित।

10/8/2017
(अभिषेक श्रीवास्तव)
सरकार के उप सचिव

ज्ञापांक : 979(3) राँची/दिनांक : 10/8/17
प्रतिलिपि : प्रधान सचिव, वन, पर्यावरण एवं जलवायु परिवर्तन विभाग, झारखण्ड/प्रधान सचिव, शहरी विकास एवं आवास विभाग, झारखण्ड/प्रधान सचिव, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड/प्रधान सचिव, पेयजल एवं स्वच्छता विभाग/सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड, राँची/अध्यक्ष, आई०एम०ए०, झारखण्ड/UNICEF, Jharkhand को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

प्रतिलिपि : माननीय मुख्यमंत्री के प्रधान सचिव/मुख्य सचिव के विशेष कार्य पदाधिकारी/सभी अपर मुख्य सचिव/सभी प्रधान सचिव/सभी सचिव, झारखण्ड/सभी प्रमण्डलीय आयुक्त/अभियान निदेशक, एन०एच०एम०, झारखण्ड, राँची/सभी उपायुक्त/निदेशक प्रमुख, स्वास्थ्य सेवाएं, झारखण्ड, राँची/सभी क्षेत्रीय उप निदेशक, स्वास्थ्य सेवाएँ/सभी असैनिक शल्य चिकित्सक-सह-मुख्य चिकित्सा पदाधिकारी को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

प्रतिलिपि : माननीय विभागीय मंत्री के आप्त सचिव/अपर मुख्य सचिव के प्रधान आप्त सचिव/विभाग के सभी पदाधिकारी को सूचनार्थ प्रेषित।

10/8/2017
(अभिषेक श्रीवास्तव)
सरकार के उप सचिव

(15)

झारखण्ड सरकार
झारखण्ड ग्रामीण स्वास्थ्य मिशन समिति
स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग,
झारखण्ड, नामकुम, राँची।

पत्रांक: 9/RCH-136/2017- 3374(D)(RCH) दिनांक : 29/08/19

प्रेषक,

डॉ0 विजय शंकर दास
निदेशक प्रमुख,
स्वास्थ्य सेवाऐं,

सेवा में,

1. अपर मुख्य सचिव, वन पर्यावरण एवं जलवायु परिवर्तन विभाग, झारखण्ड।
2. अपर मुख्य सचिव, नगर विकास एवं आवास विभाग झारखण्ड।
3. सचिव कृषि, पशु पालन एवं सहकारिता विभाग, झारखण्ड।
4. सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड, झारखण्ड।
5. मुख्य कार्यपालक पदाधिकारी, रांची नगर निगम झारखण्ड रांची।
6. अध्यक्ष आई0 एम0 ए0 झारखण्ड
7. प्रतिनिधि Bio-Genetic Pvt-Ltd & Maedicare Pvt Ltd
8. प्रतिनिधि, यूनिसेफ, झारखण्ड।

विशेष आमंत्रित सदस्य

1. डा0 यू0 सी0 सिन्हा:– नोडल पदाधिकारी (Clinical Establishment)

विषय: **Bio Medical Wast Management हेतु State Advisory Committee की बैठक के संबंध में।**

महाशय,

निदेशानुसार उपरोक्त विषयक सूचित करना है कि सचिव, स्वास्थ्य चिकित्सा शिक्षा एवं परिवार कल्याण विभाग, झारखण्ड की अध्यक्षता में दिनांक 05.09.2019 को अपराह्न 3.00 बजे सचिव महोदय के कार्यालय कक्ष नेपाल हाउस डोरंडा में Bio Medical Wast Management हेतु गठित State Advisory Committee की बैठक आहूत की गई है।

अतः अनुरोध है कि उक्त बैठक में उपस्थित होने का कष्ट करेगें।

विश्वासभाजन
29.8.19
निदेशक प्रमुख
स्वास्थ्य सेवाऐं

ज्ञापांक 3374(D)(RCH) दिनांक : 29/08/19

प्रतिलिपि:

1. सचिव, स्वा0 चि0 शि0, एवं प0 क0 विभाग राँची को सूचनार्थ प्रेषित।
2. अभियान निदेशक NHM झारखण्ड को सूचनार्थ प्रेषित।

29.8.19
निदेशक प्रमुख
स्वास्थ्य सेवाऐं

(19)

Agenda of Meeting for State Advisory Committee for Bio Medical Waste Management

Date: 05/09/2019 Time: 3.00 pm. Venue: Nepal House, Doranda

Sl.No	Agenda Point	Facilitator
1	Review of the progress of establishment of Common Treatment Facility at Jamshedpur And Sindri	JSPCB
2	Status of Compliance of Bio Medical Waste Management Rules, 2016 in the state	JSPCB
3	Status of CTO & Authorization issued by JSPCB & Implementation of Bar code system for monitoring	JSPCB
4	Review the proposal of three agency which have shown interest in establishing CTF in Jharkhand	Health Dept
5	Review the rate of disposal of Bio Medical waste collected by CTF	Health Dept
6	Any other with permission of Chairperson	

Annexure

A FORMATE FOR PREPARATION OF ACTION PLANS FOR CRUTICALLY / SERVERELY POLLUTED INDUSTRIAL AREAS

1. INTRUSDUCTION

1.1	Area Details including brief history (background information)	*100 Sq. KM*	
1.2	Location with latitude and Longitudes (Ramgarh Town 10 KM x 10 KM surrounding Area having industrial cluster)	**Latitude**	**Longitude**
		Ramgarh Town 23.6524°N	85.5612°E
		Bankheta 23.5585°N	85.4968°E
		Marar 23.6716°N	85.5071°E
		Chhattam Mandu 23.6042°N	85.5908°E
		Sirko 23.7510°N	85.5844°E
		Hesla 23.6190°N	85.2839°E
		Ramgarh Cant 23.6465°N	85.5119°E
		Subhash Chowk 24.0143679	84.0259881
1.3	Digitized map with demarcation of geographical boundaries and impact zones.	Attached	
1.4	CEPI Score with air – EPI, water – EPI and land EPI.	66.75	
1.5	Total population and sensitive receptors (hospitals, educational institutions, courts etc.) residing in the area comprising geographical area of the cluster and its impact zone.	9,49,736 (Hospital – 10, Educational Institute – 15, Court – 1)	
1.6	Eco-geological features of impact zones (the area comprising of geographical area of the cluster and its impact zone (minimum 2 km)		
1.6.1	Major water bodies (rivers, lakes, ponds, etc.)	Damodar River, Bijulia Talab. Barkakana Ponds	
1.6.2	Ecological parks, Sanctuaries, flora and fauna or any eco sensitive zones	No	
1.6.3	Buildings or monuments of historical / archeological religious importance.	Maya Tungari Hindu Temple, Kankelbar, Ramgarh	
1.7	Industry classification and distribution (no. of industries per 10 sq.km area or fraction)		
1.7.1	Highly pollution industries (17 categories)	5	
1.7.2	Red category industries (60 categories)	69	
1.7.3	Orange and Green category industries	85 & 28	
1.7.4	Grossly pollution industries	1	

2. WATER ENVIRONMENT

2.1	Present status of water environment supported with minimum one-year analytical data.	Data of NWMP attached
2.1.1	Water bodies / effluent receiving drains in the area important for water quality monitoring.	Damodar River, Ramgarh Town, Cant Area
2.1.2	Present levels of pollutants in water bodies / effluent receiving drains / ground water (routine parameters, special parameters and water toxics relevant to the area in three categories – known carcinogens, probable carcinogens and other toxics)	Data of Damodar on Ramgarh Road Bridge Attached
2.1.3	Predominant sources contributing to various Pollutants.	188
2.2	Sources of water pollution	
2.2.1	Industrial	5
2.2.2	Domestic	3 (Ramgarh Town, Cantt. Area, Barkakana Town)
2.2.3	Others (agricultural runoff, leachate from MSW dump, illegal dump sites etc.)	Nil
2.2.4	Impact on surrounding area (outside the CEPI area) on the water sources / drainages system of the area under constration.	Nalkari River, Bhurkunda Township, Patratu Township.

2.3	Details of water polluting industries in the area / cluster.		5
2.4	Effluent disposal methods – Recipient water bodies.		Sewage effluent disposed off without STP
2.5	Quantification of wastewater pollution load and relative contribution by different sources viz industrial / domestic		Not Known
3.6	Action plan for compliance and control of pollution		
	3.6.1	Existing infrastructure facilities Ambient Air Quality Monitoring Network	PM_{10} analyzer installed at ramgarh town.
	3.6.2	Pollution control measure installed by the individual sources of pollution.	160 nos of industries
	3.6.3	Technological intervention	
		3.6.3.1 Inventorisation of prominent industries with technological gap	All large industries installed APCD
		3.6.3.2 Identification of low cost and advanced cleaner technology for air PI pollution control	N.A.
		3.6.3.3 Introduction and switch over to cleaner fuel	N.A.
	3.6.4	Need of infrastructure renovation	Yes
		3.6.4.1 Development of roads	All NH, SH & DMR are constructed pucca.
	3.6.5	Impact on CEPI score after installation/ commissioning of full-fledged air pollution control systems	After installation / commissioning of APCD, Pollution load decreases.
	3.6.6	Managerial and financial aspects - cost and time estimates	
		3.6.6.1 Cost and time estimates	N.A
		3.6.6.2 Identified private/ sector potential investors and their contribution/ obligations	N A
		3.6.6.3 Government budgetary support requirement	Yes
		3.6.6.4 Hierarchical and structured managerial system for efficient implementation	N.A.
	3.6.7	Self monitoring system in industries (stacks, APCDS)	Online Monitoring System 5, APCD - 155
	3.6.8	Data linkages to SPCB/ CPCB (of monitoring devices)	Online Data linkages are with SPCB/CPCB.
4	LAND ENVIRONMENT (Soil and ground water)		
4.1	Soil contamination		
	4.1.1	Present status of land environment supported with minimum one-year data	Data not available
	4.1.2	Critical locations for land/sol pollution assessment and ground water monitoring	Data not available
	4.1.3	Present levels of pollutants in land/soil and ground water (routine parameters, special parameters and water toxics relevant to the area in three categories - non carcinogens, probable carcinogens and other Toxics)	Data not available
	4.1.4	Pre dominant sources contributing to or posing danger of pollution of land and ground water such as hazardous / toxic waste or chemical dumps / storage etc	No any source
	4.1.5	Sources of soil contamination	Not available
	4.1.6	Types of existing pollution	Mainly air & water pollution
	4.1.7	Remedies for abatement, treatment and restoration of normal soil quality	Not available

4.2 Ground water contamination

4.2.1	Present status /quality of ground water	Data not available
4.2.2	Source identification (Existing sources of Ground water pollution)	Data not available
4.2.3	Ground water quality monitoring program	No ground water quality monitoring program. Done SPCB
4.2.4	Action plan for control of pollution including cost / time aspects.	Not Known
4.2.5	Treatment and management of contaminated ground water bodies etc	Data not available
4.2.6	Impact on CEPI Score after abatement of pollution	Pollution load decreased

12. Summary of proposed action points

12.1 Short Term Action Point (Upto one year, including continues activities)

Sl. No.	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

12.2 Long Term Action Points (More than 1 year)

Sl. No	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

Annexure

A FORMATE FOR PREPARATION OF ACTION PLANS FOR CRUTICALLY / SERVERELY POLLUTED INDUSTRIAL AREAS

1	INTRUSDUCTION			
1.1	Area Details including brief history (background information)	***05 Sq. KM (Morangi)***		
1.2	Location with latitude and Longitudes Morangi, Hazaribagh		Latitude	Longitude
		Morangi	23.9234^{0}N	85.3885^{0}E
		Demotand	23 9140^{0}N	85.3979^{0}E
1.3	Digitized map with demarration of geographical boundaries and impact zones	Attached		
1.4	CEPI Score with air – EPI, water EPI and land EPI.	64.20		
1.5	Total population and sensitive receptors (hospitals, educational institutions, courts etc.) residing in the area comprising geographical area of the cluster and its impact zone.	5500 (Hospital – 2, Educational Institute – 4, Court – Nil)		
1.6	Eco-geological features of impact zones (the area comprising of geographical area of the cluster and its impact zone (minimum 2 km)			
1.6.1	Major water bodies (rivers, lakes, ponds, etc.)	No Major Water Body, Only one lake		
1.6.2	Ecological parks, Sanctuaries, flora and fauna or any eco sensitive zones	No		
1.6.3	Buildings or monuments of historical / archeological religious importance.	No		
1.7	Industry classification and distribution (no. of industries per 10 sq km area or fraction)			
1.7.1	Highly pollution industries (17 categories)	Nil		
1.7.2	Red category industries (60 categories)	16		
1.7.3	Orange and Green category industries	15		
1.7.4	Grossly pollurion industries	2		
2.	WATER ENVIHONMENT			
2.1	Present status of water environment supported with minimum one-year analytical data.			
2.1 1	Water bodies / effluent receiving drains in the area important for water quality monitoring.	Nil		
2.1.2	Present levels of pollutants in water bodies / effluent receiving drains / ground water (routine parameters, special parameters and water toxics relevant to the area in three categories – known carcinogens, probable carcinogens and other toxics)	Not Applicable		
2.1 3	Predominant sources contributing to various Pollutants	33		
2.2	Sources of water pollution			
2.2.1	Industrial	2		
2 2.2	Domestic	Nil		
2.2.3	Others (agricultural runoff, leachate from MSW dump, illegal dump sites etc)	Nil		
2.2.4	Impact on surrounding area (outside the CEPI area) on the water sources / drainages system of the area under consitration	Konar River, Hazaribagh Township,		
2 3	Details of water pollutng industries in the area / cluster.	2		
2 4	Effluent disposal methods – Reciplent water bodies.	ETP installed in both industries		
2.5	Quantification of wastewater pollution load and relative contribution by different sources viz industrial / domestic	Not Known		

3.6	Action plan for compliance and control of pollution		
	3 6.1	Existing infrastructure facilities Ambient Air Quality Monitoring Network	Nil
	3.6.2	Pollution control measure installed by the individual sources of pollution.	16 nos of industries
	3.6.3	Technological intervention	
		3.6.3.1 Inventorisation of prominent industries with technological gap	All industries installed APCD
		3.6 3.2 Identification of low cost and advanced cleaner technology for air Pl pollution control	N A.
		3.6.3.3 Introduction and switch over to cleaner fuel	N.A.
	3.6.4	Need of infrastructure renovation	
		3 6.4.1 Development of roads	NH & DMR are constructed pucca.
	3.6.5	Impact on CEPI score after installation/ commissioning of full-fledged air pollution control systems	After installation / commissioning of APCD. Pollution load decreases.
	3.6.6	Managerial and financial aspects - cast and time estimates	
		3.6.6.1 Cost and time estimates	N.A.
		3.6.6.2 Identified private/ sector potential investors and their contribution/ obligations	N.A.
		3.6.6.3 Government budgetary support requirement	Yes
		3.6.6 4 Hierarchical and structured managerial system for efficient implementation	N.A.
	3.6.7	Self monitoring system in industries (stacks, APCDS]	APCD in 5 units
	3.6.8	Data linkages to SPCB/ CPCB (of monitoring devices)	Not applicable
4	LAND FNVIRONMENT (Soil and ground water)		
4.1	Sail contamination		
	4.1.1	Present status of land environment supported with minimum one-year data	Data not available
	4.1 2	Critical locations for land/soi pollution assessment and ground water monitoring	Data not available
	4.1.3	Present levels of pollutants in land/soil and ground water (routine parameters, special parameters and water toxics relevant to the area in three categories - non carcinogens, probable carcinogens and other Toxics)	Data not available
	4.1.4	Pre dominant sources contributing to or posing danger of pollution of land and ground water such as hazardous / toxic waste or chemical dumps / storage etc.	No any source
	4.1.5	Sources of soil contamination	Data not available
	4.1.6	Types of existing pollution	Mainly air & water pollution
	4.1.7	Remedies for abatement, treatment and restoration of normal soil quality	Not available
4.2	Ground water contamination		
	4 2.1	Present status /quality of ground water	Data not available
	4 2.2	Source identification (Existing sources of Ground water pollution)	Data not available
	4.2.3	Ground water quality monitoring program	No ground water quality monitoring program. Done SPCB
	4.2.4	Action plan for control of pollution including cost /	Not Known

time aspects

4.2.5 Treatment and management of contaminated ground water bodies etc — Data not available

4.2.6 Impact on CEPI Score after abatement of pollution — Pollution load decreased

12. Summary of proposed action points

12.1 Short Term Action Point (Upto one year, including continues activities)

Sl. No.	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

12.2 Long Term Action Points (More than 1 year)

Sl. No.	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

Chairman

4 FORMATE FOR PREPARATION OF ACTION PLANS FOR CRUTICALLY / SERVERELY POLLUTED INDUSTRIAL AREAS

1.	INTRUSDUCTION		
1.1	Area Details including brief history (background information)	*04 Sq. KM (Marhand, Lilanagar, Hazaribagh)*	
1.2	Location with latitude and Longitudes	Latitude	Longitude
		Morangi 23.9234°N	85.3885°E
		Demotand 23.9140°N	85.3979°E
1.3	Digitized map with demarcation of geographical boundaries and impact zones.	Attached	
1.4	CEPI Score with air – CPI, water – EPI and land EPI.	64.20	
1.5	Total population and sensitive receptors (hospitals, educational institutions, courts etc.) residing in the area comprising geographical area of the cluster and its impact zone.	4000 (Hospital – 1, Educational Institute –2 Court – Nil)	
1.6	Eco-geological features of impact zones (the area comprising of geographical area of the cluster and its impact zone (minimum 2 km)		
1.6.1	Major water bodies (rivers, lakes, ponds, etc.)	No Major Water Body.	
1.6.2	Ecological parks, Sanctuaries, flora and fauna or any eco sensitive zones	No	
1.6.3	Buildings or monuments of historical / archeological religious importance.	No	
1.7	Industry classification and distribution (no. of industries per 10 sq.km area or fraction)		
1.7.1	Highly pollution industries (17 categories)	3	
1.7.2	Red category industries (60 categories)	1	
1.7.3	Orange and Green category industries	8	
1.7.4	Grossly pollution industries	Nil	
2.	WATER ENVIRONMENT		
2.1	Present status of water environment supported with minimum one-year analytical data.		
2.1.1	Water bodies / effluent receiving drains in the area important for water quality monitoring.	Nil	
2.1.2	Present levels of pollutants in water bodies / effluent receiving drains / ground water (routine parameters, special parameters and water toxics relevant to the area in three categories – known carcinogens, probable carcinogens and other toxics)	Not Applicable	
2.1.3	Predominant sources contributing to various Pollutants.	12	
2.2	Sources of water pollution		
2.2.1	Industrial	Nil	
2.2.2	Domestic	Nil	
2.2.3	Others (agricultural runoff, leachate from MSW dump, illegal dump sites etc.)	Nil	
2.2.4	Impact on surrounding area (outside the CEPI area) on the water sources / drainages system of the area under consitration	Bokaro River,	
2.3	Details of water polluting industries in the area / cluster.	Nil	
2.4	Effluent disposal methods – Recipient water bodies.	N.A.	
2.5	Quantification of wastewater pollution load and relative contribution by different sources viz industrial / domestic	Not Known	

3.6	Action plan for compliance and control of pollution		
	3.6 1	Existing infrastructure facilities Ambient Air Quality Monitoring Network	Nil
	3.6.2	Pollution control measure installed by the individual sources of pollution.	8 nos of industries
	3.6.3	Technological intervention	
		3.6.3.1 Inventorisation of prominent industries with technological gap	8 nos. Industries installed APCD
		3.6 3.2 Identification of low cost and advanced cleaner technology for air PI pollution control	N.A.
		3.6.3.3 Introduction and switch over to cleaner fuel	N A.
	3.6.4	Need of infrastructure renovation	
		3.6 4.1 Development of roads	SH & DMR are constructed pucca.
	3.6.5	Impact on CEPI score after installation/ commissioning of full-fledged air pollution control systems	After installation / commissioning of APCD, Pollution load decreases.
	3 6 6	Managerial and financial aspects - cost and time estimates	
		3.6.6.1 Cost and time estimates	N.A.
		3 6.6 2 Identified private/ sector potential investors and their contribution/ obligations	N A
		3 6.6 3 Government budgetary support requirement	Yes
		3.6.6 4 Hierarchical and structured managerial system for efficient implementation	N.A.
	3.6.7	Self monitoring system in industries (stacks, APCDS)	APCD in 5 units
	3.6.8	Data linkages to SPCB/ CPCB (of monitoring devices)	On line data linkage of 3 industries are with JSPCB / CPCB.
4	LAND ENVIRONMENT (Soil and ground water)		
	4 1	Soil contamination	
	4.1.1	Present status of land environment supported with minimum one-year data	Data not available
	4.1.2	Critical locations for land/sol pollution assessment and ground water monitoring	Data not available
	4.1 3	Present levels of pollutants in land/soil and ground water (routine parameters, special parameters and water toxics relevant to the area in three categories - non carcinogens, probable carcinogens and other Toxics)	Data not available
	4.1.4	Pre dominant sources contributing to or posing danger of pollution of land and ground water such as hazardous / toxic waste or chemical dumps / storage etc.	No any source
	4 1.5	Sources of soil contamination	Data not available
	4.1.6	Types of existing pollution	Mainly air & water pollution
	4.1.7	Remedies for abatement, treatment and restoration of normal soil quality	N.A.
	4.2	Ground water contamination	
	4.2.1	Present status /quality of ground water	Data not available
	4.2.2	Source identification (Existing sources of Ground water pollution)	Data not available
	4.2.3	Ground water quality monitoring program	No ground water quality monitoring program. Done SPCB
	4.2.4	Action plan for control of pollution including cost /	Not known

time asperts

4.2.5	Treatment and management of contaminated ground water bodies etc	Data not available
4.2.6	Impact on CEPI Score after abatement of pollution	Pollution load decreased

12. Summary of proposed action points

12.1 Short Term Action Point (Upto one year, including continues activities)

Sl. No.	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

12.2 Long Term Action Points (More than 1 year)

Sl. No.	Action Points (Including Source and mitigation measures)	Responsible Stake Holder	Time Limit	Cost	Remarks
	Data not available				

अजय कुमार रस्तोगी, भा०व०से०,
विशेष सचिव
A.K. Rastogi, I.F.S.
Special Secretary

झारखण्ड सरकार

वन, पर्यावरण एवं जलवायु परिवर्तन विभाग
झारखण्ड सरकार
Department of Forest, Environment & Climate Change
Govt. of Jharkhand

Letter No-..... Dated:

To,

The Chairman,
Central Pollution Control Board,
Parivesh Bhawan, New Delhi.

Sub: **Submission of revised "Action Plan for Improving Air Quality in Dhanbad" - Regarding.**

Ref: - **AD & Head, AQM Division letter dated 25/09/2019.**

Sir,

In connection with the above subject and above referred letter the revised **"Action Plan for Improving Air Quality in Dhanbad"** has been prepared on the basis of the recommendations made by the three member committee constituted by Hon'ble NGT. The revised Action plan is attached herewith for your kind perusal and necessary action please.

Thanking You.

Sd/-
(A. K. Rastogi)
Special Secretary
cum Chairman, AQMC

Memo No. 37/SSC Ranchi, dated. 27/09/2019

Copy to: Sri V. K. Shukla, AD & Head, AQM Division, CPCB, New Delhi for information and necessary action from his end please.

(A. K. Rastogi)
Special Secretary
cum Chairman, AQMC

Nepal House, Doronda, Ranchi
Phone-off : 0651-2491098, Fax : 0651 – 2491249
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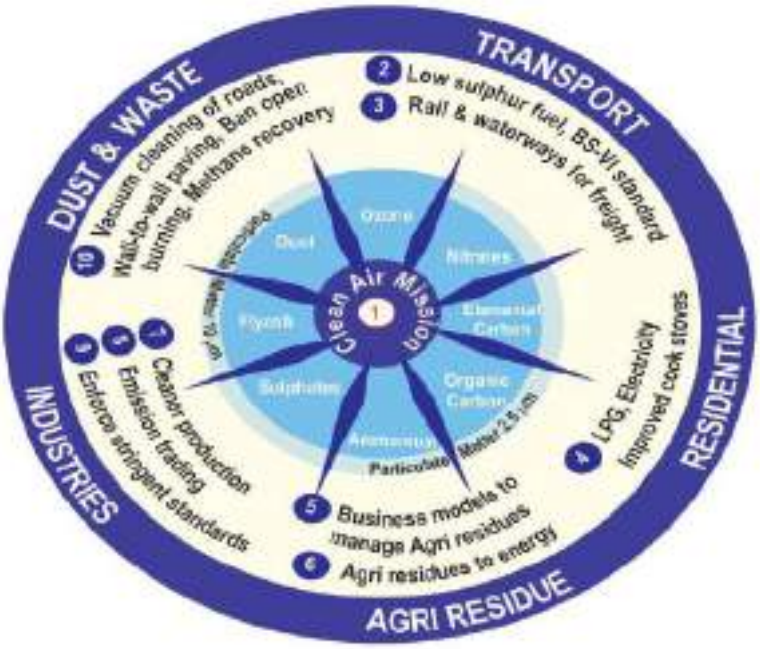
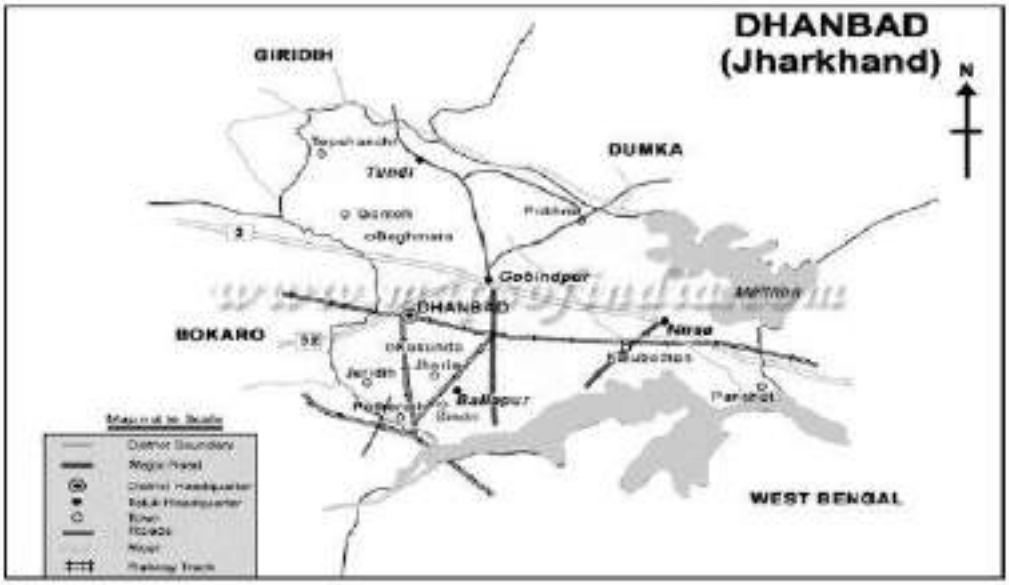
ACTION PLAN FOR
Improving Air Quality in Dhanbad





झारखण्ड सरकार

GOVERNMENT OF JHARKHAND

Introduction:

Air-borne particulate matter is an ensemble of solid particles suspended and dispersed in air. The properties of these particles vary in terms of chemical composition, morphology (size/shape) optical parameters (colour/light scattering), and electrical characteristics (charge, resistance). The particulate and gaseous wastes of various human activities e.g. burning of fossil fuels, transport, construction, mining etc. contribute various pollutants to atmosphere and when the presence of these pollutants starts affecting the human beings, plants and animals the matter becomes a cause of concern. Industrialization and urbanization have resulted in a profound deterioration of India's air quality. India's most severe environmental problem, come in several forms, including vehicular emissions and untreated industrial smoke. Apart from rapid industrialization, urbanization has resulted in the emergence of industrial centers without a corresponding growth in civic amenities and pollution control mechanisms.

Urban areas in general been experiencing a higher concentration of air pollution due to extensive vehicular movements and other activities concentrated in comparatively similar areas and the cities have been divided into four categories on the basis of exceedence factor (EF), which is the ratio of annual mean concentration of a pollutant with that of its standard.

The particulate and gaseous wastes of various human activities, e.g., burning of fossil fuels, transport, construction, mining, etc. contribute various pollutants to the atmosphere. When the presence of these pollutants starts affecting the human beings, and other biological systems the matter becomes a cause of concern. With extensive industrialization and urbanization the particulate and gaseous waste generation and their disposal in atmosphere has attracted wide attention. Urban areas have in general been experiencing a higher concentration of air pollution due to extensive vehicular movements and other activities concentrated in comparatively smaller areas and the cities have been divided into four categories on the basis of *exceedence factor (EF), which is the ratio of annual mean concentration of a pollutant with that of its limit value*. The four categories are as given below:

1. Critical pollution (C): when EF is > 1.5;
2. High pollution (H): when EF is between 1 and 1.5;
3. Moderate pollution (M): with EF is between 0.5 and 1.0; and
4. Low Pollution (L): where EF is < 0.5.

The air pollutants of immediate human concern are those which when in higher concentration affect the health and well being of the people. These are listed as below:

- Suspended Particulate Matter (SPM);
- Respirable Particulate Matter (RPM);
- Sulphur Dioxide (SO_2);
- Nitrogen Oxides (NO_x);

The Government of India on the basis of extensive studies has prescribed the *National Ambient Air Quality Standards* (NAAQS) for industrial, commercial, residential and sensitive areas (Table I).

TABLE I

National ambient air quality standards[8]

Pollutant	Time weighed average	Concentration in ambient air			
		Sensitive area	Industrial area	Residential, rural and other area	Method of measurement
(μg m^{-3})					
Sulphur dioxide	Annual[a]	15	80	60	Improved West and Gaeke method
SO_2	24 hr[b]	30	120	80	Ultraviolet fluorescence
Oxides of nitrogen	Annual[a]	15	80	60	Jacab and Hochheiser modified (Na–As method)
NO_x	24 hr[b]	30	120	80	Gas phase chemiluminescene
SPM	Annual[a]	70	360	140	High volume sampling (av. flow rate not less
	24 hr[b]	100	500	200	than 1.1 m^3 min^{-1})
RPM (size less	Annual[a]	50	120	60	Respirable
than 10 μm)	24 hr[b]	75	150	100	particulate sampler
Lead	Annual[a]	0.50	1.0	0.75	AAS method after sampling using EPM 2000 or
	24 hr[b]	0.75	1.5	1.00	equivalent filter paper

[a] Annual arithmetic mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform intervals.

[b] 24 hourly values should be met 98% of the time in a year however, 2% of the time, it may exceed but not on two consecutive days.

Air quality parameters, SPM, RPM, SO_2, and NO_X are monitored by using High Volume Samplers and Respirable Dust Samplers (Envirotech Instrument APM451) following standards procedure laid down by the Central Pollution Control Board (CPCB) in IS: 5182*(*5−7*)*.

For the study of the air pollution status along the road at the monitoring stations identified the following parameters are monitored.

The following air quality parameters were monitored:

- Suspended Particulate Matter (SPM).
- Respirable Particulate Matter (RPM).
- Sulphur Dioxide (SO_2).
- Nitrogen Oxides (NO_X).

The dust collected during monitoring of the SPM and RPM is analyzed in the laboratory using Atomic Absorption Spectrophotometer (AAS) to assess the presence and concentration of lead and other heavy metals in the dust.

Monitoring and Identification of Non-attainment Cities

According to Lancet Commission Report, the air pollution is responsible for 6.5 million (72%) of 9 million deaths per year from all type of pollutions. The Southeast Asia, which includes India, had the greatest numbers of pollution related deaths. The average life expectancy could have been 1.7 years higher, had pollution levels been less than the minimal level causing serious health loss in India.

The State Pollution Control Board is conducting the ambient air quality monitoring at identified NAMP sanctioned locations for air pollutants and is submitting the monitored data with a required frequency and interval as per CPCB monitoring guidelines i.e. 24 hourly monitoring, twice a week, having 104 monitoring in a year at each monitoring location with the monitoring interval of 8 hours for particulate matter (RSPM/PM_{10}), 24 hourly basis for micro pollutants ($PM_{2.5}$) and 4 hourly interval for gaseous pollutants (SO_2/NO_2).

On the basis of monitoring and data submission by different boards to CPCB through EDB (Environment Data Bank) under National Air Monitoring Program during the period 2011-2015, the CPCB has identified 102 cities across the country violating the standard permissible norms for RSPM (PM10) / PM2.5 during the monitoring period of entire five years and even thereafter. Among these 102 non attainment cities across the country, one (01) city of Jharkhand namely Dhanbad is having the level of air pollutants (PM10) towards higher side and has continuously violated the standard permissible limits so it is in the list of non-attainment cities. Further, the State being ecologically fragile and passing through a stage of development, the mega projects like construction of circular roads, flyovers, road widening projects, barrages, housing colonies etc. have to be taken up with precautions and stringent remedial measures to minimize air pollution during execution of such developmental projects.

Hon'ble NGT Directions:-

On the basis of news item published in the Times of India, titled as ''NCAP with multiple timelines to clean air in 102 Cities, and accordingly, the National Clean Air Program (NCAP) proposes to reduce the pollution level in 102 cities where Standards of Air Pollution are in excess in the next 10 years - 35% in the next 3 years, 50% in the next 5 years and 70-80% in the next 10 years", the Hon'ble NGT, taking cognizance of alarming situation, has issued directions dated 8/10/2018, in the matter of O.A No.681 of 2018, for preparation of appropriate Action Plan to bring the standards of air quality with in permissible norms within six months from the date of its finalization.

Accordingly, the action plan is proposed to bring down the level of air pollutants in a required time frame in coordination with responsible implementation agencies for both the non-attainment cities identified for the State with due consideration to the Graded Response Action Plan (GRAP) points relevant to the emissions, estimated source, their level and likelihood of impact on air quality, in both the non-attainment cities. Based on present level of air pollution and trends observed in last five years, the GRAP points given below have been incorporated in the Action Plan, which include :-

a) Periodic mechanized sweeping of roads having heavy traffic and water sprinkling on unpaved roads.
b) To stop use of diesel generator sets in case of "Emergency" status of AQI.
c) Strict vigilance and no tolerance for visible emissions, impounding or imposing heavy fine on plying of visibly polluting vehicles.
d) Strict enforcement of PUC emission norms.
e) Stringent enforcement of rules for dust control in construction activities.
f) Deployment of traffic police for smooth traffic flow at identified vulnerable traffic cross section areas.
g) Strict enforcement of Hon'ble Supreme Court directions dated 23.10.2018 on use of fire crackers.
h) Stringent enforcement of ban on open burning of garbage etc., covered movement of vehicles carrying construction material, MSW etc.

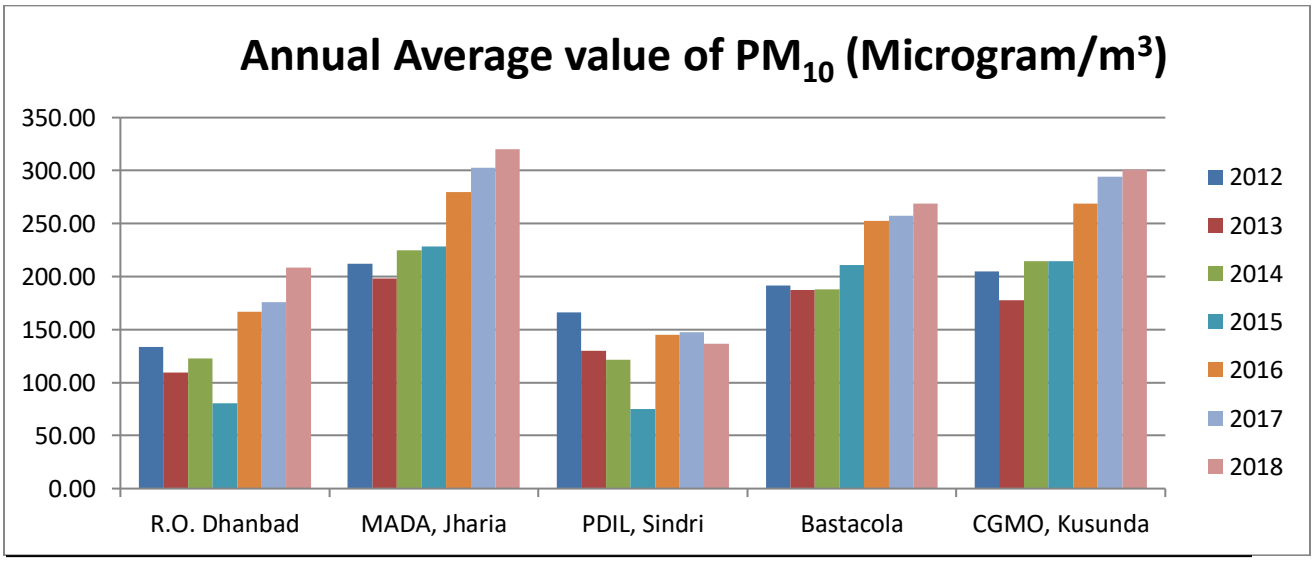
Air quality monitoring net work

Air quality monitoring stations have been set up at five locations across the city. These stations are functional and capture data for various components. Based on the data captured by these stations action plans have been designed to reduce harmful components to auditable level and to keep air safe for communities in cities.

Annual Average value of PM_{10} (Microgram/m^3)

Stations	Latitude & Longitude	Year						
		2012	2013	2014	2015	2016	2017	2018
		PM_{10}	PM_{10}	PM_{10}	PM_{10}	PM_{10}	PM_{10}	PM_{10}
R.O. Dhanbad	23° 48'24.6"N 86°26'0.20" E	133.78	109.17	122.69	80.20	166.60	175.68	208.66
MADA, Jharia	23°45'11.9" N 86°24'44.4" E	211.92	198.18	224.55	228.46	279.63	302.68	319.89
PDIL, Sindri	23°40'02.1" N 86°29'26.4" E	166.36	129.70	121.79	74.85	144.85	147.40	136.83
Bastacola	23°45'55.2" N 86°24'40.1" E	191.55	187.29	187.88	210.94	252.41	257.34	268.60
CGMO, Kusunda	23°47'05.0" N 86°23'45.4" E	204.92	177.53	214.43	214.34	268.89	294.18	300.79

Location map of the air quality monitoring stations in Dhanbad city



Source Identification

Various pollution sources have been identified across locations in the city which includes places of heavy traffic congestion and Jam, construction and demolition activities, use of more than 15 years old commercial vehicles, open cast mining locations, brick kilns, locations of pot hole patches in the city, parking in non designed area, polluting industries, residential areas using fossil fuels for cooking and residential complexes having open spaces where no greenery are there. These sources have been identified and action plan has been based on the location specific and implementing agency specific recommendations.

S.No.	Source of Pollution	Location
1	Traffic congestion	Bank More, Station road, Steel gate, Hirapur, Saraidhela,
2	Construction and demolition activities	Saraidhela, Barwadda, Steel gate.
3	Plying of more than 15 Years old commercial vehicles	Mining areas, Public transportation, Three wheelers,
4	Open cast mining operations and transportation of coal in uncovered vehicles	Barora, Block-II, Govindpur, Katras, Sijua, Kusunda, Bastacolla, Putki Balihari, Eastern Jharia, Lodna, Western Jharia, Chanch Victoria areas of BCCL
5	Pot hole patches of roads	Kusunda, Near Hirak more,
6	Parking in non designed areas	Bank More, Hirapur, Court more, Jharia, Shramik Chowk,
7	Brick kiln	Rajganj-Tetulmari-Mahuda
8	stone crushers	Bagsuma & Rangdih (Govindpur), Moko (Baliapur)
9	Residential complexes having non green spaces	Hirapur, Jharudih, Steel Gate, Jai prakash Nagar, Bank More, Rangatand, Dhowatand,
10	Polluting industries	Coal Mines, Hard Coke (Govindpur), Soft Coke (Govindpur)
11	Locations burning fossil fuel as source for cooking	Telipara, Damodarpur, Jharia

Source apportionment and emission inventory

For Source apportionment and emission inventory a study will be conducted in Dhanbad city for which NEERI has been appointed by M/s Bharat Coking Coal Limited (BCCL), a Coal India Subsidiary and JSPCB will be finalizing the Terms of Reference (ToR) of the study and the air quality action plan for improving air quality in the city will be improved as per the results and recommendations of the source apportionment study and suggestions based on the study will be incorporated in the future plans and long term plans.

General Observations to reduce air pollution

- For Air quality improvement from the study it is evident that the area along the road under study is significantly considered as polluted and actions should be taken to reduce the concentration of PM_{10} level. On the basis of these results and physical observations the following suggestions are being made for the purpose of improving air quality which has been incorporated in the action plan.

- The paved portion of road generally has a number of bad patches, which cause dust generation and slowing down of vehicular traffic, contributing to the air pollutants, which can be minimised by maintaining the paved road in good condition.

- Due to high traffic density on the road and the tendency of overtaking by vehicles invariably the vehicles go out to the unpaved sides of the road which cause huge amounts of dust to become air borne, which contributes to the PM_{10} concentrations in the ambient air. This can be minimised by increasing the width of the road to accommodate high traffic density, regulating the traffic and if widening is not feasible than consolidating the unpaved sides by laying bricks so that the generation of dust from this source is minimum possible.

- Use of catalytic convertor should be made compulsory to all vehicles.

- ***Launching a National Clean Air Mission for Multiscale and Cross-sectoral Coordination:*** This *Clean Air Mission* [CAM-INDIA] should have the mandate to implement government policies for air pollution mitigation across several ministries dealing with transport, power, construction, agriculture, rural development, and environment, as well as across city and state jurisdictions. The targets for the CAM-INDIA are particles referred to as $PM_{2.5}$ to PM_{10} and Ozone. The term PM (particulate matter) denotes a collection of difference species of

particles in the air, while the 2.5 or 10 refer to the radius of the particle in dimension of micrometer (millionth of a meter). The most important ones are: ammonium sulphates, ammonium nitrates, black carbon (elemental carbon), organic carbon, fly ash, and dust (mineral and road dust). To emphasize the point about cross-sectoral coordination, the ammonia in ammonium sulphate comes from agriculture while the sulphates come from sulphur dioxide (SO_2) emissions from the power and industrial sector. The per cent contribution of each of these particles to PM_{10} differs from one location to another, from month to month and at times from one village or city to the next and even, from one day to the next, implying that the science of monitoring, determination of emission inventories, and modeling is crucial to evaluate the efficacy of policies. The rest of the nine solutions deal with various sectors that contribute to pollution; the technologies required implementing the solutions. Each of these solutions requires auxiliary measures and these are described in more details in the sections that follows this summary.

- **Agriculture:** ***Develop business models for collection, transport, and storage of agriculture residues and farm manure.*** This strategy aims at reducing open burning of agricultural residue; instead, we recommend them to be used as a source of energy. Business models focusing on the economic viability of this strategy are required. However, this practice is not in general practice in the city of Dhanbad.

- **Agriculture:** ***Convert agriculture residues and farm manure to electricity for rural power and biomass pellets for women who depend on biomass stoves.*** This strategy aims at developing and customizing gasification technologies for converting agricultural waste into useful energy.

- **Power and other Industry:** ***Adopt cleaner and efficient production technologies*** **such as** supercritical technologies in power sector, vertical shaft kilns, Hoffman kilns, and tunnel kilns for brick manufacturing. For urban households, it is recommended to improve energy efficiency of room air conditioners. This solution will reduce emissions that produce sulphates, nitrates, and black carbon.

- **Power and other Industry:** ***Deploy National Emission Trading Schemes (ETS) with cap and trade for power generation and other large polluting industries.*** The government is already experimenting with ETS in three industrial clusters in Gujarat, Tamil Nadu, and Maharashtra, which needs to be scaled up.

- **Power and other Industry:** ***Implement stringent emission standards to control fine particulate (black carbon and fly ash) emissions from both power plants and big industries.*** This will reduce PM_{10} levels due to reductions in sulphates, nitrates, fly ash, and black carbon and will also mitigate ozone formation through reduction of NOx.

- **Dust and Waste:** ***Implement wall-to-wall paving of streets and vacuum cleaning of roads; enforce ban on open burning of solid waste; manage waste and recovery of methane from landfills.*** Dust and waste burning are major sources of PM in cities and Solution 10 will drastically cut their contributions to city PM levels.

Other than these ten solutions, India's efforts to meet its Paris INDCs (Intended Nationally Determined Contributions) will significantly reduce air pollution due to the nexus between air pollution mitigation and climate mitigation. For example, India's ambitious target of 100GW power generation from solar energy by 2022 can help reduce the power sector's overall emissions of PM_{10} as compared to its current coal-based power generation. Similarly, improving the energy efficiency of room air conditioning units can sufficiently reduce energy demand to avoid the need for 60–140 medium-sized peak power plants in India by 2030 (Shah et al., 2015a). This would mitigate climate change by preventing nearly 100 Gt CO_2 by 2050 globally. Similarly, reducing fugitive methane emissions from landfills, manure, and gas pipes is important as methane is 25 times more potent greenhouse gas than CO_2; this will also lead to a significant reduction in ozone concentrations, as methane is an ozone precursor.

These aforesaid solutions also require a combination of new policies off-the-shelf available existing technologies, new technologies (Table 1), behavioral changes, most of all cooperation among a myriad of agencies and ministries. It is a very complex problem but there are many successful living laboratories in the world which gives us confidence that the solutions listed in this report will have a major impact on reducing the toxins that enter the lungs of the men, women, and children of India.

General Observation to Reduce Air Pollution:

Sector	Sub-sector	Technology
Transport	Vehicles	Diesel particulate filters; selective catalytic reduction; exhaust gas recirculation; on-board diagnostics for inspection and maintenance; high energy density batteries and technologies for electric vehicles
	Fuel	Hydro-desulfurization at refineries
Industries and power plants	Tail-pipe control	Electrostatic precipitators; bag filters, cyclones; flue gas desulphurization; wet scrubbers; selective catalytic reduction
	Process improvement	Low NO_x burners; efficient super critical combustion technologies; advanced brick manufacturing technology (vertical shaft kilns, hoffman kilns, tunnel kilns)
Residential	Stove	Tier-4 cook stoves with higher thermal efficiencies (50% or more) and emissions conforming to WHO guidelines
	Fuels Lighting	Processed biomass for high efficiency combustion; replace kerosene with LEDs powered by solar
Open burning of agricultural residues	Agri. residues	Biomass gasifiers
Waste management	Waste	Methane recovery at landfills and sewage treatment plants;
	Live stocks	Anaerobic digesters and methane recovery in livestock farms

Action Points for Dhanbad:

The following are the department wise action points for Dhanbad. Notably Dhanbad has been placed in the 102 critically polluted cities w.r.t. PM_{10} only. The action plan has been derived accordingly.

Action points for reducing Air Pollution (PM_{10}) in Dhanbad

Source group	Action	Implementation period (Short/ Mid/ Long term)	Time target for Implementation	a) Responsible agency(ies) b) Any other information
STEPS TO CONTROL EMISSIONS FROM VEHICULAR POLLUTION	Launch extensive drive against polluting vehicles for ensuring strict compliance.	*Mid Term*	October 2019	**a) TRANSPORT DEPARTMENT (Traffic police)** **b)** (I) All the subordinates have been directed for ensuring launch of extensive drive against polluting vehicle. (II) Regular checking drives of polluting vehicles being conducted by Traffic Police per day and every Two days in a week by DTO in every month, also Registration of vehicles, insurance, fitness, driving license and PUC certificates are mainly examined during the drive.
	Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	*Mid Term*	Continuous basis	**a) TRANSPORT DEPARTMENT** **b)** (I) This will be implemented along with road safety awareness programme by different stake holders of Department of Transport. (II) Awareness programme and camps are being organized at various schools and places on one day in each week of every month by Road safety cell & Traffic police officials Dhanbad. Till now awareness programme has been organized at 65 School and places in Dhanbad. Whereas traffic rules are also being tought in various schools.

	Install weigh in motion bridges at the borders of cities/ towns and states to prevent overloading of vehicles.	*Long Term*		**a) TRANSPORT DEPARTMENT** **b)** Being the mining district, In mining areas about 5-6 days in every month regular checking drive are being conducted by DTO for overloading of vehicles and checking of weighing machines are installed or not in mining areas of BCCL, ECL, MPL, TATA etc for preventing overloading.
	Promoting battery operated vehicles.	*Long Term*	Continuous basis	**a) TRANSPORT DEPARTMENT** **b)** (I) As per new taxation act 25% of rebate in tax has been given to the battery operated vehicles for reducing pollution. (II) DTO Dhanbad has till now issued 35 trade licenses to e- rickshaws. (III) E – rickshaws trade licenses is being issued on priority basis by DTO Dhanbad.
	Inspection / maintenance of all BS II & BS III commercial vehicles.	*Short Term*	Continuous basis	**a) TRANSPORT DEPARTMENT** **b)** In every 2 or 3 days vehicle checking drive has been conducted by DTO and fine has been challaned to those which are found unfit & without PUC for all BS-II & BS-III commercial vehicles. .
	Prohibition of entry of commercial heavy vehicles in the city.	*Short Term*	December 2019	**a) TRANSPORT DEPARTMENT & DHANBAD MUNICIPAL CORPORATION** **b)** (I) DMC have created a team to identify the major entrance point towards the Dhanbad Municipal area. (II) Initially we have survey & identified 8 major

				point entrances towards the City (Heavy Vehicles & LMV). (III) Implementation of toll tax on these points is under process. (IV) 300 nos. of traffic barricades owned by the DMC for maintaining the flow of traffic. (V) Entry of heavy vehicles to ply in the city area of Dhanbad is prohibited.
	Banning of old commercial vehicles and other steps.	*Short Term*	Continuous basis	**a) TRANSPORT DEPARTMENT & STATE TRANSPORT AUTHORITY** **b)** (I) Plying of commercial inter state buses older than 12 years have been banned by the State Transport Authority of Jharkhand. (II)
	To install PUC centers in petrol pump as per the order of Hon'ble Supreme Court.	*Short Term*	December 2019	**a) TRANSPORT DEPARTMENT** **b)** (I) All the District Transport Officers have been directed to strict compliance of Hon'ble Supreme Court order to install PUC centers in petrol pump. (II) Till now 38 PUC centres (13 in Petrol Pumps + 25 other than Petrol Pumps) have been established in Dhanbad. (III) 60-70 more PUC centeres will be established by the end of december 2019.
	Good traffic management including re-direction of traffic			**a) TRANSPORT DEPARTMENT (Traffic police)** **b)** Frequent and regular Traffic congestion and jam

	movement to avoid congestion.	*Short Term*	October 2019	density are two most important reasons for air pollution load in the city. Traffic density and carrying capacity of roads are required to be looked into with optimal transport network with effective movement of traffic and minimal traffic congestion with the taming and training of commercial vehicles / matadors (Public Transportation) drivers, who have no concern for specified and designated stoppages for mini buses, and use already congested and narrow roads for stopping vehicles as and when required on "I Stop My Bus Stop" thinking, forcing traffic movement at a snail pace, road blocking, thereby, resulting emissions in large quantity. Besides this, unauthorized parking adds on to the traffic congestion which further results in deterioration of air quality in city. The traffic police to ensure good traffic management and enforcement of rules.
CONTROL OF AIR POLLUTION FROM ROAD DUST	Regular cleaning of road dust.	*Short Term*	Complied	**a) DHANBAD MUNICIPAL CORPORATION** **b)** (I) Road dust is mainly due to traffic load, worst condition of roads especially without black-topping, absence of water spraying etc. Besides this, sweeping is a major cause of increasing levels of PM10 in the area. (II) Control measures for road dust including sweeping, water spraying on roads, black topping, plantation, etc. to prevent re-suspension of dust. (III) Regular cleaning and sweeping of city roads is being done on daily basis, besides that the DMC will also be using the road sweeping vacuum cleaning machine for sweeping dust on the major trunk roads

				of the city. (As proposed in the NCAP) **<u>Action already taken</u>** 1. Recently DMC have purchased road sweeping machine. a) Truck Mounted Sweeping Machine- 03 b) Smart sweeping machine to access easily to sweeping in narrow road location- 02. 2. DMC have already practicing / implementing on these activities. **Road sweeping Area (In trail basis)** Time : 11:00 PM to 07: 00 AM 1} Housings colony 2} Memko more to Puja Talkis 3} Luby Circular Road
	Water Sprinkling on road through tankers.	*Short Term*	March 2020	**a) DHANBAD MUNICIPAL CORPORATION** **b)** (I) In the areas where there is road dust, water sprinkling is to be done regularly. This has also been proposed in NCAP. (II) DMC, BCCL, TATA, CMPDI all are dedicated to water sprinkling in roads dust area. (III) Six new mobile water sprinklers will be purchased under NCAP in the financial year 2019-20.
	Widening of road and improvement of infrastructure for decongestion of road.			**a) URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** Work awarded for 375.40 Crore World Bank funded

		Long Term	March 2022	Jharkhand MunicipalDevelopment Project (JMDP) for total stretch of 19.99 Km road from Kanko Chowk to Memko Goal Building Chowk in Dhanbad to improve city road infrastructure and decongestion. The road has been recently inaugurated by Hon'ble CM on 22.02.2019. The is having total 8 lane including both sides with 2 service lane and 2 cycle track and 4 carriage way.
	Construction of expressways/bypass to avoid congestion due to non- destined vehicles.	*Long Term*	March 2022	**a) URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** Urban Development & HousingDepartment, GoJ has already awardedcontract for construction of 8 lane Roadfrom Kanko Chowk to Memko GoalBuilding Chowk in Dhanbad. This is amoderate step towards diverting trafficand avoiding congestion due to non-destined vehicles to some extent.
	Green buffers along the traffic corridors.	*Mid Term*	March 2020	**a) URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** Under ATAL MISSION FOR REJUVINATION AND URBAN TRANSFORMATION (AMRUT) Five park work status:- ❖ Rs 3.36 Crore Bekarbandh Park. Inaugurated on 22.02.2019. ❖ Rs 2.76 Crore LiloriAsthan Park work in progress. ❖ Rs.1.08 Crore Manaitand Park work in progress. ❖ Rs 1.39 Crore HIG(MIG) Park Work in progress. ❖ Rs 1.41 Crore LiloriAsthan, KatrasPark ,under tendering.

				<u>Action already taken</u> a. Status report of Bekarbandh park - Project Completed b. Status of LiloriAsthan Park Name of implementing agency: DMC Physical progress of work: 40% c. Status of Manaitand Park Name of implementing agency: DMC Physical progress of work:85% d. Status of HIG (MIG) Park Name of implementing agency: DMC Physical progress of work: 99% e. Status of LiloriAsthan, Katras Park Park Name of implementing agency: DMC Physical progress of work: 70% **f.** DMC has sapling planted approx. 150000 (Kapoor, Neem etc.).
	Maintain potholes free roads for free floor of traffic.	*Mid Term*	June 2020	**a) DHANBAD MUNICIPAL CORPORATION& URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** (I) Necessary direction already given to Dhanbad Nagar Nigam by this office vide letter no. SMCG/UDHD/NGT/AIR/2019/09/69 dated 23.02.2019 by UD & HD. (II) DMC has already implementing on this through engineering cell.
	Black topping metaled			**a) DHANBAD MUNICIPAL CORPORATION &**

	road including pavement of road shoulders.	*Mid Term*	June 2020	**URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** (I) Necessary direction already given to Dhanbad Nagar Nigam by this office vide letter no. SMCG/UDHD/NGT/AIR/2019/09/69 dated 23.02.2019 by UD & HD. (II) DMC has already implementing on this through engineering cell.
CONTROL OF AIR POLLUTION FROM CONSTRUCTION AND DEMOLITION ACTIVITIES	Covering of construction site.	*Short Term*	Complied	**a) DHANBAD MUNICIPAL CORPORATION & URBAN DEVELOPMENT AND HOUSING DEPARTMENT** **b)** (I) DMC to issue directions to all the concerned construction agencies for covering of construction sites while granting building permissions. (II) DMC has already implementing on this through engineering cell.Directed to all construction agencies.
	Ensure Carriage / Transportation of construction materials like sand, soil, stone, chips etc. in covered system.	*Short Term*	Complied	**a) DHANBAD MUNICIPAL CORPORATION** **b)** (I) The DMC will enforce and implement the ban with the help of Traffic police. (II) DMC has already implementing on this through engineering cell.Directed to all construction agencies.
	Restriction on Storage/ dumping of construction materials along the road.	*Short Term*	Complied	**a) DHANBAD MUNICIPAL CORPORATION** **b)** (I) DMC will put in place the mechanism for preventing people from dumping of the construction material and the C&D waste on road side. The public will be informed by way of notices in the leading newspapers.

				(II) DMC has already implementing on this. Directed to all Executive Officers of concerned Circle.
	Enforcement of Construction and Demolition Waste Management Rules, 2016.	*Short Term*	Partially Complied	**a) DHANBAD MUNICIPAL CORPORATION& STATE URBAN DEVELOPMENT AUTHORITY** **b)** (I) Strict enforcement of C & D Rules, penalty to be imposed on defaulters. The draft C & D action plan is already in process of finalization. (II) After the notification of the C & D Action Plan it will be strictly implemented. (III) DMC has already implementing on this and has directed to all construction agencies enforcement of C & D Rules 2016, penalty to be imposed on defaulters. Also published in newspaper.
	Control Measures for fugitive emissions.	*Short Term*	Complied	**a) DHANBAD MUNICIPAL CORPORATION& STATE URBAN DEVELOPMENT AUTHORITY** **b)** (I) The above agencies are responsible to take control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units. (II) DMC has already implementing on this. Directed to all construction agencies enforcement of SWM Rules 2016, penalty to be imposed on defaulters. Also published in newspaper.
	Builders should leave 33% area for green belt in residential colonies to			**a) DHANBAD MUNICIPAL CORPORATION & STATE URBAN DEVELOPMENT AUTHORITY**

	be made mandatory.	*Long Term*	Continuous basis	**b)** (I) The agencies responsible must ensure that building permissions for the residential colonies are issued with Jharkhand Building Bye-Laws 2016 Notification dtd. 05.04.2016. (II) DMC have already implementing on this. Directed to all builders & public to follow the Jharkhand Building Bye-Laws 2016 Notification dtd. 05.04.2016.
CONTROL OF EMISSIONS FROM BIOMASS AND GARBAGE BURNING	Regular Check and Control on open burning of municipal solid waste, Biomass, plastic, horticulture waste etc.	*Short Term*	Continuous basis	**a) DHANBAD MUNICIPAL CORPORATION** **b)** (I) DMC is responsible agency for collection, segregation, transportation and scientific disposal of municipal solid waste as per MSW Rules, 2016. (II) Agricultural biomass burning is not taking place in and around the city. (III) DMC / SPCB will be regularly imposing the fines on persons who will be found burning the MSW, biomass, plastics, horticulture waste etc., and strict enforcement of directions issued by the Hon'ble NGT in this regard. The provision of mobile enforcement units to check this has also been made in NCAP. (IV) DMC has directed the implementing agency (DIMSW Ltd.) for collection, segregation, transportation and scientific disposal of municipal solid waste as per MSW Rules, 2016. (V) IEC activities for the local people engaged in biomass burning etc. will be done once a month on regular basis.

				(VI) Launch extensive drive against open burning of biomass and coal on random basis. (VII) Regular check and control of burning of MSW. (VIII) Proper collection of horticulture waste (Biomass) and its disposal following composting cum gardening.
CONROL OF AIR POLLUTION FROM INDUSTRIAL EMISSIONS	Ensuring installation and operation of air pollution control devices in industries.	*Mid Term*	June 2020	**a) JHARKHAND SPCB** **b)** (I) The non – complying units will be given directions for the compliance of emission standards. (II) In Dhanbad there are Industries like Coal mines, Hard coke plant, soft coke plant etc. which have been equipped with online monitoring system as per guide lines of CPCB which ensures the monitoring of real time data. Similarly, all industries causing air pollution shall be made compliant for installation of adequate PCDs as per guidelines of CPCB.
	Ensuring emission standards in industries.	*Long Term*	March 2020	**a) JHARKHAND SPCB** **b)** (I) All industries causing Air, Water and Noise pollution shall be made compliant w.r.t causing emission levels with the standard as are issued by SPCB. (II) To install Online PM_{10} Analyzers in all major air polluting industries. All the major polluting industries such as Railway sidings, Stone crushers with capacity more than 5oo TPD and Bauxite mines, iron ore

				mines and hard coke industries etc. (III) The covering of loaded transport vehicles will be compulsory. (IV) All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca, (V) All OB dumps will be enclosed by pucca boundary wall to prevent entry through them. (VI) All drillings shall be done with dust containment and suppression systems, from. The fixed type sprinklers will be installed in all dust prone areas. (VII) The prudent operational practices will be adapted to control.
	Clean technology in industries.	*Mid Term*	Continuous basis	**a) JHARKHAND SPCB** **b)** (I) Industries shall be encouraged to adopt cleaner technologies as per guidelines of CPCB. (II) Conversion of natural draft brick kilns to induced draft. The occupier of the brick kilns owners has been asked to give affidavit that they will change natural draft brick kilns to induced draft by March 2020. (III) Efforts for good mining practices. In this regard consultation with authorities of BCCL and corrective measures to be adopted by BCCL. (IV) Green Belt for activity zone and the buffer zone for each mining area. In this regard direction has been given to the authorities of BCCL for green belt

				development as per guidelines/norms. (V) Proper maintenance of induced draft system by Hard Coke industries which has been already installed. (VI) Proper maintenance/upgradation of bag filters attached with coal crushing/grinding disintegrator. (VII) Proper maintenance/upgradation of paved/black top haul road by the hard coke units. (VIII) Soft coke units to properly maintain/install/upgrade wet scrubber. (IX) Proper water sprinkling arrangement in all the hard coke/ soft coke units.
	Shifting of polluting industries.	*Mid Term*	Continuous basis	**a) JHARKHAND SPCB & INDUSTRIES DEPARTMENT** **b)** The identification of polluting industries is under process. After the identification they will be shifted with the help of industries department. Further, all the brick kilns nearby and around the city shall be converted to zig-zag technology within stipulated period of time.
	Ban on Polluting industries.	*Mid Term*	Continuous basis	**a) JHARKHAND SPCB & INDUSTRIES DEPARTMENT** **b)** Many polluting and non compliant industries have been closed down. The industries which will not be complying with the emission standards will be issued closure under the provisions of The Water

				(Prevention and Control of Pollution) Act, 1974 and The Air (Prevention and Control of Pollution) Act, 1981.
STRENGTHENING OF AAQ MONITORING	Installation of additional NAMP monitoring stations at Dhanbad	*Mid Term*	June 2020	**a) JHARKHAND SPCB** **b)** Presently, there are five (05) NAMP sanctioned stations at identified locations (I) JSPCB Regional Office, Dhanbad (II) MADA, Jharia (III) PDIL, Sindri (IV) Bastacola (V) CGMO, Kusunda operational since 2009-10.
	Establishment of CAAQMS	*Mid Term*	March 2021	**a) JHARKHAND SPCB** **b)** At present one CAAQMS is installed at Digwadih, Dhanbad. MoEF&CC has sanctioned two CAAQMS Stations for Dhanbad under the National Clean Air Programme (NCAP) in the current financial year 2019-20. One more CAAQMS is proposed under CPCB-SPCB (50-50 share basis) at Dhanbad. One more CAAQMS will be installed in next financial year (2020-21) with NCAP fund.
	Source Apportionment of Dhanbad city	*Long Term*	*December 2020*	**a) JHARKHAND SPCB** **b)** For Source apportionment and emission inventory a study will be conducted in Dhanbad city for which NEERI has been appointed by M/s Bharat Coking Coal Limited (BCCL), a Coal India Subsidiary and JSPCB will be finalizing the Terms of Reference (ToR) of the study and the air quality action plan for improving air quality in the city will be improved as per the results and recommendations of the source apportionment study and suggestions based on the study will be

				incorporated in the future plans and long term plans.
PUBLIC AWARENESS	Issue of advisory to public for prevention and control of air pollution.	*Short Term*	Continuous basis	**a) JHARKHAND SPCB** **b)** Advisories have been issued from time to time to the public for prevention and control of pollution. Same needs to be continued in future as well through mass awareness programmes using print and electronic media.
	Involvement of school and other academic institution in awareness program.	*Short Term*	Continuous basis	**a) JHARKHAND SPCB** **b)** State Pollution Control Board conducts programs like painting competitions, essay competitions, symposia etc. amongst students. The registered NGO's may be involved in this process too.
OTHER STEPS TO CONTROL AIR POLLUTION	Compliance of guidelines on :- a) D.G. sets, b) Fire crackers	*Short Term*	September 2019	**a) JHARKHAND SPCB** **b)** (I) Board conducts the monitoring/inspection of DG sets/similar installations as and when required, as a DG set with canopy (acoustic enclosure) and requisite stack height on meeting emission norms as per EP standard be allowed to function, failing which strict action including seizure and penalty be imposed. (II) Use of fire crackers as per Hon'ble Supreme Court order dated 23/10/2018 and directions there under to be strictly enforced. The enforcement will be carried out by Local administration.
	Establish a NABL Accredited Laboratory at the Regional Office Dhanbad to oversee the	*Long Term*	March 2021	**a) JHARKHAND SPCB** **b)** A NABL Accredited laboratory to be established at the Regional Office Dhanbad to oversee the air

	air quality management activities in the state and to interact with CPCB.			quality management activities in the state and to interact with CPCB which will be headed by a Scientist (Board Analyst) of SPCB on priority basis.
	Steps to Publicize helpline in city as well as in SPCB (HQ) for complaints against reported noncompliance issues related to cause of air pollution.	*Short Term*	August 2019	**a) JHARKHAND SPCB** **b)** JSPCB is having its twitter handle, email id etc. where public can lodge complain and get their grievance redressed in time. The link of twitter handle and email id is as follows:- **Twitter: -** https//twitter.com/jspcbranchi?s=09 **Email ID:** - ranchijspcb@gmail.com
	Involvement of Industrial associations, NGOs, Transport unions associations in awareness program based on ambient air quality status, present prevailing trends.	*Short Term*	Continuous process	**a) JHARKHAND SPCB** **b)** Awareness programme will be conducted on regular basis involving NGOs, transport unions, industries, industries associations and other allied agencies.

Action plan for prevention and control of air pollution for mine/collieries of BCCL which is to be followed on continuous basis.

Sl. No	Environmental Aspect	Activities	Current Practices	Future Action Plan		
				Short Term (by August 2020)	Mid Term (by August 2022)	Long Term (by August 2024)
1	Ambient Air	Covered Transportation	This is being practiced	Strict enforcement and random audits with Pollution	Mechanically covered trucks shall be deployed on availability with OEM (CIL referred	

				Control Board	for same)	
		Permanent Pucca Transportation Road	Road made up of local stones and OB/ Pucca		Will be compacted to control fugitive dust	Will be black topped in Non-Coal Bearing Area
		Sweeping of road		Manual sweeping of sides of road of Major NH through which transportation is done	Mechanical sweeping will be done	
		Drilling with Dust extractor /wet drilling	Some drills are equipped with dust extractor while some are equipped with wet drilling		All new and old drills will be fitted with wet drilling and dust extractor system	
		Sprinkling arrangements at Siding/Permanent Transportation routes/Coal Dumps	Mobile sprinkling on haul roads, Fixed sprinkling at feeder brakers and washeries	Mobile water sprinkling frequency will be increased. Road sides of major NH being used will manually broomed	Fixed Sprinkler shall be installed at Railways siding, FEEDER/Braker at dust generating sources.	Fixed Sprinklers shall be installed at Railways siding, Feeder/Braker at dust generating sources. Mist type mobile sprinklers will be used for haul roads and unloading operations.

Action plan for prevention and control of air pollution for Coal Washeries of BCCL which is to be followed on continuous basis.

S. No	Action Point	Action Plan for stakeholders	Compliance
1.	The ambient air of the premises of coal washeries remains dusty due to pliance of uncovered trucks and those too on kutcha haul roads and on reject dumps and due to uncovered processing of coal	a) The covering of loaded transport vehicles will be compulsory.	Coal transportation from out underground colliers takes place through underground belt conveyor network system directly to captive washery. Coal transportation through trucks is done only from BCCL, mines till washery and it is ensured that only optimally loaded trucks with proper tarpaulin cover are allowed into the washery premises Clean coal is dispatched via rail from the Rail-yard situated in the washery premises.
		b) All transport roads will be made pucca.	All the internal roads of the washery have been concreted while the approach roads are black-topped.
		c) Reject dumps will be enclosed by pucca boundary wall to prevent entry through them.	Rejects are already kept in stockyards enclosed by pucca boundary wall and rejects are sold off regularly to various customers.
		d) All processing (crushing screening, etc) chambers of coal will be covered.	All processing chambers are provided with enclosures. Conveyer belts in washery are covered on top and both sides. In addition, dry fog system is installed at all transfer points of CHP.
		e) Fixed type of water sprinklers will be installed in all dust prone areas.	Fixed water sprinklers are installed in internal roads of washery for dust suppression. In addition, movable water sprinklers are also being deployed on the roads for dust suppression.

Action plan for prevention and control of air pollution for Coal Mines of Tata Steel Limited, Jharia which is to be followed on continuous basis.

S. No	Action Point	Action Plan for stakeholders	Compliance by Tata Steel Limited, Jharia

	The ambient air of the collieries remains dusty due to pliance of uncovered trucks and those too on kutcha haul roads and on OB dumps and due to drilling & blasting and uncontrolled emission of their boilers.	a. The covering of loaded transport vehicles will be compulsory.	Coal transportation from our underground colliers takes place through underground belt conveyor network system directly to; our washeries only sand is transported via tarpaulin covered trucks from riverbed to sand stowing yard.
		b. Coal Transport roads and long time transport road shall be made pucca. New haul roads will be taken in use after making it pucca.	This is not applicable for underground mines. However, the approach roads of the underground collieries are already made pucca.
		c. OB dumps will be enclosed by pucca boundary wall to prevent entry through them.	Not applicable as Tata Steel is presently operating underground mines only. Earlier, we had one open cast mine viz. Kalimela OCB for which production has been ceased since Nov'14. There is retention wall of around 2200 meters that exist around the dump of OCP Kalimela.
		d. All drillings shall be done with dust containment and suppression systems. The fixed type sprinklers will be installed in all dust prone areas, including all coal stock & sidings.	Not applicable as this is for open cast mine. The Kalimela OCP is already closed and backfilling of the mine void is being done. Raw coal is directly transported from underground mines to washery via belt conveyor networks where water sprinkling arrangements are present at transfer points.
		e. The prudent operational practices will be adopted to control dust.	The best environmental practices adopted by Tata Steel Jharia Division are attached in Annexure-I.

Action plan for prevention and control of air pollution from Thermal Power Plants, Soft Coke Units and Bee Hive Coke Oven Plants (Hard coke units) which is to be followed on continuous basis.

Source group	Action	Implementation period (Short/ Mid/ Long term)	Time target for Implementation	a) Responsible agency(ies) b) Any other information
Thermal	(a) The covering of loaded			**a) Maithon Power Limited**

Power Plants	transport vehicles will be compulsory, from. (b) All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca, from. (c) All ash dumps will be enclosed by pucca boundary to prevent entry through them. (e) All processing of ash will be done in covered space. (f) The chimneys of all boilers will be equipped with ESPs with on line monitoring systems. (g) Dry ash collection system shall be installed and dry ash sale cement mills shall be resumed. (h) All ash shall be disposed of by utilization or sale and it will be continued from. (i) The plantation of saplings for creation of tree and forest cover of local species. (j) The conversion of	**Mid term**	*June 2020*	**b)** JSPCB will be giving directions in this regard to M/s Maithon Power Limited.

	abandoned / inoperative mines into water bodies.			
Soft Coke Units	(a) The covering of loaded transport vehicles will be compulsory, from. (b) All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from. (c) The space of processing of coal or coke will be kept covered. (d) All plants will be modified to ensure emission of particulate matter to below 150 micro gm per cubic meter. (e) The plantation of saplings for creation of tree and forest cover of local species.	**Mid term**	*March2020*	**a) All the Soft Coke Units** **b)** JSPCB will be giving directions in this regard to all the soft coke units.
Bee Hive Coke Oven Plants (Hard coke units)	(a) The covering of loaded transport vehicles will be compulsory, from. All haul roads will be made pucca, by. (b) New haul road will be taken in use after making it pucca, from. (c) The space of processing of			**a) All the Bee Hive Coke Oven Plants (Hard Coke Units)** **b)** JSPCB will be giving directions in this regard to all the Bee Hive Coke Oven Plants (Hard Coke Units).

	coal or coke will be kept covered. (d) All plants will be modified to ensure emission of particulate matter to below 150 micro gm per cubic meter. (e) The plantation of saplings for creation of tree and forest cover of local species.	**Mid term**	*March 2020*	

Long term strategy

Long term strategies involve –

- Making people aware about the effects of air pollution
- Developing good practices among industries and mining
- Creating green belts around the mining areas and also around the local habitations
- Bringing behavior change communication among the people using traditional cook stoves and make them use improved cook stoves
- Replacing diesel operated three wheelers with battery operated vehicles

Time frame

Time frame for action points have been mentioned in the action plan segment.

Budgetary Provisions

As the budget for the aforementioned programme will be finalized by the concerned departments it will be conveyed to the concerned authorities and will be incorporated in the action plan.

Executing agencies

Executing agencies will involve –

- M/s BCCL
- Transport department
- Traffic police
- Industry Department
- Dhanbad Nagar Nigam
- Jharkhand state pollution control board
- Urban Development and Housing Department

Implementation will be monitored by a district level committee headed by the district collector and will also involve head of different executing departments. All these will be done under the aegis of State Pollution Control Board.

Public awareness and grievance redressal mechanism:

For making public aware about the harm full effects of the air pollution and its various segments will be explained to public. Public information disclosure boards will be installed at Petrol pumps, designed parking stations and weighbridges. Local FM stations will be tied up to announce awareness programme especially during peak traffic aware. Awareness drive will also be requested by the implementing departments. Driving schools will be also made to make aware bout the air pollution resulting from old vehicles and also due to adulteration in the fuels. Moreover, JSPCB is having its twitter handle, email id etc. where public can lodge complain and get their grievance redressed in time. The link of twitter handle and email id is as follows:-

Twitter: - https//twitter.com/jspcbranchi?s=09

Email ID: - ranchijspcb@gmail.com

XX

Annexure-Q

मुख्य अभियंता का कार्यालय
अग्रिम योजना, जल संसाधन विभाग,
जल भवन तीसरा तल्ला कमरा संख्या–303,
डोरण्डा, राँची–834002

पत्रांक :– मु०अ०/अ०यो०/ / 499 राँची, दिनांक :3/10/19 /

प्रेषक :– **मुख्य अभियंता,**
अग्रिम योजना,
झारखण्ड, राँची।

सेवा में,

मुख्य अभियंता (मो०)
जल संसाधन विभाग, राँची।

विषय :– **Hon'ble NGT के O.A . No. 673/2018 के संदर्भ में जल संसाधन विभाग से संबंधित बिन्दुओं पर अद्यतन प्रगति प्रतिवेदन के संबंध में।**

प्रसंग :– River Rejuvenation Committee एवं AQMC की बैठक में प्राप्त निर्देश।

महाशय,

उपरोक्त विषयक प्रगति प्रतिवेदन तैयार कर विभागीय अनुमोदन हेतु समर्पित किया जा रहा है। विभागीय अनुमोदन के उपरान्त प्रगति प्रतिवेदन झारखण्ड राज्य प्रदूषण नियंत्रण पर्षद को प्रेषित करने की कृपा की जाय।

अनु०:–यथावत।

विश्वासभाजन

3/10/19
(सनाउल्लाह)
मुख्य अभियंता,
अग्रिम योजना, राँची।

Short Term and Long Term Action and the Identified Authorities for initiating actions and the time limits for ensuring

Sl. No.	Action Plan for Rejuvenation of River	Concerned dept.	Time Target	Status Report of Compliance
B	**Sewage Treatment and Disposal Plan**			
1	District-wise estimation of total sewage generation, existing treatment capacities, quantum of disposal of sewage presently through drains and the gaps in sewage treatment capacity.	State Government, UDD, Water Resource Dept., District Administration and Local bodies.	March 2020	Issue is not related to Water Resources Department, Jharkhand.
2	To undertake measurement of flow of all the drains presently contributing pollution load in rivers and to formulate detailed project report (DPR) for each drain and corresponding town and submission of DPR.	State Government, UDD, Water Resource Dept., District Administration and Local bodies.	March 2020	Drains presently contributing pollution loads in rivers need to be identified by concerned department only then W.R.D Jharkhand can start measurement of flow of such drains.
3	Proper design, execution of STPs with full utilization capacity.	State Government, UDD, Water Resource Dept., District Administration and Local bodies.	March 2020	Issue is not related to W.R.D Jharkhand.
4	Channelization including diversion of sewage generated from household/town ships/villages to sewer lines /interception of all the drains presently carrying sewage and for ensuring proper treatment through the upcoming STPs.	State Government, UDD, Water Resource Dept., District Administration and Local bodies.	March 2021	Issue is not related to W.R.D Jharkhand.
5	Ensuring dairy/automobile service stations and Hotels/Restaurants particularly located on road-side should have a treatment system and levy of fine in case found Violations.	Local Authorities	March 2020	

Sl. No.	Action Plan for Rejuvenation of River	Concerned dept.	Time Target	Status Report of Compliance
C	**Ground water quality**			
1	Sealing of contaminated hand pumps found to be unfit for drinking purpose by the public.	Rural drinking water and Sanitation Department and Local authorities.	September 2020	–
2	Supply of potable water to the affected communities in the identified critical blocks.	Rural drinking water and Sanitation Department and Local authorities.	March 2020	–
3	Carrying assessment of ground water survey for quality and to identify over exploited and critical blocks in the districts.	Ground Water Authority	March 2020	Such type of activities are being done by CGWB, State unit, Jharkhand, Ranchi.
4	To conduct periodic surprise inspection of the industry to rule out any forceful injection of industrial effluents into ground water resource.	JSPCB & Ground Water Authority	Continuous	Issue is not related to State Ground Water Directorate.
5	All the industry should be directed to obtain NOC from the CGWB and action against the Units in Operation without obtaining of NOC from CGWA	CGWB/CGWA and Ground Water Authority	Continuous (The proposed)	Directly or indirectly State Ground Water Directorate is not involved for such type of action.
6	To ensure rain water harvesting by the industrial, commercial and other institutions and ground water recharging with only clean water be encouraged by CGWB/CGWA.	CGWA/ Ground Water Authority/JSPCB.	March 2020	The State Ground Water Development and Management (Control & Regulation) Act 19 is under process. After enactment of law it will be mandatory to all institutions for ground water recharging facilities.

Director
GWD, Ranchi

Sl. No	Action Plan for Rejuvenation Of River	Concerned Dept.	Time Target	Status Report of Compliance
E	**Flood Plain Zone(FPZ)**			
1	Plantation in Flood Plain Zone(FPZ)	Forest, Environment& Climate Change	June 2020	–
2	Checking encroachments in FPZ of river	District/Local Administration	Regular	–
3	Prohibition of disposal of municipal plastic and biomedical waste particularly in drains	Local Administration	September 2020	–
4	Protection and management of Flood Plain Zone	State Government/ Water Resource Department	Up to March 2020 and execution of agreement by October 2019	Selection of consultant for preparation of detailed action plan has already been Completed. Consultant is expected to Complete assignment is six months.

Sl. No	Action Plan for Rejuvenation Of River	Concerned Dept.	Time Target	Status Report of Compliance
F	**Environmental Flow (E-Flow) and Irrigation Practices**			
1	Measurement of flow in the river and records maintained	Water Resource Department	Continuous Basis	River discharge for Subarn Rekha Sankh, Damodar &Konar rivers is being recorded & records maintained. In other river stretches the process under way.
2	To conserve water and good irrigation practises to be adopted by the farmers by organizing mass awareness programmes and Through media in vernacular language	Water Resource Department /Agriculture Dept.	Continuous Basis	
3	Completion of work for issues to E-flow	Water Resource Department	Up to March 2020 and execution of agreement by October 2019	Selection of consultant for preparation of detailed action plan has already been Completed. Consultant is expected to Complete assignment is six months.
4	Completion of work related ground water recharge/rain water harvesting	Water Resource Department	Up to March 2020 and execution of agreement by October 2019	Selection of consultant for preparation of D.P.R has already been Completed. Consultant is expected to Complete assignment is four months.

3/10/19
Director
GWD, Ranchi.

3/10/19

Roles and Responsibilities of Urban Development & Housing Department under Hon'ble NGT O.A. No. 673/2018

Action Plan for Rejuvenation of Polluted River Stretches of Jharkhand

Sl. No.	Observations	Remarks				
		Name of River	**List of major towns**	**Population (as per census 2011)**	**distributaries & major drains contributing to pollution in identified river**	**Map**
1	Detailed List of major towns with total population, distributaries & major drains contributing to pollution in identified river along with a digital map showing the above details.	Garga	Chas	1,41,640	3 nos.	Map showing details of drains /Nallahs in Chas town and catchment drainage zone are attached as Annexure 1
		Sankh	River not passing through any urban town.	-	-	-
		Subarnarekha	Ranchi	10,73,427	Piped outfall – 6 nos. Tributaries and Nallahs- 6 nos.	Map showing locations of drains/Nallahs discharged into Subarnarekha river is attached as Annexure 2
			Adityapur	174355	5 nos.	Map showing details of drains/Nallahs in Adityapur town is attached as Annexure 3
			Mango	223805	5 nos.	Map showing details of drains/Nallahs in Mango town is attached as Annexure 4
			Jugsalai	49660	4 nos.	Map not available
			Jamshedpur	677350	7 nos.	Map showing details of drains/Nallahs in JNAC area is attached as Annexure 5

		Damodar	Ramgarh	1,23,875	Data not available	Map not available
			Phusro	89,178	3 nos.	Map showing details of drains/Nallahs in Phusro town is attached as Annexure 6
			Dhanbad	11,62,472	4 nos.	Map showing details of drains/Nallahs in Dhanbad town is attached as Annexure 7
		Jumar	Ranchi	10,73,427	Data not available	Map not available
		Konar	River not passing through any urban town.	-	-	-
		Nalkhari	River not passing through any urban town.	-	-	-
2	Detailed gap analysis w.r.t town wise sewage management plan	**Name of River**	**List of major towns**	**Town wise sewage management plan**		
		Garga	Chas	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • Presently, approx. 21.56 MLD of sewage generation occurs in the Chas town through the Urban Population. • UD&HD under AMRUT scheme of GoI, has been taken up the Septage Management scheme of the Chas Town in which 89 KLD plant of MBBR technology is under construction. • Proposal for preparation of DPR for Interception and Diversion scheme of Drains at Chas is in progressin which STPs will be proposed for treatment of sewage form drains.	
		Subarnarekha	Ranchi	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • Approx 45 MLD of untreated domestic sewage waste flows into the Subarnarekha river at Ranchi. • DPR for Rejuvenation and Conservation of Subarnarekha River under	

			Ranchi Urban area is under preparation in which STPs are proposed for treatment of domestic sewage. • Proposal for preparation of DPR for integrated sewerage system for the Ranchi City is in progress.
		Adityapur	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Subarnarekha river from Adityapur town, UD&HD under AMRUT scheme of GoI has been taken up the Adityapur Sewerage system scheme in which 4 units of total 37 MLD STPs are under Construction.
		Mango	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Subarnarekha river from Mango town, the DPR for sewerage system at Mango town is under preparation, in which around 3 units of 43 MLD STPs are proposed to cater the treatment of waste water for the Ultimate year i.e. 2047.
		Jugsalai	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Subarnarekha river from Jugsalai town, the DPR for sewerage system at Jugsalai town is prepared and it will be under execution after the finalization of source of funding, in which around 1 units of 8.5 MLD STP is proposed to cater the treatment of waste water for the Ultimate year i.e. 2047.
		Jamshedpur	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Subarnarekha river from Jamshedpur NAC, the DPR for sewerage system at Jamshedpur NAC is under preparation.
	Damodar	Ramgarh	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal.

		• To stop the discharge of sewage into the Damodar river from Ramgarh town, the process of selection of consultant for preparation of DPR for construction of I&D for drains, construction of Sewerage Treatment Plant, integrated sewerage network of Ramgarh town is in progress.
	Phusro	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Damodar river from Phusro town, the DPR for construction of I&D for drains, construction of Sewerage Treatment Plant of 14 MLD is prepared and send to National Mission for Clean Ganga (NMCG) for approval.
	Dhanbad	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Damodar river from Dhanbad town, the DPR for construction of I&D for drains, construction of Sewerage Treatment Plant of 144.58 MLD is prepared by the consultant and under scrutiny in the UD&HD.
Jumar	Ranchi	• Presently there is no formal sewerage system in the town and most households are using septic tanks and soak pits for sewage disposal. • To stop the discharge of sewage into the Jumar river from RanchiCity, Ranchi Municipal Corporation has been taken up the Ranchi Sewerage system scheme of Zone -1 area in which river Jumar falls, the Zone -1 map of Ranchi Sewerage scheme is attached as Annexure-8 and to stop the discharge of direct sewage into the Jumar river, 37 MLD of STP is under Construction.

3	Detailed gap analysis w.r.t performance of existing STPs	

Name of River	List of major towns	Town wise performance of existing STPs
Garga	Chas	At present, there are no existing STPs in the town
Subarnarekha	Ranchi	At present, there are no existing STPs in the town
	Adityapur	At present, there are no existing STPs in the town
	Mango	At present, there are no existing STPs in the town
	Jugsalai	At present, there are no existing STPs in the town
	Jamshedpur	At present, there are no existing STPs in the town
Damodar	Ramgarh	At present, there are no existing STPs in the town
	Phusro	At present, there are no existing STPs in the town
	Dhanbad	At present, there are no existing STPs in the town
Jumar	Ranchi	At present, there are no existing STPs in the town

4	Detailed gap analysis w.r.t STP sludge management & upgradation of existing STP if required for ensuring compliance to discharge norms, present for treated water utilization practices and proposal for utilization of treated sewage	

Name of River	List of major towns	Town wise STP slugde management & upgradation of existing STP if required for ensuring compliance to discharge norms, present treated water utilization practices	Proposal for utilization of treated sewage
Garga	Chas	At present, there are no existing STPs in the town.	UD&HD, GoJ has been issued a policy called as **Jharkhand Waste Water Policy 2017** with a vision that **"All Jharkhand cities and towns achieve the water recycling capability from STPs, household, commercial and industrial areas in a sustainable manner and reduce the fresh water demand to a sizeable extent".** As per the Jharkhand Waste Water Policy 2017 the recycled water can be used for **"Landscaping, Public parks, Cooling water for power plants and oil refineries,Processing water for mills and plants, Toilet**
Subarnarekha	Ranchi	At present, there are no existing STPs in the town.	
	Adityapur	At present, there are no existing STPs in the town.	
	Mango	At present, there are no existing STPs in the town.	
	Jugsalai	At present, there are no existing STPs in the town.	
	Jamshedpur	At present, there are no existing STPs in the town.	
Damodar	Ramgarh	At present, there are no existing STPs in the town.	
	Phusro	At present, there are no existing STPs in the town.	
	Dhanbad	At present, there are no existing	

			STPs in the town.	**flushing, Dust control, Construction activities, Concrete mixing, Artificial lakes, Car, Cloth & floor washing, Garden and irrigation using a hose spray or drip irrigation".** Whereas based upon the on ground conditions every ULBs have to make its city level implementation plan as per the provisions laid out in the policy. **The Jharkhand Waste Water Policy 2017 is attached as Annexure - 9**
		Jumar	Ranchi	At present, there are no existing STPs in the town.	
5	List of STPs & ETPs with their capacity (To be commisioned shall also be included)				

Name of River	**List of major towns**	**Town wise List of STPs & ETPs to be commissioned**	**Total Capacity**
Garga	Chas	1 unit of Septage Treatment Plant- under construction	89 KLD
Subarnarekha	Ranchi	4 units of Sewage Treatment Plant on the bank of Subarnarekha river at Ranchi- proposed.	37 MLD
	Adityapur	4 units of Sewage Treatment Plant – under construction	36 MLD
	Mango	3 units of Sewage Treatment Plant – proposed	43 MLD
	Jugsalai	1 unit of Sewage Treatment Plant – proposed	8.5 MLD
	Jamshedpur	4 units of Sewage Treatment Plant – proposed	20 MLD
Damodar	Ramgarh	Consultant selection for preparation of DPR of I&D scheme for drains and construction of STPs are in progress	-
	Phusro	2 units of Sewage Treatment Plant – proposed	14 MLD

			Dhanbad	3 units of Sewage Treatment Plant – proposed	144.58 MLD
		Jumar	Ranchi	1 units of Sewage Treatment Plant – under Construction	37 MLD
6	Detailed gap analysis w.r.t industrial effluent management of all industries	Not related to UD&HD			
7	Detailed gap analysis w.r.t upgradation of existing Captive ETPs, performance ETPs/CETPs & utilization of treated waster also be included along with timeline for attaining ZLD for all industries	Not related to UD&HD			
8	Interception &diversion of Sewage/Industrial effluent carrying drains to STPs/CETPs to be provided	**Name of River**	**List of major towns**	**Town wise Interception & diversion of Sewage/Industrial effluent carrying drains to STPs/CETPs**	**Capacity (MLD)**
		Garga	Chas	Proposal for preparation of DPR for Interception and Diversion scheme of Drains is in progress in which STPs will be proposed for treatment of sewage form drains.	-
		Subarnarekha	Ranchi	Total 12 outfalls have been identified in the river at Ranchi. DPR for Interception and Diversion scheme of Drains, Construction of STPs are under preparation.	37 MLD
			Adityapur	Integrated sewerage system scheme for Adityapur Urban area is in implementation stage under AMRUT scheme. Hence no need to provide separate I&D for drains.	36 MLD

			Mango	DPR for Integrated sewerage system scheme for Mango town is under preparation. Hence no need to provide separate I&D for drains.	43 MLD
			Jugsalai	DPR for Integrated sewerage system scheme for Jugsalai town is under preparation. Hence no need to provide separate I&D for drains.	8.5 MLD
			Jamshedpur	DPR for Integrated sewerage system scheme for JNAC area is under preparation. Hence no need to provide separate I&D for drains.	20 MLD
		Damodar	Ramgarh	Consultant selection for preparation of DPR of I&D scheme for drains and construction of STPs are in progress.	-
			Phusro	Total 3 nos. of major drains have been identified in the Phusro town. DPR for Interception and Diversion scheme of Drains, Construction of STPs is prepared and sent to NMCG for approval.	14 MLD
			Dhanbad	Total 4 nos. of major drains have been identified in the Dhanbad town. DPR for Interception and Diversion scheme of Drains, Construction of STPs is prepared by the consultant and under scrutiny stage at UD&HD.	144.58 MLD
		Jumar	Ranchi	Integrated sewerage system scheme for Zone -1 of Ranchi Municipal Corporation is in implementation stage in which river Jumar falls. Hence no need to provide separate I&D for drains.	37 MLD
9	Action plan on adoption of good irrigation practices	Not related to UD&HD			

<table>
<tr><td></td><td>along with timeline and budget estimates</td><td></td></tr>
<tr><td>10</td><td>Action plan on utilization of treated sewage to minize abstraction of ground water along with timeline and budget estimates</td><td>
<table>
<tr><th>Name of River</th><th>List of major towns</th><th>Action plan on utilization of treated sewage to minimize abstraction of ground water along with timeline and budget estimates</th></tr>
<tr><td>Garga</td><td>Chas</td><td rowspan="10">UD&HD, GoJ has been issued a policy called as Jharkhand Waste Water Policy 2017 with a vision that "All Jharkhand cities and towns achieve the water recycling capability from STPs, household, commercial and industrial areas in a sustainable manner and reduce the fresh water demand to a sizeable extent".

As per the Jharkhand Waste Water Policy 2017 the recycled water can be used for "Landscaping, Public parks, Cooling water for power plants and oil refineriesProcessingwater for mills and plants, Toilet flushing, Dust control, Construction activities, Concrete mixing, Artificial lakes, Car, Cloth & floor washing, Garden and irrigation using a hose spray or drip irrigation".

Whereas, as per the policy a city level waste water recycling plan (CWP) for the next 20 years along with 5 year short term plan will be prepared after the commissioning of the STP proposed/under construction in the respective towns and accordingly budget estimate have been made.

The Jharkhand Waste Water Policy 2017 is attached as Annexure –9</td></tr>
<tr><td rowspan="5">Subarnarekha</td><td>Ranchi</td></tr>
<tr><td>Adityapur</td></tr>
<tr><td>Mango</td></tr>
<tr><td>Jugsalai</td></tr>
<tr><td>Jamshedpur</td></tr>
<tr><td rowspan="3">Damodar</td><td>Ramgarh</td></tr>
<tr><td>Phusro</td></tr>
<tr><td>Dhanbad</td></tr>
<tr><td>Jumar</td><td>Ranchi</td></tr>
</table>
</td></tr>
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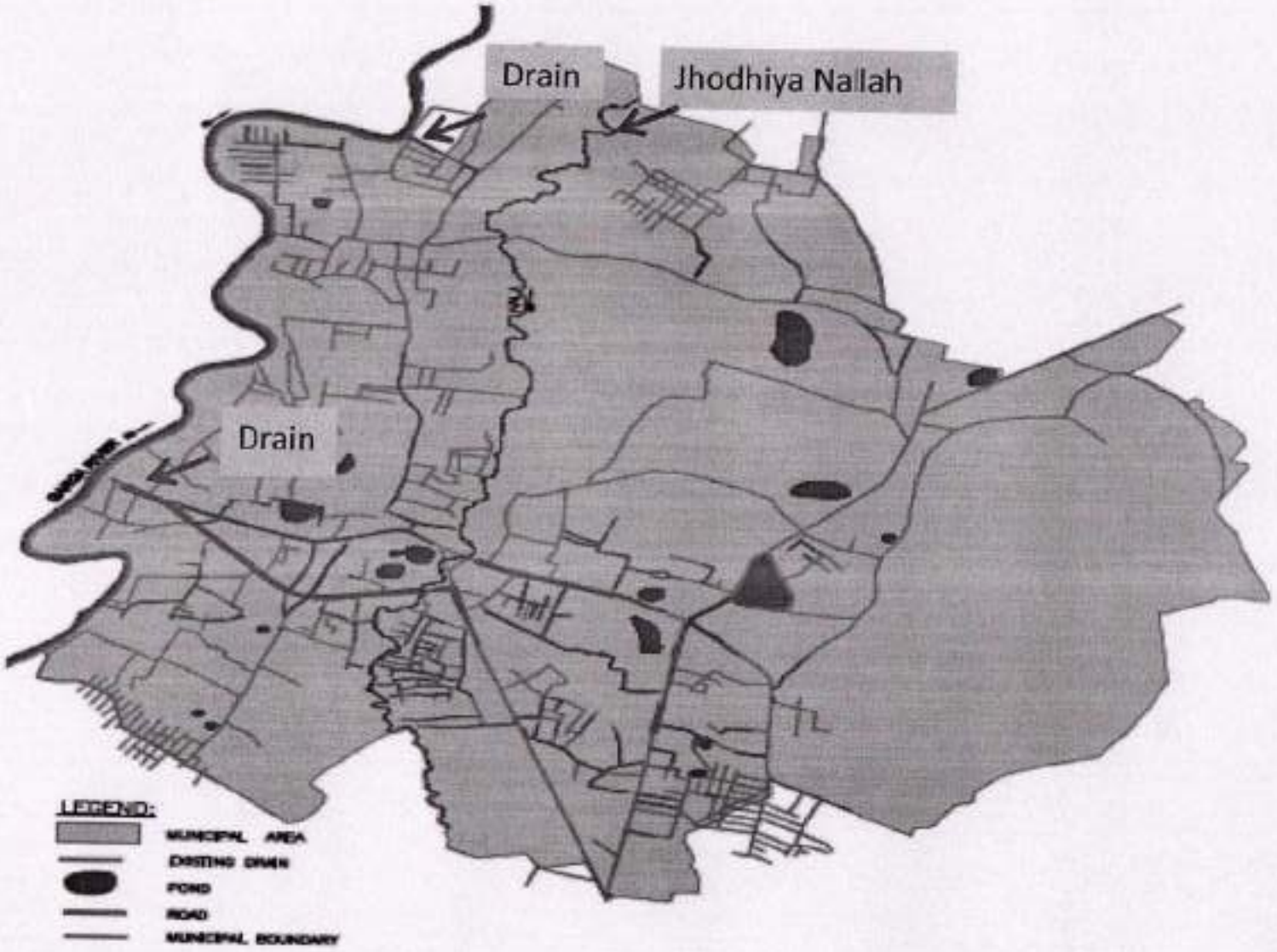
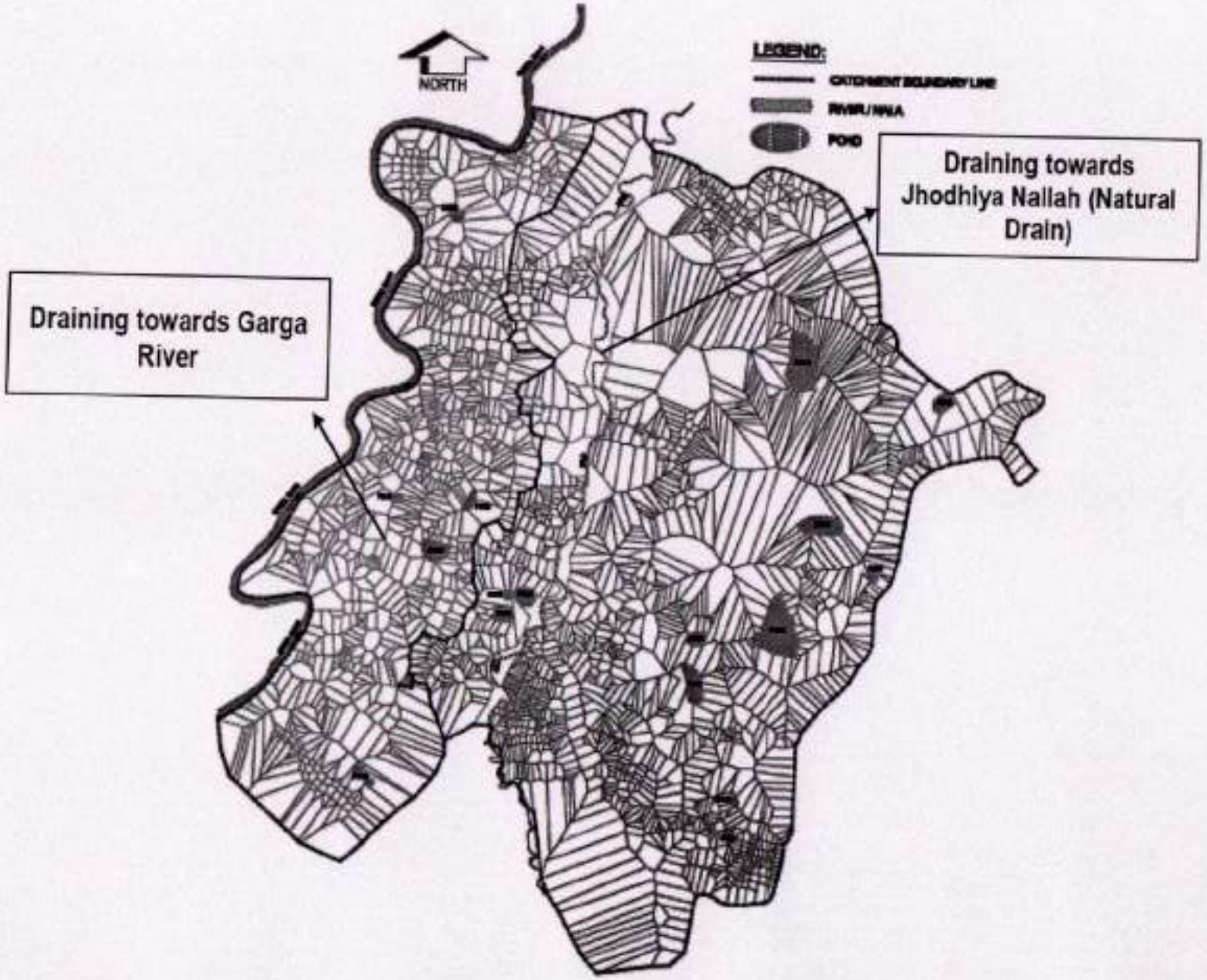
Annexure -1

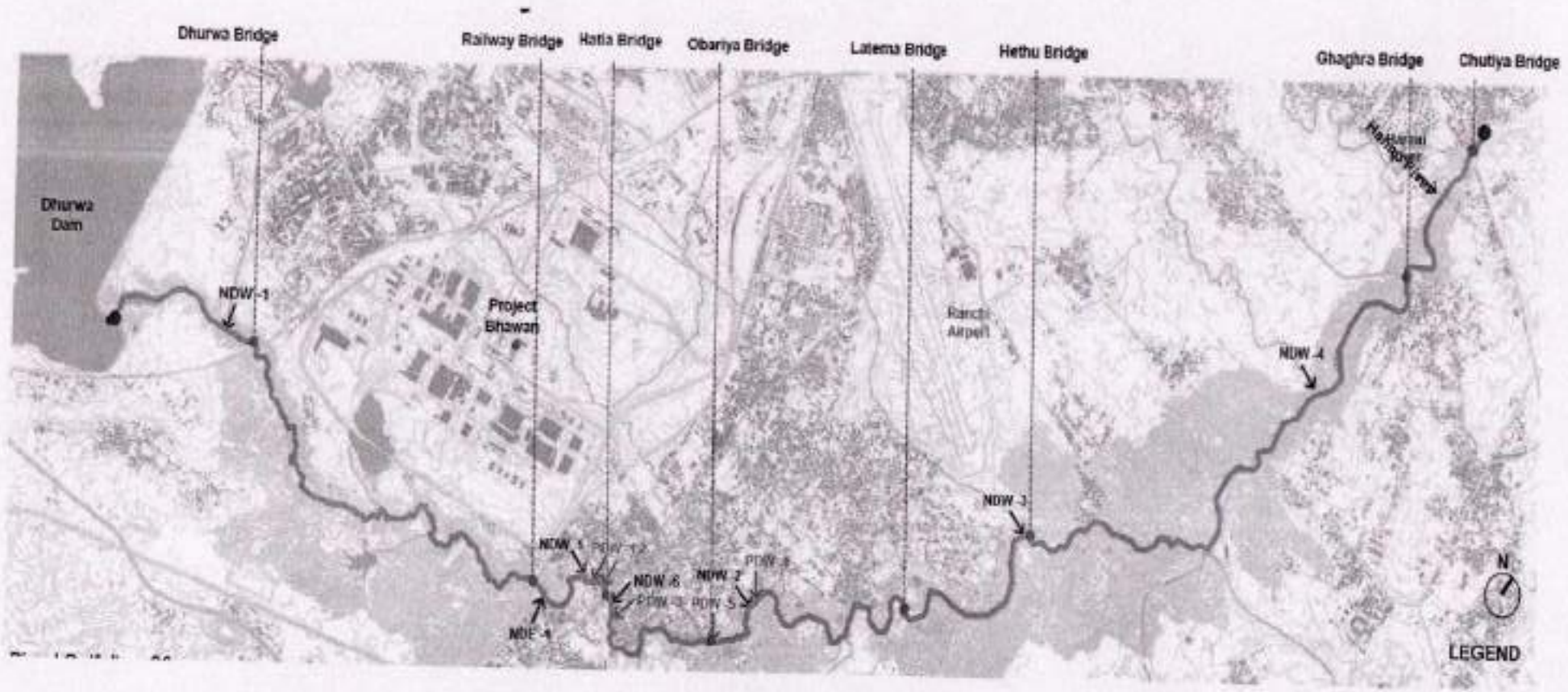


Drains in Chas town discharging into River Garga



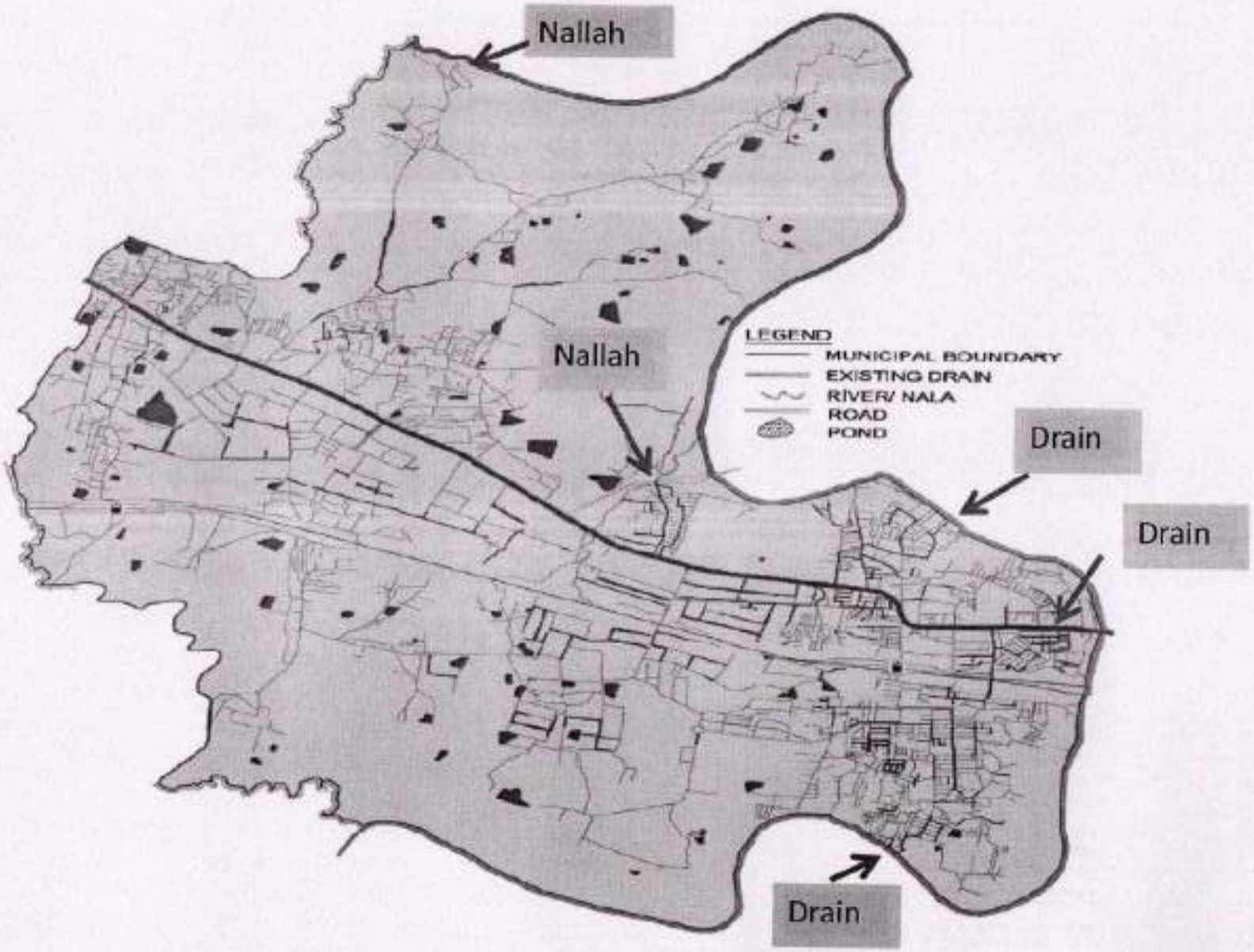
Catchment Drainage system - Chas

Annexure -2



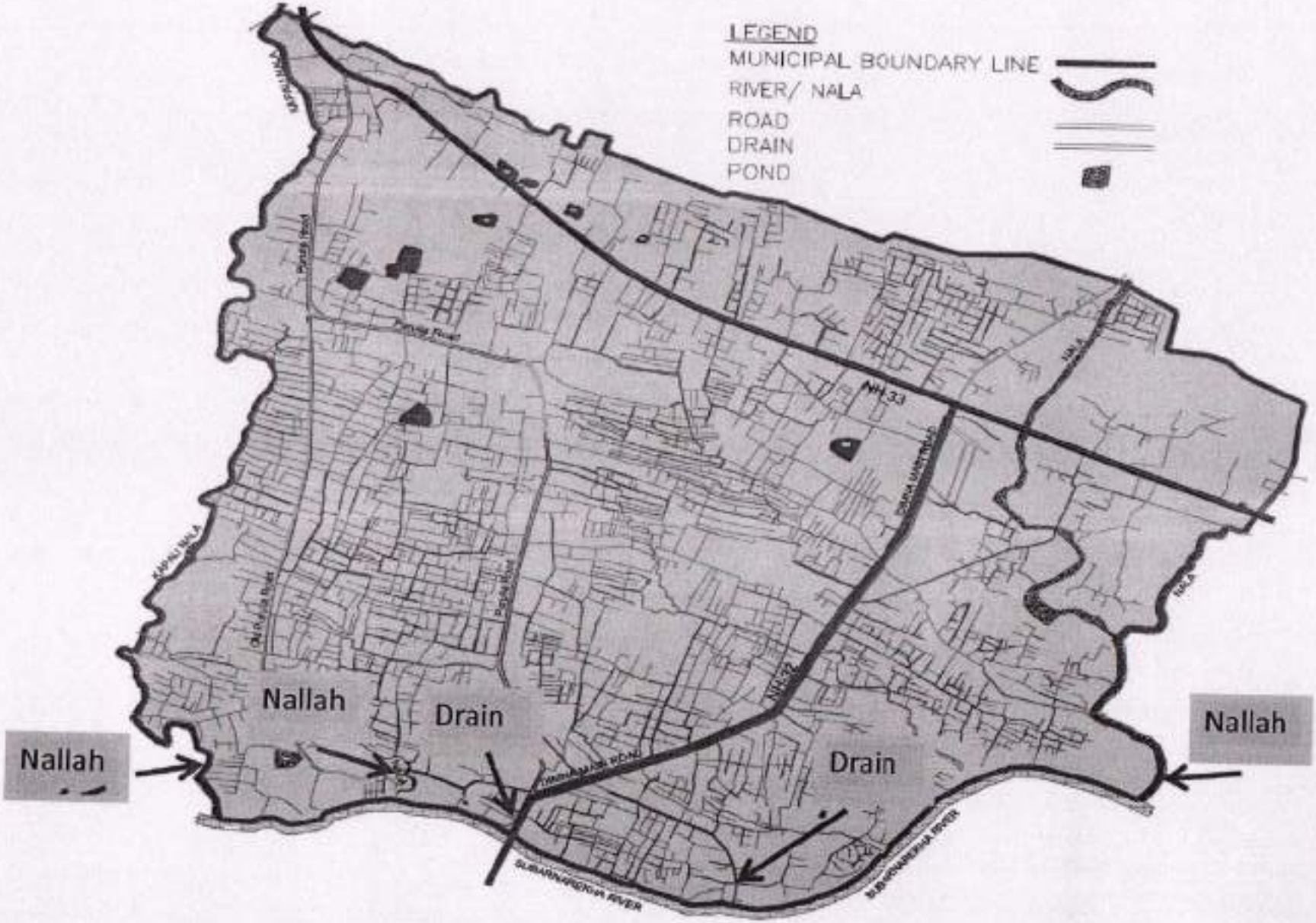
Details of piped drains (6 nos.) and Natural drains (6 nos.) discharging into Subarnarekha river at Ranchi.

Annexure -3



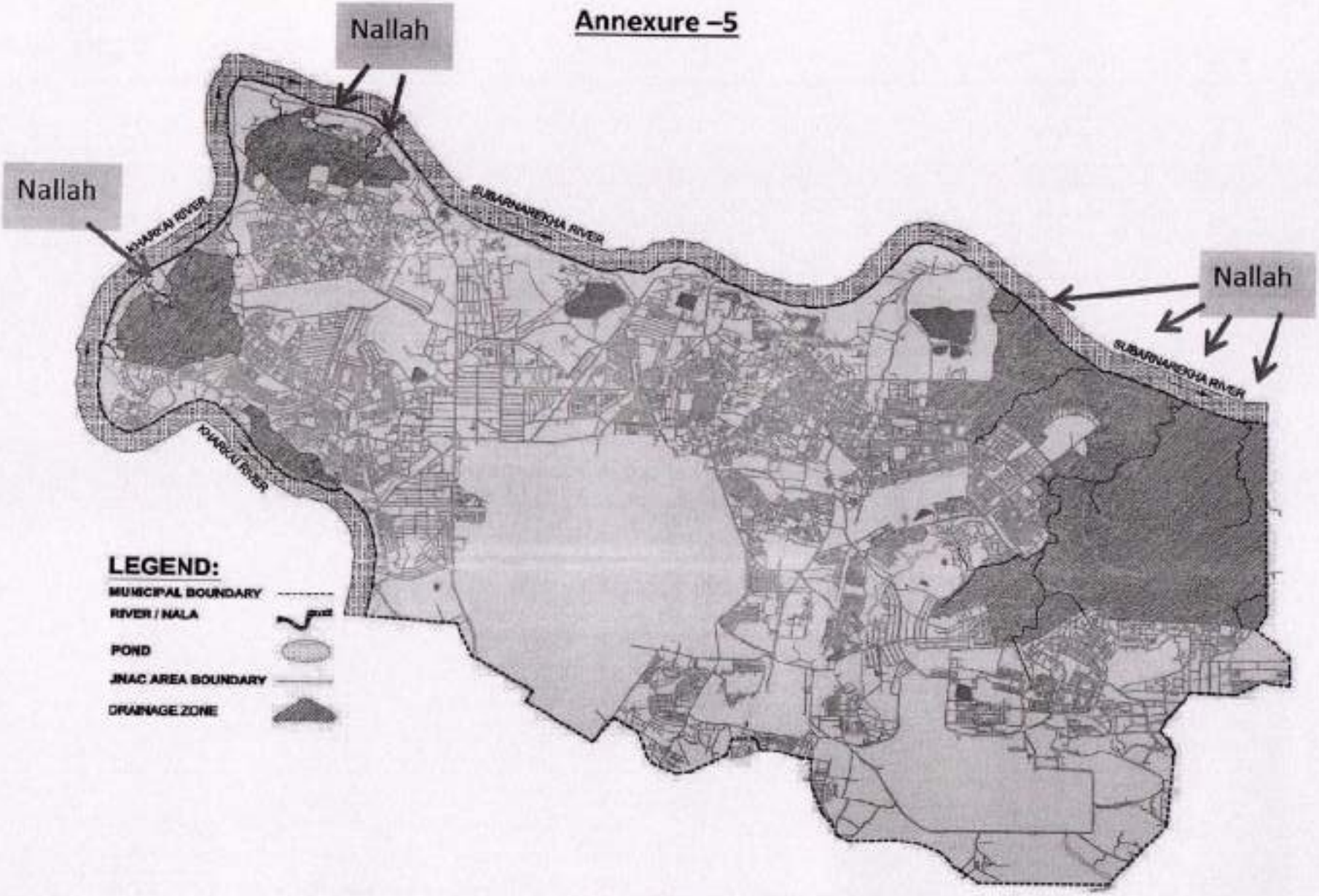
Details of Existing Drains at Adityapur town

Annexure -4



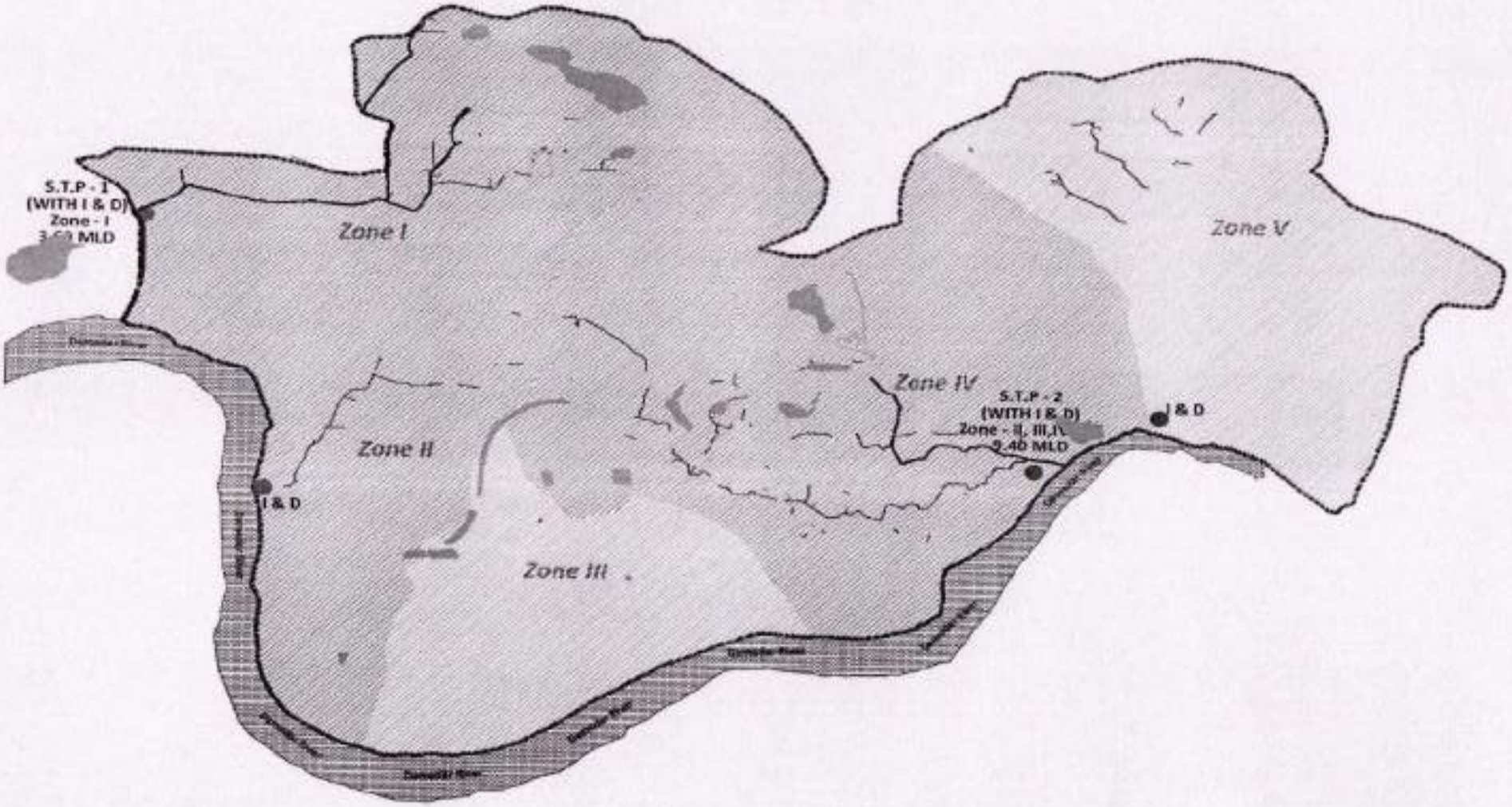
Details of Existing Drains at Mango town

Annexure –5



Details of Existing Drains at Jamshedpur NAC area

Annexure –6

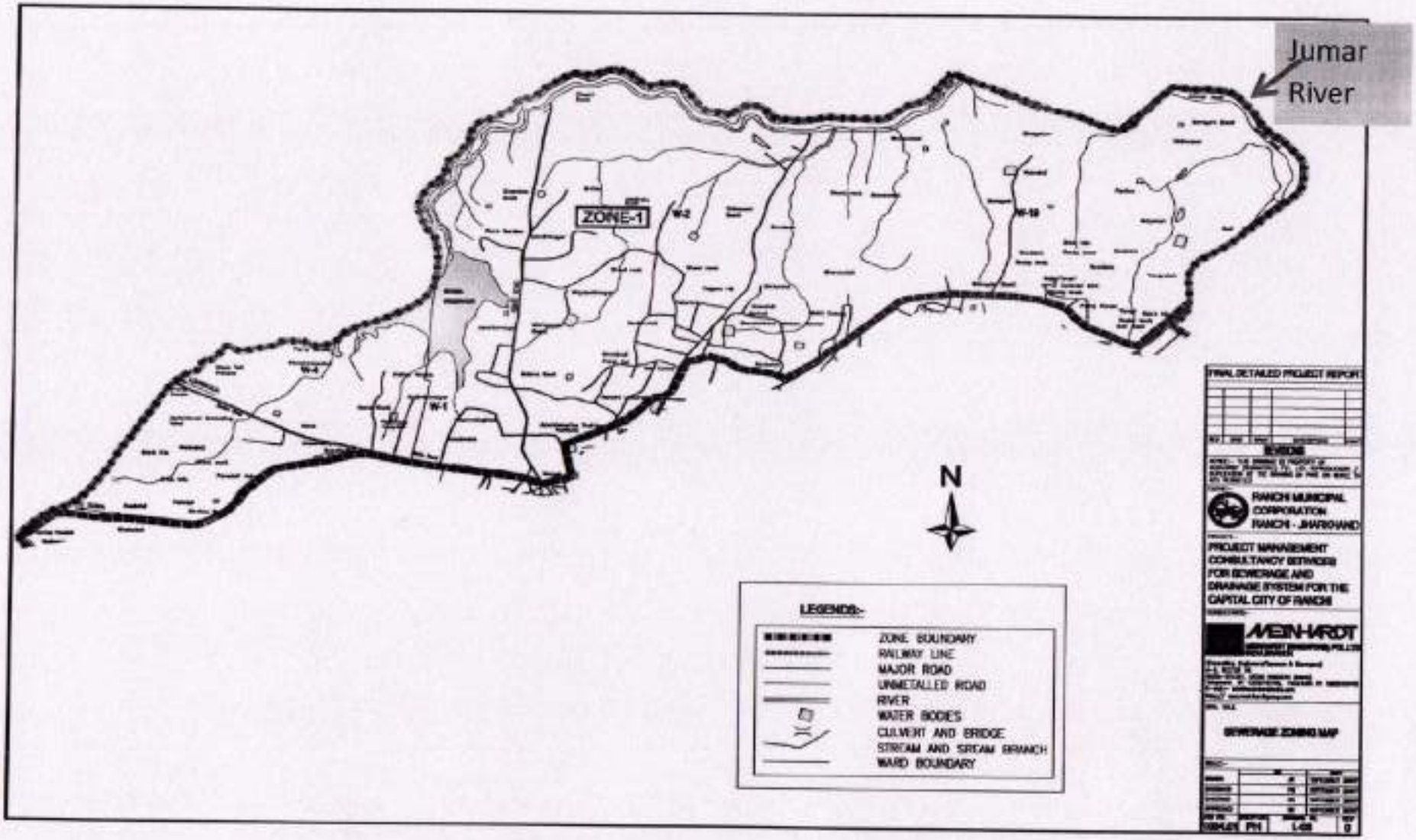


Details of Existing Drains at Phusro Town

Annexure –7

Details of Existing Drains at Dhanbad Town

Annexure –8



Map of Zone -1 area of Ranchi Sewerage System scheme.

Annexure –9

Jharkhand Waste water policy 2017

Annexure - N
(95)

पत्रांक – SUDA/SBM/ SWM-SLMC/18 /2019...1375.....

झारखण्ड सरकार
नगर विकास एवं आवास विभाग
राज्य शहरी विकास अभिकरण (SUDA)

प्रेषक,

बद्री नाथ चौबे, भा०प्र०से०
निदेशक।

सेवा में,

सदस्य सचिव
राज्य प्रदूषण नियंत्रण बोर्ड, राँची।

राँची / दिनांक 02.08.19

विषय: NGT प्रधान बेंच, नई दिल्ली द्वारा दिनांक – 16.01.2019 को OA – 606/ 2018 में दिए गए आदेश के आलोक में गठित राज्य स्तरीय समिति द्वारा लिए गए निर्णय के सम्बन्ध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि NGT प्रधान बेंच, नई दिल्ली द्वारा दिनांक – 12.07.2019 को OA – 606/ 2018 में दिए गए आदेश के आलोक श्री R. K. Merathia (सेवानिवृत), न्यायाधीश, उच्च न्यायलय, झारखण्ड के अध्यक्षता में गठित राज्य स्तरीय समिति की दिनांक 26.07.2019 की बैठक में लिए गए निर्णय के आलोक में विभाग द्वारा देवघर, गिरिडीह, गोड्डा एवं चाकुलिया को अपशिष्ट प्रबंधन हेतु राज्य के Role Model शहरों के रूप में चुना गया है।

सादर सूचनार्थ।

विश्वासभाजन
(बद्री नाथ चौबे)
निदेशक

पत्रांक: SUDA/ SBM/ SWM – SLMC/ 18/ 2019 1375 दिनांक: 02.08.19

प्रतिलिपि: नगर आयुक्त देवघर एवं गिरिडीह नगर निगम, कार्यपालक पदाधिकारी गोड्डा नगर परिषद् एवं चाकुलिया नगर पंचायत को इस निदेश/ अनुरोध के साथ प्रेषित की चार माह के अन्दर अपने – अपने निकाय का अपशिष्ट प्रबंधन से सम्बंधित सभी Rules – 2016 का अक्षरशः अनुपालन करना सुनिश्चित करें।

निदेशक

List of Gram Panchayats and Villages for Piloting Solid Waste Management and Treatment Process in Rural Areas				
Sl No.	**District**	**Block**	**Gram Panchayat**	**Revenue Villege**
1	Ranchi	Kanke	Gagi	Gagi
		Ratu	Futkal Toli	Jhiri
		Namkum	Dugri	Dugri
2	Hazaribagh	Hazaribagh sadar	Singhani	Singhani
			Oriya	Oriya
		Katkamdag	Kud	Rewali
3	Gumla	Gumla sadar	Tel Goan	Tel Goan
			Pugu	Pugu
			Dumardih	Dumardih
4	Chatra	chatra Sadar	Paradih	Babne
			Dara	Pakariya
			Dewariya	Dewariya
5	koderma	Koderma	karma	karma
			lokai	lokai
		Domchanch	Domchanch Purvi	chainpur
6	East Singbhum	chakuliya	kuchiya soli	Balibagh
			Bhatkunda	Bhatkunda

			Barmara	Barmara
7	Lohardga	Lohardga Sadar	Jori	Jori
			Nimni	Nimni
			Manho	Manho
8	Bokaro	Chas	Khamrbendi	Khamrbendi
			Kandra	Kandra
			Narayanpur	Narayanpur
9	Saraikela	Gamhariya	Rapcha	Rapcha
			Burudih	Burudih
			Dumra	Dumra

10	Jamtara	Jamtara Sadar	Bewa	Bewa
		Jamtara Sadar	Udalbani	udalbani
		Jamtara Sadar	Duladih	Duladih
11	Simdega	Thethaitangar	Tukupani	pindripani
			mcromedka	Tapudega
		Simdega	Garja	Garja
12	Ramghar	Patratu	Masmohana	Masmohana
		Ramghar Sadar	Barlong	barlong
		Chitarpur	Borobin	Borobin
13	West Singbhum	Chaibasa Sadar	diliyamarcha	Aachu
14	Garhwa	Garhwa Sadar	Nawada	Nawada
			Achala	Achala
			kalyanpur	kalyanpur
15	Deoghar	Deoghar Sadar	Gidhani	Gidhani
		Mohanpur	Sarasani	Pandcytari
		Sarwan	Baijukura	Parsodih
			bhatdiha	bhatdiha/sarkanda

16	Godda	Godda Sadar	pairadih	kandih gaon
			kanwara	Kanwara
17	Sahebganj	sahebganj sadar	Ganga prasad purab	sohanpur bhatta
			Ganga prasad madhya	mahadevganj
			Ganga prasad west	chotti kodarjanna
18	Giridih	Giridih Sadar	Maheshlundi	Maheshlundi
			Patrodih	Patrodih
			Sihodih	shankrachak
19	Latehar	Latehar sadar	Dhankara	Baajkum
			Parsahi	Jalta
			Pandepura	kinamaadh
20	Palamu	Sadar Medininagar	Jamune	Pokhrakala
			Chiyaki	Chiyaki
			Rajwadih	Rajwadih
21	Dumka	Dumka sadar	Purana Dumka	Purana Dumka
			Sarua	Sarua
			Lakhikundi	Lakhikundi
22	Pakur	Pakur	Kolajoda	Kolajoda
			Maalpahadi	Bishunpur

			Kalidapur	Kalidaspur
23	Dhanbad	Dhanbad Sadar	Nawadih	Nawadih
			Siyalgudri	Siyalgudri
			Damudarpur	Damodarpur
24	Khunti	Khunti block	Tirla	Tirla
		Murhu	Kunjla	Kunjla
			Hassa	Hassa

Annexure - P1

MINUTES OF MEETING

1. Jharkhand State Pollution Control Board had organized a meeting on 19th Sept.,2019 under the Chairmanship of Sri. A.K.Rastogi, IFS, Chairman, Jharkhand State Pollution with the representatives of the Premier Institutes of Jharkhand for implementation techniques/methods to phase out ensuring single use plastic and development of alternatives for plastic and caring out research on various environmental issues.

2. Sri Rajeev Lohan Bakshi, IFS, Member Secretary, JSPCB welcomed all the members present and put forward, all the proposals of the Board on implementation techniques/methods to phase out single use plastic and declare their premises free from single use plastics such as plastic cutlery etc.

3. Sri A.K.Rastogi, IFS, Chairman, JSPCB briefed the members on various subjects related to Environment Audit, Research and Development, Capacity Building, Assessment of Environmental Compensation based on the damage done to the environment and restoration & remediation techniques to be adopted and Monitoring & Calibration of OCEMS. Legal Institution can conduct studies to identify and analyze the loopholes present and suggest various legal approach for better implementation of the Rules and can suggest a change in the Policy Framework in consultation with JSPCB which can be put forward to the Government.

4. Proposal had been submitted by XISS, Ranchi for inventorisation of Biomedical Waste which be reviewed by JSPCB.

6.Other Institutions of the State are asked to put for forward their proposal on various subjects related to Environmental Pollution.

8. Proposal had been submitted by NIFT, Ranchi for inventorisation of Battery Waste rules and the same shall be reviewed by JSPCB.

9. Representative form IIT (ISM), Dhanbad has prepared a format for to enlist the details of the professors along with their field of expertise. The same is communicated to the other members for review and suggest about the changes, if required.

10. Each of the institutions shall nominate and appoint a Nodal Officer as a

point of contact before the next meeting of the Committee.

11. Education Institutes may submit proposal for internship for their students in JSPCB at the earliest.

Meeting ended with vote of thanks

(Rajeev Lochan Bakshi)

Member Secretary

Annexure-

MINUTES OF MEETING

1. **Minutes of Meeting held on 21st Aug, 2019 under the Chairmanship of Sri A. K. Rastogi , IFS, Chairman, Jharkhand State Pollution Control Board with the representatives of the Premier Institutes of Jharkhand for implementation of various methods/techniques to curb down air and water pollution & for the assessment and compliance of Waste Management Rules, 2016.**

2. Sri, Rajeev Lochan Bakshi, IFS, Member Secretary, Jharkhand State Pollution Control Board welcomed all the members present and put forward, all the proposals of the Board on implementation of various methods/techniques to curb down air and water pollution & for the assessment and compliance of Waste Management Rules, 2016.

3. Sri A. K. Rastogi, Chairman, Jharkhand State Pollution Control Board explained about the various orders passed by Hon'ble NGT laying stress on levying Environmental Compensation from defaulting industries by JSPCB. To improve the quality of air which has been deteriorated in Dhanbad district various measures has been proposed under Nation Clean Air Programme (NCAP). The institutes can guide JSPCB, quantify the loss done to the environment. He emphasized on the need of suitable timeframe to achieve compliance and self monitoring within the industries.

4. The main subjects of discussion are related to Environmental Audit, Research and Development, Capacity Building, Environmental Compensation and Monitoring & Calibration of OCEMS.

5. Detailed discussions were held on various scientific aspects of pollution & collection of data with emphasis on the need of source apportionment study of pollution. It was informed that Eastern Coalfields Ltd. (ECL) will carry out source apportionment study for Rajmahal area, Bharat Coking Coal Ltd. (BCCL) to carry out a study of Jharia coal field area and Central Coal Fields Ltd. (CCL) will carry out one study for area covering West to Ranchi Hazaribagh National Highway & one for East to Ranchi Hazaribagh National Highway. CCL will a sponsor source apportionment study for Ranchi city.

6. The Board is creating different wings/departments based on expertise and needs in the fields of Environment, Research, Legal and Information Technology. To facilitate new ideas and to provide platform to under graduates and graduates. Board shall be offering internship to students with sound technological background to carry out various evaluation studies.

7. It was also decided that professionals with expertise in different domain of pollution from different Institutions can submit list for empanelment so that their services can be utilized by the Board.

8. Education institutions will submit proposal for internship.

9. All institutes will nominate nodal officers along with his/her contact details.

10. Various research projects may be submitted by the institutions, which will be considered by the Board.

11. NIFT, Ranchi has volunteered to carry out inventorisation of Battery Waste in Ranchi City, they will submit proposal before next meeting.

12. JSPCB, shall again send a letter to all technical institutions and higher education institutions of Jharkhand to participate in the next meeting.

13. BIT Mesra along with IIT(ISM) Dhanbad will prepare a format required to enlist the details of the professors along with their field of expertise.

14. The next meeting shall be convened on 16.10.2019 at JSPCB, HQ.

The meeting concluded with the vote of thanks to the Chairman.

(Rajeev Lochan Bakshi)
Member Secretary

Minutes of Meeting held on 16.09.2019 in the Conference Hall of Chief Secretary Office, Project Bhawan, Ranchi.

A meeting under the Chairmanship of Dr. D.K. Tiwari, IAS, Chief Secretary, Govt. of Jharkhand on the compliance of direction order dated 12.07.2019 of Hon'ble NGT, Principal Bench, New Delhi in O.A No. 606 of 2018 held on 16.09.2019 in the conference hall of Chief Secretary, Govt. of Jharkhand. The attendance sheet is annexed as Annexure 1.

The new issues as per the direction of Hon'ble NGT in order dated 12.07.2019 Delhi in O.A. No. 606 /2018 in which the Chief Secretary needs to address during his personal appearance are as follows:-

a) Atleast three major cities, and three major towns in the State, and atleast three villages in every District of the State may be notified on the website within two weeks from today(if not already notified) as model villages which will be made fully compliant within the next six months. Remaining cities, towns and villages of the State may be made fully compliant in respect of environmental norms within one year.

b) A quarterly report be furnished in every three months. First such report shall be furnished by October, 10, 2019.

c) The District Magistrates may monitor the status of compliance of environmental norms, atleast once in two weeks. The District Magistrates or other Officers may be imparted requisite training.

d) The District Magistrates or other Officers may be imparted requisite training.

e) Estimate of value of environmental degradation and cost of restoration be prepared and compensation be planned and recovered from polluters for environmental restoration and restitution on that basis.

f) Performance audit of functioning of all regulatory bodies may be got conducted and remedial measures be taken, within six months.

g) Introduction of a policy of giving ranking, based on performance on the subject of environment and giving of rewards or other incentives on that basis to individual areas, localities, institutions or individuals may be considered. This may also include encouraging students or other citizens significantly contributing to the cause of environment. The best practices may be evolved, if necessary, in the light of experiences on the subject. This may help in educating and involving public at large which may help in enhancing of environmental laws.

After deliberation and subsequent discussion, Chief Secretary has given the following directions:-

1. Government will ban certain single use plastic products from all government and attached offices from 2nd Oct, 2019. Government will also issue instructions for

minimum use of some other Single Use Plastic products in all government and attached offices from 2nd October, 2019.

2. Secretary, Urban Development and Housing Department shall identify two more towns (apart from 3 cities which have been already notified and uploaded on their website) to be made fully compliant.
3. The concerned departments will submit their revised updated reports to JSPCB w.r.t. Solid Waste Management Rules, 2016; Plastic Waste Management Rules, 2016; Bio-Medical Waste Management Rules, 2016 & Construction & Demolition Waste, 2016 by 30/09/2019 to JSPCB.
4. Secretary, Panchayati Raj will identify 3 villages from each district (which shall be notified and upload the same on their website) to be made fully compliant.
5. Secretary, Industries Department will get a website developed and upload the details of STPs, ETPs, CETPs on the Website and link it to the website of JSPCB also.
6. Secretary, Department of Health and Family Welfare will issue notices to those healthcare units who have not applied for Consent/Authorization/Bar Code till 31.09.2019.
7. Air Quality Action Plan for the non-attainment city, Dhanbad will be sent to CPCB by 30.09.2019 after addressing the queries raised by CPCB.
8. Updated timeframe and budgetary provisions will be given for the non-attainment city by the Director, SUDA, Transport Commissioner and Director Industries.
9. Details on total sewage generation and budgetary provisions for treatment of sewage will be furnished for all the river stretches by the Secretary, Urban Development and Housing Department.
10. Secretary, Water Resource Department will provide information about action taken with respect to the E-Flow of the seven-polluted river stretches.
11. Secretaries of Water Resource Department; Agriculture, Animal Husbandry and Co-Operative; Panchayti Raj Department and Urban Development and Housing Department shall provide to JSPCB by 27.09.2019 the necessary information required to prepare the action plan on restoration of water bodies in compliance of the directions as mentioned by Hon'ble NGT in O.A. No.- 325/2015.
12. Additional Chief Secretary, Govt. of Jharkhand, may take decision whether the Regional Monitoring committee constituted earlier in compliance of the Hon'ble NGT order in O.A. 606/2018 should continue its proceedings further or should be disabled.
13. JSPCB will prepare a format for District Environment Plan based on the Rules for a district and the same shall serve as a model for the other districts of the State.

14. UDD will prepare a proposal in co-ordination with the Industries Department for utilization/reuse of treated sewage water by the thermal power plants or other industries operating in Adityapur Industrial Cluster.
15. Secretary, Urban Development and Housing Department will sign a MoU with Patratu Thermal Power Plant (NTPC) after approval from the cabinet, to reuse the treated sewage water from all the STPs operating within 50 Kms. of Ranchi.
16. A single committee will be constituted at the District Level to look into all matters pertaining to O.A. No. 606/2018.
17. JSPCB will appoint an agency or may itself conduct an Environmental Performance Audit of all the local bodies of Jharkhand.
18. All concerned departments will submit reports by 30.09.2019 to JSPCB, so that the data can be reviewed and compiled.

The meeting ended with a vote of thanks to the Chief Secretary, Jharkhand.

Sd/-
D.K.Tiwari
(Chief Secretary)

झारखण्ड सरकार

वन, पर्यावरण एवं जलवायु परिवर्तन विभाग

ज्ञापांक –7/पर्या0प्रदू0(पाद)–05/2019– 3846 प0प0 राँची दिनांक– 03/10/2019

प्रतिलिपि–अपर मुख्य सचिव, जल संसाधन विभाग, झारखण्ड, राँची/प्रधान सचिव, ग्रामीण विकास विभाग, झारखण्ड, राँची/सचिव, नगर विकास एवं आवास विभाग, झारखण्ड, राँची/सचिव, स्वास्थ्य, चिकित्सा शिक्षा एवं परिवार कल्याण विभाग, झारखण्ड, राँची/सचिव, परिवहन विभाग, झारखण्ड, राँची/सचिव, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड, राँची/सचिव, उद्योग विभाग, झारखण्ड, राँची/परिवहन आयुक्त, परिवहन विभाग, झारखण्ड, राँची/निदेशक, राज्य शहरी विकास अभिकरण, नगर विकास एवं आवास विभाग, झारखण्ड, राँची/निदेशक, उद्योग विभाग, झारखण्ड, राँची/निदेशक, कृषि, पशुपालन एवं सहकारिता विभाग, झारखण्ड, राँची/सदस्य सचिव, झारखण्ड राज्य प्रदूषण नियंत्रण पर्षद, राँची को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

3/10/19
(सुनील कुमार)
विशेष कार्य पदाधिकारी