

**VERIFIABLE PROGRESS REPORT FROM AUGUST 2023 ONWARDS WITH
RESPECT TO SIKKIM IN O.A. NO. 606 OF 2018**

In addition to the six monthly verifiable progress report submitted on 04/09/2023 the action taken and progress achieved to reduce gaps in solid and liquid waste management are enumerated below:

I. Progress in Solid waste management in Urban Local Bodies.

1. ULB wise details of solid waste (FY 2022-23) as per the annual report

SOLID WASTE Ton per day (FORM IV)				
ULBS	GENERATED	COLLECTED	PROCESSED	LANDFILLED/ DUMPED
GANGTOK	48	48	17	31
NAMCHI	4.8	4.8	1.5	3.3
GYALSHING	2	2	0.5	1.5
NAYABAZAR- JORETHANG	5.6	5.6	2.5	3.1
MANGAN	1	1	0.5	0.5
RANGPO	4.8	4.8	1.25	3.55
SINGTAM	2.7	2.7	0.5	2.2
TOTAL	68.9	68.9	23.75	45.15

F. Y- 2021-2022

SOLID WASTE Ton per day (FORM IV) as per the annual report				
ULBS	GENERATED	COLLECTED	PROCESSED	DUMPED
GANGTOK	46	46	13	33
NAMCHI	4.6	4.6	1.2	3.4
GYALSHING	1.9	1.9	0.4	1.5
NAYABAZAR- JORETHANG	5	5	1.6	3.4
MANGAN	1	1	0.5	0.5
RANGPO	4.5	4.5	0.7	3.8
SINGTAM	2.5	2.5	0.1	2.4
TOTAL	65.5	65.5	17.5	48

- Processing of waste has increased from 17.5 TPD in 2021-2022 to 23.75 TPD in 2022-2023.
- Subsequently disposal in landfill has reduced from 48TPD in 2021-2022 to 45.15 TPD in 2022-2023.
- To reduce further the above stated gap between waste generation and waste processing i.e. 45.15 TPD several field visits were made by the working cum monitoring committee to sanitary landfill site at Martam for taking up bio-remediation / bio-mining process as per the CPCB guidelines in addition to the actions taken for reducing waste generation at source and its proper segregation into biodegradable, non-biodegradable and domestic hazardous waste.
- Status of legacy waste site was taken at first to take up the bio-mining:

Sl. No.	Name of Legacy waste site	Volume (MT)
1	Martam in Gangtok District	150000 (approx.)

2. After following due process of advertisement with regard to request for proposal for detailed project report (DPR) and bio-mining and after scrutiny of various proposals the **State Government has made the following progress at present:**
 - a) **The formal contract agreement for the execution of Bio-Mining of legacy waste at Martam landfill at an estimated cost of Rs.22.00 crore has been concluded with M/s Greentech Environ Management Pvt. Ltd. and GNS Builders-Gangtok (Joint venture) on 18.10.2023 and work has commenced. The National Highway from Siliguri to worksite has been closed for heavy vehicles due to flash flood of Teesta on 4th October 2023. Once the traffic ability / traffic mobility is normalised the heavy machinery like trammel / segregator machine will reach the site and the work will gain pace.**
 - b) **Provision of Rs. 22.00 crore has been mobilised for bio remediation of legacy waste by the State Government.**
3. **To augment the solid waste processing facilities in the State, Material Recovery Facilities are being constructed in different locations of Urban Local Bodies. The status of the constructed MRF are as under:**

Sl. No.	Name of ULB	Status
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1.	Gangtok Municipal Corporation	completed
2.	Nayabazar-Jorethang Nagar Panchayat	completed
3.	Mangan Nagar Panchayat	80% completed
4.	Singtam Nagar Panchayat	40% completed
5.	Rangpo Nagar Panchayat	
6.	Namchi Municipal Council	<ul style="list-style-type: none"> • Temporary MRF exists • Another site identified and process of diversion is going on
7.	Gyalshing Nagar Panchayat	Land identified in convergence with RDD.

At the locations where the construction work is delayed/not commenced, the reason is attributable to the resistance received from the local public in acquiring the land. However, with the intervention of the District Collectors, land has been made available and the work will start soon.

4. Bio-methanation plant of capacity 5MT per day has been just commissioned at Martam.
5. Public hearing for solid waste processing facility at Rindang under Mangan was conducted on 4th August 2022 and the proposal was forwarded to Expert Appraisal Committee, MoEF&CC for obtaining Environmental Clearance owing to the expiry of term of SEIAA/SEAC. However, it has been reconstituted during August 2023 and the matter is under active consideration for issue of EC.
6. Urban Development Department (UDD) has prepared and submitted a project title "Upgradation, Refurbishment and Augmentation of Solid Waste Management at Martam, Shipsu and Rindang Treatment Facilities, Sikkim" amounting to Rs. 80 crores only to NESIDS/NLCPR which has been given in principle approval during March 2023, **however formal communication for agreeing to support of funding by the ministry of Development of North Eastern Region (DoNER), Government of India was received on 4th October, 2023. The proposal is under active consideration of the Ministry.**

7. **In addition to steps taken for day to day management of solid waste Gangtok Municipal Corporation has started use of GPS enabled vehicle tracking system with mobile app to enable the users to know the exact location of garbage trucks for proper collection and transportation of waste to designated sites.**
8. **In pursuance to the order of the Hon'ble NGT O.A. 606/2018, in the matter of compliance of Municipal Solid Waste Management Rules, 2016 the State Government of Sikkim has re-constituted the District Level Special Task Force (DLSTF) in every district to execute the orders of Hon'ble NGT vide Notification No.16/UDD//2023 Dated 11 August 2023. The Committee is headed by the concerned District Collector and also comprises a representative of the State Legal Services Authority, apart from the Superintendent of Police.**

II. Action Taken and Progress made in Solid Waste Management – Rural.

9. No legacy waste as of 31.8.2023 as per the compliance report received from all 33 Blocks.
10. The solid wastes generated in rural areas are being segregated at source and the wet wastes are managed at the household level as fodder to animals and in cases composted. The Rural Development Department has constructed 801 and 334 household level and community level compost pits respectively under Swachh Bharat Mission (Grameen). In the FY 2023-2024 another 1116 and 2870 individual and community compost pits will be constructed under SBM(G) giving special impetus and compliance to directives of the Tribunal.
11. At present the Gram Panchayats, Blocks have decentralized waste processing/management facilities like waste segregation sheds (356), RRC (33), PWMU (4). The Department has 28 resource recovery vehicle(RRVs) for the transportation of solid waste and additional 14 RRVs shall be procured in the present financial year under SBM(G)
12. In the FY 2023-2024 ,16 new PWMUs have been targeted for physical completion which include augmentation of the existing RRCs. Also 160 new segregation sheds that manage dry waste at the cluster level are in the AIP 2023-2024 to be constructed under 15th FC (2023-2024).
13. The Army Cantonment of Yongdi in Lachen, Mangan District having cold climatic conditions having 2000 plus army deployment has been identified for the establishment of Bio-Composter that uses electricity/diesel to convert organic wet waste into manure in 24 hours.
14. The Block Development Officers of each Block have been designated as Nodal Officer to report and take action on C&D and Plastic Wastes violations.

III. Action Taken for Plastic Waste Management (FY 2022-23).

PLASTIC WASTE(Tonnes per year)				
ULBS	GENERATED	COLLECTED	RECYCLED/RE USE	LANDFILLED/DUMPED
GANGTOK	37.5	37.5	33	4.5
NAMCHI	6.94	6.94	5.64	1.3
GYALSHING	1.4	1.4	0.6	0.8
NAYABAZAR-JORETHANG	4.4	4.4	2.2	2.2
MANGAN	5	5	4.8	0.2
RANGPO	32	32	29	3
SINGTAM	1.4	1.4	0.7	0.7
TOTAL	88.64	88.64	75.94	12.7

A total of 104.74 tonnes of plastic waste was generated in 2021-2022 which has reduced to 88.64 tonnes in 2022-2023 implying reduction of plastic waste by 16TPY thereby reduction of waste at source.

- The State Government constituted a State Level Special Task Force vide Gazette No. 246 dated 26.08.2021, in order to eliminate Single Use Plastic & to prepare a comprehensive action plan in mission mode.
- The first meeting on State Level Special Task Force in order to eliminate Single Use Plastic & to prepare a comprehensive action plan was held on 13.05.2022. In this regard, the action plan on phasing out of Single use plastic was approved by the members of the Special Task Force.
- A Circular vide 07/UDD/2022 dated 06.08.2022 on prohibition on single use plastic for manufacturing, import, stocking, distribution, sale and use of single use items w.e.f 01.07.2022 is notified by the Chief Secretary.
- The Circular was forwarded to all Departments & Public Sector Undertakings (PSUs) for strict compliance. In this regard, the Departments have forwarded their Action Taken Report.

- Plastic Waste Management & Handling (Amendment) Byelaws, 2022 is notified vide Gazette No. 460 dated 05.12.2022.

15. Enforcement of ban on identified single use plastic items and plastic carry bags less than 120 microns.

- Plastic Waste Management & Handling (Amendment) Byelaws, 2022 is notified vide Gazette No. 460 dated 05.12.2022. (Copy enclosed) wherein it has been mentioned that plastic carry bags of thickness of 120 (one hundred and twenty) microns shall be deemed to come into force from 31st December, 2022.
- In the said Byelaws details of Environment Compensation (EC) to be levied and penal action to be taken for non-compliance of the provision of the Byelaws is mentioned and notified.
- Month-wise inspection/Regular monitoring of market and shops is carried out on ban on SUP items by ULBs and by the Department Officials.
- Urban Development department established State Level Control Room to monitor the enforcement of Single Use Plastic ban.
- Press Conferences on SUP ban has been conducted.
- Establishment of border check post point to ensure there is no cross boundary movement of banned SUP across state.

16. Steps taken for the promotion of alternatives of banned single use plastic items & Capacity Building of MSME units engaged in manufacturing alternatives to SUP items.

- Alternatives like drinking water vending machines have been installed by the ULBs for public convenience.
- Initiatives have been taken to engage Self HELP Groups (SHGs) through National Urban Livelihood Mission (NULM) for making reusable carry bags made out of old clothes.
- Meeting with Waste Management agencies on alternative to SUP is conducted.
- Market inspections are being conducted at ULBs to ensure ban on sale and use of prohibited plastic and its products.

17. Awareness generation campaigns undertaken by ULBs on ban on identified single use plastic items and ban on plastic carry bags with thickness less than 120 microns.

- Plastic Waste Management & Handling (Amendment) Byelaws, 2022 is notified vide Gazette No. 460 dated 05.12.2022.
- IEC on ban on single Use Plastic and plastic carry bags is organised in all ULBs. Animated films and alternative to SUP item ban and plastic carry bags is prepared under IEC component and broadcasted across urban towns.
- Broadcasting of Radio Jingles on SUP, plastic waste has been done as an awareness.
- Month wise market inspection & confiscation of banned SUPs is being carried out by the department in coordination with SPCB, ULBs.
- Self Help groups, NGOs, club/association etc. are being involved in IEC regarding plastic waste management & SUP alternatives.
- Public notice for prohibiting, production stocking, distribution, sale & use of SUPs have been issued by ULBS.

IV. Action Taken and Progress made in Sewage Management.

In the recent Central Monitoring Committee meeting held on 12.09.2023 it is reported that at present no river stretches have been identified as polluted river stretches. Earlier in 2018 four river stretches in Sikkim were identified as polluted under Priority V i.e. having BOD level more than 3mg/l and not fit for bathing.

IV. (A) Sewage Management in rural and peri-urban areas:

- a. RDD has submitted annual action plan 2023-2024 amounting to Rs. 16.00 crore under SBM (Grameen) for liquid waste management and grey water treatment including other components of SBM(G) like individual household latrines-IHHL.
- b. Sikkim has been declared as the 1st ODF Plus Model of India on 14th August, 2023 by the Ministry of Jal Shakti(DDWS), GoI and it establishes that the State has a better Sewage and Grey Water Management mechanism.
- c. The most households in rural areas manage their Grey Water through kitchen gardening. There are now 6963 and 310 HH Soak pits and Community Soak pits constructed in Phase-II of SBM(G) since 2019-2020 respectively and another 6342 and 891 HH Soak pits and Community Soak pits are targeted during the FY 2023-24.
- d. Further, the Department is implementing the Community Soak pits at the Drain End Points in FY 2023-2024 wherever possible to treat the sewage water and integrate storm water management into sewage.

- e. The Department has also received the sanction of 33(thirty-three) Soil Scape Filter (*technology adopted by Shrishti Eco- Research Institute- SERI, Pune*) under Swachh Bharat Kosh @ Rs. 20,000 per unit for the treatment of household sewage/greywater.
- f. The rural houses hold now have 1402 retrofitted single pits and septic tanks in addition to 17188 Twin Pit HH toilets (2019 to November 2023-Phase-II/SBMG) with another 5404 IHHL with twin pits planned for FY 2023-24.
- g. Further, rural Sikkim and per-urbans have 603 Community Sanitary Complexes(CSC) and another 179 targeted in the FY2023-2024.
- h. The Department has received sanction and fund under **Swachh Bharat Kosh** for the procurement of **33 Mobile Treatment Units(MTU)** with the total fund provision of Rs.8.25 Crores. This MTU will treat the faecal in-situ and the treated waste can be utilized as manures. This will treat 6000 litres of septage at the cost of Rs.1250 on average which is much lower as compared to Cesspool charges. These MTUs shall be procured within this financial year.

V. (B) Sewage Management in Urban Local Bodies:

**Estimated sewage generation in the State (both Rural and Urban)
=47.65 MLD**

Installed capacity of STPs in Urban areas=22.50MLD

Operational and functional STPs=18.75MLD

STPs under construction capacity=10.20MLD

1. Details of Sewage Treatment Plant:

Sl. No.	Town/Location	Capacity (MLD)	Operational/ Functional Capacity(MLD)	Actual flow (MLD)
1.	Gangtok Zone I, Adampool	8.0	7.50	6.50
2.	Gangtok Zone I, Adampool	4.69	4.50	3.90
3.	Gangtok Zone I, Adampool	Old 5.0 MLD conventional treatment plant is utilized as		Re-circulated from MBBR units

		secondary treatment unit		
3.	Gangtok Zone I, Ranipool	1.27	1.10	0.92
4.	Gangtok Zone IV, Lower Sichey	3.90	3.30	2.80
5.	Singtam	0.66	0.60	0.48
6.	Melli	0.50	0.45	0.25
7.	SMIT, Majhitar (private facility)	0.48	0.40	0.40
8.	Rangpo	1.40	1.20	0.15
9.	Gangtok Zone II, Lower Syari	1.60	1.50	0.65
Total		22.50	20.55	16.05

2. **Renovation of STPs in Gangtok has been completed.** Rehabilitation and upgradation of sewer network to uncovered areas in Gangtok is under progress. The old conventional sewage treatment plant of capacity 5.0 MLD at Adampool has been re-commissioned to act as post treatment unit of treated water to comply to the revised PCB norms. Laying of pipeline from Zone IV STP at lower Sichey to Zone I STP at Adampool as diversion line to by-pass the influent during overhauling and repairs of Zone IV STP is in progress. The recirculation of treated water from the existing MBBR STPs through the conventional sewage treatment STP at Adampool has reduced BOD, COD and other parameters. Treated sewage analysis for BOD and Faecal coliform has been awarded to a third party agency. Analysis lab established at STP is also regularly monitoring treated sewage parameters. No sewage is discharged into the water bodies in Sikkim.
3. The state has also received sanction for sewerage project from Ministry of Jal Shakti at 90:10 funding pattern. Funds are released on the basis of physical progress on pro-rata basis. State Government has been funding the 10 percent share. Sewerage projects amounting to Rs.40184.54 lakhs are under execution and at various stage of construction and the list is as follows:

- Sewer network and 1.00MLD STP at Mangan- Rs. 9193.54 lakhs
 - Sewer network and 1.00MLD STP at Geyzing- Rs. 8880.00 lakhs
 - Sewer network and 0.75MLD STP at Chungthang - Rs. 3109.00 lakhs
 - Sewer network and 3.25MLD STP at Gangtok Zone III - Rs. 9466.00 lakhs
 - Upgradation & Rehabilitation sewers in Gangtok zone I- Rs. 9536.00 lakhs
4. Interception and diversion from the drains was constructed to divert the waste water into the STPs at Rangpo however, was damaged by flash flood and hence remedial measures are being taken.
5. DPR for Tertiary Treatment Units of STPs of Gangtok, Singtam, Rangpo and Melli have been prepared and the project has been listed for consideration under North East Special Infrastructure Development Scheme (NESIDS) through the Ministry of DoNER, GoI. This project has provision to utilize treated waste water for road dust mitigation, gardening, farming, utilization in garages and in industries.
6. The State of Sikkim faced devastating damages due to flash flood the occurred on 04/10/2023 wherein STPs, industrial units, Hydro Electric Projects and human settlements were damaged.

7. DAMAGES DUE TO FLASH FLOOD:

Sl. No.	Location	Current Status
1.	Singtam (0.66 MLD)	As reported by PHED, STP has been washed away. Sewerage Network pipelines, manhole chamber and allied structures have been washed away.
2.	Rangpo (1.46 MLD)	As reported by PHED, STP has been washed away. Manhole chamber and allied structures have been washed away.
3.	Melli (0.5 MLD)	As reported by PHED, STP has been washed away. Only sub-structures are remaining which is beyond repair.
4.	Chungthang	Ongoing work on sewerage network has been washed away.

		Proposed land has been destabilized and civil work is required before commencement of any further work.
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6. Since most of the low lying settlements have been damaged in the flashflood rendering them uninhabitable hence sewage generation is minimal and the PHED has identified the septic tanks to take care of sewage management temporarily by diverting the flow into the identified septic tanks.

7. Status has been informed to Relief Commissioner cum Secretary, Land Revenue and Disaster Management Department, GoS for further appraisal to the Ministry for allocation under NDRF/Calamity fund 2023-24.

8. **Status of Online Continuous Effluent Monitoring System (OCEMS) installation**

Para 33 table mentioned in the direction dated 03/11/2022 on sewage management actually pertains to the OCEMS and was interpreted as “**status of STPs in the state**”. The correct position is as: OCEMS installed and analysis being done of the prescribed parameters in STPs at Adampool, Lower Syari, Lower sichey ; OCEMS is at the stage of procurement for STP at Ranipool; OCEMS installed at Singtam and Rangpo STPs have been washed away by flash flood. The parameters being monitored are within the prescribed limits.