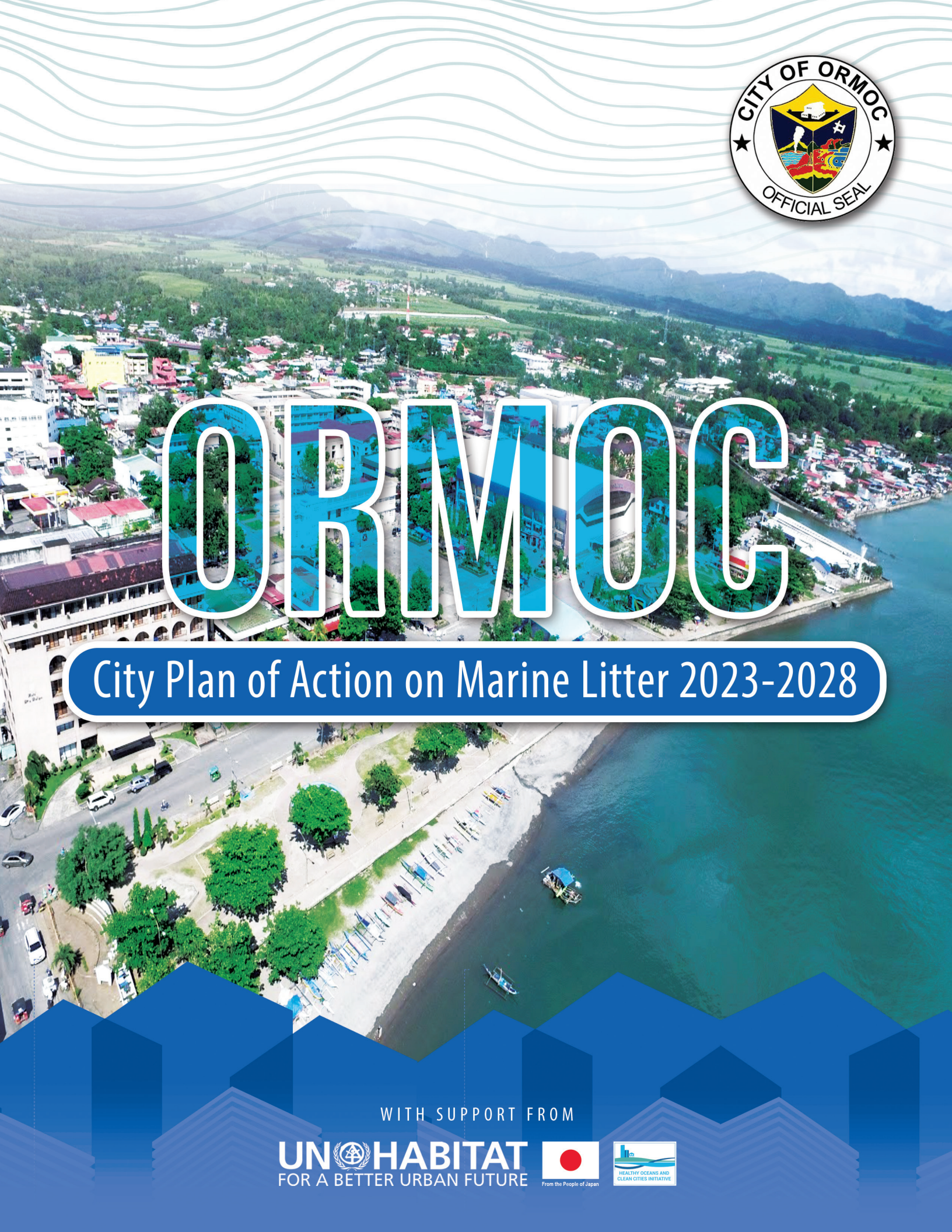

ORMOC

City Plan of Action on Marine Litter 2023-2028

WITH SUPPORT FROM

UN HABITAT
FOR A BETTER URBAN FUTURE

From the People of Japan

HEALTHY OCEANS AND CLEAN CITIES INITIATIVE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This document presents the City Plan of Action on Marine Litter (CPOA-ML) of Ormoc City in its support of the localization of the Philippines' National Plan of Action on Marine Litter (NPOA-ML). Specifically, this CPOA-ML encompasses policy formulation and actions for the prevention, reduction, and management of marine litter. It includes the efforts of the city government and all relevant stakeholders who play important roles in reducing waste leakage from land and maritime sources into waterways and ultimately the world's oceans.

Aside from mitigating impacts on land and marine life, addressing marine litter helps to solve the challenges of resource and waste management, create buy-in among stakeholders, facilitate partnerships, and prepare for opportunities towards green socio-economic recovery.

With support from the Healthy Oceans and Clean Cities Initiative (HOCCI), which is being implemented by the United Nations Human Settlements Programme (UN-Habitat) and funded by the Government of Japan, Ormoc City carried out a series of multi-stakeholder consultations to analyze global and local marine litter issues, make an inventory of existing marine litter reduction and management initiatives, identify gaps and challenges, and develop the city's local plan in line with NPOA-ML strategies and actions.

The overarching goal of the NPOA-ML is "Zero waste to Philippine waters by 2040" to support the vision of "A Philippines free of marine litter through shared responsibility, accountability and participatory governance." This can be achieved by implementing the strategic areas of baselining and research, sustainable consumption and production (SCP), recycling and related market development, plugging the leak from waste collection and disposal, reducing maritime or sea-based sources of marine litter, and managing litter that is already in the riverine and marine environments. Four additional strategies cut across six programmatic cluster of actions and include policy support and enforcement, strategic social marketing campaigns to encourage behavioral change, financing and meeting resource requirements, and strengthening local government unit (LGU) and local stakeholder capacities to implement the NPOA-ML.

This CPOA-ML has been prepared as a guide for Ormoc City in implementing its local marine plastic litter reduction measures in an integrated manner. Relevant components of sectoral and investment plans have been examined, consolidated, and reviewed through a marine litter lens. In this way, the interrelationships of various plans and initiatives can be identified and filled. These are all in support of Ormoc City CPOA-ML's own local goal of eradicating marine litter and mitigating its harmful impacts on the environment and the health of Ormocanons.

As it has been envisioned that the CPOA-ML is not a standalone plan, the city government and its stakeholders may revisit relevant local plans and policies if it needs to subsequently be updated, modified, or amended to align with the CPOA-ML.

1. BACKGROUND

Marine litter, sometimes referred to as marine debris, is defined as "any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment." It consists of items that have been made or used by people and deliberately discarded into the sea or rivers or on beaches; brought indirectly to the sea with rivers, sewage, storm water or winds; or accidentally lost, including material lost at sea in bad weather [United Nations Environment Programme (UNEP), 2009].

Marine litter has direct negative impacts on coastal and marine species and habitats, economic health, and human health. MPL, especially abandoned, lost, or otherwise discarded fishing gear (ALDFG), poses serious threats to marine wildlife through entanglement causing limited mobility for such animals, which can lead to starvation, suffocation, laceration, subsequent infection, and possible mortality. The economic benefits from marine and coastal activities including the shipping, fisheries, aquaculture and tourism industry may decline, while increasing the cost for the communities to clean up, repair vessels and equipment, remove debris, and provide staff downtime. The potential water contamination and health hazards derived from discarded medical and sanitary wastes during the COVID-19 pandemic, including masks, face shields, and medical suits, cannot be overlooked.

The amount of plastic waste generation in the Philippines was projected to be about 1.75 million metric tons (MMT) in the year 2020, according to the National Solid Waste Status Report 2008-2018 [EMB-DENR, 2018] .

1.1 Marine (plastic) litter leakage assessments at the country level

While the country has yet to carry out a definitive and comprehensive baseline study on the amount, extent, and impact of waste leakage into the marine environment, various efforts have estimated the country's contribution to the global marine litter problem.

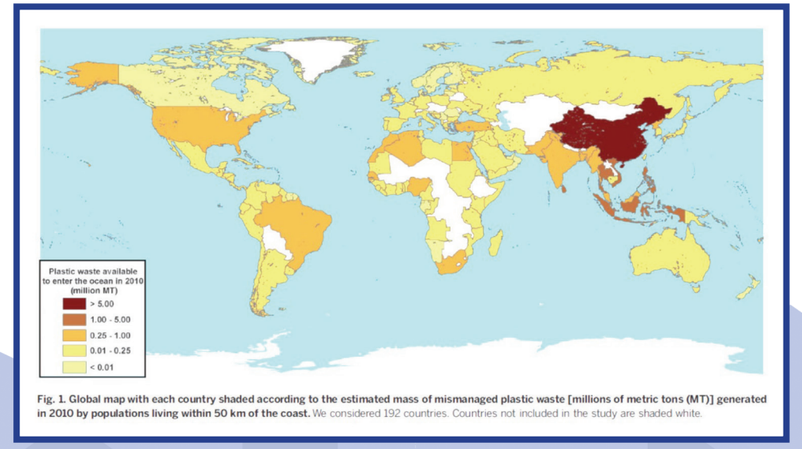

Fig. 1. Global map with each country shaded according to the estimated mass of mismanaged plastic waste [millions of metric tons (MT)] generated in 2010 by populations living within 50 km of the coast. We considered 192 countries. Countries not included in the study are shaded white.

Figure 1. Generated plastic waste with potential to leak into oceans [Jambeck et al., 2015]

1. Environmental Management Bureau (EMB) - Department of Environment and Natural Resources (DENR), 2018. National State-of-the-Brown Environment Report for 2008-2018: Solid Waste Chapter. Quezon City, Philippines. https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf

A study on assessing plastic wastes entering the world's oceans [Jambeck et al, 2015] sparked international and local discussions on the issue. It was calculated that in 2010, around 275 million MT of plastic waste was generated in 192 coastal countries, with 4.8 to 12.7 million MT entering the ocean. The Philippines ranked 3rd on the list and was estimated to contribute 0.28 to 0.75 million MT of plastic marine debris per year based on assumptions that 83% of the country's solid waste is 'mismanaged,' of which 2% is littered while the remaining 81% relate to inadequate waste management practices.

There are two drivers of plastic leakage: waste that remains uncollected and the low residual value of some plastic waste. In a study conducted for five focus countries including the Philippines, it was found that less than 20% of leakage originates from ocean-based sources like fisheries and fishing vessels while over 80% of ocean plastic comes from land-based sources. Of the leakage that comes from land-based sources, around 75% comes from uncollected waste, while the remaining 25% leaks from within the waste management system itself. Post-collection leakage can be caused by improper dumping, as well as formal and informal dumpsites that are poorly located or lack proper controls [Ocean Conservancy (OC) and McKinsey, 2017] .

In a follow up study carried out by Lavender-Law, et al (2020) with a 2016 baseline, plastic waste that have been exported to, and inadequately managed in, importing countries have likewise been taken into account albeit generally employing similar methodology and assumptions as those made by Jambeck et al (2015). Accounting for these contributions, the Philippines came in 7th in terms of mismanaged plastic waste at 1.01 MT.

In its literature review, Krushelnytska (2018) compared recent studies looking at plastic pathways indicate that 10 river basins are responsible for 90% of land-based leakage to the ocean [Lebreton et al., 2017; Schmidt et al., 2017]. Both studies from Schmidt (2017) and Lebreton (2017) show the Yangtze River basin as the main contributor. The ranks for other polluted rivers differ due to the entry data used in two studies: Lebreton used the global river plastics input model for estimation whereas Schmidt's made calculations as a product of mismanaged plastic waste generated per capita and population size in the catchment. Pasig River was ranked 8th in the Lebreton et al (2017) study.

n a more recent study, 7 out of 10 of the world's top plastic-polluting rivers have been found to be in the Philippines using a probabilistic modelling approach by Meijer, et al (2021) wherein Pasig River ranked first globally.

2. Jambeck, Jenna R., Roland Geyer, Chris Wilcox, Theodore R. Siegler, Miriam Perryman, Anthony Andrady, Ramani Narayan, and Kara Lavender Law. 2015. "Plastic waste inputs from land into the ocean." Science 347 (6223): 768-771. http://www.sciencemag.org/content/347/6223/768.
3. OC and McKinsey Center for Business and Environment, 2017. "Stemming the Tide: Land-based strategies for a plastic-free ocean." https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf
4. Lavender Law, Kara, Natalie Starr, Theodore R. Siegler, Jenna R. Jambeck, Nicholas J. Mallos, and George H. Leonard. 2020. "The United States' contribution of plastic waste to land and ocean." Science Advances 2020; 6 : eabd0288.
5. Krushelnytska, Olha. 2018. "Solving Marine Pollution : Successful Models to Reduce Wastewater, Agricultural Runoff, and Marine Litter (English)." Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/651521537901259717/Solving-Marine-Pollution-Successful-Models-to-Reduce-Wastewater-Agricultural-Runoff-and-Marine-Litter
6. Schmidt, Christian, Krauth, Tobias, and Stephan Wagner. 2017. Export of Plastic Debris by Rivers into the Sea. Environmental Science and Technology 2017 51 (21), 12246-. https://www.gwern.net/docs/economics/2017-schmidt.pdf
7. Lebreton, L., Van der Zwet, J., Slat, B., Andrady, A., Reisser, J. (2017) River plastic emissions to the world's oceans. Nature Communications, volume 8, Article number: 15611
8. Meijer, Lourens, Tim van Emmerik, Ruud van der Ent, Christian Schmidt and Laurent Lebreton. 2021. More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean. Science Advances 30 Apr 2021: Vol. 7, no. 18, eaaz5803. https://advances.sciencemag.org/content/7/18/eaaz5803

1.2 Prior studies on marine litter leakage and impact assessments at the city level

Ormoc City conducted its first Waste Analysis and Characterization Study on December 2005 with assistance from the Department of Environment and Natural Resources–Environmental Management Bureau Regional Office 8 (DERN-EMB8). The results of the analysis revealed that 43% of the city's solid waste is compostable and the remaining 57% are non-compostable. Due to the vague information that was obtained, the study was replicated in August 2019 using a more thorough approach and involving more samples. The results indicated that the composition of the city's solid waste was 41% compostable, 28% recyclable, 29% residual, and 2% special with each person generating 0.53 kilograms of solid waste per day. This dataset became one of the foundations for the creation of Ormoc City's Ten-Year Ecological Solid Waste Management Plan (2019-2029). In partnership with UN Habitat and Waste Wise Cities through the HOCCI Project, a third waste analysis activity was done on May 2021 using the Waste Wise Cities Tool and methodology. The latter method produced more complex results, even estimating the amount of solid waste that was not accounted for in the prior analysis studies.

In the 2019 WACS of the city, sampled coastal barangays suggested higher generation of plastic residual waste (14.97%) compared to the city average of 9.63% of the total generated waste. That trend applied to all types of plastic being assessed, as reported below.

Table 1. Comparative WACT 2019 results in urban, rural, and coastal barangays for residual plastics in households

Residual: Households		Sub-total	%	Urban	%	Rural	%	Coastal	%
1	Sando bag	57,014.70	3.46%	14,887.00	7.36%	18,201.53	1.78%	23,926.17	5.61%
2	Thin film plastics	22,893.52	1.39%	3,208.00	1.59%	5,554.44	0.54%	14,131.08	3.32%
3	Metallic foils, shampoo sachet with foil, cigar *palara*	30,277.09	1.84%	3,905.00	1.93%	16,680.17	1.63%	9,691.92	2.27%
4	Laminates, composites, tetra packs, shampoo and laundry sachets	19,402.51	1.18%	2,581.00	1.28%	14,487.76	1.42%	2,333.75	0.55%
5	PP (Food wrappers, candy and biscuit wrappers, etc)	24,241.83	1.47%	2,271.00	1.12%	10,616.33	1.04%	11,354.50	2.66%
6	Styropor	4,970.50	0.30%	1,778.00	0.88%	847.50	0.08%	2,345.00	0.55%
	Sub-total	158,800.15	9.63%	28,630.00	14.16%	66,387.73	6.50%	63,782.42	14.97%
	Total Waste Generation	1,649,637.21	100.00%	202,192.05	100.00%	1,021,321.07	100.00%	426,124.09	100.00%

1.3 Relevant international and national policies, plans, programs, and initiatives

Global and regional agreements and declarations enjoin and call for countries, cities, and other sectors to do their share in the prevention, reduction and management of marine litter, especially marine plastic litter, from land-based and maritime sources as well as those that are already existing in the marine environment. This includes, but not limited to, the Sustainable Development Goals (SDGs) 2030, the International Convention for the Prevention of Pollution from Ships (MARPOL), the New Plastics Economy Global Commitment, the East Asia Summit Leaders' Statement on Combating Marine Plastic Debris and the Osaka Blue Ocean Vision, the Bangkok Declaration on Combating Marine Debris in the Association of Southeast Asian Nations (ASEAN) Region and the ASEAN Framework of Action on Marine Debris, the Coordinating Body on the Seas of East Asia's (COBSEA) Regional Action Plan on Marine Litter, and the United Nations Environmental Assembly's (UNEA) Ministerial Declaration on securing a global commitment to curb single-use plastics.

In the Philippines, Republic Act (RA) 9003, otherwise known as the Ecological Solid Waste Management Act of 2000, was enacted to address the growing problem on solid waste in the country by providing the legal framework for the country's systematic, comprehensive, and ecological solid waste management program. The program provides for a mandatory waste diversion of at least 25%, to be increased thereafter as along with the safe closure and rehabilitation of all dumpsites.

Additional recycling and disposal management targets have also been identified in the 2019 National Strategy to Reduce Short-Lived Climate Pollutants from the Philippine Municipal Solid Waste (MSW) Management Sector. RA 7160, or the Local Government Code of 1990, stipulates that basic services and facilities shall be provided by LGUs, which include the provision of solid waste disposal systems or environmental management systems and services or facilities related to general hygiene and sanitation. Section 10 of RA 9003 reiterates these RA 7160 provisions that the LGUs shall be primarily responsible for the implementation and enforcement of the law within their respective jurisdictions.

Echoing RA 9003's Section 48 prohibition on littering, throwing, dumping of waste matter in public places, such as roads, sidewalks, canals, esteros, parks, and establishments, or causing or permitting the same, RA 9275 or the Clean Water Act of 2004 has a similar stipulation under Section 27 prohibiting unauthorized transport or dumping sewage sludge or solid waste into sea waters. Meanwhile, the National Framework Plan of the Informal Sector in Solid Waste Management released in 2009 recognizes the informal waste sector as a partner of public and private institutions, organizations, and corporations in the promotion and implementation of the reduce, reuse, and recycle (3Rs) advocacy of ecological solid waste management (SWM) in the Philippines with the end view of alleviating poverty.

Executive Order (EO) 533, issued in June 2006, adopted Integrated Coastal Management (ICM) as a national strategy to ensure the sustainable development of the country's coastal and marine environment and resources, and to establish supporting mechanisms for its implementation, wherein it recognizes ICM as an effective approach to sustainable coastal and marine development with demonstrated benefits in enhancing economic growth, ecosystem protection, promotion of social equity, and the quality of life of the people. The country likewise released the Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028 wherein direct and enabling interventions were identified to reduce the five major pressures of biodiversity loss, which include habitat loss and degradation, and pollution.

With the successes of the inter-governmental efforts to rehabilitate Boracay Island, the DENR started the "Manila Bay Coastal Strategy 2017–2022" in January 2019, which covers the following activities: clean-up for water quality improvement, rehabilitation and resettlement, and education and sustainment. That was in line with the Continuing Mandamus of the Supreme Court for relevant government agencies to spearhead the cleanup of Manila Bay. Similarly, the National Economic Development Authority (NEDA) led the development of the Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP), which will serve as a guide to influence and steer sustainable behavior and practices across sectors and levels of government, contributing to the targets identified in the Philippine Development Plan 2017-2022.

1.3 Adoption of the NPOA-ML

In consultation with other relevant agencies and sectors, the DENR led the development of the Philippines' NPOA-ML, which is intended to serve as a blueprint of all efforts to enhance the current efforts of the country in resource and waste management, and to bring additional focus to marine litter issues and the control of additional leakage of waste into bodies of water. The NPOA-ML was adopted by the National Solid Waste Management Commission (NSWMC) on 12 May 2021 through its NSWMC Resolution No. 1441 series of 2021, signed by DENR Secretary Roy A. Cimatu on 05 August 2021 through DENR Memorandum Circular No. 2021-10.

With a vision of having "A Philippines free of marine litter through shared responsibility, accountability and participatory governance" and an overarching goal of "Zero waste to Philippine waters by 2040," marine litter prevention, reduction and management measures have been clustered into a programmatic cluster (consisting of six strategies) and an enabling or cross-cutting cluster (consisting of four strategies) of actions. Each strategy is further defined by its main activities, mostly with suggested sub-activities as future guides for the lead and cooperating agencies tasked to implement each strategy.

I. Programmatic Cluster of Actions

Strategy 1: Establish science- and evidence-based baseline information on marine litter

Strategy 2: Mainstream circular economy (CE) and sustainable consumption and production (SCP) initiatives

Strategy 3: Enhance recovery and recycling coverage and markets

Strategy 4: Prevent leakage from collected or disposed waste

Strategy 5: Reduce maritime sources of marine litter

Strategy 6: Manage litter that is already existing in the riverine and marine environments

II. Enabling/Cross-cutting Cluster of Actions

Strategy 7: Enhance policy support and enforcement for marine litter prevention and management

Strategy 8: Develop and implement strategic and targeted social marketing and communications campaigns using various media

Strategy 9: Enable sufficient and cost-effective financing and other institutional resource requirements for the implementation of the NPOA-ML

Strategy 10: Strengthen local government unit (LGU) capacities and local level implementation of NPOA-ML

NPOA-ML strategies and activities were proposed and screened in due consideration of specific guiding principles wherein marine litter stakeholders identified certain merits to place strategies and actions high on the agenda. To ensure success of NPOA-ML implementation, strategies and actions should be: doable, applicable, and appropriate; science and knowledge-based; capable of progressive or phased implementation; operationally supported; and continuously funded. Additional considerations likewise observe integration, prevention, precautionary, SCP, polluters-pay, and public participation and stakeholder involvement principles; as well as ecosystem- and science-based approaches.

Strategy 10 emphasizes the role LGUs play in realizing the NPOA-ML. It stipulates the need for an NPOA-ML localization guide or framework to support local-level implementation. UN-Habitat, through the Japan-funded HOCCI Project, and its partners take the initiative to demonstrate how this can be realized.

1.5 Localizing the NPOA-ML

Additional marine litter needs to be avoided or reduced through appropriate local measures to reduce leakage from land-based sources of MSW to waterways and water bodies. This may be addressed through, but not limited to, the integration of circular-economy and 3R approaches into the overall SWM program as well as information campaigns and training to increase awareness and positive behavioral change of individuals, communities, and businesses.

Since April 2020, UN-Habitat has been implementing HOCCI, which is a project funded by the Government of Japan. HOCCI has been working with six partner cities (Cagayan de Oro, Calapan, Davao, Legazpi, Manila, and Ormoc) in developing pilot CPOA-MLs and in demonstrating how marine litter can be reduced and managed by local stakeholders. UN-Habitat promotes and consolidates collaboration with all partners, including local authorities and private and non-governmental organizations in the implementation of the Sustainable Development Goals (SDGs), particularly Goal 11, which seeks to make cities and human settlements inclusive, safe, resilient, and sustainable. It is also a custodian agency for SDG Indicator 11.6.1, "Proportion of municipal solid waste that is collected and managed over the total waste generated in the city."

Aside from the UN-Habitat Philippines Country Office and the Regional Office for Asia and the Pacific, HOCCI partners are supported by the UN-Habitat Nairobi's Waste Waste Cities Campaign (WWC) in partnership with WasteAware, the Institute for Global Environmental Strategies (IGES) and Arcadis/ UN-Habitat Shelter Program. Furthermore, HOCCI's Project Advisory Committee (PAC) provides overall guidance to project implementation. The committee members include the local chief executives of the partner cities, the DENR, the private sector representative to the NSWMC, the Department of the Interior and Local Government (DILG), and the League of Cities of the Philippines (LCP).

2.0 CPOA-ML DEVELOPMENT PROCESS

The Ormoc City government, through its Technical Working Group (TWG) on Marine Litter, formed under Executive Order No. 134 dated 14 January 2021, has prepared this Local Marine Litter Action Plan with technical assistance from the HOCCI teams from UN-Habitat, IGES and Arcadis and with invaluable inputs from the city's local stakeholders.

Office Focal	
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Environment & Natural Resources Office	Ms. Ingrid G. Macabare
Environment & Natural Resources Office	Mr. Jay Scotch Betonio
Office Co-focal	
City Planning & Development Office	Engr. Raoul E. Cam
City Planning & Development Office	Mr. Joseph B. Pilapil
Office of the City Mayor	Mr. Wilson Tolentino
City Disaster Risk Reduction Management Office	Mr. Ciriaco E. Tolibao II
Office Member	
Office of the City Administrator	Mr. Vincent L. Emnas
City General Services Office	Engr. Domardoni C. Cayanong
City Engineering Office	Engr. Ranulfo D. Oliveros
Public Affairs, Information, & Assistance Office	Ms. Lilian A. Pocson
Public Affairs, Information, & Assistance Office	Mr. Rodrigo A. Rivera
City Health Office	Dr. Edmund Kierulf
City Health Office	Ms. Emilyn R. Icalina
City Agriculture Office	Mr. Gilbert O. Recosana
City Youth & Development Office	Mr. Rolando Jhay A. Gaspar
City Social Welfare & Development Office	Ms. Delia S. Corbo
City Veterinary Office	Dr. Joseph Cortes
Office of Public Market Administrator	Mr. Ruel G. Cañete
Office Support Member	
Office of the City Mayor	Hon. Richard I. Gomez, DPA
Committee on Environment & Energy Conservation	SP Member Hon. Lalaine A. Marcos
Liga ng mga Barangay	SP Member Hon. Esteban V. Laurente
Department of Interior and Local Government	Mr. Jean Redi Briones
DENR-Environmental Management Bureau Region 8	Ms. Letecia R. Maceda
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Ormoc City Police Office	PSSUPT. Ramil L. Ramirez
Philippine Coast Guard	Lt. Christopher Michael Angelo Dulnuan
Philippine Coast Guard	PO1 Mark Anthony Libarra
Department of Education	Ms. Lani H. Cervantes
Tzu Chi Foundation	Mr. Juanico C. Suco, Jr.
Ormoc-Merida-Albuera Baywide Management Council	Mr. Shem B. San Jose
Ormoc SCUBA Divers Club	Ms. Irish G. Belmonte
Used Solid Waste Material buyer	Mr. Godofredo V. Pilapil

The outline and content of the NPOA-ML strategies and actions were first reviewed, followed by an inventory of all ongoing initiatives, plans, policies and programs of the city government and the city's stakeholders. These were then validated through an Inception Workshop carried out in December 2020 to solicit further views and inputs from the TWG and stakeholders.

During the inception workshop, participants appreciated the basics of marine litter, specifically marine plastic litter; got introduced to the contents of the most recent draft of the Philippines' NPOA-ML to identify areas where cities can contribute to its eventual localization; revisited and consolidated the city's targets, plans, initiatives and partnerships to reduce waste and marine litter leakage; mapped out a Gantt Chart of Activities of the city under HOCCI; and initially filled out any gaps in the current local policies, plans and programs vis-à-vis the NPOA-ML. The workshop likewise provided a platform for various stakeholders to share views on the gains, remaining challenges, and opportunities to practice 3Rs initiatives.

During this time, parallel efforts were undertaken to establish the local waste baseline information using the Waste Wise Cities Tool (WaCT) and the Waste Flow Diagram (WFD) with support from UN-Habitat Waste Wise Cities Campaign and WasteAware.

Based on the global monitoring methodology of SDG 11.6.1, WaCT helps cities to understand not only the amount and types of waste being generated but where it goes along the waste value chain, including estimated leakages into water bodies.

The City of Ormoc likewise carried out surveys to establish baseline information on the knowledge, attitudes, and practices (KAPs) of individuals.

A series of workshops were subsequently conducted to draft the CPOA-ML. Through these workshops, the identified driving forces and stakeholder perceptions, issues and gaps, and initial suggestions from stakeholders were revisited. HOCCI's national and international experts provided additional insights and best practices in solving the marine litter challenge, including a compilation of international projects, good practices and technologies; the integration of ESS aspects in planning; baselining and riverine/coastal plastics hotspotting; and UN-Habitat's Guidance on SWM response to COVID-19.

Workshops and capacity-development activities were mostly conducted through virtual means to avoid congregation and physical contact. There were a few instances where participants needed to gather in a common venue. However, these activities always followed the minimum health standards set by the city. Queries and passing of information before and after workshops were done through text messages, calls, electronic mails, and messaging applications. Couriers were utilized for cases where physical documents needed to be transferred.

The city's existing initiatives were then mapped out and mirrored with the strategies identified in the NPOA-ML to guide the identification of locally customized solutions:

- Conducted a series of focus group discussions with the affected communities from September to October 2021 to identify the various challenges relating to marine litter and formulate potential solutions to address these challenges

- Conducted and utilized the data obtained during waste analysis using the WaCT Tool on May 2021 as supporting information for planning

- Conducted the CPOA-ML Workshop 1 on May 2021 to solicit ideas from the TWG and other relevant actors

The following activities are being forwarded by the city. They are mapped per the NPOA-ML strategy from the 10-year SWM Plan 2019-2028, Ordinance No. 31 s. 2011, Ordinance No. 36 and 59 s. 2017, and City Ordinance No. 059 Series 2021.

Table 2. Current Ormoc City SWM Initiatives mapped per NPOA-ML strategies

NPOA-ML Strategy	Targets	Activities
Strategy1	Increase Solid Waste Diversion to 84% by 2028	• Marine Resource Research with Palompon Institute
Strategy 3	Increase Solid Waste Diversion to 84% by 2028	• Composting (Vermi-composting) • Establishment of Material Recovery Facilities in all barangays • Linkage of markets for recyclables and finished compostable products • No Segregation, No Collection Policy • Operation of Waste Processing Equipment (Bio-composting machine) • Operation of Waste Processing Equipment (Glass and bottle pulverizer) • Operation of Waste Processing Equipment (Multi-purpose shredder) • Recycling (Recyclable materials) • Tzu Chi Foundation Recycling Program
Strategy 3 and 4	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Establishment of waste pick-up points
Strategy 3 and 8	Increase Solid Waste Diversion to 84% by 2028	• Waste Diversion in Schools
Strategy 3 and 9	Increase Solid Waste Diversion to 84% by 2028	• Partnership with private organizations (Tzu Chi Foundation, Energy Development Corporation, etc.)
Strategy 3 and 10	Increase Solid Waste Diversion to 84% by 2028	• Formation of waste scavengers into People's Organization
Strategy 4	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Construction of Hazardous and Health Care Waste Facility (ECODAS T160) • Construction of Sanitary Landfill Cell 2 • Improving waste collection and operations • Procurement of additional garbage collection trucks • Sanitary Landfill Residual Waste Cell 1 • Septage Treatment Facility
Strategy 6	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Regular Cleanup Drives (coastal cleanup, river cleanup, mountain cleanup, etc.); Beachurero and Trash Trap Program – Coastal and River Clean-ups
Strategy 6 and 7	Increase Solid Waste Diversion to 84% by 2028	• Coastal Resource Management Plan
Strategy 7	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Deputization of Solid Waste Management enforcers • Enforcement of Solid Waste Management Ordinances – City Ordinance No. 036 Series 2017 • Enforcement of Solid Waste Management Ordinances – City Ordinance No. 059 Series 2017
	Increase Solid Waste Diversion to 84% by 2028	• City Ordinance No. 059 Series 2021 – Ban of Single-use Plastics
Strategy 8	Increase Solid Waste Diversion to 84% by 2028	• Active involvement of schools through Youth for Environment in Schools in Organization (YES-O), SPG, and SSG • Community information and education campaigns – general population • Information and Education activities for youth – camps and audiovisuals • Massive IEC Campaigns (5Rs, Utanon Kada Balay Program, Sando Bag Gardening)
Strategy 9	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Impose tipping fee for private haulers
	Increase Solid Waste Diversion to 84% by 2028	• Dedicated annual budget for Solid Waste Management
Strategy 10	Increase Solid Waste Collection Efficiency and Coverage to 100% by 2028	• Clustering of barangays
	Increase Solid Waste Diversion to 84% by 2028	• Barangay Solid Waste Management Program (Barangay Ipil and Barangay Lake Danao) • Best Sanitations SWM Model Barangay Award (incentive system) • Mandatory submission of Barangay Self-Compliance Monitoring and Evaluation Report (BSCMER)

3.0 CITY BASELINE INFORMATION

A major city in the north-western part of the Province of Leyte, Ormoc City is considered the gateway to the Visayas region because of its strategic location favorable to sea and land transportation within the islands. The city has a total area of 46,430 hectares, subdivided into 110 barangays consisting of 31 urban, 16 coastal, and 63 rural barangays. Growing at a rate of 2.26%, the city has a total population of 230,998 in May 2020 (www.psa.gov.ph), 51% of whom are male and the rest are female. A majority of the population (57%) resides in the rural barangays while 15% live in coastal areas and 28% in the urban barangays. With an employment rate of around 70%, the city has a total labor force population

of 153,923, 71% of whom are working in the agricultural sector, 20% in the services, banking, and trading sectors, and 9% in the mining, processing, and manufacturing industry.

With the enactment of Ormoc City Ordinance No. 82., dated 18 February 2019, the City ENRO took lead in the city's solid waste management, continuously probing to come up with better strategies every time. The LGU also formed its own technical working group to assist the local board in its decision-making.

The solid waste management of Ormoc City tackles the different aspects of generation and collection to recovery, and its disposal. Raising awareness and recovery are prioritized. LGU staff immerse themselves in the community to share importance of proper solid waste management and its relations to the environment and human health.

On August 2019, the LGU conducted a Waste Analysis and Characterization Survey to establish baseline data on how the city is handling its solid waste. Results of the study revealed that the city is generating around 122 MT of municipal solid waste per day with the per capita generation at 0.53 kilograms.

Using another methodology, in partnership with UN Habitat and Waste Wise Cities Campaign, another waste analysis study was conducted on May 2021 which determined that 58% of Ormoc City's solid waste is collected and 18% is recovered. An illustrated estimation of the solid waste flow in the city is shown in Figure 2.0.

Figure 2. City ENRO conducted the WACS using the Waste Wise Cities Tool

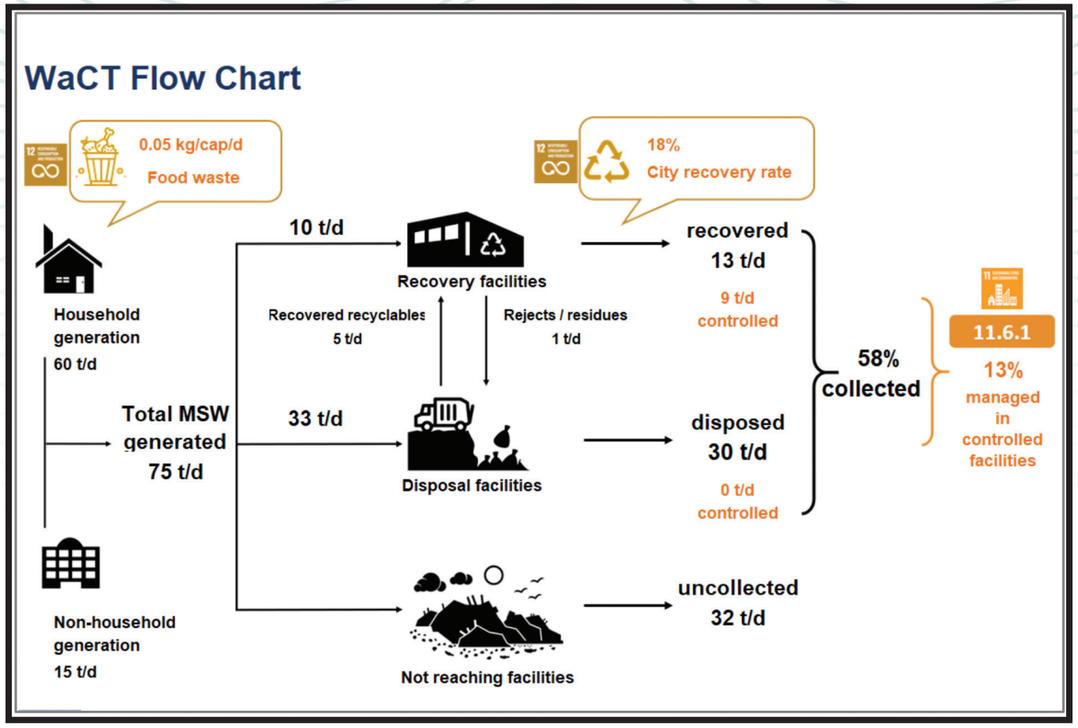


Figure 3. Ormoc City Solid Waste Flow Chart as Determined by the Waste Analysis on May 2021 Using the Waste Wise Cities Tool

3.1 Basic facts about Ormoc City

Population:	230,998 as of May 10, 2020 data from www.psa.gov.ph
Land area (sq.km.):	463.3 square kilometers
No. of Barangays:	110 total barangays composed of 41 Urban Barangays (10 of which are coastal) and 69 Rural Barangays (6 of which are coastal)
Household Income Profiles:	The LGU has no official data on HH income disaggregation. The only available information is the 21.9% Poverty Incidence for the entire province of Leyte from 2018. Since the data gathering is only done every 3 years, this can be translated to 21.9% or 12,328 [Ormoc CPDO 2020 Projection] households out of the entire household of Ormoc assumed to be low-income households.
Total SWM Budget (2022):	PhP 42,442,130.00
Municipal Waters:	83.458 square kilometers
Coastline:	18.635 kilometers
Marine Reserve:	2.2658 square kilometers
Mangrove Forests:	0.945 square kilometers

3.2 Land-based waste generation and composition

In 2020, each person in Ormoc City generated about 0.53 kilograms (kg) of municipal solid waste per day, equivalent to 122 tons or 345.46 cubic meters (cu.m.) of waste per. However, based on the May 2021 waste analysis results using the WaCT method, Ormoc City had a 0.31 kg per capita of waste generation. That translated to around 75 MT of municipal solid waste generated per day.

Table 3. Sources of Municipal Solid Waste in Ormoc City

Overall Sources of Waste (WaCT 2021)				
Residential/Households	65.25	tons/day	87	%
Commercial/Malls	2.805	tons/day	3.74	%
Industrial/Manufacturing	0.15	tons/day	0.2	%
Institutional	1.5	tons/day	2	%
Market	5.07	tons/day	6.76	%
Total Waste Generation	**75**	**tons/day**	**100**	**%**

Out of the generated waste, about 43 tons are collected daily by the city/barangay governments, its private contractor, or the informal sector. In 2021, Ormoc City was able to divert 18% of its waste through recycling, composting, and other resource recovery activities.

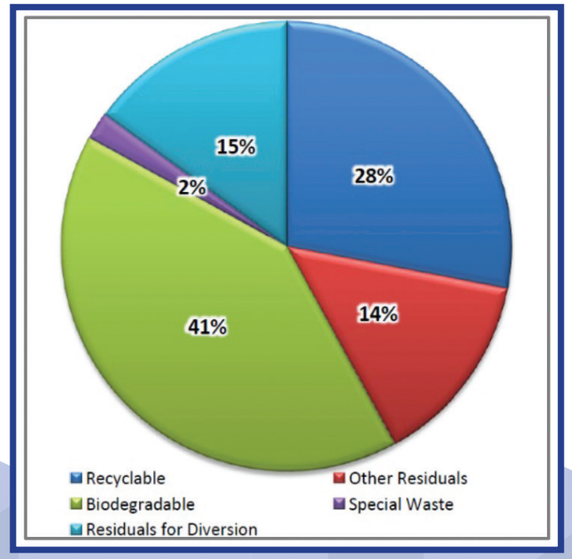
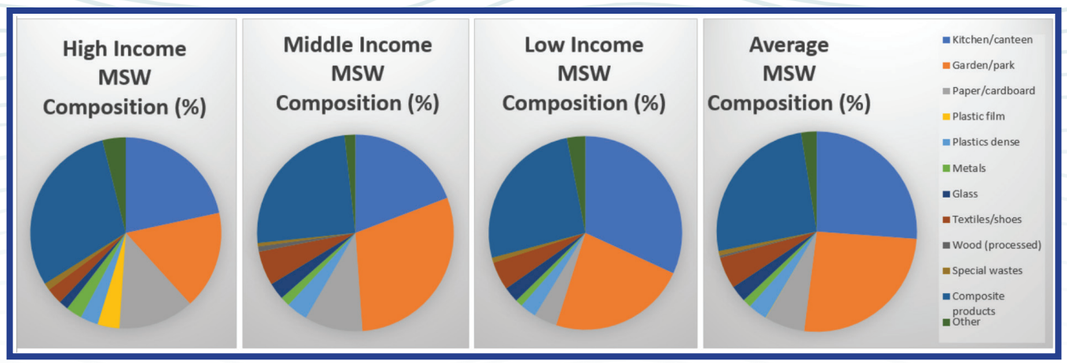


Figure 4. Municipal Solid Waste Composition in Ormoc City based on the WACS conducted in August 2019

Figure 4. Municipal Solid Waste Composition in Ormoc City based on the WaCT conducted in May 2021



The specific breakdown on plastic waste fractions is as follows:

Table 4. Specific Composition of Plastic Waste in Ormoc City based on the WaCT conducted in May 2021

Plastic Waste Composition (percentage by weight)		
Polyethylene terephthalate (PET, PETE)	49.53	%
High-density polyethylene (HDPE)	19.91	%
Polyvinyl chloride (PVC)	2.73	%
Low-density polyethylene (LDPE)	3.03	%
Polypropylene (PP)	6.61	%
Polystyrene (PS)	13.38	%
Others	4.81	%
TOTAL	**100**	**%**

3.3 Land-based waste flow diagram

In May 2021, the Ormoc City carried out field surveys and data analysis using the WaCT and WFD to establish the material balance between waste generation, collection, and management of MSW to likewise estimate the potential amount that is leaking into the marine environment. Figure 5 shows photos of WaCT/WFD field surveys.

Figure 5. WaCT field surveys conducted in May 2021

While most of the overall generated MSW is managed through collection, disposal, and recovery, there is still a huge number that is unaccounted for and most probably leaked to the environment. With the presence of formal and informal recovery sectors, plastics in general are still mostly unmanaged, remaining deposited on land or washed out to bodies of water. Even with Ormoc City's no-open-burning policy, a significant amount of plastics are assumed to be burned.

WaCT and WFD results are summarized as Sankey diagrams for MSW in general, with plastic waste as a special focus of attention. The city's Sankey diagrams are shown in Figures 8 and 9.

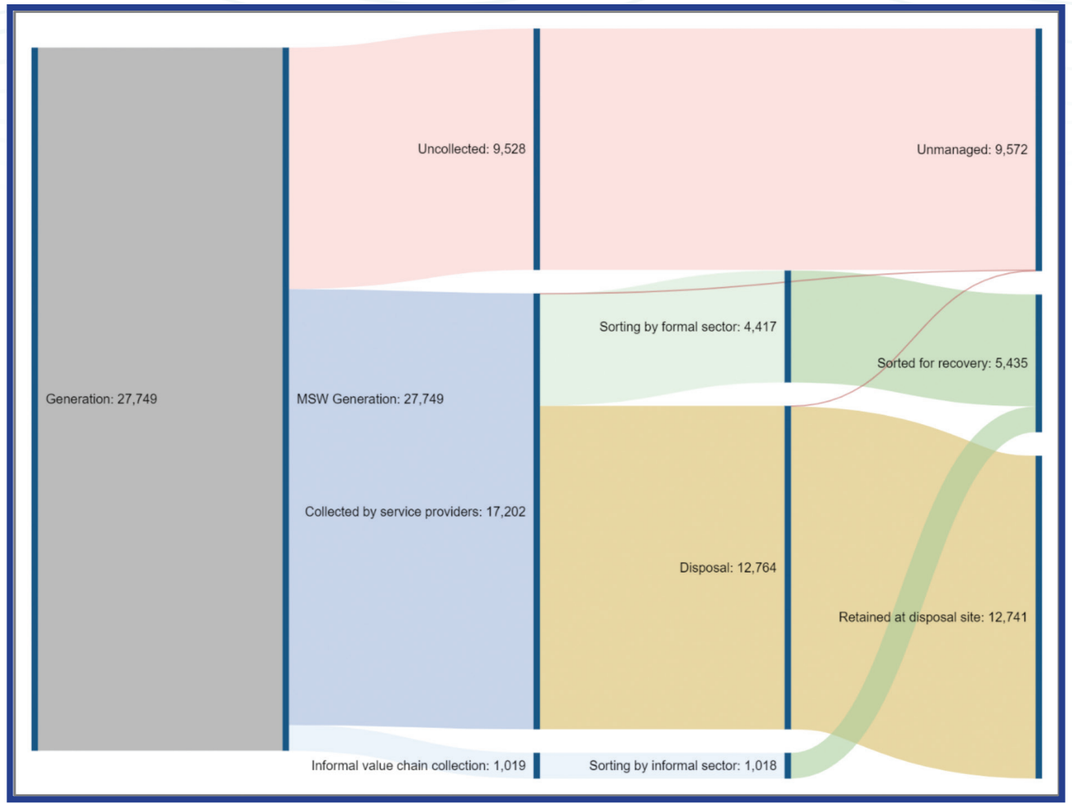


Figure 6. Sankey diagram for the overall MSW of Ormoc City, May 2021

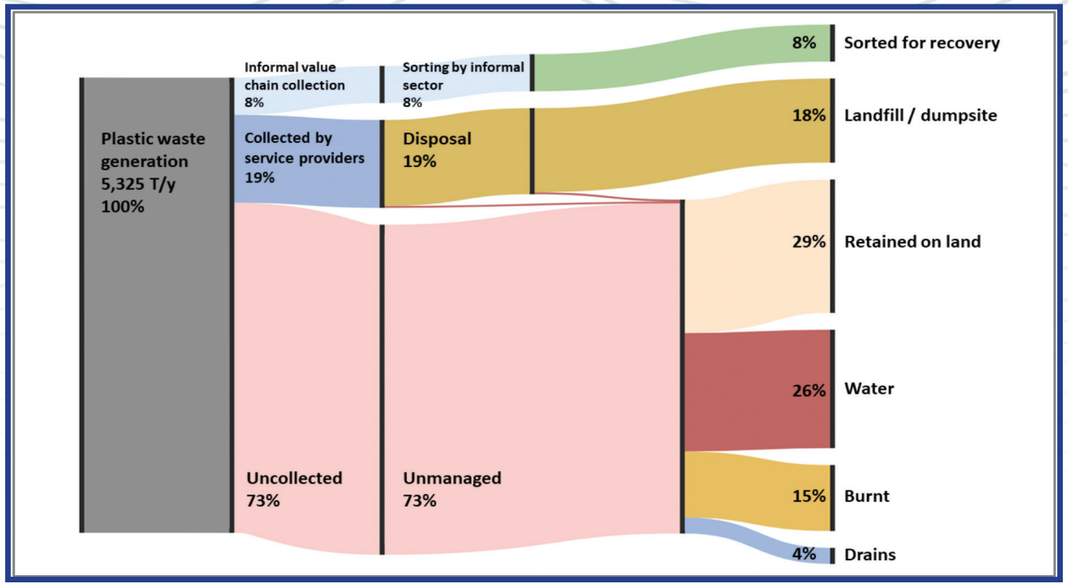


Figure 7. Sankey diagram for the plastic wastes in Ormoc City, May 2021

3.3 Baseline Survey on knowledge, attitudes, and practices

There is high practice of waste segregation between biodegradable and non-biodegradables (91%), while inability to segregate is attributed to far distance of houses to materials recovery facilities (16%). Of the surveyed respondents, 24% occasionally burn waste.

Of the respondents, 80% use plastics such as bags (55%), food packages (26%), and bottles (12%). It can be attributed to their usual experience of buying, in which 30% of the respondents do not bring their own eco-bags. They also do not practice refusal of plastic bags (65%). However, there is high awareness (76%) that plastics can have other uses when recycled.

Everyone understands that segregation of waste is needed before collection. The respondents agreed that plastics can be a source of income (94%). They also agreed (84%) that cleanups and projects can reduce marine litter, and can be administered by barangay policies (77%). They also understand that plastics can end up in the coast (81%), which can harm animals, health, and the environment in general. They agreed (86%) that marine litter and its impact should be tackled. This agreement (94%) suggested the coastal cleanups (28%), recycling (36%), and upcycling (30%).

The respondents suggested that they do not practice segregation due to the absence of trash bags (13%) and the combined nature of waste (8%). Segregation was mandated by the city through barangay councils (12%) that may result non-collection (33%). There were 53% that wanted to help the city in practicing segregation. Preference for reusable bags was factored in by its additional effort required (16%), its costs (11%), and the convenience or availability to markets/shops (14%).

The respondents suggested that the main contributors in reducing plastics use are the family (42%), city government (14%), and the barangay government (12%). They forwarded the importance of marine litter reduction acknowledging the ocean as source of livelihood (22%), flood prevention (22%), general cleanliness of the ocean (20%), and compliance with laws (13%). This corroborated with general value perception of the ocean as an economic source (26%), a natural resource (29%), a source of culture (15%), and a source of heritage (12%). Most agreed (71%) that absence of effective solid waste management will lead to degradation of water (44%) and air (54%).

The respondents suggested that the main sources of marine litter include throwing of garbage (27%), insufficient cleanup (13%), domestic use (12%), and tourist visitation (10%). The general perception that there will be negative impacts in marine biota (15%) aligned with specific concerns on water contamination (13%), reduced fish catch (12%), greater risk to animals (12%), and more human diseases (13%). There are no spaces where garbage is openly dumped (66%). The respondents were also satisfied with city-led initiatives on solid waste management (81%).

4.0 EXISTING POLICIES, PLANS, PROGRAMS AND TARGETS IN ORMOC CITY

Existing Local SWM Policies

The city's effort on solid waste management is outlined by its Solid Waste Management Plan 2019-2028 and the recently approved City Plan of Action in Marine Litter, 8 July 2022 by the City Development Council. Below are the key city legislations on plastic prohibition and regulation.

Table 5. City policies on plastics and solid wastes

Ordinance No. 51, Series 2021, (12 January 2021) Ormoc City Single-Use Plastic Products Regulation Ordinance of 2021 Executive Order No. 202, Series 2021 (11 August 2021) Implementing Rules and Regulations of Ordinance No. 51, Series 2021	An Ordinance Regulating the Sale and Use of Single-Use Plastic Products as Defined Herein as Receptacles/Packaging, Prescribing Penalties and Providing Funds Therefor, and for other Purposes, Repealing for its Purpose Ordinance No. 59, Otherwise known as the "Ormoc City Plastic Use Regulation Ordinance of 2017 The ordinance defined ban on single use plastics and polystyrene as receptacles and packaging, including discouragement of oxo-biodegradable plastics (Section 4). It further forwards the phase-out of sachets, with the promotion of refill systems (Section 5). The ENRO and BPLO are mandated to monitor (Section 6). The executive order outlined the implementing rules that further defined the prohibited and regulated categories, and conditional exemption (i.e., allowing purchase if the address in the original receipt is not within the city). It further mandated the information and education work required by the ordinance. The ordinance included the functions on oversight, technical, and monitoring.

Ordinance No. 082, Ecological Solid Waste Management Section Ordinance	Created the section under the Environment and Natural Resource Office defining
Executive Order No. 63, Series 2019, September 24, 2019	An Executive Order Banning the Use of Plastics in all Activities Sponsored by the Local Government Unit of Ormoc Defined the plastics materials to be banned on LGU-sponsored activities, and encouraged use of reusable utensils among government employees.
Executive Order No. 29, July 13, 2019	Organizing or Reorganizing the Barangay Ecological Solid Waste Management Committee in the City of Ormoc, Providing for Its Functions and for Other Purposes Outlined the composition and function of the Barangay Ecological Solid Waste Management as per function of the local government units.
Ordinance No. 2017-036 Ormoc City Ecological Solid Waste Management Ordinance of 2017	An Ordinance Adopting Ecological Solid Waste Management System, Creating the Necessary Institutional Mechanisms, Appropriating Funds and Rewards, Declaring Certain Acts Prohibited and Providing Penalty Therefor Established the Ormoc City Ecological Solid Waste Management Board (headed by Mayor), assigning ENRD Head as ESWM Officer Mandated the formulation of OCESWM Plan to engage and NGOs in developing and implementing projects through BOT or PPP Required designated area for recyclables for 6 or more residential units (Sec 21), the same for commercial, institutional, and industrial (toxic versus non-toxic, waste exchange system) (Sec 22, 25.6) Required composting in agricultural areas (Sec 23, 25.5, 34), and 2 receptacles for residual/non-biodegradable and biodegradable for public conveyance (Sec 24) Required MRF for all barangays, except District Barangays, at min of 1mX3m (Sec 32, 33) Required public information and education (Sec 36, 37)
	Funding of projects from 20% development fund (Art X) Issuance of ESWM Clearance as requisite for business permits (Sec 47) Penalties for squatting in landfills (Sec 49.4), use of non-environmentally acceptable packaging for commercial establishments (Sec 49.9a), no ECC and non-compliant to CLUP (Sec 49.12), and construction of establishment within 200m from open dumpsites, controlled sanitary landfill.

REGULAR PROGRAMS

- **Sweeping of City Streets**

  The LGU deploys around 60 street sweepers, 3 sweepers assigned per street, to maintain the cleanliness of the city proper. Street sweeping starts in as early as 3AM and as late as 3PM.

- **Segregated Garbage Collection**

  The LGU has around 60 personnel in charge of collecting the solid waste all over the city. These are composed of collectors, drivers, mechanics, and a foreman to manage the fleet operation. To date, 9 collection vehicles composed of open dump trucks and compactors roam the city daily starting as early as 4AM until 10PM for some areas. Some barangays also have their own garbage collection vehicles to assist the city's collection. Ninety-three out of 110 barangays or roughly 85% benefit from the garbage collection service.

- **Solid Waste Disposal and Recovery**

  All the collected solid waste is transported to the Ormoc City Eco-Waste Center where the latter is sorted either for recovery or disposal. Currently, most of the recovery in the facility is done by the informal sector or waste pickers.

  Since scavenging is strictly prohibited under the provisions of RA 9003, the waste pickers were recently formed into a People's Organization and will serve as a private sector partner of the LGU for solid waste recovery efforts.

  Residual waste is deposited in a Category 3 Sanitary Landfill where it is compacted and covered on a regular basis to minimize leachate production and control undesirable odors that attract infection vectors. Leachate coming from the landfill is deposited and treated in a nearby Leachate Pond.

  With the rise of infectious waste due to the current pandemic, the center has also taken the

initiative to handle this special type of waste: all infectious waste is sufficiently treated before coming to the center, where it is deposited in a separate cell and covered.

Communities are also mandated to practice waste recovery since it is the barangay's role to collect and manage recyclable, compostable, and special waste. This type of solid waste is brought to the barangay material recovery facility, which is mandatory for every barangay, for processing.

- **IEC and Capacity-Building**

  The ESWM Section of Ormoc City prioritizes behavioral change over other aspects. The city's main goal is to prioritize reduction and recovery above disposal. This cannot be achieved only by setting guidelines and policies but rather through the initiatives of individuals themselves to minimize solid waste generation. Slowly but surely, communities are educated through community immersion, installation of visual aids, and other related methods to transfer knowledge to as many individuals as possible.

  Community champions are also capacitated so they themselves can conduct these activities in their respective communities. Annually, barangay officials and other relevant actors participate in a city-wide solid waste management planning workshop to either formulate or amend their own plans.

- **Regular Cleanup**

  The LGU conducts monthly coastal cleanups and quarterly river cleanups are conducted primarily by the city's street cleaners. These are on top of occasional cleanup activities initiated mostly by the private sector as part of their corporate social responsibilities or as an environmentally related activity.

SPECIAL PROJECTS AND PROGRAMS

- **Trash Trap Program (Malbasag and Anilao)**

  Initiated by DENR-EMB8, Energy Development Corporation, and Green Core Geothermal, Inc., this involves the regular collection of waste in the traps by participating barangays. The maintenance of the traps is covered by the tripartite engagement.

- **Trash Trap Program (Barangay Can-adieng)**

  The Ormoc Kappans Council installed a trap in an estero in Barangay Can-adieng.

- **Waste Recovery in Partnership with Tzu Chi Foundation**

  Staff of the Tzu Chi Foundation travel to every barangay in Ormoc City to gather recyclable solid waste, mostly PET bottles, to be processed into blankets and other useful materials.

- **Special Coastal and River Cleanup**

  The ENRO always welcomes cleanup activities initiated by other agencies and groups. These activities are conducted upon request with the ENRO being the assisting agency in terms of area selection and solid waste collection. The LGU also initiates cleanup activities as observance of annual events such as Earth Day, International Coastal Cleanup, etc.

4.1 Ten-Year Solid Waste Management Plan (SWMP)

Land-based sources of waste are the single most important contributor to the marine litter problem. As mandated by RA 9003, the City of Ormoc now has its 10-Year SWMP covering the years 2020-2029, which was duly approved by the NSWMC on August 18, 2020 through NSWMC Resolution No. 599-A, series of 2020. The 10-year SWMP follows the waste management hierarchy, which prioritizes avoidance and recycling but nonetheless addresses the safe disposal of residuals.

The following are the relevant provisions, existing programs, and targets under the city's 10-year SWMP that have contributions to reducing waste and waste leakage into the marine environment:

Plan Goals and Objectives

- Increase solid waste diversion rate by 2.5% annually from 2021 until 2029
- Accomplish a diversion rate of 84% by 2029
- Accomplish a 100% garbage collection reach by 2029

Strategies, Projects, and Activities

- Registration of informal solid waste recovery facilities, especially mobile collectors of recyclable solid waste
- Purchase of additional garbage trucks
- Launching of local search for Cleanest and Greenest Barangay and Barangay with Best Sanitation Practices
- Inclusion of youth through organizations like Youth for Environment in Schools Organization (YES-O), SPG, and SSG in solid waste management programs
- Conduct of proper solid waste management programs in 2 pilot barangays
- Establishment of mandatory garbage pickup points in every barangay
- Regular health check for all the garbage collection crew and street cleaners
- Closure of SLF Cell 1 and construction of SLF Cell 2
- Purchase of SLF compactor to maximize the capacity of the SLF

- Increase of garbage collection fees
- Construction of Hazardous Waste Facility and Healthcare Waste Facility
- Provision of PPEs for solid waste management frontliners (garbage collectors, street cleaners, etc.)
- Community capacity enhancement through massive IEC campaign and mentoring of community champions
- Improvement of compostable solid waste processing through large-scale composting activities

INSTITUTIONAL ACTION

- Appointment of permanent dedicated staff for different aspects of the city's solid waste management program
- Clustering of barangays for joint solid waste management initiatives
- Annual deputation of Solid Waste Management Enforcers
- Intensive monitoring of Barangay Self-Compliance Monitoring and Evaluation Report
- Permanent fund allocation for SWM programs with a 5% Annual Increase
- Creation of total single-use plastic regulation ordinance (set-up through City Ordinance No. 51 Series of 2021)

4.2 Ormoc City Fisheries Management Plan 2021-206

The plan aims to improve, restore, and protect ecological marine habitats for sustainability and progress. Further, economically it looks to the provision of sustainable alternative livelihood skills training for displaced fishers and at the same time protect and rehabilitate marine resources. Environmentally, it aims to improve, restore, and protect ecological marine habitats for sustainability and progress. This plan has an allotted total investment of PhP 221,800,000.00, and was adopted by the city per Resolution No. 2019-238, dated 4 August 2020.

4.3 Comprehensive Development Plan (CDP) / Annual Investment Plan (AIP)

The plan articulated that "solid waste needs to be managed as part of the effort to protect and rehabilitate water bodies… health issues related to this also need to be addressed through the provision of adequate buffers between the sanitary landfill and settlements." The plan estimated a total of PhP 7,139,800,000.00 from 2017 to 2023.

The annual investment volume for SWM in 2022 is PHP 42,442,130.00 for operationalizing the 10-year SWMP.

4.4 Comprehensive Land Use Plan (CLUP

The spatial development of Ormoc City is forwarded with specific goals to "better equip individuals and communities to undertake productive pursuits," "protect and preserve resources while pursuing economic targets," and "balance economic growth and environmental protection through sustainable development."

The plan is identified by its environmental sector goal, "to strengthen the City Solid Waste Management Program," and operationalized by its strategy, "conduct Information, Education and Communication (IEC) campaign to residents near water sources on proper solid waste management."

The plan classified 8,285.80 hectares (municipal waters) of Ormoc Bay for production, while 60 hectares were set aside as a marine reservation or fish sanctuary.

4.5 Local Climate Change Action Plan 2019-2030

The plan accounted for waste treatment at 12.46% of its 151,493.2035 tonnes CO2e (carbon dioxide equivalent) in 2017 accounting. The plan identified 2 projects on solid wastes: (1) information and education campaigns on solid waste management to increase urban adaptation; and (2) waste-to-energy technology deployment as contribution to the mitigation objective to decrease at least 10% compared to BAU emissions.

5.0 CPOA-ML GOAL, OBJECTIVES AND TARGETS

Mirroring the NPOA-ML's overarching goal, Ormoc City shall likewise endeavour to achieve "Zero waste contribution to Philippine waters by 2040." Further, it will forward the city-level goals articulated in the 10-year solid waste management plan.

Specifically, the city aims to:

- Increase solid waste diversion rate by 2.5% annually from 2021 until 2029
- Accomplish a diversion rate of 84% by 2029
- Accomplish a 100% garbage collection reach by 2029

6.0 ORMOC CITY PLAN OF ACTION ON MARINE LITTER

Ormoc City has identified local interventions and measures to reduce and manage marine litter as detailed in the work plan matrix in Annex A.

PROGRAMMATIC CLUSTER OF ACTIONS

As with the NPOA-ML, programmatic actions have been clustered together to align with existing collective sectoral approaches of public and private sectors. Through a programmatic approach, government agencies and corresponding stakeholders can maximize the common implementation of sectoral policies, mandates, and initiatives.

STRATEGY 1: LOCAL MARINE LITTER BASELINING

Establish science- and evidence-based baseline information on marine litter.

- **Capacity-building on Waste Wise Cities Methodology**

  With the aim to continuously expand the waste characterization baselines, this analysis method will be continuously re-echoed to the ENRO staff and barangay volunteers. It is the aim that a city-wide baseline be developed for all barangay data over years instead of one-off sampled barangay analysis.

- **Conduct of WaCT methodology**

  To implement the increased expected capacity, the WaCT methodology will be applied to at least 3 barangays per quarter to reach city-wide coverage.

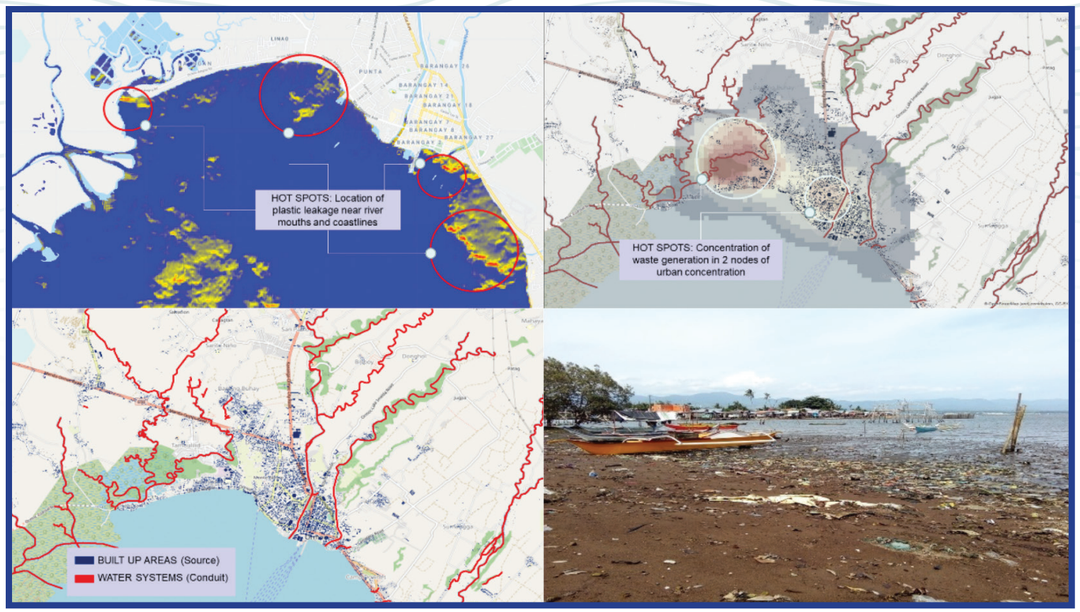
- **Conduct of coastal resource studies**

  In effort to establish appropriate and up-to-date interventions in the coastal ecosystem that concerns marine litter, a comprehensive costal resource study is proposed. The study is doable with annual coverage of a major site.

- **Conduct of marine litter hot spotting**

  To corroborate the terrestrial analysis of waste hotspots, their equivalent hotspots in marine ecosystems will be covered. This would include the exit points in rivers and coasts, as well as patches in Ormoc Bay. Using the WaCT method in trash traps and image-based analysis, the hot spots will direct the interventions, located directly in the marine ecosystem.

Figure 8. Detecting marine litter hot spots in land and water using remote sensing, Output from Arcadis/UN-Habitat Shelter Program



- **Establishment of trash traps for WaCT and hotspotting**

  To establish the characteristics of the waste leakages in marine systems, both coastal and riverine, trash traps will be mounted in the main river systems.

- **Socio-economic baselining of waste actors and coastal/riverine communities**

  To comprehensively establish the need and location of waste actors in coastal/marine communities, a comprehensive socio-economic baselining will be conducted. It would then be integrated into the city's efforts to conduct community surveys, such as the Community-Based Monitoring System (CBMS) implementation.

STRATEGY 2: CE AND SCP MAINSTREAMING

Mainstream circular economy (CE) and sustainable consumption and production (SCP) initiatives.

- **Support for POs with product development and organization building**

  From the baselines of waste actors and characteristics, the building of partner organizations that will support recovery of waste for recycling/upcycling is planned. This targets at least 1 or at most 3 organizations annually, where support for organization building, financial and operation capacity building, and operations seed funds will be provided. These resultant social enterprises are considered central in forwarding sustainable consumption and production. The plan operationalizes "participation and investments for resource recovery-based livelihood

programs for local communities," along with "encourage all local government agencies and all local government units to patronize products manufactured using recycled and recyclable materials," per Section 5 q&r of Republic Act No. 9003 or Ecological Solid Waste Management Act of 2000.

- **Support for SMEs on waste reduction and recycling**

  With city ordinances in place for single-use plastics regulation and prohibition, its enforcement will be central to ensure that small- and medium-scale enterprises are also capable of compliance. This will forward information, education and communication activities that directly target this segment of market/economic actors.

- **Establishment of local EPR mechanism**

  With the national law on expanded producers' responsibility, the city will look to establishing local mechanisms for how this can be operated. The waste characterization efforts will establish the producers and generators that can be pulled in to work with the government in plastic waste reduction and its extended management approaches.

STRATEGY 3: RECOVERY AND RECYCLING ENHANCEMENT

Enhance recovery and recycling coverage and markets.

- **Establishing afull-scale materials recovery facility**

  To establish systematic waste recovery, full-scale materials recovery facilities must be placed in strategic areas, or in each barangay. The established community-based organizations are capacitated to operate these materials recovery facilities. Veering away from the current appreciation of MRFs that pragmatically function as standalone large waste receptacles, MRFs are expected to receive, process, and produce materials. The plan targets at least 2 MRFs per year.

- **Purchase and deployment of recycling equipment**

  To support MRF operations, large-scale recycling equipment must be in place. Training of community organizations on operations and maintenance of the equipment is part of this initiative. The deployment of at least 1 setup of large-scale equipment per year is planned.

- **Expanding waste recovery coverage**

  There is currently 85% waste collection coverage, and from WaCT tool it translates to 18% recovery. Increasing the collection coverage requires additional staff and equipment to service the interior barangays.

- **Developing a web-based recycling monitoring system for trade/market linkage and reporting**

  In an effort to establish a conducive market for recycling actors, a web-based trade/market monitoring system is envisioned. The application will include data on available raw materials for supply, recycled products for market supply, and the prevailing market rates and prices.

STRATEGY 4: WASTE COLLECTION AND DISPOSAL SAFEGUARDS

Prevent leakage from collected or disposed waste.

- **Maintenance and upgrading of Sanitary Landfill Operation Site**

  To ensure that collected waste remains intact, continuous funding for the maintenance and upgrading of the sanitary land fill must be sufficiently allotted. The management layer, such as integrated staffing and engagement with informal waste collectors, must be supported. The opening of cell 2 is central for ensuring that the SLF can sufficiently accommodate city waste generation.

- **Developing a web-based recycling monitoring system for waste collection tracking and reporting**

  This application will monitor the collection and dumping of waste in the SLF. It will establish up-to-date data on waste volume. Further, tracking the collection coverage will ensure that the city population is properly serviced. Other information in the application, such as routes in kilometers and fuel in liters is important for optimizing collection routes and greenhouse gas inventory.

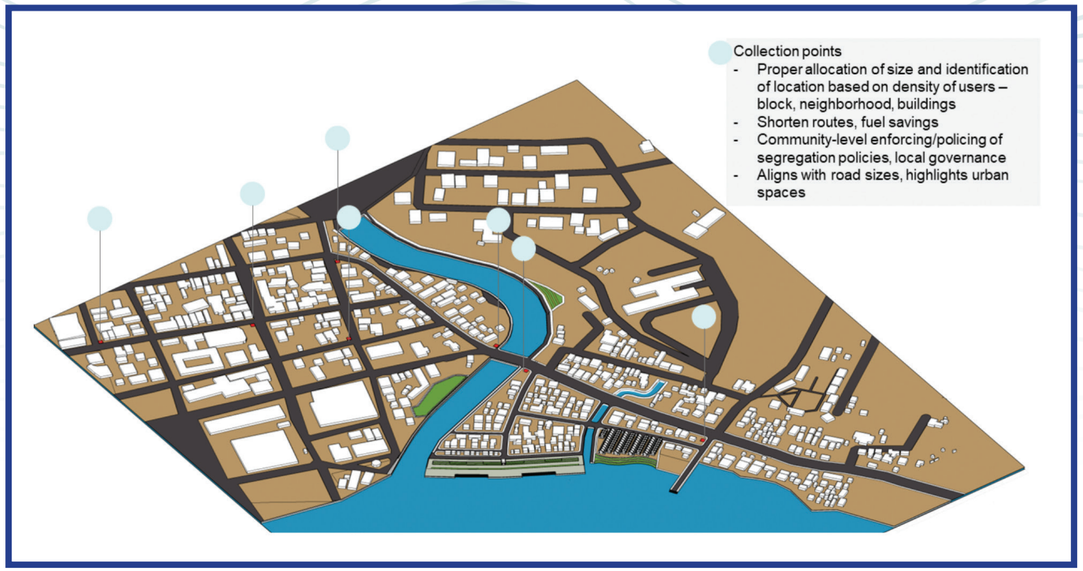
- **Purchase of enclosed garbage collection vehicles**

  To ensure optimum transfer of waste, enclosed garbage collection vehicles are essential. They can minimize leakage in the environment.

- **Installation of pick-up points in major settlements**

  Installing common pick-up points will be instrumental in optimizing collection routes, minimizing fuel consumption, and increasing public action. The common pick-up points must be part of any site development efforts that will be part of city urban reform.

Figure 9. A sample case study on collection points and waste truck routes in urban center



- **Capacity-building of waste collectors, drivers, and pickers**

  To ensure that the collection system is properly conducted, capacity-building seminars for collectors, pickers, and drivers must be conducted. This covers the provision of proper personal protective equipment that considers their occupational health and safety.

STRATEGY 5: SHIPPING AND FISHERIES WASTE CONTROL

Reduce maritime sources of marine litter.

- **Development of protocols and agreement with PPA, Coast Guard, and private sailors**

  Enforcement of maritime laws on pollution control, navigation, and transport should be formally localized. A technical working group within the city should be reconstituted to lay out the local process and systems for addressing marine pollution, patrolling, and navigation that directly impact marine litter.

- **Enforcement of monitoring and policing of marine waters and hotspots**

  Upon establishing hotspots, including those currently identified, monitoring and policing will be in place. The TWG will deputize a team that will conduct this patrolling on a regular basis.

- **Developing web-based reporting and monitoring of marine spills and litters incidents**

  To properly communicate information on marine litter incidents, web-based reporting should be in place. This would include information on incidents, impacts, and required actions. This would be instrumental in pulling in actors and funders, especially in large-scale impacts.

STRATEGY 6: RIVER AND COASTAL CLEANUPS

Manage preexisting litter in riverine and marine environments.

- **Support for coastal cleanups and marine ecosystem litter recovery**

  International, local, and regular marine cleanups must be continuously supported. These cleanups are forwarded by the civic organizations and barangay units that directly manage the marine ecosystem.

- **Support for barangay action planning/project implementation for marine litter**

  To consistently engage the barangay units, a barangay action plan must be developed. This will ensure that projects on marine litter are implemented and sustained. This will focus on all coastal and riverine barangays.

ENABLING/CROSS-CUTTING CLUSTER OF ACTIONS

As with the NPOA-ML, actions that cut across or support different programmatic activities have been grouped together.

STRATEGY 7: POLICY AND ENFORCEMENT

Enhance policy support and enforcement for marine litter prevention and management.

- **Formulation of marine litter policy (ordinance), including its enforcement**

  To sustain project development and funding for marine litter reduction, a city policy must be in place. With the support from the HOCCI Project, the city will build on the implementation experience that will feed the policy. This approach will establish a policy based on experience and data.

- **Conduct of multi-stakeholder meetings/forums on marine litter**

  To increase the uptake of various city stakeholders, advocacy meetings and forums on marine litter will be regularly conducted.

- **Support on the enforcement of existing policies (Ordinance No. 059 Series 2021 - Ban of Single-use Plastics, City Ordinance No. 059 Series 2017, Ordinance No. 036 Series 2017)**

  The plan will support these policies that directly regulate/prohibit plastic use in the city. This plan is aligned with these policies.

- **Conduct of coastal resource management plan**

  To properly situate marine litter reduction in resource management that includes biodiversity, a management plan on the coastal ecosystem will be supported. This plan will outline the management of sites, including waste management recovery.

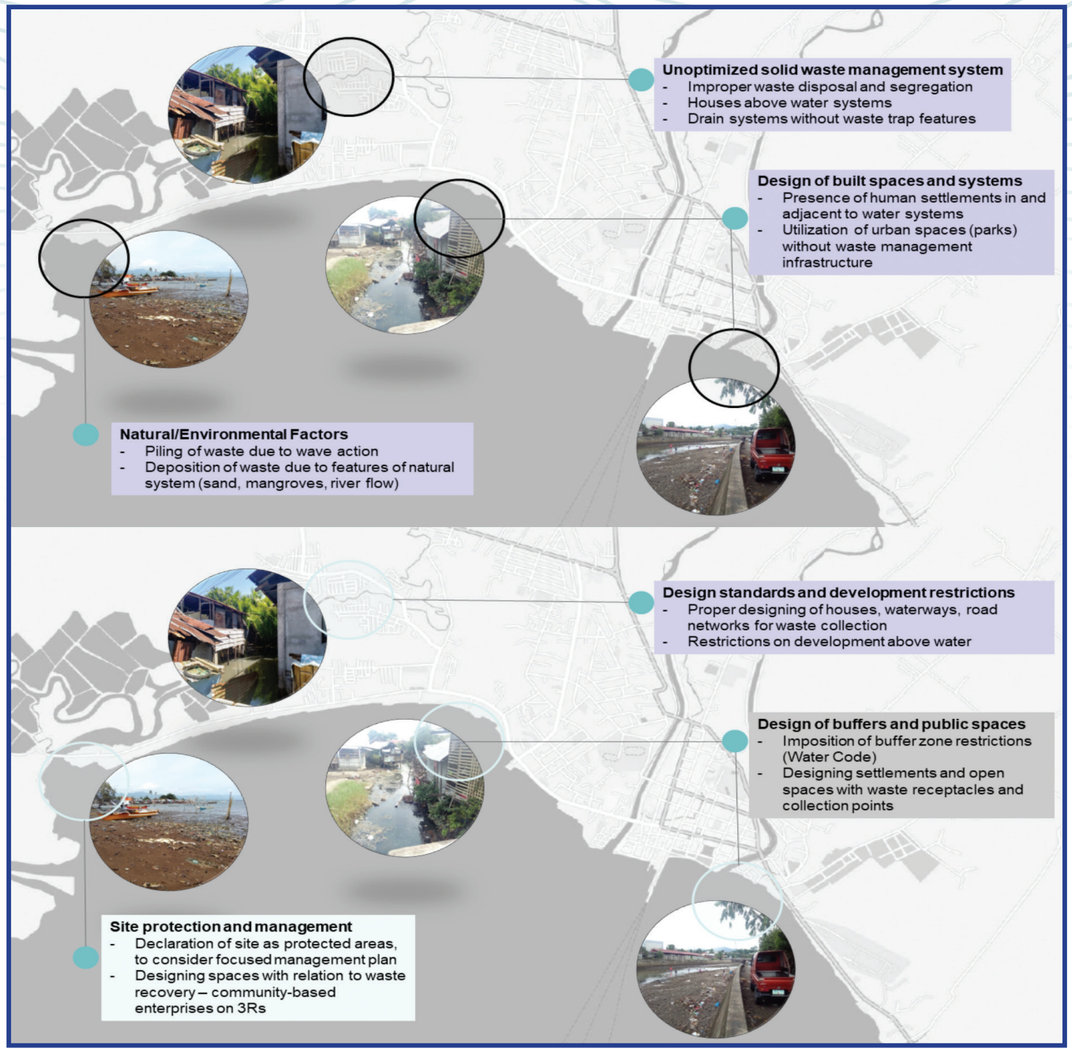


Figure 10. Sample coastal management strategies that align with city waste hotspots
Strategy 8: Social marketing and communication

STRATEGY 8: SUSTAINABLE FINANCING AND RESOURCE ALLOCATION

Develop and implement strategic and targeted social marketing and communications campaigns using various media.

- **Support for DepEd and Youth Organizations on marine litter activities**

  Recognizing the potency of the education system to directly influence behavior, the city plans for joint activities with the city education and youth affairs offices. The central material for this engagement is the marine litter tool kit developed with the HOCCI project.

- **Development of various knowledge products on marine litter**

  To support the campaigns and advocacy events, materials on marine litter reduction is set to be produced. These include audiovisual and printed materials. The web-based application on marine litter tool kit is also central on this endeavour.

- **Conduct of annual project solutions proposal for marine litter (grants)**

  With high appreciation of the "hackathon" method to produce innovative solutions on marine litter, it will be supported by the city in an annual basis. This directly targets student and youth organizations that with interests in solid waste management.

STRATEGY 9: SUSTAINABLE FINANCING AND RESOURCE ALLOCATION

Enable sufficient and cost-effective financing and other institutional resource requirements.

- **Formulation of investment plan for solid waste and marine litter projects**

  This standalone material will support the solid waste management and marine litter reduction plans. This investment plan will look to key infrastructure projects that can provide commercial viability with the private sector. These materials will be used to outsource support and operationalize funding mechanisms.

- **Conduct of market and feasibility study on recycling projects and products**

  This looks to the market viability of key recycling projects and products. Considering that scale develops market, the results of the feasibility study will direct the upscaling and replication of nominated recycling projects.

STRATEGY 10: STRENGTHENING LOCAL ACTIONS

Strengthen LGU capacities and local level implementation of CPOA-ML.

- **Capacity-building for barangays in formulation of barangay plan of action**

  This looks to enhancing the solid waste management governance of barangays. This requires increasing the technical know-how of barangay staff through community-level waste assessment and characterization, project identification and maturation, and project implementation. This also covers the engagement process between the barangay government and the CBO/PO. It employs barangay-level planning workshops on policy formulation and project development.

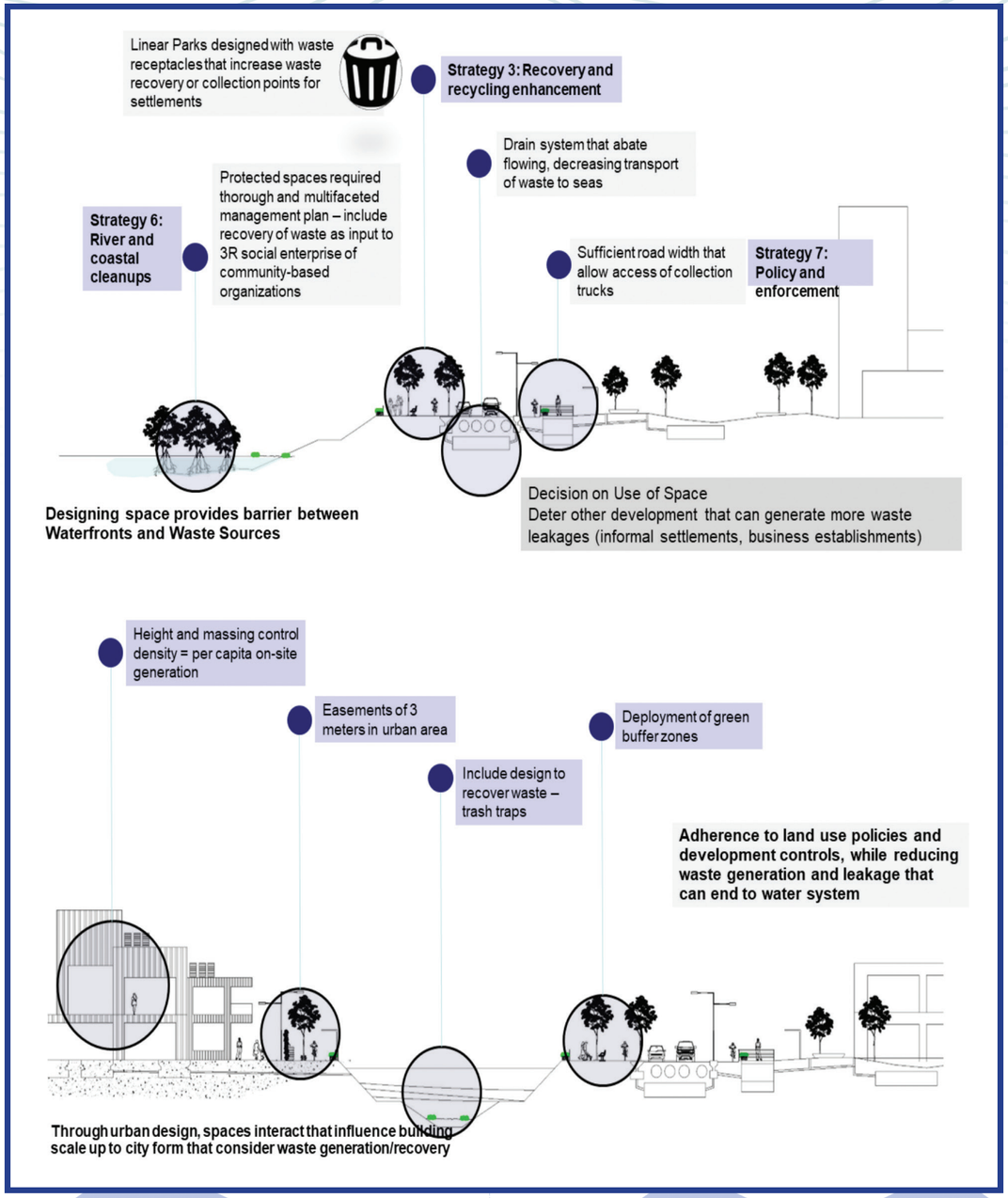


Figure 11. Sample site-level projects that align with marine litter reduction efforts

- **Grants and awards for barangay-level project proposals on marine litter**

  To support the plan implementation, grants and awards will be in place to support this.

7.0 IMPLEMENTATION FRAMEWORK

For the CPOA-ML to be implemented in a cohesive manner, clear institutional arrangements and monitoring and evaluation systems must be in place. The city-wide institutional structure to oversee CPOA-ML implementation should ideally align with local structures that are already in place. Actions under CPOA-ML should be referred to the corresponding local policies and plans for amendments, improvements, and budgeting.

7.1 INSTITUTIONAL ARRANGEMENTS

Marine litter is a complex issue that requires actions at many levels and places. Cooperation is needed to address this; hence, all stakeholders and sectors are enjoined to implement, influence, support, and monitor the implementation and eventual achievement of the goal of CPOA-ML. An overarching higher-level multi-stakeholder body should be created, composed of strategic cluster leads, to provide oversight and steer implementation on a regular basis, as shown in Annex B.

The lead agency is the Ormoc City Environment and Natural Resources Office, particularly the Solid Waste Management Section, established under Ordinance No. 082, the Ecological Solid Waste Management Section Ordinance. The technical working group composed of city offices, national agencies, and civic society monitors the completion of this plan.

7.2 Pilot demonstration and benchmarking

Through funds provided by the Government of Japan to partner cities through the UN-Habitat HOCCI Project, selected pilot projects are supported to serve as future good practices for other cities in the country and in the region. This is extracted from the CPOA-ML list of actions in Annex A.

The pilot project has four major project outputs to address the plastic 3Rs challenge and achieve the overall objectives.

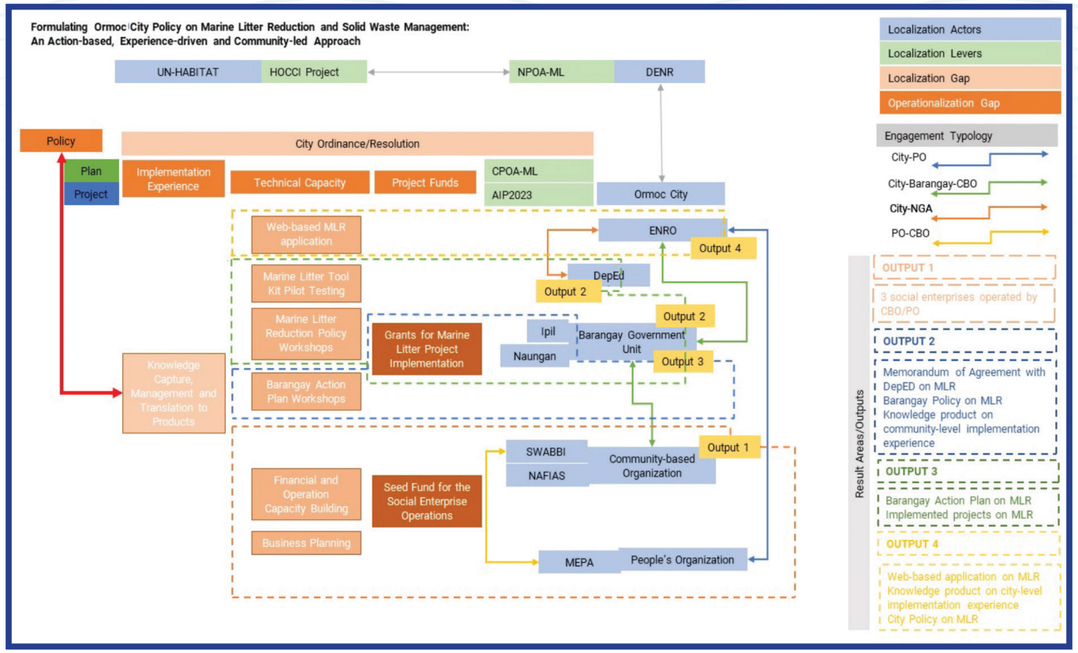


Figure 12. Formulating Ormoc City Policy on Marine Liter Reduction and Solid Waste Management: An Action-based, Experience-driven and Community-led Approach

Output 1: Capacity-building of 2 community-based and 1 people's organization in managing and operating social enterprises on 3Rs

This output increases the role of community-based organizations and people's organizations in marine litter reduction, and solid waste management in general. It operationalizes "participation and investments resource recovery-based livelihood programs for local communities," and "encourage all local government agencies and all local government units to patronize products manufactured using recycled and recyclable materials," as per Section 5 q&r of Republic Act No. 9003, the Ecological Solid Waste Management Act of 2000. This is the direct action of the people in contributing to marine litter reduction. It situates the role of CBOs and POs in the localization of the NPOA-ML.

The method supports the establishment of 3 newly legally registered organizations to start up, manage, and operationalize social enterprises on solid waste management. The direct beneficiaries are the following: (1) Mas-Green Eco-Waste Pickers Association [MEPA, 49 members], (2) Naungan Fisherfolks Association [NAFIAS, 45 members], and (3) Solid Waste Workers Association of Barangay Ipil [SWWABI, 32 members]. The seed fund to start up operations is funded as a grant from the HOCCI Project.

Through the CBO/PO operations, social enterprises on recycled products (NAFIAS) and eco-brick (MEPA and SWWABI) will introduce alternative materials made from recycled waste and contribute to waste recovery. Waste recovery from the riverine/coastal systems will be part of the social enterprise operations, contributing directly to cleanup and management.

This output will focus on the following results: (1) augmentation of income in CBO/PO members, (2) contribution to the waste recovery, (3) contribution to the materials made from recycled materials, and (4) expanded city-level experience in co-managing solid waste management projects.

Output 2: Mainstreaming process of marine litter reduction in the city-level education system and barangay-level policy formulation

This output increases the understanding of the population regarding marine litter reduction. It implements a three-level approach: (1) facilitation through the local education system, (2) facilitation through barangay-level policy formulation and project development, and (3) facilitation with the larger population through varied knowledge materials. This recognizes the potency of the education system, barangay-level governance, and effective communication materials to elicit social behavior. This comprises the systematic and strategic communication of marine litter reduction.

This develops the city-level institutional agreement with the Department of Education in using the Marine Litter Tool kit developed through the HOCCI project in teaching solid waste management.

This output will deliver the following results: (1) institutional set-up and structural presence of marine litter reduction in the education system with the developed marine litter tool kit, (2) barangay-level action plans in marine litter reduction and solid waste management, and (3) generation of knowledge materials accessible to the population.

Output 3: Capacity-building of 2 barangay local government units in progressive management and governance on waste management with emphasis on marine litter

This output enhances the solid waste management governance of barangays Ipil and Naungan, and its impact to the river systems of Pagsangahan and Panalian, and the Ormoc Bay. This requires increasing the technical know-how of barangay staff through community-level waste assessment and characterization, project identification and maturation, and project implementation. This also covers the engagement process between the barangay government and the CBO/PO (as per Output 1).

This will also employ the facilitation of barangay-level planning workshops on policy formulation and project development. The priority projects will be funded by grants from the HOCCI Project. It will further focus on WACS/WACT in barangays and waste exit points in riverine/coastal systems to further improve baselining and monitoring processes. The data will be captured to inform the city-level policy.

This will provide the test case on governance setups at the community-level that will effectively implement projects and enforce policies on marine litter reduction.

This output will also look to the following results: (1) barangay action plans and their implementation,

(2) contribution to waste recovery and recycling through these efforts, (3) barangay-level governance setup and deputization for marine litter reduction and solid waste management.

Output 4: Development of city-wide web-based application on marine litter policies, initiatives, and feedback mechanism

This output will enhance city-level governance on marine litter reduction and solid waste management. In context of participative governance, a web-based application on marine litter reduction/solid waste management will be designed to increase access and encourage the active roles of the people in policy enforcement and service delivery optimization. The application as the city's main platform will deliver capacity on policy communication, project monitoring, and people's feedback mechanisms.

The web application curates communication, knowledge, and means to enhance city policy formulation. The platform will focus on marine ecosystem and litter.

This output will produce the following results: (1) a web-based application on marine litter and solid waste management, and (2) a city-level policy on marine litter reduction with focus on BLGU-CBO/PO engagement, social enterprising, method enhancement on exit points with its frequency for monitoring, promotion of project development with safeguards, and the use of the web-based application.

7.3 Monitoring, evaluation, reporting, and verification (MERV) system for CPOA-ML

For the purposes of evaluating the results and impacts of the CPOA-ML vis-à-vis overarching goal, objectives and targets, the following indicators shall be used to determine the success of implementation within the specified period.

GOALS	INDICATORS
Increase solid waste diversion rate by 2.5% annually from 2021 until 2029	Volume of waste diverted, in tons, reported per year
Accomplish a diversion rate of 84% by 2029	Volume of waste diverted, in tons, reported per year using the WaCT methodology Volume of waste diverted, in tons, used in recycling efforts
Accomplish 100% garbage collection reach by 2029	Number of organizations/individuals participated Number of materials produced from recycling Number of barangays collected, with MRF operations, and social enterprises

The monitoring of the status of implementation of the proposed programs, projects, and activities shall be conducted monthly while the evaluation shall be conducted quarterly. The monitoring and evaluation committee will work together with the TWG in the monitoring and evaluation of the PPAs, whether through this CPOA-ML or through the relevant sectoral plans.

7.4 Revisiting and harmonization of relevant sectoral actions and targets

The CPOA-ML recognizes that many of the actions or targets featured in this document referred initially to existing sectoral plans, policies, programs, and targets and later enriched by the CPOA-ML development process by examining the marine litter lens of each target or action. The CPOA-ML process allows for the recalibration of current sectoral targets.

Within the institutional setup shown in Annex B, the overall lead, with support from strategy leads, shall ensure that the actions or targets in this CPOA-ML are updated to harmonize it with those in the other sectoral plans as necessary.

7.5 CPOA-ML updating

The CPOA-ML shall be reviewed and updated at least every three years. The plan can likewise be revisited and amended or modified even earlier under the following conditions:

(a) There are significant changes in city-level baseline information on marine litter leakage, accumulation, and impact, including socio-economic or ESS impact assessments

(b) New national laws have been passed by the Philippine Congress, new international agreements are ratified by the country, or other legal instruments have been issued by national government agencies on actions relevant to the CPOA-ML

(c) Upon the decision of the overarching Marine Litter Prevention, Reduction and Management TWG or by the LCE and SP based on the release of the results of a participatory results-based monitoring and evaluation system or as the marine litter discourse continue to evolve

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

	STRATEGY		ACTIONS		OUTPUT(S)	Already embedded in which PLAN (S)?	TIMELINE																								LEAD Office, Agency, or Organization	COOPERATING Offices, Agencies, Organizations	REOURCE REQUIREMENTS
							2023				2024				2025				2026				2027				2028						
							1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
	1	Establish science- and evidence-based baseline information on marine litter	1.1	Capacity-building on Waste Wise Cities Methodology	WACT results	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 690,000.00
			1.2	Conduct of WaCT (for expansion area, 3 areas per quarter)	WACT results	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 3,600,000.00
			1.3	Conduct of coastal resource studies (1 major site/year)	Coastal Resources Study	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Academe	₱ 1,050,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

			1.4	Conduct of marine litter hotspotting (1 major site/year)	Hot Spot Map	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 1,050,000.00
			1.5	Establishing of trashraps for WaCT and hotspotting (major rivers)	Trash Traps Installed	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 450,000.00
			1.6	Socio-economic baselining of waste actors and coastal/riverine communities	Socio Economic Survey report	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 1,050,000.00
	2	Mainstream circular economy (CE) and sustaina	2.1	Support on POs on product development and	PO/CBO establsihed	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU, CTO, DTI	₱ 6,000,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

		ble consumption and production (SCP) initiatives.		organization building (1-3 POs/year)																											
			2.2	Support on SMEs on waste reduction and recycling (enforcement and IEC activities)	SME participated	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU, CTO, DTI	₱ 300,000.00
			2.3	Establishment of local EPR mechanism	EPR readiness document	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU, CTO, DTI	₱ 2,700,000.00
	3	**Enhance recovery and recycling coverage and markets.**	3.1	Establishing full-scale materials recovery facility (2 MRFs/ year)	MRF operated	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 10,500,000.00
			3.2	Purchase and deployment of recycling equipment (1/year)	Recycling equipment installed	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 9,000,000.00
			3.3	Expanding waste recovery coverage	100% waste recovery coverage	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 3,000,000.00
			3.4	Developing web-based recycling monitoring system for trade/market linkage and reporting	Web-based application installed	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CPDO, IT	₱ 3,800,000.00
	4	**Prevent leakage from collected or disposed waste.**	4.1	Maintenance and upgrading of Sanitary Landfill Operation Site	SLF optimum operations	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 30,000,000.00
			4.2	Developing web-based recycling monitoring system for waste	Web-based application installed	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CPDO, IT	₱ 3,800,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

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				collection tracking and reporting																											
			4.3	Purchase of enclosed garbage collection vehicles	Vehicles purchased	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 30,000,000.00
			4.4	Installation of pick-up points in major settlements (common pick up)	Pick up points designed/constructed	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CPDO, CEO	₱ 3,600,000.00
			4.5	Capacity-building of waste collectors, drivers, and pickers	Capacitated staff	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CEO, GSDO	₱ 1,650,000.00
	5	**Reduce maritime sources of**	5.1	Development of protocols and agreement with	Protocol Agreement	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	PPA, PCG, Fisheries Office	₱ 450,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

		marine litter.		PPA, Coast Guard, and Private Sailors																											
			5.2	Enforcement of monitoring and policing of marine waters and hotspots	Protocol Agreement	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	PPA, PCG, Fisheries Office	₱ 3,000,000.00
			5.3	Developing web-based reporting and monitoring of marine spills and litters incidents	Web-based application installed	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CPDO, IT	₱ 3,800,000.00
	6	**Manage litter that is already existing in the riverine and marine**	6.1	Support on coastal clean ups, marine ecosystem litter recovery	Barangay Action Plan	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 3,000,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

		environments.	6.2	Support on barangay action planning /project implementation in marine litter (all coastal and riverine barangays)	Barangay Action Plan	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 4,800,000.00
	7	**Enhance policy support and enforcement for marine litter prevention and management.**	7.1	Formulation of marine litter policy (ordinance), including its enforcement	City MLR Policy	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	SP, CMO	₱ 800,000.00
			7.2	Conduct of multi-stakeholder meetings /forums on marine litter	Activities accomplished	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	PAIAO	₱ 600,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

			7.3	Support on the enforcement of existing policies (City Ordinance No. 059 Series 2021 - Ban of Single-use Plastics, City Ordinance No. 059 Series 2017, City Ordinance No. 036 Series 2017)	Activities accomplished	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	SP, CMO	₱ 3,000,000.00
			7.4	Conduct of coastal resource management plan	Coastal Resource Management Plan	AIP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Academe	₱ 550,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

	8	**Develop and implement strategic and targeted social marketing and communications campaigns using various media.**	8.1	Support on Dep-Ed and Youth Organizations on marine litter activities	Memorandum of Agreement/Implementation	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	DepEd	₱ 1,200,000.00
			8.2	Development of various knowledge products on marine litter	Products produced/released	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	PAIAO, CMO	₱ 1,800,000.00
			8.3	Conduct of annual project solutions proposal for marine litter (grants)	Project ideas funded and developed	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CYDO	₱ 1,200,000.00
	9	**Enable sufficient and cost-effective financing and other institutional resource requirements for the implementation of the NPOA-ML.**	9.1	Formulation of investment plan on solid waste and marine litter projects	Investment Plan	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	LEIPO	₱ 3,000,000.00
			9.2	Conduct of market and feasibility study on recycling projects and products	Feasibility Study	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	CPDO	₱ 2,100,000.00
	10	**Strengthen LGU capacities and local level implementation of NPOA-ML.**	10.1	Capacity-building for barangays in formulation of barangay plan of action	Barangay Action Plan	N/A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 3,000,000.00
			10.2	Grants and awards for barangay-level project proposals on marine litter	Barangay Action Plan	SWMP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Ormoc City ENRO	Barangay LGU	₱ 9,000,000.00

ANNEX A: ORMOC CITY CPOA-ML WORK PLAN

ANNEX B: ORGANIZATIONAL SETUP (LGU AND STAKEHOLDERS)

The Ormoc City government, through its Technical Working Group (TWG) on Marine Litter, formed under Executive Order No. 134 dated 14 January 2021, has prepared this Local Marine Litter Action Plan with technical assistance from the HOCCI teams from UN-Habitat, IGES and Arcadis and with invaluable inputs from the city's local stakeholders.

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Environment & Natural Resources Office	Ms. Ingrid G. Macabare
Environment & Natural Resources Office	Mr. Jay Scotch Betonio

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Office of the City Mayor	Mr. Wilson Tolentino
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City Agriculture Office	Mr. Gilbert O. Recosana
City Youth & Development Office	Mr. Rolando Jhay A. Gaspar
City Social Welfare & Development Office	Ms. Delia S. Corbo
City Veterinary Office	Dr. Joseph Cortes
Office of Public Market Administrator	Mr. Ruel G. Cañete

Office Suppport Member	
Office of the City Mayor	Hon. Richard I. Gomez, DPA
Committee on Environment & Energy Conservation	SP Member Hon. Lalaine A. Marcos
Liga ng mga Barangay	SP Member Hon. Esteban V. Laurente
Department of Interior and Local Government	Mr. Jean Redi Briones
DENR-Environmental Management Bureau Region 8	Ms. Letecia R. Maceda
DENR-Environmental Management Bureau Region 8	Ms. Reggie A. Urmeneta
Ormoc City Police Office	PSSUPT. Ramil L. Ramirez
Philippine Coast Guard	Lt. Christopher Michael Angelo Dulnuan
Philippine Coast Guard	PO1 Mark Anthony Libarra
Department of Education	Ms. Lani H. Cervantes
Tzu Chi Foundation	Mr. Juanico C. Suco, Jr.
Ormoc-Merida-Albuera Baywide Management Council	Mr. Shem B. San Jose
Ormoc SCUBA Divers Club	Ms. Irish G. Belmonte
Used Solid Waste Material buyer	Mr. Godofredo V. Pilapil

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