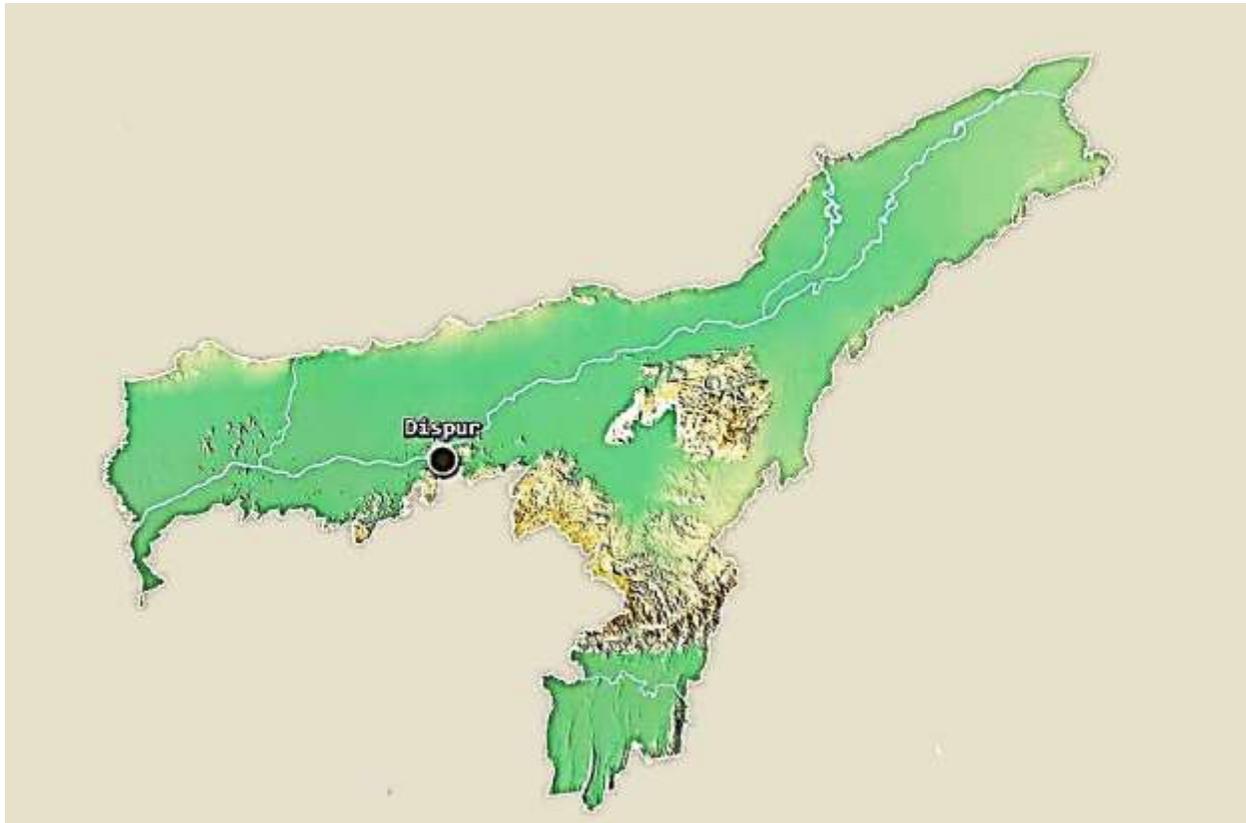


Compliance of Solid and Liquid Waste Management in the State of Assam

(In matter of Hon'ble NGT's OA 606 of 2018)

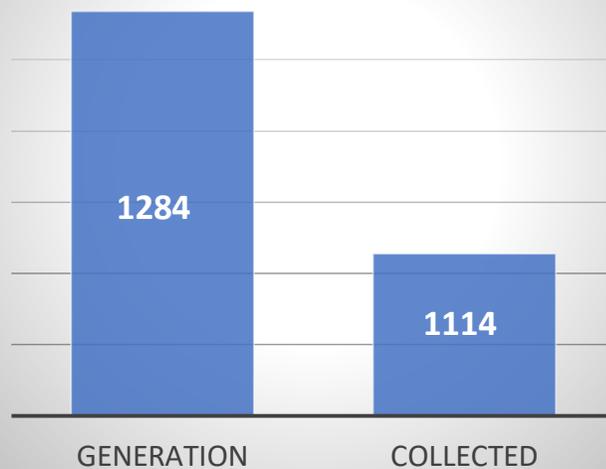
ASSAM



Total Population	3.12 Cr (2011 Census)
Total Urban Population	43.9 lakhs
Districts	31
Gram Panchayat	2197
Urban Local Bodies	103 ULBs + 1 MC (including 8 newly created MBs.)

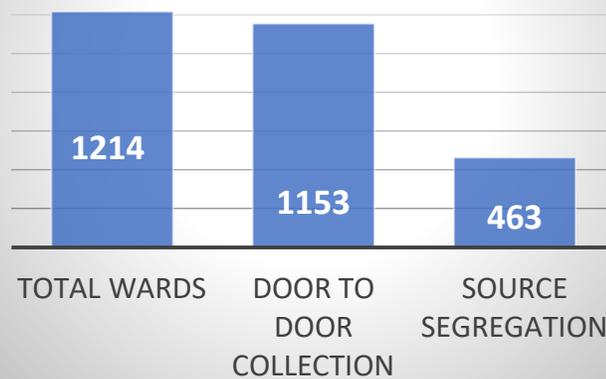
STATUS OF SOLID WASTE MANAGEMENT IN ASSAM

Generation Vs Collection in TPD



Total Waste Generation (TPD)	Total Waste Collection (TPD)
1284	1114

Door to Door Collection and Source Segregation at Ward level



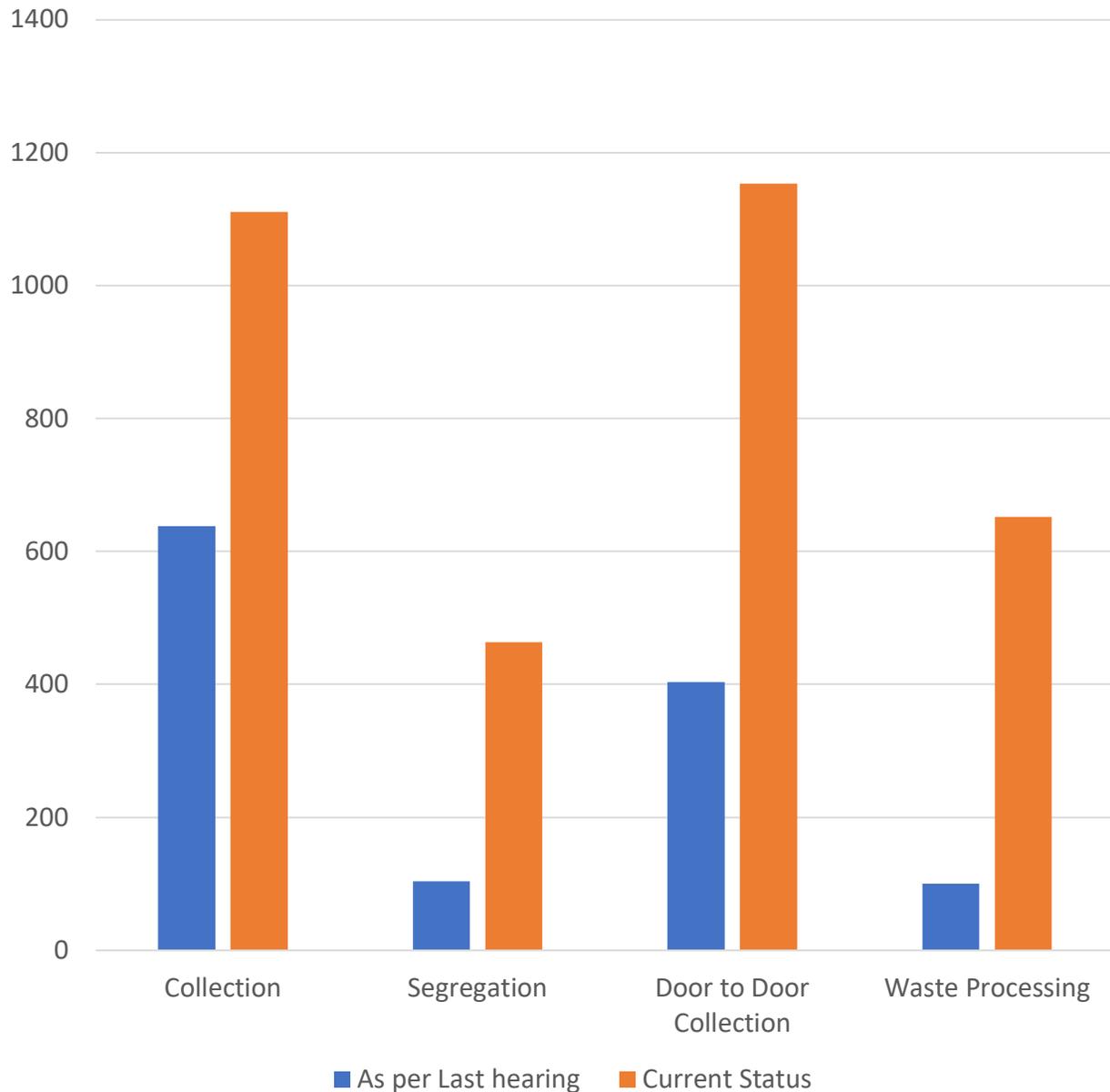
Total Wards	Wards with Door to Door Collection	Wards with Source Segregation
1214	1153 (95%)	463

* Gap in 61 wards in newly created ULBs will also be bridged.



STATUS OF SOLID WASTE MANAGEMENT IN ASSAM

Progress since Last hearing



Collection	638 TPD (42%)	➔	1114 TPD (85%)
Segregation	104 wards (9%)	➔	463 wards (38%)
Door to Door Collection	403 wards (34%)	➔	1153 wards (95%)
Waste Processing	100 TPD (7%)	➔	652 TPD (51%)

WASTE MANAGEMENT

WET WASTE MANAGEMENT

Description	December 2022
Generation (TPD)	611
Processed (TPD)	169**
Gap (TPD)	442

Sl. No.	Available wet waste processing facilities	Processing Capacity available (TPD)
1	Organic Waste Converter	27.5
2	Drum Composting	3
3	Windrow Composting	100
4	Bio Methanation	7
5	Bed Composting/Pit composting	83.14
6	Windrow Composting (Guwahati)	50*
Total		270.64

* Processing Plant at Guwahati of capacity 50 TPD is discontinued as per order passed by Hon'ble NGT in OA 472/2018.

** Installed capacity not utilized 100%.

DRY WASTE MANAGEMENT

Description	December 2022
Generation (TPD)	533
Processed (TPD)	363**
Gap (TPD)	170

Sl. No.	Available dry waste processing facility	No. of functional plants	Processing Capacity available (TPD)
1	Material Recovery Facilities/ Resource recovery centers	144*	430

*96 nos. of MRF were constructed in 96 ULBs under SBM 1.0. Additional 48 R.R.C operated locally using Rag-pickers.

** Installed capacity not utilized 100%.

STEPS TAKEN TO MITIGATE THE GAP - WET WASTE

Sl.No.	Processing facility	Nos.	Capacity in TPD	Cost in Rs. cr	Source of Fund	Status of work
1	Waste to compost for GMC (Guwahati)	1	150	17.25	State Budget	The Plant is under construction. The output will be Compost & Refuse derived Fuel (RDF). The Plant is proposed to run in 2 shifts up to 300 TPD capacity.
2	Additional amount for civil works, land development, landfill facility, O&M etc for setting up of wet and dry waste processing plant including newly formed 8 ULBs	103	-	89.69	State Budget	Already Budgeted and earmarked
Total				106.94		
3	Windrows composting/Pit composting	42	342	39.33	SBM 2.0	Approved under SBM 2.0. 1 st Installment released by GOI.
4	Bio Methanation in GMC (Adabari-Guwahati)	1	60	17.07	SBM 2.0	Earmarked
5	Windrows composting/Pit composting	53	156	18.94	SBM 2.0	Earmarked
Total			558	75.34		
Grand total			708	182.28		

STEPS TAKEN TO MITIGATE THE GAP - DRY WASTE

Sl. No.	Processing facility	Nos.	Capacity in TPD	Cost in Rs. cr	Source of Fund	Status of work
1	Additional amount for civil works, land development, landfill facility, O&M etc. for setting up of wet and dry waste processing plant including newly formed 8 ULBs	103	-	30.89	State Budget	Already Budgeted and earmarked
Total				30.89		

2	Material Recovery Facilities including plastic waste management	42	184	15.68	SBM 2.0	42 ULBs approved under SBM 2.0. 1 st tranche released.
3	Material Recovery Facilities including plastic waste management	53	94	9.49	SBM 2.0	Earmarked.
4	MRF for GMC	3	225	13.26	SBM 2.0	Tender is in final Stage.
5	MRF for GMC	1	10	0.60	CSR	Under Construction
Total			513	39.03		
Grand Total			513	69.92		

INERT WASTE MANAGEMENT

Description	December 2022
Generation (TPD)	140
Utilized (TPD)	0
Gap	140

Steps taken to mitigate the gap in Inert Waste management

Sl. No.	Processing facility	Capacity in TPD	Cost in Rs. Cr	Source of Fund	Status of work
1	Scientific Landfill site for GMC	-	11.06	State budget	On-going
2	Additional amount earmarked for civil works/land development for scientific landfill site including 5 year O&M	103	113.32	State Budget	Already Budgeted and earmarked
Total			124.38		
3	Scientific landfill site in 42 ULBs	144	9.36	SBM 2.0	42 ULBs approved under SBM 2.0. 1 st installment released.
4	Scientific landfill site in 53 ULBs	94	8.31	SBM 2.0	Earmarked
Total		341	17.67		
Grand Total			142.05		

STEPS TAKEN TO MITIGATE THE LEGACY WASTE MANAGEMENT

Sl.No	No. of locations	Total quantity in lakh MT	Estimated expenditure in Rs. Cr	Source of Fund	Status
1	GMC	15	172.50	State Budget	Work ongoing
2	40 ULBs	9.58	122.98	State Budget	Earmarked
Total			295.48		
3	Lakhimpur MB	0.39	2.61	15 th FC	Work ongoing
4	39 ULBs	8	102.73	NESID	Approved
Total			105.34		
Grand Total			400.82		



Bio-Mining – Guwahati



Bio-Mining - Lakhimpur

SOLID WASTE MANAGEMENT IN RURAL AREAS

SCHEMES	TOTAL ESTIMATED COST (IN CRORES)	SOURCE OF FUND
Construction of Waste collection and segregation facilities (120 to 340 Sq ft)	110.63	SBM-G and 15 th FC tied grants
Distribution of Waste Collection Vehicles to GPs (Tricycles & Battery Rickshaws)	21.46	SBM-G
Bio-Gas plants (GOBARDHAN scheme: Community Management of Bio-Degradable Waste)	7.50	SBM-G
Block Level plastic Waste management units (shed construction and machineries for PWM)	31.36	SBM-G
Total	166.09	

STATUS OF SWM SCHEMES IN RURAL AREAS

Construction of Waste Collection and Segregation Facilities and distribution of Waste Collection Vehicles to GPs	
Targeted villages (2022-23)	22536 Nos.
Completion in villages	489
Ongoing construction	198
Bio-Gas Plants (GOBARDHAN Scheme)	
Targeted districts (2022-23)	15
Completion in Districts	3
Ongoing	2
Individual Bio Gas Plant taken from MGNREGA	561
Block Level Plastic Waste Management Units	
Targeted blocks (2022-23)	196
Completion in Blocks	20
Ongoing	8

STATUS OF CMSC SCHEMES IN RURAL AREAS

Construction of Community Management Sanitary Complex in Gaon Panchayat Areas	
Villages Covered	5185
No. of construction Taken	5224
Completed construction	1742
Ongoing construction	1537
Expenditure Incurred (In Rs. Lakh)	1928.04

Status of Sewage Generation and Treatment

Sewage Generation (MLD)	Sewage Treated (MLD)	GAP (MLD)
435.5	Nil	435.5

Action Plan for Sewage Management

- Detailed Road map with technical assistance from NIUA, MoHUA.
- Emphasis on Faecal Sludge Treatment Plants (FSTP) in smaller ULBs.
- Cesspool provided to ULBs under SBM 1.0.
- Polluted River Stretch Towns taken on priority for bio remediation.
- STP cum FSTP proposed for Sewage Management.

Steps to Mitigate present gap of 435.5 MLD sewerage generation & future management

Sl. No	No. of locations	No of STP	Capacity of STP in MLD	Project Cost in Crore	Source of Fund	Status
1	1 (Nagaon)	1	2.0	12.56	State Budget	Under construction
2	Guwahati (Borsola)	1	2.0	5.50	State Budget	In tendering stage
3	75 (75 ULBs)	75	144	417.85	State Budget	Earmarked by State Government for implementation
Total			148.0	435.91		
4	Guwahati	3	187.0	2365.00	Externally Aided Project	20% State Contribution.
5	6 (Bongaigaon, Dhubri, Mangaldoi, Tezpur, Jorhat, Tinsukia)	6	38.5	123.7	SBM 2.0	Approved by MoHUA.
6	11 (11 ULBs)	11	60.0	227	SBM 2.0	Earmarked
7	2(Silchar, Dibrugarh)	2	9.5	67.34	AMRUT 2.0	Earmarked.
TOTAL			295	2783.04		
Grand Total			443	3218.95		

MANAGEMENT OF LIQUID WASTE IN RURAL AREAS

Liquid waste management schemes	
Household Level	<ul style="list-style-type: none"> Use of Duckweed Ponds and Kitchen gardens for grey water Management. Individual soak pits for liquid waste management. (unit cost Rs. 0.05 to 0.08 lakhs from 15th FC tied grants)
Community level	Soak pits for grey water at public institutions.



Duckweed pond at Goalpara District

Status of Implementation	
Targeted soak pits (2022-23) Community level	1650
Completion	470
Ongoing	396



FUNDS COMMITTED FOR LWM : Rs. 3.3 Crores

From various orders of the Hon'ble NGT passed for various States, the Govt. of Assam have also conceived the ideas of the "Seechewal model" and "Karnal Technology Of Sewage Treatment & Zero Discharge" for community level sewage management.

Faecal Sludge & Septage Management

- Construction of FSTPs in 32 towns on cluster basis are taken up with technical assistance from UNICEF.
- 1 Project at Titabor MB (10 KLD) is already commissioned and functioning efficiently.
- 1 Project at Goalpara MB (7 KLD) is under Construction.
- In 30 nos. of ULBs, Tenders are floated for construction of FSTP.
- An amount of Rs. 39.11 Crore is earmarked under 15th FC for construction of FSTP in 32 ULBs.



Photographs of Operationalized FSTP in Titabar MB, Jorhat.

Silsako Beel

■Silsako is a natural wetland of Guwahati City, the second biggest water retention reservoir for a catchment area of 50 Sqkm. It acts as a natural drainages to carry rain water of Guwahati city. The beel is the outfall area of 3 rivers channels and 7 drains including the Meghalaya catchment area .



Beel at the exit point in north flowing towards Brahmaputra River



Drain flowing from west into the Beel



Beel as on Aug 2022



Drain flowing to north direction along the boundary



Drain entering from east through unauthorised colony



Drain Entering from South to the Beel



Drain Entering from South, filled with water hyacinth



Drain Entering from South, showing silt deposition



Lake development with clear water

Beel as on date Jan 2023



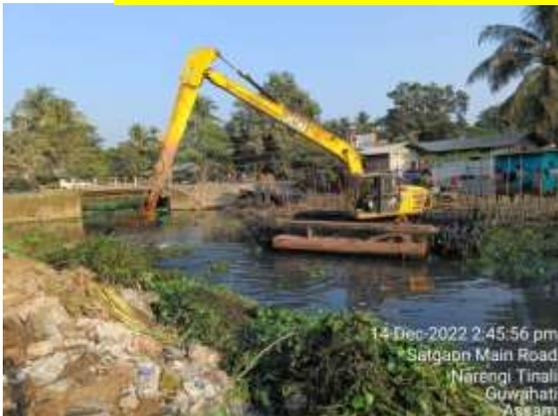
Channel created for Bioremediation

Bioremediation in bypass channel:

- Nature based bioremediation solutions to treat wastewater inflow to tertiary standards.
- The treatment deployed on the upstream inflow, aeration, coir log filtration for removal of major suspended solids and trapping of floating debris, bacterial bioremediation. Riparian zone will be created with plants.

The above initiative resulted in improvement of water quality in Silsako beel from **Priority - I to Priority III category.**

In-situ bioremediation in bypass channel



WAY FORWARD

- Assam is committed for overall comprehensive coverage of solid waste management and waste water treatment
- The state has prepared road map for comprehensive coverage of STP and FSTP infrastructure in all the towns for treatment of black and grey water.
- Tie up with NIUA for used water management has been done. UNICEF is also providing technical support to the state in rolling out FSTPs in various towns in the state.
- The state has ringfenced more than Rs. 4000 Crore for the mitigation of gap in solid waste management and waste water treatment as follows.

Sl. No.	Component	State Commitment (Rs. Crore)	Central Allocation (Rs. Crore)	Total (Rs. Crore) (Central +State)
1	Solid Waste Management (waste processing, scientific landfill site development & legacy waste management	567.78	221.03	798.81
2	Sewerage & Septage Management	446.4	2769.816	3216.216
	Total Commitment	1014.18	2990.846	4005.026

BREAKUP OF AMOUNT EARMARKED UNDER STATE/CENTRAL GOVERNMENT

Sl no	Component	Particulars	Budgetary provision in state budget for ongoing and proposed projects in Rs. Crore	Central Provision Like SBM 2.0/AMRUT/NESID/EAP (Rs. in Crore)	Total (Central + State)
1	SOLID WASTE MANAGEMENT	Waste to Compost (GMC)	17.25	--	17.25
2		Wet/Dry/Inert processing facilities for 96 ULBs	233.99	118.3 (SBM 2.0)	363.35
3		Landfill for GMC	11.06		
4		Legacy waste management for GMC	172.5	102.73 (Proposed under NESID)	275.23
5		Legacy waste management for Jorhat MB	10	---	10.00
6		Additional Sum for Legacy Waste Management	122.98		122.98
TOTAL			567.78	221.03	798.81

BREAKUP OF AMOUNT EARMARKED UNDER STATE/CENTRAL GOVERNMENT

Sl no	Component	Particulars	Budgetary provision in state budget for ongoing and proposed projects in Rs. Crore	Central Provision Like SBM 2.0/AMRUT/NESID/EAP (Rs. in Crore)	Total (Central + State)
1	LIQUID WASTE MANAGEMENT	Guwahati Borsola STP	15.99	---	15.99
2		Nagaon STP	12.56	---	12.56
		Guwahati 3 Nos(Silsako, Borsola and Pachim Boragaon) of 187 MLD	--	2365.00 (EAP)	2365.00
3		STP for 92 ULBs	417.85	350.78 (SBM 2.0)	768.63
4		2 ULBs (Silchar MB & Dibrugarh MB)	---	54.036 (AMRUT 2.0)	54.036
Total			446.40	2769.816	3216.216
GRAND TOTAL			1014.18	2990.846	4005.026