

Newsletter #14

March 2022 - MSW collection



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Contents

Intro: Challenges and opportunities of MSW collection	2
Different approaches to waste collection	2
Bukavu, Democratic Republic of Congo – To transform waste into wealth	3
Raising the waste collection rate in Kigali, Rwanda, to 88%	4
MSW collection: What the data tells us	4
Get to know our Affiliates	5
Waste Wise Cities Tool (WaCT)	6
Waste Wise Cities & African Clean Cities Platform Updates	7
Call to Action	9



5Rs



Intro: Challenges and opportunities of MSW collection

In order to establish a functional and efficient municipal solid waste (MSW) collection and transportation system, cities are required to plan logistics with necessary fleets, workers and transfer stations, understand the operation and maintenance cost of all those logistics and coordinate with private collection companies, as well as secure sustainable financial resources to operate the whole system. However, these challenges should be seen as business opportunities to create green jobs.

For cities to establish sustainable financing for waste collection, revenue

channels have to be reviewed. People's awareness towards the importance of waste collection services for public health needs to be raised, so that people are willing to pay for it. Additionally, countries should establish functional extended producer responsibility systems that cover the costs of collecting and sorting recyclables to bring them back into the recovery chain. Furthermore, designing an appropriate licensing system to allow formalization of informal waste collection service providers can be a great tool for expanding access to waste collection services.

On 2 March 2022, [the resumed Fifth Session of the UN Environment Assembly \(UNEA 5.2\)](#) closed, passing a resolution to establish an intergovernmental negotiating committee for a legally binding instrument to address plastic pollution by the end of 2024. Surveys with the Waste Wise Cities Tool (WaCT) and Waste Flow Diagram (WFD) indicate that uncollected waste is the largest plastic leakage source from MSWM systems, particularly in low to middle income countries. Hopes are high, that the global discussion on plastic pollution will shed light on the challenges and opportunities of MSW collection.

Different approaches to waste collection

By Flaviu Pop, waste management consultant UN-Habitat

The most common waste collection systems are pick-up (door to door, curbside) and bring (drop-off) systems. In the pick-up systems, containers, bins, bags, or other equipment are collected at certain time intervals by the service providers. In a drop-off system, the service users bring the waste to a designated point where for example containers of different sizes and types are placed and from which the waste is collected by the service providers. The drop-off/bring system is used often in developed countries for recyclables, complementing the pick-up system. In developing countries, it is often used for general waste collection in low-income areas.



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The design of the waste collection system should consider several parameters such as: the type of equipment for waste storage, the type of the collection vehicles, population densities, waste generation and composition, collection frequency, traffic and road conditions, climate conditions, distances to waste facilities, etc. Several cross-cutting themes must be included along with the technical, financial, and legal assessments. These include integration of local systems such as informal waste collectors, gender and youth integration, climate change adaptation and mitigation.

Locally appropriate solutions in developing countries are usually labor intensive and come with lower capital and operational costs as compared to more advanced technologies. High tech solutions such as compactor trucks, wheeled bins, multi-compartment containers, come with high capital and operational costs. Appropriate strategies should prioritize the technical functionality of the system and its affordability by the local governments. Whilst most of the donor funding in low- and middle-income countries consist of capital investments in form of grants, the operational expenses and the revenue generation fall under the



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responsibility of local governments which must sustain the system operations over time. As such, appropriate solutions should be strongly embedded into the existing systems, affordable, scalable, and built on what works.



5Rs



Bukavu, Democratic Republic of Congo – To transform waste into wealth



This article was written by Venance Alwende Francois, City of Bukavu, Democratic Republic of Congo.

As cities are currently homes to more than half of the world’s population, making them clean is certainly a great challenge for the leaders and decision-makers of these entities, but it is however possible to meet this challenge once the efforts are put together.

Built on a chain of mountains, with an estimated population of more than 1.3 million inhabitants, the city of Bukavu, formerly called “The beautiful Bukavu” because of its green nature, is currently unclean due to the inefficiency of the system of waste management. Bukavu generates on a daily basis 898 t/d of waste.

This poor waste management leads to an accumulation of uncollected waste in the city. The current situation is such that: bulging avenues of waste, waste burnt almost everywhere, the lake and rivers polluted. To remedy this situation, the Mayor of the city has set himself a mission called: “to transform waste into wealth”.

Reasons causing this situation of non-collection of waste are multiple, among others: lack of collection capacity for the city, lack of public awareness, lack of waste treatment units.

In the context of learning exchange and city staff building capacity, webinars are useful to improve the situation and equip us to do better in the future.



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5Rs



Raising the waste collection rate in Kigali, Rwanda, to 88%



This article is a contribution of Paulin Buregeya, founder and CEO of [COPED](#), a social-profit oriented company operating in Rwanda from 1999. The core business of the company is to offer Environmental Sanitation Services including waste management, city cleaning and city beautification services.

COPED works with different stakeholders and partners to foster long term urban sustainability in the cities of Rwanda. By serving households, businesses, public and private Institutions of Rwandan cities, it is achieving its mission and playing a role in gradually turning Rwandan cities into the cleanest and greenest cities in Africa.

For example, COPED supported the increase of the waste collection rate to more than 88% in Kigali City, whereby in most African cities, municipal solid waste management is a big challenge and many are struggling to overcome to the situation. The strategies used by the City of Kigali to be successful were a combination of (1) political will, (2) good legal framework, (3) strong education and (4) strong enforcement.



MSW collection: What the data tells us

UN-Habitat implemented Waste Wise Cities Tool (WaCT) surveys in more than 30 cities in 2021, mainly in Asia and Africa. The results (which can be accessed [here](#)), show different trends in different regions: in Africa, many cities have been found to struggle in achieving high MSW collection rates, ranging from 7% to 60%. This leads to a huge amount of waste left uncollected daily. Some examples: the waste collection rate in Lagos, Nigeria, is 48%, Dar es Salaam, Tanzania, 36%, Harare, Zimbabwe, 27% and Bukavu, DRC, 7%. However, efforts of cities who have reached more than 50% collection of generated MSW should also be acknowledged, such as Nairobi (65%), Mombasa (52%) in Kenya and Cape Coast, Ghana (63%). Based on the collected data, infrastructure gaps were identified in the cities, for example the low capacity of waste collection systems, including a lack of vehicles and transfer stations. In addition, those who live in low-income areas and informal settlements do not

have access to waste collection services.

In South and Southeast Asia, cities are managing to collect MSW and transport it to transfer stations, recovery facilities or disposal facilities, but reaching a basic level of environmental control of those facilities is still difficult. This results in many cities still mainly relying on open dumpsites. In Karachi, Pakistan, 81% of MSW is collected but 0% managed in controlled facilities. In Khulna, Bangladesh 63% of MSW is collected and also 0% managed in controlled facilities. In Sihanoukville, Cambodia, 90% is collected, 0% managed in controlled facilities. In Tam Ky, Vietnam, 98% of MSW is collected but again 0% managed in controlled facilities. In Chonburi Province, Thailand, 98% of MSW is collected and 37% managed in controlled facilities. Challenges faced by those cities are lack of financial and technical resources to properly maintain and operate the facilities. Sometimes also the governance system

to enforce environmental standards is not appropriate.

Different challenges emerged from the primary data collection using WaCT, clearly highlighting infrastructure and policy or resource gaps at city level. UN-Habitat will continue to support cities for evidence-based decision-making to achieve SDG 11.6.1.



Get to know our Affiliates

In this section we give our Waste Wise Cities Affiliates the possibility to introduce themselves.

Biosephia Engineering Services Pvt Ltd



"It all started with aiming to create a carbon negative society to live in. We

as group of engineers after thorough research on numerous studies about creating a carbon negative roadmap, established Biosephia Engineering Services (2020) and thought of utilizing waste into a renewable source of energy rather than utilizing fossil fuels and avoid sending wet waste to dump yards or landfill. Wet waste generated from cities and villages can turn into useful and eco-friendly products such as biogas.

Decentralized frameworks for effective and efficient way of solid waste

management have many advantages. Our focus is providing innovative solutions on waste utilization to the end user, mainstreaming circularity, contributing to local and state government bodies, helping government spread awareness about the sector. Our other focus areas are to inculcate sustainable waste utilization into the thought process, contribute to the Swachh Bharat Mission and aim to be a part of India's mission to meet 50% of its energy requirements from renewable energy by 2030."

T@blet Comunitário



"Tablet Comunitario is a Mobile Digital infrastructure designed and built in Mozambique, operational for the past 5 years, with an objective to play a vital role in a Digital Transformation process in rural poor communities by empowering people through a digital format.

Plastic Garbage is usually recycled in goods which usually do not add intellectual knowledge. With our project and vision, we wish to use Garbage plastic to reduce the digital divide, giving access to basic service needs such as telemedicine, tele school and empower

them with information, and knowledge which will enable them to contribute for a green world.

We started to use plastic recycled materials called Wood Plastic, designed under our specs to build our infrastructure which will compose 85 % of it, contributing

to Circular economy and to digital inclusion of marginalized communities at the same time.

Knowledge is the key for development and the way forward is through digital. Let's contribute for Interactive Villages in a Greener World."



"WASTE & RECYCLING IN UPCOMING ECONOMIES: A momentum for change" article by SweepSmart

SweepSmart was established five years ago and is an Affiliate of Waste Wise Cities. They are a social business specializing in waste management in emerging and developing countries.

In a new article SweepSmart published, they look back on the development of waste management in these countries for the past 5 years.

Read the full article [here](#).

Waste Wise Cities Affiliates

Do you want to:

- Support Waste Wise Cities and improve waste management in cities around the world?
- Be an official partner of Waste Wise Cities and UN-Habitat?
- Show up on the Waste Wise Cities website?
- Implement the Waste Wise Cities Tool?
- Read about your activities in this newsletter?
- Do much more?

Then [contact us](#) and become a Waste Wise Cities Affiliate! Together we can become Waste Wise!

Waste Wise Cities Tool (WaCT)

You have forgotten what the Waste Wise Cities Tool is? No worries, you can find all information on our [website](#). [Here](#) you find out which cities have already submitted data collected with the WaCT and as you can see from the article below, more data is becoming available.

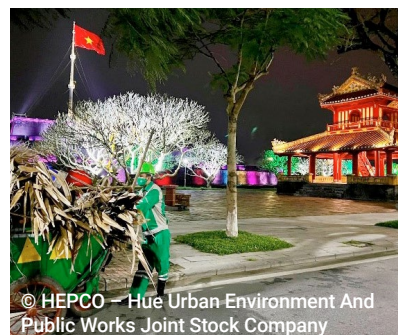
WWF and UN-Habitat collaboration to promote data-based action planning in Central Viet Nam



This article was provided by Le Thi Thanh Thuy, Senior Project Officer, WWF-Viet Nam.

As part of the collaboration between WWF's Plastic Smart Cities (PSC) Initiative and UN-Habitat to prevent marine litter through evidence-based city action planning, WWF-Viet Nam conducted baseline studies from June to November 2021 using the Waste Wise Cities Tool (WaCT) for Hue City in Central Viet Nam. The studies showed that although Hue city had a very high collection rate at 97%, the recovery rate was only 21%, relatively low compared with its potential, especially for plastic waste. Very few recycling facilities were assessed to be at basic control level. About 11% of plastic waste still leaked to the environment. Based on this assessment, the city is developing an action plan with a focus to reduce the amount of plastic leakage to the environment to achieve its PSC commitments. The local

authority also has a better idea of the ultimate goal of its waste separation at source, that is to increase the waste recovery rate by encouraging citizens to separate recyclables at source instead of mixing all waste and sending it to the landfill. It is expected that more cities in Viet Nam will take up the WaCT to promote data-based decision making in municipal solid waste management.



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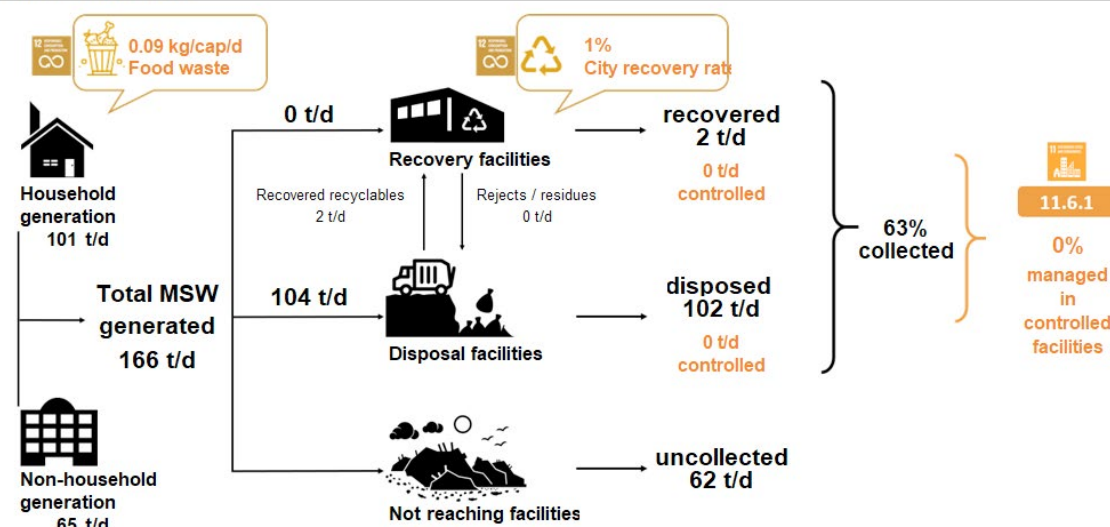
WaCT survey in Cape Coast, Ghana, through ACCP

Cape Coast is the capital city of the Central Region in Ghana and Cape Coast Metropolitan Assembly is one of the twenty-two administrative Districts in the Central Region. The city population is estimated to be 227,828. Cape Coast applied the WaCT between September and October 2021 under ACCP and it found that total MSW generated in

the city is 166 t/d and an estimated 2 t/d (1% of total MSW generated) is recovered. Moreover, the survey found that approximately 12.7 kg/cap/year of plastic waste is leaked into water bodies. See more details of the survey in the below chart. Based on the results and analysis, the significant gaps identified in the city, which require immediate action are: introducing separation at source; improving waste collection coverage; increasing material recycling; enhancing

waste disposal; and developing a local SWM plan/strategy. Through the local stakeholders' workshop, held on 9 February, challenges and interventions for the city were identified, e.g. formulation of a strategic solid waste management plan, improvement of waste collection (collection coverage expansion/frequency) by collaborating with collection companies, etc.

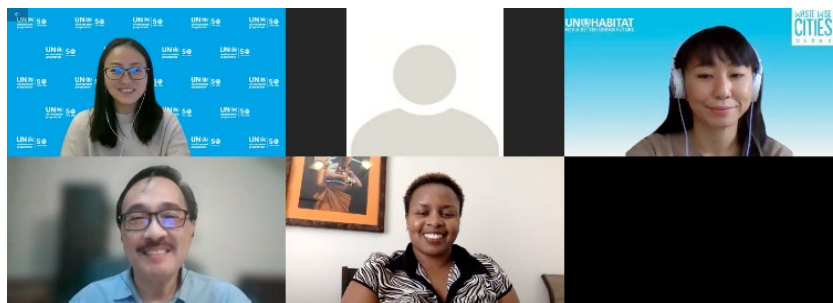
WaCT Flow Chart



Waste Wise Cities & African Clean Cities Platform Updates

ACCP Webinar Series

On 24 February, ACCP Webinar Series – Webinar #2 – on Covid Waste Management in Africa was organized, inviting Ms. Gladys Ngeno, Public Health Specialist in Kenya, and Dr. Jorge Emmanuel, Professor in the Institute of Environmental and Marine Sciences and College of Engineering at Silliman University, Philippines. The webinar addressed the impact of COVID-19 on healthcare waste and Dr. Jorge introduced how COVID-waste issues can be dealt with by introducing ideas/technologies to deal with such waste, for example [UNEP's Compendium of Technologies for Treatment/Destruction of Healthcare Waste](#). Ms. Gladys presented about the actual challenges in Kenya based on her experiences. To move forward, it was suggested to strengthen coordination,



monitoring, training and behaviour change, and investments, building on actions in the [WHO manifesto for healthy recovery from COVID-19](#):

- Target the national levels to promote a "win-win"-scenario for keeping healthcare workers and health users safe while also supporting environmental sustainability;
- Implement reverse logistics for expired vaccines and centralized

treatment of waste using non-burn technologies;

- Invest in local and regional sustainable personal protective equipment (PPE) production; and
- Build capacity of the healthcare workforce to safely manage waste and appropriately use PPE.

ACCP and Waste Wise Cities at UNEA 5.2.

[The resumed Fifth Session of the UN Environment Assembly \(UNEA 5.2\)](#) took place in Nairobi, Kenya, from 28 February to 2 March 2022, preceded by negotiations and consultations. UNEA 5.2 drew about 3,000 participants in-person and 1,500 online from 175 UN Member States, including 79 ministers and 17 high-level officials. The Assembly adopted 14 resolutions, two declarations and one decision on a wide range of issues. One of the resolutions requests the establishment of an Intergovernmental Negotiating Committee (INC), which will work between 2022 and 2024 on a legally binding instrument on plastic pollution, including in the marine environment. It will include both binding and voluntary approaches, based on a comprehensive approach that addresses the full lifecycle of plastic. Read more about this historic decision [here](#) and have a look at the full text of the resolution [here](#).

The ACCP and Waste Wise Cities team was also busy during this period:

- supported the organization of a field trip for Norway's Minister for Climate and the Environment Espen Barth Eide to Dandora Dumpsite and a close-by recycling company, that is processing film plastic recovered from Dandora;
- spoke at the event on Reimagining waste management to reduce open dumping and open burning in Africa: Pathways to reduce climate pollutants and health hazards, organized by the Climate and Clean Air Coalition (CCAC) and the Stockholm Environment Institute (SEI). You can access the recording [here](#);
- met with delegations, e.g. Tearfund, WWF and the Global Alliance of Waste Pickers.

In the aftermath of UNEA 5.2, ACCP and Waste Wise Cities will closely follow the negotiating process for the global instrument on plastic pollution. With the support of the Government of the Kingdom of Norway, we will organize an

Expert Group Meeting on 4 – 6 April to discuss possibilities of a just transition of the informal waste sector under such a global instrument. Save the date and join the conversation (more details to follow)!



The Plastics wrap-trap: what about Cities in inter-states negotiations?

On 24 January 2022, the Geneva Cities Hub, the Geneva Environment Network, and UN-Habitat, with the support of Norway, convened the first Geneva Urban Debate of 2022 with the purpose of promoting the voice of local and regional governments (LRGs) in the UN Environment Assembly (UNEA) proceedings relating to plastic pollution. In preparation of the debate, ACCP and Waste Wise Cities members and partners had been asked to provide input through an online questionnaire. The results were presented during the event and for example included that the implementation of Extended Producer Responsibility (EPR) through strong policy reform, as well as private sector

participation and ownership covering all stages of the plastic lifecycle should be addressed through an international agreement. Furthermore, SDG 11.6.1 and SDG 12.5 were ranked highest in their importance for municipal planning.

The outcomes of the debate were distilled into a report, which is available [here](#). Want to have another look at the event? You can access the recording [here](#).



ACCP and Waste Wise Cities at GSTIC Conference

On 19 January 2022 UN-Habitat joined the plenary session Accelerating the Circular Economy: Inspiring Approaches to Sustainable Waste Management at [the Global Sustainable Technology & Innovation Community Conference \(GSTIC\)](#). The purpose of this plenary session was to position sustainable waste management as an indispensable central part of a circular economy with global significance for our society.

Representatives and experts from different organizations around the world shared their views on the challenges and impacts of solid waste management. UN-Habitat introduced the Waste Wise Cities programme and its cities' network as well as the WaCT, as a central tool to support cities for evidence-based

decision-making in improving solid waste management and achieve SDGs related to waste.

The session summary is available [here](#) and the recording can be accessed [here](#).



Open Burning of Waste in Africa

As a follow up to the official side event held on open burning of waste at COP 26, and in preparation for COP 27, the ACCP team supported the organization of a webinar on Open Burning of Waste in Africa, organized by the United Nations High Level Champions (UNHLC) on Climate Change and the United Nations Environment Program (UNEP) in collaboration with ICLEI-Africa on 3

February 2022. The session highlighted that both spontaneous and deliberate open burning of waste is still widely observed in most developing countries. This practice contributes to the release of short-lived climate pollutants (SLCPs) and a rising rate of environment pollution-related diseases. At the event, key steps that need to be taken and potential opportunities were furthermore discussed.

Find out more about the work of the UN High Level Climate Champions Team Partnership [here](#).

Legazpi and Cagayan de Oro Cities pioneer local action plans on marine litter in the Philippines

Two cities in the Philippines have promulgated the first City Plans of Action on Marine Litter (CPOA-ML) in the country, which localizes the [Philippines National Plan of Action for the Prevention, Reduction, and Management of Marine Litter \(NPOA-ML\)](#), with the overarching goal of “zero waste to Philippine waters by 2040”. The local plans were developed with technical support from the [Healthy Oceans and Clean Cities Initiative \(HOCCI\)](#), a project implemented by UN-Habitat with funding support from the Government of Japan, and in line with the Philippine government’s direction to localize the NPOA-ML.

Legazpi City has officially adopted its CPOA-ML through a resolution by the Legazpi City Planning and Development Council on February 22, 2022, which effectively included the plan in the city’s medium-term investment plan, opening more funding opportunities for the programs, projects, and activities.

Meanwhile, the Solid Waste Management Board of the City of Cagayan de Oro issued a resolution on February 9, 2022 adopting the CPOA-ML for integration into the updating of their Ten-year Solid Waste Management Plan (SWMP) thereby providing the impetus to mainstream the municipal solid waste management components of the CPOA-ML into the SWMP.

In addition, the cities of Calapan, Davao, Manila, and Ormoc are currently finalizing their respective CPOA-MLs through a multi-stakeholder participatory process and based on the [Waste Wise Cities Tool](#) results. HOCCI partner cities and people’s organizations currently conceptualize plastic 3Rs pilot projects to implement specific projects and activities identified in the CPOA-MLs to generate proofs of concept.

Read the full story [here](#).



Waste Wise Academy

The online course From Data to Tangible Impact: how to achieve the waste SDG by 2030, is now available in French too, check it out [here](#).

Call to Action

- Share with us your good examples of setting up waste collection systems, including waste separation at source!
- Promote waste separation at source!
- Include the informal sector and other relevant stakeholders when planning your waste collection system!
- Become an ACCP and/or Waste Wise Cities member or affiliate and share your stories with us!