

Solid Waste Management Strategy

City of Shashemene



SymbioCity



SHASHEMENE MUNICIPALITY

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Introduction

The city administration of Shashemene is committed to improving solid waste management (SWM) in the city. Over the last two years the city has allocated a multisectoral working group and received support from SKL International in assessing, analysing and planning for improved SWM in the city. This strategy is an output from this work and is an effort to change the current situation and move towards more sustainable waste management.

This strategy outlines the goals and key activities for SWM in the city of Shashemene for the next five years. It was designed to address the ongoing challenges and to achieve improvements to the SWM system. The aspiration has been to create an effective tool to guide the city administration with implementing change. The strategy sets clear objectives and targets accompanied with an action plan in order to achieve results. The strategy is in alignment with the national and regional strategies for SWM but has been adapted to local conditions and builds on local strengths to ensure practical implementation.

Background

Shashemene city is the administrative capital of West Arsi zone and is a first tier city in Oromia Regional State with a total population of about 270,000, growing at an annual average of 4.8%. The rapid rate of urbanisation puts a severe strain on the municipal service delivery. The growth is causing expansion of informal settlements and the hygienic conditions in many places in the city is causing harm to human health. The handling of solid waste has been identified by both public officials and the citizens themselves as the most severe environmental issue impacting the city. Poor waste management is also causing a negative impact on the aesthetic quality of the city and is adversely impacting the urban poor population, who are already a vulnerable group. The open dumping and burning of waste are also causing emissions to the air, soil and water as well as causes problems with flooding in blocked drainage channels, odour and vermin.

SWM services in the Shashemene city is not keeping up with the city's expansion, population increase and development. The capacity of MSEs engaged in solid waste management and the amount of waste generated in the city show a large gap. The practice of informal waste disposal to open fields, limited door-to-door waste collection services, limited segregation and composting efforts,

awareness level and limited efforts to reduce waste by most inhabitants call for the municipality to revise its waste management infrastructure and service delivery efforts.

Improved SWM and reducing environmental and human health impact is a development priority on a national level in Ethiopia. A national strategy for improved waste management has been developed and it cascades to the regions and on to the cities. This strategy links with the national plan for development, *Growth and Transformation Plan (GTP)*, which focuses on industrialization and urbanization as key vehicles for economic transformation and sustainable development. Cognizant of the issue of obtaining sustainable urban development, Ethiopia is implementing a framework called *Ethiopian cities sustainable prosperity goals (ECSPG)*. The framework aims at achieving the SDG 11 which emphasizes safe, resilient and clean urban development.



Figure 1. Central Shashemene, a busy trading hub.

The strategic planning process

The Federal Democratic Republic of Ethiopia Proclamation no. 513/2007 obliges the city administration to set its own schedule for adequate SWM services and its solid waste management plan and actions for implementation. Following the introduction of SymbioCity project, Shashemene city administration formed a working group encompassing six (6) professionals including coordinator of the project from the Mayor office (1), experts from the municipality (2), expert from the city health office (1), expert from the city Enterprise (1) and expert from the city education office (1) to develop improvement plans for the SWM system.

This strategy was prepared through the SymbioCity approach, a holistic, integrated and multidisciplinary method to plan for sustainable urban development. One of the key principles of the SymbioCity approach is identifying and engaging key stakeholders to find integrated sustainable local solutions for local problems. The participatory process was led by the multisectoral working group with representatives from different departments in

the city administration. Throughout the process, the working group has interacted with a range of stakeholders including; door-to-door collectors, Kebele administration, business community, academia, regional representatives, NGOs and religious groups. The strategy was prepared based on the great insights provided by the stakeholders and considering previous interventions and lessons learnt with an aim to extend SWM service provision to the expanding size of the city.

The working group was supported by an international SymbioCity facilitator and a national urban expert and has worked closely with several stakeholder groups throughout the process. The City cabinet has been acting as the project's steering committee, taking appropriate actions and approvals during the preparation process. Also, a national advisory board with representatives from regional and national government has been part of the stakeholder group and they have weighed in on the development of the strategy throughout.

Current solid waste management in Shashemene

The current SWM in Shashemene is categorized by informal organization, limited institutional capacity and severe budget limitations. The awareness of sustainable SWM among both city officials and inhabitants is low. The current SWM system is described in Figure 2.

About 60–70 percent of the city's households have door-to-door collection of household waste or have access to a neighborhood container. The collection is organized through independent collector cooperatives (micro and small enterprises (MSE)) licensed by the Kebele administration, and through motorized collection of neighborhood containers through the organization of the city administration. The MSEs transport the waste to the official dumpsites but much of the waste is dumped in storm water channels, unoccupied spaces and

riverbeds and does not make it to the dumpsites. A majority of the waste collection workers in the MSEs are women, whereas the drivers and workers on the motorized transports are mostly men. It is also often the women of the household who handle and organize the waste management in the homes. Women and children are especially exposed to the excising poor solid waste management.

There are also informal solid waste collectors operating without sanction from the local government. The informal collectors operate irregularly and use any number of means to collect waste, and often dispose of it in streams, under bridges and in ditches. Households without door-to-door collection dispose of the waste by dumping it in open spaces and in the rivers or by burning or burying the waste.

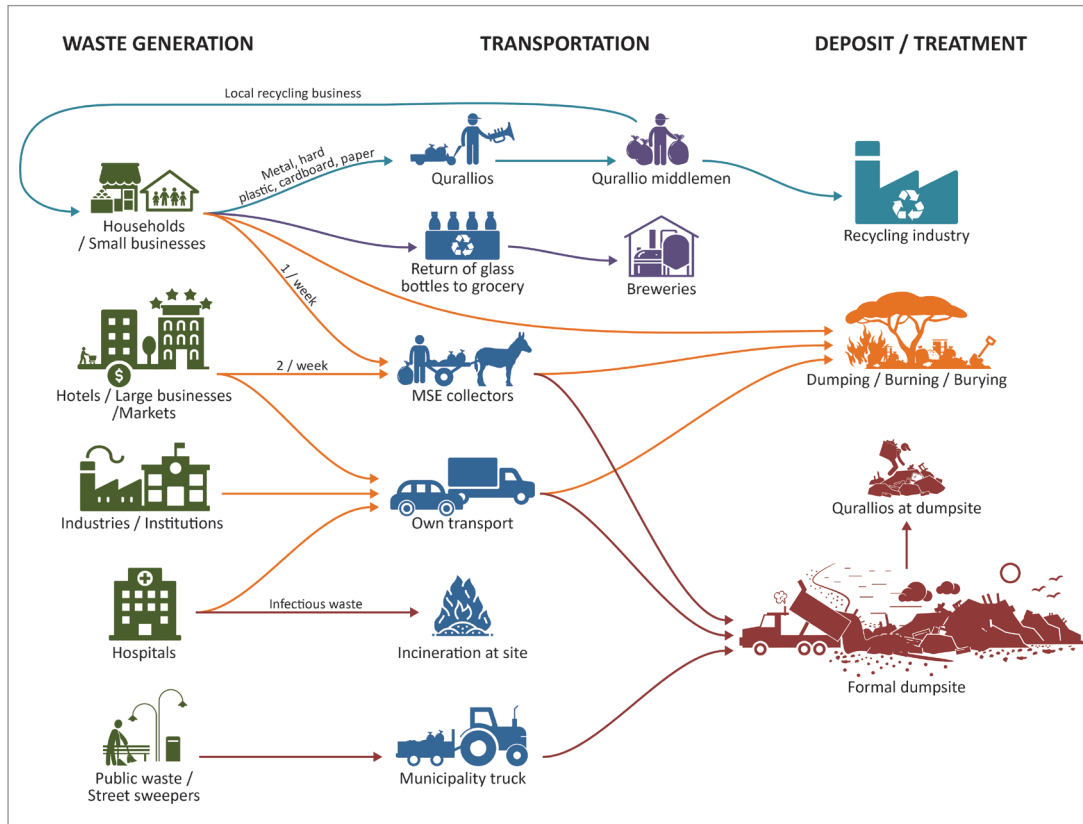


Figure 2. A schematic overview of the current solid waste management system in Shashemene.

The informal waste sector also consists of qurallios. These informal operators pick up recyclable material like glass, metal, hard plastics, cardboard and paper from households. Qurallio middlemen act as the link between the waste generators and the recycling industry. There are also qurallios who separate and take care of recyclable waste at the city's formal dumpsite.

As for commercial establishments, public service institutions, industries and other larger businesses some are connected to the officially organized door-to-door collection system. Others arrange their own waste transport to the formal dumpsite.

Infectious waste from hospitals is burned directly at site.

Public waste collected by officially hired street sweepers is transported by the municipality to the legal dumpsite.

The municipality lacks information on the characterization of the waste stream from the different waste generators. Therefore, it has not been possible to determine the waste composition and generation rate per day. This includes households,

common residential areas, commercial centers and industries. Consequently, the current state of SWM is difficult to control and monitor. However, the scarce data that do exist reveal that more waste is dumped in illegal places compared to the amounts of waste collected through the formal municipal system and transported to the existing, legal dumping site.

The acute shortcoming of SWM services in Shashemene is due to several factors. There is an acute limitation in the technical infrastructure with only eighteen cooperatives (MSE) engaged in the collection and transportation of solid waste using mostly donkey carts. There are around 20 community containers but they are not emptied regularly due to unreliable operation of the collection vehicle. Hence, the daily generated volumes of waste extensively exceeds the municipality's handling capacity.

One factor is also, as previously mentioned, the awareness of SWM issues is low at all levels of the city. Awareness creating activities for the population about solid waste collection systems and how to remove the generated waste currently takes place

intermittently and mostly through community-based organisations.

The political attention from city officials and leaders has been weak, but is now increasing. The

high turnover of city officials limits the municipal capacity to handle the SWM issues on a long-term basis. Many initiatives and activities occur instead on an ad hoc basis.

Process of strategic planning and institutional setting



Figure 3. Institutional setting for solid waste management from national to local level.

Organisation

The SWM in Shashemene is organized via the city administration and operationalized by the Kebele administration. The Oromia region develops a SWM strategy based on the National Strategy that the cities then implement. The institutional setting for SWM from national to local level is shown in Figure 3. While the national and regional strategy lacks adaption to local conditions, this document provides an implementable strategy for improvement of SWM at local level in Shashemene. The local strategy is also in alignment with the national and regional strategy. The strategy may also serve as a tool for people's participation in the urban local development at Kebele level.

Organizational structure of SWM at local level in Shashemene is shown in Figure 4.

Other strategic documents

The *Growth and Transformation plan (GTP 3)* is a key policy for development in Ethiopia. The priorities are set on a national level and they cascade down to the local governments who set the local development targets.

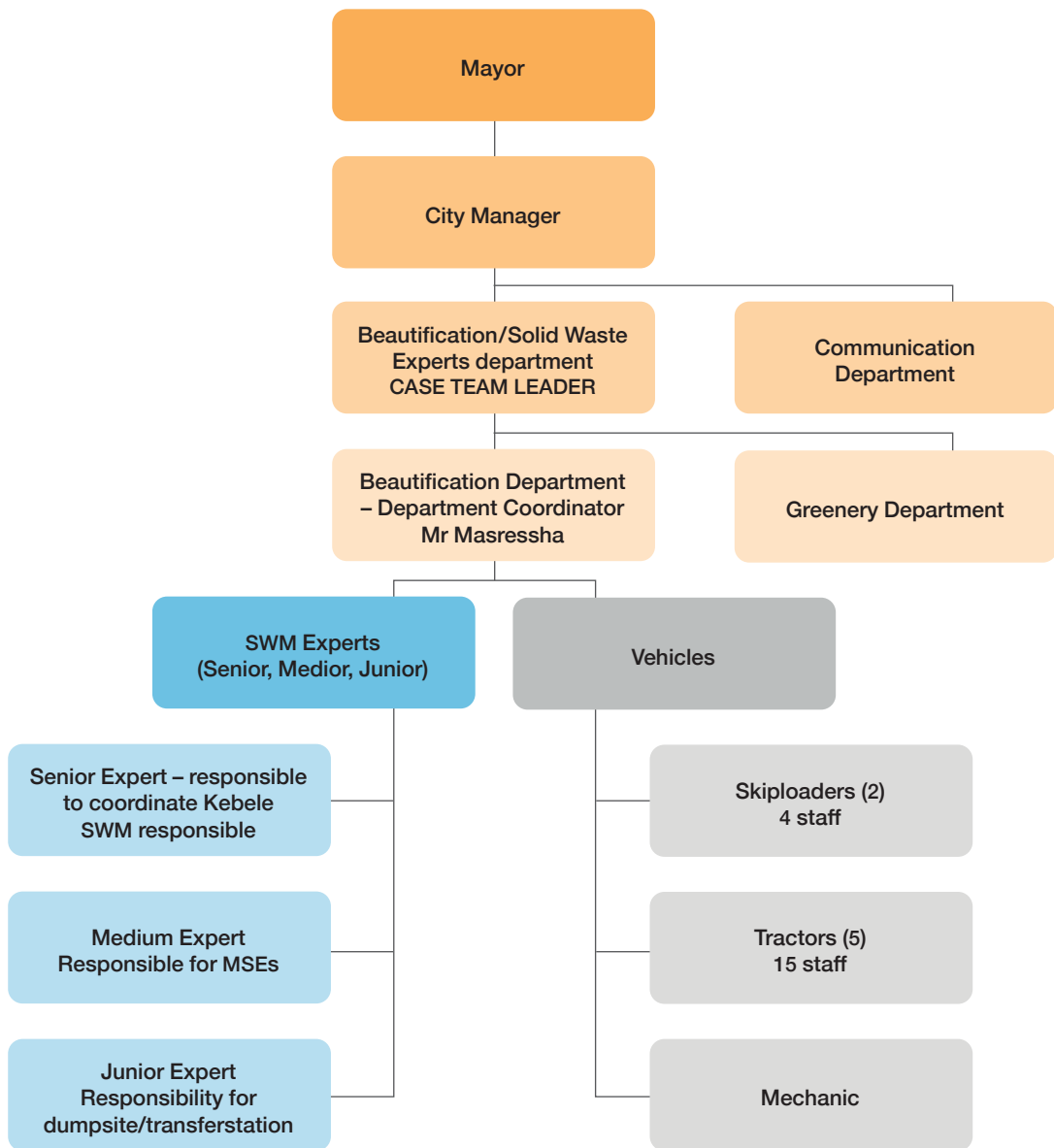


Figure 4. Organizational structure of solid waste management in Shashemene.

Strategic vision

Shashemene is a clean, green city with well informed and responsible community, which leads by example and creates jobs in the environmental protection sector.

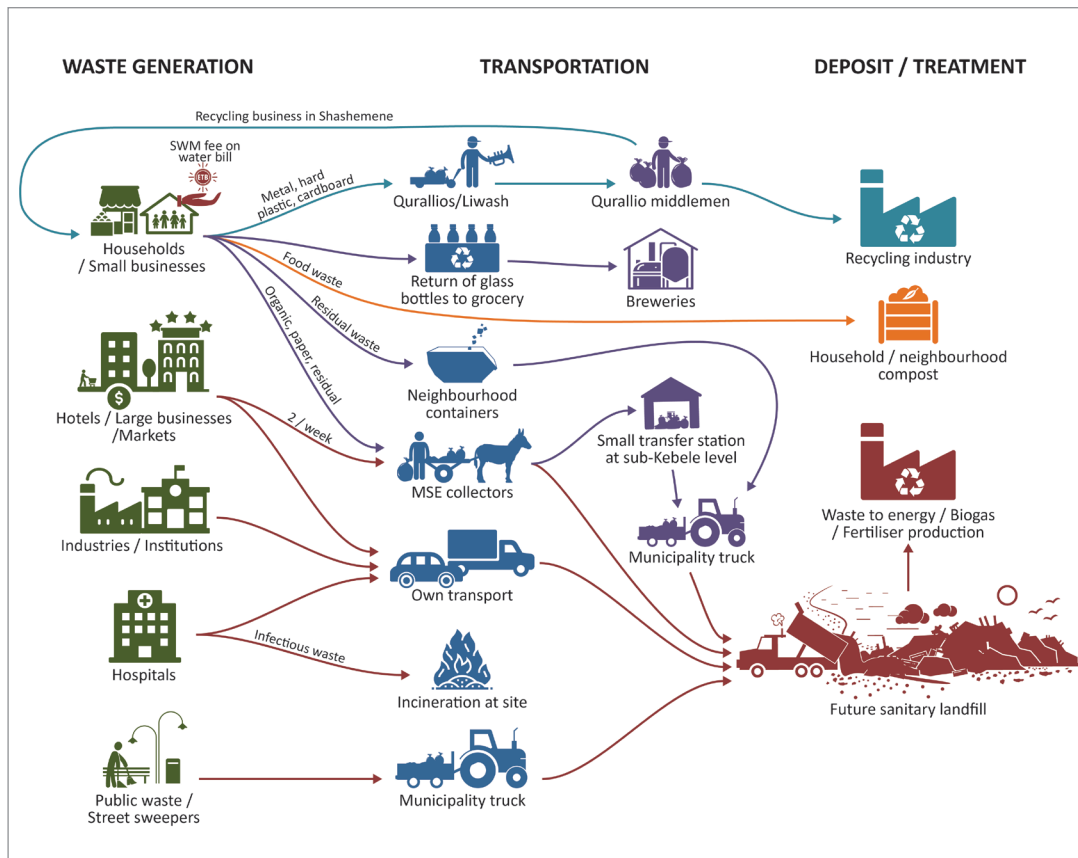


Figure 5. A schematic overview of the future solid waste management system in Shashemene.

The vision statement was evolved through a broad participatory process and has been agreed upon by a large stakeholder group as a common future aspiration. Also, an image of the future SWM system has been developed. Some of the key features are to introduce waste separation at the source, improve collection and waste transportation, increase recycling of recyclables and introduce composting of organic waste.

Mission statement

The mission statement for the city administration regarding SWM is to ensure sustainable growth of the

city through better urban governance that enhances benefits to its citizens.

Key themes for success

The strategy is structured around four key themes (Figure 6):

1. Capacity building and partnerships, stakeholder participation
2. Sound financing and sustainable resources' allocation
3. Awareness raising and communication
4. Waste reduction

Strategy Key Themes



Figure 6. The four important key themes of the strategy; Waste Reduction, Capacity building, Sustainable financing and Awareness raising.

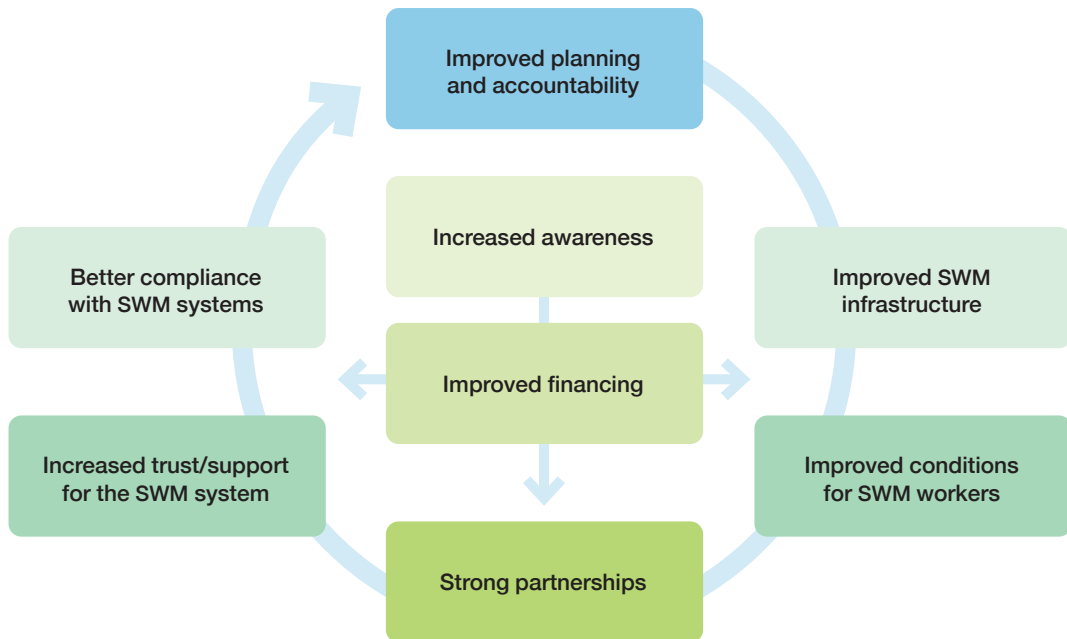


Figure 7. Different parts of the strategy are linked together and jointly they contribute to a stronger system.

Strategy goals and objectives

The strategy consists of six overarching goals. For each goal there are objectives together with targets set for the year 2020 and 2025 respectively. Each objective also has a set of indicators which will enable monitoring of whether an objective will be met or not. A set of activities that need to be carried out in order to reach the goal is linked to each objective.

The following key objectives will be pursued by the city administration in the coming five years. The strategy concerns waste reduction and reuse;

source separation; collection of the generated waste and transportation.

Goals and objectives together with a short descriptive justification of each goal's importance follow below. In addition, key activities for each goal is listed. The full set of targets and indicators are found in Appendix A. A more detailed description of the activities together with who is responsible for carrying them out and when they are to be carried out can be found in Appendix B.

1. High awareness about the SWM system

OBJECTIVE A: Create awareness regarding solid waste management issues for the households of Shashemene.

OBJECTIVE A: Create awareness regarding SWM issues in all sectors of local government in Shashemene.

Why is this important? Raising the level of awareness among the city's inhabitants is a key element to achieve more sustainable SWM. A high awareness of SWM issues can help to form the behavior change and public participation that is needed for the waste management system to be well-functioning. A better understanding of SWM issues and how they relate to health, safety and the aesthetic qualities of the town is believed to build a greater trust and understanding of how the system works. This in turn is expected to increase the number of inhabitants using the formal SWM system, also generating a higher solid waste fee revenue.

Capacity building and awareness raising activities are also needed within the city administration, at Kebele level, at municipality level (other departments) and for the MSEs. A common un-

derstanding of SWM issues and how they relate to other urban issues will facilitate the path towards an effective and efficient delivery of SWM services. It may also generate synergies between the city's different departments.

However, a higher level of awareness cannot deliver change alone. Awareness raising activities need to be accompanied by other measures in order to bring sustainable results.

PLANNED ACTIVITIES

To increase awareness, the *city administration* will:

- Implement awareness program for waste reduction for all actors in the city.
- Carry out capacity development training in the area of SWM for officials and experts at both municipality level and Kebele level.
- Carry out capacity development training in the area of SWM for MSEs.
- Carry out awareness creation activities on SWM towards the households.
- Carry out awareness creation activities on SWM towards various community groups such as religious organization leaders and schools.

2. Improved waste treatment

OBJECTIVE A: Create adequate Solid waste treatment options at municipal level.

OBJECTIVE B: Create adequate solid waste treatment

options for organic waste at household level.

Why is this important? Most of the waste that is generated in Shashemene is organic and can be com-

posted. The compost can be a valuable source of nutrients for plants and can add to the city's urban greening plans. Since the municipality lack formal and safe waste treatment and disposal it is beneficial if some of the waste stream can be diverted and treated in a safe and useful way.

- Promote household composting.
- Collect organic waste separately and organise neighbourhood composting.
- Construct sanitary landfill.
- Support qurallio collectors and provide suitable places for them to work.

PLANNED ACTIVITIES

To increase improved treatment capacity, the *city administration* will:

3. Financial sustainability of the SWM services

OBJECTIVE A: Increase payment of SWM services from households and businesses in Shashemene.

tem, both for the technical infrastructure as such and in terms of SWM workers' working conditions. A strength to build upon is that the budget allocated currently is used efficiently.

OBJECTIVE B: Increasing the share of UIIDP budget for solid waste management service.

OBJECTIVE C: Increasing the investment support from donors other than UIIDP.

To increase financial sustainability, the *city administration* will:

Why is this important? A well-functioning and sustainable SWM system needs financing. Investments are required to build-up the infrastructure needed to handle the generated volumes of waste. More human resources are required at all levels/both department and Kebele level. In addition, operation and maintenance costs need to be planned for and financed. A sound operation and maintenance financing will lead to a more sustainable SWM sys-

- Conduct a resource auditing in the area of SWM.
- Implementation of payment of SWM services through the water bill system.
- Secure funding for logistical vehicles and waste containers.
- Secure funding for waste treatment and recycling facility.
- Improve financial stability for waste collecting MSEs.

4. Well-functioning SWM collection services

OBJECTIVE A: Improve household and business solid waste collection service in each Kebele and reduce informal dumping.

waste disposal in waterways making the city less prone to flooding events and other climate related disturbances.

Why is this important? SWM is closely linked to health and safety aspects. Well-functioning collection services will limit the spread of transmittable diseases as well as improve the safety aspects of the city.

In addition, well-functioning SWM collection services means provision of safe working conditions and social inclusion for waste workers. More job opportunities need to be created to achieve a comprehensive waste management.

Combating illegal dumping of waste will support Shashemene's strive to become a cleaner and greener city. It will support resilience by reducing

By sorting the waste, materials can be treated in an efficient way. This can result in resources being saved and can also generate revenue.

PLANNED ACTIVITIES

To improve the SWM collection services, the *city administration* will:

- Implement new collection system.
- Strengthen the monitoring and follow-up of the collection system.

- Implement transfer station pilot.
- Provide safety equipment and materials to waste collection workers.

5. Strong stakeholder engagement

OBJECTIVE A: Increase and improve cooperation with local stakeholders outside of the municipality.

Why is this important? A broad community perspective is needed in order to generate change. By involving the community, the chances of seeing effective and lasting change in SWM is increased. By communicating with different stakeholders, the needs of various groups can be understood which facilitates needs to find the right solutions.

In addition, the SWM sector can offer new job opportunities for the city's population. There may also be benefits for the private sector to engage, creating new business opportunities and jobs.

Shashemene has a strong community involvement in urban development and in SWM issues through the Kebele organization that can be further developed. Stakeholder participation on SWM has

improved during the recent past, but efforts need to be taken to maintain the momentum. A sound and strong stakeholder engagement builds on carefully planned communication and activities.

A strong stakeholder engagement is also a tool to secure external donor funding.

PLANNED ACTIVITIES

To improve stakeholder engagement, the city administration has during the development of the strategy identified key stakeholders who will be key in improving the solid waste management system.

- Identify the various stakeholders and lead a stakeholder consultation process in the city.
- Create a platform for the private sector to enable them to engage in overall waste management and greenery in the city.

6. Improved planning for SWM

OBJECTIVE A: Increase adequate space for SWM and improve attention to SWM issues in preparation of masterplan and LDP.

Why is this important? As Shashemene is growing and the city is doing both master and local planning it is important to have SWM in mind. To improve households sorting waste and compliance with the new collection system it is important that new developments have considered space for waste handling. This can help to optimise both the convenience for the waste generators and also for the collectors.

PLANNED ACTIVITIES

To improve planning for SWM, the city administration will:

- Involve experts from SWM department in LDP

- Create understanding for the SWM strategy with other municipal departments.
- Follow-up the number of approved LDPs that have considered SWM.

PRIORITIES DURING THE COMING YEARS

Implementation *priorities* during the coming years are outlined in the timeline in appendix to this strategy document.

Implementation, monitoring and follow-up

With the finalisation of this SWM strategy, including the identification of goals and commitments, the city administration will start implementation. Capacity development in terms of both human and financial resources play a key role of the strategy.

Progress of the project will be evaluated throughout and at the end of the project by:

- Having a communication plan for updating key stakeholders and providing project progress reports in review meeting for concerned bodies.
- Facilitating participatory evaluation approach, monitoring and evaluation approach involving beneficiaries.
- Through monitoring and evaluation results operational results
- Periodic field visit with City Council (community representatives), the working group, city cabinet and project team.
- The whole monitoring and evaluation will be carrying out by working group, project team, Solid waste management department of municipality, collaborating with mayor office of the city.

While implementation will be guided by the below principles:

- Ensure accountability and transparency at all levels.
- Ensure public participation at all levels.
- Assign roles and responsibilities to the general public and the implementers of the plan.

To learn during the journey of implementation

As the strategy is turned to action, the work of documenting and learning also need to start. Knowledge and understanding generated during the implementation process need to be collected, documented and shared in a structured way. Experiences distilled from activities should be actively considered in future actions and behaviors.

Strategic vision: “Shashemene is a clean, green city with well informed and responsible community, which leads by example and creates jobs in the environmental protection sector.”

Key Issue: Poor awareness of proper SWM practices and their implications in the community			
Objective A Create awareness regarding solid waste management issues for the households of Shashemene.		Objective B Create awareness regarding SWM issues in all sectors of local government in Shashemene.	
Indicator % of household that are aware of basic facts regarding SWM.	Indicator Number of Kebeles that have held trainings regarding SWM at household level	Indicator Number of sectors that have participated in SWM training.	Indicator Number of sectors that have proper recycling stations in their office buildings.
Target by 2020 20% of the household are aware of basic facts regarding SWM.	Target by 2020 8 Kebeles have held trainings regarding SWM at household level.	Target by 2020 20 sectors have received training on the fundamentals of SWM strategy.	Target by 2020 10 offices have proper recycling stations in their office buildings.
Target by 2025 50% of the household are aware of basic facts regarding SWM.	Target by 2025 8 Kebeles have held multiple trainings regarding SWM at household level.	Target by 2025 20 sectors have received continued training on the science of SWM.	Target by 2025 20/all offices have proper recycling stations in their office buildings.

Key Issue: Lack of adequate solid waste treatment options	
Objective A Create adequate Solid waste treatment options at municipal level.	Objective B Create adequate solid waste treatment options for organic waste at household level.
Indicator % of waste generated which will be treated in a sound way.	Indicator % of generated organic waste which will be treated at household level.
Target by 2021 50% of waste generated which will be treated (measurement by m ³).	Target by 2021 20% of organic waste generated will be treated at household level.
Target by 2025 80% of waste generated which will be treated (measurement by m ³). 80% of organic waste is treated biologically.	Target by 2025 40% of organic waste generated will be treated at household level.

Key Issue: Increasing the financial sustainability of the SWM system by three sources		
Objective A Increase payment of SWM services from households and businesses in Shahemene.	Objective B Increasing the share of ULGDP budget for solid waste management service.	Objective C Increasing the investment support from donors other than ULGDP.
Indicator % household and businesses that are paying the municipality for SWM services.	Indicator % of ULGDP budget directed toward SWM infrastructure.	Indicator Amount of money received from donors.
Target by 2021 50% of the household and businesses are paying for SWM services. Target by 2025 80% of the household and businesses are paying for SWM services.	Target by 2021 The Share of SWM projects from the ULGDP budget will increase by 10%. Target by 2025 The Share of SWM projects from the ULGDP budget will increase by 20%.	Target by 2021 The amount of money received from donors will increase by 30% from 2018. Target by 2025 The amount of money received from donors will increase by 50% from 2018.

Key Issue: Lack of comprehensive Solid waste collection service
Objective A Increase comprehensive solid waste collection service.
Indicator A % of total populated city area that has comprehensive solid waste collection service. Indicator B Number of households that have comprehensive solid waste collection. Indicator C Number of Identified problem areas (currently 31) with informal dumping that are cleaned.
Target A by 2020 To identify the areas that have door-to-door collection, as well as areas covered by common waste collection (community container) and increase the coverage by 10%. Target B by 2020 30 000 households (out of about 50 000) will have solid waste collection. Target C by 2020 20 of the identified problem areas where informal dumping is taking place are cleaned and when appropriate made green. Target A by 2025 At least 80% of the populated areas of the city have solid waste collection. Target B by 2025 48 000 households (out of about 60 000) will have solid waste collection. Target C by 2025 All of the identified problem areas (that were identified in 2018) where informal dumping is taking place are cleaned and when appropriate made green.

Key Issue: Lack of cooperation with local stakeholders other than the municipality
<p>Objective A Increase and improve cooperation with local stakeholders outside of the municipality.</p>
<p>Indicator Number of local stakeholders, other than municipality like government sectors, NGOs and business groups who are cooperating with the municipality regarding SWM issues.</p>
<p>Target by 2020 100 stakeholders are involved in the SWM of the city.</p> <p>Target by 2025 Shashemene has a strong cooperation with local stakeholders other than the municipality regarding SWM issues.</p>
Key Issue: Lack of adequate space for SWM, due to poor attention to SWM system during preparation of masterplan and LDP
<p>Objective A Increase adequate space for SWM and improve attention to SWM issues in preparation of masterplan and LDP.</p>
<p>Indicator Number of building permits that include SWM (same as for septic tank). Number of comments given to regional government to include space for SWM in new construction. Masterplan that includes space for SWM. Number of LDP that includes space for SWM.</p>
<p>Target by 2020 At least 1 building permit includes space for SWM. Masterplan for Shashemene that includes space for SWM.</p> <p>Target by 2025 At least 1 LDP that includes space for SWM. Regional government includes space for SWM in plans sent to Shashemene.</p>

Major activities to be undertaken

	• Pilot transfer station	No	1
	• Provide three-holed dustbins for each Households and on main roads at equal intervals with captions written on each type to identify the purpose of the dustbins.	No	10000
	• Completing the construction of landfill.	No	1
	• Road maintenance leading to the dump site.	m	1000
	• Scale up transfer station in all sub-communities/Ketenas.	No	16
	• Construction of qorales shade for sorting solid waste.	No	8
	• Fencing/Building retaining wall of the previous Aleluu sub-city transfer site.	m	868
	• Rehabilitation of previous informal solid waste disposal site found at Bulchana sub-city.	No	1(700m ²)
	• Logistical vehicles.	No	4
	• Trucks for moving SW from Transfer Station to damp site.	No	5
	• Solid Waste Loaders at transfer Station to dumping site.		4
	• Large waste containers at each transfer stations and sub-communities/Ketenas.	No	50
	• Compost production shade construction at Alelu transfer station.	No	1
2	Providing Safety tools and materials for SW Collectors	Person	375
	Awareness creation		
	• Train & Organize “Qorale” and SW collector SMEs on SWM, Sorting, recycling, and composting.	Person	300 individuals
	• Dwellers around the transfer stations.	Person	500
	• Religious organization leaders. • Community elders and leaders like Abbaa Gadas & Hadha Sinqes.	Person	150
3	• Students and school structure.	“	18200
	• Communities members/ model HHs from each sub-city.	“	5000
	• City & Kebele Administrators.	“	72
	• Public Transport Service office.	“	2
	• Members of MSEs of Solid waste collectors.	“	250
	Communication		
4	• Promoting the SWM activities - labeled shirts.	No	250
	• Written media.	“	500
	• Public media (radio, TV).	minutes	15/week

Activity schedule and budget SWM system improvements

8.1 Activity schedule

	Outputs	Activity Description	Implementation schedule								Implementing organization
			2021				2022				
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Infrastructure	Output 1: 31932 dustbins installed at public places and institutions.	Provide three holed dustbin for 70% of the households and at the main roads.				6386	6386	6388	6386	6386	Shashemene city municipality, relevant actors
	Output 2: One rehabilitated informal solid waste dumping site and made ready for public use.	Rehabilitation of previous informal solid waste disposal site found at Bulchana sub-city;					1				
	Output 3: Transfer station ready for solid waste segregation and transfer to the permanent landfill site.	<ul style="list-style-type: none"> Finalizing one common transfer station at Alelu sub-city; Scaling-up 16 transfer station Fencing the common transfer station 				1					
						2	3	4	4	3	
						868m					
	Output 4-5: waste loading trucks, 4 loaders, and 4 Vehicle made available at transfer station for use.	Loaders Truck and Vehicles			4						
					5						
						4					
Output 5: Landfill with well-established access road made ready for use.	Completing landfill construction; Construction of access road.				1						
					500m	500m					
Output 6: Construction of 8 Qorales shade for sorting solid waste.	Qorale segregation station/shade should be constructed at each sub-city.				1	2	2	2	1		
Output 7: 1 Compost production shade construction at Alelu transfer station.	Making composting site available for MSEs engaging on compost production.					1					
Output 8: 50 waste containers made available at transfer stations and secondary waste disposal sites.	Waste holding containers should be distributed to each transfer station and sub-stations.			50							
Technical capacity	Output 9: 500 trained households dwelling around the transfer station.	<ul style="list-style-type: none"> Awareness rising of dwellers around the transfer station. “Abba Gada”, “haadha Sique” & religious organizations. Students and school structure. City & Kebele Administrators. Public Transport Service Office. 			300	200					
						75	75				
						3640	3640	3640	3640	3640	
						72					
				2							
Output 10: 5000 households trained on solid waste management for 2 days.	Training of 10 model households from each sub-city for two days.				5000						
Output 11: 300 SME and “qorale” trained on solid waste collection, handling, transport, segregation and composting for 5 days.	300 MSEs and “qoralio” will be trained on SWM system for two week.				50	100	100	50			

	Outputs	Activity Description	Implementation schedule								Implementing organization
			2021				2022				
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Communication	Output 12: 500 leaflets, brochures and bulletins prepared and disseminated to different institutions and the general public.	A total of 500 written communication media will be prepared, published and distributed for the public and other interested and affect actors.				200		100		200	Shashemene city municipality
	Output 13: City administration presents it SWM performance on TV and radio for one days per week for 15 minutes.	Defined schedule should be set per week to present city waste management performance (minutes).				15					
Participation	Output 14: 10,000 households involved in solid waste segregation and composting.	70% households will involve on solid waste segregation.				500	1000	1500	2000	2500	Shashemene city municipality, health extension, relevant actors
	Output 15: 300 quintal of compost produced per week.	Preparation of 300 quintal of compost per week.					3600	3600	3600	3600	
	Output 16: 11 institutions and 40 individuals integrate with compost producer enterprises.	20% of institutions in the city and 20% of HHs will integrate/participate in compost production.				51	51	51	51	51	
	Output 17: 40 actors integrate with the municipality in SWM.	15% of institutions in the city will integrate with the municipality in SWM.			40	40	40	40	40	40	
	Output 18: 11,405 households are willing to pay for SWM services.	Households willing to pay for SWM will reach increase by 50% of the inhabitants.				11405	11405	11405	11405	11405	
Monitoring	Output 19: Prepared annual follow up matrix for solid waste management.	Preparation of annual follow-up matrix for SWM evaluation.			1	1	1	1	1	1	Project Coordinator, The city municipality, health extension, relevant actors
Support	Output 20: 5 enterprises will be provided with loan of Br.1,000,000 to implement the solidwaste disposal objectives.	Providing 10000 birr loan for xxx enterprises (1000,000 ETB per MSEs).				2	3				Shashemene city municipality, health extension, relevant actors
	Output 21: 375 MSEs members provided with appropriate safety materials.	Providing xxx safety clothes (gloves, masks, boots etc.) and xxx material for MSEs.				375					

8.2 Budget breakdown (in Ethiopian Birr)

Component	Activity Description	Unit	Qty	Unit cost	Total cost	Budget source	Implementing organization
Infrastructure	Provide three holed dustbin for 70% of the households and at the main roads.	No	31932	2000	63,864,000	10% HHs, 20% municipality 20% investors & the university, 50% NGOs and external donors	Shashemene city municipality, relevant actors
	Rehabilitation of previous informal solid waste disposal site found at Bulchana sub-city;	No	1		500,000	80% NGOs 20% municipality (initial)	
	Finalizing one common transfer station at Alelu sub-city;	No	1	1,900,000	1,900,000	The budget is already allocated in the cities 2012 EC. CIP program 75% Municipality & 25% NGOs	
	Scaling-up of 16 transfer station (2 per sub-city).	No	16	800000	12,800,000	75% municipality 15% local NGOs 10% Investors	
	Fencing of transfer stations.	m	868	2569.12	2,230,000	100% by Municipality and UIIDP program	
	Waste loading trucks.	Qty			6,250,000	Municipality and NGO's	
	Loaders.	Qty			6,000,000	NGOs	
	Vehicle at transfer stations for use.	Qty					
	Completing landfill construction;	No			125,000,000	20% Municipality 80% NGOs	
	Construction of access road to the landfill.	m	1000	1428.57	1,000,000	Municipality	
	Qorale segregation station/ shade should be constructed at each sub-city.	No	8	200000	1,600,000	25% qorale, 75% Local NGOs	
	Compost production shade construction at Alelu transfer station.	No	1	2,000,000	2,000,000	20% Municipality 80% NGOs	
	Waste holding containers should be distributed to each transfer station and sub-stations.	No	50	2000	100,000	NGOs	
Technical capacity	Awareness rising of:						Shashemene city municipality, relevant NGOs, Universities
	Dwellers around the transfer station.				60,000	Municipality & Working Group	
	"Abba Gada", "haadha Siqe" and religious organizations.	No	150	200	30000	Municipality & Working Group	
	Students and school structure						
	City & Kebele Administrators.	No	72	200	14400	Municipality & Working Group	
	Public Transport Service office.	No	2	200	400	Municipality & Working Group	
	Training of model households from each sub-city for two days.	No	11405			Municipality & Working Group	
	Members of MSEs of Solid waste collectors.	No	250	200	50000	Municipality & Working Group	
	Training of MSEs and "qorale" on SWM system for two week.	No	300	2100	630,000	40% TVET College 40% university 20% NGO	

Component	Activity Description	Unit	Qty	Unit cost	Total cost	Budget source	Implementing organization
Communication	Preparing written communication media and distributing for different actors.	No	500	50	25,000	Municipality & Working Group	Shashemene city municipality
	Presentation of SWM performance on TV and Radio.	weeks	65	5000	325000		
Participation	Households involvement in solid waste segregation.						Shashemene city municipality, health extension, relevant actors
	Preparation of 300 quintal of compost per week.	Qunt	300			MSEs	
	Integration of institutions in the city and of HH in compost production.						
	Integrating institutions in SWM.						
	HH willing to pay for SWM assessment.						
Monitoring	Preparation of annual follow-up matrix for SWM evaluation.						Shashemene city, health extension, relevant actors
Support	Providing loan for enterprises.	ETB	5	200000	1,000,000		
	Providing safety clothes (gloves, masks, boots etc.) and material for MSEs.		375	3293.33	1,235,000	20% UN Habitat 40% NGOs 40% by Municipality	
Logistics	Fuel and lubricants.	lts	650	20	13000		
	Stationery.	lumpsum			50000		
	Allowance (working group + project coordinator).	Month	15 (Q3)	11,500	172,500		
	Total				226,348,800		

SymbioCity supports local governments in addressing several of the Sustainable Development Goals (SDGs) and in implementing the principles of the New Urban Agenda. The overall goal is to improve living conditions with a special emphasis on the urban poor.



SymbioCity

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of Local Authorities
and Regions**

SymbioCity is based on Swedish municipalities' approach to urban development and experiences from implementing this in transition- and developing countries. Since 2010, with funding from the Swedish International Development Cooperation Agency (Sida), the Swedish Association of Local Authorities and Regions (SALAR) and SKL International have used SymbioCity as an approach and a method to promote sustainable urban development and contribute to the alleviation of urban poverty around the globe.

To learn more about SymbioCity please see www.symbiocity.org, call phone + 46 (0)8 452 70 00 or send us an e-mail on info@sklinternational.se