Section-III. Technical Specifications / TORs

Scope of Services

Technical Specifications and Scope of Services are described as under;

SOLID WASTE MANAGEMENT (SWM) OPERATIONS PLAN

FOR

District	**Murree**
Tehsil	**Kotli Sattian**

July, 2024

Rawalpindi Waste Management Company

List of Abbreviations

BW	Bulk Waste
DC	District Council
DtD	Door to Door
DS	Dumpsite
HH	Household
KM	Kilo Meter
LGCD	Local Government & Community Development
RWMC	Rawalpindi Waste Management Company
MC	Municipal Committee
MSW	Municipal Solid Waste
M^3	Cubic Meter
SOP	Standard Operating Procedure
SWM	Solid Waste Management
SW	Sanitary Worker
TCP	Temporary Collection Point
UC	Union Council
WB	World Bank

1. Demography

The current Local Government and Community Development (LGCD) division of Tehsil/District comprises a blend of Municipal Committees and the District Council. According to existing demography, the urban sector of the Tehsil consists of Municipal Committees, while the remaining areas fall under the jurisdiction of the District Council. Municipal Committees are organized into wards, whereas the District Council comprises Union Councils, encompassing villages, towns, and semi-urban areas within the Tehsil.

Tehsil Kotli Sattian comprises MC Kotli Sattian having 1 Urban and 5 Rural UCs. The main particulars of tehsil Kotli Sattian are as follow;

Table 1: Summary of Tehsil Kotli Sattian

District		**Murree**
Tehsil / MC		**Kotli Sattian**
No. of MCs		1
Urban	UCs	1
	Population	22,791
	HH	4,798
	Waste (tons/day)	10
Rural	Villages	
	UCs	5
	Population	105,268
	HH	21,181
	Waste (tons/day)	35
Total	**UCs**	6
	Population	128,059
	HH	25,979
	Waste (tons/day)	44
Note:0.42 kg/capita/day for Urban and 0.33kg/capita/day for Rural. Waste generation is an estimated amount and it may vary (±) from the above mentioned amount. However, any approval regarding change in estimated waste generation will be sought from the Board of Directors, RWMC.		

2. Existing Resources:

The lists / Annexures provided with Services And Assets Management Agreement (SAAMA) signed between RWMC and Tehsil's MCs and DCs is considered for existing resources assessment, given below in Table;

Table 2: Summary of Existing Resources of tehsil Kotli Sattian

Human Resource			
Tehsil	**Sanitary Supervisors**	**Sanitary Workers**	**Driver**
Kotli Sattian	0	0	0

Machinery			
Tehsil	**Tractor Trolley**	**Compactor 7m^3**	**Mini Tipper**
Kotli Sattian	0	0	0
	Dumper (10 CM)	**Tractor Loader / Front End Loader**	**Tractor Mounted Water Boozer / Washer**
	0	0	0
	Rickshaws	**Tractor Mounted Sweeper**	**Tractor with Hoe / Drain Cleaner**
	0	0	0

Equipment			
Tehsil	**Container**	**Hand cart**	**Bin / Drum**
Kotli Sattian	0	0	0

3. Waste Streams

The solid waste being generated in any area is divided into two streams i.e. Municipal Solid Waste (MSW) and Bulk Waste. Whereas, the total solid waste generation is calculated for urban areas is based on 0.42 kg per capita per day and for rural areas it's based on 0.33 kg per capita per day.

i Municipal Solid Waste (MSW)

Municipal solid waste (MSW), is a waste type consisting of everyday items that are discarded by the public, including items like food scraps, packaging materials, paper, plastics, glass, and other disposable items. For the SMW planning of the tehsil, 70% MSW generation in urban areas and 55% in rural areas, is estimated through best available information with the tehsil administration of total waste generated.

ii Bulk Waste (BW)

Bulk Waste refers to the large quantities of waste that are too large or heavy to be collected through dedicated collection methods. Examples include construction debris, animal dung,

and backlog mixed waste lying in open plots or open spaces anywhere in the tehsil. Proper collection of bulk waste typically requires special handling and collection procedures.

Table 3 Waste Generation Estimates

Parameter	***Urban***	***Rural***
Waste Generation Rate[1]	0.42 kg per capita per day	0.33 kg per capita per day
Municipal Solid Waste (MSW) Proportion[2]	70%	55%
Bulk Waste (BW) Proportion2	30%	45%

4. Required SWM Operations Plan

In order to properly plan the SWM system of an area, it's highly significant to understand the infrastructure, socio-economic conditions, development resources and topographical dynamics of that area. RWMC team visited each Municipal Committee and Union Council of the Tehsil to assess the requirements for proposed SWM system.
Various parameters have been collected from the discussion with concerned administrative officials and projected with the help of statistical models. The future system has been designed on the basis of:

- Population projection.
- Waste generation in these areas.
- Classification of SWM Services

Upon area handover, the contractor must adhere to the outlined responsibilities, which serve as guidelines and minimum requirements. The contractor is also responsible for delivering top-quality services governed by the contract document.
The contractor will provide uniforms, shoes and jackets to supervisors, sanitary workers, and helpers as per following details.

- Uniforms of approved design by the client Twice a year
- Shoes of approved design by the client Once a year
- Jackets of approved design by the client Twice a year

The contractor will ensure the availability of proper PPE's to their workforce. Fleet/Vehicles and containers will be branded and designed by the contractor on the approved design by the client.
The detailed scope of services and proposed model is given below;

4.1. Scope of Services

a. Mechanical Sweeping and Washing (Urban)

[1] *ADB Briefs No: 209, March 2022, Waste Sector Inclusion in the Revised Nationally Determined Contributions of Pakistan*
[2] *This proportion is agreed upon based on survey, feedback and discussion with the relevant Tehsil staff.*

    i. Mechanical Sweeping & Scrapping
    ii. Mechanical Washing
b. Manual Sweeping & De-silting
c. Primary Waste Collection
    i. Door to Door MSW Collection
    ii. Bulk Waste (BW) Collection
d. Temporary Waste Storage
    i. Waste Enclosures
    ii. Temporary Collection Points (TCP)
e. Secondary Waste Collection
f. Waste Disposal
g. Zero Waste Activities
    i. At the time of Tehsil takeover (once in the whole contract life)
    ii. At least three to four times in a year or as per clients' requirement at different times.
h. Public awareness campaign as approved by the client.
i. Revenue Collection by contractor.

4.2. Proposed Model

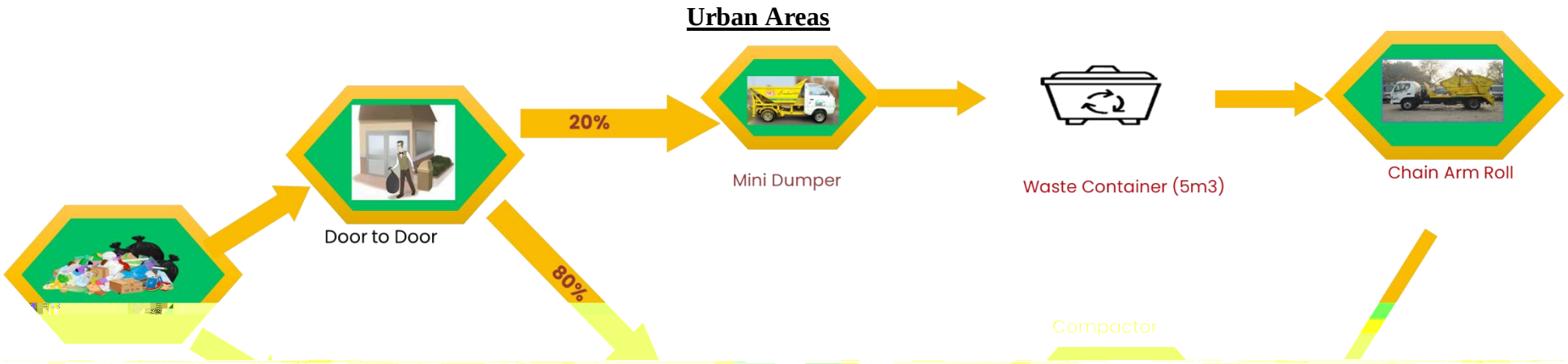

Figure 1: Proposed SWM Model for Urban Areas

1 handcart will be given per 02 sanitary workers which will be emptied in nearby container. These container. wil38(e)-12(b)20(e)4( )-1(e)-15(m)31(pt)-41(i)38(e)4(d)-12(i)18(

For rural areas Waste Enclosures are proposed to unload the Mini dumpers that are

- ¾ Dumpsite management and maintenance on regular basis as per designed criteria
  - Leveling, compacting and Soil Covering & sprinkling of collected leachate on dumped waste.

G. Zero Waste Activities

The contractor will conduct at least following zero waste activities;

i. At the time of Tehsil takeover (Once in the whole contract life)

ii. At least three to four times in a year or as per clients' requirement at different times done within scope of work.

ƒ ***One Time Cleaning and Rehabilitation/Reclamation of ExitionD2reW*nB/F3nat W*n( )÷2reW*1***

5. Required Resources

5.1. Human Resource

Table 18: Required HR

Area	Description	Total Required
Urban	SW	26
	Supervisor	1
	Driver	11

7. Special services on Special Events