

III. Details of Industrial Pollution:

- No. of industries in the State : 1004 Nos.
940 outside Industrial Estate
64 inside Industrial Estate
- No. of water polluting industries in the State : 34 Units (**Annexure - 2**)
- Quantity of effluent generated from the industries in MLD : Data not available
- Quantity of Hazardous Sludge generated from the Industries in TPD: Data not available
- Number of industrial units having ETPs : Nil
- Number of industrial units connected to CETP : 5 (five)
- Number and total capacity of ETPs : Nil :
- Details of existing : Nil
- Under construction : Nil
- Proposed : Nil
- Compliance status of the ETPs : Nil
- Number and total capacity of CETPs : 1 (one) CETP
- Details of existing : 1 unit of 400 Kilo Liter / Day
- Under construction : Nil
- Proposed : Nil

Town	Existing ETP Capacity	CETP Proposed, if any	Status (DPR/ tendering/ under construction etc.)
Imphal	400 Kilo Liter / day	Nil	Nil

- Status of compliance and operation of the CETPs

Town	No. of industries	Industrial discharge	Status of ETPs	Status of CETPs (existing, under construction & proposed)
Imphal	5 (five)	Nil	Nil	1 (one) CETP of 400 Kilo Liter / Day at Nilakuthi Industrial Estate, Imphal Status : Non-functional Cost for making it functional is estimated to be Rs. 1.77.08.668/= (Rupees One Crore Seventy Seven Lakhs Eight Thousand Six Hundred Sixty Eight) only

- Total Urban Local Bodies (ULBs) : 27 ULBs
- Population of ULBs : 6,15,344 (2011 Census)
: 792734 (2020 projected population)
- Current Municipal Solid Waste Generation : 311 MT
(as on 2020 projected population)
- Waste Collected : 176 TPD
- Existing Management / treatment facility : 112 TPD
- Utilization of MSW processing : 108 TPD
- Segregated Waste landfilled / dumped : 0 TPD
- Number, installed capacity and utilization of existing MSW processing facilities in TPD bifurcated by type of processing e.g. Waste to Energy (Tonnage and Power Output), Compost Plants (Windrow, Vermi, decentralized pit composting), bio-methanation, MRF, etc.

SN	Name of MSW processing unit	Installed capacity	Utilization (in TPD)	Type of processing	Action plan to bridge Gap between utilization and installed facility
1	IMC / Municipal Solid waste Management Plant, Lamdeng, Imphal	100	90	Waste to Energy and Composting	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • Waste to energy by June 2021
2	Lamshang NP		3	Home composting and waste to power and waste to manure at Lamdeng SWM Plant	<ul style="list-style-type: none"> • Vigorous IEC campaign and implementation of stringent rules or bye-laws
3	Samurou MC		2	Segregation cum transfer station	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 presently collected after segregation of recyclable plastic waste is being transferred to Lamdeng SWM plan • New composting unit by June 2021 <p>More awareness campaign and increasing manpower</p>

SN	Name of MSW processing unit	Installed capacity	Utilization (in TPD)	Type of processing	Action plan to bridge Gap between utilization and installed facility
4	Thongkhong Laxmi MC		2.25	Segregation cum transfer shed/station	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • More Awareness campaigns • capacity building of manpower • By acquiring a permanent sanitary landfill/SWM site (ULB has requested vide letter of even No. dated 18.05.2019 to allocate a suitable SWM site for the ULB but yet to be allocated till now)
5	Sekmai NP		0.4	. Home Composting	<ul style="list-style-type: none"> • D2D collection covered in all areas of six out of nine wards. • D2D collection in the remaining three wards planned for coverage latest by 30th April 2021 • Segregated wet waste composted centrally at Segregation shed, Parao, Sekmai • Dry waste from household and public places disposed off at Lamdeng SWM Plant on daily basis.
6	Lilong IW MC		0	Composting	<ul style="list-style-type: none"> • Distribution of home composting bins, more vehicles and manpower by Dec 2021 • Cluster basis facilities at Lamdeng SWM Plant
7	Lamlai MC	0	0.8	Composting (Home + Centralised)	<ul style="list-style-type: none"> • 100% D2D by Dec. 2021 • Treatment facilities at Lamdeng Waste to energy Plant (Cluster Approach)
8	Thoubal MC / Thoubal SWM Plant	2	0.5	Segregation and composting	<ul style="list-style-type: none"> • 100% D2D by August 2021 • Hiring of Staffs for segregation and composting
9	Yairipok MC		0	Home composting	<ul style="list-style-type: none"> • 65% D2D at present and 100% D2D by Dec 2021 • Segregation shed & composting unit by Dec 2021 • Treatment Facility at Thoubal
10	Sikhong Sekmai MC		0.8	Home Composting, Segregated plastic waste sent to recycler	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • Treatment facilities at Thoubal cluster
11	Lilong Thoubal		0	Composting	<ul style="list-style-type: none"> • 100% D2D by Dec. 2021 • Composting Unit by Dec, 2021 • Treatment facilities at Thoubal cluster

SN	Name of MSW processing unit	Installed capacity	Utilization (in TPD)	Type of processing	Action plan to bridge Gap between utilization and installed facility
12	Heirok NP		0.2	Composting	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • More composting unit by Dec 2021
13	Wangjing Lamding MC		0.5	Composting	<ul style="list-style-type: none"> • 100% D2D and more composting unit by Dec 2021
14	Andro MC		0.5	Composting, Segregation and Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Thoubal Cluster by Dec. 2021. • Engagement of Recyclers.
15	Kakching MC/ Kakching SWM Plant	6	2	Composting & manual segregation of waste	<ul style="list-style-type: none"> • 100% D2D by Sept. 2021 • Segregation machine at management unit
16	Kakching Khunou MC		0.5	Composting segregation & Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Kakching cluster by Dec.2021. Engagement of recyclers
17	Sugnu MC		0.5	Composting, Segregation & Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Kakching cluster by Dec.2021. • Engagement of recyclers
18	Mayang Imphal MC	0	0	Segregated plastic waste sent to recycler and Home Composting	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • composting plant targeted by Dec 2021 • Segregation shed to be operational by July 2021.
19	Wangoi MC	0	0	Composting	<ul style="list-style-type: none"> • 0
20	Kumbi MC	0	1.5	Composting	<ul style="list-style-type: none"> • Now 70% D2D and 100% D2D by June 2021 • Land Available 0.27 Acre • Composting Plant by Dec 2021
21	Kwakta MC	0	0.75	Composting	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • Composting unit, by Dec 2021
22	Moirang MC	0	0	Composting	<ul style="list-style-type: none"> • Composting plant by Dec 2021
23	Ningthoukhong MC	0	0	Composting pit targeted by June 2021 Manual Segregation initiated at the segregation shed. & sent back for re-cycling	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 Composting unit, by June 2021 • Manual Segregation initiated at the segregation shed
24	Bishnupur MC	0	0	Sanitary Landfill	<ul style="list-style-type: none"> • 80% D2D (present) and 100% D2D by Dec 2021 • Exist 10 TPD capacity of landfill

SN	Name of MSW processing unit	Installed capacity	Utilization (in TPD)	Type of processing	Action plan to bridge Gap between utilization and installed facility
25	Oinam MC	0	0	Composting	<ul style="list-style-type: none"> Composting plant by August 2021 100% D2D by Dec 2021
26	Nambol MC	0	0	Composting pit delayed due to ongoing Covid IInd wave. Manual Segregation initiated at the segregation shed	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Manual Segregation initiated at the segregation shed.
27	Jiribam MC	4	2.73	Composting, Send back for recycling	<ul style="list-style-type: none"> 100% D2D collection covered and 100% managed
	Total	112	108		

<ul style="list-style-type: none"> Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%) 	Planning for upgrade the installed capacity as per required by 2021-22
<ul style="list-style-type: none"> No. and capacity of C&D waste processing plants in TPD (existing, proposed and under construction) 	No data
<ul style="list-style-type: none"> Total No. of wards 	305 Wards
<ul style="list-style-type: none"> No. of wards having door to door collection service 	275 Wards
<ul style="list-style-type: none"> No. of wards practicing segregation at source 	199 Wards

• Details of MSW treatment facilities **proposed and under construction** :

SN	Name of ULB or Processing unit	Capacity	Technology	Proposed / under Construction
1	Annexed at Table-3			

<ul style="list-style-type: none"> No. and area (in acres) of uncontrolled garbage dumpsites and Sanitary Landfills 	<ul style="list-style-type: none"> 12 Nos in 11 ULBs /Annexed at Table-3
<ul style="list-style-type: none"> No. and area (in acres) of legacy waste within 1km buffer of both side of the rivers 	<ul style="list-style-type: none"> Nil/ Annexed at Table-3
<ul style="list-style-type: none"> No. of drains falling into rivers and no. of drains having floating racks/screens installed to prevent solid waste from falling into the rivers 	<ul style="list-style-type: none"> No data
<ul style="list-style-type: none"> Status of ULB wise Management of Solid waste 	At Annexure - 3

IV. Bio-medical Waste Management:

Total Bio-medical generation	:	0.67 TPD	Remarks : <ul style="list-style-type: none"> • Deep burial practiced at remote rural areas. • DPR submitted to ministry for up-gradation of the existing CBMWTF • Action Plan submitted to the State Pollution Control Board by the Directorate Health Service for BMW management
No. of Hospitals and Health Care Facilities	:	532 Nos. [i/c 251 PHSCs]	
Status of Treatment Facility CBMWTF	:	CBMWTF = 1 No Captive Facility = 2 No. Deep Burial = 391 Nos.	
Status of Treatment Facility ETPs	:	9 Nos.	

V. Hazardous Waste Management:

Total Hazardous Waste generation	:	0.99 TPD
No. of Industries generating Hazardous waste	:	334 (automobile service centres mainly micro-scale units)
Treatment Capacity of all TSDFs	:	Nil
Avg. Quantity of Hazardous waste reaching the TSDFs and Treated	:	Nil
Details of on-going or proposed TSDF	:	Under preparation of DPR, Final DPR by March 2021

VI. Plastic Waste Management:

Total Plastic Waste generation	:	22.7 TPD
Treatment / Measures adopted for reduction or management of plastic waste	:	Plastic waste utilized for waste to energy plant, road construction and for recycling

VII. Details of Alternate Treatment Technology being adopted by the State/UT	:	Nil
VIII. Identification of including drains contributing to river pollution and action as per NGT order on in-situ treatment	:	Municipal Wastes (Liquid and solid) are the major polluting sources. <ul style="list-style-type: none"> • 100% door to door collection of solid wastes by March 2021 • Tapping , intercepting and

		<p>diverting all the polluting drains to the STP by March 2022</p> <ul style="list-style-type: none"> • In-situ treatment along the drain through Bio-remediation / Phyto-remediation by March 2022
IX.	Details of Nodal Officer appointed by Chief Secretary in the State / UT	<p>:</p> <ul style="list-style-type: none"> i. Shri M.H. Khan Additional Chief Secretary Forest and Environment Govt. of Manipur as Chairman, State level Monitoring Mechanism ii. Dr. T. Brajakumar Singh Deputy Director, Directorate of Environment and Climate Change as Nodal Officer for appearing / VC / submission / compiling of reports before NGT/CPCB/CMC iii. Dr. W. Roshan Singh Executive Engineer Manipur Pollution Control Board
X.	Details of meetings carried under the in the State/UT	<p>:</p> <ul style="list-style-type: none"> • Last meeting under Chairmanship Chief of Secretary, Govt. of Manipur was held on 20th Nov 2020 • Once or twice in every month by Chief Secretary of Addl. Chief Secretary (Forest and Environment), Govt. of Manipur
XI.	Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river	<p>:</p> <p>At Annexure – 4</p>
XII.	Ground water regulation	<p>:</p> <p>Nil</p>
XIII.	Good irrigation practices being adopted by the State	<p>:</p> <ul style="list-style-type: none"> i. Irrigation from Barrages and Dams through Canals ii. Loktak Lift Irrigation through

		<p>open canals</p> <p>iii. River Lift Irrigation schemes through tube wells and dug wells by Minor Irrigation Deptt.</p> <p>iv. Surface Minor Irrigation through Canals</p>
XIV. Rain Water Harvesting	:	Nil
XV. Demarcation of Floodplain and removal of illegal encroachments	:	<p>i. The Manipur Flood Plain Zoning Act, 1987 has been enacted for zoning of flood plains of rivers in the State of Manipur</p> <p>ii. Boundaries and limits of the major rivers of the State were declared in 1988, by the irrigation and Flood Control Dept, Manipur (now Water Resources Dept.)</p> <p>iii. Eviction and removal of illegal encroachments is being carried out from time to time.</p> <p>iv. Survey and eviction of encroachers along Nambul River and Imphal River has been initiated with the help of the Flood Zoning Authority.</p> <p>v. Eviction along Iril and Imphal River is ongoing.</p>
XVI. Maintaining minimum e-flow of river	:	<p>i. Maohing village (24 ha), Konsakhul village (24 ha) under Kangpokpi Division and Shirui Village (35 ha), Langdang village (30 ha), Choithar village (35 ha) making the total plantation taken up by KfW to 148 ha.</p> <p>ii. Water is released from the Dams and reservoirs from time to time to</p>

		maintain e-flow of various rivers in the state.
XVII. Plantation activities along the rivers	:	Continuing from time to time
XVIII. Development of biodiversity park	:	No work taken up
XIX. Reuse of Treated Water	:	Nil
XX. Model River being adopted by the State & Action Proposed for achieving the bathing quality standards	:	Nambal River (Priority – II) Targeted Action for achieving the bathing quality standards as at Annexure - 5
XXI. Status of Preparation of Action Plan by the 13 Coastal States	:	NA
XXII. Regulation of Mining Activities in the State / UT	:	<ul style="list-style-type: none"> i. Preparation of District Survey Report has been entrusted to the consultant M/S Jagannath Engineering Services by Water Resources Department and investigation works were started in September 2020 ii. Preliminary Survey Report of DSR has been submitted by the consultant iii. Site visit report of the DSR has been submitted.
XXIII. Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring	:	Nil

Annexure - 1

A. Total Status of STPs in Imphal (as on 20th April 2021)

Particular	Unit	Phase I	Phase II (To be proposed under EAP)	Ongoing NRCD Project	Total
Capacity of STP	MLD	27	49	17	93
Capacity of STP Utilized	MLD	10.28			10.28
Total Sewer Pipe	RM	69,429	277,289		346,718
Primary (Main Pipe)	RM	25,291			25,291
Secondary (Sub-main Pipe)	RM	44,138			44,138
Interception & Diversion Pipelines	RM			14,545	14,545
No. of urban drains to be collected	Drain			72	72
Targeted Connection septic tank	Unit	12,000			12,000
Connected septic tank	Unit	4,570			4,570
Lift Station	Unit	5	21	14	40
Population	Lakh	1.73	4.33		6.06
Covered Municipal Ward	Wards	11	16	14	
Area covered	Sq. Km.		35		
Covered Polluted River		Nambul P-II	Nambul P-II	Nambul P-II	
Method of Treatment		ASP	SBR	MBBR	

B. In-situ Bio-remediation and others :

	Name of the Polluted River (P-V)	Total Length of the River	Length of the Polluted stretches	BOD Range (mg/l)	Population at polluted zone	Status / Proposed for Treatment
1	Imphal	89.24 km	19.98 km	3.4 – 6.4	84,857	DPR submitted to NRCD for in-situ treatment through Bio-remediation of 16.75 MLD, <u>Fecal Sludge and Septage Management (FSSM)</u> of 50 KLD
2	Iiril	156.50 km	18.12 km	3.2	1,714	
3	Khuga	79.25 km	10.92 km	3.1 – 3.6	857	
4	Khujairok	10.06 km	4.21 km	4.3	4,286	
5	Lokchao/ Thongjarok	17.04 km	5.31 km	4.5	1,143	
6	Manipur	261.00 km	35.00 km	3.6 – 4.3	7,143	
7	Thoubal	142.80 km	24.61 km	3.5	30,286	
8	Wangjing	35.08 km	3.70 km	4.1 – 4.3	7,143	

Note :

ASP (Activated Sludge Process),

EAP (Extended Aeration Process),

SBR (Sequencing Batch Reactor)

MBBR (Moving Bed Biofilm Reactor)

FORMAT FOR SEWAGE TREATMENT PLANTS AND UTILIZATION OF SEWAGE (April 2021)

Sl. No.	City / Town	No. of STP	Location of STP	Coordinates of STP	STP Commissioned year	Status (operational/ Non Operational/ Under Construction)	STP Installed Capacity (In MLD)	Actual Utilization of installed capacity (In MLD)	Technology UASB / ASP / OP / SBR / MBBR / FAB etc.	Consent status	Compliance Status (Source : Manipur Pollution Control Board)			
											pH	TSS mg/l	COD mg/l	BOD mg/l
1	Imphal	1	Lamphel	24°49'45"N 93°54'58"E	2020	Operational	27	10.28	ASP		6.9	1.3		6.0

LIST OF WATER POLLUTING INDUSTRIES REGISTERED UNDER THE FACTORIES ACT, 1948 LOCATED OUTSIDE OF INDUSTRIAL ESTATE/FOOD PARK

Sl. No.	F/L	Name of unit	Location of factory	Factory area	Factory Type	NearestRiver	District	Occupier/Proprietor	SEC
1	257	Shiva Oil Mill	Singjamei Chingamakha Chongtham Leikai	Singjamei	OilMill	Imphal	Imphal West	Chongtham Manglem Singh	85
2	322	Elija's Resting Center	Singjamei Mayengbam Leikai	Singjamei	Soap/Detergent	Imphal	Imphal West	Smt Irom (O) Manju Devi	85
3	35	SiHou	Singjamei Makha Waikhom Leikai	Singjamei	Spices	Imphal	Imphal West	Sougaijam Homendro Singh	85
4	227	RKB Enterprises	Mayengbam Leikai, Singjamei	Singjamei	Spices	Imphal	Imphal West	Rajkumar Bishwajit Singh	85
5	136	MA Poultry Rearing & Feed Production	Takhel Mamang Leikai	Takhel	Poultry Feed	Iril	Imphal East	Khuraijam Mohendra Singh	2m(i)
6	236	Mnihara BesonMill	Wangoi Thounaojam Leikai	Wangoi	Beson	Manipur	Imphal West	Longjam Boss Meitei	85
7	264	Manihar Oil Mill	Wangoi Thounaojam Leikai	Wangoi	OilMill	Manipur	Imphal West	L. Manihar Singh	85
8	268	Dish & Detergent Making Industry	Thoubal Achouba (Mela Ground)	Thoubal	Soap/Detergent	Manipur	Thoubal	Thounaojam Premila Devi	85
9	59	Tet (Tyre, Engine, Gas Body)	Uripok Khoisnam Leikai	Uripok	Automobile Workshop	Nambul	Imphal West	A Satyaranjan Sharma	85
10	103	Mohon Motor Works	Naoremthong Khullen Leikai	Naoremthong	Automobile Workshop	Nambul	Imphal West	Maibam Dian Mohan	2m(i)
11	303	Surjit Motor Works	Uripok yambem Leikai	Uripok	Automobile Workshop	Nambul	Imphal West	Soubam Surjit Singh	85
12	141	Para Fruit Products Pvt Ltd	Sagolband Nepra Menjor Leikai	Sagolband	Fruit Processing	Nambul	Imphal West	Kh Sanayaima Singh	2m(i)
13	276	Ratana Fruit	Uripok Polem Leikai	Uripok	Fruit Processing	Nambul	Imphal West	Longjam Sharatchandra Singh	85
14	337	Deba Food Industries	Sagolband Tera Khuraijam Leirak	Sagolband	Fruit Processing	Nambul	Imphal West	Keithellakpam Rasheshwori Devi	85

Sl. No.	F/L	Name of unit	Location of factory	Factory area	Factory Type	NearestRiver	District	Occupier/Proprietor	SEC
15	36	Kissan Oil Mill	Sagolband Khamnam Leikai	Sagolband	OilMill	Nambul	Imphal West	Sagolsem Vikram Singh	85
16	48	Ahanthem Oil Mill	Pishumthong, Oinam Leikai	Pishum	OilMill	Nambul	Imphal West	Ahanthem Arunkumar Singh	85
17	75	Imocha Oil Mill	Keishampat Thokchom Leikai	Keishampat	OilMill	Nambul	Imphal West	Thangjam Imocha Singh	85
18	89	Sharma Oil Mill	Uripok Achom Leikai	Uripok	OilMill	Nambul	Imphal West	Sijagurumayum Brajamani Sharma	85
19	317	Natural Spices	Uripok Sinam Leikai	Uripok	Spices	Nambul	Imphal West	Thokchom Sheela Devi	85
20	342	Roma Spices	Sagolband Nepra Menjor Leikai	Sagolband	Spices	Nambul	Imphal West	Nepram (O) Roma Devi	85
21	321	Athokpam Oil Mill	Wangbal Lamboithong	Wangbal	OilMill	Thoubal	Thoubal	Athokpam Bolai Singh	85
22	242	Bimolchand Oil Mill	Yairipok Poiroukhongjin	Yairipok	OilMill	Wangjing	Imphal East	Konthoujam Bimolchand Singh	85
23	210	Oinam Motors Maruti Suzuki Workshop	Yairipok Bishnunaha Pukhri Mapal	Yairipok	Automobile Workshop	Wangjing	Thoubal	Oinam Ananta Singh	85
24	294	Ingocha Tractor Repairing Centre	Yairipok Bishnunaha	Yairipok	Automobile Workshop	Wangjing	Thoubal	Takhelambam Ingocha Singh	85
25	126	Miranda Oil Mill	Wangjing Sorokhaibam Leikai	Wangjing	OilMill	Wangjing	Thoubal	Khundrakpam Miranda Devi	85

LIST OF WATER POLLUTING FACTORIES LOCATED WITHIN INDUSTRIAL ESTATE/FOOD PARK

Takyel Industrial Estate, Imphal West Districts, Manipur.

Sl No.	Name of unit	NearestRiver	Proprietor	Name of Products
1	M/S Modern Foods	Nambul	T. Sanajaoba Singh	Noodles
2	M/S Hangle Industries	Nambul	H.Nabadeep Singh	Spices & Food Products
3	M/S Pera Fruit Products	Nambul	Kh. Sanayaima Singh	Fruit Processing
4	M/S Khudol	Nambul	K. Siddhanta Sharma	Food Processing
5	M/S Ratana Fruit	Nambul	L. Sarat Singh	Food items
6	M/S Universal Iodises salt Industries	Nambul	P. Joychandra Singh	Food Items

Nilakuthi Food Park, Imphal East

Sl No.	Name of unit	NearestRiver	Proprietor	Name of Products
1	Shree Balaji Flour Mill	Imphal	Mrs. Rangnamei Martha	Flour
2	Thangjam Agro Industries (PDW)	Imphal	Thangjam Joykumar Singh	Bakery
3	KMU	Imphal	Wangkheirakpam Gobin Singh	Bakery

TABLE 1 : SOLID WASTES GENERATION, COLLECTION AND MANAGEMENT - ULB WISE IN MANIPUR, APRIL 2021

No.	Name of ULB	Population		Solid Waste Generated (MTD)	Waste Collected (TPD)	Gap between Generated and Managed at (Collected + Managed at source)	Managed/Treated (in TPD)					Plan to mitigate the gap between generation of wastes Vs collection, managed / treated and Remarks
		2011 Census	2021 Projected				Facilities	Managed / Treated	processed at source	Total	Gen-Man Gap= [(Gen-Man)/ Gen] x100	
1	Imphal MC*	2,65,573	3,50,050	158	110	16.8	100	90	15.8	106	33%	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • Waste to energy by June 2021
2	Lamshang NP	8,130	9813	3.43	3	0	0	3	0.43	3.43	0%	<ul style="list-style-type: none"> • Vigorous IEC campaign and implementation of stringent rules or bye-laws
3	Samurou MC	14818	18602	6.51	2.3	2.81	0	2	1.7	3.7	43%	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 presently collected after segregation of recyclable plastic waste is being transferred to Lamdeng SWM plant • New composting unit by June 2021 • More awareness campaign and increasing manpower
4	Thongkhong Laxmi MC	14,878	18,677	6.54	2.25	2.49	0	2.25	1.8	4.05	38%	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • More Awareness campaigns • capacity building of manpower • By acquiring a permanent sanitary landfill/SWM site (ULB has requested vide letter of even No. dated 18.05.2019 to allocate a suitable SWM site for the ULB but yet to be allocated till now)

No.	Name of ULB	Population		Solid Waste Generated (MTD)	Waste Collected (TPD)	Gap between Generated and (Collected + Managed at source)	Managed/Treated (in TPD)					Plan to mitigate the gap between generation of wastes Vs collection, managed / treated and Remarks
		2011 Census	2021 Projected				Facilities	Managed / Treated	processed at source	Total	Gen-Man Gap= [(Gen-Man)/ Gen] x100	
5	Sekmai NP	5,065	6,358	2.23	1.7	0.63	0	0.4	0.2	0.6	73%	<ul style="list-style-type: none"> D2D collection covered in all areas of six out of nine wards. D2D collection in the remaining three wards planned for coverage latest by 30th April 2021 Segregated wet waste composted centrally at Segregation shed, Parao, Sekmai Dry waste from household and public places disposed off at Lamdeng SWM Plant on daily basis.
6	Lilong IW NP	12,427	15,600	5.46	1.5	1.96	0	0	2	2	63%	<ul style="list-style-type: none"> Distribution of home composting bins, more vehicles and manpower by Dec 2021 Cluster basis facilities at Lamdeng SWM Plant
7	Lamlai MC	4,601	5,776	2.02	1	0.02	0	0.8	1	1.8	11%	<ul style="list-style-type: none"> 100% D2D by Dec. 2021 Treatment facilities at Lamdeng Waste to energy Plant (Cluster Approach)
8	Thoubal MC	45,947	57,678	20.2	9	7.19	2	0.5	4	4.5	78%	<ul style="list-style-type: none"> 100% D2D by August 2021 Hiring of Staffs for segregation and composting
9	Yairipok MC	9,569	12,012	4.2	2	1.4	0	0	0.9	0.9	79%	<ul style="list-style-type: none"> 65% D2D at present and 100% D2D by Dec 2021 Segregation shed & composting unit by Dec 2021 Treatment Facility at Thoubal
10	Sikhong Sekmai MC	7,390	9,277	3.25	0.8	0.17	0	0.8	2.28	3.08	5%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Treatment facilities at Thoubal cluster
11	Lilong TBL	24,900	31,258	10.9	1.5	6.24	0	0	3.2	3.2	71%	<ul style="list-style-type: none"> 100% D2D by Dec. 2021 Composting Unit by Dec, 2021 Treatment facilities at Thoubal cluster
12	Heirok NP	2,974	3,733	1.31	0.6	0.4	0	0.2	0.3	0.5	62%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 More composting unit by Dec 2021

No.	Name of ULB	Population		Solid Waste Generated (MTD)	Waste Collected (TPD)	Gap between Generated and Collected + Managed at source	Managed/Treated (in TPD)					Plan to mitigate the gap between generation of wastes Vs collection, managed / treated and Remarks
		2011 Census	2021 Projected				Facilities	Managed / Treated	processed at source	Total	Gen-Man Gap= [(Gen-Man)/ Gen] x100	
13	Wangjing Laming MC	8,055	10,112	3.54	1.5	1.34	0	0.5	0.7	1.2	66%	<ul style="list-style-type: none"> 100% D2D and more composting unit by Dec 2021
14	Andro NP	8,744	10,977	3.84	1.2	0.64	0	0.5	2	2.5	35%	<ul style="list-style-type: none"> 100% D2D and transport of remaining segregated waste to Thoubal Cluster by Dec. 2021 Engagement of Recyclers.
15	Kakching MC	32,138	40,344	14.1	6.21	6.1	6	2	1.8	3.8	73%	<ul style="list-style-type: none"> 100% D2D by Sept. 2021 Segregation machine at management unit
16	Kakching Khunou MC	11,379	14,284	5	1.6	0.9	0	0.5	2.5	3	40%	<ul style="list-style-type: none"> 100% D2D and transport of remaining segregated waste to kakching cluster by Dec.2021 Engagement of recyclers
17	Sugnu MC	5,132	6,442	2.25	1	0.25	0	0.5	1	1.5	33%	<ul style="list-style-type: none"> 100% D2D and trasport of remaining segregated wasted to kakching cluster by Dec.2021. Engagement of recyclers
18	Mayang Imphal MC	24,239	34,428	10.7	4	5.65	0	0	1	1	91%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 composting plant targeted by Dec 2021 Segregation shed to be operational by July 2021.
19	Wangoi MC	9,106	11,431	4	1.1	1.4	0	0	1.5	1.5	63%	<ul style="list-style-type: none">
20	Kumbi MC	9,546	11,983	4.19	1.5	0.2	0	1.5	2.5	4	5%	<ul style="list-style-type: none"> Now 70% D2D and 100% D2D by June 2021 Land Available 0.27 Acre, Composting Plant by Dec 2021
21	Kwakta MC	8,579	10,769	3.77	0.75	1.67	0	0.75	1.35	2.1	44%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Composting unit, by Dec 2021
22	Moirang MC	19,893	24,972	8.74	6.54	0	0	0	1.2	1.2	86%	<ul style="list-style-type: none"> Composting plant by Dec 2021
23	Ningthoukhong MC	13,078	16,417	5.21	3	2.8	0	0	1	1	81%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Composting unit, by June 2021 Manual Segregation initiated at the segregation shed
24	Bishnupur MC	12,167	15,274	5.35	3	1.5	0	0	0.8	0.8	85%	<ul style="list-style-type: none"> 80% D2D (present) and 100% D2D by Dec 2021 Exist 10 TPD capacity of landfill

No.	Name of ULB	Population		Solid Waste Generated (MTD)	Waste Collected (TPD)	Gap between Generated and Collected + Managed at source	Managed/Treated (in TPD)					Plan to mitigate the gap between generation of wastes Vs collection, managed / treated and Remarks
		2011 Census	2021 Projected				Facilities	Managed / Treated	processed at source	Total	Gen-Man Gap= [(Gen-Man)/ Gen] x100	
25	Oinam MC	7,161	8,989	3.15	2	0.8	0	0	0.3	0.3	90%	<ul style="list-style-type: none"> Composting plant by August 2021 100% D2D by Dec 2021
26	Nambol MC	22,512	28,260	9.89	4	4.9	0	0	1	1	90%	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Manual Segregation initiated at the segregation shed.
27	Jiribam MC*	7,343	9,218	3.23	2.73	0	4	2.73	0.5	3.2	1%	<ul style="list-style-type: none"> 100% D2D collection covered and 100% managed
Total		6,15,344	7,92,734	311	176	68	112	108	52.8	162		
PC to the generated wastes					57%	22%	36%	35%	17%	52%	48%	

Note : *1. Taking r=2.3 as annual Population growth rate [Ref : MoUD, GoI]

*2. Waste generated is estimated including floating population @10%

TABLE 2 : SOLID WASTES GENERATION, COLLECTION AND MANAGEMENT – WARDWISE OF ULBs IN MANIPUR, APRIL 2021

Sl. No.	Name of ULB	Total Wards	Door to Door (D2D) collection		Segregated at source		Land Available in Acre	Type of Processing unit	Plan to mitigate the gap generation and Management
			No. of Wards	in %	No. of Wards	in %			
1	Imphal MC	27	27	100%	27	15%		Waste to Energy and Composting	<ul style="list-style-type: none"> 100% by Dec 2021
2	Lamshang NP	9	9	100%	9	90%	0	Home composting and waste to power and waste to manure at Lamdeng SWM Plant	<ul style="list-style-type: none"> Vigorous IEC campaign and implementation of stringent rules or bye-laws
3	Samurou MC	11	9	82%	7	21%	0	Segregation cum transfer station	<ul style="list-style-type: none"> 100% D2D by Dec 2021 presently collected after segregation of recyclable plastic waste is being transferred to lamdeng SWM plant New composting unit by June 2021 More awareness campaign and increasing manpower
4	Thongkhong Laxmi MC	11	11	100%	8	20%	0	Segregation cum transfer shed/station	<ul style="list-style-type: none"> 100% D2D by Dec 2021 More Awareness campaign capacity building of manpower By acquiring a permanent sanitary landfill/SWM site (ULB has requested vide letter of even No. dated 18.05.2019 to allocate a suitable SWM site for the ULB but yet to be allocated till now)
5	Sekmai NP	9	6	67%	3	20%	0	. Home Composting	<ul style="list-style-type: none"> 100% D2D by Dec 2021 Segregation shed and composting unit by Dec 2021 Capacity building of manpower awareness drive
6	Lilong IW NP	9	9	100%	7	80%	0	Composting	<ul style="list-style-type: none"> More composting unit by Dec 2021 Plastic shredders machine and engagement of recyclers by Dec 2021
7	Lamlai MC	9	9	100%	9	50%	0	Composting (Home + Centralised)	<ul style="list-style-type: none">
8	Thoubal MC	18	18	100%	18	20%	6.7	Segregation and composting	<ul style="list-style-type: none"> Collection to be done through NGOs AND SHGs

Sl. No.	Name of ULB	Total Wards	Door to Door (D2D) collection		Segregated at source		Land Available in Acre	Type of Processing unit	Plan to mitigate the gap generation and Management
			No. of Wards	in %	No. of Wards	in %			
9	Yairipok MC	9	6	67%	3	20%	0	Home composting	<ul style="list-style-type: none"> • 100% D2D by Dec 2021 • Segregation shed & composting unit by Dec 2021 • Capacity building of manpower • Awareness Drive
10	Sikhong Sekmai MC	9	9	100%	9	93.1%	0.62	Home Composting, Segregated plastic waste sent to recycler	<ul style="list-style-type: none"> • Composting Unit by Dec. 2021. • Treatment facilities at Thoubal Cluster
11	Lilong TBL	9	4	44%	5	40%	0	Composting	<ul style="list-style-type: none"> • More composting Unit by Dec. 2021. • Plastic Shreders machine, • Engagement of recyclers by dec. 2021
12	Heirok NP	9	9	100%	0	0	0	Composting	<ul style="list-style-type: none"> • More composting unit by December 2021
13	Wangjing Lamding MC	9	9	100%	9	20%	0	Composting	<ul style="list-style-type: none"> • More composting unit by Dec 2021
14	Andro NP	12	12	100%	12	70%	0	Composting, Segregation and Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Thoubal Cluster by Dec. 2021. • Engagement of Recyclers.
15	Kakching MC	12	12	100%	12	85%	2.5	Composting & manual segregation of waste	<ul style="list-style-type: none"> • IEC Activities • Increasing manpower, vehicles/ machinery • Involvement of SHGs in D2D collection
16	Kakching Khunou MC	9	9	100%	9	70%	0	Composting segregation & Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Kakching cluster by Dec.2021. • Engagement of recyclers
17	Sugnu MC	9	9	100%	9	70%	0	Composting, Segregation & Recycling	<ul style="list-style-type: none"> • 100% D2D and transport of remaining segregated waste to Kakching cluster by Dec.2021 • Engagement of recyclers
18	Mayang Imphal MC	13	13	100%	7	40%	1.25	Segregated plastic waste sent to recycler and Home Composting	<ul style="list-style-type: none"> • Segregation shed & composting unit by Dec 2021 • IEC Activities • Increasing vehicles/ Machineries • Involvement of SHGs in D2D collection
19	Wangoi MC	9	5	56%	5	50%	0	Composting	<ul style="list-style-type: none"> • More composting unit by December 2021

Sl. No.	Name of ULB	Total Wards	Door to Door (D2D) collection		Segregated at source		Land Available in Acre	Type of Processing unit	Plan to mitigate the gap generation and Management
			No. of Wards	in %	No. of Wards	in %			
20	Kumbi MC	9	7	78%	7	35%	0.27	Composting	•
21	Kwakta MC	9	9	100%	4	15%	0.625	Composting	• Composting unit by Dec 2021
22	Moirang MC	12	12	100%	0	0%	0	Composting	• Requested DC to allot land. Regorous IEC campaign to be held for source segregation
23	Ningthoukhong MC	14	10	71%	0	0%	3.5	Composting pit targeted by june 2021 . Manual Segregation initiated at the segregation shed. & sent back for re-cycling	• Capacity building of sanitary Workers • Increasing manpower, vehicles and machinery • Awareness drive • Involvement of SHGs and active participation of CSOs in SWM
24	Bishnupur MC	12	12	100%	12	25%	5	Sanitary Landfill	• Composting plant at 2.5 Acre
25	Oinam MC	9	9	100%	1	5%	0	Composting	• 100% by Dec 2021
26	Nambol MC	18	11	61%	0	0%	3.5	Composting pit delayed due to ongoing Covid 2nd waave. Manual Segregation initiated at the segregation shed	• Capacity building of sanitary workers, increasing manpower, vehicles and machineries, awareness drive, involvement of SHGs and active participation of CSOs in SWM
27	Jiribam MC	10	10	100%	10	100%	5	Composting, Send back for recycling	• Nil
Total		305	275		199		25.845		
In Percentage				90%		65%			

Table 3 : SOLID WASTES PROCESSING AND MANAGEMENT – WARDWISE OF ULBs IN MANIPUR, APRIL 2021

Sl No.	Name of ULB or Name of Processing Unit	Processing unit Under Construction		Uncontrolled Dumpsite		Sanitary Landfill/ Controlled Dumpsite		Area of Legacy waste within 1 km buffer of the river	Drains falling into river having floating racks/screen
		Capacity TPD	Technology	No.	Area (Acre)	No.	Area (Acre)		
1	Imphal MC and Lamdeng SWM Plant	100	Waste to Energy & Composting	Nil	Nil	Nil	Nil	Nil	Nil
2	Lamshang NP	NA	Composting and manual segregation of waste. Waste to power and waste to manure at lamdeng SWM plant	Nil	Nil	Nil	Nil	Nil	Nil
3	Samurou MC	0.5	Segregation cum transfer station	Nil	Nil	Nil	Nil	Nil	Nil
4	Thongkhong Laxmi MC	0.5	Segregation cum transfer station	Nil	Nil	Nil	Nil	Nil	Nil
5	Sekmai NP	5.1	Segregation and composting	0	Nil	0	Nil	Nil	Nil
6	Lilong IW NP	0.5	Manual segregation, composting	Nil	Nil	Nil	Nil	Nil	Nil
7	Lamlai MC	0.15	Composting and manual segregation of waste at the Lamlai Municipal Council Office (temporary plant)	Nil	Nil	Nil	Nil	Nil	Nil
8	Thoubal MC	2	Manual	1	2	Nil	Nil	Nil	Nil
9	Yairipok MC	3	Composting and manual segregation of waste	Nil	Nil	Nil	Nil	Nil	Nil
10	Sikhong Sekmai MC	0.8	Composting pit/ aerobic (2) and segregation shed/ manual(4)	Nil	Nil	Nil	Nil	Nil	Nil
11	Lilong TBL	0.5	Composting and manual segregation of waste	Nil	Nil	Nil	Nil	Nil	Nil
12	Heirok NP	0.05	composting pit	Nil	Nil	Nil	Nil	Nil	Nil
13	Wangjing Lamding MC	0.05	composting pit	Nil	Nil	Nil	Nil	Nil	Nil
14	Andro NP	0.07	Manual segregation & composting	1	0.96	Nil	Nil	Nil	Nil
15	Kakching MC	6	2-Manual Segregation, 4-Aerobic	2	4.5	Nil	Nil	Nil	Nil
16	Kakching Khunou MC	0.07	Manual segregation, composting	1	2	Nil	Nil	Nil	Nil
17	Sugnu MC	0.05	Manual segregation, composting	1	1	Nil	Nil	Nil	Nil
18	Mayang Imphal MC	4	Manual segregation, composting	Nil	Nil	Nil	Nil	Nil	Nil
19	Wangoi MC	0	Nil	Nil	Nil	Nil	Nil	Nil	Nil
20	Kumbi MC	2	composting pit	1	0.27	Nil	Nil	Nil	Nil

Sl No.	Name of ULB or Name of Processing Unit	Processing unit Under Construction		Uncontrolled Dumpsite		Sanitary Landfill/ Controlled Dumpsite		Area of Legacy waste within 1 km buffer of the river	Drains falling into river having floating racks/screen
		Capacity TPD	Technology	No.	Area (Acre)	No.	Area (Acre)		
21	Kwakta MC	0.25	composting pit	Nil	Nil	Nil	Nil	Nil	Nil
22	Moirang MC	NA	Segregation, Composting and recovery of reusable wastes	1	2.5	Nil	Nil	Nil	Nil
23	Ningthoukhong MC	1	Aerobic, Vermi composting and Segregation	1	3	Nil	Nil	Nil	Nil
24	Bishnupur MC	5	Anaerobic	1	2.5	1	2.5	Nil	Nil
25	Oinam MC	1	composting	1	0.4	Nil	Nil	Nil	Nil
26	Nambol MC	0.1	Manual Segregation, Aerobic and vermi-composting	1	3.21	Nil	Nil	Nil	Nil
27	Jiribam MC*	4	Manual segregation, composting	Nil	Nil	Nil	Nil	Nil	Nil
	Total	136.69		12	22.34				

STATUS OF WATER QUALITY OF IMPHAL RIVER, IRIL RIVER, MANIPUR RIVER, THOUBAL RIVER, WANGJING RIVER, KHUGA RIVER, KHUJAIROK RIVER, LOKCHAO RIVER AND NAMBUL RIVER FOR THE MONTH OF APRIL, 2021

1. Status of Water Quality of Imphal River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Koirengei	7.1	7.3	3.1	8.5	45
Minutrhong	6.6	7.2	3.3	11.2	80
Mahabali	6.5	7.4	3.3	9.2	85

2. Status of Water Quality of Iril River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Kangla Siphai	7.1	7.4	3.0	13.8	45
Porompat	7.4	7.4	3.0	8.8	50
Lilong	6.9	7.3	3.3	10.9	90

3. Status of Water Quality of Manipur River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Yairipok	7.0	7.1	3.3	13.4	85
Sekmaijing	7.2	7.4	3.4	11.0	95
Ithai	7.1	7.2	3.2	13.4	70

4. Status of Water Quality of Thoubal River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Litan	7.0	7.4	3.2	13.5	40

5. Status of Water Quality of Wangjing River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Heirok	7.1	7.0	3.4	15.6	65
Wangjing	6.9	7.3	3.1	13.0	70

6. Status of Water Quality of Khuga River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Khuga River Churachandpur Bazar	7.1	7.2	3.2	13.1	85
Khuga Dam	7.1	7.4	3.1	9.3	35

7. Status of Water Quality of Khujairok River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Khujairok	6.9	7.0	3.4	15.3	215

8. Status of (Bishnupur) Water Quality of Lokchao River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Near Bishnupur Bazar at Bishnupur Lokchao Bridge	6.8	7.2	3.1	10.3	55

9. Status of Water Quality of Nambul River

Location	DO	pH	BOD Mg/L	COD Mg/L	Fical Coliform (MPN/100ml)
Samushang	5.0	6.5	4.9	17.1	195
Naoremthong	5.5	6.8	4.5	14.9	180
Hump Bridge	3.5	6.5	5.5	17.6	295
Heirangoithong	3.5	6.8	5.3	20.1	285
Singda	7.8	7.6	2.9	10.0	30

Location	O&G	pH	TSS Mg/L	BOD Mg/L	COD Mg/L
Langol	8.0	6.5	74	26	63

Action Plan of the model river in Manipur

Action	Target Action	Priority – II : Nambul River		
		Target Quantity	Time Line	Status
Action 1	Solid Waste Management			
1.1	Identification of garbage vulnerable point	12 Municipal Wards	Oct 2019	Completed
1.2	Door to Door Collection, identify & register of missed out house hold, punitive action against litterer along the River	12 Municipal Wards	Oct 2019	Completed
1.3	Formation of Tasks Force for proper implementation of waste management		Oct 2019	Constituted
1.4	Providing of household waste bins	19,863 bins	Oct 2020	60% completed
1.5	High rise fencing of grilling and netting at vulnerable zones of both the river banks to protect throwing of solid wastes into the river	5 km	Apr 2021	Covered 1 km
1.6	Renovation of existing crematoria along the river stretch	56 No.	Apr 2021	Completed 10 units
1.7	Installation of secondary waste collection bins / community bins / dumper placer containers / transfer bins / littering bins at suitable places	37 Nos.	Oct 2020	Completed 10 Nos.
1.8	Construction of Public toilets at vulnerable points	35 Nos. by IMC 20 Nos. under NRCD	Apr 2021	2 No. Completed
1.9	IEC / Public Awareness Activities	14 No. (one each in every ward)	Every month	Conducted regularly
Action 2	Channelization, treatment, utilization and disposal of treated domestic sewage			
2.1	Identification of location and estimation of liquid waste generation at Imphal town		Oct 2019	Completed
2.2	Interception and diversion of the urban drains / outfalls to the Nambul River by laying pipes of 14,545 meters at both the banks of River at 12 Municipal Wards viz. 6, 7, 8, 9, 11, 12, 13, 14,15, 16, 24 and 27		Apr 2022	
2.3	Treatment option and capacity : Installation of 2 (two) Sewage Treatment Plants (STPs) of 16 MLD and 1 MLD		Apr 2022	
2.4	Commissioning of the Imphal Sewerage Project Phase-I of 27 MLD		Dec 2019	Commissioned
2.5	Commissioning of the Imphal Sewerage Project Phase-II of 41 MLD		Apr 2022	
Action 3	Protection of catchment area			
3.1	In-situ augmentation of medicinal plants and economic plantation at catchment			Completed
Action 4	Protection and prevention of Flood Plain Zone			
4.1	Protection and Improvement of River Bunds. 1,500 m for Nambul River 16,860 m in Imphal River 2,670 m in Kongba River 2,403 m in Thoubal River 317 m in Wangjing River 11,711 m in Manipur River		Before 2021	

Action	Target Action	Priority – II : Nambul River		
		Target Quantity	Time Line	Status
4.2	Re-Sectioning of Rivers and Streams. 82,091 m in Imphal River. 15,480 m in Kongba River 89,100 m in Nambul and its tributaries. 1,900 m in Chakpi River		Before 2021	
4.3	CC/RCC Retaining Walls with and without piles to be provided at the most eroded and vulnerable river banks.		Before 2021	