WWF

ANGAT BUHAY

The Incubation Network

Center for Women's and Gender Studies
UNIVERSITY OF THE PHILIPPINES

Research Assessment on the Attitudes and Motivations of Women in Waste

© LGU of Barugo, Leyte

01 INTRODUCTION

The World Wide Fund for Nature (WWF) is implementing the No Plastics in Nature initiative - a global movement with stakeholders to stop plastic pollution by 2030. Under this initiative, WWF has been pushing for policies such as the global treaty on plastic pollution and Extended Producer Responsibility (EPR), implementing solutions with cities and communities for reducing plastic waste leakage, working for circular business models, and facilitating public participation in stopping plastic pollution. In implementing plastics projects, WWF observed the gender norms interlinked in the entire plastic value chain.

For plastic waste generation, WWF observed that women tend to take accountability for the volume of wastes in their household as they often do the shopping. Contributing to this thinking are the hygiene products particularly sanitary napkins and tampons that they need to purchase which they often refer to as waste hazards. This conscience of plastic waste generation often builds the responsibility for them to implement measures to reduce, reuse, and recycle plastic wastes. It has been observed that women would be seen reusing plastics in their households and bringing in these reusable containers as they buy their necessities. They would lead on any segregation at home to facilitate any recovery while men help in handing the wastes to the garbage collectors.

WWF has also observed this at the community level. Women are mostly active in plastic waste management programs such as ensuring roads are clean, improving the collection system in their community, and in upcycling plastic wastes into products. They often feel obligated to extend their household responsibility to the community as they feel that there might be no other groups who would be willing to do so. This is in addition to the fact that participating in these programs can be an opportunity to increase their household income.

These observations from women on the plastic value chain have the capacity to put pressure on how they are expected to behave in the system. Women may always be expected to take the lead in household waste segregation, reduction, reuse, and facilitating recycling whenever possible. Women may be expected to know how to segregate plastic wastes properly and programs that help with recovery and recycling. Lastly, upcycling may be seen as a “women thing” which may affect participation of men. The question lies on whether women agree on these expectations - which is the focus of this research.

WWF, together with the University of the Philippines Center for Women and Gender Studies (UP-CWGS), wants to assess the acceptance level of women in their roles in the plastic value chain. This research builds on women’s perception of their plastic use, consumption, and in practicing the reduce, reuse, and recycle principle. Moreover, it looks at how women perceive their capacity and role in the plastic value chain, and their expectations from other stakeholders in the plastic value chain. WWF aims to build on this research to drive actions of change through champions from the Plastic Smart Cities project and Angat Bayi program.

02 REVIEW OF RELATED LITERATURE

Plastic pollution is a transboundary problem that requires a comprehensive approach undertaken by all stakeholders in the plastics value chain. Under a business as usual scenario, it has been estimated that there will be an estimated 29 million tonnes, increasing the total stock of plastic in the oceans to 600 million tonnes (WWF & Dalberg, 2021). Further, WWF and Dalberg stated in the study that humanity now produces more than 200 million tonnes of plastic waste annually, of which more than 11 million tonnes of plastic enter the ocean every year.

In a 2015 modeling study by Dr. Jenna Jambeck, the Philippines has been ranked the 3rd plastic pollution emitter in the world. The country, together with four other countries including China, Vietnam, Indonesia, and Thailand, contribute 60% of the marine plastic pollution in the world. The Ocean Cleanup study in 2021 added that the Philippines is the largest contributing country to the plastic pollution with Pasig River as the most polluting river in the world. In a WWF study (2019), it has been estimated that the country consumes about 2.5 million tonnes of plastics or about 20 kg of plastic wastes per capita per year from which only 9% is recycled and 35% leaks into the open environment. Majority (62.6%) of these plastics re low-value (e.g. films, sachets, composites) which often end up in landfills or in the open environment. Low-density polyethylene (LDPE), found to be at least 51% - 65% of all plastics disposed of, is the most commonly used and prevalent plastic wastes. With only 9% of plastics recycled, this is a similar scenario for the high value plastics as there is limited capacity in the country for even high-value plastic recycling. Other challenges for increasing plastic recycling in the country include logistical requirements especially in an archipelagic country and the perceived competition with the informal recycling industry (World Bank Group, 2021).

The extent of plastic pollution has led to huge environmental, social, and economic impacts. More than 800 marine species are directly threatened by plastic pollution with plastic entanglement, ingestion, and habitat destruction (WWF, 2020). It has been estimated that at least a thousand marine turtles die every year due to plastic waste entanglement. There have also been documented plastic ingestion from birds which kills them like other animal species with ingested plastics. Apart from macroplastics, microplastic pollution has been a threat to our ecological balance. A study by the Alfred Wegener Institute Helmholtz Center for Polar and Marine research conducted for WWF, predicted that the volume of marine microplastics could increase by 50-fold by 2040 which can result in an ecologically dangerous threshold for an area the size of 2.5 times Greenland. This state can affect species and ecosystems including decrease in population. Apart from its biodiversity impact, plastic is responsible for generating 1.8 billion tonnes of GHG emissions per year thus contributing to the worsening climate change.

From a social perspective, the production, incineration, and open burning of plastic polymers release chemical pollutants that pose a significant threat to human health especially to those living in communities where these are located - mostly in low income to marginalized communities. Human plastics ingestion is also seen possible with our food consumption - seafood intake and even bottled water with microplastic contamination. A WWF study estimated that humans may be ingesting at least 5 grams of plastics per week which is equivalent to a credit card.

Economically, plastic pollution has incurred significant costs. It has been estimated that governments, non-government organizations, and the general public have been spending US$15 billion per year from clean-up activities (Wegener Institute and WWF, 2022). Plastic pollution also impacted sectors such as the tourism, fishing, and aquaculture which drove huge economic costs in the gross domestic product (GDP) reductions estimated at US$7 billion for 2018 alone. The World Bank Group (2021) market study in the Philippines showed that structural challenges for plastics recycling led to a plastic material value loss of USD 790-890 million per year.

Addressing these problems, various stakeholders have taken accountability and actions to stop plastic pollution. At a global level, countries have revisited their solid waste management system as China closed its recycling industry for foreign plastic wastes. This has been supported in the Basel Convention wherein consent from recipient countries is required prior to shipping

plastic wastes. There has been a global movement in pushing for a global treaty that aims to put accountability among counties in this transboundary problem - plastic pollution.

At the national level, the Philippine Government led by the Department of Environment and Natural Resources - Environmental Management Bureau (DENR - EMB) has adopted a National Plan of Action on Marine Litter (NPOA-ML) that provides a blueprint to enhance the current efforts of the country in resource and waste management and to bring additional lens to marine litter issues and the control of additional leakage of waste into bodies of water.. The next phase for the NPOA-ML is the creation of operational plans to implement the identified strategies with the concerned stakeholders.

Businesses have started setting targets on reducing plastic polymer content in their products, redesigning packaging for recycling, recovery, and recycling plastics. Examples for reducing plastic content can include Nestle's shift to paper straws and Nutri Asia's implementation of refilling stations. On the other hand, Unilever has implemented a buy back scheme program wherein they exchange plastic sachets with their products. Coca-Cola, on another hand, has changed their Sprite packaging to transparent to facilitate its recycling and has an ongoing development of a PET recycling facility in Cavite, Philippines.

Local Government Units (LGUs) have been at the forefront as they implement the Republic Act 9003 or the Ecological Solid Waste Management Act where LGUs are mandated to draft a 10-year solid waste management plan and implement measures with local stakeholders to achieve at least 25% waste diversion (or those that do not end up in landfills). Interventions often include public awareness campaigns, improving the Materials Recovery Facility (MRF) and Sanitary Landfill (SLF), and in providing livelihood opportunities for communities.

WASTE AND WOMEN

Environmental behaviors often serve as an impetus for determining green consumption practices (Zhao et al., 2021), with women endorsing stronger pro-environmental attitudes than men. Aruta (2021) observed that women tend to exhibit greater willingness to reduce plastic consumption whether or not there was any external social influence. On the other hand, men's motivations are often a factor in witnessing others engage in plastic reduction.

Empathic responses likely shape differences in environmental attitudes between the two genders. Perceptions may be a cause of social functioning and normative structures (Arnocky & Stroink, 2010; Milfont et al., 2013). In other words, implicit common stereotypes of women having nurturing qualities allegedly drive inherent environmental and social altruistic values (Arnocky & Stroink, 2010; Milfont & Sibley, 2016; Zhao et al., 2021). For instance, Madigele et al. (2017) and Escario et al. (2020) observed that women exhibit higher plastic waste awareness because they tend to do the grocery shopping in the household. Banga (2011) and Setiawan (2020) also cited the frequency of women engaging in household waste disposal influences their perceptions.

Access to different information channels also greatly influence women's levels of awareness. Television programs, advertisements, and other forms of media tend to impact women's attitudes towards proper solid waste management (Almasi et al., 2019). These channels are often more accessible to middle- to higher-income households (Setiawan, 2020). Education is also a factor; women with advanced levels of schooling exhibit a greater understanding of pro-environmental values. They also tend to demonstrate behaviors on proper waste disposal (Jesevičiūtė-Ufartiene, 2019; Escario et al., 2020; Uma et al., 2020).

In practice, however, plastic and other non-biodegradable packaging remain largely a modern convenience. While not always the case (Jesevičiūtė-Ufartiene, 2019), higher-income individuals often forgo reusable shopping bags because they can afford to pay extra for plastic packaging (Dunn, 2012; Braun & Traore, 2015; Madigele et al., 2017). For lower-income women, such convenience comes at an expense. To keep up with the competitive market, vendors purchase plastic bags to satisfy consumers, even if this incurs additional financial strain (Braun & Traore, 2015). Other conveniences in women's general consumption patterns also provide challenges in applying at-source solid waste management practices. For instance, feminine hygiene products, such as sanitary napkins, are accessible and provide stronger protection (Ellis et al., 2016; Kaur et al., 2018). Other products that offer ease and

efficiency in conducting household chores are more favorable but can generate greater waste (Talalaj & Walery, 2015).

Proper solid waste practices can also only be afforded by communities that have sophisticated infrastructure and resources (Escario et al., 2020; Setiawan, 2020). Banga (2011) observed that individuals who can afford to pay for waste disposal services care less about segregation and recycling. In other areas, the lack of organized local government solid waste plans impedes women's participation (Almasi et al., 2019). Lower-income women often do not have access to proper waste disposal waste systems. They are also at an economic disadvantage to be able to access these systems in the first place. As a result, they often carry the burden of addressing waste pollution on their own. They tend to bear the expectations in making better consumer choices and averting the use of plastic and non-biodegradable products and packaging. Those who live on subsistence segregate waste as a form of livelihood, many of whom sell recyclables and used household materials to local scrap dealers (Banga, 2011).

The Ocean Conservancy, with the GA Circular (2019), found that women are less likely to be employed in the formal waste sector, except as street sweepers contracted by their local governments. However, it is common for women to also operate small junk shops and recycling businesses with their spouses. Filipina street sweepers cite the proximity to their homes as a primary reason for taking on such an occupation. Street sweeping does not require heavy lifting which, to them, also proves ideal. Filipina street sweepers also actively participate in collecting recyclables as means to earn supplemental income. In Tanzania and Zambia, street sweeping is also considered gendered labor. Women street sweepers are common because it is "light" and easily manageable (Foster et al., 2012).

Non-government organizations (NGOs) often engage women in alternative livelihood interventions that upcycle recyclables into trinkets and household products. These interventions, however, heavily rely on NGO funding and are not commonly large-scale (Ocean Conservancy & GA Circular, 2019).

Considering the labor and technical skills required to collect and process waste, employers in the formal waste sector largely prefer hiring men (Dias & Ogando, 2015; Ocean Conservancy & GA Circular, 2019), leaving women to deal with informal waste disposal and collection (Uma et al., 2020). The lack of safeguards further exposes women to greater health and safety risks, resulting in high incidence rates of respiratory illnesses (Dias & Ogando, 2015; Ocean Conservancy & GA Circular, 2019).

RESEARCH GAPS

Studies on plastics and gender displayed three3 overarching concepts including women's interlinked role with household care, their role in the plastics value chain, and perception of hazard in the waste sector. Women as an image for attending to their family's needs (e.g. housekeeping, child care, waste management) have been prevalent and sometimes limit their livelihood opportunities. Child care, for example, can limit women who want to work in sanitary landfills and recycling facilities as these waste management operators would not allow women to bring their children due to safety hazards. This image of women has been quite established, but there have been a limited number of studies on how women perceive these roles.

Another prominent concept would be women's role in the plastic value chain. There have been studies on women and their conditions, which mostly resembles for all gender, in the informal waste sector. Studies showed the need for providing social services to people in the waste sector due to the risk level in their work. Similarly, there have been studies on the roles women play when formally employed including a junk shop recorder or a segregator in a recycling facility. These show how women are assigned to detail-oriented work which may or may not be limiting for their capacity.

The last prominent concept revolves around health and safety risks that transcends across gender. Women and men may be impacted differently, but chemicals coming from plastics pose health risks which require them to protect themselves from possible exposure. Apart from chemical exposure, they are also at risk for any accidents especially for those working in waste management facilities. Women and men are exposed to these risks, but women would be impacted more when these unfortunate events happen as they still need to carry out household expectations.

Apart from the three overarching concepts, there are other factors that this research takes into account. It first looks at the impact of socioeconomic status in the way women perceive these expectations and role in waste management. Second, it will cover women both from rural and urban communities which have differing waste management systems. It has been observed that most research has been conducted in urban communities but not in rural areas where there are sometimes no informal waste sector and recycling facilities. Lastly, it will cover how women perceive the role of other stakeholders in addressing plastic pollution.

03 RESEARCH QUESTIONS

The main objective of the research was to determine the level of acceptability of women in their role in plastic waste reduction and recycling.

Specifically, this research aimed at answering the following questions

- HOW DO WOMEN PERCEIVE THEIR PLASTIC USE AND CONSUMPTION?
- WHAT DO WOMEN PERCEIVE AS THEIR ROLE/S IN PLASTIC WASTE REDUCTION, REUSE AND RECYCLING?
- HOW DO THEY PERCEIVE OTHER STAKEHOLDERS IN THE PLASTIC VALUE CHAIN AND THEIR ROLE/S?

04 METHODOLOGY

The project team administered an online survey through random sampling to at least 100 women in April 2022. The survey aimed to generate information on Filipino women's general knowledge, attitudes, and perceptions on plastic reduction and recycling. WWF-Philippines distributed the survey through its corporate partners, Magwayen Organics, Inc. (Magwai) and UNICA Hija, Inc. (Unica Hija), in an effort to limit the respondent base to environmentally-conscious consumers. A total of 170 respondents completed the survey; all but two identified as female, the other two preferred not to share their sex. Given that the survey is hosted online, it is reasonable to expect that many of the respondents are urban dwellers with sufficient access to the internet.

General responses from the survey formed the basis on the key informant interviews (KIIs) conducted in three (3) project sites; namely, Municipality of Barugo, Batangas City, and Cagayan de Oro City (CDO). WWF-Philippines and Angat Bayi conducted the KIIs in partnership with the local government offices of Barugo and Cagayan de Oro, and the Batangas State University.

Overall, 94 KII sheets were collected from the 3 project sites (32 from Batangas City, 32 from Barugo, and 30 from CDO). Key representatives from the following groups were invited to participate in the KIIs:

- STREET SWEEPERS;
- INFORMAL WASTE COLLECTORS (IWCS);
- LOCAL/BARANGAY GOVERNMENT EMPLOYEES;
- YOUTH SECTOR;
- JUNK SHOP OWNERS;
- HOUSEWIVES;
- BUSINESS OWNERS; AND
- LOCAL WOMEN'S ASSOCIATIONS

Focus Group Discussions (FGDs) were also conducted to representatives from the informal waste sector for further validation.

05 RESULTS AND DISCUSSION

ONLINE SURVEY

Respondent Demographic Profile

AGE	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
18 or younger	1	.6	.6	.6
19-25	20	11.8	11.8	12.4
26-41	116	68.2	68.2	80.6
42-57	33	19.4	19.4	100.0
Total	170	100.0	100.0	

Of the 170 respondents, 68.2% are clustered within the age range of 26-41 years old. Nineteen percent (19%) of the respondent base belongs to the 42–57-year-old age bracket. Respondents from the age of 25 years old below comprise 12.4%.

EDUCATIONAL ATTAINMENT	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
College graduate	60	35.3	35.3	35.3
College undergraduate	65	38.2	38.2	73.5
High school graduate	32	18.8	18.8	92.4
High school undergraduate	3	1.8	1.8	94.1
Master's degree	1	.6	.6	94.7
Others	2	1.2	1.2	.95.9
Professional degree	2	1.2	1.2	97.1
Vocational training	5	2.9	2.9	100.0
Total	170	100.0	100.0	

Seventy-three percent (73.5%) of the respondents have at least received college education, of which 48% completed their undergraduate degrees. Almost twenty percent (18.8%) of the respondents have completed their high school education, while the rest of the respondents have attained a professional or graduate degree or a vocational training certificate.

EMPLOYMENT STATUS	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
Employed	162	95.3	95.3	95.3
Homemaker/Stay-at-home parent	1	.6	.6	95.9
Other	2	1.2	1.2	97.1
Part-time work	1	.6	.6	97.6
Self-employed/Freelance	1	.6	.6	98.2
Student	3	1.8	1.8	100.0
Total	170	100.0	100.0	

Ninety-five percent (95%) of the respondents are employed while others are engaged in part-time (0.6%), freelance (0.6%), or other forms of work (1.2%).

LOCATION	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
CAR	4	2.4	2.4	2.4
NCR	88	51.8	51.8	54.1
Region 1	4	2.4	2.4	56.5
Region 13	1	.6	.6	57.1
Region 2	12	7.1	7.1	64.1
Region 3	2	1.2	1.2	65.3
Region 4A	45	26.5	26.5	91.8
Region 5	2	1.2	1.2	92.9
Region 6	11	6.5	6.5	99.4
Region 7	1	.6	.6	100.0
Total	170	100.0	100.0	

Almost fifty-two percent (51.8%) of the respondents are based in the National Capital Region (NCR), while 26.5% are from Region 4-A CALABARZON (Cavite, Laguna, Batangas, Rizal, and Quezon Region). The rest of the respondents are scattered across Cordillera Administrative Region (CAR), Regions 1, 2, 5, 6, 7, and 13.

	N	RANGE	MIN	MAX	MEAN	STANDARD DEVIATION	VARIANCE
AGE	170	3	1	4	3.06	.577	.333
EDUCATION	170	7	1	8	2.17	1.480	2.190
EMPLOYMENT	170	5	1	6	1.16	.787	.620
LOCATION	170	9	1	10	4.16	2.615	6.837

Using the IBM SPSS Statistics Software®, the variables in the categories, Age Range, Educational Attainment, Employment, and Location, were re-coded into numerical data to conduct a descriptive analysis on the sampling range of the survey. The software was also used to assess the demographic profiles in relation to their preferred types of packaging and their reasons for segregation.

The low standard deviation and variance values for both the age range (Standard Deviation: 0.577; Variance: 0.333) and the employment status (Standard Deviation: 0.787; Variance: 0.620) indicate that there is a limited sampling range across these categories. The location of respondents, on the other hand, tallies spread-out values (Standard Deviation: 2.615; Variance: 6.837) signifying that the survey managed to cover respondents from different regions of the country. However, it must be noted that more than half of the respondents are located in NCR, which responses do not necessarily reflect nor suppose similar responses for the other regions. The same can be said for the respondents' education profiles, where the majority are clustered within high school graduate, college undergraduate, and college graduate levels. An extensive survey analysis, with an equal distribution on the number of sample respondents across the different regions, may present a more comprehensive understanding in the evidence on any response patterns, where relevant.

Consumption behaviors

DECISION ON CONSUMPTION	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
Self	109	64.1	64.1	64.1
With Partner	9	5.3	5.3	69.4
With Husband	9	5.3	5.3	74.7
Wife	2	1.2	1.2	75.9
Husband	1	0.6	0.6	76.5

DECISION ON CONSUMPTION	FREQUENCY	PERCENT	VALID PERCENT	CUMMULATIVE PERCENT
Partner	1	0.6	0.6	77.1
Mother	17	10.0	10.0	87.1
Father	2	1.2	1.2	88.3
Parents	7	4.1	4.1	92.4
Sister	1	0.6	0.6	93
With Family	6	3.5	3.5	96.5
Unindentified	6	3.5	3.5	100.0
Total	170	100.0	100.0	

Of the 170 respondents, at least 78.2% bought groceries for their respective households; 64.1% bought household groceries only by themselves, 10.6% with a partner, and 3.5% with other family members (other men and women in the household). At least 18.3% of the respondents said they were not involved in buying groceries; 11.2% identified another woman in the household for the task, while 1.8% identified another man, and 4.1% identified the task as between men and women in their household excluding themselves. It is important to note that at least 89.3% of the respondents were tasked exclusively or are involved with buying groceries. Other responses (3.5%) are unclear on whose responsibility consumption decisions fall.

In terms of product consumption behavior, the majority bought food products on a daily or weekly basis, personal hygiene and household care products on a weekly or bi-weekly basis, pet care and medicines and vitamins on a bi-weekly or monthly basis, and cosmetics and school supplies on a monthly or yearly 10 basis. In terms of considerations that went into buying products, issues like cost, packaging, green product classification, and whether or not they could be bought in wholesale or retail were indicated as “sometimes considered” by most respondents, with cost of item and retail buying having some lead as being “always considered”. When asked if they had other considerations, a few raised “quality of products” as a consideration and two mentioned explicitly that they did not want to use plastics.

Analysis between choice of packaging and location, age, and education

Each survey respondent was given the option to identify multiple types of packaging that they frequently use. Responses reflected the following general answers: a) Eco-bag, b) Brown paper bag, c) Carton/Box, d) Plastic Bag (provided by the merchant), e) Reused Plastic Bag (personally carried by the respondent), f) Basket bag (Banig), g) Tote bag, and h) Others (not specified).

PACKAGING[a]	RESPONSES		PERCENT OF CASES
	N	PERCENT	
Eco-bag	125	66.8	73.5
Brown paper bag	21	11.2	12.4
Carton/box	7	3.7	4.1
Plastic bag	20	10.7	11.8
Reused Plastic Bag	1	0.5	0.6
Basket bag	5	2.7	2.9
Tote bag/Own bag	6	3.2	3.5
Others	2	1.1	1.2
TOTAL	187	100.0	110.0

a. Dichotomy group tabulated at value 1.

Majority of the respondents identified eco-bags as the most preferred type of packaging, cited in 66.8% of the 187 responses. Eleven percent (11.2%) of the responses also reflected the choice in brown paper bags and 10.7% of the responses for plastic bags. Only a minority of respondents cited other different packaging types.

PACKAGING AND LOCATION CROSS TABULATION		CAR	NCR	REGION 1	REGION 13	REGION 2	REGION 3	REGION 4A	REGION 5	REGION 6	REGION 7	Total
Eco-bag	Count	4	73	2	1	3	2	34	1	4	1	125
	% within location	100.0%	83.0%	50.0%	100.0%	25.0%	100.0%	75.6%	50.0%	%	100.0%	
Brown paper bag	Count	1	13	0	0	0	0	3	1	3	0	21
	% within location	25.0%	14.8%	0.0%	0.0%	0.0%	0.0%	6.7%	50.0%	27.3%	0.0%	
Carton/box	Count	0	3	0	0	2	0	2	0	0	0	7
	% within location	0.0%	3.4%	0.0%	0.0%	16.7%	0.0%	4.4%	0.0%	0.0%	0.0%	
Plastic bag	Count	0	4	2	0	5	1	5	1	2	0	20
	% within location	0.0%	4.5%	50.0%	0.0%	41.7%	50.0%	11.1%	50.0%	18.2%	0.0%	
Reused Plastic Bag	Count	0	1	0	0	0	0	0	0	0	0	1
	% within location	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Basket bag	Count	0	1	0	0	0	0	2	0	2	0	5
	% within location	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	18.2%	0.0%	
Tote bag/ Own bag	Count	0	3	0	0	1	0	2	0	0	0	6
	% within location	0.0%	3.4%	0.0%	0.0%	8.3%	0.0%	4.4%	0.0%	0.0%	0.0%	
Others	Count	0	0	0	0	1	0	1	0	0	0	2
	% within location	0.0%	0.0%	0.0%	0.0%	8.3%	0.0%	2.2%	0.0%	0.0%	0.0%	
TOTAL		4	88	4	1	12	2	45	2	11	1	170

Percentages and totals are based on respondents.

Between the two largest respondent groups based on location, there's a marginal difference in the packaging type frequently used. The ratio of usage of plastic bags versus brown paper bags is higher in Region 4-A than in NCR. In Region 4-A, 11.1% of the 49 responses cited plastic bags as more frequently used, as against brown paper bags (6.7%). In NCR, 14.8% of the 98 responses cited brown paper bags as more frequently used, with only 4.5% of the responses citing the usage of plastic bags.

PACKAGING AND AGE CROSS TABULATION		AGE				Total
		18 or younger	19-25	26-41	42-57	
Eco-bag	Count	1	8	88	28	125
	% within location	100.0%	40.0%	75.9%	84.8%	
Brown paper bag	Count	0	5	14	2	21
	% within location	0.0%	25.0%	12.1%	6.1%	
Carton/box	Count	0	3	3	1	7
	% within location	0.0%	15.0%	2.6%	3.0%	
Plastic bag	Count	0	5	11	4	20
	% within location	0.0%	25.0%	9.5%	12.1%	
Reused Plastic Bag	Count	0	1	0	0	1
	% within location	0.0%	5.0%	0.0%	0.0%	
Basket bag	Count	0	0	5	0	5
	% within location	0.0%	0.0%	4.3%	0.0%	
Tote bag/Own bag	Count	0	3	3	0	6
	% within location	0.0%	15.0%	2.6%	0.0%	
Others	Count	0	1	1	0	2
	% within location	0.0%	5.0%	0.9%	0.0%	
TOTAL		1	20	116	33	170

Across age groups, there are notable differences. Respondents aged 19-24 have varied frequencies in packaging types used, against the respondents belonging in the older age brackets. Of the 26 responses, respondents aged 19-24 have an equal frequency in usage of brown paper bags and plastic bags (25%), and tote bags and cartons (15%). For respondents aged 42-57, plastic bags are more frequently preferred (12%) than other options apart from eco-bags, with only 6.1% frequency in preference for brown paper bags and 3% for cartons. Across all age brackets, however, the rate of use of plastic bags is much higher for respondents aged 19-24.

PACKAGING AND EDUCATION CROSS TABULATION		EDUCATION								
		COLLEGE GRADUATE	COLLEGE UNDERGRAD	HIGH SCHOOL GRADUATE	HIGH SCHOOL UNDERGRAD	MASTER'S DEGREE	OTHER	PROFESSIONAL DEGREE	VOCATIONAL TRAINING	Total
Eco-bag	Count	47	48	22	1	0	2	1	4	125
	% within location	78.3%	73.8%	68.8%	33.3%	0.0%	100.0%	50.0%	80.0%	
Brown paper bag	Count	6	6	6	1	1	0	1	0	21
	% within location	10.0%	9.2%	18.8%	33.3%	100.0%	0.0%	50.0%	0.0%	
Carton/box	Count	6	1	0	0	0	0	0	0	7
	% within location	10.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Plastic bag	Count	6	7	5	1	0	0	0	1	20
	% within location	10.0%	10.8%	15.6%	33.3%	0.0%	0.0%	0.0%	20.0%	
Reused Plastic Bag	Count	0	1	0	0	0	0	0	0	1
	% within location	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Basket bag	Count	1	3	1	0	0	0	0	0	5
	% within location	1.7%	4.6%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Tote bag/ Own bag	Count	2	3	0	0	0	0	1	0	6
	% within location	3.3%	4.6%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	
Others	Count	0	1	1	0	0	0	0	0	2
	% within location	0.0%	1.5%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
TOTAL		60	65	62	3	1	2	2	5	170

Percentages and totals are based on respondents.

Preferences based on educational attainment reflect preferences for eco-bags around 70-78% across highschool graduate, college undergraduate, college graduate levels of attainment.

Analysis between reasons for segregation and location, age, and education

Respondents were provided an option to select multiple motivations on their segregation practices: a) Personal choice/belief; b) Government requirement (local/national); c) Social pressure; d) To earn money; and e) Others (not specified)

REASONS FOR SEGREGATION[a]	RESPONSES		PERCENT OF CASES
	N	PERCENT	
Personal choice/belief	140	50.4%	82.4%
Government requirement	75	27.0%	44.1%
Social pressure	19	6.8%	11.2%
To earn money	31	11.2%	18.2%
Others	13	4.7%	7.6%
Total	278	100.0%	163.5%

a. Dichotomy group tabulated at value 1.

Of the 278 responses, 50.4% of the responses cited personal beliefs as the primary motivation for engaging in waste management practices. Twenty-seven percent (27%) cited compliance in government regulations, and 11.2% cited the opportunity to earn money from segregation.

REASONS FOR SEGREGATION AND LOCATION CROSS TABULATION		CAR	NCR	REGION 1	REGION 13	REGION 2	REGION 3	REGION 4A	REGION 5	REGION 6	REGION 7	Total
Personal choice/belief	Count	3	71	4	1	11	2	39	1	8	0	140
	% within location	75.0%	80.7%	100.0%	100.0%	91.7%	100.0%	86.7%	50.0%	72.7%	0.0%	
Government requirement	Count	3	37	2	0	3	2	21	2	4	1	75
	% within location	75.0%	42.0%	50.0%	0.0%	25.0%	100.0%	46.7%	100.0%	36.4%	100.0%	
Social pressure	Count	0	10	2	0	1	1	5	0	0	0	19
	% within location	0.0%	11.4%	50.0%	0.0%	8.3%	50.0%	11.1%	0.0%	0.0%	0.0%	
To earn money	Count	0	11	1	0	3	1	12	0	3	0	31
	% within location	0.0%	12.5%	25.0%	0.0%	25.0%	50.0%	26.7%	0.0%	27.3%	0.0%	
Others	Count	0	3	1	0	1	1	4	1	2	0	13
	% within location	0.0%	3.4%	25.0%	0.0%	8.3%	50.0%	8.9%	50.0%	18.2%	0.0%	
TOTAL		4	88	4	1	12	2	45	2	11	1	170

Percentages and totals are based on respondents.

Around 25-27% of the responses in Regions I, II, IV-A, and VI cited earning money as a frequent reason, while it is only 12.5% of the case in NCR. In NCR and Region IV-A, government compliance is reflected in 42-47% of the responses.

REASONS FOR SEGREGATION AND AGE CROSS TABULATION		AGE				Total
		18 or younger	19-25	26-41	42-57	
Personal choice/belief	Count	1	17	94	28	140
	% within location	100.0%	85.0%	81.0%	84.8%	
Government requirement	Count	0	11	45	19	75
	% within location	0.0%	55.0%	38.8%	57.6%	
Social pressure	Count	0	2	13	4	19
	% within location	0.0%	10.0%	11.2%	12.1%	
To earn money	Count	1	6	18	6	31
	% within location	100.0%	30.0%	15.5%	18.2%	
Others	Count	0	2	10	1	13
	% within location	0.0%	10.0%	8.6%	3.0%	
TOTAL		1	20	116	33	170

Percentages and totals are based on respondents.

Across age brackets, respondents find earning money as the third most important factor for segregating, with respondents in the 19-24 age bracket having a higher percentage (30%) citing this as a reason. Respondents aged 42-57 years old also had a higher percentage (12.1%) of citing societal pressure as a motivation for practicing segregation as against younger respondents.

Segregation practices

All but one of the respondents are engaged in waste segregation efforts within their household, with 55.9% of respondents saying that they always segregate, 18.2% saying almost always, 10% frequently, 14.1% sometimes, 1.2% rarely, and 1.2% never.

LEVEL OF AWARENESS IN SEGREGATION PRACTICES	RESPONSES		PERCENT OF CASES
	N	PERCENT	
Knowledgeable in local efforts for waste collection	108	37.2%	64.7%
Participate in local for waste collection and segregation	80	27.6%	47.9%
Not aware of the collection and segregation efforts	4	1.4%	2.4%
With own separate system for dealing with waste (home composting, self-segregation, etc.)	67	23.1%	40.1%
Knowledgeable on location of Materials Recovery Facility in the area	22	7.6%	13.2%
Work with informal/formal waste sector in collection and recycling wastes	9	3.1%	5.4%
Total	290	100.0%	173.7%

a. Dichotomy group tabulated at value 1.

Thirty-two percent (32%) of the respondents are aware of the waste segregation efforts in their local area, 27.6% participate in such efforts, 23.1% have their own waste management systems i.e. home composting, 7.6% know where their local materials recovery facility (MRF) is, 3.1% work with their local informal waste collectors (IWCs), and 1.4% are not aware of any efforts.

When it comes to recycling, fewer respondents said they would always contribute to plastic waste recycling efforts in their respective homes. Thirty-eight percent (38.2%) of the respondents said they always contribute, 23.5% said almost always, 21.8% sometimes, 14.1% frequently, 1.8% rarely and only 0.6% never.

CONTRIBUTION TO PLASTIC RECYCLING	RESPONSES		PERCENT OF CASES
	N	PERCENT	
Reuse	110	27.7%	67.1%
Segregate recyclable plastics	140	35.3%	85.4%
Bring to junk shop	79	19..9%	48.2%
Dispose of my plastics with other waste	24	6.0	14.6%
Bring to collection center drop of points	32	8.1%	19.5%
Partner with the informal waste sector	11	2.8%	6.7%
Do not have the chance to contribute to plastic waste recycling	1	0.3%	0.6%
Total	397	100.0%	242.1%

a. Dichotomy group tabulated at value 1.

Each respondent was given an option to identify multiple ways they contribute to plastic recycling. Of the 397 valid responses, 35.3% cited segregating plastic recyclables as one of their contributions, 27.7% cited reusing plastics, 19.9% bringing to junk shops, 8.1% bringing to collection drops, and 2.8% cited partnering with IWCs.

Majority of the respondents say that reducing plastic use and household waste segregation usually falls to the responsibility of the woman while bringing out waste was a man's responsibility. Other activities related to reducing plastic use and waste such as working with IWCs, learning about local waste efforts and facilities, setting schedule for collection and information dissemination were more distributed among household members, with women leading by a little for all activities. IWCs were assigned responsibility for collection but did not have a majority lead as did women have for plastic reduction and segregation tasks. The same patterns followed when respondents were asked who should be given responsibility over the same tasks.

Ninety-seven percent (97.1%) of respondents think that the zero waste movement is important. All respondents are engaged in zero waste or sustainable lifestyle practices with 37.6% saying they are always engaging, 25.9% almost always engaging, 18.8% frequently, 17.1% sometimes and only 0.6% rarely engaging.

Most of the reasons cited as to why respondents believe that a zero waste movement is important show their desire to contribute to protecting or "conserving" the environment i.e. "save Mother Earth" and to reduce pollution and waste:

> *"Para makatulong sa environment at para magamit rin ang pwede pang magamit, tulad ng mga plastik bottle at mga karton."* ["To help in saving the environment and reuse items that still can be reused, like plastics bottles and cartons."]

> "Zero-waste movement is important for, even in our own little ways, [we] could help to save and live [in] a healthy planet and [to reduce] the amount of waste sent to landfills."

> "It can be [a] climate solution, not only because it reduces the trash, we also produce waste free and environmentally."

Some cited how "plastics are harmful to the environment", others even providing explanations as to how:

> "It [is] important because as plastic degrades, it becomes toxic and is detrimental to our health, as well as becoming harmful to the environment at large, especially in the quantities they are being produced and used now."

> "Because I see it as a necessity since plastic degrades minimally and the packaging can be used as containers sometimes - an efficient way since it does not go through too [many] recycling processes."

> "[Zero Waste movement] is important because it can help to slash the amount of toxins emitted into our air and water through strategies like producer responsibility policies, green purchasing programs, and expanded recycling."

Others cited social and community benefits:

> "A zero waste [lifestyle] can build community capacity [and] support and protect community health."

> "It helps support the economy and create jobs... through reducing, reusing, and recycling than through trash disposal."

> "[Zero Waste Movement] is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use."

When asked why respondents personally engage in zero waste or sustainable lifestyle practices, their answers followed similar lines of reasoning i.e., to help the environment and reduce pollution, to support community actors such as "green vendors", and to have "healthy communities". Others cite motivators such as being "inspired" by "company efforts", or what they see on social media. A few also shared that they, themselves, want to inspire others, particularly their children.

Focus Group Discussions (FGDs) and Key-Informant Interviews (KIIs) on Local Waste Management Attitudes, Practices, and Programs

Barugo

Barugo is a fourth-class municipality in the province of Leyte with a population of around 35,000 people, as of the 2020 national census. It is a coastal town with a mixture of urban and rural characteristics.

The municipal government of Barugo has a solid waste management (SWM) program in place. Part of Barugo's efforts is a buy-back program wherein the local government buys eco-bricks and reusable materials from constituents. Training sessions on how to make eco-bricks are conducted at the barangay-level, with women as the usual participants. The eco-bricks are paid for in kind, usually in the form of grocery items such as canned goods and rice. There is also a women's association in Barugo which collects waste materials to be recycled and made into pillows by a partner sewer's association.

The Barugo LGU passed a Sangguniang Bayan Ordinance–implemented in full effect since November 23, 2021–that prohibits the use of single-use plastics, styrofoam, containers, and other similar non-biodegradable materials. However, the Implementing Rules and Regulations (IRR) for the ordinance have not been produced; therefore, the policy has not been implemented. The LGU attributes the non-implementation of the Ordinance to the change in political leadership–as a result of the recent national and local elections–and to pandemic-related challenges.

KIIs

Thirty-one (31) of the 32 KII respondents bought their household groceries themselves. Around 18 had help from family members: six had help from their husbands, six had help from other women in the household, and six had help from both men and women in the household. Most of the shopping was done on a retail basis with "basic needs" being primarily bought on a daily basis or sometimes weekly basis. When asked why they bought retail or tingi-tingi, all respondents cited budget or income limitations. Most of the respondents said they bought goods from the grocery, while some bought from the public market or a suking tindahan [regular store].

Most of the respondents said they bought groceries using plastic bags or what was provided in the store e.g., a box. Few used eco-bags. When asked about the reasons behind their choice of packaging, those that said 'plastic bags' said it was what was available or convenient, especially sometimes in cases where buying is unplanned. One respondent also remarked that using plastics is what people are used to. Of those who used eco-bags, they shared that they wanted to lessen or minimize plastic use and waste. When asked who was more likely to use plastics when buying groceries, they would cite other household members, mostly sons and husbands who went on unplanned grocery visits.

All respondents said they engage in segregation. Many shared that they segregate because it made for easy garbage disposal and collection. Some said it helps reduce plastic use at home. All respondents said that segregation influences their consumption and helps them minimize or reduce plastic use. As a result of segregation, one shared that they would reuse their plastic products; another said they would sell plastic bottles and other reusable items. Many respondents regard the LGU solid waste management program positively and attribute to it clean surroundings and positive impact in their communities. A few respondents have raised, however, that the "no segregation, no collection" policy should be more strictlyimplemented. They indicated that there is a need for more waste education and for more community members to be engaged to help maintain cleanliness.

When asked who should be involved in waste management, many said everyone should be involved. However, they assigned the tasks based on gender i.e., women should segregate, men should collect waste. A couple said that it should be mostly women involved. Many of the community members agreed that it is the woman's role to be a leader and role model in the community and to ensure a clean household–the two ideas were tied together by some of the respondents. The respondents were consistent in assigning segregation and recycling tasks

as women's roles and bringing waste to collection point or materials to the junkyard as men's roles. However, some also said that other members of the household should also be involved in segregation and recycling, with women taking lead. All but two respondents said that they recycle. To explain why they recycle, they cited positive impacts of recycling such as helping maintain cleanliness and community in their areas, as well as helping people earn income, particularly by selling to junkyards.

FGDs

IWCs do not typically earn a salary. However, some street sweepers in Barugo are given an incentive of ₱500.00 (US $10.00) per month for working two to three times a week, while others work on a volunteer basis. The work involved in maintaining cleanliness at the barangay level is supplemented by *"Linis Mo, Tapat Mo"* ["Clear Your Own Area"] policies.

Barugo also has an eco-park maintained by IWCs, mostly women, who pick up the waste, segregate, and sell them to the caretakers of the park, who then sell them to junk shops. The street sweepers in Barugo were recruited by the LGU because they were part of government social welfare programs, such as conditional cash transfer and sustainable livelihood programs. Two rural IWCs said they were recruited because they were already active members in their community, having organized people around issues like water access and later starting a farming project that was supported by the Department of Social Welfare and Development (DSWD).

Typically, rural IWCs sell to junk shops. Some of them own small junk shops themselves and sell to bigger junk shops. IWCs that sell to junk shops are often not part of any government programs or members of community associations and groups. These IWCs had to build the capital needed for collection, sorting, and selling to junk shops, specifically when it came to transportation costs. Those who own their own junk shops owned and managed these with their husbands.

Meanwhile, urban IWCs usually channel waste to the collection efforts of the municipal government. They also exchange specific plastic wastes with the municipal government for rice and other consumable goods, such as canned goods, noodles, 3-in-1 coffee, sugar, etc. Rural IWCs also take part in this exchange through an annual municipal event called 'Barangayan'.

Both rural and urban IWCs recycle waste and use it to make wallets, floral decor, and eco-bricks that they would also sell. They learned how to do this through training that was supported by the government. Their training facilitators had even come from other provinces, such as Cebu and Bohol. Some of the IWCs recycle or repurpose waste for their own personal or home use.

Despite the meager income and informality of their work arrangements, IWCs are often expected to work beyond what they agree to with their local governments. Some people expect that they collect even on rainy days, or that they segregate people's wastes for them. They have to remind people that if waste is not segregated, it will not be collected. This often leads to complaints from people who believe that these tasks are part of the job IWCs are paid to do. IWCs say that these situations represent the kind of discrimination they experience because it shows that people have low regard and little understanding of them and their work. When they complain to their LGU about this, IWCs are told that they should tell those who have complaints to channel such complaints to the LGU.

IWCs also experience health challenges related to their work. Part of the reason for their non-collection on rainy days is that they have no health insurance. However, they are able to access medicines through the medical assistance program of the municipal government. IWCs also lament the heat and discomfort they experience in the course of their work. They experience back and body pain from the heavy bags of waste they have to load, carry and unload. They know that they smell and they often experience itchiness and rashes because of their exposure to waste. These happen even when they use the gloves that are provided to them. They are also provided first aid kits by the Barangay LGU.

During the pandemic, the IWCs cited that they would earn less and some even stopped collecting waste. The municipal government provided support by accepting wastes to be exchanged for goods.

Batangas City

Batangas City is a first-class city in the province of Batangas. Respondents from five barangays in Batangas City participated in this research; namely, the urban barangays of Cuta and Pallocan West, and the rural barangays of Sampaga, Talumpok Silangan, and Tulo. Batangas City has an ordinance, entitled the "Environmental Code of Batangas City," which prohibits the use of plastic and styrofoam materials for business transactions within the city. This Ordinance, which was issued in 2010, enjoins all business establishments to "pack dry goods in biodegradable materials such as recycled product carton boxes and paper bags". Plastics can only be used when the customer is the one to provide it or for wet goods on a regulated basis.

Batangas City manages a centralized waste collection system subcontracted with a private company, which operates daily and covers most parts of the city. However, some households reside too far from the truck collection routes and therefore have no access to SWM services (USAID).

KIIs

All 32 KII respondents bought their household groceries themselves. Around 13 had help from family members, one had help from her husband, and three had help from other women in the household. Most of the shopping was done on a retail basis with "basic needs" being primarily bought on a daily basis or sometimes weekly basis; some said that they also do bulk shopping. Product packaging is not a primary consideration; preference is mostly dependent on what is the cheapest or most cost-efficient. Most of the respondents said they would buy goods from the grocery, including respondents from the rural barangays.

All but four of the respondents who used carton boxes said they use eco-bags to buy groceries. They cited the local ordinance as the primary reason for this preference. A few mentioned that using eco-bags has helped reduce plastic waste. A couple of respondents said that the practice also helps in saving money. All respondents, except one, said they engage in segregation. One of the respondents said that segregation is required by the environment and natural resources office (ENRO). Some respondents said that segregation is important to maintain cleanliness and order, while a few of the respondents cited the positive environmental impacts of segregation. Meanwhile, most respondents said they engage in recycling. Five said they did not recycle at all; one of whom shared that they could no longer manage to do recycling on top of their tasks. Those who recycled said they did because it helped reduce waste and they could actually use the materials they recycled. For instance, one cited that they would reuse materials into plant pots, which has also become an engaging activity for the family, from which their children could learn.

According to the respondents, women usually lead in segregation and recycling tasks, while men are the ones who bring waste to the collection point and partner with IWCs. Women also had a role in information dissemination efforts on solid waste management, according to a respondent. Another respondent said that while women lead in the efforts, the barangay LGU, women's association, and men in the community also have an allied role in solid waste management efforts in their area.

Despite engaging in the solid waste management efforts of their communities, 26 of the 32 respondents were not aware of any zero-waste movements. A couple of the respondents said they thought zero waste was impossible as waste can never be fully eradicated in an area. Some of the respondents said that they see the value in zero waste movements and others were able to connect some of their practices to the movement, e.g., using eco-bags, bringing one's own tumbler, and composting.

FGDs

Most of the IWCs interviewed have been IWCs for years. One has been doing this for two to three years, one for more than 10 years, one for 10 to 15 years, and one for 27 years. Only one of the respondents started during the pandemic. A couple of those interviewed said they entered this work after joining cooperatives; one was recruited to by a foundation to do monthly collection on top of their usual collection; and another respondent was recommended by a former Mayor to be a private hauler for establishments. The IWCs mentioned that most of the members of their cooperatives are women.

When asked why they decided to go into this type of work, they said that there were few opportunities to earn otherwise. They said that the work also has no need for any educational requirements, and that it also provides an opportunity for quick income generation. They said they earn an average of around ₱1,200.00 to ₱1300.00 (US $21.00 to $23.00) weekly, but this could go up to ₱10,000.00 (US $175) on a "good" week. These IWCs do not receive any benefits or incentives from the government or any membership groups.

A few of the IWCs are the breadwinners of their family; one of them does waste collecting with her husband. Because their work has a semblance of stability, the IWCs are expected to earn enough to cover their own needs and their household's, including the cost of education for their children. Meanwhile, their communities expect the IWCs to work beyond what they are meant to do. For one, they are expected to segregate and collect all waste, including those that they cannot sell. They sell the waste they collect in local junk shops.

While some IWCs work independent from the LGU's mandated service to ensure segregation and collection of waste, they still see themselves as being of help to the government and contributing to its efforts. Despite this, IWCs feel that many community members look at them and their livelihood as inferior–that they are *magbabasura lang, [kaya] minamaliit* ["they are only waste workers, that's why they have little value."]. They believe that the government should introduce the informal waste sector to constituents so they can be recognized. They also suggested the inclusion of a representative from the sector in legislative processes.

The IWCs did not cite too many health-related challenges apart from heat and minor cuts and injuries they would suffer in the course of their work. According to them, this is okay because they have never been hospitalized and injuries (e.g., natutusok, natataga [small cuts and puncture wounds]) are usually relieved by using a first aid kit. They want, however, to be provided gloves and boots to prevent such injuries. They also suggested the provision of personal protective equipment (PPE) because of the risk of COVID-19 infection amid the pandemic. None of them, however, mentioned that they contracted COVID during work. Instead, the impacts of the pandemic were primarily on their livelihood because they could no longer access some households, i.e., those in subdivisions because of lockdown measures.

Cagayan de Oro

Cagayan de Oro City is a first-class city in the region of Northern Mindanao. Respondents from barangays with urban characteristics and barangays with rural characteristics participated in this research. The barangays covered include Agusan, Balubal, Barangay 1, Barangay 11, Barangay 13, Barangay 14, Barangay 15, Barangay 17, Barangay 20, Barangay 22, Barangay 24, Barangay 26, Barangay 27, Barangay 32, Barangay 38, Besigan, Consolacion, Dansolihon, Lapasan, Mambuaya, Pagalungan, Pig-sanan, San Simon, Taglimao, Tignapoloan, and Tumpagon.

Since 2019, Cagayan de Oro City has implemented a plastic ban through Ordinance No. 13378-2010, also known as the Integrated Ecobiological Solid Waste Management Ordinance of Cagayan de Oro, "as part of the city's steps in preventing its major waste and flooding problems." The ordinance effectively prohibits business establishments to use plastics to wrap goods and items and encourages the use of eco-bags, paper bags and reusable bags. The ordinance, however, allows the use of pouch-type cellophane bags to pack wet goods. The ordinance also mandates a "no segregation, no collection" policy.

KIIs

All KII respondents, except for one, bought their household groceries themselves. Around seven had help from other men in the household, four had help from other women in the household, and four had help from both men and women in the household. One of the respondents said their husband bought their groceries alone. In terms of buying habits, 11 said they would buy on a retail basis while nine said they would buy items in bulk. They said they would buy weekly, on an as-needed basis; a couple of respondents said when they have money to buy groceries (*kung naay kwarta/ ikapalit*).

Twenty-seven (27) respondents said they use eco-bags, while five use carton boxes, three use paper bags, and one use a sack bag. Twelve (12) of the respondents cited the city ordinance to explain their preferred packaging, while others cited characteristics, such as comfortable to use (seven respondents), durable (five respondents), and reusable (five respondents). Only one cited positive impacts to the environment ("To save Mother Earth"). When asked who was more likely to use plastic packaging, most of them said it would be them or their daughter, and a few said their mother, husband, sister, and aunt.

All of the respondents said they helped in segregating their waste. Some of the reasons they cited are: positive impacts to the environment, money-earning opportunities, and avoidance of illness. Most of the respondents said that segregation has helped influence their preferences when it comes to product packaging because plastics can be reused, segregated, and sold. One said it does not influence them.

Around 24 respondents said they recycle wastes, while six said they do not recycle at all. Those who said they do not recycle explained that they are too busy for it. Of those who recycled, four said that they do this to resell the recycled materials, while seven said this is a source of extra money or savings. One said this is the way of life in their barangay, and another said it brings order. Only one cited positive impacts to the environment, saying recycling was "good for nature". For most of the respondents, recycling is an activity done by mothers and kids. Only one said their husband would also join in recycling.

According to the respondents, there is a division of labor in the community–women do the segregation and teach other members in the home, while men help in the carrying of the waste and in the community clean-ups.

Many of the respondents were not aware of zero waste movements; a few said this was difficult, while others said this would result in positive impacts to the community, i.e., in ensuring cleanliness and order. A few cited clean-up drives and use of eco-bags, as well as segregation and recycling, as part of the zero waste movement. Other efforts that the respondents mentioned include solid waste management by their local government, their local Materials Recovery Facility, information and education campaigns by the barangay staff, and the presence of garbage pits.

FGDs

IWCs in Cagayan de Oro earned around ₱200.00 (US $4.00) weekly, but those who owned small junk shops could earn up from ₱11,000.00 to ₱12,000.00 (US $195.00 to $214.00) a month. When asked why they entered into waste collecting work, the IWCs said out of reprieve from having a "hard life" (dahil mahirap ang buhay). Collecting wastes, according to them, provided a quick opportunity to earn money. Some said that their husbands lost jobs or that their income as laborers or tricycle drivers needs to be supplemented. The IWCs collect cans, carton, plastic, and bottles, and any other waste material that could be sold to junk shops.

Many of the IWCs find lucrativeness in waste work. Some attributed this to their local junk shops that price fairly. Still, there is also competition among IWCs, with some IWCs having the capacity to collect more because they own motorcycles or bicycles.

The IWCs see the pandemic as a challenging time because of the less supply of waste. They also mentioned the risk of getting infected with COVID-19 from collecting waste. They said that their incomes had gone down considerably, with recyclables being sold at lower prices to account for rise in the price of gasoline. While most of the IWCs work privately, they still see that the government could provide them support through capacity-building and more livelihood opportunities.

Given the study's focus on "women's roles," it inevitably situates itself within the discourse of gender roles and the gender division of labor. Gender roles are the "sociocultural expectations that apply to individuals on the basis of their assignment to a sex category," i.e., male or female (Tong, 2012). The way work is divided between men and women, or according to their gender roles, is usually referred to as the 'gender division of labor' (ILO, 2000).

According to the traditional gender division of labor, women are primarily tasked with the reproductive role, which involves childrearing and home-making responsibilities that keep them in the confines of the household. On the other hand, men are primarily tasked with the productive role, which involves work done for payment and situates them more often in the public sphere. Women can also perform a productive role but often carry it out secondarily or alongside their reproductive role.

The Moser framework (1993) expands the traditional conception of the gender division of labor by adding a third role called the community management role. This involves activities to improve the community, such as participation in groups and organizations, local political activities, celebrations and ceremonies, etc. These activities are primarily undertaken by women as an extension of their reproductive role. Meanwhile, men engage in community politics or "organized, formal politics, often within the framework of national politics" (March et. al, 2005).

People are "intrinsically linked with plastic in many ways due to [their] assigned gender roles" (Lynn et. al., 2017). The Moser framework can be utilized to help in understanding the women's roles within the plastic value chain, especially as activities carried out within the value chain occur both at the community and household levels.

The following analysis is structured through its subsections to address the three questions listed above. Finally, the study concludes by discussing the extent to which the study fulfills the main objective and lends itself to gender-transformative prospects, or prospects toward the transformation of the prevailing gender ideologies and unequal power relations. This is in line with the Moser framework's goal, which is "the emancipation of women from their subordination, and their achievement of equality, equity, and empowerment" (March et. al, 2005)

Perception on plastic use and consumption

Generally, respondents across the three methods (survey, KII and FGD) shared neutral to negative perceptions of plastic use and consumption and positive perceptions of reducing plastic use and plastic waste and related practices. It is now important to look into how such perceptions are articulated and to situate these against available demographic and contextual information.

Most of the respondents across the three methods are assigned to buying household goods. Their consumption patterns are similar: retail over bulk or wholesale and frequency of purchase depends on type of goods being bought. Avoiding products in plastic packaging is not as important to them as avoiding use of plastic for primary packaging. Budget and income limitations are cited by some to influence their choice of products more than packaging.

There is widespread use of eco-bags across the three methods and it is associated with positive impacts, particularly to the environment. For Batangas and Cagayan de Oro, the eco-bag is the first choice for primary packaging. This can be attributed to local ordinances that ban plastics as primary packaging. Meanwhile, Barugo has passed a similar ordinance but has yet to implement it. While there have been information dissemination efforts by the LGU to reduce plastic use, most constituents continue to use plastics as primary packaging and attribute their continued use to "convenience". This shows the importance of laws and policies in changing behaviors related to plastic use. The lack of policies focusing on product packaging, for example, might also explain the lack of importance given to product packaging in comparison with primary packaging.

Describing plastic use as convenient may also indicate that additional cost of plastic use is not put on customers at the point of sale, and any effect the provision of plastic packaging may have on mark-up rates may be unknown to consumers. Despite giving into "convenience," however, it seemed that the respondents connected plastic use to negative associations as they were more likely to cite other household members, mostly sons and husbands, when asked who was more likely to use plastic packaging.

Most respondents say they engage in segregation and/or some type of reusing or recycling activity, except for few who are adamant that they cannot anymore take on this type of work.

Still, environmental consciousness, when inferred from how the respondents articulate the positive impacts of reducing plastic use, is still at the level of aesthetics — respondents want their environment clean and orderly. Some respondents, usually represented through the survey, and, therefore, presumably middle-class, are able to provide a more advanced understanding of the environmental impacts of plastic use, i.e., impacts on climate change, sustainability, etc. These middle class respondents also betray how education and social media can factor into people's perception of plastics politics. One respondent said they were motivated to learn about sustainability because they used Instagram. Some IWCs, however, see how plastic use and waste impact their community concretely, i.e., impact on landfills and waters. One respondent said this is also a motivation for them in their work:

> *"Para ma protect ang tubig [kaya] lahat ng mga basura na nakakasira ng kalikasan, [ginagawan] naming ng paraan."* ["We do [waste collection"] to protect our waters. If we see waste that we think can ruin the environment, we find a way [to reduce them]."] -Barugo FGD respondent

Perceived role/s

Across the three methods, respondents said that segregation and recycling tasks were usually assigned to women, while tasks involving interaction with IWCs and junk shops were assigned to men. When asked how these tasks should be assigned, respondents affirmed this status quo.

Some respondents cited certain traits or qualities that women have to justify how tasks are assigned, which shows that many still subscribe to common gender stereotypes:

> *"Makutihon ang babae sa pag manage sa basura, taas ug pasyensya"* ["Women are meticulous when managing waste, they are patient."] -Cagayan de Oro KII respondent

> *"Chada ang babae ang mag* lead *sa* SWM *labi na kay organized ang babae; tig hipos sa mga basura ug tig tipok"* ["It's great that women lead SWM because women are organized; they can collect, sort, and organize the waste"] -Cagayan de Oro KII respondent

However, the assignment of tasks can also be attributed to the gender division of labor where tasks tied to the home are assigned to women, while those that require "going outside the house" are assigned to men. To quote a couple of respondents:

> "As a woman, it's our duty to be the role model in segregation for we [are] often, and most likely, the sole-caretaker of every household." -Batangas City KII respondent

> "There is division of labor in the community. Women do the segregation and teach other members in the home, [while] men help in the carrying of the wastes, and in the community clean-ups." -Cagayan de Oro KII respondent

Another KII respondent from Cagayan de Oro said that women's role in zero waste "starts at home". Segregation and recycling tasks are also taught to children and become part of their activities as a family, which further entwines such activities with women's reproductive role. To quote two respondents:

> *"Mga bata nasasanay na. Nagagalit sila pag hindi nag segregate.* (Translation: The children get used to it. They get angry when [the waste] is not segregated.)" -Barugo FGD respondent

> *"Magandang gawain, buong pamilya, natutunan sa school ng mga bata.* (Translation: [Recycling] is a good practice [for] the whole family, the children learned it from school." -Batangas City KII respondent

Women are also seen as leaders in dealing with waste and this may also be an extension of their community management role (Moser, 1993) as respondents cite not only their role as "role model" in the household but also in the community.

Women also perform productive roles. However, this role is often performed secondarily, with the following features that are distinct from men: informal work arrangements, low wages, and concentrated in sectors that are deemed appropriate for them or seen as an extension of their housework (Moser, 1993). One FGD respondent attests to how IWCs have been recruited into community work, and, eventually, IWC work, because they do not have regular jobs and have mostly been confined to their home:

> *"Kasi naman ma'am, kaya din babae ang kinuha kasi ang mga babae wala din namang regular na trabaho. Yung mga lalaki, nagtratrabaho, sila yung umaalis ng bahay. Yung babae, andyan lang. Sa asosasyon namin halos kami lahat babae. Kasi kung babae andyan lang sa bahay.* (Translation: Women are recruited because they do not have regular jobs. Men work, they leave the house. Women are just there. In our association, we are all women. It's because women are just in the house.)" -Barugo FGD respondent

Both productive and community management roles are roles women perform and bring them out of the confines of the household or onto the public sphere. This does not mean, however, that these roles are not an extension of or are influenced by their primary reproductive role. More generally, the roles women play often overlap. While this is also true for IWCs, it seems that some IWCs are more community-oriented and some are more profit-oriented.

Often, "community-oriented" IWCs are tapped by the government through community-based organizations and associations of which they are members of. They are street sweepers that are paid a small allowance or volunteers that take part in the government's solid waste management program. As volunteers, they only work once to a few days in a week. They usually do both collection and segregation tasks. According to IWCs in Barugo, this work often employed women. When asked why they volunteered, one IWC said they did so to make sure their children have clean, safe places to play, connecting the IWC work to women's reproductive role once again.

"Profit-oriented" IWCs are those that sell to junk shops or own small, informal junk shops. They only collect waste that can be sold or turned into profit. Despite this, many of them say that community members expect them to collect all waste or even help segregate. Interestingly, many of those that belong to this category of IWCs do their work in partnership with their husband. For the men, this was usually their main job. Meanwhile, women still engaged in other livelihood activities, especially at times when waste collection was not lucrative and/ or income had to be supplemented for any reason. Some of the livelihood activities women cited include: managing a sari-sari store, planting rice and farming, barbecuing and selling cooked meals, among others. This shows how men's productive role often has them occupying one position or performing one type of work, while women are expected to perform different kinds of work in performing their productive role.

Children also play a role in the livelihood of IWC parents, another example of how this work can be an extension of women's reproductive role. To quote two participants:

> "Mga bata naghahanap ng basura at bigay sa nanay, pulot ng madumi or kung saan saan. (Translation: Children look for waste and give to their mothers, they pick them up even when they are dirty or from anywhere.)"
> -Barugo FGD respondent

> "Mabahin-bahin ra sa mga anak nga masaligan na ang gi trabaho sa panimalay. (Translation: Children who are reliable perform household tasks)."
> -Cagayan de Oro FGD respondent

The distinction between profit-oriented IWCs and community-oriented IWCs is most clear in Barugo where urban IWCs who are closer to the government are often more community-oriented, while rural IWCs are more profit-oriented and usually work independent of the government. The distinction between these IWCs are not always clear as many government-tapped IWCs also sell the wastes they collect to turn in a profit. Meanwhile, many junk shop sellers and owners still see themselves as contributing to the community through their work.

Other Stakeholders

The government is still looked to as the most important stakeholder by respondents, especially IWCs. Many of the respondents cite government-led programs that facilitate activities within the plastic value chain, such as their respective solid waste management programs, materials recovery facilities, exchange programs for recycled goods, sewing programs, garbage composting, and information and education campaigns. Still, respondents want more programs to be introduced, particularly to support IWCs and their activities. Some of the activities they recommend include training and education for both IWCs and constituents on solid waste management, training and livelihood programs for IWCs, and community clean-up and recycling drives. A few also want material support through starting capital for business, increased allowances and incentives, and materials and equipment for processing waste.

Many of the recommendations made by IWCs are meant to address some of the challenges they face in their line of work. Many IWCs experience discrimination as well as challenges related to their health and financial situation.

IWCs feel discriminated against because of the low regard of community members for them and their work. This is often manifested in uneven expectations of the work they should be doing. Many community members think that they should collect all waste when some IWCs only mean to collect waste they can sell.

Both the informal nature of their work and discriminatory attitudes people have can mean real consequences for IWCs. Because their work is taken for granted by both formal institutions and people, IWCs are often neglected in terms of government programs and given their allowances, incentives, and payments late.

Both IWCs and non-IWC respondents believe that IWCs should earn more income or have other sources of livelihood. This is why most respondents cited increasing incentives and providing capital and livelihood for IWCs as their recommended programs.

While the IWCs did not report experiencing too many health-related challenges, they are able to identify health risks such as having illnesses related to exposure to waste, including contracting COVID because they are not provided PPE. They understand the precarious nature of their work, particularly as it results in not being provided health insurance. There are also no dedicated health programs for IWCs, except for provision of gloves and first-aid kits for some. Instead, they are referred to existing programs such as the medical assistance program.

Despite the significant number of women that make up the IWC sector, the gender and development budget of LGUs is little utilized for the purpose of plastic use and waste reduction or for the needs of the IWCs. The lone example we have is a GAD-funded program in Barugo which trains women in sewing recycled wallets and bags made from plastic. Still, women, especially those organized through community associations, do benefit from other types of livelihood training, use of LGU facilities and equipment, VAW desk and daycare programs.

Cooperatives and community organizations and associations play an important role in involving women in the plastic value chain. These groups usually become platforms from which women IWCs are recruited by LGU into IWC work or how they become introduced to various types of livelihood within the value chain.

The private sector was also cited by a number of respondents as an important stakeholder in the plastic value chain. This is specifically in relation to their role in improving junk shops and landfills that areprivately-owned. They can also make private recycling facilities more accessible. Many IWCs are already working with junk shops; some had even started out with the LGU but lost their jobs and ended up working with junk shops. Hence, junk shops have an important role in the plastic value chain.

07 CONCLUSION

Largely responsible for buying goods and managing plastic waste at the household level and making up a significant portion of the informal waste sector, women bear a disproportionate burden when it comes to managing plastic use and waste when compared with men. This forms part of the triple or multiple burden – reproductive, productive, community work – women carry as a result of the gender division of labor.

The gender division of labor affects dynamics within the informal waste sector as well. Women make up a large part of the informal economy because women are drawn to part-time, insecure and possibly hazardous work like waste collection because this work is more readily-available for them and is done in conjunction to, if not as an extension of, their reproductive and community roles. Women in the informal economy are often unrecognized and undervalued and this leads to neglect and discrimination expressed in lack of policy support or in interactions with other community actors as cited by the IWCs in this study.

Evidently, women accept their roles in the plastic value chain, and, hence, the disproportionate burden of managing plastic use and waste. While role sharing is observed in some cases, tasks and activities within the value chain are consistently assigned to specific genders.

Moser (1993) can be instructive in understanding women's acceptability of their roles within the value chain. Moser's concept of addressing practical gender needs (basic needs, livelihood) before strategic gender needs (empowerment, equality) allows us to recognize that women will prioritize seeking material support to aid them in their various roles before seeking empowerment or equality with men i.e. through role-sharing.

08 REFERENCES

ILO (2000). Modular package on gender, poverty and employment: Reader's kit (with CD-ROM). Retrieved from: https://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221108392_EN/lang--en/index.htm

Jambeck, Jenna R., et al. "Plastic Waste Inputs from Land into the Ocean." Science, vol. 347, no. 6223, 2015, pp. 768–771., https://doi.org/10.1126/science.1260352.

Lynn, H., Rech, S., Samwel-Mantingh, M (2017). Plastics, Gender and the Environment: Findings of a literature study on the lifecycle of plastics and its impacts on women and men, from production to litter. WECF – Women Engage for a Common Future. Retrieved from: https://www.boell.de/en/2022/02/11/plastics-gender-and-environment

March, C., Smyth, I., & Mukhopadhyay, M. (1999). A Guide to Gender-Analysis Frameworks. Oxfam. Retrieved from Oxford. www.ndi.org/files/Guide%20to%20Gender%20Analysis%20Frameworks.pdf

Meijer, Lourens J., et al. "More than 1000 Rivers Account for 80% of Global Riverine Plastic Emissions into the Ocean." Science Advances, vol. 7, no. 18, 2021, https://doi.org/10.1126/sciadv.aaz5803.

Moser, C.O. (1993). Gender Planning and Development: Theory, Practice, and Training. London: Routledge.

Tekman, M. B., Walther, B. A., Peter, C., Gutow, L. and Bergmann, M. (2022): Impacts of plastic pollution in the oceans on marine species, biodiversity and ecosystems, 1–221, WWF Germany, Berlin. Doi: 10.5281/zenodo.5898684

Tong, R. (2012). Gender Roles. R. Chadwick. Encyclopedia of Applied Ethics (Second Edition), pp. 399-406. Academic Press.

USAID (2019). Introducing Zero Waste to Batangas City. Retrieved from: https://urban-links.org/wp-content/uploads/USAID-Mother-Earth-Fact-Sheet.pdf

World Bank Group. 2021. Market Study for the Philippines : Plastics Circularity Opportunities and Barriers. East Asia and Pacific Region Marine Plastics Series;. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/35295 License: CC BY 3.0 IGO.

World Wide Fund for Nature and Dalberg Advisors. (2021). Plastics: The Costs To Society, the Environment and the Economy. WWF-International. https://media.wwf.no/assets/attachments/Plastics-the-cost-to-society-the-environment-and-the-economy-WWF-report.pdf

World Wide Fund for Nature, cyclos GmbH and AMH Philippines. (2020). EPR Scheme Assessment for Plastic Packaging Waste in the Philippines. WWF-Philippines. https://wwf.org.ph/wp-content/uploads/2021/03/WWF_REPORT_EPR_Philippines_11Mar21.pdf

World Wide Fund for Nature and AMH Philippines (2022). Extended Producer Responsibility (Epr) Scheme Assessment For Plastic Packaging Waste in the Philippines. WWF-Philippines. https://wwf.org.ph/wp-content/uploads/2022/01/NP21.115.014-WWF-EPR-Project-EN-Final-Report-R2-2022.01.19.pdf

World Wide Fund for Nature and Dalberg Advisors (2019). Assessing Plastic Ingestion From Nature To People. WWF-International. https://awsassets.panda.org/downloads/plastic_ingestion_press_singles.pdf

World Wide Fund for Nature (2020) Plastic Packaging In Southeast Asia And China.WWF-International. https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_plastic_packaging_in_se_asia_2020_v8_0214_final_.pdf

Annex A - Online survey

ONLINE SURVEY

(See here https://docs.google.com/forms/d/1FOnkp2bml879zEHNRZyW-W1vAUROvl8-zh0tHqdLOUU/edit?ts=622ef9f1)

Thank you for contributing to this gender x plastics research. This survey is part of the joint project of the World Wide Fund for Nature (WWF) - Philippines, University of the Philippines Center for Women and Gender Studies (UP-CWGS), Angat Bayi Program, and The Incubation Network (TIN) that aims to better guide policy makers on being gender-inclusive in addressing the plastic pollution issue.

This survey aims to determine women's perceived role in plastic waste reduction and recycling, and their level of acceptability on this. We are hoping for your honest participation. Rest assured that all information gathered from this survey is confidential, used solely for this study, and will not be used against you. Thank you and feel free to reach out to us at teampanda@wwf.org.ph | cconstantino@wwf.org.ph for any clarifications and queries.

ABOUT YOU:

- age group (GenZ, millennial, GenX, boomers)
- sex or gender disaggregation
- educational attainment
- employment status
- location
- household size (living alone, with family)
- Do you have children or dependents? If yes, how many?

Areas	**Guide Questions**
What are Filipino women's perceptions and attitudes on:	
Plastic use, consumption, and 3Rs	What packaging do you use when you do grocery or when you go to the market and why?
	What do you usually buy? For everyone in the household and yourself? How do you prioritize the goods/items you buy? • food • personal and hygiene products (e.g. shampoo, napkin, soap) • household care • pet care • medicine and vitamins • cosmetics • stationery (e.g. school supplies) • others How often do you buy something?

	● daily ● weekly ● every 2 weeks ● monthly Who decides what to buy in the household?
	What are the considerations when you buy goods in the grocery/market? (always, sometimes, never) ● bulk buying? ● cost? ● packaging? ● "green" products? ● needs?
Role in the value chain	Do you practice waste segregation at home? - yes or no Why do you segregate? - personal choices/beliefs - social pressure - government/LGU requirement - earn money - other___
	What are your thoughts on the waste collection and segregation efforts in your area? (check all that applies) - I am knowledgeable in the local efforts for waste collection - I participate in the local efforts for waste collection and segregation - I have my own separate system for dealing with my waste (home composting, self segregation, etc.) - I know where our Materials Recovery Facility is in our area - I work with informal/ formal waste sector in collection and recycling wastes - I am not aware of the collection and segregation efforts in my area
	Do you practice plastic waste recycling at home? If yes, how do you practice plastic waste recycling? - segregate recyclable plastics - reuse - bring to collection center drop of points - bring to junk shop - partner with the informal waste sector - dispose as normal (zero answer) *Recycling is the action or process of converting waste into reusable material.*

	What are your perceptions on the growing zero-waste movements? Why do you think it's important (if so)? - rank 1-5 on perception overall - why important (text) - Do they practice zero waste/sustainable lifestyle practices? Y/N - What are your motivations? (text)
	What should be prioritized in educating about 3Rs? - reduction - reuse - recycling - segregation - other: ____
Who is responsible for the following? (table) ● reduction of plastic use in the household ● household waste segregation ● bringing out the trash ● working with informal/formal waste sector for recyclables ● learning plastic waste drop-off points and recycling services ● setting a schedule for collection ● educating consumers on reduction, reuse, segregation, and recycling ● collecting mismanaged waste in the environment	
Who should be responsible for the following? (table) ● reduction of plastic use in the household ● household waste segregation ● bringing out the trash ● working with informal/formal waste sector for recyclables ● learning plastic waste drop-off points and recycling services ● setting a schedule for collection ● educating consumers on reduction, reuse, segregation, and recycling ● collecting mismanaged waste in the environment?	

Annex B - KII sheet

PROJECT: Research Assessment on the Attitudes and Motivations of Women in Waste Generation, Diversion, and/or Reduction in the Philippines

Key informant interview sheet

Date and time:	
Project site (include barangay, if rural/ urban)	
Representation:	

Introduction

This interview is part of the joint project of the World Wide Fund for Nature (WWF) - Philippines, University of the Philippines Center for Women and Gender Studies (UP-CWGS), Angat Bayi Program, and The Incubation Network (TIN) that aims to better guide policy makers on being gender-inclusive in addressing the plastic pollution issue.

This survey aims to determine women's perceived role in plastic waste reduction and recycling, and their level of acceptability on this. We are hoping for your honest participation. Rest assured that all information gathered from this survey is confidential, used solely for this study, and will not be used against you.

Section 1: Background

Name of interviewee	
Age	
Educational attainment	
Current work	
Household size (no. of women and men)	

Section 2: Plastic use, consumption, and 3Rs

This section aims to measure Filipino women's perceptions and attitudes towards plastics consumption.

1. What do you usually buy for yourself? For everyone in the household?

Self:	*Other:*

Why do you/they buy them? How often do they buy something for themselves?

How do you prioritize the goods/ items to buy?

2. Who decides what to buy in the household?

	Me		Myself and/or another woman/ other women in the household
	Myself and other men and women in the household		Myself and/or another man/ other men in the household
	Shared between other men and women in the household		Another woman/ other women in the household
	Another man/ other men in the household		

3. Where do you usually buy goods? Why?

In cases when more than 1 person buys goods, are there roles when buying in the market? (e.g. payment, deciding on the volume, bringing of eco-bags, carrying items, etc.)

4. What packaging do you use when you go to the market/ grocery?

(Do they bring eco-bags, use plastic given in the market, bring own plastics for reuse)

Why do you think this packaging is used instead of other materials? (e.g. local ordinance, convenience of not bringing any eco-bag, unplanned buying)

5. What product volumes do you usually buy?

(Do they buy in sachets, bottles, "tingi-tingi" or small amounts, and other primary packaging)

Why do you usually buy goods in this volume? Is packaging part of your consideration in buying products?

6. Among members of the household, who are more likely to buy products in plastic packaging? What do you think are the factors for this?

Section 3: Role in the value chain

This section aims to measure Filipino women's perceptions and attitudes towards their role from plastic waste generation to disposal.

Segregation

7. Do you practice waste segregation at home? Why do you segregate?

If yes, does this influence your consumption? (e.g. reducing plastics use, buying items in recyclable packaging) How?

8. How do you feel about segregating in general? What are the factors that influence households to segregate their wastes?

9. Who leads the segregation at home? What do you think are the common roles in segregating wastes in the household? (e.g. setting different bins, cleaning the wrappers, segregating food wastes every meal, separating recyclables)

Collection:

10. What are your thoughts on the waste collection and segregation efforts in your area?

Can you share some local waste collection, segregation, recycling and management efforts in your area? Do you participate in these efforts? Why or why not?

11. From your observations, who usually participates in these efforts? Do you see any gender roles in these efforts? (e.g. women as lead program, men as carrier or weigher for collected wastes)

Recycling:

12. Do you practice recycling at home? If yes, how and why do you practice recycling?

13. How do you feel about recycling? What are the factors that influence households to recycle their wastes?

14. Who leads the recycling at home? What do you think are the common roles in recycling wastes in the household? (e.g. segregation, identifying junk shop or waste collector, contacting the waste collector)

15. Who usually perform the following in your household?

Segregation at home		Practice of reuse	
Bringing of wastes to collection point		Bringing to junk shops	
Partnering with informal waste sector		Others:	

Zero waste movement:

16. How would you define a zero-waste lifestyle?

17. Do you know of any zero-waste movements?

Do you practice zero-waste/ sustainable lifestyle practices? What zero waste practices do you do? What are your motivations in adopting a sustainable lifestyle?

18. What do you think is the role of women in pushing for zero waste in the household, community, and work?

Section 4: Perception of waste workers

This section aims to determine perception to informal women waste workers.

19. What do you think are the roles of women in solid waste management system?

(This refers to generation, reduction, segregation, reuse, disposal, recycling)

20. What are your observations of the women workers in the waste management facilities – junk shops, recycling?

21. What do you think are the current situations of women working with solid wastes including plastics?

22. What do you think are the necessary support for women waste workers?

Section 5: Perception of other stakeholders

This aims to determine perception and expectations of other stakeholders needed in the solid waste management system to reduce plastic pollution.

23. Who do you think are the other stakeholders involved in the solid waste management system?

How do you think they should support other stakeholders in the solid waste management system?

24. What are the usual work associated with solid waste management? (i.e. street sweepers, garbage collectors, government employee, junk shop owners)

Who usually works in these roles? Are there women in these roles?

- Thank you for your participation –

Annex C - Guide for Focus Group Discussion

Focus Group Discussion for IWC

- Validate results generated from the KIIs
- Determine the current situation and support needed by women waste workers

Participants (individual waste pickers, cooperative members, working in landfills/recycling facilities)

- 1 FGD for rural (5-10 people)
- 1 FGD for urban (5-10 people)

Area	Questions	Notes (additional questions)
Role in the value chain[1]	How did you start as an IWC?	Do you have an engagement with the LGU or are you part of any government program? Are you part of an association or cooperative?
	Why did you choose to become an IWC? What were your expectations going into this work?	
	How much do you usually earn from gathering waste (can be weekly/ monthly but please identify)? Do you receive any benefits?	Are you the breadwinner in the household? How long have you been in your current work?
	What are the expectations by family in the output of your work as a waste picker? How about others in the community?	Has waste picking affected your role in the household and how? Has it affected your relationship with your community?
	What kind of waste do they collect/sweep mainly (plastic, hazardous waste etc)?	What kind of waste can be sold? recycled/ upcycled?
	Do you sell the waste? Where? Do you work with other IWCs in selling waste?	What are your considerations when picking waste and selling them? Is there anything you do with the waste apart from selling?
	What have been your challenges in your work as a waste picker? (e.g. health, livelihood/ income, social benefits, work requirements for landfills/ recycling facilities, working in a cooperative)	Is your health affected by your work?

[1] Questions I've placed here are specific to IWCs but I've placed another row for consumers. If we are to interview IWCs, the best thing is to organize them separately, I believe.

	What has changed during the pandemic?	Has the pandemic also introduced health-related challenges? financial challenges?
	What difficulties have you faced engaging with different stakeholders (households, junk shop owners)?	
	Do you believe that solid waste management can be a good source of livelihood?	Is it safe? Do you earn enough to provide for yourself, for your family?
	What do you think of the solid waste management efforts in your area? (e.g. questions related to cooperative - benefits, challenges, needed support)	
	What do you think are your contributions in the solid waste management efforts? How about plastic reduction?	Do you think you are important in the SWM system? How are your contributions recognized by the LGU or your community?
Gender-specific questions	What are your observations of women in your current work? What are your observations of women in the waste management facilities - junk shops, recycling facilities?	
	What are the common experiences felt by women? How is this different from the experience of men?	
	How are women able to balance their roles in the household, at work and in the community?	
	Is your LGU or association supporting women in this line of work?	Are there programs addressing gender-based discrimination and/ or violence?
Perception (and expectation) of other stakeholders in reducing plastic pollution	Who do you think are the other stakeholders needed in solid waste management? What do you think are their roles in solid waste management?	
	What do you think are the necessary support for women waste workers?	Are you receiving this support? From whom? Who do you think should be providing these support?