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Presentation on Compliance Report by UT of Ladakh for Status of Solid Waste Management Rules 2016 in O.A. NO. 606/2018

06 April 2023

Presentation before Hon'ble National Green Tribunal

Union Territory of Ladakh



Urban Population: 47,208



Leh



Kargil

ULBs: 02



Districts: 02

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Municipal Solid Waste Management

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Overview of UT of Ladakh

No. of districts	2 nos. Leh and Kargil
Urban Centres	2 Municipal Committees : Leh & Kargil (Both have 13 wards each)
Urban population	47,208
Total Urban area(MC area)	11.3 sq km
Decadal growth rate (MC area)	27.46 %

Source: Census 2011

Regulatory Framework

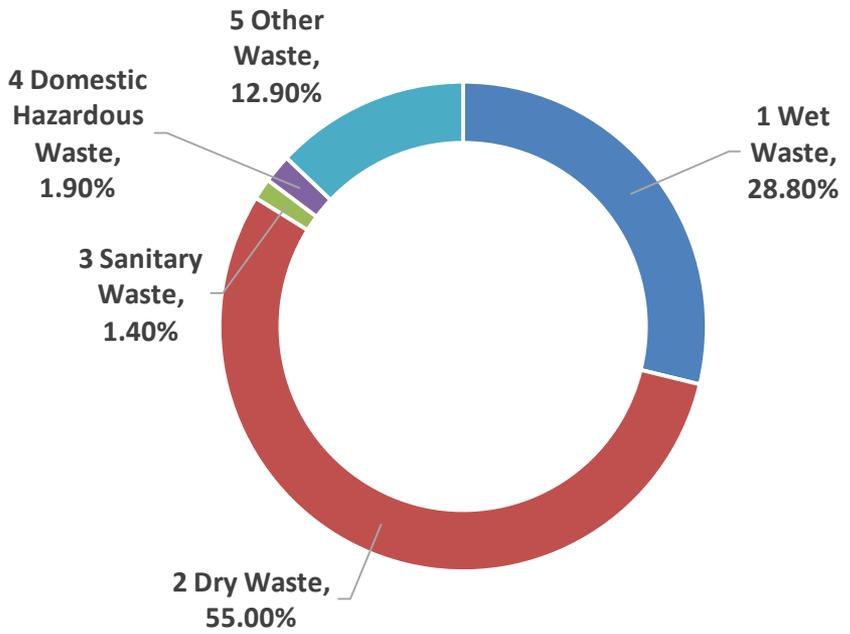
- Union Territory of Ladakh- established on 31st October, 2019, as per the Jammu and Kashmir Reorganisation Act, 2019.
- Subsequently, the Ladakh Pollution Control Committee (LPCC) was constituted on 25th March 2021
- Delegation of powers accorded by the Ministry of Environment, Forests & Climate Change (MOEFCC) and the Central Pollution Control Board (CPCB) for intermittent periods since March 2021 till date.

2 Waste Management Scenario in Ladakh

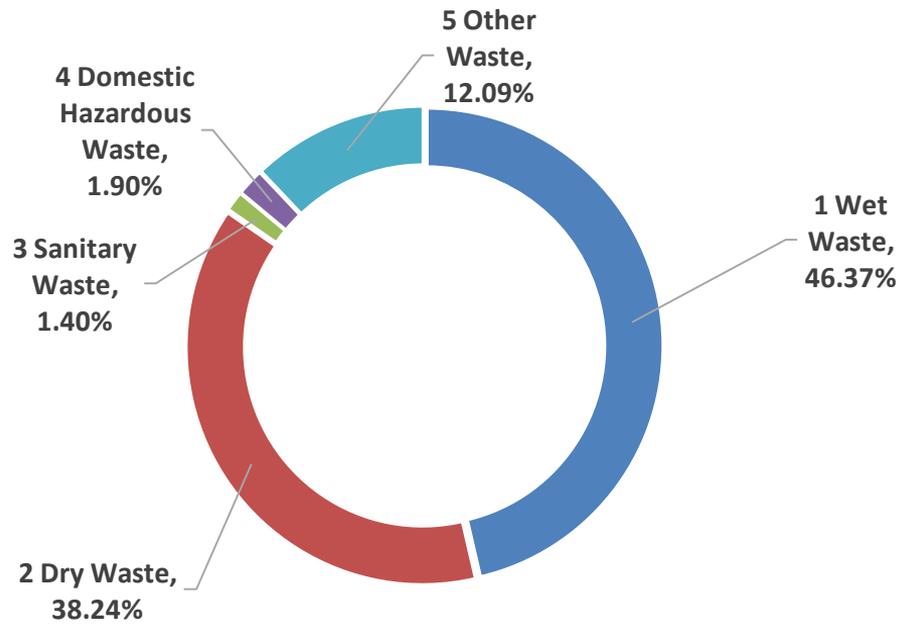
Urban Local Body	Leh	Kargil
Population as per 2011 census	30870	16338
Total number of wards	13	13
Total no. of Households(HHs)	7360	2446
Coverage of Door-to-Door Collection	100% (Covering total 7360 HHs and 586 Commercial & Institutions)	100% (Covering total 2446 HHs and 1531 Commercial & Institutions)
Total Waste Generated- 2022	6.18 TPD	4.56 TPD
Total Waste Collected (TPD)-2022	6.18 TPD	4.56 TPD
Total Waste Processed (TPD) 2022	6.18 TPD	Nil (Facility under construction, proposed to be completed by Aug-23)
Status of Waste Processing Facility	Operational	Facility is under construction, proposed to be completed by Aug-23

2. Waste Management Scenario in Ladakh...contd

Waste Characterization Leh

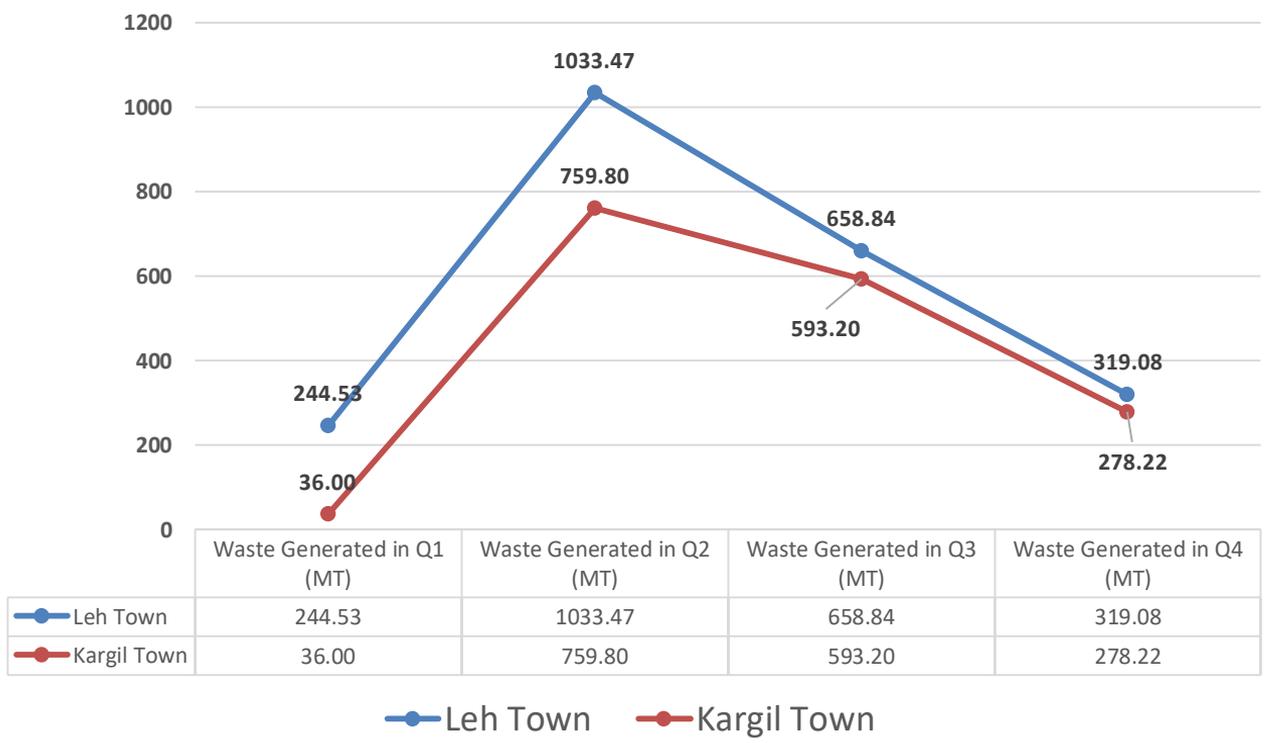


Waste Characterization Kargil



3. Waste Generation in Ladakh from Jan to Dec'22

Waste Generation Ladakh from Q1- Q4



- The amount of waste generated in the first quarter (Jan-March) and fourth quarter(Oct-Dec) are less due to the harsh climate condition and heavy snow fall.
- All construction related and other activities stops at this period and most of the population migrates to other states.
- The amount of waste generated in the second quarter (April-June) is high due to the high footfall of tourists and migrant labors in the cities.

4. Waste Management Scenario in Leh & Kargil from Jan to Dec'22

Leh MC

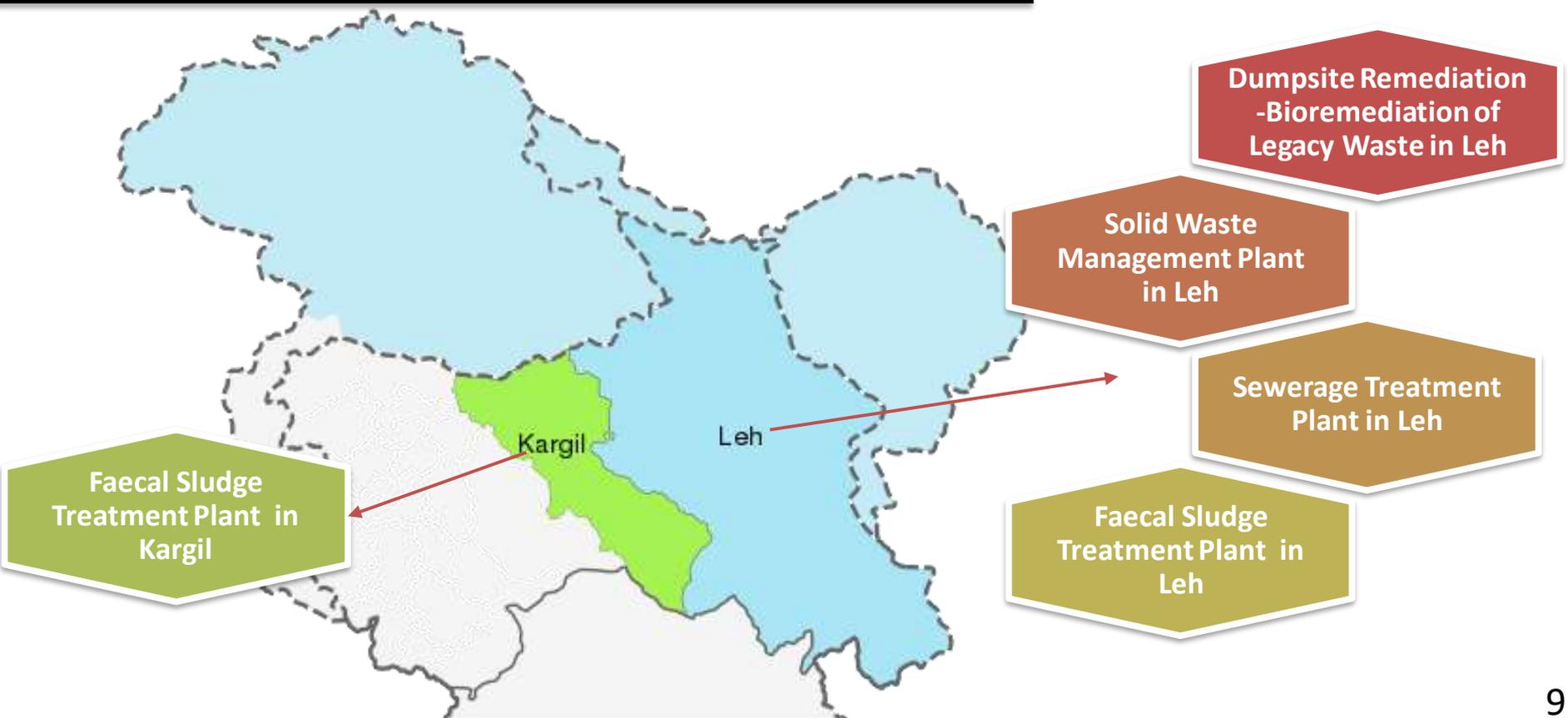
Type of Waste	Total Waste Generated (MT)	Total Waste Collected (MT)	Total Waste Processed (MT)	Inert transferred for Landfill (MT)	Material Sold (Quantity in MT)						Revenue Generated through sale of Material
					Cement bag	LDP & MLP	Cardboard	Plastic	Pet Bottles & HDP	Tin	
Dry Waste	1464.05	1244.44	1244.44	219.60	13.05	3.68	56.08	2.15	7.60	12.92	Rs. 12.00 lakhs
Wet Waste	791.86	791.86	673.08	118.78							

Kargil MC

Type of Waste	Total Waste Generated (MT)	Total Waste Collected (MT)	Total Waste Processed (MT)	Inert transferred for Landfill (MT)	Material Sold (Quantity in MT)						Revenue Generated through sale of Material
					-	-	-	-	-	-	
Dry Waste	1223.25	1223.25	Nil	Nil	Nil						Nil
Wet Waste	443.97	443.97	Nil	Nil							

- The City Solid Waste Management Plant for Kargil and Sanitary Landfill Site is under Construction and is estimated to be completed by Aug -2023

5. Existing Solid Waste Management Infrastructure Facilities in the cities



Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

1. Solid Waste Management Plant Leh MC



Date of establishment	August,2020
Location and ward no.	Skampari area, ward no: 12
Present Status	Plant is operational
Total area	3.5 Acres
No. of staff	One supervisor and 13 workers
Dry Waste Treatment Capacity	20 TPD
Wet Waste Treatment Capacity	10 TPD
Design life of Landfill Site	20 yrs.
Design capacity of Landfill Site	1,11,720 cum
Technology Utilized for Treatment and Processing	<ul style="list-style-type: none"> • MRF and RDF for Dry Waste • In vessel Composting for Wet Waste
No. of machines	<ul style="list-style-type: none"> • 6 nos.
Type of machines	<ul style="list-style-type: none"> • 1 RDF machine • 2 Conveyor belts • 1 trommel • 1 In-vessel composting machine • 1 weighing bridge

Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

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2. Sewerage Treatment Plant Leh



Date of establishment	August,2021
Location and ward no.	Agling, near ward no.8
Present Status	Operational
Total area	26,500 Sq.M
No. of staff	One Supervisor and nine workers
Treatment Capacity of the Plant	3 MLD
Type of Treatment	Primary and Secondary
Sludge Generation	3000 Kg/ month
Technology Used	Sequential Batch Reactor

Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

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3. Faecal Sludge Treatment Plant Leh



Date of establishment	July 2017
Date of commencement of operation	August 2021
Location and ward no.	Ward no:10
Present Status	Operational
Total area	5700 sqm
No. of staff	Two Supervisors, Two operators and eight drivers
Treatment Capacity of the Plant	12 KLD
Sludge Loading Rate	100 Kg TS/ cum
No. of Desludging vehicles	8 Nos
Desludging Capacity of Vehicles	40 KLD
Technology Used	Up flow Anaerobic Sludge Blanket Reactor

Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

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4. Dumpsite remediation ,Leh- Bioremediation of Legacy Waste



Date of establishment	February,2022
Date of commencement of operation	April 2022
Location and ward no.	<ul style="list-style-type: none"> • Bombgarh near Diskit Tsal • It is situated between the mountains.
Present Status	Operational. The site has been used for dumping of garbage since last 20 years
No. of staff	One Plant In Charge, Four Supervisors and 25 workers
Total Waste Quantum Identified at the Site	1,37,000 cu. m. (58,910 tonnes)
Total Area under Legacy Waste	82,000 sq. m. (20.26 acres)
Types of machineries	3 trommels 3 air density separators 6 conveyors 4 earth moving equipment 6 tipper trucks

Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

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5. Project Progress for Bioremediation of Legacy Waste, Leh



Date of award	February,2022
Duration	18 months
Commencement of work	April 2022.
Present Status	Work was stopped during the wintertime, and it will be commenced from April 2023 onwards
Total area reclaimed	As on March 2023, Till date 7 areas have been reclaimed
Land reclamation completed	17,433 sq.m. (approx. 20% of land.)
Volume of Waste Remediated	25,500 cu. m. (10,540 tonnes)
Total Project Cost	11.56 Cr has already been allocated for project implementation

Existing Solid Waste Management Infrastructure Facilities in the cities- Contd...

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6. Faecal Sludge Treatment Plant Kargil



Date/Year of establishment	2017
Location and ward no.	Kurbathang, Near ward no.13
Present Status	Operational
Total area	860 Sq.M
No. of staff	One supervisor and four workers
Treatment Capacity of the Plant	10 KLD
Technology Used	Moving Bed Biofilm Reactor
No. of Desludging vehicles	4 Nos.
Desludging Capacity of Vehicles	20 KLD

6. Proposed Infrastructure Projects for Solid and Liquid Waste Mgmt

Development of Sewerage Network and STP for Left out Area of Leh Town



Landscape Master Plan and Treated Wastewater Reuse Strategy, Leh



6. Proposed Infrastructure Projects for Solid and Liquid Waste Mgmt

Development of
Sewerage Network and
STP for Kargil Town

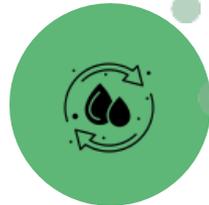


K a r g i l

Legacy Waste assessment
and preparation of DPR for
Legacy Waste Remediation
of Kargil Town



Construction of City
Solid Waste
Management Plant and
Sanitary Landfill for
Kargil Town



Proposed Infrastructure Projects - 171 - Continued...

2. Development of Sewerage Network and STP for Kargil Town



Project components	<ul style="list-style-type: none">• Underground Drainage system• Sewerage Treatment Plant• Pumping Station
Total Proposed Network	55 Km
Proposed Capacity of STP	9.9 MLD
Technology Proposed for Treatment	Moving Bed Biofilm Reactor
Project Cost (estimated)	278.61 Cr
Estimated Time for Project Completion	4 years
Status	<i>Final DPR has been prepared, awaiting Technical Sanction</i>
Budget Allocation	<i>278.61 Cr will be allocated this year by UT for Project implementation</i>

Proposed Infrastructure Projects - 172 ~~Continued...~~

3. Solid Waste Management Plant Kargil



Area of the Plant	2 Acres
Dry Waste Treatment Capacity	15 TPD
Wet Waste Treatment Capacity	10 TPD
Design life of Landfill Site	5 yrs
Design capacity of Landfill Site	24,000 cum
Technology Utilized for Treatment and Processing	<ul style="list-style-type: none">• MRF and RDF for Dry Waste• In vessel Composting for Wet Waste
Status	<i>Plant is Under Construction</i>
Project Cost	<i>14.32 Cr is already allocated for project implementation</i>

Proposed Infrastructure Projects - 173 - continued...

4. Legacy Waste assessment and preparation of DPR for Legacy Waste Remediation of Kargil Town



Salient Features of the Project:	<ol style="list-style-type: none"> Identification and establishment of area under dumpsite Conducting Waste Characterization survey of Dumpsite Identification of pollution caused by the existing dumpsite Preparation of DPR and EMP for Dumpsite remediation Providing transaction advisory services for onboarding of Implementing agency for dumpsite remediation work
Timeline	28 weeks (Preparation of DPR and onboarding implementing agency)
Status	<i>DPR is under preparation</i>
Budget Allocation	<i>UT of Ladakh has adequate funds for Project Implementation</i>

Proposed Infrastructure Projects - 174 continued...

5. Landscape Master Plan and Treated WasteWater Reuse Strategy, Leh



Project components	<ul style="list-style-type: none"> Part I. Landscape Master Plan Part II. Treated Wastewater Reuse Strategy <p>Activities</p> <ul style="list-style-type: none"> Site assessment and suitability analysis Site surveys and investigations DPR preparation & 3D Walkthrough Bid process management
Work progress	
Status	<ul style="list-style-type: none"> Final DPR and detailed designs are prepared Tender documents are under preparation
Estimated Project Cost	<ul style="list-style-type: none"> 44.67 Cr has already been allocated for project implementation

7. Policy Level Interventions

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Policies on Waste Management

1. SWM Policy, Strategy & Action Plan notified by H&UDD notified on 20.12.2022 as per Rule 11(1) of SWM Rules 2016
2. PWM Policy, Strategy & Action Plan notified by H&UDD notified on 20.12.2022 as per Rule 12(2) of Plastic Waste Management Rules 2016
3. C&DWM Policy, Strategy & Action Plan notified by H&UDD notified on 20.12.2022 as per Rule 9 of C&D Waste Management Rules 2016

Institutional structures established/reports submitted	Order No. and Date
Special Task Force about the SWM Rules, 2016	DCL13 (SWM) LC/ 2019 (999), Dt:14-12-2019
UT Level Apex Committee (ULAC) / Environmental Monitoring Cell	129-LA(GAD) of 2022 Dt:17-05-2022
State/UT Level Advisory Body	As per the Rule 23(1) of the Solid Waste Management Rules,2016, vide No:35-LA(GAD) of 2022, Dt:15-02-2022
Model Compliant Villages	Leh - Spituk, Chuchot Yokma and Khaltsi Kargil - Minjee, Hardass and Kaksar
Model Compliant Towns	Leh notified on 10.01.2023
Quarterly Reports submitted to CPCB	1 st QR - (Jan-Mar 2022) – 20.06.2022 2 nd QR - (Apr-Jun 2022) – 21.12.2022 3 rd QR – (Jul-Sep 2022) – 21.12.2022 4 th QR – (Oct-Dec 2022) – 10.01.2023
Annual Report for the year 2021-22	LPCC/UTL/Annual Report/2021-22-MSW/244-47, Dt: 29-8-2022