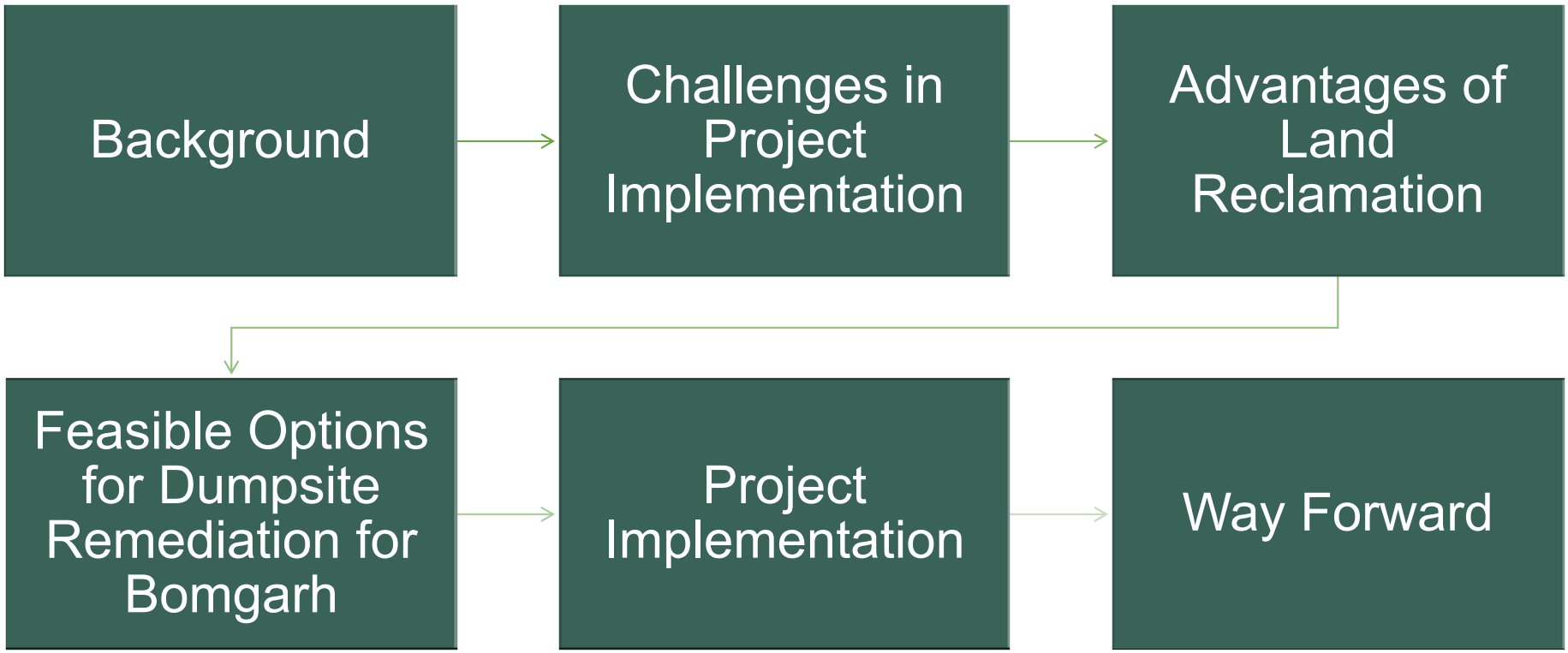
Legacy Waste Management & Dumpsite Remediation

Leh, UT of Ladakh

Agenda


Background
Challenges in Project Implementation
Advantages of Land Reclamation
Feasible Options for Dumpsite Remediation for Bomgarh
Project Implementation
Way Forward

Bombgarh – Site

Site Coordinates:
34°08'46.9"N 77°36'14.6"E

Distance from NH1 :
1.2 km

Site profile:

Bombgarh is located near Diskit Tsal between the mountains. The site has been used for dumping of garbage since last 20 years. The site is spread across an area of **1,14,906 sq. m**. The dumpsite waste is resulting in indiscriminate pollution of the pristine environment around the site.

Background

- The Total Waste Quantum Identified at the Site is **1,37,000 cu. m. (58,910 tonnes)**
- Total Area under Legacy Waste – **82,000 sq. m. (20.26 acres)**

Challenges in Project Implementation

- Harsh Climatic Conditions and Limited Working months.
- Higher Service cost due to high transportation costs of machinery and human resource.
- Limited options for Technology adoption that are feasible for Extreme Weather Conditions
- Weak Institutional capacity and lack of experience in implementation of similar nature projects

Feasible Options for Dumpsite Remediation

Shifting the Waste to Sanitary Landfill

- Would require identification of new land for construction of New landfill site since the existing landfill site is not adequate for the present quantum of Legacy Waste.
- This would have been a time-consuming process given the nature of approvals needed and would have resulted in the losing of Land under the SLF permanently.

Area Requirement – 32400 sq. m.

Financial Implication – 19.44 cr

Closure of the Dumpsite

- Scientific capping of consolidated waste for prevention against littering of waste due to high winds.
- Minimizing leachate production by controlling ingress of rain and surface water into the underlying waste.
- Restoring the closed area to its ultimate land use.

Area Requirement – 38025 sq. m.

Financial Implication – 13.45 cr

Bioremediation and Biomining

- Bioremediation of site through Biomining process segregating the waste into recyclables and combustible consumables and disposing the inert waste into existing landfill site
- Disposal of residual/ non recyclable waste through Plasma Pyrolysis Technology

Area Requirement – NIL

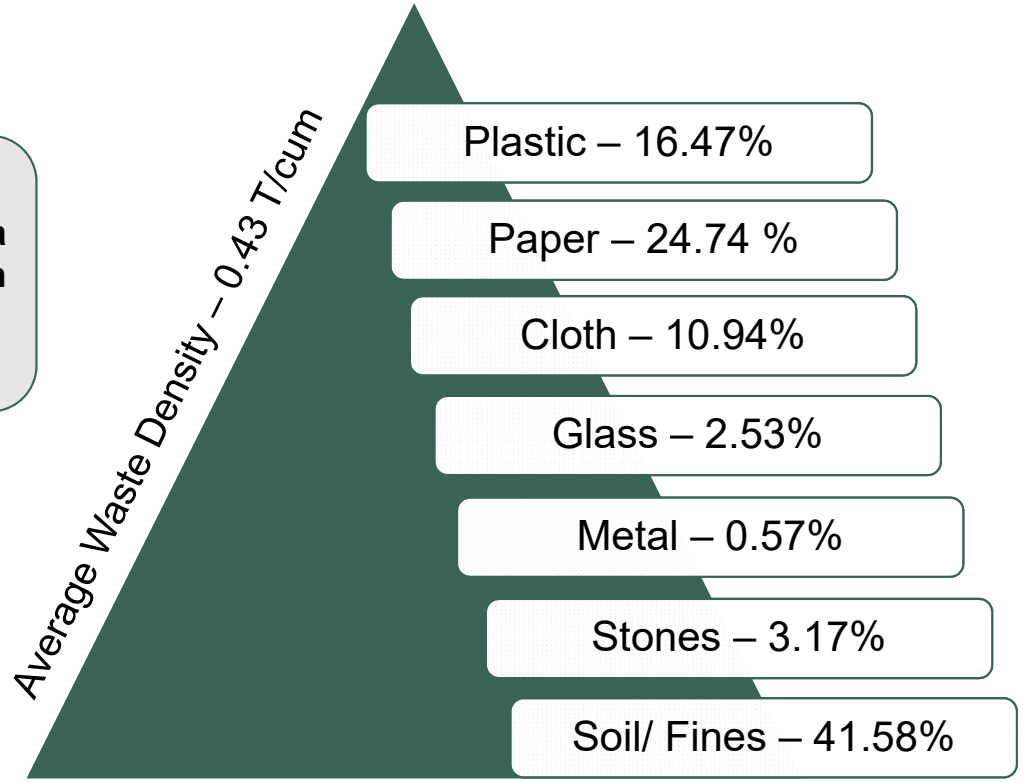
Financial Implication – 11.56 cr

Advantages of Land Reclamation

- •Minimizing the requirement of new land and cost of acquisition of land for disposal of waste.
- Dumpsite reclamation results in recovery and redevelopment of the land for other potential projects
- Prospect of revenue generation from the sale of recyclable material such as ferrous metals, plastic and soil and production of RDF from combustible waste.
- Reclaimed soil upon testing can be used as cover material in landfill cells, thus avoiding the cost of importing fertile cover soil.
- Dumpsite reclamation avoids or reduces costs of dumpsite closure and post closure care and monitoring.

Project Implementation

The Dumpsite was divided into multiple zones and a Waste Characterization survey was conducted which yielded the following results



Project Implementation

Based on the Waste Characterization Report the Following machinery was Deployed on the site to commence the work of Dumpsite Remediation

Machinery	Advantages	Numbers
Tractor Tiller	Easily available and effective for Bioming Projects	2 Nos.
Earth Movers	For Effectively moving high Quantity of Waste	4 Nos.
Screening and Conveyors	For segregating waste with multiple layers of conveyors and vibrating screens	7 Nos.
Tipper Trucks	For transportation of waste from dump to screening trommels and transporting the separated fractions to its destination for usage	5 Nos.
Shredders	for shredding of remediated plastic waste for the purpose of RDF and Road Construction	2 Nos.

Project Implementation

Project Progress

The Project was awarded in Feb 2022

The Timeline for the project is 18 months

Work Commenced on Site from April 2022 (due to delayed opening of passes which affected mobilization of Machinery}

The Project site is divided into 47 areas

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)

Disposal of Bio-mined wastes

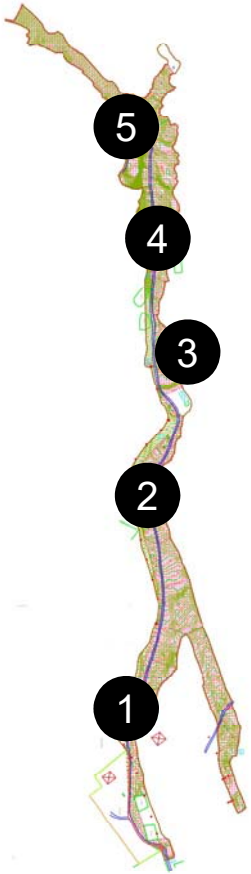
Fractions	Process	Quantity
Recyclables Fractions	Being Sold to **authorized Recyclers**	Approx. 1800 Tonnes
Consumable Fractions	Being shredded and bailed for **production of RDF** and sold to Jammu for **use in Cement Factories and Kilns**	Approx. 860 Tonnes
Non-Recyclable/ Non recoverable Fractions	Disposed through **plasma Pyrolysis Technology** at the Site and Ash is being transferred to landfill site	Approx. 40 Tonnes
Inert Fractions	Disposed at **landfill site** after due segregation and screening	Approx. 140 Tonnes
Fractions used in landfill work	**Landfill works**	Approx. 7700 Tonnes

Site Photos

Site Photo Before Work Commencement at Area No. 22-27

Site Photo of Reclaimed Area No. 22-27

Site Photos



Way Forward

The Reclaimed Land shall be reused for implementation of the following Projects that will benefit the Administration of UT Ladakh both Economically and Environmentally

- Development of Solar cum Waste to Art Park
- Affordable Housing Project for Migrant Labour
- Commercial/ Office Complex
- Parking Facilities with Waiting Lounge for nearby Bus Terminal

Thank You