

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

STATUS OF COMPLIANCE OF MUNICIPAL SOLID WASTE MANAGEMENT
2016 AND SEWAGE MANAGEMENT

AS PER ORDER DATED-31.05.2022



PRESENTATION ON O.A. NO. – 606/2018
BY CHIEF SECRETARY OF MADHYA PRADESH

Date – 10.11.2022

Status of Solid Waste Management in the State (1/2)

S.N.	Item	2020 Status (378 ULBs)	Percentage	Present Status (413 ULBs)	Percentage	Remarks & Timeline
1	Door to Door Collection (%)	372	~ 98%	404	~ 98%	Gap in 9 ULBs*. Fund is approved. Procurement will be completed till Jan 2023
2	Source Segregation of Waste (%)	276	73%	388	94%	Gap in 25 ULBs*. Fund is approved for IEC, Capacity Building and Infrastructure creation. Will be completed till Jan 2023.
3	Waste Processing (TPD)	6431	(80%)	6479	(98.43%)	Processing Increased by 18%. Fund is approved to fulfil the gap. Will be completed till May 2023

* These are Newly formed ULBs

Status of Solid Waste Management in the State (2/2)

S.N.	Item	2020 Status (378 ULBs)	Percentage	Present Status (413 ULBs)	Percentage	Remarks & Timeline
4	Material Recovery Facility	256 ULBs	68%	400 ULBs	97%	Improved by 29%. Gap in 13 ULBs*. Fund is approved for MRFs. Will be completed till May 2023
5	Composting Facility	354 ULBs	94%	400 ULBs	97%	Improved by 3%. Gap in 13 ULBs*. Fund is approved for compost plant. Will be completed till May 2023
6	Dumpsite Bio Remediated (No.)	50 ULBs (Remediated- 50 Lakh MT)	-	To be commenced in 86 ULBs (33 Lakh MT)	-	DPR prepared. 4 tenders are live Fund is approved for all dumpsites. Will be completed till Oct 2023

- *These are Newly formed ULBs
- State has prepared action plan and provisioned Rs. 500 crores to meet the gaps in processing solid waste generated through MRF and Bio-remediation of legacy waste

Status of Solid Waste Management in Municipal Corporations (1/2)

S.N.	ULB Name	Generation (Tons)	Processing (Tons)	Processing Gap	Dumpsite Status
1	BHOPAL	808.6	808.6	0	Remediated
2	BURHANPUR	86.97	86.97	0	Remediated
3	CHHINDWARA	70.15	70.15	0	Remediated
4	DEWAS	103.67	103.67	0	Under Tendering
5	GWALIOR	355.65	355.65	0	Remediated
6	INDORE	984.6	984.6	0	Remediated
7	JABALPUR	506.19	506.19	0	Remediated
8	KHANDWA	42.67	42.67	0	DPR Prepared

Status of Solid Waste Management in Municipal Corporations (2/2)

S.N.	ULB Name	Generation (Tons)	Processing (Tons)	Processing Gap	Dumpsite Status
9	MORENA	79.14	79.14	0	Remediated
10	KATNI	90.62	90.62	0	Remediated
11	RATLAM	125.16	125.16	0	DPR Prepared
12	REWA	123.96	123.96	0	DPR Prepared
13	SAGAR	87.96	87.96	0	Remediated
14	SATNA	79.24	79.24	0	Remediated
15	SINGRAULI	88.64	88.64	0	Remediated
16	UJJAIN	236.55	236.55	0	DPR Prepared

Status of Solid Waste Management (Urban)- District Wise

S.N.	District Name	Generation (Tons)	Processing (Tons)	Processing Gap
1	AGAR MALWA	23.96	23.96	0.00
2	ALIRAJPUR	17.67	17.67	0.00
3	ANUPPUR	25.50	14.99	10.51
4	ASHOKNAGAR	43.73	43.41	0.32
5	BALAGHAT	36.72	36.72	0.00
6	BARWANI	83.86	82.00	1.86
7	BETUL	62.61	61.13	1.48
8	BHIND	150.90	150.90	0.00
9	BHOPAL	811.72	811.72	0.00
10	BURHANPUR	96.74	96.74	0.00
11	CHHATARPUR	94.51	94.22	0.29
12	CHHINDWARA	141.52	141.52	0.00
13	DAMOH	64.01	64.01	0.00
14	DATIA	60.45	60.13	0.32
15	DEWAS	141.06	140.87	0.19
16	DHAR	132.96	132.96	0.00
17	DINDORI	6.06	6.06	0.00
18	GUNA	99.59	99.59	0.00
19	GWALIOR	409.25	397.98	11.26
20	HARDA	27.83	27.83	0.00
21	HOSHANGABAD	62.79	62.79	0.00
22	INDORE	1025.89	1025.89	0.00
23	JABALPUR	545.88	545.88	0.00
24	JHABUA	28.70	28.70	0.00
25	KHANDWA	66.40	62.10	4.30
26	KHARGAON	88.48	88.48	0.00

S.N.	District Name	Generation (Tons)	Processing (Tons)	Processing Gap
27	MANDLA	40.71	40.71	0.00
28	MANDSAUR	66.59	66.52	0.07
29	MORENA	148.02	148.02	0.00
30	MURWARA (KATNI)	105.88	105.88	0.00
31	NARSIMHAPUR	60.90	60.74	0.15
32	NEEMUCH	67.01	67.01	0.00
33	NIWARI	18.56	17.77	0.79
34	PANNA	36.91	35.98	0.93
35	RAISEN	50.81	45.83	4.98
36	RAJGARH	61.09	60.95	0.13
37	RATLAM	140.82	136.82	4.00
38	REWA	150.13	150.13	0.00
39	SAGAR	223.02	206.73	16.29
40	SATNA	117.89	117.89	0.00
41	SEHORE	61.65	60.81	0.84
42	SEONI	35.78	35.78	0.00
43	SHAHDOL	28.59	28.59	0.00
44	SHAJAPUR	51.96	51.76	0.20
45	SHEOPUR	23.92	23.52	0.40
46	SHIVPURI	156.93	154.29	2.64
47	SIDHI	19.56	19.56	0.00
48	SINGRAULI	107.63	88.64	18.99
49	TIKAMGARH	42.15	41.51	0.64
50	UJJAIN	301.26	301.26	0.00
51	UMARIA	13.95	13.85	0.10
52	VIDISHA	80.96	79.26	1.70

* Action Plan prepared for all Districts

Total MSW Processed comprising all districts – 98.43%

Compliance of rule 22, SWM 2016 (1/2)

S. N.	Activity	Target ULBs	Present Status	Time Line
1	Identification of suitable sites for setting up solid waste processing facilities	413	Completed	-
2	Identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand-alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more	413	Completed	-
3	Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities	413	Completed	-
4	Enforcing waste generators to practice segregation of bio-degradable, recyclable, combustible, sanitary waste domestic hazardous and inert solid wastes at source	413	Completed	-
5	Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.	413	In 404 ULBs-100% Remaining 9 ULBs achieved partial segregation	January 2023

Compliance of rule 22, SWM 2016 (2/2)

S. N.	Activity	Target ULBs	Present Status	Time Line
6	Ensure separate storage, collection and transportation of construction and demolition wastes	413	378 ULBs Remaining 35 ULBs to set up storage and collection facility	Funds approved. Will be completed till Jan 2023
7	Setting up solid waste processing facilities by all Local Bodies having 100000 or more population	33	Completed	-
8	Setting up solid waste processing facilities by Local Bodies and census towns below 100000 population.	380	367 ULBs have SWM facility Remaining 13 to set up plant	Funds approved. Will be completed till May 2023
9	Setting up common or stand-alone sanitary landfills by or for all Local Bodies having 0.5 million or more population for the disposal of only such residual wastes from the processing facilities as well as untreatable inert wastes as permitted under the rules	5 Common SLF	Completed	-
10	Setting up common or regional sanitary landfills (SLF) by all Local Bodies and census towns under 0.5 million population for the disposal of permitted waste under the rules	47 Common SLF	4 Completed Remaining 43 Common SLF. DPR under preparation	Funds approved. Will be completed till Dec 2023
11	Bioremediation or capping of old and abandoned dump sites	136	50 ULBs remediated. 86 ULBs to remediate	Funds approved. Will be completed till Oct 2023

“Green City Index” a new initiative by Govt. of Madhya Pradesh is to rank 16 Municipal Corporations of Madhya Pradesh.

5 Indicators of Green Index

1. Park area
2. Plantation
3. Air Quality (PM10)
4. Solar Panel
5. E-Vehicle , CNG Vehicle and Charging Stations

Assessment cycle – Quarterly

Progress:

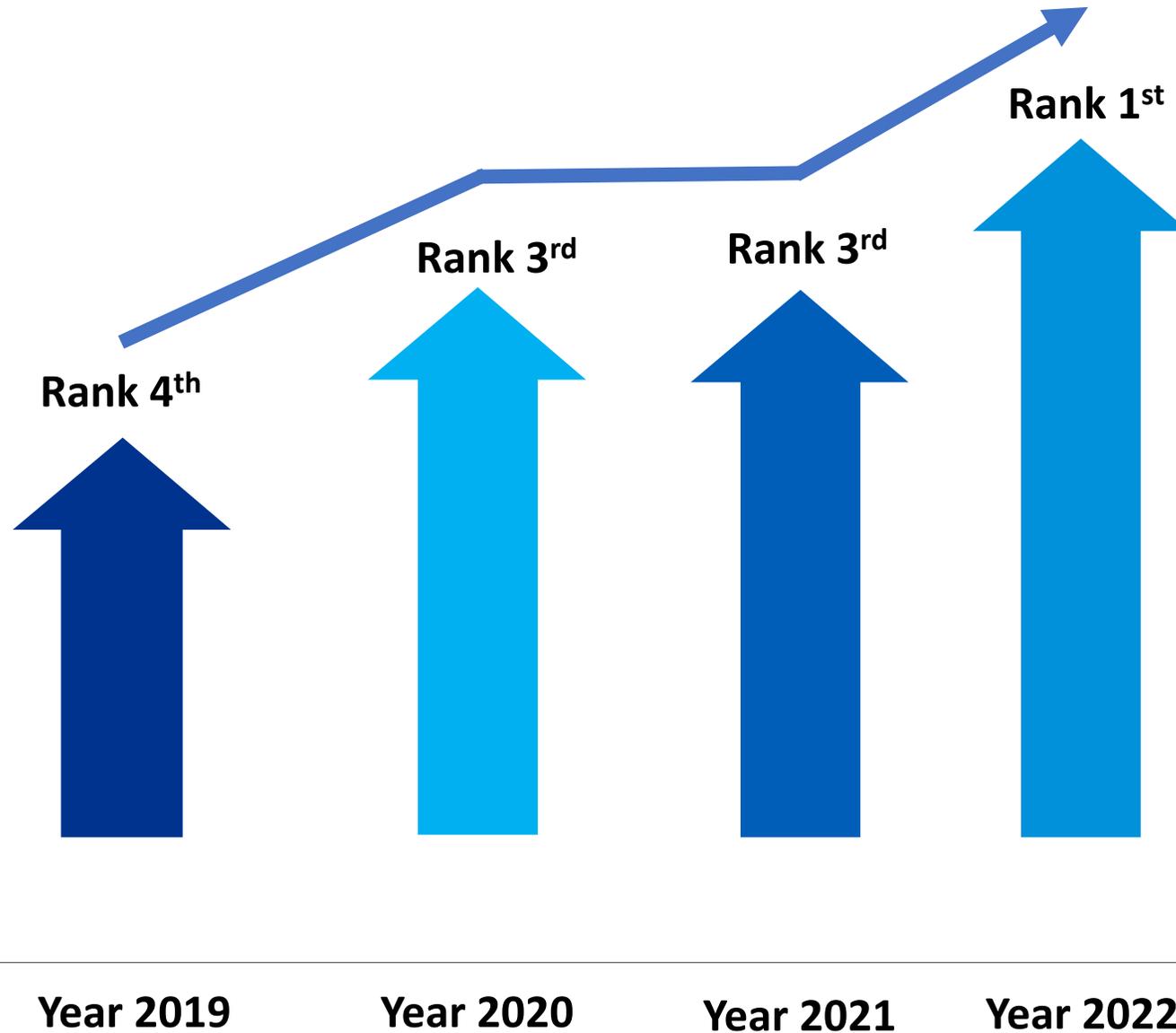
- **Year 20-21** – Data on indicators for year 20-21 have been collected as benchmark
- **Year 21-22** – All Municipal corporations have submitted the progress for the financial year 2021-22
- **Year 22-23** – Data of 1st and 2nd quarter has been received by the committee.
Assessment of 1st quarter is completed

Green City Index (2/2)

Base Year (2021-22) data and progress of First Quarter (April,22 to June,22) with Scores

S.N.	Nagar Nigam	Total Score	Rank
1	Dewas	24.32	1
2	Sagar	14.27	2
3	Indore	12.06	3
4	Rewa	11.07	4
5	Bhopal	7.4	5
6	Jabalpur	7.27	6
7	Ujjain	6.02	7
8	Katni	5.69	8
9	Singrauli	5.02	9
10	Chhindwara	4.49	10
11	Gwalior	2.52	11
12	Satna	2.43	12
13	Khandwa	1.96	13
14	Ratlam	0.93	14
15	Morena	0.48	15
16	Burhanpur	0	16

State's Achievements in Swachh Survekshan



➤ MP No.1 State in the country

➤ Indore is cleanest city for consecutive 6 times

➤ Swachh Survekshan Parameters

- Source Segregation
- Waste Collection
- Processing of waste
- Legacy waste Mgmt
- Fecal Sludge Mgmt



Indore – Model of Municipal Solid Waste Management

Cleanest city of India for 6 consecutive times

Waste generation - **1192 MT** MSW per day



S.N	Type of waste	Qty of waste Gen. (in TPD)	Processing Mechanism	Functional Capacity Available (In TPD)
1	Wet	692	Centralized	550
2			Decentralized	205
3	Dry	485	Centralized	400 + 200
4			Decentralized	44
5	Sanitary	11.5	Centralized	20
6	Domestic Hazardous and E Waste	3.4	Centralized	55
	Total	1192		1474
7	C&D	64.6	Centralized	100
8	Landfill	36	Centralized	600000

Waste Generation in Indore and segregation – 6 Bin Concept

Total Municipal Waste Generation – 1192 TPD



Wet Waste

692 TPD



Non-Plastic Waste

304 TPD



Plastic Waste

179 TPD



E-Waste

2.1 TPD



Sanitary Waste

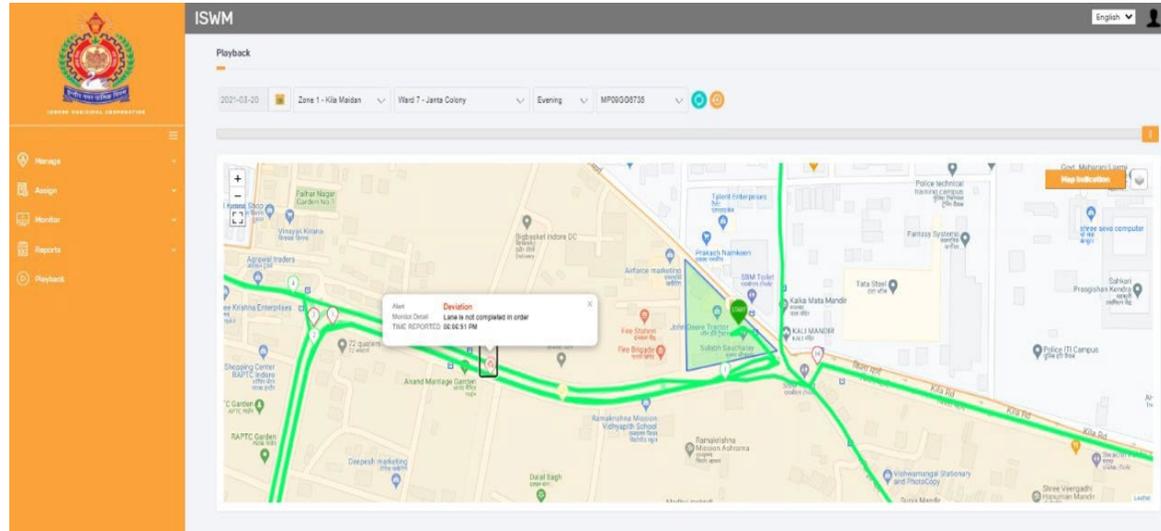
11.5 TPD



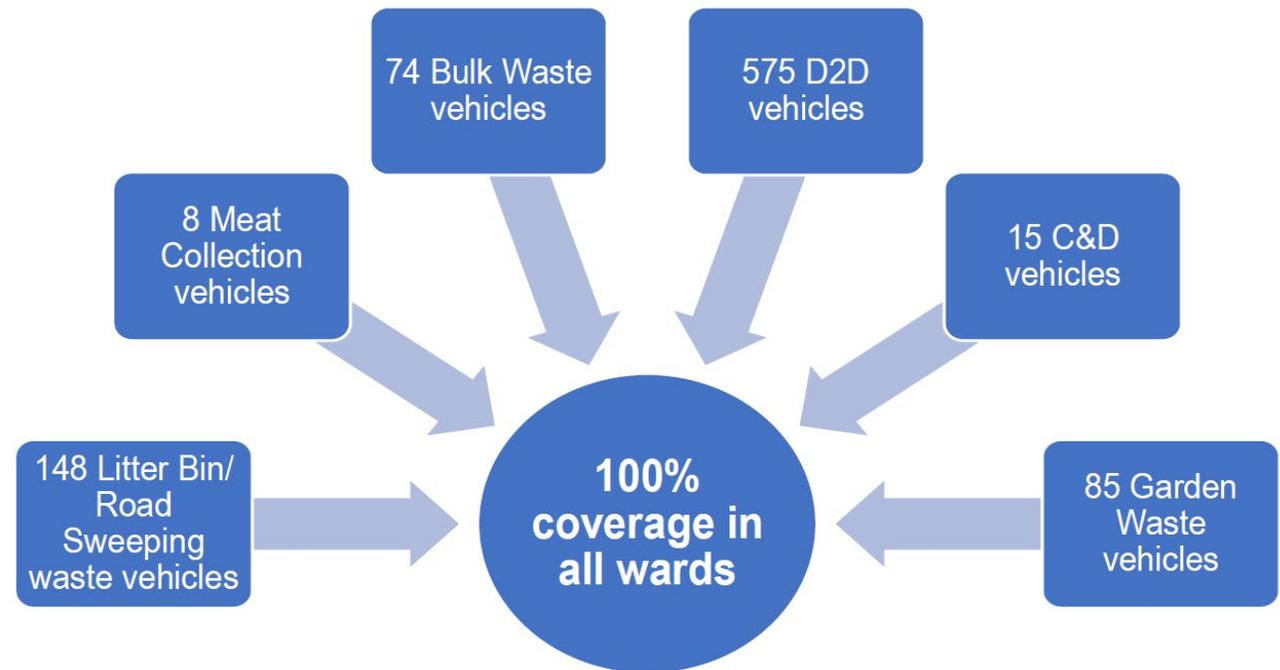
Domestic Hazardous
Waste

3.4 TPD

D2D Collection Fleet Expansion And Technological Advancement



End-to-end automated service delivery mechanism

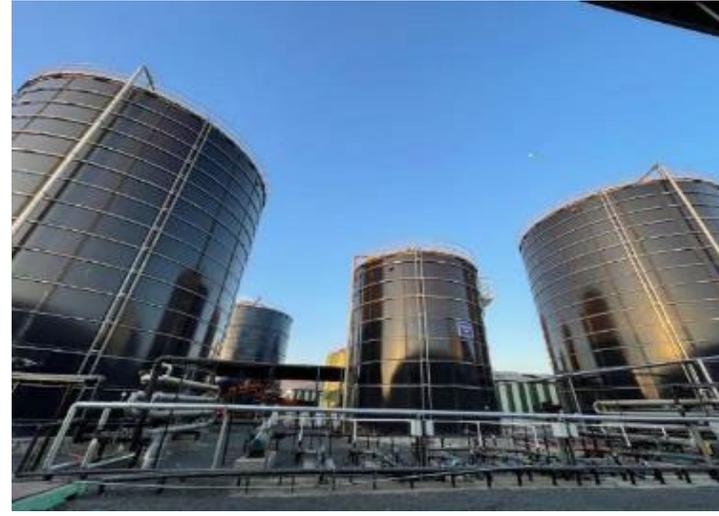


State of Art Ultra Modern Processing Plants

10 Ultra Modern Mechanized Transfer Stations



550 TPD Bio CNG Plant (Centralized)



400 TPD Automated MRF (Centralized)



IEC Activities- Community Participation - Soul Of SWM

Women enaggement



Awareness Drive for Wrapping Sanitary Waste



IEC for 6 Bin Source Segregation



Decentralized Dry waste Collection System



Indore - Bioremediation Transformation Into City Forest (1/2)

2015



15 Lakh MT of Legacy Waste Existed at Dumpsite

2017



2019



Bio-Remediation of 100% Legacy Waste

2020



Indore - Bioremediation Transformation Into City Forest (2/2)

- Reclamation of over 100 acres land worth Rs 300 Cr.
- Transformation into City Forest – 1.50 lac trees planted

2022

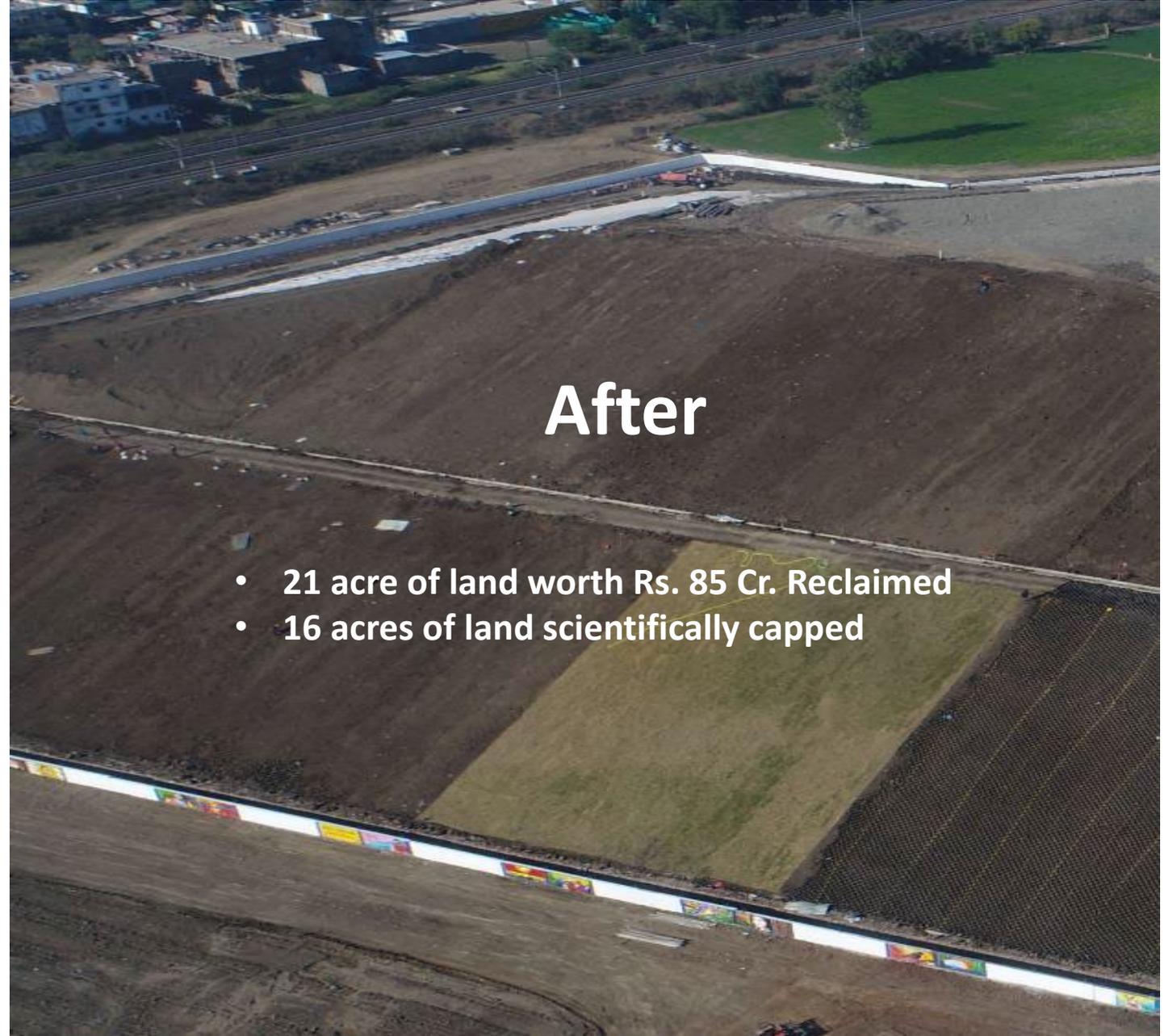
PRESENT



Dumpsite Remediation of Legacy Waste – Bhanpur Khanti (Bhopal)

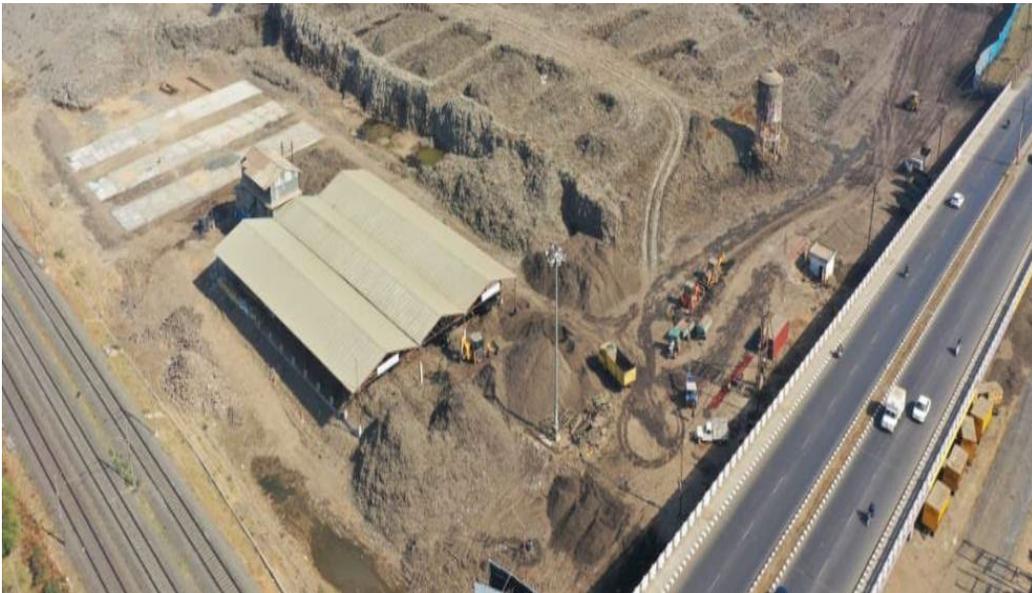
Before

7.23 Lakh tons of waste spanning
over 37-acre land



After

- 21 acre of land worth Rs. 85 Cr. Reclaimed
- 16 acres of land scientifically capped

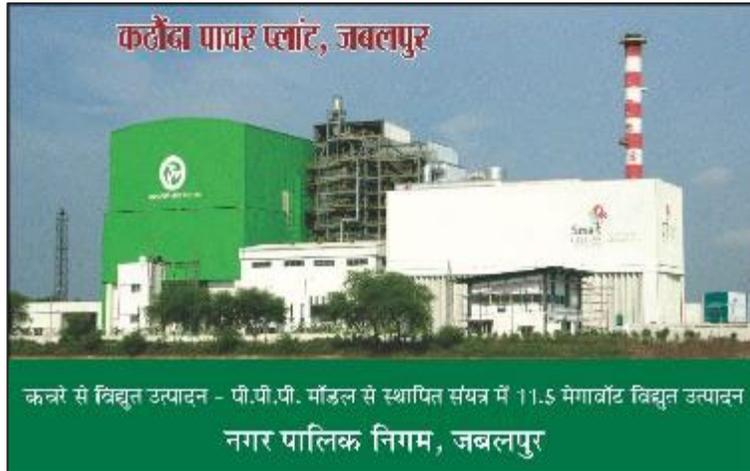


Time-lines to Fulfil Gaps in MSW Management

Actions Planned	Status & Numbers	Target	Gap	Timeline
Solid Waste Processing Facility	At Present 400 ULBs are covered	413 ULBs	13 ULBs	31 May 2023
Composting Facilities	At Present 400 ULBs are covered	413 ULBs	13 ULBs	31 May 2023
Legacy Waste Management	50 ULBs remediated Legacy waste	136 ULBs	86 ULBs	31 October 2023
Sanitary Landfill construction	9 Regional Landfills covering 65 ULBs	52 Regional Landfill	43 Regional Landfill	31 December 2023
C&D waste treatment Plant	Functional in 9 M.Corp.	05	--	Completed
C&D storage and segregation facility	378 ULBs	413	35 ULBs	31 January 2023

Best Practice – Integrated Solid Waste Management Project at Jabalpur

Waste to Energy Plant on PPP Model



- ▶ Katondha Power Plant, Jabalpur developed on PPP Model.
- ▶ 11.5 MW installed capacity of energy plant.
- ▶ 550 Tons waste treating per day, receiving from 16 ULBs
- ▶ Cleanliness has improved environmental conditions.

Best Practice - Integrated Solid Waste Management Project – Katni Cluster

Waste Processing Plant & Scientific Landfill of Integrated Solid Waste Management, Katni cluster



Katni Msw plant

Katni MSW Plant



Trommel



Aeration Pit



Composting



Animal Carcass Incinerator



Scientific Landfill

Best Practice - Integrated Solid Waste Management Project – Sagar Cluster

Waste Processing Plant & Scientific Landfill photos of Integrated Solid Waste Management, Sagar cluster



Sagar MSW Plant Overview



Sagar MSW Plant



MSW Plant Shed



Trommel



Waste Pit



Scientific Landfill

Best Practice-Integrated Solid Waste Management Project – Rewa Cluster

Waste Processing Plant & Scientific Landfill photos of Integrated Solid Waste Management, Rewa cluster



Entrance Gate of ISWM Facility



MSW Unloading Area



Trommel



Compost and RDF Segregation Area



Final Compost



Scientific Landfill

Material Recovery Facilities (MRF) & Composting Facilities in Other ULBs



MRF- Tonkhurd



MRF- Nagda



MRF-Pithampur

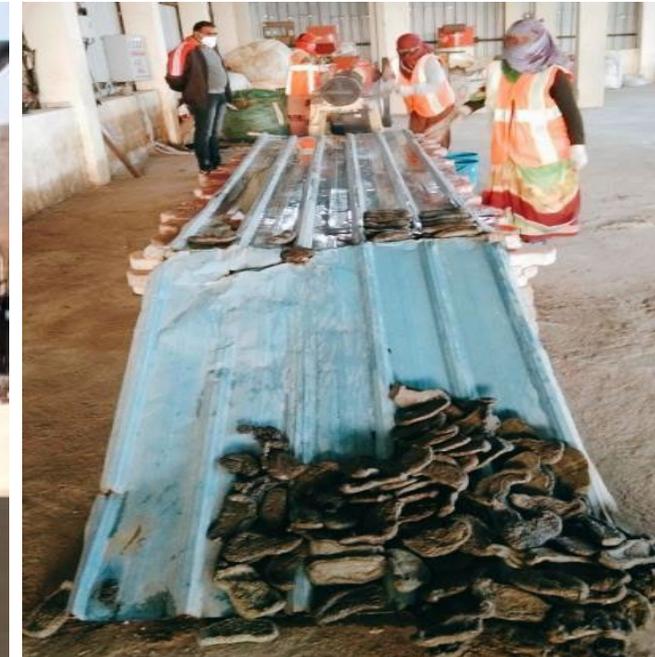


MRF- Seoni Malwa



MRF- Rampura

MP SH 31A, Jamalpura, Madhya Pradesh 458118, India
Latitude: 24.472066° Longitude 75.463407°
LOCAL 09:12:35 GMT 03:42:35 TUESDAY 23.03.2021 ALTITUDE 416 METER



Material Recovery Facilities (MRF) & Composting Facilities in Other ULBs



SEONI MALWA



Rajgarh

Unnamed Road, Madhya Pradesh 454116, India
Latitude 22.680777° Longitude 74.957172°
LOCAL 08:41:40 GMT 04:11:40 WEDNESDAY 11:11:2020 ALTITUDE 435 METER



Unnamed Road, Madhya Pradesh 454116, India
Latitude 22.680970° Longitude 74.957279°
LOCAL 11:49:53 GMT 06:19:53 SUNDAY 02:28:2021 ALTITUDE



Khachrod



Barwani



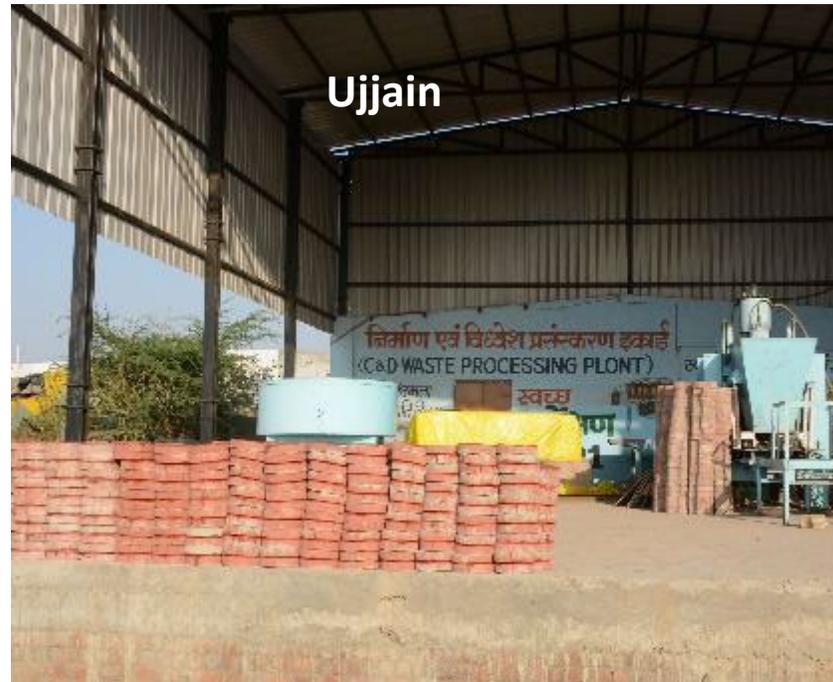
Badnagar



Material Recovery Facilities (MRF) & Composting Facilities in Other ULBs



SBM – Construction & Demolition Waste Plant



3 R Initiatives Under Solid Waste Management in The State

The State aims to move toward 3R (Reduce-Reuse-Recycle). Some of the initiatives taken by the ULBs on 3R principles are:

- Ban on single-use plastic,
- Home composting,
- Bartan banks, cloth banks,
- Extensive IEC activities (such as rallies, meetings, workshops, campaigns) and
- Involvement of SHGs and RWAs, converting leaves into disposables, distribution of cloth-bags, “neki ki diwar”, etc. In addition, as per updated MIS by ULBs:



Sewage Management Progress at a Glance in Madhya Pradesh

Sewage Generation according to Urban Population (yr 2020) : 2183.7 MLD

Details	2020	Nov-2022
Operational STPs	42 STPs of 1006.4 MLD	56 STPs of 1311.99 MLD
Utilized Capacity	486.18 MLD	696.03 MLD
Operational FSTPs	-	315 FSTPs of 16.06 MLD
Gap in treatment	1177.3 MLD	855.65 MLD
Under Construction STPs	70 STPs of 749.84 MLD	51 STPs of 461.79 MLD
Proposed STPs	13 STPs of 53.4 MLD	6 STPs of 30.05 MLD
Households connected	6,97,681	8,60,897
Waste Water Reused	79.39 MLD	214.01 MLD

Net Gap after completion of Under Construction and Proposed Projects : 363.81 MLD

*** Fund for Gap in Treatment is approved (Amrut2.0 & MPUDC) = 9088 crores**

ACTION PLAN for Gap in Treatment

Action Plan for 855.65 MLD Gap

No. of STPs	Capacity (MLD)	Current Status	Timeline
18	198.76	Under Construction	Till March 2023
11	80.33	Under Construction	Till Dec 2023
18	139.2	Under Construction	Till March 2024
4	43.5	Under Construction	Till Dec 2024
6	30.05	Under Tender	Till Dec 2024

Future Action Plan

Current Status	No.	Capacity (MLD)	Cost (Cr.)	Time-Line
Action Plan Prepared. Funding under AMRUT 2.0.	22 cities	939.61	4522.38 Cr	Till 2028
DPR Submitted to NMCG	5 STPs, 3 cities	232.06	705.44 Cr	
DPR under preparation. Funding under SBM 2.0.	352 cities	507.52	1100 Cr	
Total		1679.19 MLD	6327.82 Cr	

Total Reuse of Treated Water - 214.01 MLD

171.21 MLD	Agriculture / Horticulture
42.80 MLD	Firefighting, Fisheries, Street & Vehicle cleaning, Flushing and Construction

INDORE

Sewage Generation : 367.8 MLD (yr 2020)

Established Capacity : 416.5 MLD (10 STP and 1 CETP)

- Online Continuous Effluent Monitoring System (OCEMS) of STPs has been set up
- **1 Sludge Hygienization Plant** with 500 KLD capacity established
- IMC is earning Rupees **10 Lacs/month** by selling Treated Water for Construction activities
- 73 MLD Treated waste water is being reused for **Horticulture, Road cleaning, Construction, Lake filling and agriculture**

GWALIOR

Sewage Generation : 125.23 MLD (yr 2020)

Established Capacity : 222 MLD (4 STPs)

- 100% reuse of waste water.
- **89.2 MLD treated waste water directly fed into Irrigation Canal**

Best Practice Gwalior– 100% Reuse of Treated Waste-Water



145 MLD STP JALALPUR



65 MLD STP LALTIPARA



4 MLD STP LASHKAR



Irrigation Canal

*In Gwalior for 89.2 MLD treated Effluent is directly fed into the Irrigation canal for **100% reuse***



Irrigation Canal

STPs – Indore Municipal Corp.



Kabitkhedi - 245 MLD



Kabitkhedi - 78 MLD

Zoo - 35 MLD

Naharbhandara - 11 MLD



Indore – Reuse of Treated Waste-Water



OHT 3.0 ML at Meghdoot Garden



Zoo & Bijalpur Reuse Sump – 0.5 & 0.3 ML



Bhopal Sewerage Project (AMRUT-1)



5 MLD STP AT SHIRIN RIVER



6 MLD STP IN NEELBAD



9.5 MLD STP AT BANSAL HOSPITAL

Photo Exhibits of New STPs in other Cities



25 MLD STP IN MORENA



12 MLD STP IN BHIND



17.6 MLD STP IN KHARGONE



THANK
YOU