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REDUCING OCEAN PLASTIC POLLUTION IN **PARAÑAQUE CITY, PHILIPPINES**

Ocean plastic pollution has reached crisis level, directly threatening marine ecosystems and their related industries, and exacerbating global challenges such as food security, health, and climate change. This issue is especially apparent in the Philippines, where about 1.9 million metric tons of mismanaged plastics enter the ocean every year — one of the highest volumes in the world. Metro Manila, which includes the nation's capital and its surrounding metropolitan areas, is the epicenter of the Philippines' plastic pollution challenge: the region accounts for 25 percent of waste in the entire country, with a high reliance on flexible plastic packaging. The waste flow from Metro Manila has immediate negative impacts on the surrounding environment; Manila Bay, which borders the area, is facing water quality deterioration and ecosystem degradation due to pollution.

A SYSTEMS APPROACH TO REDUCING OCEAN PLASTIC POLLUTION

In Metro Manila and around the world, the most effective way to address the ocean plastic pollution challenge is at the source: the proliferation of single-use plastic packaging combined with solid waste management (SWM) systems that are unable to process rising amounts of waste. USAID has developed a set of five building blocks that create the foundation for the 3Rs (reduce, reuse, recycle) and robust SWM, ultimately reducing ocean plastic pollution.

Policy and institutional environments that enable a circular economy and the 3Rs: Progress toward a more circular economy and the 3Rs is facilitated through evidence-based policies, including regulating single-use plastics, promoting recycled content, and introducing Extended Producer Responsibility in which producers help fund and manage the collection and recycling of their own waste.

Increased infrastructure investment and improved solid waste services: Efficient systems for collecting, aggregating, and sorting waste are a prerequisite for maximizing investment in recycling facilities and sanitary landfills. Local governments can improve their waste management systems through comprehensive SWM plans, sound financial management, local regulation enforcement, well-trained staff, and strong community connections.

Market development for locally-appropriate innovations and technologies: Robust, local markets for recycled materials support and strengthen SWM systems. Developing countries face specific market development challenges including uncertain feedstocks and limited infrastructure, but low labor costs also present opportunities for innovative and low-technology solutions.

Widespread sustainable behaviors for recycling and reduced demand for single-use plastics: Reducing plastic consumption and increasing recycling cannot be achieved without social and behavior change. Strategies need to go beyond awareness-raising; they must be based on a deep understanding of people's current behaviors and attitudes, and what they are willing to do to change this behavior — not just once, but on a regular basis.

All members of the SWM value chain are integrated and empowered in an inclusive and equitable system: Informal waste collectors are the backbone of recycling in most developing countries. Many of these collectors are women who have fewer opportunities in the formal waste sector and are vulnerable to gender-based violence.

APPLYING USAID'S APPROACH IN PARAÑAQUE CITY

Through the Clean Cities, Blue Ocean Program (CCBO), USAID is partnering with the local government and other organizations in Parañaque — a city in the Metro Manila region of the Philippines — to establish the building blocks by promoting locally-led solutions to the city's plastic waste challenge and supporting the national government's priorities to rehabilitate Manila Bay.

CCBO is USAID's flagship program for combating ocean plastic pollution. CCBO is a five-year (2019-2024), $48 million program focusing on rapidly urbanizing areas around the world that significantly contribute to the flow of plastic into the ocean. CCBO works to reduce ocean plastic pollution by:

- Incentivizing plastic recycling through policies and partnerships with the private sector, while empowering women and protecting workers.
- Building capacity of local and national governments for improved SWM and a circular economy.
- Promoting innovation and investment in locally-appropriate business models, technology, and infrastructure.
- Building social and behavior change to improve SWM and the 3Rs (reduce, reuse, recycle).

THE SOLID WASTE MANAGEMENT CAPACITY INDEX: CREATING A PATH TOWARD SYSTEM STRENGTHENING

The Solid Waste Management Capacity Index for Local Governments (SCIL), a self-assessment tool developed through CCBO, enables local governments to measure their capacity to manage 3R/SWM systems. The assessment process begins by convening representatives from various city departments to answer a series of yes-or-no survey questions. Each response is verified with documentation to increase the credibility of the findings.

Once complete, the tool generates a capacity rating that establishes a baseline measurement of 3R/SWM capacities. Department representatives use the data to determine where to invest local government resources and make recommendations in a final report. SCIL is also intended to track progress over time, as local governments can repeat the assessment periodically.

To conduct the self-assessment, the Parañaque City government identified and assembled a dedicated SCIL Implementation Group composed of representatives across different departments within the city government. Over several weeks, the implementation group completed the survey questionnaire with hands-on support from CCBO staff. While the SCIL assessment in Parañaque City is still underway, members of the SCIL Implementation Group have already gained new insights from the assessment. One member noted:

The Solid Waste Management Capacity Index for Local Governments (SCIL) Components

SWM systems are complex and require a balance of resources, protocols, planning, and logistics. While it is difficult to capture all of these elements in a single assessment, SCIL draws out the most critical components of an effective 3R/SWM system:

1) Planning
2) Policy and Legal Frameworks
3) Financial Management
4) Service Delivery
5) Human Resources
6) Community Engagement

> *"I realized that the waste reduction and waste reuse programs we are presently doing are not included in our SWM plan, and recognized the importance of including them in the updating of our plan. I realized we can do more in terms of waste reduction and reuse, and I also realized the need to include a detailed budget in our SWM plan."*

The next step for the Parañaque City government is to use the SCIL assessment results to target key areas for improvement. This could take a variety of forms including staff training, new programs to promote waste reduction, and infrastructure

expansion. The city government will incorporate these approaches into an update of their 10-year SWM Plan and develop a budget for implementation.

SETTING THE STAGE FOR SCIL

Before piloting the SCIL tool, USAID engaged in several months of pre-work to ensure alignment with 3R/SWM goals and priorities in Parañaque City. This included an **Initial SWM Assessment** to gather and understand baseline data on waste and waste management in the region, a **3R/SWM and Marine Debris Reduction Strategy Alignment Assessment** to ensure USAID activities would further existing ocean plastic pollution reduction work, and a **Review and Summary of Parañaque City's 10-Year Solid Waste Management Plan** to understand the city's 3R/SWM progress and priorities. Critically, USAID also worked closely with the Parañaque City government to identify opportunities for collaboration and mutual support, culminating in a **Memorandum of Understanding (MOU)** formalizing the partnership. The MOU had broad support from both the executive and legislative branches within the city government, which facilitated the launch of SCIL and set the stage for other CCBO activities in Parañaque City.

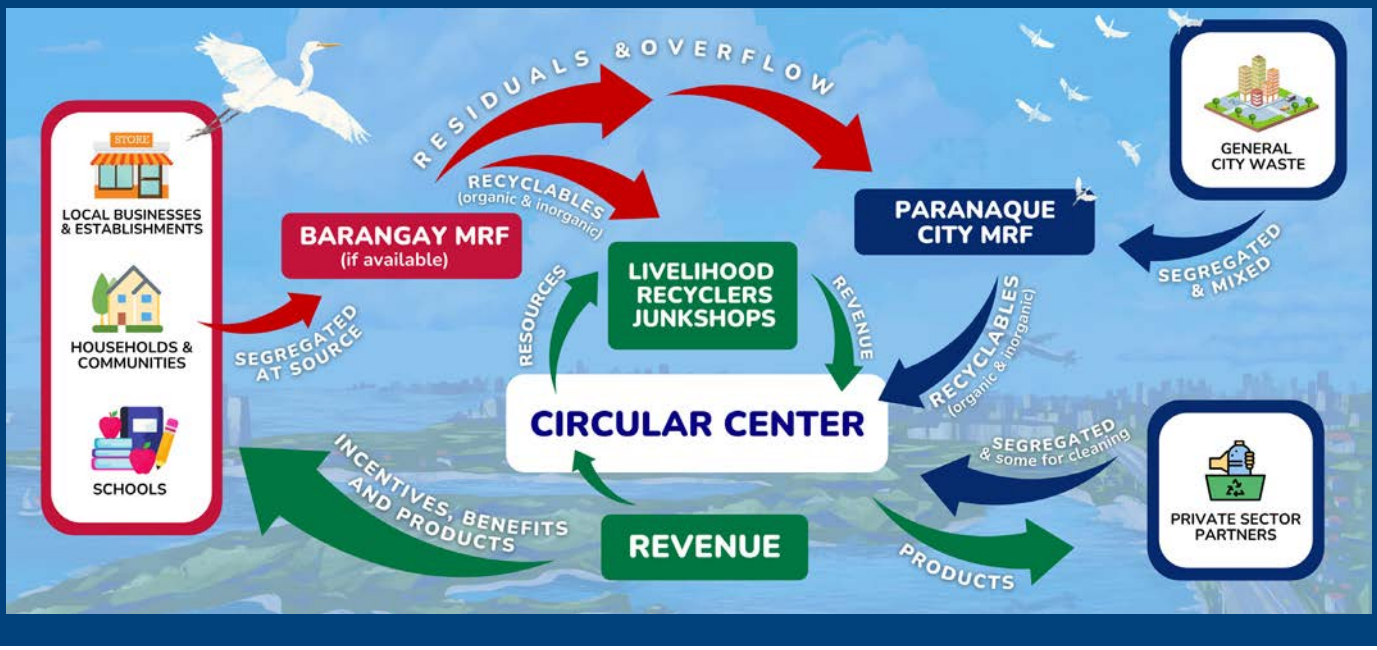
SUPPORTING A CIRCULAR ECONOMY WITH A WOMEN-DRIVEN CIRCULAR CENTER

Communities Organized for Resource Allocation (CORA), a non-profit organization that has been active in Parañaque City since 2018, received a grant from USAID in November 2020 to establish a Circular Center, a recycling facility that will focus on processing single-use plastics collected from coastal clean up activities and big brand warehouses in the city's vicinity. The plastics will be sold to a plastic manufacturer for upcycled products, and profits from the sales will be reinvested into the Circular Center to fund additional waste management activities and support livelihood programs.

The Circular Center will be co-located in Parañaque City's main Materials Recovery Facility (MRF). By situating the center within the local government's existing 3R/SWM infrastructure, the Circular Center will demonstrate proof of concept for an expanded MRF model that processes higher volumes of waste using a circular economy framework. The Circular Center will operate as a separate entity from the City MRF during the grant period to test approaches that may be replicated in Parañaque City and other localities at the conclusion of the project.

Core to the Circular Center model is intentionally championing women as leaders in SWM and recycling. CORA will hire female facility workers from coastal communities surrounding the MRF in Parañaque City to work alongside the current

Proposed Waste Flow for the Circular Center and Parañaque City MRF



MRF personnel, and create a training plan to enhance the skills and efficiency of women facility workers. These workers will receive further training on key topics such as basic business skills, SWM, women's rights, and leadership. CORA will also work in close collaboration with USAID to leverage existing and emerging social and behavior change research to encourage sustainable 3R/SWM practices in Parañaque City. Social and behavior change activities will build on CORA's existing expertise and networks in beach cleanups and educational campaigns, and leverage learnings from the Circular Center that can be shared with the broader community.

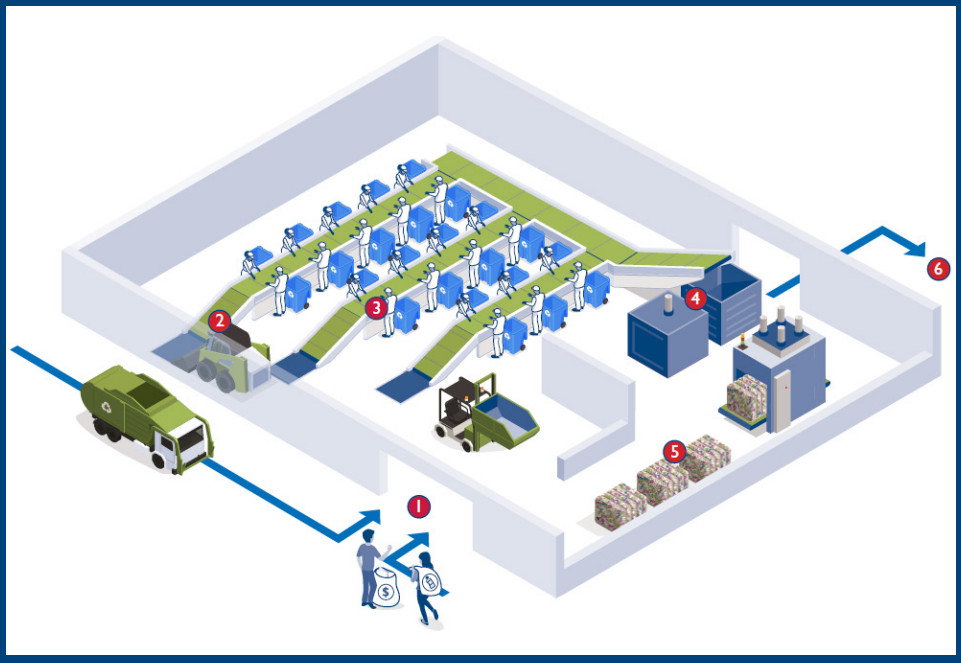
Women in Waste Economic Empowerment Activity (WWEE): CORA's work to champion women leaders in 3R/SWM will be complemented by USAID's WWEE Activity, also implemented under CCBO. Through grants and technical assistance, WWEE will provide training, mentorship, coaching, and access to start-up capital for a wide range of women who work in the waste management sector, from those at the lowest levels of the 3R/SWM value chain to those with waste upcycling or repurposing businesses. The Parañaque City government helped WWEE identify a cohort of over 20 women to participate in the activity, which will begin with a Basic Business and Empowerment Skills Training (BBEST) program, developed in collaboration with Johns Hopkins University and EcoWaste Coalition.

After the training program, participants will receive business plan coaching and mentoring to prepare them to pitch business ideas or join existing 3R/SWM enterprises for funding support. The women will also receive advanced business management training for the duration of the WWEE activity. Throughout the life of the activity, WWEE will work to connect participants with public and private sector market opportunities.

DEVELOPING RIGHT-SIZED AND INVESTABLE SOLUTIONS

During initial discussions about establishing the Circular Center, CCBO staff identified an opportunity to further maximize Parañaque City's MRF through added equipment and a new facility design. With technical support from leading U.S. solid waste experts, CCBO developed plans for new sorting line equipment, accompanied by designs that optimize the space with the new equipment. CCBO presented these plans to the Parañaque City government, and has initiated discussions with potential investors to finance the purchase of the equipment. Once installed, the new sorting line will build a mechanical sorting capacity of 500 tons/month where none existed previously, and provide 50 to 80 new living wage jobs. The design is appropriate for many rapidly developing localities that are struggling to keep up with increasing waste volumes and limited local resources. CORA will help implement the installation of the new equipment in the Circular Center.

Optimizing the Parañaque City MRF Design



1. Materials enter the facility from local collection services and informal waste collectors.
2. Materials enter the sorting system.
3. Materials are cleaned and sorted by type.
4. Cleaned, sorted materials are compacted; residuals are separated out of the system.
5. Recyclable and reusable materials are compacted and baled for efficient transportation.
6. Materials exit the facility for recycling and reuse.

For more information on USAID's approach to reducing ocean plastic pollution or CCBO activities in Parañaque City, contact: **oceanplastics@usaid.gov**