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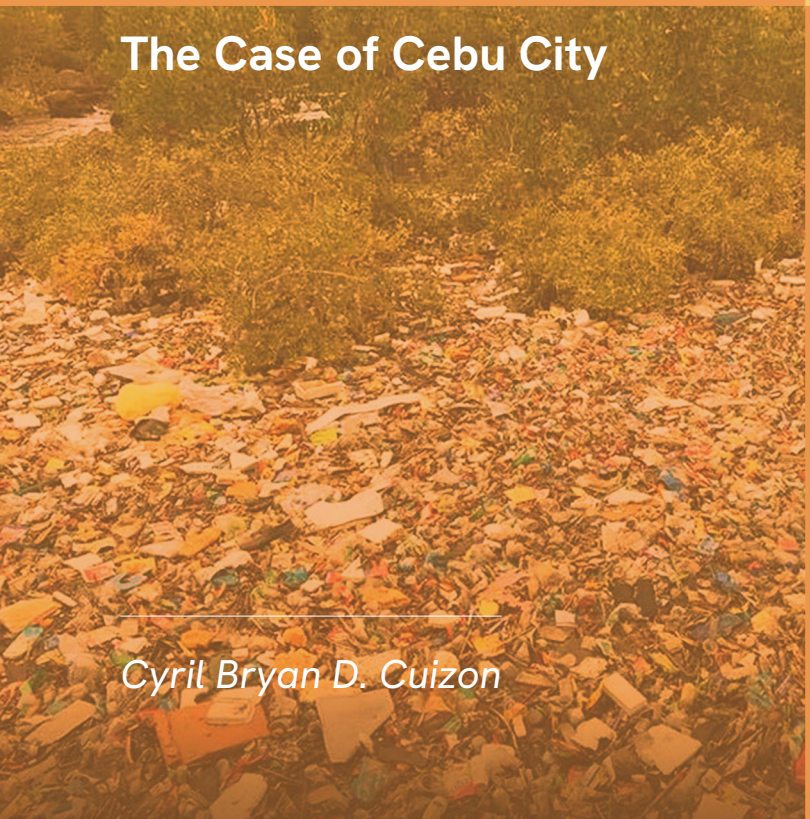
The Case of Cebu City



Cyril Bryan D. Cuizon

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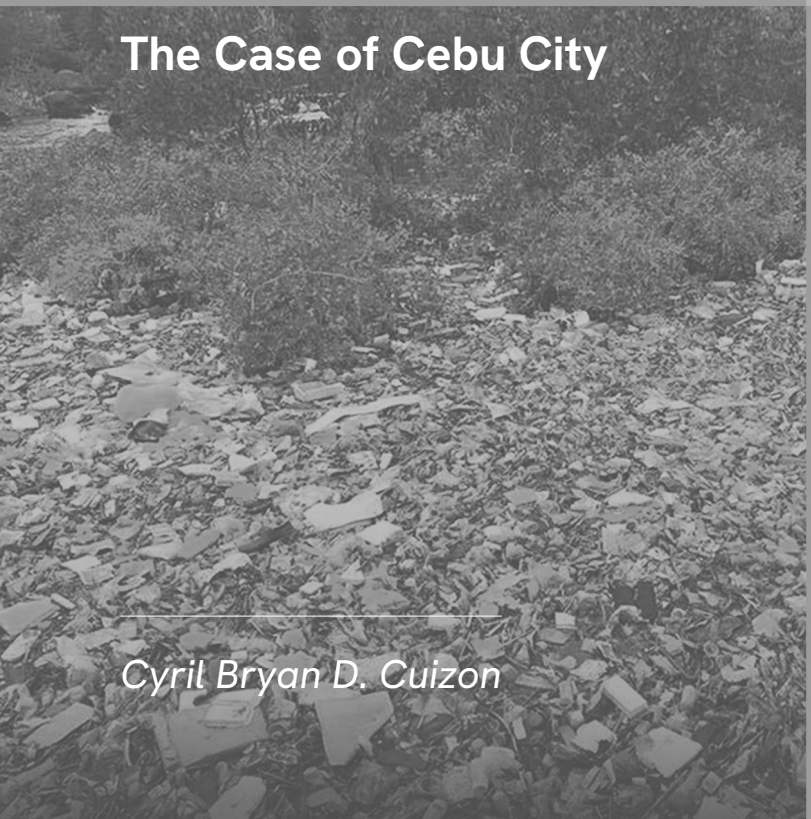

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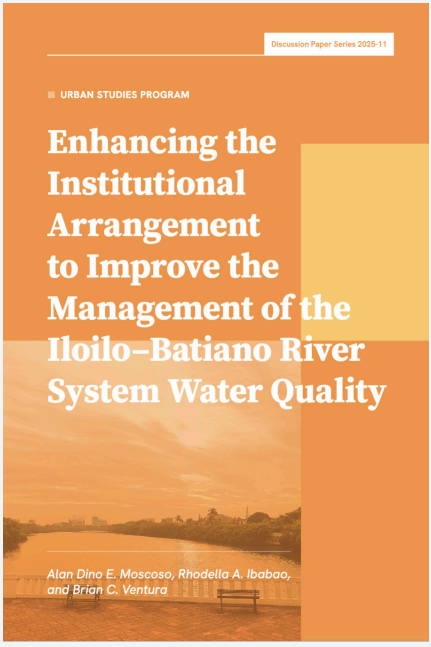

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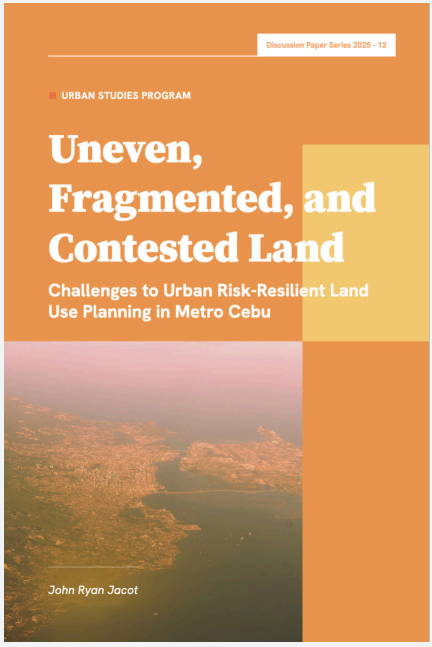

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PATHWAYS FOR WASTE MANAGEMENT SUSTAINABILITY

The Case of Cebu City

Cyril Bryan D. Cuizon
University of the Philippines Cebu

ABSTRACT

On a global scale, risk mitigation is a buzzword due to continued exposure to increasingly complex and integrated urban risks and vulnerabilities, worsened by the climate crisis and rapid urbanization. Massive flooding remains one of the critical issues that continue to afflict the country and Cebu City would certainly attest to this. With the heightened flood risk, the current Cebu City administration organized the "Task Force Gubat sa Baha" (war against floods) to streamline and integrate the city's efforts in flood risk mitigation, solid waste management, and river rehabilitation. The program exposed the need to assess Cebu City's waste management practices, which are complex in itself. The complexities of waste management in the Asian Region, zoom in with the low and middle-income countries, thereby receiving increasing scholarly attention over the past decades, drawing focus on waste as a rather perennial issue and to others, a malady even. In the Philippines, these challenges are considered persistent and enduring. The challenges we encountered are viewed as multifactorial which include exponential growth in waste generation due to rapid urbanization, population growth, and growing consumption; inadequate waste collection and disposal which exacerbates environmental and health concerns; the role of informal waste workers and their integration into the management system; and the need for funding vis-à-vis governance. In Cebu City, waste management receives heavy scrutiny due to the daily volume of trash (nearly 1M kg or 1,000 tons). Projections from Cebu City Government's 10-year Solid Waste Management Plan (SWMP) 2023-2032 are considered conservative thus, no clear baseline information may be deduced to ensure data-driven analysis. Bridging Leadership Framework is utilized as a collaborative approach to leadership in the context of solid waste management, fostering empowerment of the community through collaboration, inclusivity, and accountability. It focuses on the processes of ownership, co-ownership, and co-creation (or co-production). In looking into the crux of the crisis, the different stakeholders have to be identified and more importantly, engaged with local leadership and governance at its core. It is indubitable that the active participation of the community is not only crucial but also inevitable for sustainable waste management. Successful community-led waste management initiatives in local communities in Cebu City and its neighboring cities prove that positive changes can be made with the right goal, motivation, and support. Co-production is critical in the sustainability of solid waste management (SWM) due to its collaborative nature, ensuring effective community-centric solutions. Further, better enforcement of existing regulations and the creation of more innovative policies bolstered by a stronger legal framework are ways forward to ensure sustainability.

INTRODUCTION

Waste management laws in the Philippines admittedly face significant challenges, rendering them to a larger extent, ineffective. Environmental conservation groups strongly oppose incineration due to concerns over dioxin emissions. This is despite technological advancements that minimize harmful emissions. The ban on incineration forces reliance on sanitary landfills, which release methane gas and contaminate underground water. Existing statutory laws, like the Ecological Solid Waste Management Act of 2001 (RA 9003) lack clear guidelines on resident and consumer responsibilities. The Extended Producer Responsibility Act of 2022 (RA 11898) focuses solely on the responsibility of private companies thus, neglecting the roles of the consumer and the local government. Devolution poses challenges to the inadequacy of both expertise and funding for waste management, as local governments struggle to construct, operate, and maintain waste management facilities. There is also an apparent dearth of education and public awareness on proper waste segregation and disposal. While Cebu City's ordinances aim to address this, citing as key examples (1) Cebu City Ordinance No. 2031, otherwise known as "An Ordinance for the Implementation of Solid Waste Segregation at Source, Providing Penalties for Violations Thereof, and the Creation of a Special Fund for Incentives" promoting segregation of solid waste at source, emphasizing the importance of separating waste from the outset and (2) Cebu City Ordinance No. 2594, "An Ordinance Reducing Food Waste through Food Donation and Recycling, Imposing Penalties, and Providing Funds Therfor", an ordinance on Food Waste Reduction focusing on the reduction of food waste and encouraging community-based campaigns on proper waste segregation and recycling. A rigorous campaign to raise public awareness is still needed. Inadequate implementation of these ordinances hinders effective waste management. Thus, a need to strengthen policy frameworks and enforcement. Also crucial to implementation are funding constraints at the level of local governments. The call then is how to address these challenges in developing comprehensive waste management strategies while balancing environmental concerns, public health, and economic feasibility.

This paper examines solid waste management in the City of Cebu, Philippines from the perspective of its stakeholders: policy experts, local government officials and representatives, community members, and civil society organizations. It looks closely into Cebu City's compliance and the challenges

to its implementation of RA 9003 in the local context and in light of the 10-year Solid Waste Management Plan (SWMP), 2023-2032 of Cebu City focusing on the critical issues and challenges. In addressing these critical issues and challenges, it looks into the best practices in solid waste management of the different local government units in Cebu and the Philippines, focusing on co-production as a pathway for solid waste management sustainability. In this study, prime importance is given to the voices of the community and civil society organizations, who participated in the key informant interviews (KIIs), focus group discussions (FGDs), and public forums conducted by the University of the Philippines Center for Integrative and Development Studies (UP CIDS) Urban Studies Program. The meetings, workshops, KIIs, FGDs, and public forums were all conducted in 2024. This includes the exploratory meeting for prospective collaboration with the Office of City Councilor Joel Garganera on March 18, 2024; the exploratory meeting with *Pagtambayayong*-a Foundation for Mutual Aid, Inc. on April 17, 2024 through its Founder Francisco "Bimbo" Fernandez and its executive director, Paula Fernandez; the Workshop on Urban Sustainability Policy and Research facilitated by Prof. Karen Ann B. Jago-on of the UP Diliman School of Urban and Regional Planning (SURP) on August 21, 2024; a Roundtable on Inclusive Integrated Flood Risk Motivation on August 22, 2024 with the participation of Acting Mayor Raymond Alvin Garcia, the Task Force Gubat sa Baha, National Economic and Development Authority Regional Office 7, the Soil and Water Conservation Foundation, the Protected Area Management Office of the Central Cebu Protected Landscape, Department of Human Settlements and Urban Development (DHSUD), National Housing Authority (NHA), and the Division for the Welfare of the Urban Poor; also placing into context the Roundtable Discussion on "The Fizzling of Ceboom: How Jurisdictional Battles and Warring Factions Undermined Cebu's Development Coalition" by Dr. Dr. Paul Hutchcroft and Dr. Weena Jade Gera, on December 3, 2024 with the NEDA Regional Office 7. The paper utilizes the Bridging Leadership Framework as a collaborative leadership approach to the problem of solid waste management which is considered complex and multi-factorial.

SPOTLIGHT ON CEBU CITY

Cebu City's solid waste management problem is a long-standing concern that has plagued the city for over 30 years. It has been heavily scrutinized as it nears 1M kg or 1,000 tons of trash produced daily. From the projection of the city

government's 10-year Solid Waste Management Plan (SWMP), in 2023 waste was projected at 953,261 kilograms daily, while 963,367 kilograms per day at 2024 juxtaposed to the 18.05 million tons of waste produced yearly as per Solid Waste Management Status Report (2008-2018). By 2025, solid waste generation is expected to reach 23.61M tons. Unfortunately, the projections are still rather conservative, as per the audit team report released on October 28, the numbers only accounted for three sources: residential (53.8%), commercial (25.5%), and institutional (20.69%). These figures failed to account for the trash generated by the market, the industrial sector, construction/demolition jobs, and agricultural and agro-industrial sectors Thus, no clear baseline information may be deduced as a take-off point in a data-driven data analysis. The problem of waste is more complex than it seems and the challenges in waste management have no one-single response.

MULTI-FACTORIAL CHALLENGES IN WASTE MANAGEMENT

Challenges to waste management are considered multi-factorial because they involve intricate interactions among various socio-economic, environmental, institutional, technological, and cultural factors. Socio-economic factors include increasing waste generation (population growth); concentrated generation of waste (urbanization); insufficient access to waste management services (poverty); and insufficient knowledge and awareness of proper waste management (education).

Environmental factors include extreme weather events impacting waste disposal (climate change); limited land availability for landfills (geographical constraints); and improper waste disposal contaminating waterways (water pollution). Institutional factors may refer to weak regulations and enforcement (inadequate policies); insufficient inter-agency collaboration (lack of coordination); and limited resources for waste management infrastructure (funding constraints). Technological factors may pertain to insufficient waste collection, transportation, and disposal facilities (inadequate infrastructure); restricted options for energy recovery (limited waste-to-energy technologies), and inefficient collection and disposal methods (outdated waste management practices). Cultural factors include a lack of community engagement and participation (social norms); inadequate waste segregation and disposal

practices (behavioral habits); and insufficient education on the significance of waste management (community awareness). Other factors may pertain to political instability which impacts policy implementation and enforcement, and natural disasters which disrupt waste management operations.

These multi-factorial challenges require a comprehensive approach that considers these interconnected factors and engages multiple stakeholders in collective action. Especially evident with rapid urbanization with implications for the exponential growth of population and consumption.

Waste Generation and Composition

Waste generation and composition are intrinsically linked to rapid urbanization, population growth, and evolving consumption patterns. Thus, an increase in population density is directly proportional to the increase in waste volume and management needs. Waste generation fluctuates depending on the changes in lifestyle, urbanization, and migration. There would be a 40% increase in waste generation by 2025 (Kaza, et. al, 2018). In Asian Countries, 45-50% of organic waste is in municipal waste according to Modak, et.al (2017) and UNEP (2019). Waste composition of Cebu City accounts for the following: organic waste- 50%, plastic- 16%, paper- 16%, metal- 4%, and others- 14% (Survey of Household Solid Waste Generation and Public Awareness on Waste Separation and Composting Practices in Cebu City; carried out as part of the Community-Based Solid Waste Management System Development Project in Cebu City).

Waste Collection and Disposal Practices

The prevalence of inadequate waste collection and disposal is a critical issue. There is a clear link between improper waste management and global warming (Agamuthu and Khidzir, 2008). Under City Ordinance No. 2031, only properly segregated waste will be collected by the city, the Cebu City government has strictly re-implemented its “no segregation, no collection” policy. Improper solid waste management leads to massive flooding, air and water contamination, and increased heat. Without proper segregation, landfill capacity issues will worsen, causing environmental hazards and inefficient waste processing. Currently, all three highly-urbanized cities (HUCs) namely: Cebu City, Lapu-Lapu, and Mandaue only have a privately-owned landfill in

Barangay Binaliw, Cebu City, referred to as ARN Central Waste Management. This is a clear violation of the MRF requirement in RA 9003. The justification for not complying with MRF requirements is mainly due to the lack of a suitable site, raising the question: Is a lack of a suitable site the problem, or is it a lack of foresight, an oversight, or perhaps an absence of political will?

According to Reymarr Hijara, Department Head at Cebu City Environment and Natural Resources Office (CCENRO): *"I-require na ang matag balay, matag establisemento, matag opisina, matag building pribado man o publiko, matag barangay, nga ila-in la-in gyud ang ilang mga basura aron dili lisud kolektahun* (Magsumbol, 2023)." (It is required that each house, establishment, and office whether private or public in each barangay segregate their waste so that it will be easy for collection). On January 29, 2024, PRIME Integrated Waste Solutions Inc. (PWS) inaugurated its automated Materials Recovery Facility (MRF) in Cebu that utilizes state-of-the-art equipment for waste segregation and storage. PWS was established in response to the increasing demand for proper waste management and resource recovery solutions in industrialized and fast-growing cities in the Philippines. Adequate waste management has to be holistic and inclusive.

The Informal Sector in Waste Management

Tong, et al. (2021) and Wilson, et. al. (2006) provide compelling evidence of the significant contribution of informal waste workers to recycling rates, approximately 35% of waste in some areas is recycled through informal channels. There is a need for nuanced policy approaches that recognize the economic and social realities of informal waste workers while striving for improved environmental outcomes.

According to Cebu City Councilor Joel C. Garganera, the Chairman of the committee on environment, natural resources, and energy, in an interview and exploratory meeting at his Office at the Cebu City Hall on March 18, 2024, the Fisher Folk Association was called upon by the management of a Hotel Casino in SRP to help in maintaining cleanliness in the area as a strategic partnership. The contribution of the informal sector to recover materials from municipal waste is much higher than from formal waste management services in developing countries (Whenpohl and Kolb, 2007, Medina, 2008, Scheinberg et. al., 2010, Gerdes and Gunailius, 2010, Hetz et. al, 2011). The informal sector

extends to individuals, families, and private sector (micro) enterprises in SWM services. Their activities are not organized, sponsored, financed, contracted, recognized, managed, taxed, or reported by government authorities yet they play a vital role in waste management. Recognizing and supporting the informal sector's role and contribution can improve waste management efficiency, maximize resources, and promote sustainability. Inclusive and holistic waste management initiatives involve ample resource allocation and mobilization.

Financial and Governance Challenges

Financial constraints emerge as a persistent barrier to improving waste management. This persistence of financial constraints over time points to the need for innovative funding mechanisms and resource allocation strategies (Pariatamby and Vhatti, 2020). These constraints are further exacerbated by existing institutional challenges. The range of institutional challenges include: lack of authority, bureaucratic confusion, and political interference (The Asia Development Bank Institute's 1998 Study as cited in Zurbrugg, 2002).

In Cebu City, landfill disposal could have been decreased, saving on hauling and tipping fees if the composting facilities and the allocated budget for MRFs were utilized. Unfortunately, Cebu City did not use its composting facilities in Barangays Kalunasa, Taptap, and Basak Pardo. The city still needs to implement the P53 million DILG grant from 2011 to establish three (3) MRFs. Cebu City was cited for waste mismanagement as it was "not giving much level of priority and importance to the methods of composting and recycling to drive waste diversion in the overall solid waste management (SWM) system" according to COA (Seblos, 2024).

Currently, among the 3 MRFs of Cebu City, which are situated in: Kalunasan, Taptap, and Basak Pardo, only Kalunasan is operational; others are used as mere storage facilities (Seblos, 2024). The amount of P10,578,403 was allocated for MRF construction in 2022, but not used in 2023. There is an apparent absence of MRFs in all other barangays while there is a lack of space in Barangays Tejero, Punta Princesa, Cogon Pardo, and San Jose. Some MRFs are forced to close due to complaints from the residents. Issues on sustainability are attributed to power transition or changes in administration albeit technical and financial support is being provided. With these limitations, it is

incumbent upon the community to take ownership of the problem, put their acts together, and do something about the situation. The first step, also the most critical, is public awareness.

Public Awareness and Participation

It is noteworthy to highlight the importance of public awareness and participation in effective waste management which is a recurrent theme in the navigated literature, Environmental awareness campaigns have a positive impact on proper waste sorting behaviors (Noriaki, et. al, 2017). There is a persistent lack of public participation in most Asian nations, hindering the implementation of 3R (Reduce, Reuse, Recycle) practices (Pariatamby, et. al., 2014). Awareness of the complexity of the challenges to effective waste management must drive the community to a shared responsibility, mutual support, and collective accountability. In other words, take action toward fulfillment in positive social change, i.e. effective waste management. It would further elevate the discussion into what change in the existing structure needs to be made.

Technological and Infrastructure Limitations

An economic gap equates to a technological gap, as technology requires resources. While some nations have advanced waste treatment technologies, many still grapple with basic waste management infrastructure. There is a need for a critical examination of technology transfer processes and the adaptation of waste management technologies to local contexts.

Pintor, Godezano, and Abris (2019) discussed the role of waste management technologies in the country's efforts to transition to a circular economy; where waste is minimized, and resources maximized as they are reused and recycled to the greatest extent possible. In the Philippines, however, a circular economy did not materialize reckoned from the implementation of the Ecological Solid Waste Management Act in 2000.

In Cebu City, according to City Councilor Garganera, the waste-to-energy (WTE) project is moving forward. The civil works for the WTE project are with the New Sky Energy Philippines (proponent). The civil works are moving, especially in obtaining the required permits from government agencies. The

proponent will cover all the project's financial requirements and in fact; it had already purchased a seven-hectare land for the facility. This does not however come free from contestations by green groups on the issue of its legality and alleged violation of local environmental laws. A clear understanding of the existing legal mechanisms and policies at both the national and local levels will fortify vigilance to its proper implementation; giving life to both the letter and spirit of these policies.

ZOOMING IN ON THE POLICIES IN PLACE

The Ecological Solid Waste Management Act of 2000 ("R.A. 9003" for brevity), outlines the country's national policy on solid waste management. It establishes a comprehensive approach to waste management through the National Solid Waste Management Framework, develops inter-agency coordination with the creation of the National Solid Waste Management Commission (NSWMC), and devolves waste management to LGUs. In gist, it aims to promote sustainable waste management practices, minimize waste generation, and protect public health and the environment.

In Cebu City, legal frameworks are in place to achieve an effective solid waste management system. Even before the enactment of the national legislation, there is City Ordinance No. 1361 dated February 5, 1990 (as amended by City Ordinances 1366, 1384, 1385, 1391, 1482, 1512, 1537, 1991, 2018, and 2151), "An Ordinance Establishing a System of Garbage Collection, Imposing Fees Therefor, and Appropriating Funds and for Other Related Purposes". Several ordinances were enacted, and even executive fiat (executive order) was issued thereafter to further carry out RA 9003.

Executive Order (E.O.) No. 00-45 (as amended by EO 10126) is "An Order Creating the City Environmental Sanitation Enforcement Team or CESET, which shall be the Enforcement Arm to Implement Punitive Measures against Violators of Cebu City Ordinance No. 1361 as amended and other Anti-Littering Laws" which was issued on October 6, 2003. The following year, City Ordinance No. 2017 (as amended by City Ordinance 2255), "An Ordinance Creating the Cebu City Waste Management Board (CCSWMB) and Appropriating Funds Therefor," was enacted on October 6, 2004. On November 4, 2004, Cebu City Ordinance 2031 "An Ordinance for the Implementation of Solid Waste Segregation at Source, Providing Penalties for Violation thereof and the Creation of a Special

Fund for Incentives" was enacted. This, focused on solid waste management through segregation at source. On December 12, 2012, City Ordinance No. 2343 was enacted, otherwise known as "An Ordinance Regulating the Use and Sale of Plastic Shopping Bags Every Saturday of a Week Within the Territorial Jurisdiction of the City of Cebu and Prescribing the Penalties for Violation Thereof". This aims to bolster solid waste management at the level of the LGU. On January 27, 2016, City Ordinance No. 2450, or "An Ordinance Providing for the Management of Special Wastes in the City of Cebu, Providing Fees and Imposing Penalties for Non-Compliance Thereof", was enacted.

Even if the CCSWMB was established on October 6, 2004, under City Ordinance No. 2017, its efforts in solid waste management from 2016 until the present, cannot be gainsaid. It plays a crucial role in implementing and overseeing the city's solid waste management system. Its strategic functions are three-fold: policy-making, as it develops and recommends policies on solid waste management; planning, as it creates and updates Cebu City's Solid Waste Management Plan; and coordination, to collaborate with government agencies, NGOs, and the private sectors. At the barangay level, the Barangay Solid Waste Management Committees (BSWMC), under the leadership of barangay captains, ensures the efficient execution of SWM plans, as outlined in the Cebu City Solid Waste Management Plan (2023-2032).

CEBU CITY'S SOLID WASTE MANAGEMENT PLAN (SWMP)

Cebu City's 10-year SWMP 2023-2032 is the strategic blueprint that aims to reduce waste generation and promote sustainable practices; designed to address current challenges of the City as to managing solid waste and promoting a more sustainable, efficient, and environmentally responsible waste management system. The plan prioritizes segregation, waste reduction, resource recovery, and proper waste management, in compliance with the Solid Waste Management Act. To achieve this, key initiatives must be undertaken, such as stakeholder engagement, public education and awareness campaigns, and the setting of clear, measurable goals and objectives. The plan places a strong emphasis on resource recovery, which involves the extraction of valuable materials from waste: such as paper, plastic, glass, metal, and biodegradable wastes. This approach not only aids in waste reduction but also

holds the potential to generate employment, conserve resources, and mitigate greenhouse gas emissions. (Cebu City's 10-year Solid Waste Management Plan 2023-2032)

To Councilor Joel C. Garganera, "Achieving our goals as stated in this plan will not be an easy feat; this plan may even undergo further changes throughout the years---but while the beginnings are not perfect, beginnings are always necessary towards our desired future."

The City's 10-year SWMP faced several obstacles and challenges. One major hurdle is the delayed approval of the plan by the National Solid Waste Management Commission (NSWMC). This setback has stalled the implementation of the plan, which was drafted in 2005 and updated in 2015. The plan's finalization has been slow due to inadequate consultation with stakeholders: government agencies, NGOs, and private sectors. Another obstacle is insufficient funding options. Sustainable funding is crucial to support waste management infrastructure development. As community engagement and participation are vital to the plan's success, raising public awareness and promoting education on proper waste management practices remain a significant challenge. Questions on institutional capacity within the Solid Waste Management Board (SWMB) impede effective implementation. Addressing these challenges altogether is crucial for Cebu City to achieve its solid waste management goals and promote a cleaner, healthier environment. What is not to be forgotten in the development equation is, of course, the people.

THE HUMAN FACE OF DEVELOPMENT

In an interview with Urban Poor Leader and former DILG Undersecretary, Francisco "Bimbo" Fernandez of Pagtambayayong Foundation Inc. (PFI) on April 17, 2024, at his PFI office, he emphasized that development should be inclusive to the poor and the marginalized, speaking about the current clearing operations of Cebu City LGU on the 3-meter easement along waterways, rivers, or streams crucial for flood mitigation and management under the "Task Force Gubat sa Baha" that would displace informal settler families (ISFs). PFI is a housing NGO in Cebu that focuses on providing affordable housing to low-income groups through mutual aid.

The displaced ISFs in Cebu City's Operation Gubat sa Baha are being relocated and provided with housing options. To address the housing needs, the city plans to build around 1,000 transitional homes to serve as temporary housing for affected families. The "Task Force Gubat sa Baha" is overseeing the relocation process and is open to negotiating with owners of establishments that have encroached on the 3-meter easement of waterways. This was emphasized by then OIC Cebu City Mayor (now Mayor) Raymund Alvin Garcia in the round table discussion on August 22, 2024, held at Parklane Hotel, Cebu.

While there are testimonies of ISFs grateful to the City for the relocation, according to some of the displaced ISFs however, Cebu City had not made good on its promise of providing adequate provisions for construction and the relocation site is far from their livelihood, making it difficult for them to opt for relocation. ISFs relocated by the government often face various challenges ranging from economic, housing and infrastructure, and social challenges- to health, governance, administrative, and environmental concerns. Economic challenges pertain to inadequate job opportunities or income sources in new locations (or may pertain to loss of livelihood), higher transportation costs, food prices, living expenses, and inadequate government support or subsidies. Housing and infrastructure issues include inadequate relocation housing, limited access to basic services, and insufficient space leading to health and safety concerns. Social challenges include community disruption, cultural adjustment, and stigma and discrimination. Health concerns were also raised due to limited access to healthcare, increased exposure to diseases due to poor sanitation and living conditions, and mental health issues. Governance and administrative issues include insufficient information about relocation processes (lack of transparency), limited participation in decision-making (inadequate community engagement), and slow processing of documents and benefits (bureaucratic delays). Environmental concerns raised were vulnerability to disasters, limited access to public spaces, and environmental degradation. In the long term, challenges extend to insecurity about ownership or lease rights, intergenerational poverty, and limited opportunities for upward mobility; in terms of access to better housing, education, and employment.

The challenges are complex and intersectional which require an integrated, collaborative, multiple stakeholder, and context-specific approach. The integrated approach considers all factors: social, environmental, economic,

health, governance, and administrative. Collaborative by involving all the stakeholders in the system: government, private sector, and the communities. As a multiple-stakeholder approach, it involves engaging diverse groups and individuals in decision-making processes to achieve common goals. To be context-specific, solutions must be tailored to local needs.

URBANITY AND INCLUSION SHOULD NOT BE MUTUALLY EXCLUSIVE

Aptly delivered in a Workshop on Urban Sustainability Policy and Research conducted on August 21, 2024, Dr. Karen Ann B. Jago-on of the School of Urban and Regional Planning of the University of the Philippines Diliman emphasized the role of urban actors in creating sustainability and resilience vis-à-vis research. It is imperative to ground interdisciplinary approaches to research in terms of vertical and horizontal collaborations. Vertical collaboration is a top-down or bottom-up approach where collaboration is made between organizations at different levels and decision-making rests with higher-level organizations. Horizontal collaboration involves information exchange among equals, where decision-making authority is distributed among partners, and collaboration is among organizations at the same level. Effective collaboration, whether vertical or horizontal, facilitates knowledge exchange, innovation, and impactful research outcomes.

Urbanity and inclusion are not mutually exclusive. In fact, well-designed urban spaces can promote social inclusion, diversity, and equity. However, urbanization can also exacerbate existing social inequalities if not managed carefully. Exclusion can be caused by several factors such as gentrification, segregation, lack of affordable housing, and inadequate public services. Rising property values and rents can displace low-income residents (gentrification). Both physical and social barriers can separate communities (segregation). Unaffordable housing options limit access to urban opportunities (lack of affordable housing). Insufficient access to healthcare, education, and transportation services affects health-seeking behavior (inadequate public services).

Inclusive urban design strategies to create vibrant, equitable, and sustainable cities are a good blend of physical, social, economic, transportation, and

technological infrastructures, participatory planning, and ensuring that strong policy and regulation are in place. For its part, mixed-use development is an amalgam of residential, commercial, and recreational spaces. Inclusionary zoning, subsidies, and community land trusts make housing affordable and accessible. An affordable, reliable, and accessible public transport leads to transportation equity. The presence of accessible, safe, and inclusive parks, plazas, and streets. Urban design must involve participatory planning and decision-making processes. It must promote diversity and the preservation of heritage sites. And the design must have an accessible infrastructure for people with disabilities.

Harping on then Cebu City Mayor Michael Rama's controversial tagline of Cebu City's transformation into a "Singapore-like city with Melbourne features", is to discuss Singapore and Melbourne as an example of development worthy of emulation. To highlight Singapore's public housing as an inclusive urban initiative; is a comprehensive system that provides affordable housing options to its citizens. The government builds, manages, and subsidizes public housing, with the Housing and Development Board (HDB) playing a crucial role in its development. On the other hand, Melbourne's inclusive urban design prioritizes accessibility, diversity, and community engagement, creating a vibrant and livable city characterized by wide sidewalks, bike-friendly infrastructure, accessible public transportation, and green spaces. These urban features are rather common in first-world cities, Cebu City can only aim for but certainly have to catch up on it big time.

CONTEXT-SPECIFIC SOLUTIONS TOWARDS A SUSTAINABLE SWM

There is a need for context-specific solutions to the problem of SWM. Visvanathan and Trankler (2003) elucidate how this composition affects the viability of various treatment options and the efficacy of waste management equipment, emphasizing the need for context-specific solutions.

RA 9003 adopts a comprehensive, systematic, and ecological solid waste management program that ensures the protection of public health and the environment. Section 32 thereof is instructive: "There shall be an established Materials Recovery Facility in (MRF) in every barangay or cluster of barangays.

The facility shall be established in a barangay-owned or leased land or any suitable open space to be determined by the barangay through its Sanggunian." Unfortunately, however, Cebu City has only one (1) MRF (makeshift) despite having the highest number of barangays (80 barangays).

For its end, according to the city officials, the city government had initiated a people-driven solid waste management action plan, focusing on village-impelled segregation and recycling. Cebu City organized a Solid Waste Management Summit on April 6-8, 2022 at SM City Seaside Mall, Cebu City. The summit aimed to gather input from various sectors on solving the city's garbage woes, particularly after Typhoon Odette wreaked havoc in December 2021. Mayor Michael Rama intended the summit to promote civic consciousness and encourage residents to segregate waste properly. The participants were representatives from local government units (LGUs), national government agencies (including the DENR and DILG), private sector companies, NGOs, community representatives, academic institutions, and representatives from International Organizations (including the World Bank and ADB).

The keyword is collaboration, as the summit seeks to address Cebu City's solid waste management challenges by promoting collaborative solutions and fostering sustainable practices through unity and coordination of stakeholders (government, private sector, NGOs, communities) to tackle waste management issues; exchange best practices, expertise, and innovative solutions; develop concrete strategies and timelines for implementation; and foster public awareness and participation. Key discussions revolved around waste segregation and recycling, waste-to-energy initiatives, sanitary landfill management, reduction of plastic waste, community-based waste management models, and policy enforcement. The expected long-term outcomes of the Summit were an Integrated Solid Waste Management Plan, stakeholder commitments and partnerships, community-led initiatives, capacity-building programs, and policy recommendations.

BRIDGING LEADERSHIP AS A FRAMEWORK FOR ACTION

As a collaborative approach to leadership, the Bridging Leadership Framework provides a structured approach to the complex waste problem and pushes

for sustainable development. It seeks to convene diverse stakeholders, build trust, and develop a shared understanding of the problem. Facilitating multiple stakeholder collaboration means sharing knowledge, expertise, and experience, and leveraging existing resources to address the issue. It begins with the realization that the problem cannot be solved by the government alone. Thus, all stakeholders must be involved in the problem, the development goal must be collective, and action must be concerted and collaborative. In sustaining the progress, there must be constant monitoring and evaluation of impact. Also, strategies must be adaptive to ensure sustainability. In the Bridging Leadership Framework, the stakeholders take center stage.

THE COMMUNITY AS A PATHWAY TO SWM

The community should not be seen as limiters but rather as drivers and partners of the LGU to a sustainable SWM. A resident of Barangay Inayawan, when asked about the initiatives of the city, NGOs, and the barangay on the waste issue and his/her perspectives about it, answered: "*Adto na time, diba naa man toy segregation no? Kadtong malata, di malata, unsa nga days ang collection. Okay man jud na siya no? Pero ang taw man gud wala bitaw discipline. Ilang isagol gihapon ang malata ug di malata. So, sa taw jud na mag start unta ba ug unsay kakuan sa basura. Bisan gani throw your garbage sa proper na basurahan dili mutuo. So, ang kuan gyud siguro sa atong environment no kay mag begin jud sa atong self.*" (During that time we have a policy on segregation already. Biodegradable, non-biodegradable, and the schedule when garbage will be collected. It was okay. But people have no discipline. They still mix the biodegradable with the non-biodegradable waste. The problem with waste begins with the individual. Even with the simple rule of throwing your garbage in the proper bin, people will not comply. So the issue of the environment begins with ourselves.) These powerful words encapsulate the role of the community as a vital pathway to sustainable waste management. By leveraging community involvement, sustainable waste management becomes more achievable, effective, and beneficial for both the environment and society.

Residents must take responsibility for waste management ("It starts with me"), this mentality empowers the community to take individual response (community ownership) which then translates to unity and cooperation between and among community members taking collective action.

Community-led initiatives promote waste reduction and proper disposal practices. This in turn would lead to sustainable waste habits (behavioral change). Community-led initiatives minimize waste production, increase programs on the conservation of resources such as recycling, and decrease pollution, thus protecting the ecosystems. The economic benefits would include employment generation, local economic growth, reduced waste disposal costs, and increased revenue generation as in the case of WTE projects and recycling programs.

Community-led initiatives necessitate active participation of community members in waste management decision-making, shared ownership of waste management responsibilities, heightened community values that promote sustainable waste practices, and at its core is local leadership who should act as local champions that drive and steer waste management initiatives.

In the Philippines, was the Payatas Community-Based Waste Management Cooperative established in 2004 and considered as a pioneering initiative. It is a resident-managed cooperative, ensuring local ownership and decision-making. It involves door-to-door collection, sorting, and processing of waste. Organic wastes are converted into fertilizer and recyclable materials are being processed. Also, residual waste is converted into energy. This initiative was done in partnership with LGU Quezon City, the Department of Environment and Natural Resources (DENR), the Asian Development Bank (ADB), the World Bank, including various NGOs. By far, it has served over 30,000 households, collected and processed 200-300 tons of waste daily, generated employment for 500 community members, reduced waste disposal cost by 30%, and received international recognition -a UN Habitat Best Practices Award.

SUSTAINING BEST PRACTICES

For its part, key initiatives in Cebu City include: the Community-Based Solid Waste Management (CBSWM) System Development Project, Composting Initiatives, and the Kitakyushu-Supported CBSWM. The key components of CBSWM System Development Project launched in 2010 are decentralized neighborhood-level waste collection and segregation, sorting and processing of recyclables, converting organic waste into fertilizer, door-to-door collection by trained community workers, and converting residual waste into energy. The project was implemented by LGU Cebu City, DENR, DPWH, and community-

based organizations. By far, it has resulted in 90% of waste collection coverage, over 300 tons of waste collected daily, 20% reduction in waste disposal costs, and 30% increase in recycling rates. This project is considered a best practice due to heightened community engagement and participation, increased capacity building and training, strengthened public-private partnerships, and continuous monitoring and evaluation. It is part of larger initiatives focused on improving waste management and sanitation in Metro Cebu.

Cebu City Councilor Garganera opined: "It is one of the fundamental principles of nature that everything is connected to everything else. Thus, one man's trash can become another man's treasure. But is this really a truth we live by?" This brings one to reflect the potential of the community to see waste not as a problem but as an opportunity.

SHARED RESPONSIBILITY AND COLLECTIVE ACTION

"So the issue of the environment begins with ourselves." It begins with me. Ownership is the first step in sustainable waste management. Individuals need to be conscious to take charge of their role in waste management. This, would ensure the maintenance and upkeep of waste management infrastructure and promote a sense of community pride and stewardship. It then has to proceed to co-ownership, the understanding that what we can do individually, we can do so much more together. There is a shared responsibility among the stakeholders. It encourages joint planning and active decision-making; facilitates the sharing of resources, expertise, and costs; and strengthens community bonds by fostering collective ownership and concerted action. This has to further move to co-production which fosters collaborative governance, promoting effective and sustainable solutions. Co-production operates on the key principles of inclusivity, transparency, accountability, flexibility, and mutual respect. It involves citizens in waste management decision-making, fosters active participation in waste management initiatives, encourages collaborative problem-solving, enhances waste management services through community feedback, and builds community capacity and confidence.

LOCAL LEADERSHIP AND GOVERNANCE AND SWM

Effective local leadership and governance play a crucial role in SWM. The leadership role does not only pertain to the local chief executives and legislators (councilors) who provide vision, guidance, and oversight but also by waste management directors who are appointed to coordinate waste management operations, the community leaders who shall mobilize public support and participation, and technical experts who guide best practices and technologies.

While structural and legal frameworks are already in place, the challenge is how to achieve effective leadership and governance that steers the wheel of progress. It involves transparency in decision-making and operations, multiple stakeholder engagement, empowering local officials and communities through capacity building and training, encouraging compliance through rewards (reinforcement) and penalties (deterrence), and continuous monitoring through regular assessment and evaluation mechanisms, and adaptation.

CO-PRODUCTION IN SOLID WASTE MANAGEMENT AND SUSTAINABLE ACTION

There is a need to establish policies at the LGU level that would strengthen collaboration between community members and government agencies to design, implement, and bring in waste management services. The end is to put in place clear strategies to achieve co-production in solid waste management through community engagement, collaborative governance, inclusive waste management planning, capacity building and empowerment, and reinforcement initiatives through incentives and recognition.

In terms of community engagement, LGU should encourage community organizations to register at their level. Incentive schemes like access to resources must be given to organizations that are involved in volunteer programs aimed at waste collection, sorting, and recycling activities, including promotion and advocacy. In this way, community members would be encouraged to volunteer and participation would be reinforced by LGU support.

In terms of collaborative governance, LGU Cebu City needs to maximize its existing multi-stakeholder partnerships with private sector groups, NGOs, and community organizations in the sharing of resources and technical expertise in SWM. There is a need to localize decisions to the level of the barangays, in terms of making decisions on waste management strategies that will work best given the specific context, demographics, and needs of the barangay and its constituents.

Inclusive waste management planning is best achieved by allowing the community members to directly participate in planning by instituting community feedback mechanisms from the barangay level as to the community needs and concerns, incorporating these concerns into the waste management plan, and allowing community members to evaluate the effectiveness of waste management services based on their experience on the ground.

Reinforcement initiatives should be offered in the form of incentives, such as food or rice vouchers for waste collection services and for participating in waste reduction programs. Community efforts and achievements in waste management must be recognized and celebrated through public recognition. This way, community members are encouraged to contribute and more importantly, to work for and with the community. For when communities come together in collective action, incredible things can happen.

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