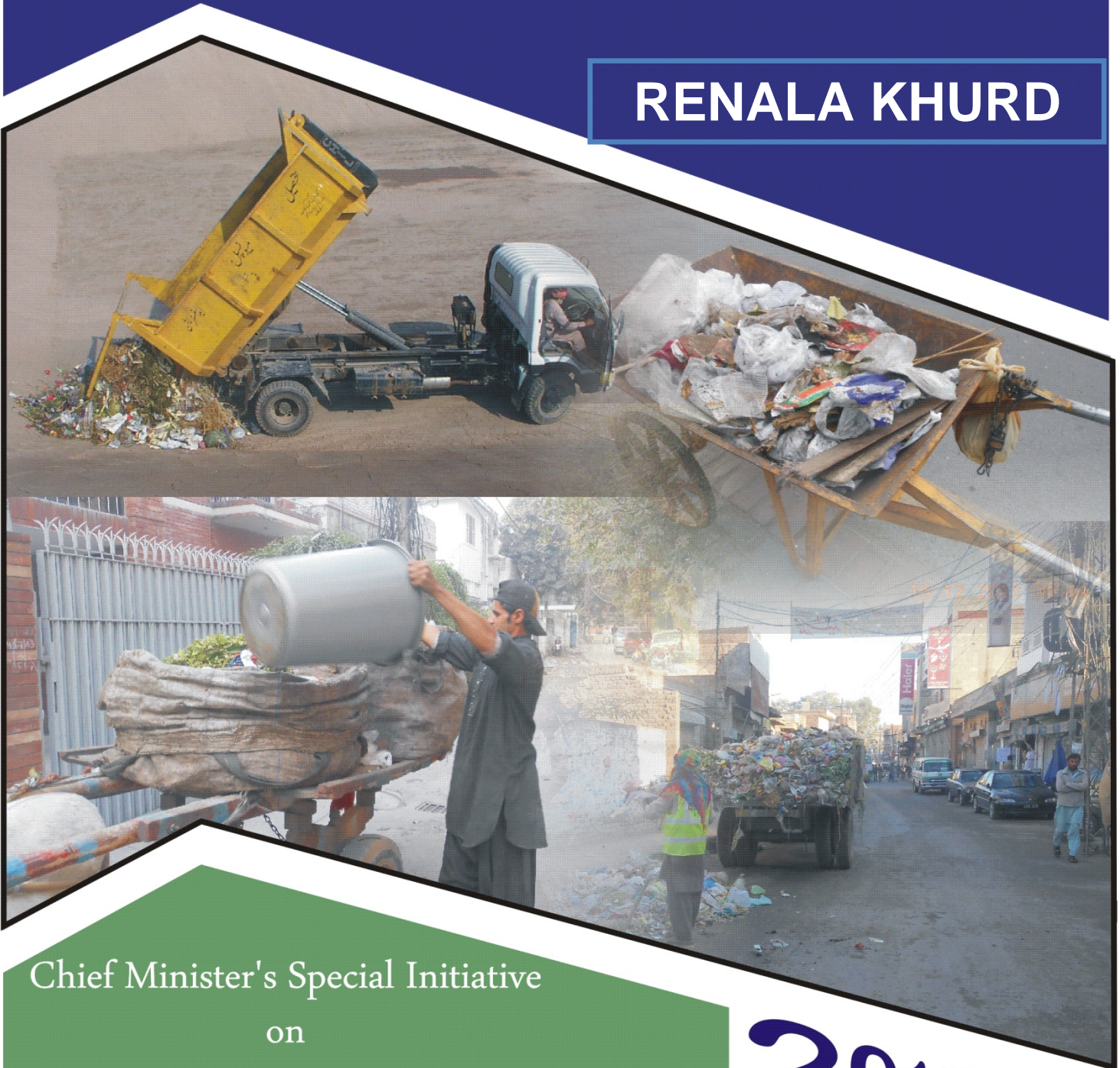




SITUATION ANALYSIS REPORT FOR INTEGRATED SOLID WASTE MANAGEMENT (ISWM)

RENALA KHURD



Chief Minister's Special Initiative
on
Solid Waste Management for Urban Areas

2013

SITUATION ANALYSIS REPORT FOR INTEGRATED SOLID WASTE MANAGEMENT (ISWM) IN RENALA KHURD

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SOLID WASTE MANAGEMENT – INTRODUCTION

1.1 Objective

Punjab Chief Minister. Mian Shahbaz Sharif is very conscious about the proper solid waste management system and is keen to see "litter free Punjab" in the forthcoming years. In this connection, the Government of Punjab is going to implement a solid waste management initiative in certain group of TMAs. The Purpose of this initiative is to develop effective solid waste management plans for TMAs which have adequate machinery to a certain extend. In the regard, it has been decided to gather the information regarding resource availability with TMAs for conduction detailed situation analysis in solid waste management sector.

1.2 Background

Solid Waste Management is a major environment and health hazard in the urban areas of Pakistan. Cities economies are fast growing, business activity and consumption patterns are driving up solid waste quantities. In Pakistan the collection of waste is sporadic and the disposal is poor. Despite the fact that solid waste services represent the single largest expenditure item, less than 50 percent of the waste generated is collected; and is mostly disposed at dumpsites or roadsides. Additionally, recent history has shown that lifestyle is changing at a brisk pace in the city. Due to changing lifestyles and consumption habits, SWM has been increasingly recognized as one of the major environmental issue in the city.

The rapid growth of many small to medium sized towns in Punjab is causing unprecedented deterioration in the ecosystem. It is also placing enormous pressure on the capacity of these towns to provide adequate Solid Waste Management (SWM) services for their increasing populations. Chief Ministers Chief Minister's Special Initiative on Solid Waste Management is an initiative that seeks to address SWM challenges of these towns. The objectives of the exercise is to address SWM investments in these urban centres and build institutional and human resource capacities at local and regional levels for the sustainability of SWM services to reduce the environmental impact of urbanization. The initiative has a number of components including solid waste management (SWM) which seeks to minimize negative environmental and health impacts associated with poor solid waste management. The strategy is to provide sustainable solid waste management system/interventions for each focal town, capable of collecting, transporting, treating and safely dispose what ultimately remains as waste. There is also the Capacity Building and Training component which seeks to ensure effective delivery of capital investment and long term

1.3 Scope of the Assignment

The overarching objective of the project is to assist the cities in implementing a solid waste management policy by developing a coherent model ISWM system in a medium-sized city, but replicable in the other cities of Pakistan. Capacity building is a second key objective that will help the provincial and local governments to move away from the present ad-hoc investments to strategic and sustainable development of their SWM sector in Pakistan.

The report includes a Situation analysis of the current situation of the city's SWM system approaching it from technical, institutional, and finance perspectives, identifying economic, social, environmental, and governance issues and opportunities. The opportunity for private provision of SWM services is identified in the report and will be covered in more detail in the blueprint. A detailed gap analysis follows from the analysis. Finally, an action plan is suggested on two levels i.e short term 6 months and for next one year.

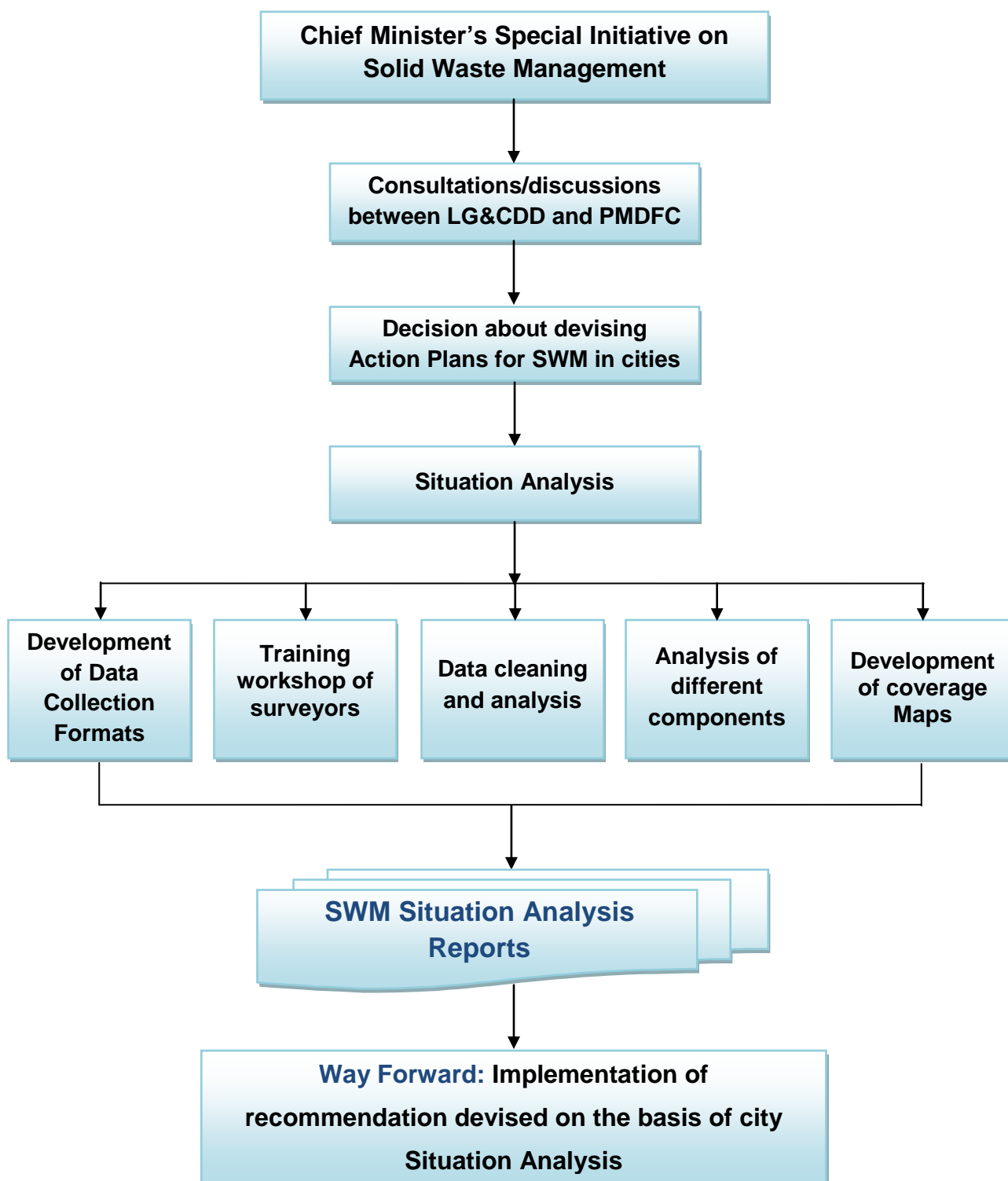
1.4 Approach & Methodology

PMDFC developed a proactive approach to develop the SWM Action Plans under the guidance of Local Government & Community Development Department (LG & CCD). Detailed brain storming sessions were held between them and consensus was evolved to undertake the rapid assessment of solid waste management of 63 TMAs. These 63 TMAs were selected from 105 TMAs excluding City District Government (CDGs). Those TMAs were selected that had adequate number of SWM collection machinery. A team of surveyors who were recently trained by Urban Unit, P&D Department were briefed by PMDFC officials and in data collection workshop held in Local Government Board office.

In the field secondary agency data was collected from TMAs by the surveyor about TMA institution, human resource, machinery, SWM primary Collection, Secondary Collection, Final disposal sites, Financials, parking areas etc on prescribed data collection formats developed by PMDFC. Qualitative information along with pictures was also collected in detail about quality of SWM service provided at each solid waste step. In addition, citizen response and public perception about TMA service was also gauged. Field SWM data was collected by surveyors and sent back to PMDFC. After field data collection exercise data was cleaned arranged and analyzed by PMDFC. GIS maps were developed for analysis. Main approach was identifying existing capacity of cities, identifying gaps and develops recommendations. Following process was adopted in this assignment:

Flow Chart

Renala Khurd – Situation Analysis (Solid Waste Management)



SOLID WASTE MANAGEMENT – GENERAL DESCRIPTION OF CITY

2.1 Location

Renala Khurd is located at 30°53'N 73°36'E and is about 116 kilometers away from Lahore and 18 kilometres away from the district capital Okara City towards south-west of Lahore on National Highway (GT Road) and on Lahore Karachi main railway line. Renala Khurd is bounded by District Faisalabad and Sheikhpura on the north-west where river Ravi forms the



natural boundary. On the north-east lies the District of Kasur, on the south is located the District of Ferozepur (India). On the south is the District of Bahawalnagar and south-west is Pakpattan District and the boundary of Sahiwal District on the west.

2.2 General Information

Renala Khurd city was established in 1914. Before that time, Mughal King Akbar along with his son Saleem and the royal entourage stayed in Dipalpur and passed through this region to pay homage to saint Hazrat Farid Ganj Shakar in 1578. Akbar named the corridor as 'Bari Doab' by combining the syllables of the names of two rivers, Beas and Ravi that bounded the belt. Renala Khurd is a growing city of Okara District in the north east of the Punjab province of Pakistan. The city is the headquarters of Renala Khurd Tehsil, an administrative subdivision of the District Okara. Renala Khurd was raised to the level of Town Committee in 1964. After the implementation of Punjab Local Government Ordinance 2001, it was given the status of TMA.

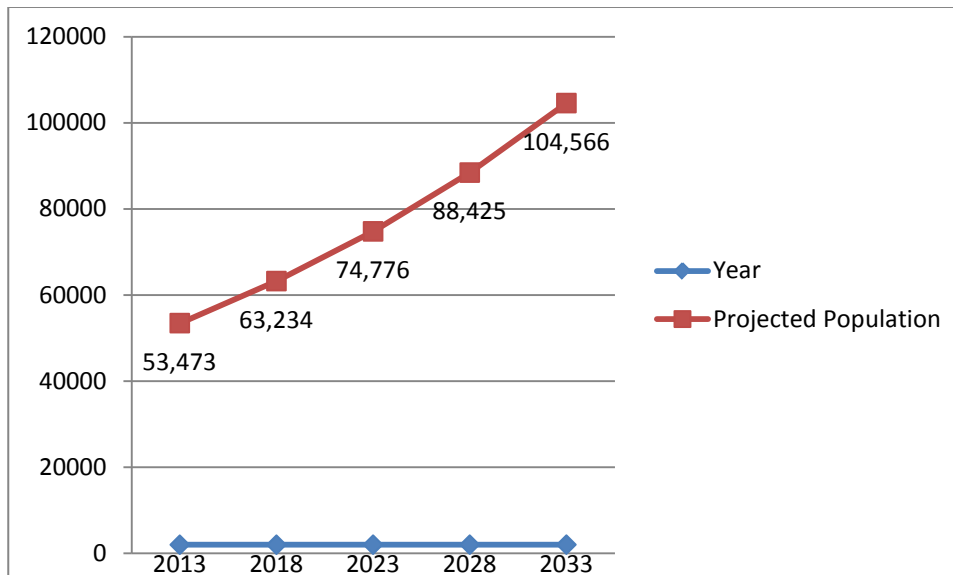
The Renala State Military Farm was formerly known as Glaxo. A quarter of a century ago, Glaxo was a small British firm with its origins in the dried-milk, cream and butter business and most of its sales in antibiotics, respiratory drugs and nutritional supplements, which is now called Military Farms. It supplies milk packs for the entire Pakistan Army. Renala State Military Farms milk factory is located in Sathghara. Mitchell's Fruit Farm established in 1933, is the main industry of Renala Khurd.

2.3 Population

The Renala Khurd has population growth rate of 3.41 % as per 1998 Population Census, which is quiet similar to the provincial average. The population of Town was 32,337 individuals in 1998, and is currently estimated at 53,473 individuals. Given the population growth rate and using 1998 as the base year for arithmetic growth method estimation, the population of town is likely to increase to 104,566 individuals in 20 years from now (year 2033).

Town's Population Projection

YEAR	1998	2013	2018	2023	2028	2033
POPULATION	32,337	53,473	63,234	74,776	88,425	104,566



Projected Population

SOLID WASTE MANAGEMENT – SITUATION ANALYSIS

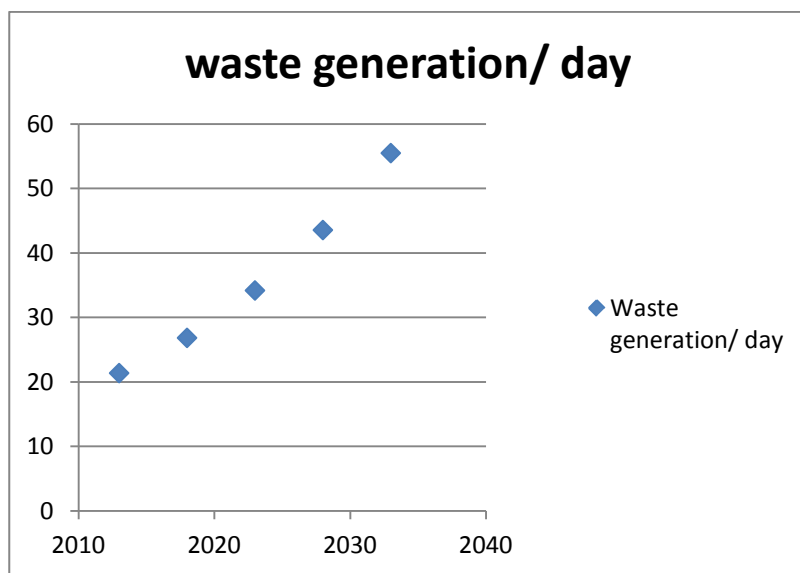
3.1 Solid Waste Generation

Given current estimated population parameters and national per capita solid waste standards, Renala Khurd currently generates about 21.39 tons of municipal solid waste daily, and is estimated to have a yearly volume of 7700 tons. In absence of a proper solid waste management system and non availability of data, such estimates and calculations are based upon current population X 0.4 kg/capita/day solid waste produced. *Solid waste generation in Pakistan ranges between 0.283 to 0.612 kg/capita/day (http://epd.punjab.gov.pk/?q=solid_waste), therefore waste generation for Renala Khurd is assumed around 0.4 kg/capita/day.*

Due to its population growth and increase in its economic activity, Renala Khurd’s daily generation is expected to accelerate to about 34.20 tons per day (12312 tons per year) by 2023 using 0.457 kg/capita/day, and then to about 55.50 tons daily (19980 tons per year) by 2033 using 0.531 kg/capita/day as shown in graph. This is a massive amount of municipal waste for Renala Khurd. In future this may prove catastrophic, until a plan is devised and implemented at the earliest to cater for this waste.

Current **Per capita waste generation** is 0.4 kg per capital, which is likely to increase by 1.5% every year. The future estimations and projections are based on a compound method.

YEAR	2013	2018	2023	2028	2033
Waste Generation/day	21.39 tons	26.85 tons	34.20 tons	43.57 tons	55.50 tons



3.2 Primary Collection

The primary collection is accomplished by sanitary workers those carry out sweeping of streets and roads and collect the solid waste from small heaps with the help of brooms, wheel barrows etc. and store at permanent and temporary collection points. Fort-five percent of localities in Renala Khurd are fully served while; fifty-five percent are partially served. Eighty percent roads in the city are being manually swept daily. As per standards*** there should be 67 sanitary workers but TMA has in-sufficient 54 sanitary workers against the sanctioned posts in solid waste management. There are only 29 hand carts (10 are out-of-order) which are not sufficient for present sanitary workers as per waste generation. Sanitary workers were not wearing safety equipment. No private sector was involved in primary collection.

Primary Collection - Situation Analysis Matrix				
Indicators	Existing Situation	Gap	Target	
			June, 2014	June, 2015
Door-to-door	None	100%	Initiate in one UC	Expand it to 50 % of city
Primary SWM Coverage* each day in localities	45 % Fully served, 55 % Partially Served	55 % Fully served	60 % Fully Served areas	70 % Fully Served Areas
Primary collection equipment	29 hand carts (10 non-operational)	40 hand carts to increase primary SWM coverage, repair or replace 10 covered containers	Procure 40 hand carts to increase primary SWM coverage, repair or replace 10 covered containers	Procure hand carts as per requirement
Primary SWM Coverage** each day in Roads	80 % Roads are manually swept daily, 20 % Roads are occasionally swept	20 % roads not swept daily	90 % roads swept daily	100 % roads swept daily
Primary Solid Waste Collection Staff***	54 Sanitary workers	In-sufficient sanitary workers i.e 67 are required as per standard*	Hire 13 sanitary workers, Develop and implement human resource deployment plan on GIS map	
Private Sector Primary Collection	Not Available	No Private sector involvement in Primary Collection	Initiate a pilot in one UC	Expand it to 50 % of city
* Coverage means TMA sanitary staff are sweeping& collecting waste from these areas daily (fully served), Partial Coverage means areas being served occasionally and not covered means these areas don't have any service (Shown in GIS Map)				
** Road Coverage means percentage of roads TMA sanitary staff are sweeping daily (Shown in GIS Map)				
*** 1 sanitary worker for 800 consumers (Outsourcing of Solid Waste Management in Sialkot City - Urban Unit). 79 sanitary workers are hired on daily wages.				

3.3 Secondary Collection

The secondary collection is accomplished through 7 Tractors, 3 trolleys (1 non-operational), 1 arm-rolled truck. Secondary collection machinery is sufficient for Renala Khurd.(see Annex -1). Renala Khurd has 22 open heaps and 9 open steel containers and 24 covered steel containers. Collection efficiency of secondary waste is 69 % which is adequate but can be improved. TMA also has to collect wastes from debris-demolition of building structures; Hospital wastes; Slaughter Houses wastes; Vegetable Market; Dead animals etc. and those are mixed with municipal waste. Exact data of scavenging and for other hazardous wastes is not available by TMA.

Secondary Collection - Situation Analysis Matrix				
Indicators	Existing Situation	Gap	Target	
			June, 2014	June, 2015
Collection Efficiency	69 %*	31%	80 % Collection Efficiency	90 % Collection Efficiency
Secondary Collection Points	22 open heaps, 9 open steel containers, 24 covered steel containers (10 out-of-order)	Repair 10 non-operational covered steel containers	Replace 50 % open heaps with covered containers of 5m3 size	Replace all open heaps with covered containers
Secondary collection machinery	7 tractors 3 trolley (1 trolley is non-operational), 1 Arm-rolled Truck	Repair or replace 1 trolley	Repair or replace 1 tractor trolley	Procure additional machinery as required
Waste transported in covered vehicles	Don't have covered Transportaion vehicles	Need temporary covers for transport vehicles	Cover all transport vehicles with temporary covers	
Slaughter house/Hospital/Hazardous waste	Mixed with municipal waste	Need to segregate and dispose these wastes from municipal waste	Segregate slaughter house and hospistal waste and dispose thm separately.	Plan for regional hospital and hazardous waste collection and disposal mechanism
Private Sector involved in Secondary Collection	Not Avaliable	No Private sector involvement in Secondary Collection	Initiate a pilot in one UC	Private secondary waste collection in 25 % of city
<i>* Data Provided by TMA Renala Khurd</i>				
<i>** Machinery Details in Annex-1</i>				

3.4 Final Disposal

In Renala Khurd the disposal of solid waste is mainly done in the form of open dumping at G T Road and LBDC Canal. (See GIS Map). This open dumping is creating total in-sanitary & unhygienic conditions, degrading the environment of the town, emitting obnoxious smells and providing breeding for mosquitoes and flies. Citizens complaint about this dumping but presently, TMA has no other option for final disposal. Options for final disposal including composting for organic materials, regional based incinerators or regional land filling options must be explored.

Final Disposal - Situation Analysis Matrix				
Indicators	Existing Situation	Gap	Target	
			June, 2014	June, 2015
Final Disposal	Open dumping site at G T Road and near Canal*	No proper final disposal option	Identify final disposal options and choose the most appropriate one for the city	Identify regional final disposal options including incineration, land filling etc.
Burning of waste at dumping/land fill site	Yes	–	–	–
Private Sector involved in Final Disposal	Not Available	No Private sector involvement in Final Disposal	Initiate a pilot project in one UC	Private final disposal for 50 % of city waste
* Shown in SWM GIS map				

3.5 Social & Safety Safeguards

As shown in below matrix TMA Renala Khurd doesn't follow any of the recommended social & safety procedures. Also, no periodic medical check-ups or immunizations against tetanus and hepatitis are available to sanitary staff.

Social & Safety -Situation Analysis Matrix			
S. NO	Social & Safety Measures	Yes	No
1	Sanitary workers wearing protective clothes, boots, and gloves ?		
2	Safety Gloves, masks, safety boots for primary collection being followed?		✓
3	Any arrangement for collection of domestic chemical waste and waste with high heavy metal content, such as batteries, broken thermometers, and infectious and other toxic health care wastes.		✓
4	At waste disposal sites, facemasks or simple scarves wrapped around the face are being used?		✓
5	Access to showers and cleaning facilities after their work shift?		✓
6	Immunizing against tetanus and hepatitis B.		✓
7	Periodic medical examinations or screening for sanitary workers?		✓
8	Any training for safety received through TMA?		✓

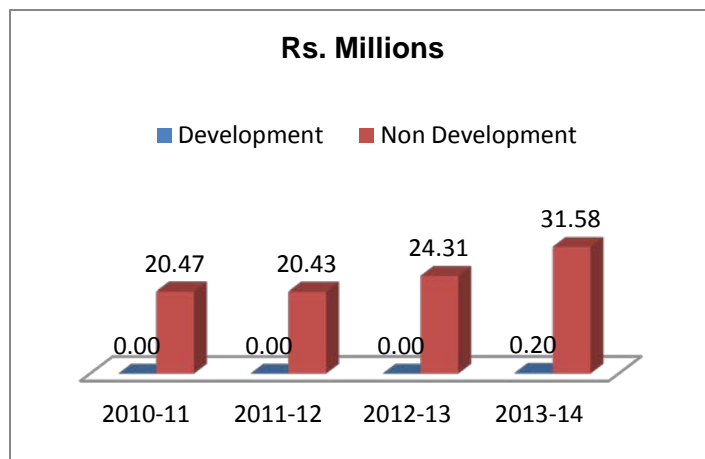
3.6 Operations & Maintenance

SWM machinery is being parked at GT Road on 15 marla space. It has insufficient area and doesn't have proper garage or shades for the machinery. TMA Renala Khurd doesn't have a workshop for its machinery. They repair the machinery in piece-meal arrangement. Machinery is repaired through ad-hoc basis and on demand from local contractor. This results in delay in repairs and loss in efficiency.

Operation & Maintenance - Situation Analysis Matrix			
Sr. #	Standards	Situation Analysis	
	TMA doesn't have a Workshop		
1	Local Contractor (Registered with TMA/Not Registered)	Yes	NO
			✓
2	Agreement with Local Contractor?	Yes	NO
			✓
3	Piece-meal arrangement?	Yes	NO
		✓	
4	Outside City (which city repairs are made)	Cities Close-by	Cities Far off

3.7 Financial Analysis

Over the Period of last three years budgetary allocations depict that TMA Renala Khurd didn't expend any amount on solid waste development sector however TMA has allocated 0.2 millions in current budgatry year for SW development. The total budget nearly consists of non development heads only. Moreover, it is also noted that major chunk of this non development outlay is on establishment head only.

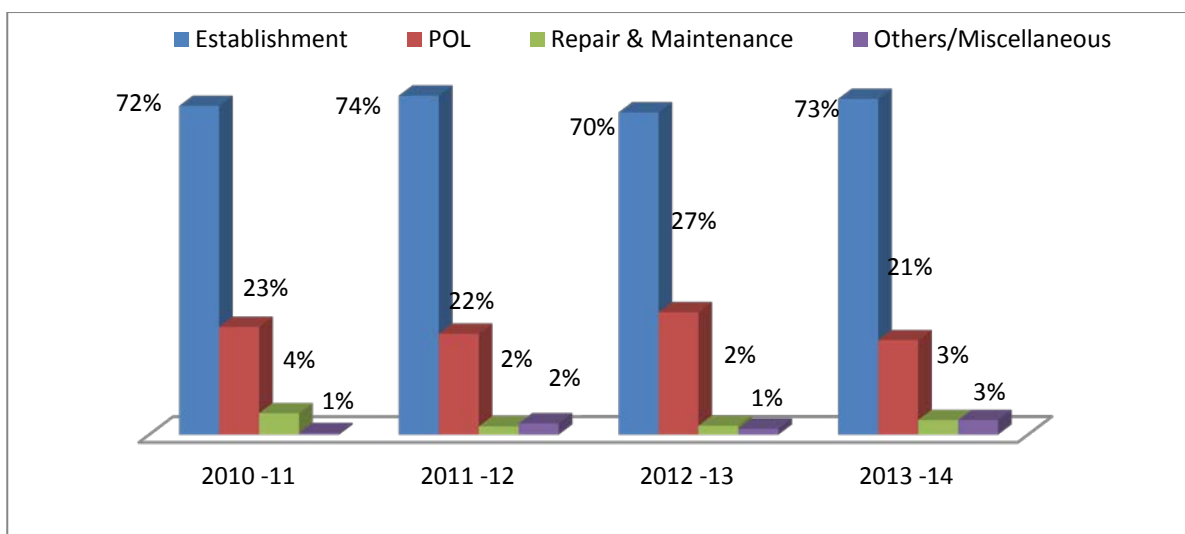


Effective O&M framework is required to be developed to make utilization of POL and R&M heads efficiently. The detail of expenditures sector wise is given as under:

Expenditure SWM (Rs.Millions)

Sub-Head	Actual 2010-11 (Rs)	Actual 2011-12 (Rs)	Actual 2012-13 (Rs)	Budgete2013-14 (Rs)
Establishment	14.64	15.07	17.04	23.08
POL	4.81	4.49	6.49	6.50
Repair & Maintenance	0.95	0.36	0.47	1.00
Others/Miscellaneous	0.07	0.50	0.31	1.00
Development	0.00	0.00	0.00	0.20
Total	20.47	20.43	24.31	31.78

*Data Provided by Finance Section – TMA Renala Khurd



3.8 Human Resource Development

TMA Renala Khurd is facing severe problem in collection and dumping of Solid Waste. Due to rapid increase in the population of the city in the coming years will also generate more solid waste which needs to be cater with proper human resource planning and other capital resources. TMA Renala Khurd needs effective and efficient plans for proper disposal of increasing solid waste and dire need of trainings to the TMA relevant staff. Management Training Programs to improve solid waste management is highly neglected area in municipal sector. The Matrix below shows that management of TMA Renala Khurd has not received any type of training regarding Solid Waste Management however sanitary inspector has got training on data collection and compilation on solid waste management organized by PMDFC, This training helps TMA to conclude analysis of generation Vs collection of Solid Waste in the city. So it is proposed that training on Solid Waste Management must be imparted to improve collection and disposal of solid waste, enhancing efficiency of TMA and creating clean city, healthier and pollution free environment.

*Current Status of Trained staff in TMA

Level in the Organizations	No. of Staff	No. of trainings received	Course/ Subjects	Institute/ Organization	Last training (Month – year)
TMO	1	Nil	-	-	-
TO (I&S)	1	Nil	-	-	-
Chief Officer	1	Nil	-	-	-
Sanitary Inspector	1	1	Data collection and analysis of SWM	PMDFC	2012
Sanitary Supervisors	3	Nil	-	-	-

*Information Provided by TMA Renala Khurd

Training Needed

Staff	Main problems hindrance in their performance	Required trainings	Way to impart training
• TMO	Lack of managerial /technical expertise for effective solid waste management	Solid Waste Management, Project Management, Safety & Social Safeguards, Contract Management	<ul style="list-style-type: none"> • Should be a mix of hands on and formal class room training as per requirement • Experience sharing workshops
• TO (I&S)		Solid Waste Management, Monitoring and Evaluation, Project Management & Contract Management, Safety & Social Safeguards	
<ul style="list-style-type: none"> • Chief Officer(01) • Sanitary Inspector (01) • Sanitary Supervisor (03) 		Modern Techniques of Solid Waste Collection, Transportation and Disposal, Safety & Social Safeguards, Handling of Machinery	
Sanitary Workers (54)		Solid Waste Collection and health safety measures	

3.9 Citizen Complaint Registration and Resolution

Complaint Cell has been functional in TMA Renala Khurd since June 2011 for complaints registration, tracking and resolution. A separate designated room is available with designated Complaint Cell In charge where complaints are registered in the physical presence of complainant. Land line number is available in complaint cell. PMDFC assisted TMA in the establishment of Complaint cell and provided trainings and hardware support in this context. Initially, PMDFC provided standardized registers and later replaced these registers with desktop complaints software to register the complaints in a standardized form. Further PMDFC also introduced web based complaint software. Now the complaint record is available in a systematic manner to each TMA. TMA Renala resolved 100 % of complaints received on primary collection, secondary collection and burning of waste during July – Nov 2013.

Registered complaints are addressed by the TMA staff in comparatively less time through computerized application provide a unique feature of accountability available to the upper management. Complainant gets a unique number of his complaint that helps him to track his complaint. It is to be noted that all complaints are not registered specially received through telephone; most of these are resolved without keeping record. Currently TMAs are not fully utilizing the computer applications and need to fully adopt it in effective manner. When complaint is registered, time of registration and resolution is also tracked by the CTS software. It is likely to improve the oversight and monitoring of municipal service delivery which would result in the satisfaction of ultimate stakeholders i.e. citizens.

Sr. #	Standards	Situation Analysis	Proposed Action
1	Complaint Cell is functional with designated room and staff	Yes	Functioning of TMA Complaint Cell should closely be monitored from high-ups to facilitate public
2	Land numbers functional	Yes	
3	Awareness campaign (Banners, Press releases and media campaign)	Awareness Tools i.e. banners TV Cable were used for awareness campaign but citizens are still not aware about the Complaint Cell and registration process.	Regular awareness campaigns are required to be launched time to time
4	Complaint cell staff trained	Yes, PMDFC provided training on regulating registration/tracking process of complaints	More training sessions are required for complaint cell staff
5	Complaint resolution	Most of sanitation related complaints are resolved within a day	Daily status report of complaints should be overseen by TMA leadership
6	Analysis of complaint data performed and regular reports generated	TMA using the complaints software	Fully adoption of complaint software to analyze the complaints data efficiently for highlighting the grey area

3.10 General Public Opinion

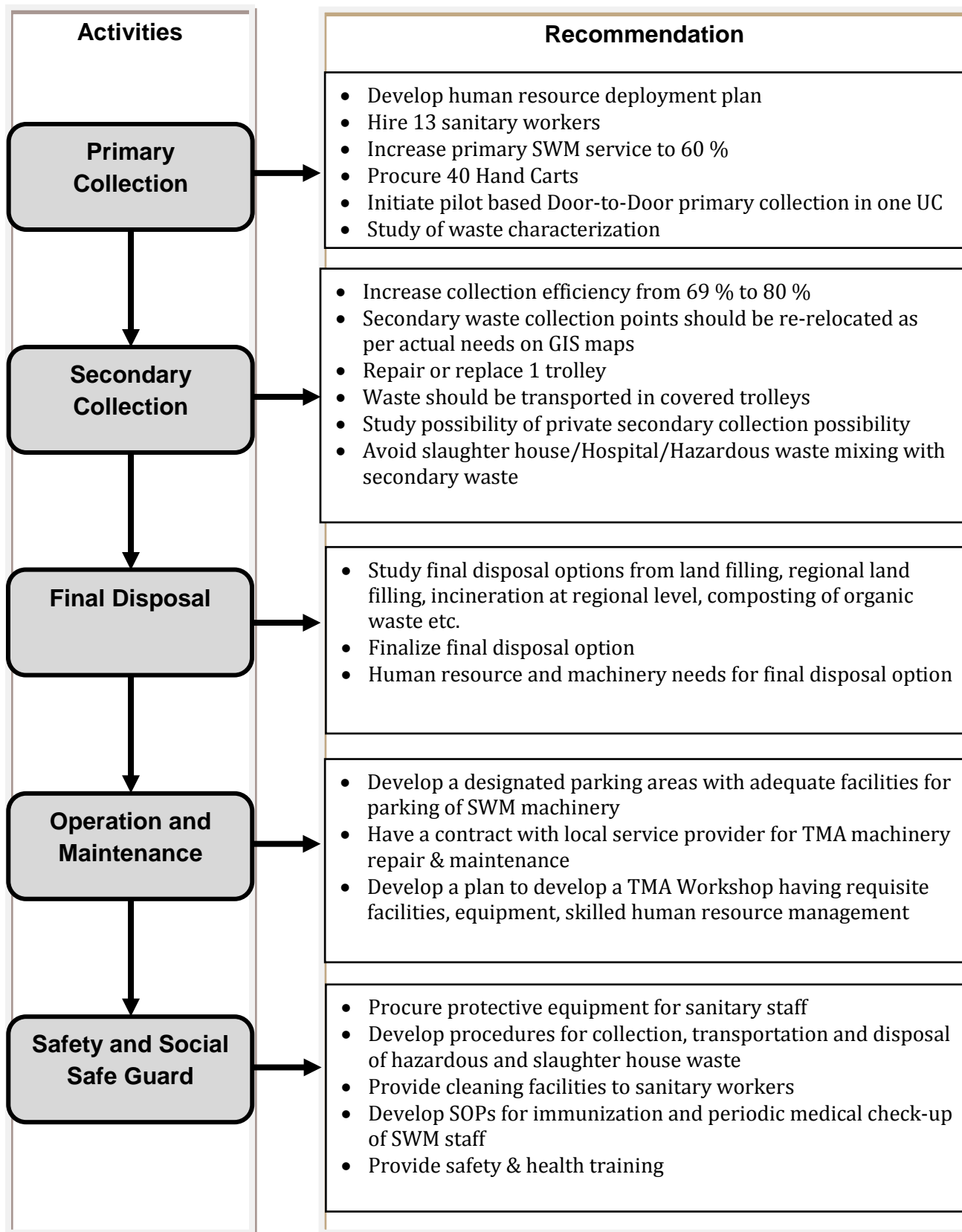
Perceptions of citizens regarding solid waste management of TMAs have been captured by the following few attributes that can help in understanding the formation of Citizen's perception about the situation of Solid Waste management in the City Renala Khurd, Focal Group discussions were made in the city in four different localities in the city and peoples' responses were recorded as follows:

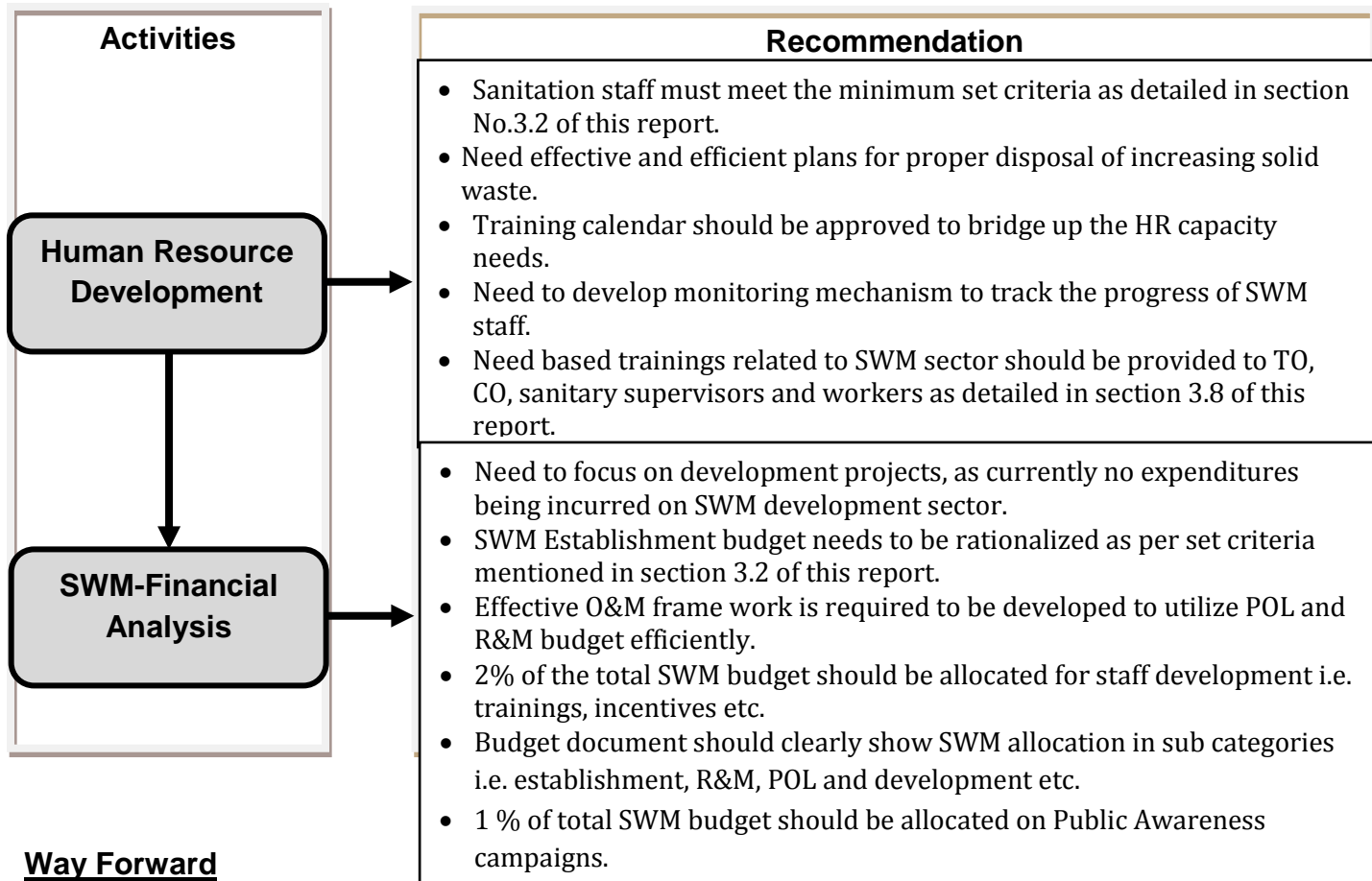
Sr.#	Attributes	Perception	Responses (%)
1	Does improvement in Solid Waste Disposal is required in the area?	1. Significantly Required	100%
2	What type of problems caused with adverse sanitation situation in y the city?	2. Environmental pollution 3. Garbage heaps	25% 75%
3	What is the present method of primary collection of solid waste in the area?	1. Personally dispose household waste in container/bin placed by TMA 2. There is no arrangements for primary collection	75% 25%
4	What is the present method of cleanliness of streets?	1. Cleanliness by TMA sanitary worker	100%
5	Are they paying for primary collection of solid waste and cleanliness of streets?	1 Never paid	100%
6	Are they willing to pay for primary collection of solid waste and cleanliness of streets?	2 Yes more than Rs.100 per month 3 Not willing	25% 75%
7	If they are not willing to pay what are the reasons?	1 Not affordable 2 Lack of confidence on service delivery by agency	50% 50%
8	Are there any informal dumping points in the neighborhood	1. No such dumping points are there in the neighborhood	100%
9	What is best arrangement for improved solid waste disposal in the area	1. Only Government agency 2. Only Private 3. Both	50% 25% 25%
10	Have any solid waste collection containers / Litter bins been placed in the neighborhood?	1. Yes, Too Near 2. Yes, too Far	25% 75%
11	What improvement of services expected, if they have to pay	1 Solid waste collection on regular basis 2 Availability of formal dumping points & cleanliness of streets 3 Cleanliness of streets on regular basis 4 All of the above	25% 75%
12	For which purpose, they are willing to pay	1 Door to door solid waste	

		<ul style="list-style-type: none"> collection on regular basis 2 Cleanliness of streets on regular basis 3 Cleanliness of streets 4 All of the above 	100%
13	What is the schedule of solid wastes collection in the area?	<ul style="list-style-type: none"> 1. Alternate Day 2. Collection is on occasional bases 	75% 25%
14	Complaints relating to Sanitation?	<p>Proper system and workers of sanitation don't exist; a monitoring system is also required. Lack of planning on solid waste disposal Cleaning of streets and drains are not on regular bases</p>	
15	Do you have any suggestions related to sanitation improvement?	<p>Containers placement, sweeping, collection of waste and proper disposal should be monitored on daily bases.</p>	

According to general public opinion survey, improvement in the solid waste management is significantly required in the city. TMA is providing the services of primary collection and cleanliness of streets without getting any charges from the citizens. Citizens are facing the problem of garbage heaps and environment pollution in the area, it means secondary collection of solid waste management requires improvement. Citizens are paying neither to private agency nor to government for cleaning of streets as well as collection of solid waste. If citizens have to pay they expect improvement in solid waste collection, availability of formal dumping points and cleanliness of streets on regular basis. They also consider Government and private agencies can bring improvement in the solid waste sector.

SOLID WASTE MANAGEMENT – RCOMMENDATION & WAY FORWARD





Way Forward

- Waste Characterization Studies (Sample TMAs)
- Development of GIS based SWM Maps
- Resource Management Plans
 - Human resource management plans (using GIS Maps)
 - Plans for Optimum use of existing Machinery (using GIS Maps)
 - Requisite Budgetary Allocations
 - Outsourcing for SWM systems
 - Procurement Plan
- Plans for final disposal sites
 - Identification of final disposal options (land filling or regional land filling, regional incineration, composting etc.)
 - Acquiring of Lands for final disposal option
- Sustainability Plans
 - Trainings
 - Development of Training Modules
 - Training for various tiers of TMA officials
 - Public Awareness Plans
 - Occupational Health and safety Plan
 - Environment and social management Plans
 - Operation & Maintenance Plans
 - Monitoring and Evaluation Framework
 - Periodic data analysis to highlight the gaps in terms of taking required corrective measures.

Annex - I

Following information was collected from TMA Renala Khurd through data collection forms.

Tools & Equipment

Sr. No.	Description	Numbers available		
		<u>Total</u>	Out of order	Working
1	Wheel barrows/hand carts	29	10	19
2	Steel containers (open)	9	0	9
3	Covered containers	24	10	14
4	Tractor trolleys (auto unloading)	3	1	2
5	Container carrier	4	-	4

Machinery Details

Tractors	Make (Model/Year of manufacture	Condition of Body	Condition of Engine	Condition of Tyres
	2001	uel exts	Fair	Bad
	2007	out of order	Fair	Bad
	2007	good	Fair	Bad
	2007	good	Fair	Bad
	2007	good	Fair	Bad
	1986	staring box to repair	Fair	Bad
	1986	Bad	Fair	Bad
Trolleys	Make (Horse Power)/ Model/Year of manufacture	Condition of Body	Condition of Engine	Condition of Tyres
3 trolleys	one	one to repair		good
	two trolleys	good		good
Container Carriers	Make (Horse Power)/ Model/Year of manufacture	Condition of Body	Condition of Engine	Condition of Tyres
4		working		good

Annex - II



