

# PEOPLE'S PROCESS IN COMMUNITY-BASED PLASTICS CIRCULARITY SOCIAL ENTERPRISE DEVELOPMENT



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# People's Process in Community-based Plastics Circularity Social Enterprise Development

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## Marine Plastic Litter

With the unabated production of new plastics and the lack of sound waste collection and treatment systems, plastic waste leakage has largely caused environmental and health hazards. Alarmingly, the 1.3 billion tonnes of globally generated solid waste in 2012 as reported by World Bank, is only expected to grow to 2.2 billion tons by 2025 due to rapid population growth and increase in household income. 4.8 to 12.7 million tonnes of plastic leak into the oceans yearly around the globe, with Asia contributing over 80% of marine leakage. Of this, the Philippines is the third largest contributor of mismanaged plastic polluting the ocean yearly. Plastic waste makes up a significant share of the overall generated waste, with more than a third (35% or 760k tonnes) of the locally consumed plastic wastes being leaked to the open environment in the Philippines.

The Philippines remains as one of the biggest contributors to marine plastic pollution and making excessive negative impacts on the livelihoods of coastal communities and tourism. The World Bank estimated 14.6 million tonnes of MSW was generated in the Philippines in 2016. By 2019, the MSW generation grew to 15.8 million tonnes. By 2030, the World Bank forecasts MSW generation to reach 20.0 million tonnes in the Philippines, a 37% growth compared to 2016. Despite this, the recycling rate among Filipinos remains low, with the MSW management facing constant challenges including increase in amount of waste and inadequacy of waste facilities to cater to the increase due to lack of funds and manpower. This challenge is commonly faced in low and middle-income countries.

When it comes to waste management, another challenge for the Philippines is its archipelagic characteristic, with smaller islands being only accessible through boats and having no centralized waste collection. While fewer plastic packages are consumed in these areas, packaging materials such as sachets, and single use carrier bags from the mainland can still be commonly found. This amount also increases for islands that are popular among tourists. As reported by Razon in 2019, Boracay, one of the most popular island destinations in the country, find that tourists are estimated to contribute more than ten times the wastes generated by the residents, with tourists estimated to make 4.88 kg/cap/ day while residents are 0.41 kg/cap/day. While systems are in place for more popular destinations, the same cannot be said for most of the islands that have less or no tourists which may resort to burying, burning, or throwing their waste out to the sea. While these islands use less plastic individually, the total waste

becomes sizable considering the number of islands in the country. Collection and transportation of waste make the biggest cost for any waste management activity, and doing this in an archipelagic setting is difficult logistically, especially for far-flung areas.

### **Philippine Laws on Solid Waste Management (SWM)**

The National Solid Waste Management Commission (NSWMC), the main government entity in charge of solid waste management policy making and monitoring implementation of law and SWM plans, also has the main duty to prescribe policies to attain the objectives of RA 9003 and to oversee the overall implementation of the solid waste management plans and programs. Republic Act (RA) No. 9003, or the Ecological Solid Waste Management Act of 2000 contains the basic framework for regulations and operations on solid waste management. The implementation of the law falls under the primary responsibility of LGUs (cities and municipalities in particular) and supported by local ordinances related to various aspects of waste management. LGUs are tasked to draft policies and prepare plans to manage the collection and disposal of various wastes within their jurisdiction, maintain materials recovery facilities (MRFs), and adopt revenue generating measures to support local SWMs, including waste segregation and its disposal at landfills. Barangays, the smallest administrative unit in the country, are also mandated to manage waste segregation, sorting, recovery, recycling, and composting activities within its area. On the other hand, provinces coordinate and integrate SWM plans and efforts of LGUs within the provincial boundaries (except for highly urbanized cities) and provide administration, legislation, and financial support along with national level offices. National Action Plans were also made to specifically support the implementation of RA 9003 provisions including the (1) National Solid Waste Management Strategy providing medium-term plans to materialize the National SWM Framework, (2) a section of the Philippine Development Plan targeting an 80% national solid waste diversion rate by 2022, (3) National Plan of Action on Marine Litter providing overall direction to manage marine debris, (4) and other plastic use regulations.

Despite the country's contribution to global marine pollution, the Philippines has no nationwide regulation or ban on plastics. Several bills have been filed and are currently in different stages of the legislative process, including the implementation of the Extended Producer Responsibility (EPR) system in the country. While there is a lack of nationwide regulations on plastic use, several LGUs have ordinances that have been in implementation since 2011. While effectiveness is yet to be assessed, based on data from the NSWMC, 489 cities and municipalities by 2019 have some form of policy to regulate the use of plastics. LGU plastic regulation can be seen in all regions except in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), and 13 out of 17 LGUs have ordinances related to plastic use in Metro Manila. Despite these efforts, the intended effect of these policies may not be completely achieved due to lack of uniformity which can be addressed by the creation of a national framework or policy that will streamline efforts throughout the country. Private sector participation is also highly important to successfully achieve the country's ambitious sustainable plastic waste management goals.

### **Philippine Informal Economy on Solid Waste Management**

The packaging and fast-moving consumer goods (FMCG) industry's major owners have committed to incorporate recycled content into their products. While this contributes to the increased demand for recycled plastics, most suppliers of recycled resins in the Philippines are small-to-medium enterprises challenged by lack of scale, management systems, process technologies and informal and fragmented waste supply networks that work on cash terms. The number of tonnes per year that pollute the environment would be even higher if not for the informal waste and recovery sector (IWRS), which highly contributes to improving solid waste management through collection, segregation, processing and recycling. The waste import in the country is not in sufficient quantities to sustain the country's recycling industry. While the recycling industry is dominated by small and medium enterprises (SMEs), these entities are largely unable to meet multinational buyers' quantitative and qualitative requirements,

thereby failing to capitalize on the growing demand for recycled resins. The monetary equivalent of materials is a potential source of income for waste collectors and recycling centers, hence is important to be considered. Plastic is one of the more expensive wastes among the recyclable materials, but only a small portion is recycled. In 2019, the Philippines recycled 28% of the key plastic resins, with 78% of the material value of plastics being lost to the Philippines economy each year. Structural challenges cause a market failure for plastics recycling leading to a plastic material value loss of USD 790-890 million per year. Convenience-oriented society has brought about a “throw away mentality”, one that is prevalent in highly urbanized cities where there is a proliferation of fast-food establishments.

There are a variety of stakeholders involved in solid waste management operationalization in the country. Regulatory actions are necessary to create an enabling environment for plastics circularity. While industry commitments are a step in the right direction, these are insufficient to divert plastic waste away from landfills and the open environment or tackle the marine plastics issue. Like most other low- and middle-income countries, there are different stakeholders in the value chain from both the informal and formal waste sector. One of the significant characteristics that shape the Philippine context when it comes to waste management is the heavy involvement of the informal sector. The “informal recycling industry” here refers to pre-processors and recyclers that are not part of the formal economy. The “informal recycling industry” should not be confused with the “informal sector” which typically refers to stakeholders in the collection value chain such as street material pickers, recyclables collectors and informal junk shops. Much of the recycling in the Philippines happens separate from the SWM system via upstream diversion directly by the informal sector (e.g., pickers, collectors, junk shops and aggregators) leading to a parallel economy for recyclables collection. Many of the valuable plastics like PET bottles that remain in the SWM stream are picked out (informally) at various points of SWM flow, such as from trucks and dumpsites. In terms of collecting recyclables, the unregistered waste pickers or those generally part of the informal waste sector are considered the most vulnerable sector. Waste picking is a prohibited activity in the streets and in dumpsites in some areas. While there are some organized groups or associations in bigger cities, it is more common for them to not be formally organized and work individually or as families. The most powerful among the stakeholders is the consolidator who is able to control the buying price of goods. Primary collectors and waste pickers collect most of the valuable post-consumer plastics directly from generation sources. Waste is sorted by collectors with approximately 175k tonnes of valuable plastics recovered for processing, while waste pickers recover around 27k tonnes of valuable plastics directly from disposal sites. This system illustrates how the informal sector is directly involved in the collection and transport of recyclable materials in the Philippines. Informal collection contributes significantly to the Philippine's current waste management system, it should be ensured that the sector's integration is considered and applied in individual concepts.

While it was previously mentioned that one of the challenges to waste management in the country is its archipelagic nature, some islands that, particularly popular destinations that are usually flocked by tourists, usually have a system to collect recyclable materials. In the case of Boracay, there are junk shops and buyers of recyclable materials which buy plastic wastes, clear glass, metals, paper and cartons. With an estimated 5,000 tourists per day, there is enough plastic waste for junk shops to conduct business and have viability, even managing shipping the recyclables out of the island. The adequacy of such infrastructures varies per island. For example, Siargao Island's wastes are brought by business establishments to Residual Containment Areas (RCAs) which are sites operated like open dumpsites and make collection unreliable because of uncertainties of businesses' compliance. Despite this, there are some waste pickers that collect recyclables using their own motorized carrier and bring these to the junk shops in the city center, which then ship the recyclables to mainland Mindanao. Competition from the informal recycling industry distorts the market for formal recyclers who bear the costs of taxation and compliance with environmental, health and safety regulations, which the informal recyclers do not. By avoiding the burden of cost of operating as a formal business, the informal recyclers can pay more for feedstock, driving up the cost and reducing profitability for formal recyclers. The informal sector also lacks the financial resources to purchase equipment to increase their capacities

and productivity. The guiding principles promote the increased circularity of plastics through incentivizing source separation recycling programs. This includes directly and indirectly supporting improvements in the working conditions and incomes of informal recyclers.

### **HOCCI Project and Role of LGUs in 3Rs and Marine Litter Reduction**

The Healthy Oceans and Clean Cities Initiative (HOCCI) is a regional project with funding from the Government of Japan and for implementation by UN-Habitat in the Philippines in cooperation with global, national, and local partners. It aims to enable local governments and communities in the Philippines to reduce marine plastic pollution. This will be achieved through strengthened institutional capacity to support the operationalization and localization of the Philippines' National Plan of Action for the Prevention, Reduction, and Management of Marine Litter (NPOA-ML) and the development of improved data collection and waste management systems.

Taking an integrated approach, HOCCI project operates at different levels: 1) at the city and community level which pilot initiatives are developed and tested, feeding up into the national, regional and global policies and practices and, 2) at the national level in which new policy requires proof of concept and local implementation mechanisms which the project will contribute to, benefitting also from regional (ASEAN) and global practices and policies such as the SDGs. The HOCCI Project supports six cities in the Philippines: The Cities of Calapan, Cagayan de Oro, Davao, Legazpi, Manila and Ormoc as local government partners. The partnership localizes the NPOA-ML through adoption of City Plans of Action on Marine Litter (CPOA-ML) and piloting of community-level Plastic 3Rs Projects. These strategies aim to achieve the following outcomes:

1. Produce opportunities for community action and generate behavioral change when it comes to plastic marine litter reduction since previous and existing campaigns on reducing MPL seem to fall short and do not necessarily translate to behavior change.
2. Analyze and address the waste management and infrastructure gaps in the system to prepare LGUs once resources and functions are fully devolved due to the Mandanas Ruling
3. Provide a mechanism for EPR model for low-economic value plastics, in preparation for the national-level EPR system for the private sector to comply with the plastic footprint offsetting targets set forth in House Bill 9147 or the proposed Single-Use Plastic Product Regulation Act

With the first outcome, HOCCI Project aims to enhance awareness and capacity of citizens, communities, and the private sector to support reduction of marine plastic litter (MPL) through alternative livelihoods based on plastic 3Rs. These targets were done through engagement of new and existing community-based organizations and peoples' organizations who work in the waste sector, assisting them in acquiring legal identities and increasing their capacities in running a social enterprise.

### **Who are the vulnerable groups with potential to contribute to plastic waste reduction?**

Part of the identified New Urban Agenda by the United Nations is to "commit ourselves to recognizing the contribution of the working poor in the informal economy, particularly women, including unpaid, domestic and migrant workers, to the urban economies, taking into account national circumstances". In 2009, NSWMC came up with the Framework Plan for the Informal Waste Sector in Solid Waste Management. This recognizes the informal waste sector as a vital partner of institutions for the promotion and implementation of the 3Rs, with the intention to contribute to poverty alleviation.

Waste pickers are good waste diverters, picking waste from public areas, dumpsites, and bodies of water, recovering a lot of recyclable wastes and are done at no additional cost to the government. There are also door-to-door collectors who use bicycles or motorcycles to transport recyclables. Junk shops can either be registered or unregistered, with more of the latter. However, they have no power in dictating their selling price. Also, it is worth mentioning that these informal sectors are often undervalued

for the work that they do in waste management and have little to no representation in stakeholders' consultations.

Women and children are also identified as one of the vulnerable groups that must be continually supported and engaged. Globally, and mirrored in the local context, women and children are considered as the most affected given that they are often responsible for household waste disposal. Improperly disposed waste can pose health threats to communities. While this poses a challenge should informal waste collection be unavailable, it also opens an opportunity to further reduce plastic waste through engaging households in segregating, recycling, etc. In some countries, women and children earn a livelihood through material recovery and breaking down old computers and other devices. Such tasks offer temporary work that is considered flexible while also juggling other responsibilities (such as household duties, etc.). In the Philippines, social enterprises such as Plastic Credit Exchange also contribute to waste management by providing opportunities for women micro-entrepreneurs and aggregators to collect, clean, and responsibly process plastic waste.

Fisherfolk is also one of the marginalized sectors in the country due to fish decline, extreme weather events and competition with large commercial fishing industries. These issues are further exacerbated by plastic pollution which greatly affects their livelihood, families and even their health. Since fisherfolk live along poor coastal communities, they often bear the brunt of having to live with plastic wastes and being the ones to pick them up when it reaches the shore.

It is apparent that the tonnes of plastic per year polluting the environment would be much higher if not for the participation of vulnerable groups in the informal economy. However, strategies to reduce this kind of plastic pollution often fail to adequately engage with the recovery capacities, skills and knowledge of the IWRS. This exacerbates livelihood vulnerabilities and damages existing informal recovery systems.

### **Community Engagement & Mobilization, the HOCCI Experience**

Approaching the issue of waste management through community engagement and mobilization is a strategic way to ensure the long-term sustainability of the efforts while doing a whole-of-society approach. By definition, a project is considered sustainable when the community and its stakeholders can continue the project on their own. To do this, efforts must be culturally, economically, politically, managerially, and environmentally sustainable. HOCCI Project's efforts have ensured community and youth engagement as well as an increase in awareness on the issues and acceptability of practices of the 3Rs. Community-driven implementation was encouraged through the Project's capacity-building efforts as well as human resource investment, both of which are necessary for intervention success.

Community organization and mobilization is necessary to form sustainable practices. In addition to the implementation of an enabling infrastructure, the education, awareness, and behavior of households determines the success of the implementation of source segregation. A study in the Philippines by GA Circular in 2018 showed only 18% of 421 respondents in the Philippines engage in source segregation and have access to separate collection, while 6% throw their trash in the bin, and 76% choose to litter. These numbers emphasize the need for education, awareness building, and behavior change campaigns. Through the years, there have been successful initiatives that are the result of strategically planned and executed community programs where the LGUs were supported by external stakeholders. This is done through social mobilization and empowerment, while also emphasizing intersectoral collaboration.

## **Objective of the Study**

This paper aims to document the HOCCI experience in engaging community-based organizations and peoples' organizations in reducing marine litter, with the hope of helping other LGUs, CBOs and POs learn from the process and lessons that HOCCI Project and its partners have experienced.

The study also highlights the promotion of entrepreneurship among women's groups, the informal waste sector, and vulnerable groups for them to become empowered in transforming recycled plastic waste into new kinds of products such as bags, pots, kitchen wares, hygiene kits, and construction materials. This paper also underscores the importance of inclusivity in resource and waste management, provision of social protection and economic uplifting of the vulnerable sectors of the society and encouraging them to contribute to plastic 3R efforts. The vulnerable and community groups include the IWS, women's groups and marginalized communities. HOCCI has been working with partner cities to organize and strengthen these sectors, to transform into formal associations, through organizational formation and technical workshops in waste management and business skills training.

## **Study Areas**

The following community-based organizations and people's organizations were organized by HOCCI Project and its City Partners to be their allies in reducing MPL. Some of these CBOs and POs are newly formed while others are already existing and earning a meager income from their products. Some were existing but not sustained, thus revived by the project. All organizations were nominated by HOCCI's partner cities and have members working or volunteering in the informal waste sector. It is important to engage these organizations in reducing marine litter since for the longest time, they are the ones in the frontline on keeping our communities and marine bodies clean, yet they receive little to no appreciation and support from the government and communities on the work that they do. Also, these people earn little income from waste picking and recycling plastic litter. It is about time to further engage and capacitate them to have increased access to livelihood opportunities, all the while by helping solve the problem on MPL.

### **A. Cagayan de Oro**

#### ***Material Recovery Facility Cooperative (MRF Coop)***

Cagayan de Oro's MRF Cooperative in Barangay Carmen was already existing and registered before the HOCCI Project engaged them but lacked capacity to engage and maximize 3Rs initiatives. The goal of engaging MRF Coop included capacitating them to scale up and diversify the cooperative's existing plastic recycling enterprise to contribute to city plastic recycling of at least 25% of total daily plastic waste generation of the city. Provision of organizational capacity support for the cooperative was also given to improve its competence and capacity in the management and sustainable implementation of the scaled up eco bricks production using laminated plastics and recycling of single use plastics into plastic post to be used in the growing urban container gardening. The project will also establish the City Plastic 3R Learning Center where plastic recycling will be practiced and sustainably implemented by the cooperative members.

### **B. Calapan City**

#### ***Calapan City Association of Paleros, Inc. (CCAPI)***

Formed with the goal to prevent, reduce, and eliminate marine pollution that creates serious environmental, social, and economic impacts. The CCAPI was originally organized to facilitate the purchasing of recyclable materials, as well as residual wastes with potential for diversion. In addition to reducing marine litter and waste diversion, its purpose also includes helping its waste management workers to earn income through livelihood projects from recycled plastic wastes. The organization, composed of junk shop workers, women waste pickers and landfill caretakers have identified projects such as establishment of CCAPI junkshop, eco-bricks making and buri bag weaving as social enterprises which will help their city in the fight against marine litter.

## **C. Davao City**

### ***The Bantay Dagat Association of Davao (Bantay Dagat)***

The Bantay Dagat Davao was already created back in 2017 to intensify the massive clean-up in the 32 coastal barangays of Davao City. The creation of Bantay Dagat, which translates to “Guards of the Sea” is among Davao City’s several programs to address and prevent leakage of solid waste into water bodies.

Since then, Bantay Dagat regularly does coastal clean-up and records the number of wastes that they collect from the eight clustered areas in the city. The group helps to address the volume of plastics dumped along canals and shores of Davao City. To support this initiative, HOCCI Project, in cooperation with Davao City Environment and Natural Resources Office (ENRO), assisted Bantay Dagat to formalize their organization and be a partner to help in reducing marine litter in Davao City. Their identified 3Rs social enterprise project is eco brick and pavers production.

## **D. Legazpi City**

### ***Barangay 33 Peñaranda Eco Negosyo Association (Eco Negosyo)***

Eco Negosyo is an all-women people’s organization in Barangay 33 Peñaranda in Legazpi City. The organization is composed of barangay workers, housewives and local environmental workers who aim to earn an additional livelihood while taking care of the environment by waste recovery and recycling. The group addresses environmental and social challenges in their community, particularly the problem of plastic waste and the lack of livelihood opportunities. Their identified 3Rs social enterprise project is Eco Pots Making Project.

### ***Barangay Dap-Dap Ecopreneurs Association (DEA)***

DEA is also a women-led community-based organization in Barangay 57 Dap-Dap, Legazpi City. Similar to Eco Negosyo, the organization is also composed of barangay workers, housewives and local environmental workers who want additional income while also trying to help solve the problem of plastic litter. Their main 3Rs social enterprise project includes crafting and selling eco bags.

### ***Legazpi City Recyclers Association (LCRA)***

The LCRA is a people’s organization composed of members from Barangays Maoyod, Binanuahan West, Victory Village South, Arimbay, and Sabang. They were nominated by the Office of the City Environment and Natural Resources (OCENR) to be one of its partner barangays to form an organization for the HOCCI Project. LCRA was developed into a social enterprise with the aim of becoming sustainable by reinvesting a large percentage of the profits to reduce marine plastic litter. The founding members are mostly women barangay volunteers. Their identified 3Rs social enterprise project is operating a zero-waste refilling store.

## **E. Manila City**

### ***Barangay 412 Women Waste Warriors (3Ws)***

The 3Ws is a CBO composed of women residents from Barangay 412 in Legarda, Manila who have been involved with activities related to solid waste management, particularly the 3Rs or, reduce, reuse, and recycle. 3Ws was already formed before the start of HOCCI Project and has been a consistent winner in the different activities of the City of Manila in relation to solid waste management. With the recommendation of Manila City Department of Public Service (DPS), HOCCI Project partnered with 3Ws to increase consumer preference for reusable and upcycled products over single-use and

traditional plastic items in the City of Manila by 30% by the end of the project through the redesign of diapers & feminine pads, shopping bags, and planting pots.

#### ***Tagumpay 83Zero Waste Association (TEZWA)***

TEZWA is also a women-led community organization which was also formed before the HOCCI Project. The organization consists of residents of Barangay 830 in Nagtahan, Paco, Manila. They are barangay volunteers, Street Sweepers, Estero Rangers, Barangay Health Workers, ambulant vendors also known as “Bio-man” and Eco Patrol, retired members of the Presidential guards, and some barangay officials. Their goal is to reduce plastic marine liters in the water surrounding the barangay and other liters in the area as well. The HOCCI Project, with assistance from Manila City’s Department of Public Services, partnered with TEZWA in putting up a community junk shop to improve resource efficiency in Barangay 830, Zone 90, Manila by 50% or 23.90 tons by the end of the project through the recovery and diversion of community recyclables. The organization also sews cloth diapers as part of their social and sustainable enterprise project.

#### **F. Ormoc City**

##### ***Mas-Green Eco-Waste Pickers Association (MEPA)***

The MEPA are stationed in the Sanitary Landfill of Ormoc City in Barangay Green Valley. The organization is composed of the current informal waste pickers supported by the local government unit to operate waste recovery in the sanitary landfill. MEPA, through assistance from Ormoc City ENRO and HOCCI Project, was organized into a formal people’s organization focused on upcycling solid waste. They will be producing eco-bricks containing pulverized used glass bottles that will be initially supplied in the civil work projects of the city government.

##### ***Naungan Fisherfolks Association (NAFIAS)***

NAFIAS was first an organization of fisherfolks in the Barangay Naungan. The team is reactivated and aside from the fisherfolk, it is now also composed of housewives and other members of barangay Naungan. They were recreated with the help of the Ormoc City ENRO and UN Habitat HOCCI Project in the year 2021 to solve the garbage problem in Barangay Naungan. Since Barangay Naungan is one of the barangays that catches the garbage caused by calamities or typhoons, the garbage gets scattered on the shores and in the rivers. NAFIAS aims to reduce waste through its Zero-Waste Refilling Store, which sells common household products free of plastic packaging. They also divert plastic waste by recycling it into usable products like eco-bags.

##### ***Solid Waste Workers Association of Barangay Ipil (SWWABI)***

SWWABI is a community-based organization composed of fisherfolk and housewives of Barangay Ipil. They aim to earn an additional livelihood while taking care of the environment by waste recovery and advocating a zero-waste lifestyle in their community. The group addresses environmental and social challenges in the community, particularly the problem of plastic waste and the lack of livelihood opportunities. Their main 3Rs social enterprise project includes supplying shredded plastics for the eco-brick making of MEPA. They also have a refilling station/store of commonly fast-moving commodities/goods such as shampoos and soaps, that intends to reduce consumption in sachet packaging.

#### **Best Practices on 3Rs + 1**

In order to keep as much material out of landfills and most importantly out of our bodies of water, the CBOs and POs were assisted to come up with their own social enterprise projects using the 3Rs +1 of waste management — Reduce, Reuse, Recycle, and Recover. These four ways of managing waste are all interconnected and are also in the core foundation of a waste-free, circular economy.

## **Reduce**

The best way to manage waste is to not produce any -this is what the reduction or avoidance/ refusal highlights. It aims to stop the waste problem by reducing consumption at the source. This is what women in Manila, Calapan and Legazpi have identified in one of their social enterprise products. TEZWA and 3Ws of Manila have witnessed that there is a lot of waste generated from hygiene products, and often they are the ones which cannot be recycled. They have recognized that by making reusable sanitary pads and diapers made of recycled clothes, there will be a decrease and possibly avoidance for people to buy disposables. This is also the case for women members of CCAPI in Calapan. They have observed that people are so accustomed to using plastic bags especially in the wet market, groceries and sari-sari stores. These plastic bags always end up in the landfill, that's why CCAPI women members proposed to weave bags made out of *burí* palm leaves. They are using natural resource material since *burí* trees are native species in Calapan and a lot of them can be found in Calapan City's sanitary landfill. Barangay Dap-Dap Ecopreneurs Association (DEA) of Legazpi on the other hand also identified crafting and selling eco-bags as a substitute for plastic bags.

## **Reuse**

The NAFIAS and SWWABI of Ormoc, and LCRA or Legazpi have all come up with a zero-waste refilling store. They sell house cleaning products and hygiene products such as detergent, dishwashing soap, and shampoo. By taking used plastic bottles which might otherwise be thrown away, they find a new use for them as containers for their products. Also by giving a discount for customers who bring their own used bottle containers, they encourage and create a habit among people to create a new use for plastic, and reuse these goods as much as possible to give them a longer life rather than just throwing it right away. Aside from cleaning products, LCRA also sells kitchen condiments such as salt and sugar. This way of reusing plastic bottles also contributes to the first R of waste management which is reducing the use of plastic waste. The same goes with reducing people's usage of disposable hygiene products by buying reusable sanitary pads, diapers and eco bags of 3Ws, CCAPI and DEA.

## **Recycle**

Recycling, the most popular among the ways to manage waste, is the process of remanufacturing discarded materials to be sold as new products while avoiding usage of brand new materials. The usual materials that are recycled are paper, plastic, glass, and cardboard but there are more other items which can be manufactured such as cloth. The eco bags of CCAPI and DEA are examples of recycled materials. It could be noticed that there are many recycled products which can also contribute to the other 3Rs of waste management.

Other social enterprise products being developed through recycling are the ecopots from TEZWA of Manila and Eco Negosyo of Legazpi City which are made from used PET bottles. Production of eco bricks mixed with pulverized glass and shredded plastic on the other hand, are some of the identified products of CCAPI of Calapan, Bantay Dagat of Davao and MEPA of Ormoc. These eco bricks will be first sold to their respective city governments to make school and city street pavements and will later on be made commercially available.

## **Recovery and Segregated Collection**

Having reduced, reuse and recycled plastic waste, it is critical to recover waste. Recovery is the process of giving value to a material believed to be a waste. This allows waste to still be useful by transforming it into another resource. It also further reduces the amount of garbage in landfills as well as polluting gasses and liquids derived from its accumulation.

Waste segregation on the other hand is an important component in the waste management as it improves the recycling process. Unfortunately, it is not normally practiced in the country and receives little attention, when in fact, segregated waste allows us to effectively manage and complete the waste management chain by separating waste from the source. This is being tried to be addressed by partner CBOs and POs through their waste segregation projects such as the MRF Cooperative in Cagayan de Oro, community junk shops of TEZWA and CCAPI. The redemption centers in identified barangays in Calapan City is also an example of segregated collection wherein people can surrender their collected single-use plastics in barangay halls as exchange for goods such as rice. These single-use plastics are then recycled to produce products such as pillows.

### **Organization and Engagement Process**

The process of organizing the CBOs and POs differ per organization in a way or two, but generally follow the common procedures set by the national and local government which are necessary to be considered legal and accredited entities. The HOCCI Project began the procedure by getting recommendations of organizations from HOCCI partner cities, using a set of criteria. Communication with partner cities and CBOs and POs happened during the pandemic lockdown, thus done through a series of online meetings.

It is important to note that some CBOs and POs are already existing and functioning even before the implementation of the HOCCI Project. These are MRF Coop of Cagayan de Oro, Bantay Dagat of Davao, and the 3Ws and TEZWA of Manila. The rest were organized for the HOCCI project through the guidance of each city environment offices of partner cities.

A round of site visits, and data and situational assessments were held across all 6 project cities to interview all the recommended groups, check their areas and determine what kind of capacities were existing to be able to tailor-fit the strategies and activities to be implemented for each CBO and PO.

After the assessments, drafting, review and signing of Memorandum of Agreement (MOA) and Agreement of Cooperation (AoC) for the grant took place for the CBOs and POs that are under the direct guidance of the LGUs. On the other hand, the timelines for city partner Manila and Davao were not possible, thus the signing of Community Agreements with 3Ws, TEZWA of Manila and Bantay Dagat of Davao was done instead.

The organizational formation of new CBOs and POs came right after - including drafting and approval of their mission, vision, constitution and by-laws, as well as election of officers. This was assisted by the HOCCI Project Team as well as respective City ENRO staff. Those with existing organization documents were revisited and updated to align their mission and vision in accordance to their updated goals. Afterwards, a series of strategic planning with the chosen CBOs and POs were organized to determine the right plastic 3Rs project that they will venture on. These strategic planning workshops were held online due to limited mobility, but nevertheless, determining the appropriate 3Rs project with the CBOs and POs were thoroughly assessed and consulted amongst members of CBOs and POs.

The crucial part of organizing the CBOs and POs was establishing their legal identities. Since the world was in the midst of a pandemic when it was all being processed, it was not easy to secure documentary requirements for registration with the Department of Labor & Employment (DOLE), Securities & Exchange Commission (SEC), Bureau of Internal Revenue (BIR) , and Department of Trade & Industry (DTI). Nonetheless, one to two registration certificates from the abovementioned NGAs were approved for every POs and CBOs. The registration under these agencies signifies that they are now legal organizations, allowed to operate as social enterprise entities. It also allows them to have access to different capacity building activities organized by any of these NGAs.

Even the LGU accreditation took time for other CBOs and POs to have because of the requirement to be an existing organization for a year. Once accredited, CBOs and POs undergo committee sessions with the *Sangguniang Panlungsod (SP)*, regularly monitored by the SP committee and they are required to submit reports on their activities and accomplishments. Also, accreditation by LGUs grants them a seat in the Local Development Council; to allow their voices to be heard and so that engagement with LGU is strengthened. All of the CBOs and POs are now accredited by their respective LGUs.

All these accreditation procedures happened while the new CBOs and POs were simultaneously opening their bank accounts. With the help of the City Coordinators and City ENRO staff from each city, they were able to open bank accounts in preparation to receive their seed grant from the HOCCI Project.

The completion of documentary requirements to acquire legal identities indeed took some time due to the pandemic and also to the fact that these processes are still foreign to these newly-formed organizations. While all of the administrative work was up and running, HOCCI Project started organizing workshops to equip the CBOs and POs with the necessary knowledge and skill set for the over-all operations of their social enterprises. Some of the financial and operational development skills given to CBOs and POs are as follows:

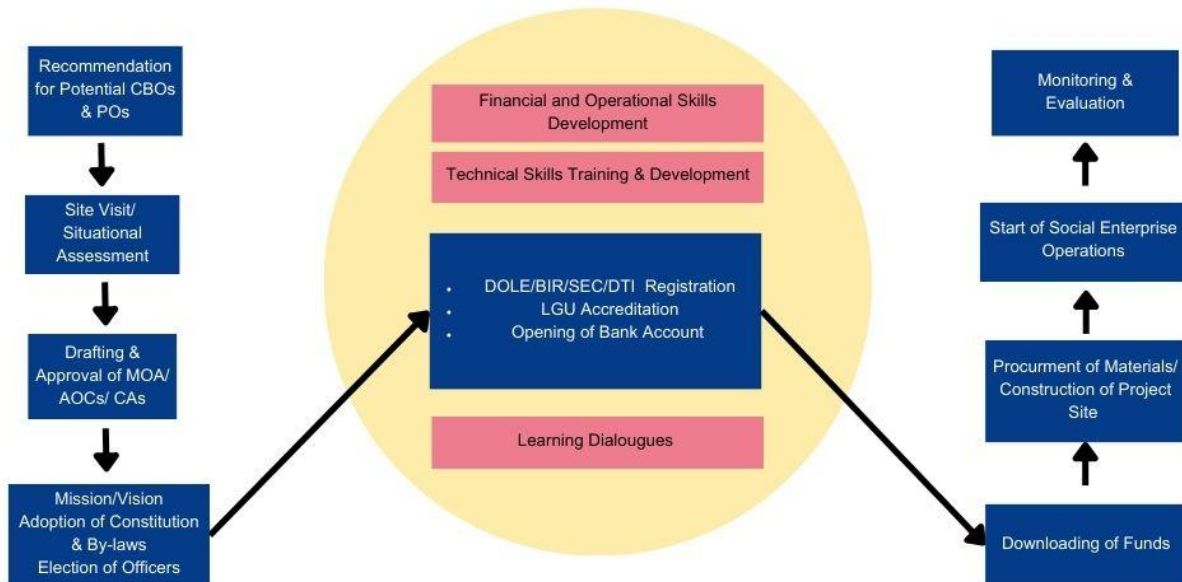
- Strategic Planning Workshop
- Social Enterprise Development Plan
- Social Enterprises: City Stakeholders Matching Session
- Pricing and Budgeting Training -Workshop
- Financial Management and Internal Control Training
- Procurement Training
- Coaching and Mentoring on Community Agreement/AoC training
- Workshop Social Enterprise Plan Development and Bookkeeping
- Coaching and Mentoring Financial Management
- Session on Organizational Development

The CBOs and POS were also trained on technical concepts and skills which were crucial in enhancing their knowledge and skills, as well as in improving their identified social enterprise products and services. They were also requested and sponsored to present in national and international learning dialogues and exchanges to highlight and share their efforts as a community in solving the problem in marine litter

- Circular Economy,
- Consultation on Extended Producer's Responsibility (EPR)
- Dialogue / Presentation on Plastics Circularity (Virtual Meeting)
- World Cities Day – Marine Litter Learning Exchange
- Waste Diversion Data Management for Local Extended Producer Responsibility Readiness
- Training/Workshop Junk Shop Operations
- Asia Pacific Forum on Sustainable Development (APFSD) in Bangkok, Thailand

While they participate in workshops, skills training and learning events, the HOCCI Project and city partners continue to assist them in their preparations to fully operate as social enterprises. Seed funds were downloaded to their bank accounts, while observing the right financial protocols they learned in the financial management workshop. Construction of their work stations began, and using the knowledge they gained from the procurement workshop, they were also able to procure the needed equipment and vehicle for them to begin business operations. Meetings for market identification to secure potential clients were also done to ensure that their products will later on be sold even outside their localities.

Once the social enterprises are up and running, it is important to establish a system of monitoring to keep track of the CBOs and POs progress and to evaluate if there is a need for further support in terms of market expansion, product quality, or business operations as a whole. One good example of this is the requirement of LGU for CBOs and POs to submit accomplishment reports.



## CBO/PO Organization Process

Diagram 1. Flow Chart of CBO/PO Organization

### Challenges and Overcoming Bottlenecks on Community Engagement

Community-based participation is a bottom-up approach recognizing members of the community as active participants and resource managers that play a vital role in discussion and organization of ideas and policies. While it is vital to better understand the actual ground realities of issues, a lack of understanding and awareness in the community can proliferate negative practices and effects. This can be remedied through awareness-raising programs but may take time for community integration.

### Lack of Regulatory Policies for Informal Enterprise Sector

Since informal enterprises are often unregistered, they are vulnerable to competition and exploitation. Lack of participatory programs addressing solid waste management can also be a hurdle. Women also tend to earn less and get paid lower rates compared to their male counterparts. Lack of regulatory policies, including occupation and health risks, are some of the bottlenecks in waste management's informal sector. This is remedied by partnership with the local government units, and with sector organizations and NGOs that help strengthen the informal waste sector.

## **Band-aid solutions over Sustainability**

Another bottleneck is preference of government units for short-term solutions over long-term planning. Given that community involvement requires allocating time and effort for understanding the context of a locality, and increasing community awareness, other means are preferred over local investments. However, community engagement is one way to ensure sustainability of efforts. In essence, if done properly with continuous monitoring and evaluation, it is one of the most cost-effective measures that LGUs can embark on. At the end of the day, a critical factor in the success of such efforts is societal and political support.

The choice for short-term projects over sustainable livelihood solutions can also be observed from the members of CBOs and POs since members of these groups mostly are minimum wage income earners. They tend to put their interest in easy but short or unsustainable sources of livelihood that will give them quick income to feed their families. This is where community organization plays a crucial role to play by allowing CBO/PO members to gain a new perspective. They were made aware that investing in long-term and sustainable solutions allows them to have a source of income/ livelihood that will not fall short and could provide them sustenance for the long run.

## **Limited Timeframe**

In the limited timeframe the HOCCI Project currently has, the project's potential for developing additional livelihood opportunities, infrastructure, and extending its reach to coastal barangays is constrained. With more time, the project could diversify livelihoods, construct essential facilities, and empower coastal communities. However, the current time constraints necessitate a focus on maximizing impact within our existing scope. It underscores the importance of efficiency, prioritization, and strategic resource allocation to make the most of the opportunities available within the project's current parameters.

## **Global Lockdown due to Covid-19 Pandemic**

To add, the Covid-19 pandemic also brought serious challenges to the formation of the CBOs and POs. It affected a lot of entrepreneurial activities, with others closing and declaring bankruptcy due to a global lockdown, which somehow made some CBOs and POs lax or even discouraged to venture in a social enterprise. It was a sudden shift on how businesses and other transactions were done with limited mobility and demand decline for goods and services. Since everything shifted online, government offices closed, making it hard to transact with them for needed permits and other documentary requirements in putting up a social enterprise. There was also limited connectivity to reach out to POs and CBOs because most of the members and officers have limited to no social media interactions, making it hard to link with them in a timely manner. Aside from all of this, the health risks posed by the pandemic was a serious matter which was to be taken seriously. With all of these, our partner cities together with our city coordinators innovated to provide assistance to CBOs and POs while in the midst of pandemic. They engaged the members of CBOs and POs in a series of online planning and learning workshops while waiting for government services to resume. The HOCCI Project made use of the lockdown period to assess organizational needs and identify potential social enterprise products of each POs and CBOs.

## **Shift from Informal to Formal Enterprise**

Since most of the CBOs and POs were freshly formed, they have little to no prior knowledge on how their organizations should be legalized to create more investments and opportunities for them, while adhering to laws in running a social enterprise. The process of acquiring permits and legal identities, setting up bank accounts are all foreign for most of them. The shift from informal to formal economy was seen as one of the hardships of engaging communities, On the onset, benefits that can be derived

from a shift from an informal to semi- or formal economy, were not clear with the CBOs and POs, but this is where the assistance of LGU and HOCCI City Coordinators were highlighted. Their support in every step of legalizing the CBO's and POs has proved to be very successful for these organizations to secure their registrations in DOLE, SEC, DTI and LGU accreditation.

It is worth noting that making this shift has a high acceptance among CBOs/POs after a series of meetings and discussions focusing on the positive benefits the HOCCI Project will bring to their livelihood and communities. The groups acknowledge the importance of the local governments recognizing their work and contribution and as such, they are aware of the potential for more livelihood or income. This can be through attracting more clients to their products or diversifying or upgrading their skills and offers. Another is that when CBOs/POs are legal entities, they can be tapped by formal organizations, government agencies and legal businesses as partners in various programs or projects. As formal groups, the opportunity to access grants and funds also increase. Furthermore, legalized entities can have access to formal training from agencies such as DOLE and DTI, as well as other institutional partners and the private sector.

### **Lack of Technical Knowledge in Running a Registered Enterprise**

One challenge also observed to be similar across CBOs and POs is on the management side of running a social enterprise. The creation of their internal legal documents such as the constitution and by-laws, holding general assemblies and scheduled board meetings, election of officers and board of directors and approving board resolutions were all new to most of them. Little by little, the CBOs and POs were assisted in crafting their internal documents with the help of LGUs through their City Environment and Natural Resources Offices (ENROs). Workshops in vernacular were done for them to be able to get the gist of how management decisions are made and approved through a formal and recorded process.

Building their capacities and knowledge on the operational and financial side of managing their enterprises was also very crucial since the project involves financial grants which should be managed and recorded properly. HOCCI Project, through the help of City ENROs organized a series of procurement and financial management workshops for them to grasp the right knowledge on responsible and honest procurement and financial recording. This included hands-on training on procuring their own materials for their respective offices - knowing which forms to complete and the order of approval, up to efficient recording of every procurement and financial transaction.

### **Organizational Management**

With the task of managing a social enterprise comes the organizational challenge of dealing with people with different self-identities, values, and goals. This challenge has been voiced out by some CBOs and POs who had to deal with indifferences amongst some of its officers and members. As a normal circumstance to any organization, especially on newly formed ones, conflicts and indifference are unavoidable but can be addressed. HOCCI Project organized sessions on organizational communication and management as well as team building activities to foster harmony and synergy in some CBOs and POs for them to understand the nature of every individual in an organization and to properly communicate and address concerns for it to not result in bigger conflicts.

Considering the HOCCI experience in capacitating communities, women and informal waste pickers, as well as in acquiring a legal identity for these groups, a shift will no doubt be a time-consuming endeavor. However, the above mentioned results show that efforts toward this direction can far outweigh the challenges.

## **Lessons and Opportunities**

### **Impact of informal economy in reducing solid waste**

A study made by GIZ on solid waste management identified that the boundary of recycling between the formal and informal sectors is not always clear. Looking at its activities, the informal sector is seen to primarily work in recycling and recovery of valuable materials. The informal sector has lower revenues from materials due to a much lower cost per ton compared to their formal counterparts. Through the help of the informal economy, formal authorities save a great amount of money for reducing the need for formal collection, transportation, and disposal. The GIZ study found that Quezon City avoided 3.4 million euros worth of collection costs. The informal economy efforts also lead to environmental benefits, assisting in reaching recycling targets and saving valuable landfill space. With reliance on human capital and energy rather than motorized transport, informal recovery also contributes better in reduced fossil fuel energy.

### **Impact on having plastic 3Rs-based enterprise as a model helped individual members**

Economic benefits are some of the things that must be accounted for given that financial constraints are a limiting factor. The promotion of a 3R-based enterprise model has aided in the reduction of trade barriers to the flow of goods and materials. Involvement of the informal sector has significantly contributed to higher recycling rates. Recycled materials including eco-projects have also generated additional revenue. Improvement of waste segregation through the 3Rs have improved link between middle dealers and itinerant buyers thereby providing funding assistance for the informal sector. Profitability of initiatives is one of the significant factors to sustain efforts.

### **How empowering CBOs and POs boost local economy and women empowerment**

The CBO and PO members, who were once scavengers themselves, have a deep understanding of their community's needs and waste management challenges. Their sense of passion and involvement in addressing these challenges makes them effective advocates and agents of change. The transition from scavenging to meaningful employment within the waste management sector highlights the potential for creating sustainable livelihoods through community engagement initiatives. Other organizations and LGUs can replicate this model by offering skill development and training programs to improve the economic prospects of marginalized groups.

The augmentation of skills and training and livelihood opportunities is merely a profound mechanism for their social transformation. By dedicating more time to the cultivation of diverse livelihood avenues, they inherently diversify income streams, rendering local economies more resilient and less vulnerable to economic shocks. Moreover, this diversification is intrinsically linked to poverty alleviation, enhancing the overall quality of life for CBOs and POs and reducing disparities in income distribution. Empowering CBOs and POs by making them access grants and supporting them in their social enterprises increases economic activity and employment in their respective localities.

It also empowers women in the waste sector by giving them options and opportunities to diversify their skills and trade, and to lead community groups. As observed through the process of mobilizing communities, women often take the lead in coming up with innovations on their identified products and strategies to manage their schedules, all while attending to their families, work, and the social enterprise. They are also often the ones to step up and remedy any miscommunications in their respective organizations. These are all possible when women are provided with the right platform to exercise their skills and talent.

## **How data from CBOs and POs aids local to national policy**

While CBO and POs through the waste management's informal sector show a lot of potential in boosting the local economy, government entities must formally recognize and treat them as key actors before conditions can improve. Policies that facilitate better integration of the informal sector may lead to an increase in material recovery. Given that the profile of informal workers often falls among the socially disadvantaged groups, interventions and policies must consider these circumstances to avoid unexpected negative impacts. One of the ways this can be done is through establishing light regulations that create instruments that work for informal workers without requiring things they may not necessarily have (such as street address, etc.). One example of this is the Quezon City model which is an acceptance of informal activities where informal junk shops may receive authorization to operate as MRFs, giving them channels to private recycling businesses which benefit both the junk shop and the city.

Creating sustainable action plans anchored on community needs analysis also helps craft better local and national policies. Community involvement allows for practices and policies that are contextualized to the realities and needs of local communities.

## **Ensuring Sustainability of CBOs and POs**

With the important role of CBOs and POs, the response of government entities on the call to support them and their stakeholders should be anchored on a holistic understanding of their strengths, gaps, and opportunities. Knowledge of the factors that can influence sustainability (ex. socio-political factors such as the existence of champions, political will, leadership competence, etc) would help policymakers, practitioners, and other stakeholders alike.

Effective programs entail that sustainability is addressed in the planning to realize positive impacts in the long term. LGUs can, for example, support CBOs and POs by forming working groups that will effectively collaborate with the organizations. Capacity building and Technical Skills building are areas that government entities can work on together with CBOs and POs, for example, on conducting baseline assessments, delivering toolkits, reporting and M&E, organizational management, and program funding to name a few. These efforts were made fruitful in the case of HOCCI Project because of an established partnership through a Memorandum of Understanding with City Partners which outlines the continued support and monitoring of partnered CBOs and POs in managing their social enterprises.

Partnership with the private sector and continuous look out for possible markets for these social enterprises are also vital to keep their businesses running. This provides a direct and positive impact to the local economy. In the heart of ensuring sustainability, inclusion in knowledge building, environmental management and policy making of these societal groups are very important to continuously improve the waste management sector of every locality and for them to really feel that they are not left behind, rather, they are the ones on the front line on reducing marine litter. They, together with the rest of us, share the responsibility in protecting our land and seas and managing our country's solid waste, and therefore also share each and every progress we achieve towards marine litter reduction.

**Sources:**

EPR Scheme Assessment for Plastic Packaging Waste in the Philippines. Published by WWF-Philippines, October 2020.

World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC.

UN Habitat 2022. Leaving no one behind: How a global instrument to end plastic pollution can enable a just transition for the people informally collecting and recovering waste. United Nations Human Settlements Programme (UN-HABITAT) and Norwegian Institute for Water Research (NIVA)

Localizing MARine Litter Actions: An experience-based guide for city or municipal-level localization of the Philippine National Plan of Action on Marine Litter. *Vol. 1 Developing the City/Municipal Plan of Action on Marine Litter.*

Berger, D. (2016) Sustainable development and community mobilization - moving through failure towards success. Experiences and revelations from three years in Zambia. Central and Eastern European Journal of Management and Economics Vol. 4, No. 1, 41-61.

Mitchell-Foster et al (2015) Integrating participatory community mobilization processes to improve dengue prevention: an eco-bio-social scaling up of local success in Machala, Ecuador. *Trans R Soc Trop Med Hyg*; 109: 126–133.

Scheinberg, A., Simpson, Ms. Gupta, Y. et al (2010) Economic Aspects of the Informal Sector in Solid Waste Management. GTZ and CWG, Eschborn, Germany.

Wynne, A et al (2018) A community-based approach to solid waste management for riverine and coastal resource sustainability in the Philippines. *Ocean & Coastal Management*, Vol. 151, 36-44.

Chiu, A. (2010) The 3Rs and Poverty Reduction in Developing Countries: Lessons from Implementation of Ecological Solid Waste Management in the Philippines. Asia Resource Circulation Policy Research Working Paper Series. Institute for Global Environmental Strategies (IGES).