

WASTE REPORT

2019-2020



CHATTOGRAM CITY CORPORATION

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LIST OF ACRONYMS

Add. CWMO	:	Additional Chief Waste Management Officer
AE	:	Assistant Engineer
BDT	:	Bangladesh Taka
CC	:	City Corporation
CCC	:	Chattogram City Corporation
CI	:	Conservancy Inspector
CS	:	Conservancy Supervisor
CSS	:	Chattagram Seba Sangstha
CUWG	:	Community Unit Working Group
CWMO	:	Chief Waste Management Officer
DNCC	:	Dhaka North City Corporation
DoE	:	Department of Environment
DSCC	:	Dhaka South City Corporation
EE	:	Executive Engineer
FY	:	Fiscal Year
GAP	:	Grant Aid Project
GDP	:	Gross Domestic Product
GED, PC	:	General Economic Division, Planning Commission under the Ministry of Planning of Govt. of Bangladesh
GoB	:	Government of Bangladesh
HT	:	Hand Trolley
JICA	:	Japan International Cooperation Agency
JPT	:	JICA Project Team
LFS	:	Landfill Site
LGD	:	Local Government Division
MoEFCC	:	Ministry of Environment and Forest and Climate Change
MoLGRDC	:	Ministry of Local Government, Rural Development and Cooperation
NGO	:	Non-Governmental Organization
OHSE	:	Occupational Health Safety and Environment
PPE	:	Personal Protective Equipment
RV	:	Rickshaw Van
SCP	:	Secondary Collection Point
SE	:	Superintendent Engineer
SSC	:	Safety and Sanitation Committee
STS	:	Secondary Transfer Station
SWM	:	Solid Waste Management
TOR	:	Terms of Reference
UNDP	:	United Nations Development Programme
WATSAN	:	Water and Sanitation
WBA	:	Ward-Based Approach
WMC	:	Waste Management Cell
WMD	:	Waste Management Department

MESSAGE FROM HONORABLE MAYOR



Chattogram is the business capital and second largest city of Bangladesh. With country's rapid growth of Gross Domestic Product (GDP), economic development of Chattogram has also accelerated in recent years. Due to the development of economy, city dwellers generate higher amount of waste compared to the past.

Chattogram City Corporation (CCC) has been managing the municipal wastes coping up with increasing wastes and the demand of the citizens to provide better service. Along with transforming waste from secondary waste collection points to final disposal site, CCC collects the wastes directly from the households and other waste generators by its "Door-to-Door" service. This has paved the way for better waste management in CCC.

CCC has taken many initiatives to improve the waste collection and transfer to the disposal sites like employing huge manpower for the primary collection, increase the number of rickshaw vans, tom toms and other waste collection vehicles with the help of the government and different organizations.

It is necessary for the people to learn about the waste management of CCC more to cooperate and support in the process.

It is my great pleasure to announce that with the technical assistance of Japan International Cooperative Agency (JICA), CCC is going to publish the waste report of CCC and make it available for the public. This waste report of CCC will help many scholars and public in learning the activities and responsibilities of CCC to manage the municipal waste. This will also help in improving the transparency of the waste related activities of CCC.

I wish CCC will continue to prepare such waste report for every fiscal year which will help in planning to cope with better solid waste management demand.

Md. Rezaul Karim Chowdhury
MAYOR

MESSAGE FROM CHIEF EXECUTIVE OFFICER



CCC is working towards improving its solid waste management relentlessly to provide a clean and safe city and keep its commitments to provide public services to the citizens.

JICA is helping CCC to build the capacity of CCC with the goal of building a full-fledged waste management department in future. As a part of this process CCC has formed a Waste Management Cell (WMC) back in 2019 and since then trying to improve the management by coordinating among different departments related to solid waste management.

As a part of this process CCC has realized the importance of preparing a waste report which is essential to understand the volume of waste generation and CCC's capacity and initiatives to manage the municipal wastes.

Our city corporation is committed to keep its activities and work transparent and accountable to our city dwellers, achieving it through an annual report on waste management to compile all WMC's activities and analysis. This annual report is the first of its kind that has been compiled with the available waste data and published for the readers. The report will help CCC to improve the waste management.

Kazi Mohammad Mozammel Hoque
CHIEF EXECUTIVE OFFICER

INTRODUCTION TO WASTE REPORT



Conservancy Department is the core responsible division of CCC for the cleanliness of the city. With a manpower of over 3,600 people this department has been working day and night for the “Door-to-Door” waste collection, street sweeping, drain and canal cleaning and mosquito control.

CCC removes about 2,000 tons of wastes from the city to the disposal sites and it is done by the tremendous work of the Conservancy Department with the support of the Engineering department.

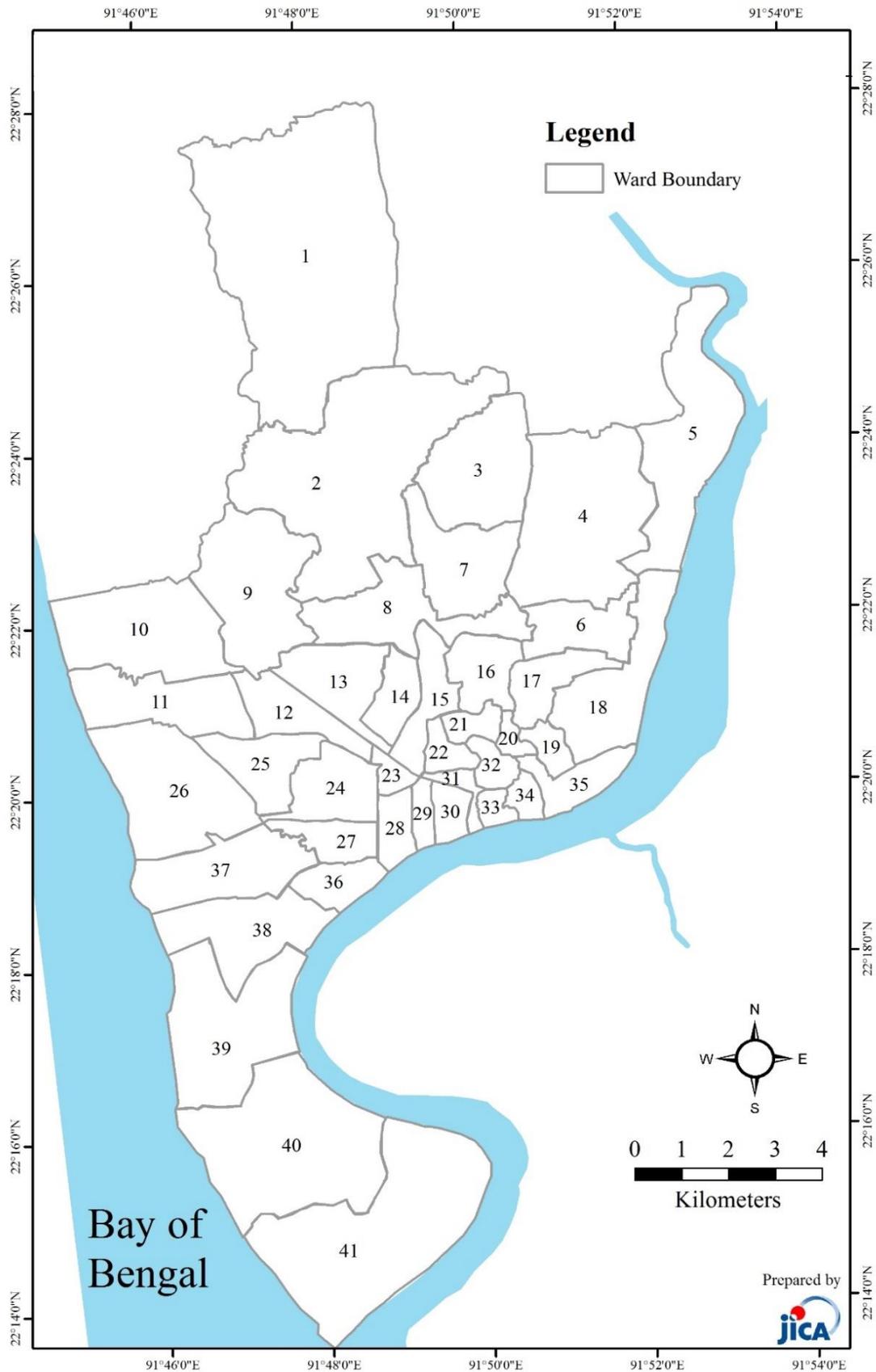
Conservancy Department makes monthly report of the volume of the waste removal from the city which till now has been used only for the official purpose internally.

This annual waste report of CCC is the first time being published and intended to give some preliminary idea to the citizen regarding the management of waste in CCC area so that the citizen can appreciate the waste situation and CCC’s efforts and understand how much our effort is to manage those effectively.

I hope this report will help building citizen awareness as well as to participate in helping CCC to keep the city clean and healthy.

Shafiqul Mannan Siddiqui
CHIEF CONSERVENCY OFFICER

AREA MAP OF CITY CORPORATION



CHAPTER 1: OVERVIEW OF SOLID WASTE MANAGEMENT

1.1 Background

Chattogram is the business capital and the second-largest city of Bangladesh. The country's largest coastal seaport is situated here which makes this city the export hub of Bangladesh contributing almost half of Bangladesh's total export earnings. With the country's rapid growth of Gross Domestic Product (GDP), the economic development of Chattogram has also accelerated in recent years. Due to the continued economic growth, living standard of the city dwellers also on the rise.

Together with development of the economy, city dwellers generate a higher amount of waste compared to the past. Urban solid waste management (SWM) is currently seen as one of the most immediate and serious issues for city authorities due to its inadequate and often inefficient management, and visible environmental degradation. The residents of Chattogram City Corporation (CCC) are facing serious disruption of environmental and public health risks due to uncollected mass of waste on streets and other public areas, drainage congestion by indiscriminately dumped wastes, and contamination of water resources near dumping sites. Gradually citizens started to pay more attention to waste cleaning services provided by the city authority due to their continuous improvement of living standards.

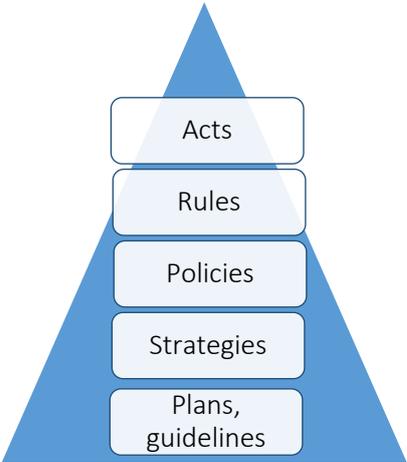
A technical cooperation project on SWM of JICA has started in CCC since 2017. CCC has been trying to make the city clean and livable by putting more emphasis on SWM with the support of this project.

1.2 Regulatory Framework on SWM

Government of Bangladesh (GoB) has formulated various regulatory documents which directly and indirectly asks for management of solid waste and impose the restriction on environmental pollution and ensure the protection of the environment.

Types of regulatory documents such as Acts, Rules, Policy, and Strategy delineate the responsibilities of SWM and the importance to be shouldered by different entities mostly by local government institutions such as municipalities those are summarized in the table below. Acts are top of most documents and considered as roots of all regulatory documents and plans fall in the bottom which is typically prepared by executing or implementation entities and mostly with the approval of line ministries.

Types of regulatory documents that influence SWM.

Typical hierarchy of regulatory documents	Example of regulatory documents	Approving, formulating entities
	<ul style="list-style-type: none"> Local Govt. (City Corporation) Acts, 2009 Amended 2011 Environmental Conservation Act, 1995 	<ul style="list-style-type: none"> The Parliament
	<ul style="list-style-type: none"> Environmental Conservation Rules, 1997 Draft SWM Rules 2019 	<ul style="list-style-type: none"> Ministries (DoE, MoEFCC)
	<ul style="list-style-type: none"> National Policy for Safe Water Supply and Sanitation 	<ul style="list-style-type: none"> LGD, MoLGRDC
	<ul style="list-style-type: none"> National 3R Strategies for WM, 2010 National Strategy for WATSAN, 2014 	<ul style="list-style-type: none"> DoE, MoEFCC LGD, MoLGRDC
	<ul style="list-style-type: none"> 7th Five Year Plan Sector development Plan for Water Supply and Sanitation, 2011 New Clean Dhaka Master Plan for SWM 2018-2032 (in process of approval by LGD) 	<ul style="list-style-type: none"> GED, PC LGD, MoLGRDC DNCC and DSCC

CCC has not formulated any plan, policy, or strategy to establish proper SWM yet but they are maintaining all kind of waste management related data which are prerequisites for SWM planning. CCC is planning to prepare a plan of overall waste collection and transportation system in the next FY with the technical support of JICA Project Team (JPT). Gradually, CCC will go for preparation of integrated SWM which will not only waste collection and transportation but also landfill site management, or waste reduction.

1.3 Ward-wise waste generation

The amount of waste in CCC is increasing day by day due to increased number of infrastructure developments, shopping complexes, restaurants, markets, bazaars along with roadside tea-stalls, floating vendors, and flower markets on the footpath. In FY 2019-2020, per capita per day waste generation is found 0.60kg.

Waste generation varies from ward to ward due to the economic status and lifestyle pattern. People in Ward 07 and Ward 14 generate much more waste compared to other wards. These wards cover places like Lalkhan Bazar and West Sholosohor where a huge number of residence and colony can be found. And the collection rate of the generated wastes are the same in every ward. The Ward-wise waste collection in ton/day is calculated from the generation amount and shown in the figure below.

Waste Report 2019-2020
 Chattogram City Corporation

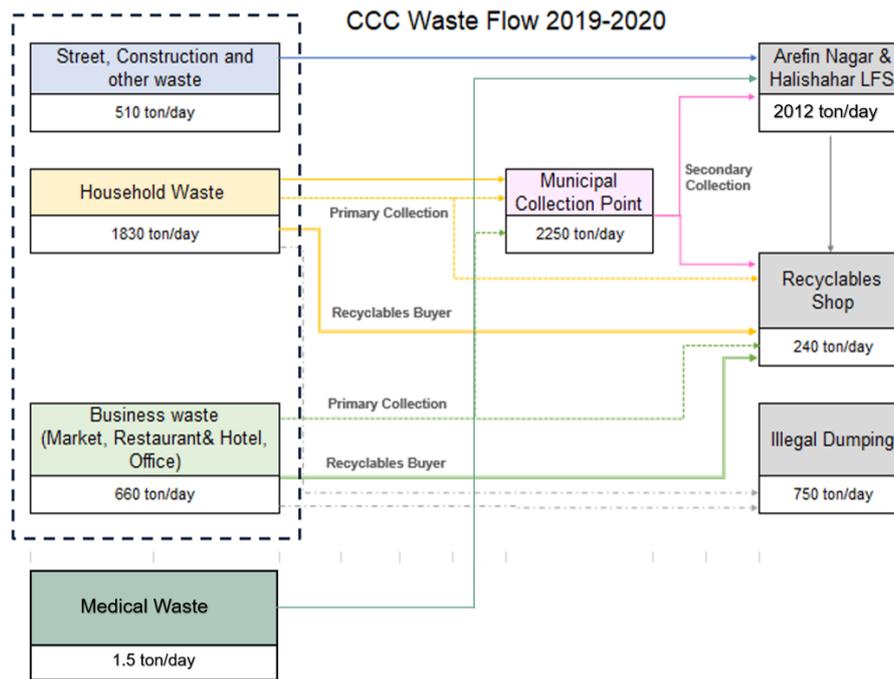
Ward No	Population	HH Waste (Ton/Day)	Street & Construction Waste (Ton/Day)	Business Waste (Ton/Day)	Total Waste Generated (Ton/Day)	Total Waste Collectd (Ton/Day)
Ward-01	53,269	20	5	7	32	21.55
Ward-02	251,761	93	26	33	152	101.84
Ward-03	124,738	46	13	17	75	50.46
Ward-04	200,217	74	21	27	121	80.99
Ward-05	133,000	49	14	18	80	53.80
Ward-06	124,849	46	13	17	75	50.50
Ward-07	347,264	128	36	46	210	140.48
Ward-08	268,792	99	28	36	162	108.73
Ward-09	140,184	52	14	19	85	56.71
Ward-10	70,436	26	7	9	43	28.49
Ward-11	192,557	71	20	26	116	77.89
Ward-12	144,438	53	15	19	87	58.43
Ward-13	186,098	69	19	25	112	75.28
Ward-14	208,885	77	21	28	126	84.50
Ward-15	77,144	28	8	10	47	31.21
Ward-16	90,165	33	9	12	54	36.47
Ward-17	163,896	60	17	22	99	66.30
Ward-18	117,048	43	12	16	71	47.35
Ward-19	142,519	52	15	19	86	57.65
Ward-20	53,333	20	5	7	32	21.57
Ward-21	59,082	22	6	8	36	23.90
Ward-22	62,137	23	6	8	38	25.14
Ward-23	69,420	26	7	9	42	28.08
Ward-24	198,064	73	20	26	120	80.12
Ward-25	93,264	34	10	12	56	37.73
Ward-26	91,341	34	9	12	55	36.95
Ward-27	110,722	41	11	15	67	44.79
Ward-28	79,481	29	8	11	48	32.15
Ward-29	98,491	36	10	13	59	39.84
Ward-30	88,472	33	9	12	53	35.79
Ward-31	31,887	12	3	4	19	12.90
Ward-32	38,409	14	4	5	23	15.54
Ward-33	51,892	19	5	7	31	20.99
Ward-34	67,842	25	7	9	41	27.44
Ward-35	60,745	22	6	8	37	24.57
Ward-36	78,735	29	8	10	48	31.85
Ward-37	71,991	27	7	10	43	29.12
Ward-38	117,196	43	12	16	71	47.41
Ward-39	188,680	69	19	25	114	76.33
Ward-40	137,899	51	14	18	83	55.78
Ward-41	81,811	30	8	11	49	33.09
Total	4,968,154	1,830	510	660	3,000	2010.00



Ward-wise waste collection amount in FY 2019-2020

1.4 Waste Collection Trend

CCC currently collects 75% of solid waste by using their available vehicles. Above 80% collection rate could be achieved by introducing more vehicles and adopting more efficient and modernized collection system in the city. The solid waste sources and their final disposal scenario is depicted in the waste flow diagram for the FY 2019-2020 as shown below.

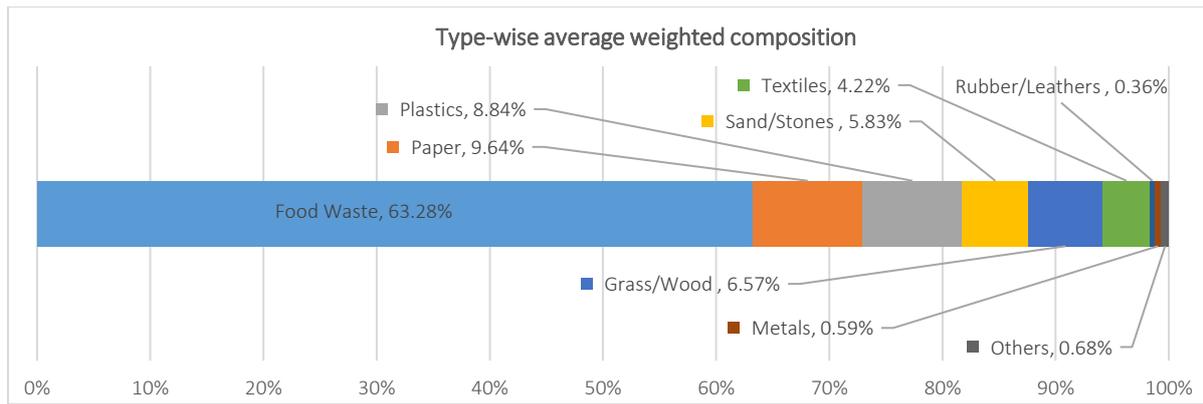


Waste Flow of 2019-20 FY

The above diagram considers waste generation in the 41 wards of CCC. Street waste and construction waste collected by the city corporation are taken either directly to the LFS or municipal collection points. Non-recyclable waste generated from households and local businesses is collected mainly by primary collectors and is transported to the landfill via municipal collection points. Recyclable waste is collected in three ways by recyclable buyers, primary collectors, and waste pickers at the LFS. Around 240 tons of wastes (only 8% of total wastes) have been recycled each day. Meanwhile, on average 750 tons of wastes (25% of total wastes) are being uncollected or disposed of in canals, drains, or open spaces. Moreover, the medical wastes are collected by a private company called 'Chattogram Sheba Shangstha (CSS)' and the collected medical wastes are directly dumped into Halishahar Landfill Site and the daily collection amount is about 1.5 ton/day. And some infectious wastes are incinerated openly in the landfill site.

1.5 Composition of Solid Waste

The composition of municipal solid waste depends on the various source, seasons, income level, lifestyle, etc. Food waste is the major portion of household, market, and restaurant waste. The generated solid waste also contains paper products, plastics, rubber, textile, metal glasses, garden wastes, and many other materials. The overall waste composition of the different sources is presented in the figure below.



Source: DNCC New Clean Dhaka Master plan (2018-2032)

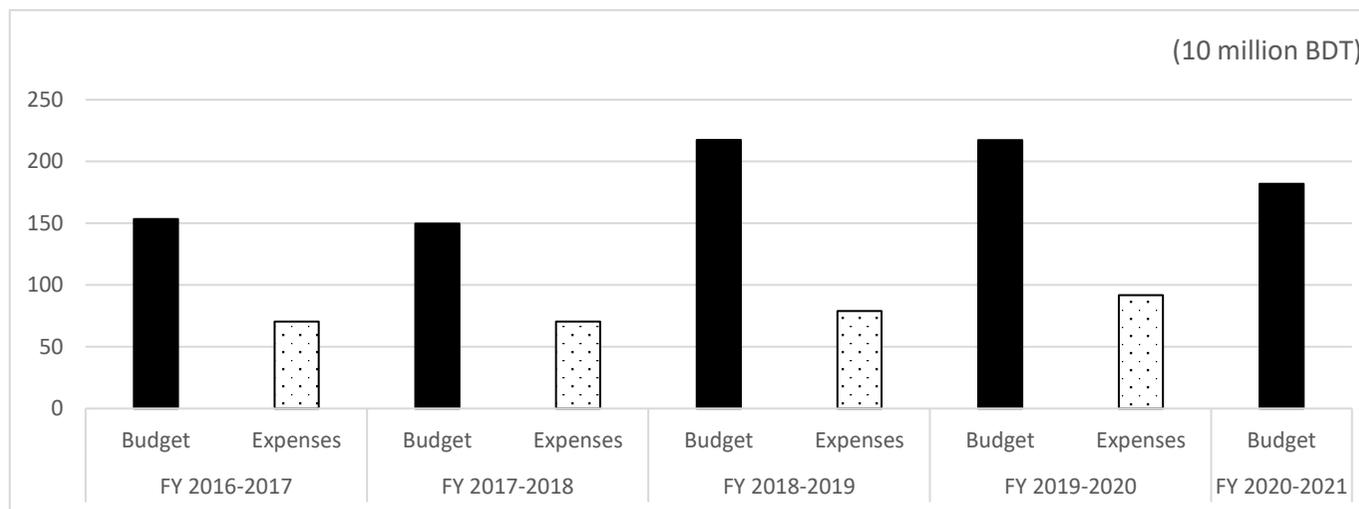
1.6 Budget and Expenditure

A budget helps an organization allocate the resources of the organization to different departments and activities and manage the cash flows of the activities effectively. There are many types of budgets. As there is no separate department for waste management in CCC, so financial information is not managed in a proper category rather all budget and expenses allocated with the combination of different departments. So, it is quite difficult to extract and separate the SWM budget amount from it.

The expenditure for Solid waste management in CCC is represented in Figure below and breakdown in Table SWM expenses increased from 700 million BDT in FY 2016-2017 to 920 million BDT in FY 2019-2020. In FY 2019-2020, operational expense and development expenses were 86% and 14% respectively, and salary occupies 54% of the total SWM expenditures. For FY 2020-2021, a total 1,819 million BDT budget was kept for the Conservancy Department from which 71% for operation and 29% is for development. SWM expenditure is about 6.5% of total expenses for CCC for the FY 2019-2020.

Budget and Expenditure for SWM in CCC

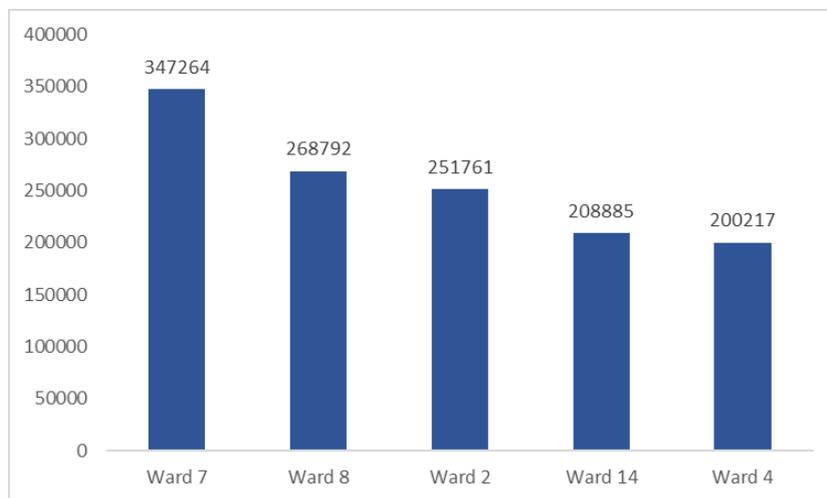
Item Description	10 million BDT								
	FY 2016-2017		FY 2017-2018		FY 2018-2019		FY 2019-2020		FY 2020-2021
	Budget	Expenses	Budget	Expenses	Budget	Expenses	Budget	Expenses	Budget
Operational Expense	143	70	140	70	109	76	114	79	129
Salary (Conservancy staffs, Primary Collectors, Drivers, Street Sweeper, drain cleaners, etc.)	45.46	40.46	52.58	45.58	54.50	46.50	54.50	49.75	65.40
Vehicle Fuel & Gases	15.97	12.29	15.97	9.13	16.87	12.98	18.50	13.71	22.20
Repair & Maintenance of Vehicles	7.50	5.77	13.68	7.82	11.09	8.53	12.58	9.32	15.10
Walki-Talkie Purchase	1.00	0.05	1.00	0.10	1.00	0.13	1.50	2.00	2.50
Vehicle, Spare parts & RV	24.00	4.40	20.00	1.00	10.00	3.50	12.00	0.75	10.00
Primary Collection tools	39.00	4.35	24.50	4.95	7.50	3.50	7.25	1.90	5.75
Mosquito Control Medicines	8.00	2.80	9.50	1.10	6.50	1.25	6.00	1.85	6.00
Dress of cleaners	2.50	0.20	2.50	0.25	2.00	0.10	2.00	0.05	2.00
Development Expense	10	0	10	1	108	2	103	12	53
Residence for Cleaners	0.00	0.00	0.00	0.00	100.00	2.25	100.00	12.25	50.00
Others	10.00	0.10	10.00	0.50	8.00	0.20	3.00	0.20	3.00
Grand Total	153	70	150	70	217	79	217	92	182



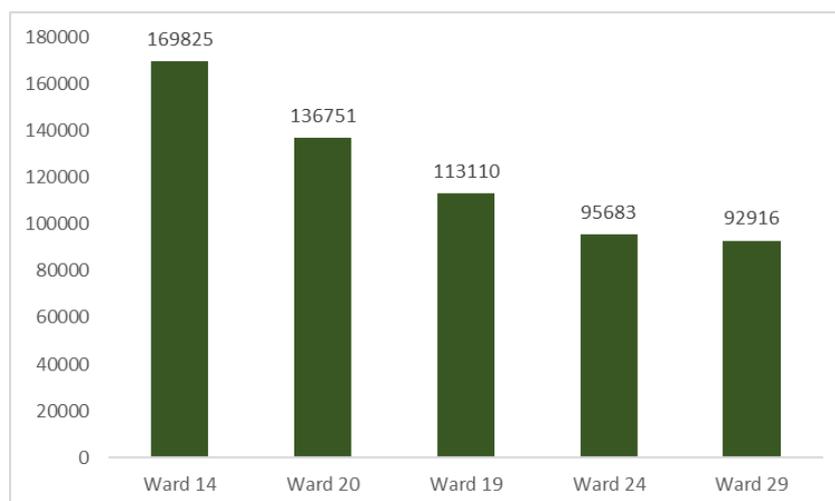
Budget & Expenditure for Solid Waste Management

CHAPTER 2: TRENDS OF POPULATION

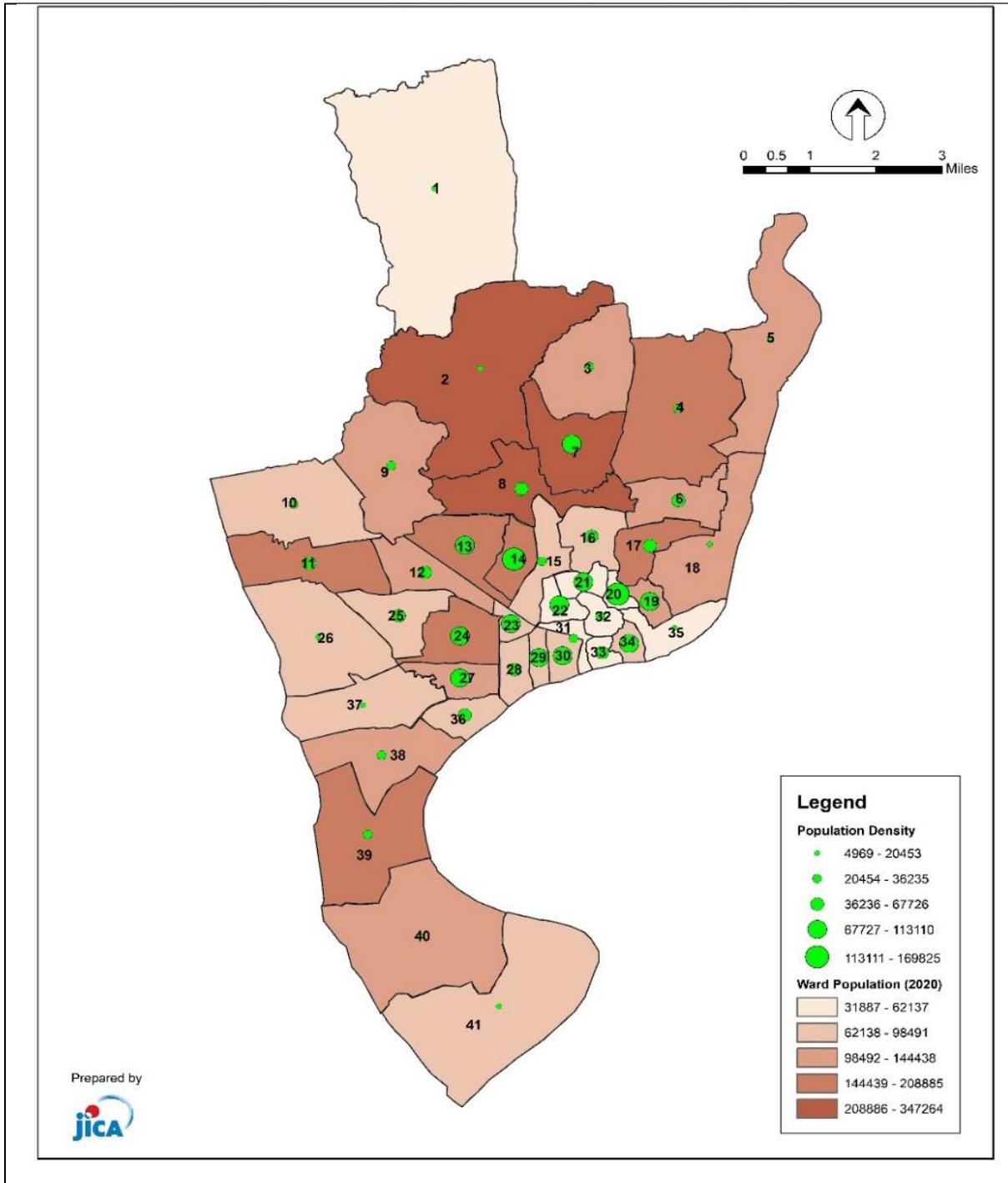
According to World Bank data, annual urban population growth rate of Bangladesh is 3.26% in 2020. The total population in Chattogram City grew from only 1.39 million in 1991 to 2.59 million in 2011, according to the countrywide census carried out in the year 2011. Population of CCC has been estimated as 4.9 million in FY 2019-2020. In this city, Ward 7 has the highest population (347,264); while Ward 31 has the lowest (31,887). CCC has an average population density of 31,970 per sq. km with maximum and minimum population density of 169,825 and 4,969 in Ward 14 and Ward 1, respectively. Both population and population density have been divided into five classes in the map given below. According to the classification, Ward 7, 8, 2, 14, and 4 falls into the class of the highest population; while Ward 14, 20, 19, 24, and 29 falls into the class of the highest density. A map of ward-wise population and population density is given below.



Wards with highest population



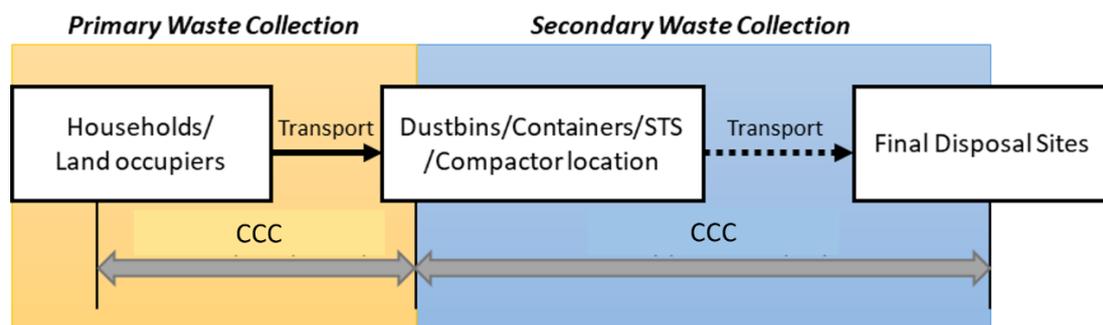
Wards with highest population density



Map of CCC based on population and population density.

CHAPTER 3: WASTE COLLECTION

Waste collection in CCC is stipulated in the law titled “Local Government (City Corporations) Act 2011.” According to Section 41 of the act, waste collected in dustbins/containers is an asset of the City Corporation. In addition to overall management, the waste-related responsibilities of CCC include the collection of waste from dustbins/containers and transport to its final disposal sites. All households and land occupiers including hotels, restaurants, offices under City Corporations (CCs), as waste generators, in other words, are responsible for carrying their waste to CC’s waste collection points defined by CC where dustbins or containers are located and to secondary transfer stations (STSs). This activity is accomplished by CCC. CCC has introduced a door-to-door waste collection system through city corporation workers since 2016 though in other cities it is done by private sectors or informal sectors. Secondary collection of the waste from Secondary Collection Points (SCPs) and STSs is CC’s responsibility, as shown in Figure below.



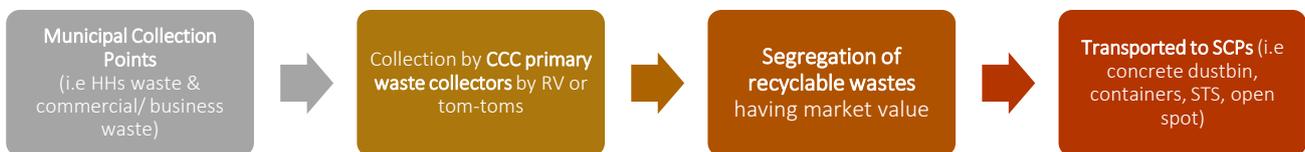
Waste Collection System in CCC

CCC is responsible for SWM service delivery through proper SWM planning. From the perspective of the country-level governance structure, the LGD is responsible for managing all CCs and municipalities in administrative aspects and provides budgetary support. For SWM, the role of the Department of Environment (DoE) under the Ministry of Environment and Forest and Climate Change (MoEFCC) is vital in a legal aspect. The DoE has been formulating various environmental laws in close association with the LGD and other related departments and ministries. The DoE’s Solid Waste Management Rules 2018, which details the process of SWM in households and commercial purposes, is still in the draft stage. As CCC is a service delivery organization for municipal solid waste, staff with sufficient knowledge and skills for understanding the coordination with other departments and divisions is crucial for formulating various waste management-related strategies and for materializing different projects in waste management. Therefore, it can be considered as a gap to be filled by capacity-building efforts gradually.

3.1 Primary waste collection

Waste collection from the points of generation, or households, commercial buildings, and markets, is generally considered to be the primary collection if such waste is disposed of to the SCPs of CCC. A door-to-door waste collection system is common in almost all wards of CCC to accommodate the high population density and long distances to SCPs. Approximately 1,995 daily-basis door-to-door waste collectors or primary collectors are engaged to provide service to citizens.

Primary waste collectors collect municipal waste from door-to-door and transport the waste by rickshaw vans/tricycle tom-toms to dustbins/containers/open spots/STS, and sometimes to vacant land for illegal dumping. Around 857 rickshaw vans covering 4.9 million population of CCC at an average of three trips per day per van.



Flow of Primary waste collection in CCC

3.2 Secondary waste collection

Waste accumulated in SCPs, STSs, and dustbins is categorized into three major types based on the source of waste: household waste, street waste including construction waste, and business waste. Street waste (including construction waste) and drain waste are collected daily by CCC cleaners after road sweeping and drain cleaning. SCPs have designated spots in which primary waste collectors keep the collected waste every day. The accumulated waste at SCPs is then transported to final disposal by compactors, container carriers, dump trucks, and open trucks.



Flow of Secondary waste collection in CCC

3.3 Waste collection vehicle

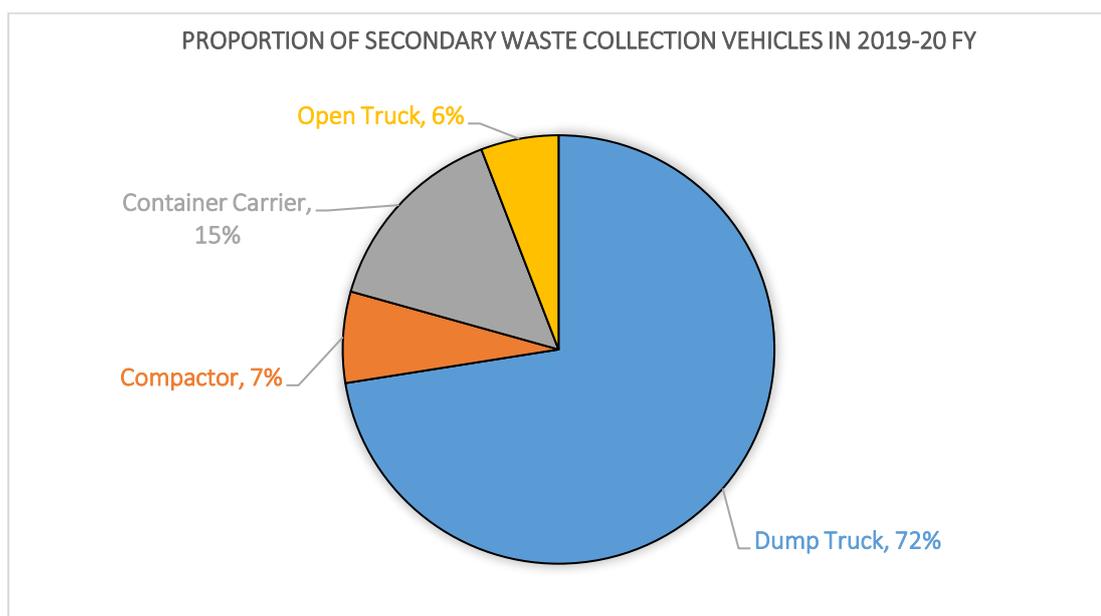
3.3.1 Primary waste collection vehicle

801 traditional and prototype Rickshaw Vans (RVs) and 56 motorized tom-toms have been used to collect municipal solid waste from all residential, commercial, and other areas in Chattogram and transported to designated SCPs in FY 2019-2020. There is no provision of top-covered system in RV or tom-tom, so that causes odor and smell during the transportation. In addition, the condition of conventional RV is not so well-organized or well-maintained, and unloading from RV to a secondary collection vehicle is time-consuming and less environment friendly. To tackle the problem, CCC has purchased 50 prototype/modified RVs that are compatible with a 7.5-ton compactor and easy to unload, and soon to be distributed in the wards. CCC is planning to purchase the improved RVs more gradually for proper harmonization and synchronization of transferring waste.

3.3.2 Secondary waste collection vehicle

Dump truck and container carrier are the important vehicles in CCC, used as secondary waste collection vehicles. The number of secondary waste collection vehicles used in FY 2019-2020 is given below.

SL No	Vehicle Type	Working	Under Repair	Total
1	Dump Truck	104	33	137
2	Compactor	13	0	13
3	Container Carrier	17	11	28
4	Open Truck	7	4	11
TOTAL		141	48	189



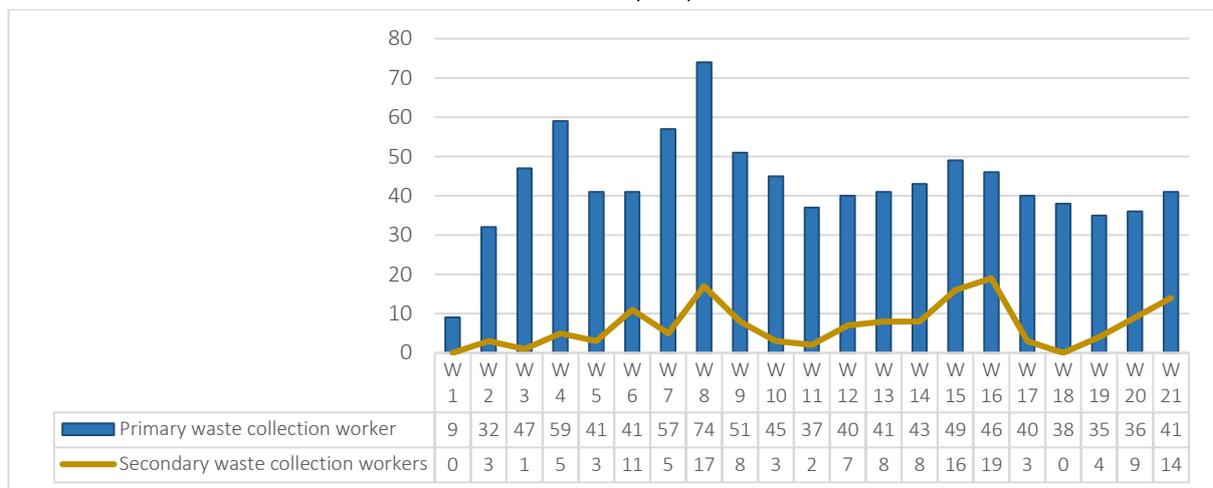
3.4 Waste Collection Crews

Around 1,995 primary collectors are responsible to collect waste from households and commercial/business places with rickshaw vans and sometimes tri-cycle tom-toms. All these waste collectors are working in daily basis. Besides, and 312 workers (146 permanent and 166 daily basis) are responsible to load and unload wastes into a compactor, container carrier, dump truck, or open truck. The figure below represents the primary and secondary collection workers distribution in 41 wards. 172 primary collection workers and 24 secondary collection workers have been allocated for special cleaning for different wards and VIP areas.

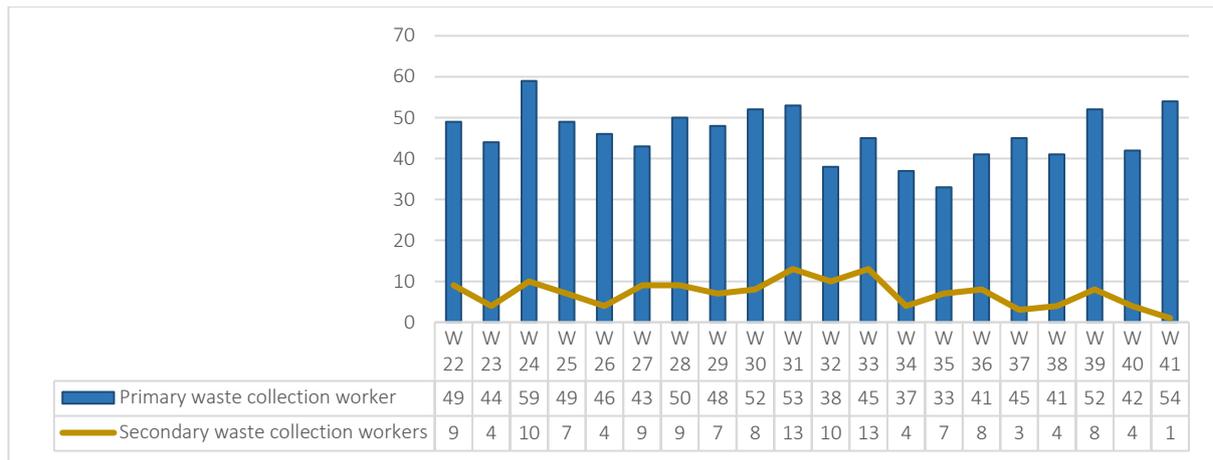
Table: Workers Details under Conservancy Department

Sl No	Workers	Permanent	Temporary	Total
1	Door to Door Waste Collectors (Primary Collectors)	0	1995	1995
2	Drain Cleaners	285	260	545
3	Street Sweepers	297	455	752
4	Loading & unloading workers of Secondary Collection Vehicles	146	166	312
5	Spray man	26	6	32
6	Van Workers	1	13	14
7	Weighing Worker	0	5	5
Total		755	2900	3655

Source: Conservancy Department



Ward-wise primary & secondary waste collectors (W 1-W 21)

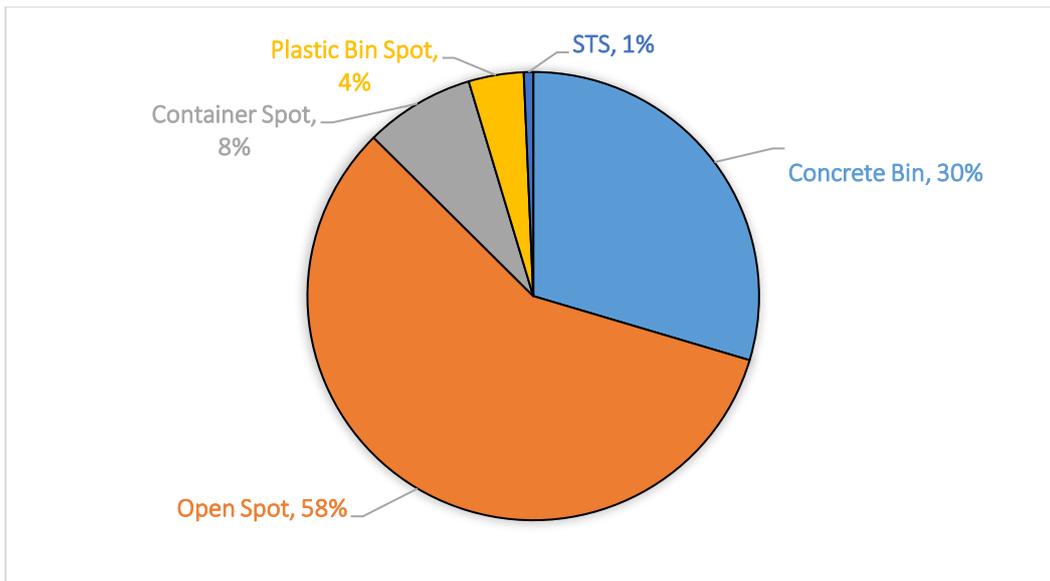


Ward-wise primary & secondary waste collectors (W 22-W 41)

3.5 Secondary Collection Points (SCPs)

Five types of secondary waste collection points are used in CCC: concrete bin, open spot, container spot, plastic bin sport and STS. CCC has total of 888 secondary collection points in FY 2019-2020, where open spot is 58% and concrete bin is 30%. Concrete dustbin and open dumping site closure is ongoing with the CCC initiative. Thus far, around 1,000 open spots and more than 100 dustbins and 20 containers have been removed from the streets. CCC will continue their dustbin and open spot removal strategy gradually. Table and figure below represents the number and proportion of SCPs in FY 2019-2020.

SL No	SCP Type	Quantity
1	Concrete Bin	263
2	Open Spot	514
3	Container Spot	70
4	Plastic Bin Spot	35
5	STS	6
Total		888



Proportion of secondary waste collection points in FY 2019-2020

3.6 Street sweeping

CCC street cleaners are often reviled for the nuisance they create by leaving a choking, eye-watering cloud of dusts behind them when at work. Love them or hate them, those men and women in green uniforms provided by CCC are probably some of the few people who work hard to keep the city clean and hygienic for its dwellers. Equipped with brooms and sweeps, they clean the dirt left by millions of city dwellers in the neighborhoods. The city corporation aimed to make Chattogram city clean.



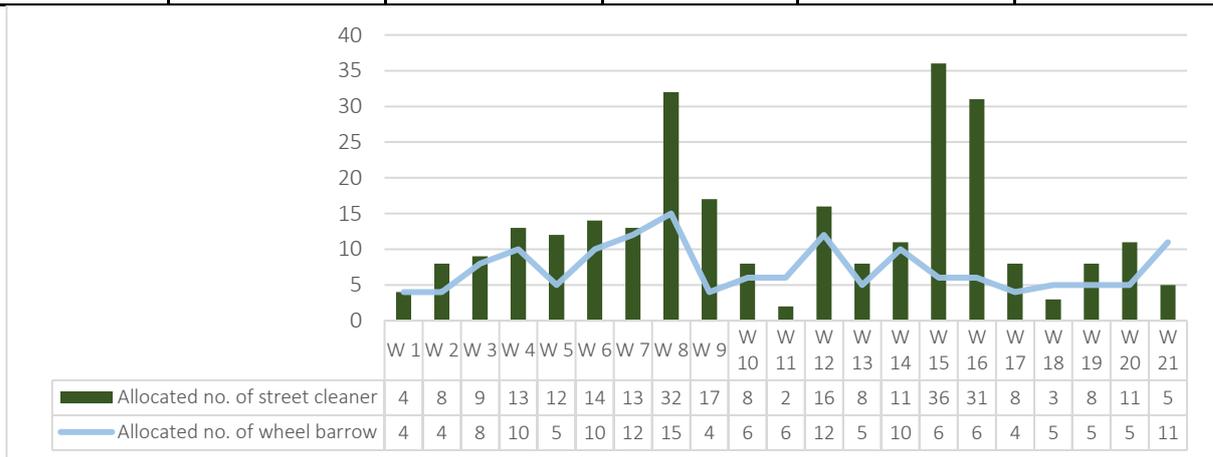
Street Sweeping using brooms

Street sweeping mostly performed manually. Each street cleaner has been provided one broom. Wheelbarrows are used for transportation of these sweeping waste to nearby open spot or SCPs. Total 634 cleaners with 304 wheelbarrows are allocated in 41 wards of CCC for street sweeping. The figures below represent the number of allocated ward-wise street cleaners and wheelbarrows in FY 2019-2020.

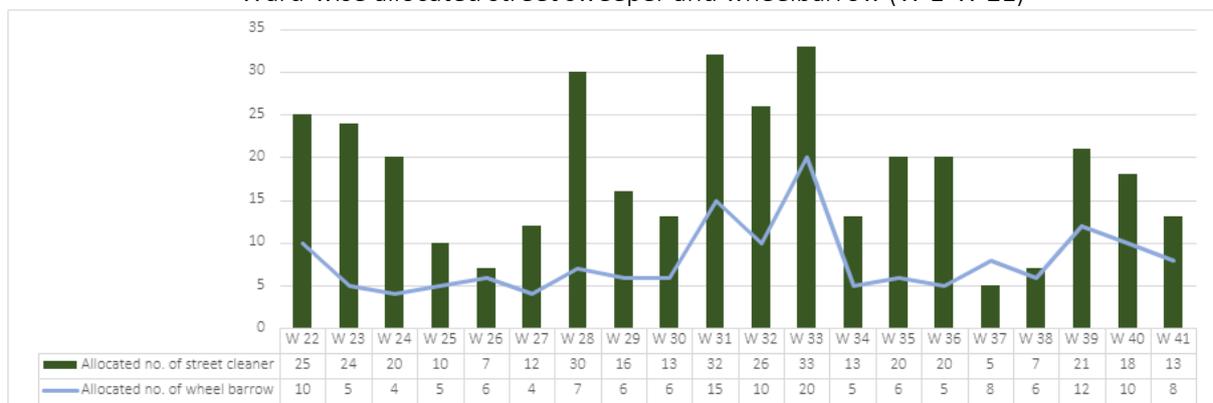
Table: Ward wise allocated streetsweeper and wheelbarrow's list

Ward No	Allocated no. of street cleaner	Allocated no. of wheel barrow	Ward No	Allocated street Sweeper (Nos)	Wheel Barrow
Ward-01	4	4	Ward-22	25	10

Ward-02	8	4	Ward-23	24	5
Ward-03	9	8	Ward-24	20	4
Ward-04	13	10	Ward-25	10	5
Ward-05	12	5	Ward-26	7	6
Ward-06	14	10	Ward-27	12	4
Ward-07	13	12	Ward-28	30	7
Ward-08	32	15	Ward-29	16	6
Ward-09	17	4	Ward-30	13	6
Ward-10	8	6	Ward-31	32	15
Ward-11	2	6	Ward-32	26	10
Ward-12	16	12	Ward-33	33	20
Ward-13	8	5	Ward-34	13	5
Ward-14	11	10	Ward-35	20	6
Ward-15	36	6	Ward-36	20	5
Ward-16	31	6	Ward-37	5	8
Ward-17	8	4	Ward-38	7	6
Ward-18	3	5	Ward-39	21	12
Ward-19	8	5	Ward-40	18	10
Ward-20	11	5	Ward-41	13	8
Ward-21	5	11	Total	634	311



Ward-wise allocated street sweeper and wheelbarrow (W 1-W 21)



Ward-wise allocated street sweeper and wheelbarrow (W 22-W 41)

CCC have five mechanical street sweeper for automatic sweeping. Among the five mechanical street sweepers, two sweepers were provided in 2013 but has been kept idle for

long time as cloud of dust was created during its operation. Very recently, CCC has introduced three more mechanical street sweepers which will be functional very soon after proper training on operation. New mechanical street sweepers are of Doulevo 850 brand which is environment friendly as well as it can reach even in the narrow roads of the city for its compact shape and size.



Old (left) and new (right) Mechanical Street Sweeper

3.7 Drain Cleaning

CCC drain cleaners are the savior of the city in times of heavy rainfall. The drain cleaners perform one of the important tasks that helps the city from going under water. The drain cleaners remove the water clogged drains and are often used for special drain cleaning crush program. Love them or hate them, those men and women in yellow uniforms provided by CCC are probably some of the few people who work hard so that the city does not flood. The city corporation aimed to make Chattogram city clean and prevent flooding or water clogging.



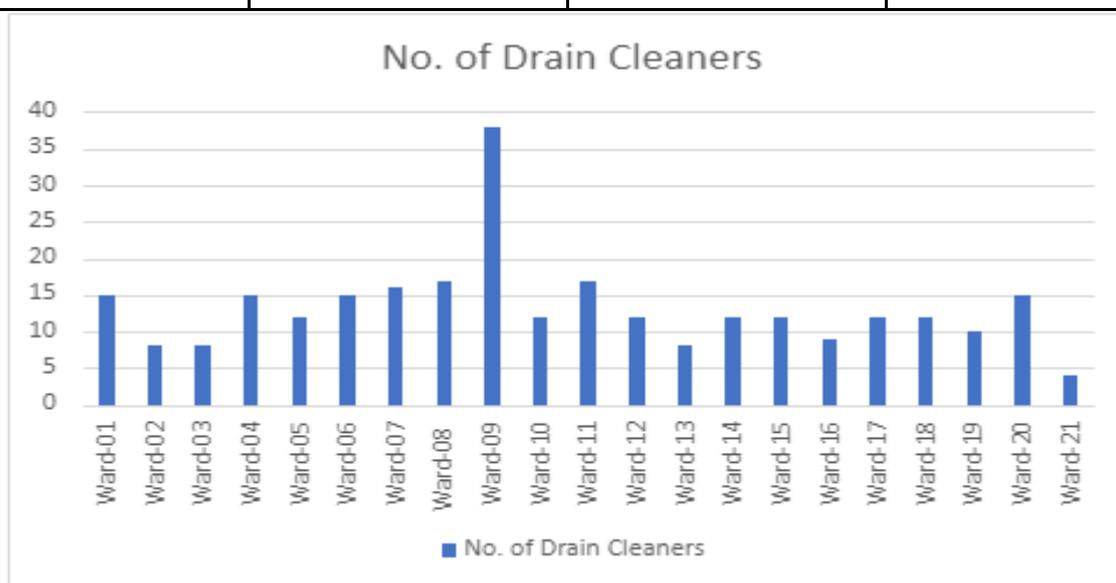
Drain Cleaning Activity

Drain Cleaning mostly performed manually. Total 512 cleaners are allocated in 41 wards of CCC for street sweeping. The figures below represent the number of allocated ward-wise street cleaners and wheelbarrows in FY 2019-2020.

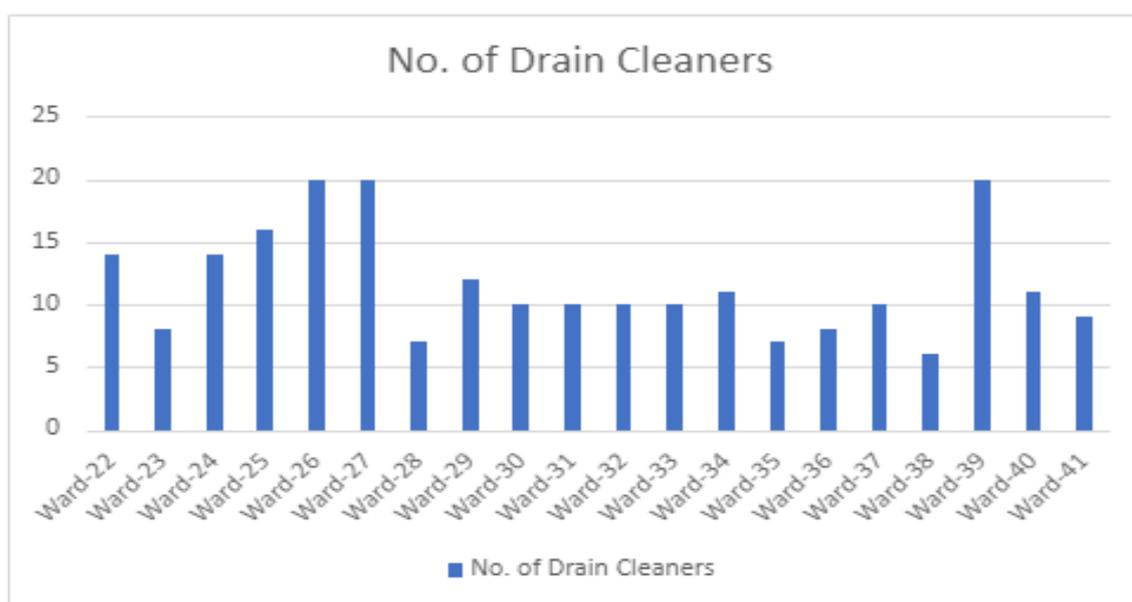
Table: Ward wise Number of Drain cleaner's list

Ward No	No. of Drain Cleaners	Ward No	No. of Drain Cleaners
Ward-01	15	Ward-22	14
Ward-02	8	Ward-23	8
Ward-03	8	Ward-24	14
Ward-04	15	Ward-25	16
Ward-05	12	Ward-26	20
Ward-06	15	Ward-27	20
Ward-07	16	Ward-28	7

Ward-08	17	Ward-29	12
Ward-09	38	Ward-30	10
Ward-10	12	Ward-31	10
Ward-11	17	Ward-32	10
Ward-12	12	Ward-33	10
Ward-13	8	Ward-34	11
Ward-14	12	Ward-35	7
Ward-15	12	Ward-36	8
Ward-16	9	Ward-37	10
Ward-17	12	Ward-38	6
Ward-18	12	Ward-39	20
Ward-19	10	Ward-40	11
Ward-20	15	Ward-41	9
Ward-21	4	Total	512



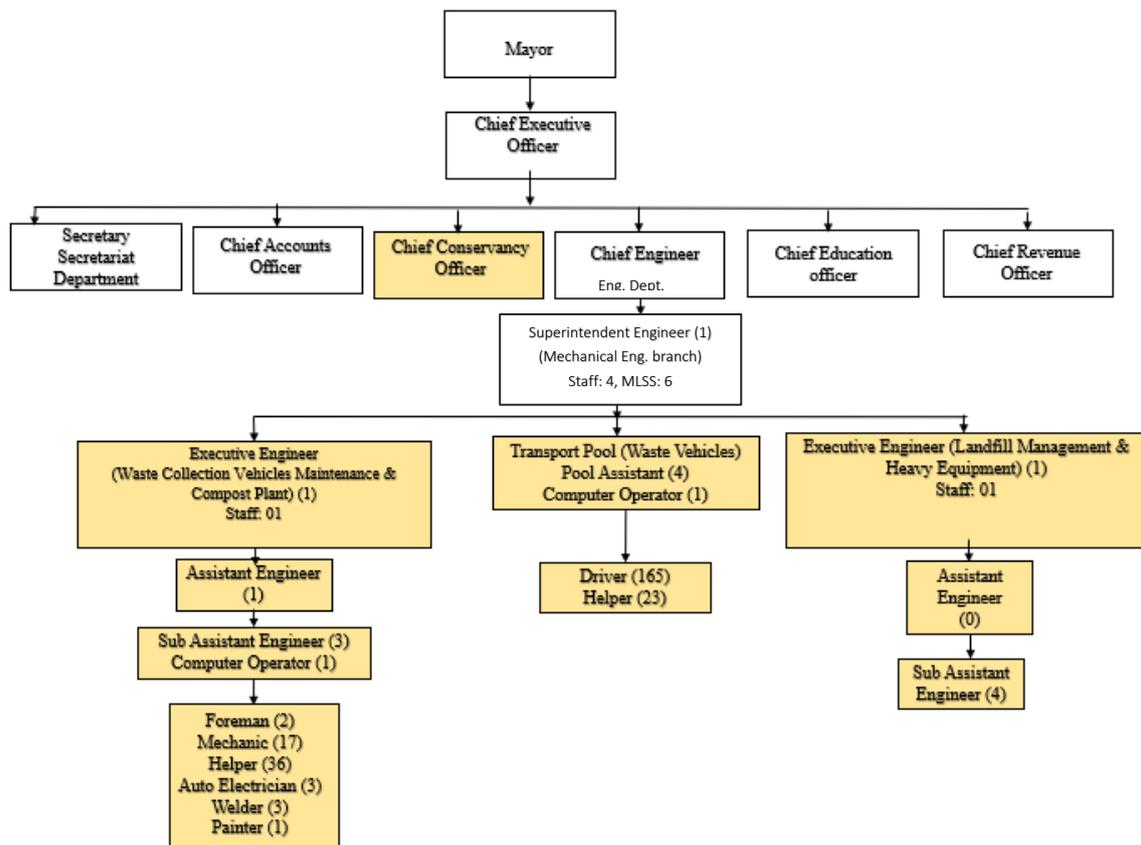
Ward-wise allocated Drain Cleaners (W 1-W 21)



Ward-wise Drain Cleaners (W 22-W 41)

CHAPTER 4: WORKSHOP

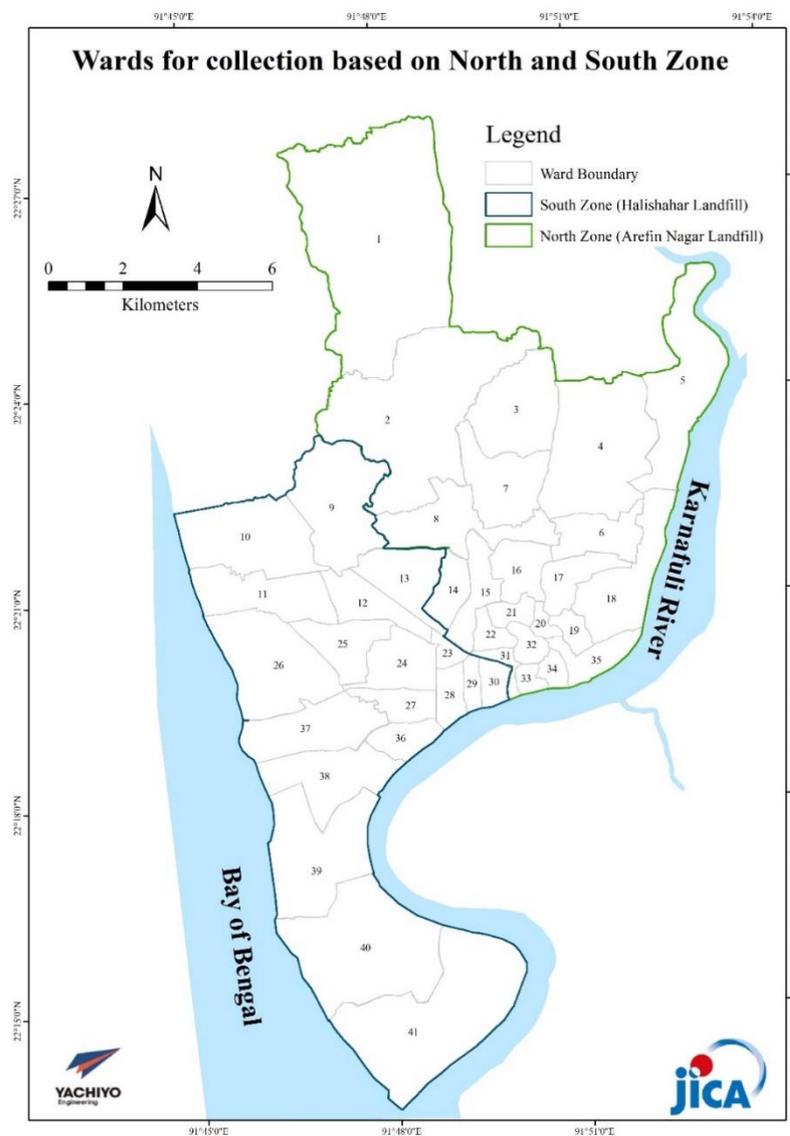
The vehicles involved in the SWM are distributed around the city, and the maintenance of these vehicles are done under the Mechanical Engineering Branch of Engineering Department. This branch is responsible for maintenance of conservancy tools, vehicle parts, heavy equipment etc. of CCC. A Superintendent Engineer (SE) under Chief Engineer heads the mechanical branch, and there are 2 approved posts of Executive Engineer under SE. Although there is no approved organogram finalized, the current working practice of SWM part of Mechanical Engineering Branch is illustrated below:



Practicing Organogram of Mechanical Eng. Branch (SWM Part), CCC

CHAPTER 5: FINAL DISPOSAL SITE

Chattogram is facing serious disruption in the environment and public health due to uncollected disposal of waste on streets and other public areas, drainage congestion by indiscriminately dumped wastes, and contamination of water resources near dumping sites. All types of municipal solid waste are disposed of including some portions of medical/hospital wastes. CCC has only two dumping yards: one at Ananda Bazar, Halishahar at the mid-western part of the city, and the other at Arefin Nagar, Pahartali at the northern tip of the city. All 41 wards of CCC have divided into the north zone and the south zone considering the LFS locations. Waste collected in the northern 22 wards is transported to Arefin Nagar LFS and wastes in the southern 19 wards are carried out to Halishahar LFS. Map below indicates the wards of northern and southern zone for using the dumping sites.



Distribution of wards in terms of waste dumping

None of these sites is sanitary landfill. Considering the city area of 155.4 sq. km, only two dumping sites are not enough to cater to the requirement of the city. Conservancy Department dispatches conservancy supervisors, cleaners, and the Mechanical Eng. branch dispatches pool assistance to both LFSs to run the daily operational works. The staffs work in two shifts in both LFSs. The Mechanical Eng. Branch also provides heavy equipment and operators to landfill sites; however, there is no task description or work record, or operation plan of landfill site either. Allocated Resources for the LFS management are given in the table below.

List of resources in the LFSs

Type of Resource	Arefin Nagar LFS	Halishahar LFS	Total
Conservancy Supervisor	4	2	6
Pool Assistant	4	3	7
Vehicle cleaner	6	3	9
Total	14	8	22

At this moment, the operation method of solid waste at both landfill sites is crude open dumping. A characteristic chart of existing LFSs of CCC is given in the table below.

Characteristic chart of existing LFSs

Site name	Specific location	Buffer zone Separator	Soil cover	Protection against rain	Leachate treatment	Gas monitoring system	Accessibility	Physical condition	Environmental acceptability
Arefin Nagar, Pahartali	Asian women university is located within 100m	No	No	No	No	No	Not good	Poor, leachate is flowing and has a chance to mix with surface water	Odor, pollution and noise is found, no incineration. No social acceptance
Ananda Bazar, Halishahar	RCC protect. wall along the sea shore within 10 meter	No	No	No	No	No	Good	Mixing of medical waste, cattle grazing is common, vehicle moves across the landfill	Odor, pollution and noise is found. Medical Waste is incinerated. Not socially accepted

With the existing resources CCC is trying to make a proper management system in the existing dumping sites. It is difficult to make those above-mentioned dumping site to sanitary landfill. CCC is planning to close existing dumping sites and trying to make a sanitary landfill which will include all modern facilities. Due to scarcity of proper land, it is difficult to make a landfill, but CCC is trying all possible ways to make it happen as sanitary landfill is one of the most important part of solid waste management.



Arefin Nagar LFS



Halishahar LFS

A list of heavy equipment used in the LFSs of CCC is given in the table below. The number of heavy equipment, as well as the combination of heavy equipment, is not appropriate considering the operation of the LFSs. With the limited budget CCC is trying to fill-up the vacancy of heavy equipment in every FYs.

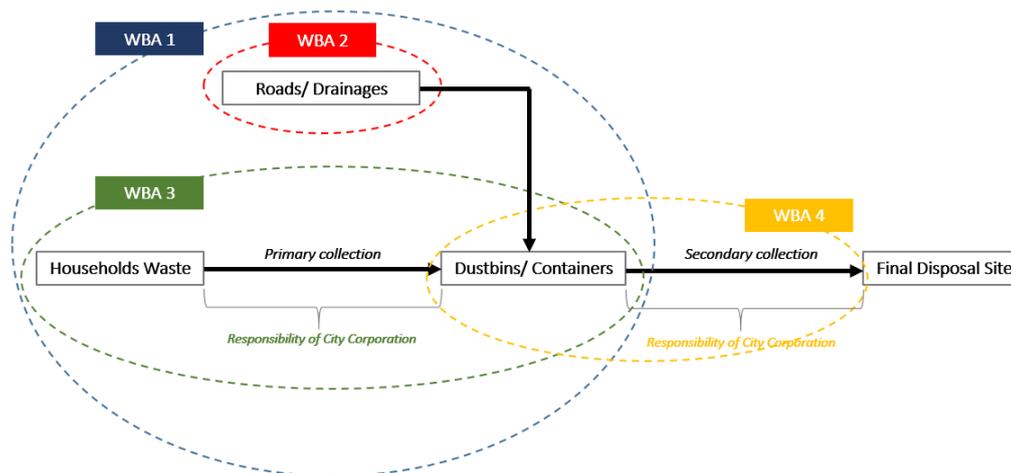
List of heavy equipment used in LFSs

SL No	Type of Equipment	Arefin Nagar LFS	Halishahar LFS	Total
1	Excavator	5	3	8
2	Payloader	1	1	2
3	Chain Dozer	0	1	1
	Total	6	5	11

CHAPTER 6: WARD-BASED APPROACH IN WASTE MANAGEMENT

Ward-based Approach (WBA) is a community based participatory framework which has been designed to encourage people's participation for the improvement of waste collection, transportation, and disposal. WBA was initially initiated in Dhaka City more than 15 years ago by the JICA's technical assistance project.

In 2018, WBA was introduced in CCC, aiming to bring all the collaborators and the participants of waste collection of every ward under one connected roof to increase the efficiency of waste collection. WBA intends to build synergy of related activities in the wards and CCC by synchronized intensive resource input which includes the four main interlinked components. All stakeholders related to WBA including CCC officers, CIs, CSs and cleaners as well as ward councilors need to work together for executing WBA activities effectively. Description on the components of WBA has been given in the pictures below:



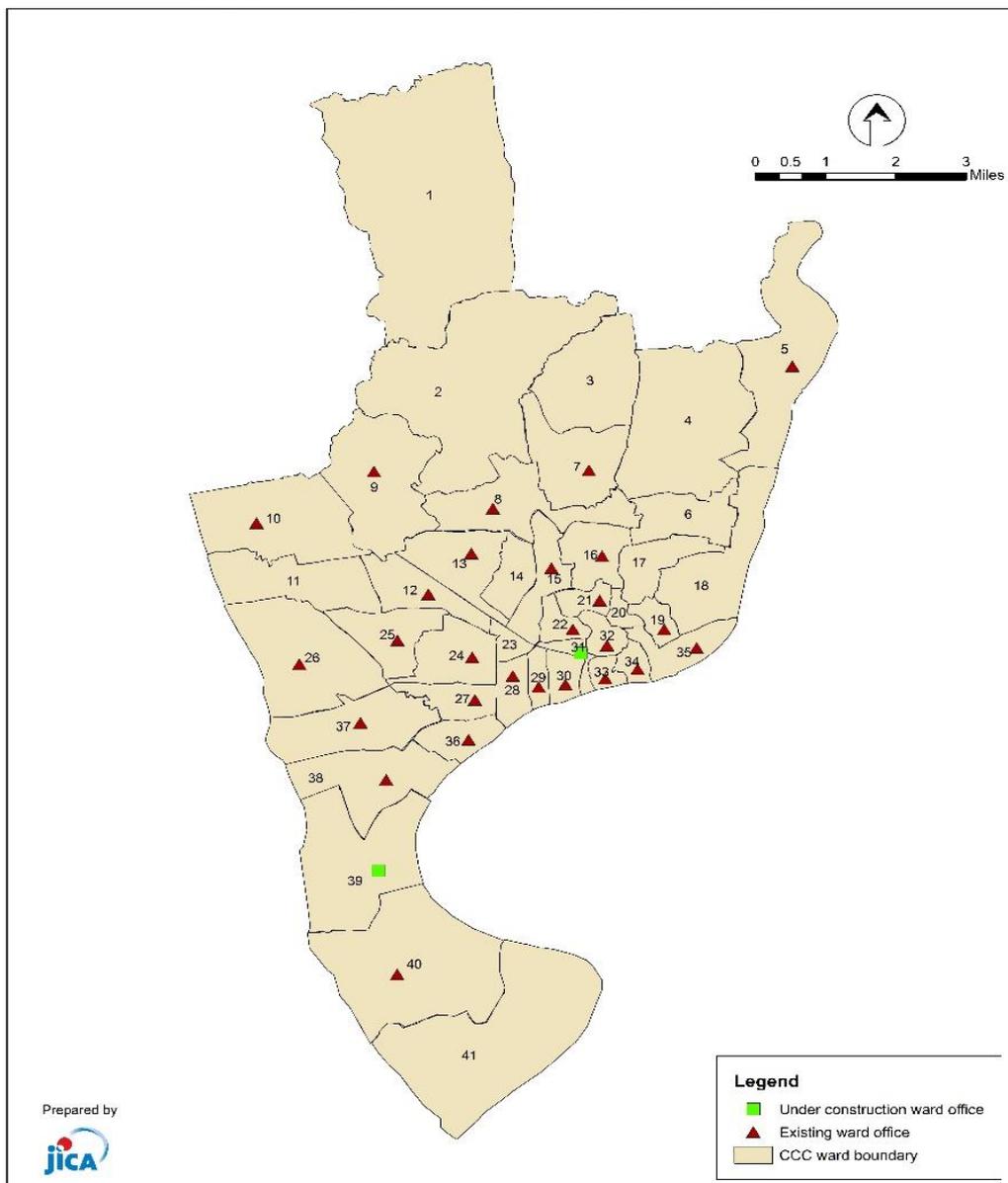
Structure and Activity Contents of WBA

6.1 WBA-1: Management of Ward SWM Office

The objective of WBA-1 is to strengthen the ward SWM office to deal with any kind of SWM activities such as managing cleaners, communicating with CUWG to solve problems and to respond to complaints by residents. CIs are responsible for scrutinizing of overall SWM in their respective wards. At present, 27 wards among 41 wards have ward offices to carry out the respective ward's waste management activities. In 2021, two ward offices are to be constructed in ward 31 and 39 with JICA support. The typical functions of ward SWM offices are as follows:

- Making annual plan by CI
- Management of ward budget
- Management of secondary collection (i.e., compactor, dump truck/open truck and container-based collection management)

- o Management of primary waste collectors and cleaners (taking attendance and capacity building e.g., SSC meeting of primary waste collectors, road and drain cleaners, market cleaners, mosquito spray man etc.)
- o Management of local beautification
- o Cooperation with community and management of primary collection service if there are any
- o Management of primary collection RVs, HTs, cleaning goods and equipment
- o Reporting as well as bookkeeping and management of all SWM information and document.



SWM ward offices of CCC

6.2 WBA-2: Safety, Education and Health Care Services for Cleaners

Working environment of cleaners will be improved into better safety and sanitation environment through proper implementation of WBA-2. Also, it is necessary for cleaners to get knowledge on safe and sanitary working environment. Key components of WBA-2 include provision of safety gear to raise awareness on OHSE, formulation of Safety and Sanitation Committee (SSC) and introduction to Cleaners Working Manual for reference. CCC started to conduct safety and sanitation workshops of cleaners. In the Corona Virus (COVID-19) pandemic period, CCC has organized cleaners' workshop in every ward.

Safety and Sanitation committee (SSC)

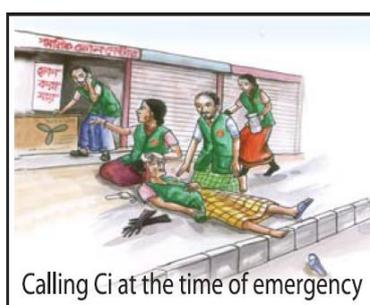
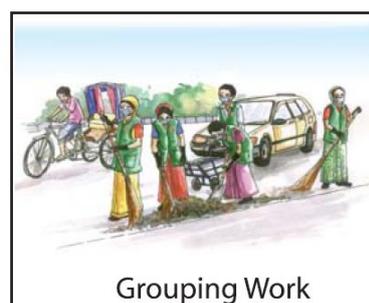
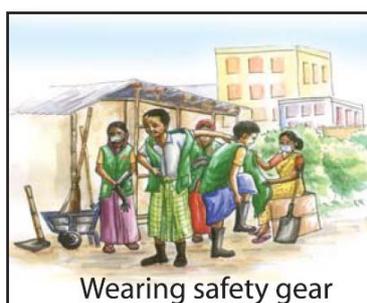
To improve cleaners working environment each CI/CS need to formulate SSC in their respective wards. Each committee consists of 5 cleaners and CI/CS of the respective ward. The main functions of SSC are as follows,

- To report of injuries by accidents, disease and to find measures to recover.
- To point out dangerous working manner
- To improve working manner into safety and sanitation way

SSC is already being formulated in 8 wards on a pilot basis. CCC will active the function of the SSC and formulate it in other wards gradually.

Cleaners' Working Manual

CCC distributed a worker's manual that contains work procedure at the start, health & safety instructions and instructions of safety measures while working in a team to avoid accidents and casualties.



Some parts of cleaners' working manual

6.3 Community Involvement for Participatory SWM (WBA-3)

WBA-3 has originated from the concept of participatory SWM to organize community people and support community level SWM management activities and organize awareness raising and environmental education programs in target wards. The objectives of WBA-3 are as follows,

To strengthen CCC's the ward level SWM in a comprehensive way though;

- o Efficient linkage among community people and CCC
- o Harmonization of primary collection and secondary collection through citizen's participation
- o Reduction of open dumping points/dustbins by raising awareness
- o To support other WBAs
- o To develop capacity of CCC counterpart personnel for community relations

To increase community's participation in SWM, CCC need to formulate Community Unit Working Group (CUWG) in the targeted community of each ward. A Community Unit Working Group is a community-based organization to implement the activities of community SWM directly communicating with residents. Members of the CUWG consist of local key persons and volunteers who have interests in participating community-based solid waste management. CCC started waste segregation piloting in an area of ward 8, and 8 community meetings were conducted before starting the piloting in 2018. Based on the experience of the piloting, CCC will increase the number of wards and area for waste segregation. But due to COVID-19 pandemic situation CCC could not continue SWM related community meetings in FY 2019-2020.



Community Meeting

6.4 WBA-4: Introducing new collection system and improvement of existing waste collection system

The objective of WBA-4 is to harmonize primary collection, secondary collection and to improve working environment more efficient and sanitary. WBA-4 can be divided into two parts WBA-4A and WBA-4B.

1. WBA-4A: introduces new collection system to improve more efficient and sanitary condition
2. WBA-4B: introduces improvement of present collection system with community and Primary Collection Workers

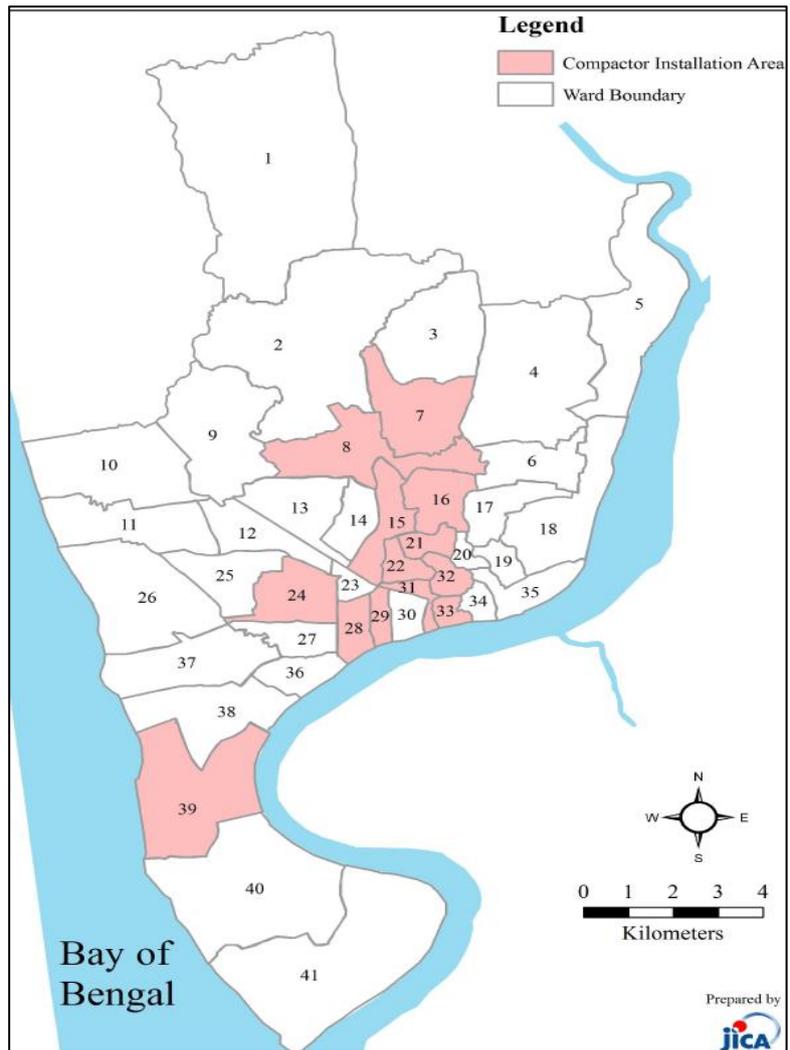
WBA-4A: Introduce New Collection System

Generally, loading work from dustbins to open truck is very dirty, not sanitary or not efficient. Compared to this open truck transport system, container carrier transportation system is rather efficient. Moreover, containers generate bad smell for 24 hours and generate flies and other insects. Because of bad maintenance, many containers are dirty and most of them are rusty.

For these reasons, residents do not like containers collection system. To change the thinking of traditional waste collection system, the new collection system is designed and implemented under WBA-4 in different wards as follows.

CCC has been provided 38 new waste collection vehicles under Grant Aid Project (GAP) by JICA in 2018 to improve the waste collection of the city. Among these 13 are compactor trucks which may improve the waste collection more sanitarily and with more efficiency. CCC and JPT introduced new collection system in Ward 8 and in Ward 28 from September 2018, which is fixed-time and fixed-place collection system with compactor truck provided under the GAP. In this system, the compactor truck collects waste directly from households with the help of the primary waste collectors in fixed time in fixed roads. In other wards, the compactor collects waste also in similar method but in a fixed place in fixed time.

Allocation plan of the compactor trucks provided under the GAP in 2018 has been made through the surveyed by the JPT. List of compactor allocation is shown below:



Compactor allocation area of CCC

WBA-4B: Improving Existing Collection System

The main purpose of WBA-4B is to update the existing waste collection system. To harmonize between primary and secondary waste collection system, JPT has designed prototype RV. The

RVs are working with the winch-type compactor truck provided under the GAP. On August 2019, JPT provided 6 RVs to CCC in pilot basis. After successful piloting, CCC has procured 50 RVs in



Waste loading to compactor truck from the prototype RV

2020, and JICA is planning to provide 35 more RVs to CCC in 2021.

6.5 WBA Core Group Meeting

Activities to be carried out under the management of WBA Core Group is promotion, implementation, and mutual support of WBA activities. In addition, Core Group is involved in the decision-making process of SWM in CCC through planning and monitoring field activities. Key responsibilities of the Core Group include discussing the policy and future directions of WBA, managing WBA activities, and improving monitoring system. Besides, all Core Group members must join core group meeting organized by CCC on monthly basis. Some of the members already have taken several steps to formulate different committees like SSC and CUWG. Core group members also started to follow their daily and monthly reporting system. In FY 2019-2020, 10 core group meetings were arranged by CCC.



WBA Core Group meeting at CCC

6.6 Office Orders related to the Ward-based Approach.

WBA has been officially implemented in CCC, initially with JICA's support, for community based SWM improvement with related office orders. CCC issued an office order in 2019 to form WBA Core Group to accomplish smooth and efficient waste management. WBA Core Group is a leading association to promote and manage WBA in each ward.



CHITTAGONG CITY CORPORATION
CHITTAGONG.

Ref: 46.11.16সং.স্বসে.০৫.০৬.১৭-২৩ Date: ০৭.০৩.১৭

Office Order

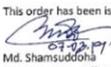
To strengthen and develop Solid Waste Management activities the following WBA Core Group has been formed with the support of JICA Expert Team.

Sr.	Name of the Employee	Group
1	Md. Shamsuddoha, CEO, CCC	Group Leader
2	Shafiqul Mannan Siddiqui, CCO, CCC	Sub Group leader
3	Morshedul Alam, CO, CCC	Coordinator
4	Rahim Uddin, CS, Ward no 15	WBA-1
5	Kazi Ahsan Habib, CS, Ward no 13	
6	Baplu Das, CS, Ward no 9	
7	Khorshed Alam, CS, Ward no 40	WBA-2
8	Kamal Hossain, CS, Ward no 37	
9	Md. Yasin, CS, Ward no 19	WBA-3
10	Ripon Kishor Ray, CI, Ward no 21	
11	Abdus Sattar Rasel, CS, Ward no 8	
12	Kazi Humayun Kabir, CS, Ward no 36	WBA-4
13	Md. Saiful Islam, CI, Ward no 27	
14	Lavlu Das, CS, Ward no 4	
15	Irfanul Hoque, CS, Ward no 23	

According to the activities of the WBA, all the relevant members are asked specifically to continue to perform well and according to the relevant clause, it has been instructed to record regular reports.

WBA-1	Ward office construction & renovation and strengthening function of ward SWM
WBA-2	Improvement of Occupational health, safety & working environment of the cleaners
WBA-3	Promotion of Participatory (community based) Solid Waste Management
WBA-4	4A - Improve Existing Collection System
	4B - Introduce new Collection System

This order has been issued for the interest of the proper waste management.


07.03.17
Md. Shamsuddoha
Chief Executive Officer
Chattogram City Corporation

PHONE PABAX : 816501, 816508, 816731 FAX : 880-31-610007

WBA Core Group office order

CHAPTER 7: REMOVAL OF UNAUTHORIZED BANNER FESTOON DISPLAY AND CANAL CLEANING

Unauthorized banners, festoons, graffiti, posters, overhead signboards, and billboards are illegal ways of branding and publicity. These pollutants are damaging the natural beauty of the city and are making sight pollution. Government organizations, political parties, private enterprises, and individuals; all are applying this illegal way for branding and publicity.

Applying relevant laws, CCC has been removing these pollutants every day as well as illegal display and structure unless authorized. Especially the city takes the worst look at the time of national and local election along with other political programs out of that time. Various trans-national corporations and local companies are also seriously responsible for these types of pollutants. During the time of festival, different organizations, political parties, institutions, public figures, interest groups, various unions, and different services providers use banners, festoons, etc. for branding their products, services, etc.



Removal of Banners and Festoons

Canal cleaning is also another noteworthy initiative taken by CCC. A special program was initiated by CCC to clean the clogged canals and deep drains. The initiative was directly supervised by the honorable mayor and it proved to be highly beneficial for the citizens.

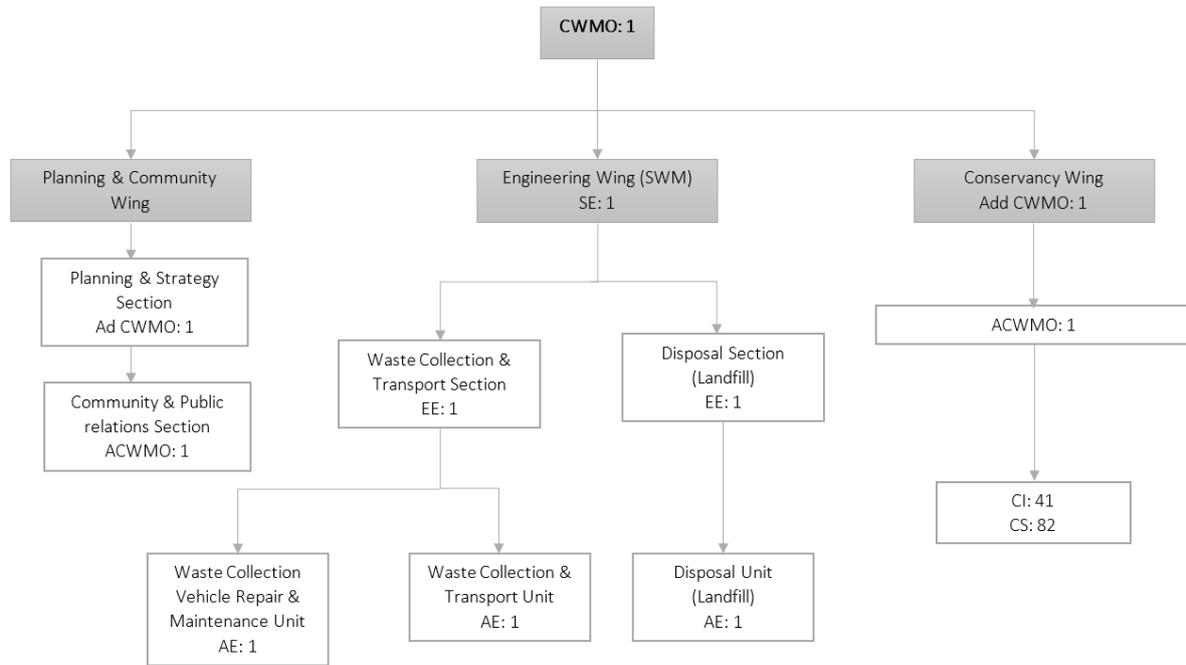


Canal cleaning and Deep drain cleaning program supervised by the councilor of Wards

CHAPTER 8: FORMULATION OF WASTE MANAGEMENT CELL (WMC)

In CCC area Conservancy Department is being asked to dispose and manage of all types of wastes without benefit of stringent waste management regulations or sufficiency of qualified managers to undertake the work of disposal as well as proper management. Implementation of an appropriate SWM strategy is immediately required so that the management can be recruited, and the necessary training undertaken to maximize efficiency in conservancy and to start a waste management department (WMD). In Bangladesh among 12 city corporations, only Dhaka North and Dhaka South City Corporation have this department. As, formulation of WMD is time consuming, CCC has formulated Waste Management Cell (WMC) in August 2019, to improve and diversify the current waste management operation. Formulation of WMC can be considered as the initial stage of WMD formulation. By LGD's approval CCC has a plan to convert this cell to ultimate Waste Management Department in near future. Officials from Conservancy, Engineering, Public Relation and Town planning have assigned in the WMC's different posts. With the support of JPT, CCC prepared an organogram and functions of WMC. The functions and organogram of WMC are as follows.

- To hold monthly one coordination meeting among WMC officials
- To monitor each section's activity monthly basis (i.e., landfill, waste collection and transportation, public awareness etc.), and compiling all section report to one report to share with CEO and Mayor
- To Join WBA core groups' meetings and field level activities
- To instruct WBA core group about how to solve the field-level issues
- To exchange knowledge and best practices to Dhaka South, Dhaka North and other city corporations
- To communicate with Conservancy Inspectors (CIs) and Conservancy Supervisors (CSs) in regular basis
- To analyze the city corporation's budget to separate waste related budget
- To take initiatives for waste collection in different occasion (i.e., Eid-ul-Adha)
- To create opportunity to collect waste through more NGO and private entities cooperative initiatives.



Organogram of Waste Management Cell (WMC)

CHAPTER 9: ACTIVITIES INITIATIVES DURING CORONA PANDEMIC

The coronavirus pandemic was first confirmed in Bangladesh on 8th March 2020, by The Institute of Epidemiology, Disease Control and Research. To stop the spread of this virus, there are lots of actions taken by the Government of Bangladesh like regional or national quarantine throughout the country and the world, travel restriction, Hazard control in the workplace, cancellation, and postponements of events, curfews, border enclosure, and screening at airports and train station, etc.

CCC contributed great effort from the beginning of the COVID pandemic. CCC officials showed their dedication and devotion to their regular responsibilities as well as special duties and tasks assigned by the Honorable Mayor of CCC even in the peak situation of spreading coronavirus. The activities carried out by CCC as per the directions of LGD in consultation with the Honorable mayor of CCC are highlighted as follows:

9.1 Liquid Disinfectant Spray

Conservancy department of CCC sprayed liquid disinfectants using water bowser throughout the city since March 2020. However, CCC emphasized regular spraying to all important roads, footpaths, foot over bridges, quarantine areas, surrounding of important hospitals, markets, mosques, bus terminals, dustbins, secondary transfer stations, and slums. Disinfectant water continues to be sprayed throughout the city.



Conservancy wing spraying liquid disinfectants in streets by water bowser

9.2 Safety training to Field level officials

Field-level officials (CIs/CSs) of CCC manage cleaners as well as maintain SWM of each ward. CCC arranged and provided training together with JPT to ward-level officials on cleaners' management and safety precautions of cleaners and workers during the COVID-19 pandemic situation. The JPT distributed and explained the safety gear monitoring sheet and health monitoring sheet as well as to maintain and keep a record of practicing safety gear and analyzing cleaner's health condition (i.e., body temperature).



Training to trainers to field level officials

9.3 Safety Gear Training for Cleaners and drivers

Cleaners, as well as drivers, have been trained and directed to use safety gear to ensure not only their safety but also to ensure a better working environment. Cleaners and drivers have been instructed to follow hygiene rules (i.e., hand washing instructions, wearing masks and gloves, prevent to touch infective materials, maintaining social distance, etc.) while working and after working. The importance of safety gear (i.e., masks, gumboots, hand gloves) during the current COVID-19 pandemic situation was the main topic that has been discussed in the training.



Safety Gear Training provided to Cleaners

9.4 Safety Training to LFS and workshop workers

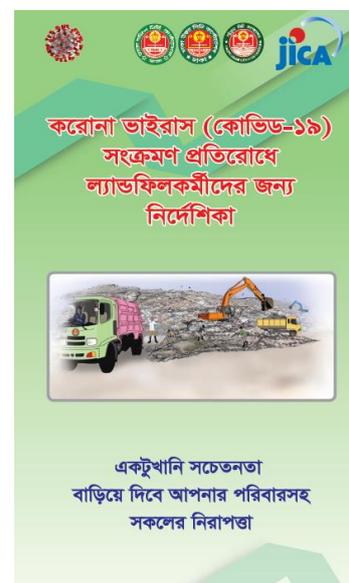
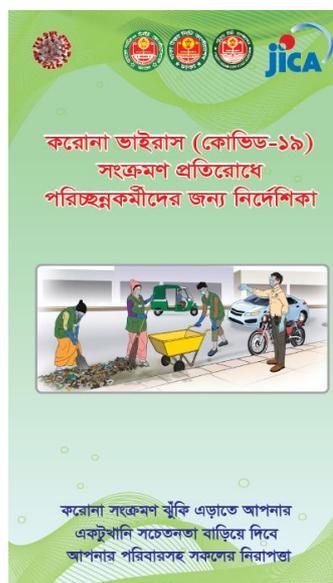
CCC arranged safety training for landfill and workshop staff. The importance of usage of PPE and safety gear during COVID-19 and regular periods have been elaborately discussed through on-stage training. Landfill engineers and workshop officials facilitated and conducted the training.



Safety Gear Training at Haliasharh LFS workers (right) and workshop staffs (left)

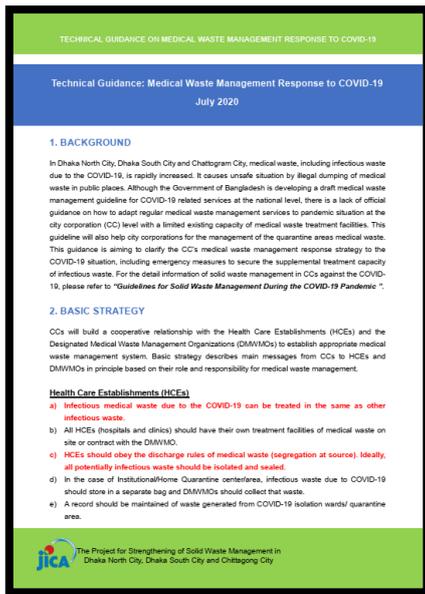
In addition to raising awareness among the city dwellers about waste management during the Corona period, 6 leaflet been prepared to raise awareness among cleaners, waste collection workers, and drivers & helpers of waste collection vehicles under waste management. These leaflets trio has been created based on why and how these frontline workers need to aware of general instructions and avoiding infectious waste to prevent the spread of coronavirus during work. Even leaflets designed for cleaners have been set in every ward office so that every cleaner can be aware of the COVID-19 situation. Two separate leaflets have been prepared for the staff and officials involved in the waste management workshop and landfill. It has been mentioned how the landfill workers, as well as waste pickers, will be alert and aware about what to do during their work in the current pandemic situation.

Cleaners and landfill workers are directly involved in handling and managing solid waste that creates the most vulnerable and risky situation during works. JICA has developed two separate manuals to ensure their health and safety. The general guidelines and other hygiene guidelines, as well as what to do at the beginning of work, during work hours, and at the end of work, and what to do for the officers involved in conducting their activities are described in the manual.

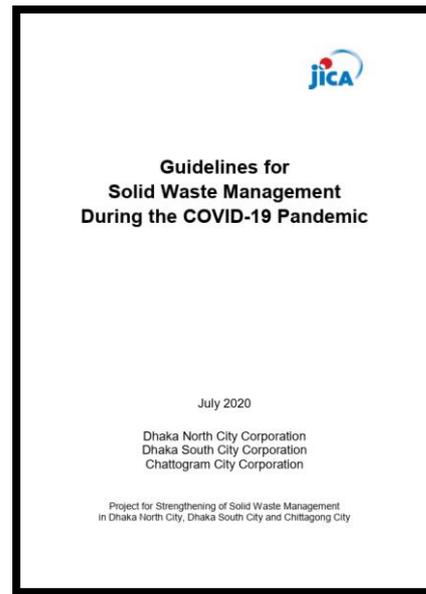


Pocket Size Manual for Cleaners (Left) and Landfill Workers (Right)

Cleaners, waste collection workers, drivers and helpers and landfill workers and workshop staffs are considered at a high risk of getting the virus through disposed masks, gloves, and tissues. JICA prepared guidelines for solid waste management to continue the waste management services of City Corporation with minimum impact by COVID-19, as well as to prevent the spread of COVID-19 as much as possible for protecting people's life and health during the COVID-19 pandemic situation. JICA also prepared a technical guidance for medical waste management response to COVID-19 aiming to clarify the CC's medical waste management response strategy, including emergency measures to secure the supplemental treatment capacity of infectious waste. This technical guideline will also help city corporations for the management of the quarantine areas medical waste.



Technical Guidance on Medical Waste Management response during COVID-19



Guidelines for SWM during COVID-19 pandemic situation

10.2 PPE Distribution from JICA

JICA handed over PPEs to the Mayor of CCC for cleaners as well as for landfill staff to keep them contaminated from the coronavirus. The protective equipment includes 190 PPE gowns, 190 pairs of gumboots, 190 goggles, 790 pairs of gloves, 40 hand sanitizers, 19,575 masks, 44 thermometers, 59 liquid soaps, and 190 bags.



10.3 PPE Distribution from UNDP:

UNDP, with support from Australia, has provided 5,000 PPE packages for urban waste cleaning workers of Dhaka North and South City Corporation, Chattogram City Corporation, and Narayanganj city corporation. Sudipto Mukerjee, Resident Representative of UNDP Bangladesh handed over PPE to Md Tazul Islam MP, Minister, Local Government Division in presence of other high officials from the Government and UNDP. This additional support of getting PPEs from UNDP and the Australian Government for the protection of cleaners further intensify the CCC effort.

CHAPTER 11: MEDICAL WASTE MANAGEMENT

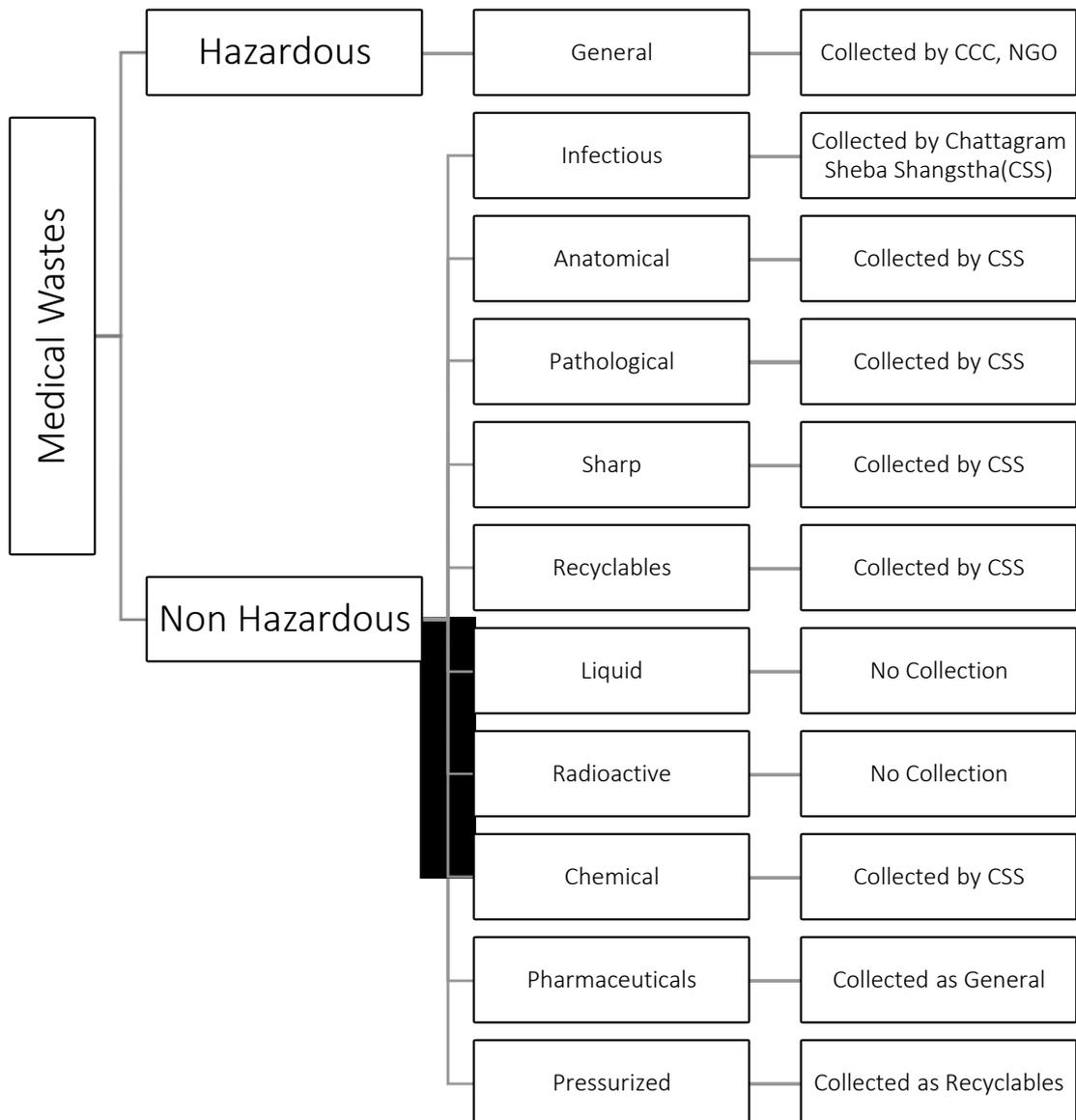
A total of 87 hospitals and 180 diagnostic centers are operating in Chittagong while only one private non-government organization, Chattagram Seba Sangstha (CSS), is working to dispose of the medical waste, according to the health department officials.

According to the organization officials, only 130 hospitals and diagnostic centers out of over 250 in operation have signed agreements with CSS to responsibly dispose of medical waste since 2015.

CSS has 4 covered vans of capacity 2/3 tons (18-20 ft long) to carry the wastes from the hospitals to their disposal shelters near the dumping yard of CCC at Halishahar. The diagnostic centers, hospitals that the NGO is incorporated with, dispose of their wastes mostly in a mixed manner which is later segregated at the shelter of CSS (in an unhealthy way) near the dumping area.

They incinerate the infectious wastes by conventional method and other wastes are disinfected/buried/recycled including plastic and sharp waste. Most general wastes are being disposed to the nearby containers of CCC later to be carried out by container moving trucks of CCC to dumping yards. The other hospitals/clinics/diagnostic centers which have not signed up with CSS, generally dump their wastes into the containers of CCC in a mixed manner which is very alarming.

Currently wastes from the Covid-19 dedicated hospitals and isolation centers are also taken care of by CSS with a dedicated covered van and manpower to maintain proper safety and then incinerated directly at their shelter. A chart has been given to portrait the medical waste collection flow of CCC.



Collection practitioner in Chattogram City



Technical Support: JICA Solid Waste Management Project Team