**AIM OF THE PROJECT**

"To help the city evade the upcoming waste epidemic and ensure employment generation through an efficient system of decentralised waste treatment."

**OBJECTIVES**

- To setup a replicable system of decentralised waste treatment that will reduce the burden on the existing centralised waste treatment system.
- To involve the informal sector (marginalised waste collectors and rag pickers) as major contributors in cities’ waste management.
- To ensure a justified income for the waste collectors that fulfills their basic necessities.

**CASE STUDY AREA**

- EDMC area supports about 23.5% of Delhi's population, is daily generating about 2132 MT of Municipal Solid Waste (MSW).
- EDMC has only one landfill site for disposal of its waste operating since 1984 and has exhausted its design air space capacity in 2002.

**LOCAL CHALLENGE PROJECT 2020: Accelerating the SDGs**

**ZERO WASTE – TOTAL WEALTH**

**EAST DELHI MUNICIPAL CORPORATION (EDMC), DELHI, INDIA**

**PROJECT INTENTIONS**

- Collection
- Segregation
- Recycling
- Skilled Manpower
- Eco Friendly Treatment

**IMPACTS**

- Informal Sector Involvement
- Employment Generation
- Sustainable Environment
- Public-Private Partnership
- Community Participation

**ISSUES Addresses by the Project**

- Over 9,500 Tonnes per day (TPD) of garbage is generated in the city.
- According to the Master Plan of Delhi, 2021, these landfill sites had exceeded their capacity way back in 2008.
- Most of these sites have contaminated the aquifers and groundwater in and around their neighborhoods.

**INFORMAL SECTOR**

- According to estimates of the Municipal Corporation, at present, there are about 150,000 rag pickers in Delhi.
- The daily per capita income of these ragpickers varies between 100-200 (Indian Rupees). Approx. $2.5
- India’s ragpickers continue to struggle for survival in dire conditions of exposure to harmful substances, poor wages and lack of basic civic amenities.

**NEED OF STUDY (EXISTING LANDFILL SITE)**

Slope of the dumpsite is very steep (60-70 degrees) and poses a danger to humans, animals and establishments around.

Source: Project Report on Reclamation of Ghazipur, 2010

**PROJECT: EDUCATION**

**STATUS: FUTURE**

**SDGs CONSIDERED:** 1 - 2 - 3 - 4 - 6 - 8 - 10 - 11 - 13 - 15

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**PROJECT TEAM:** KANISHKA TANDON, PROF. BHARAT KUMAR, TUSHAR BURMAN

LOCAL PROJECT CHALLENGE 2020 is carried out between the Center for Sustainable Urban Development, The Earth Institute, Columbia University, and the Faculty of Architecture, Technical University, Vienna, Austria.
EXISTING WASTE MANAGEMENT STRUCTURE

- Dumping of Waste in the Landfill site.
- Transportation of waste in trucks for incineration.
- Collection of all the waste in Dhalao (collection centres).
- Door to door collection of waste from Households.
- Collection of all waste without segregation in bins.

- Waste to Energy Plant
- Scrap Dealers
- Absence of proper treatment
- Huge transportation cost incurred
- No segregation
- Nuisance on roads and dhalao
- Informal rag pickers exposed to waste dumping
- No dignity of work

QUANTITY OF WASTE MANAGEMENT (IMPACT)

<table>
<thead>
<tr>
<th>Waste</th>
<th>Waste %</th>
<th>2017</th>
<th>2021</th>
<th>2041</th>
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</thead>
<tbody>
<tr>
<td>Ward total Waste(kg/day)</td>
<td>100</td>
<td>36910</td>
<td>39375</td>
<td>71400</td>
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<tr>
<td>Total Organic Waste</td>
<td>60</td>
<td>22146</td>
<td>23625</td>
<td>42840</td>
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<td>Recyclable waste</td>
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<td>3691</td>
<td>3937.5</td>
<td>7140</td>
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Waste generated per capita per day (kg/cd) for 2021 is 0.525 kg/cd & for 2041 is 0.68 kg/cd.

COOPERATIVE STRUCTURE

- Ward Board/ Councillor
- Waste Treatment & Segregation Facility/Sub-ward supervisor
- For each neighbourhood a Sub-ward supervisor will be appointed to look into functioning and upkeep of waste treatment & segregation facility.
- A ward Board comprising of Sub-ward supervisor, Councillor and Professional advisors such as accountants will be constituted at ward level to look into administrative, financial and technical functioning of cooperative.

PROPOSED WASTE MANAGEMENT STRUCTURE

- Dumping of only Inert Waste in the Landfill site.
- Transportation of waste in trucks to Waste to Energy plant.
- Establishing waste segregation centre with compost pits.
- Door to door collection in segregated form in refuse collectors.
- Collection of all segregated waste from households.
- Only 5% of total waste to go to landfill sites now.
- Organic Waste to be treated at Ward level in Compost pits.

QUANTITY OF WASTE MANAGEMENT (IMPACT)

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FINANCES AND EMPLOYMENT (OUTCOME)

- Total Employment Generation of 19,904 by 2041 (additional 6,464)

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<tr>
<th>Waste</th>
<th>Sale price (Rs/month)</th>
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<th>2021</th>
<th>2041</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Organic Waste</td>
<td>Rs. 1,500/month</td>
<td>300,000</td>
<td>320,000</td>
<td>580,000</td>
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<tr>
<td>Recyclable waste</td>
<td>Rs. 10,000/month</td>
<td>1,107,500</td>
<td>1,181,250</td>
<td>2,142,000</td>
</tr>
<tr>
<td>User fee</td>
<td>Rs. 200/ch (2041)</td>
<td>2,343,000</td>
<td>2,500,000</td>
<td>4,667,000</td>
</tr>
<tr>
<td>Total Collection/Month</td>
<td>37,050,000</td>
<td>4,001,250</td>
<td>7,393,000</td>
<td></td>
</tr>
<tr>
<td>Monthly share of waste collector</td>
<td>17,800</td>
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Waste Collectors to get monthly salary of 23,800 by 2041.