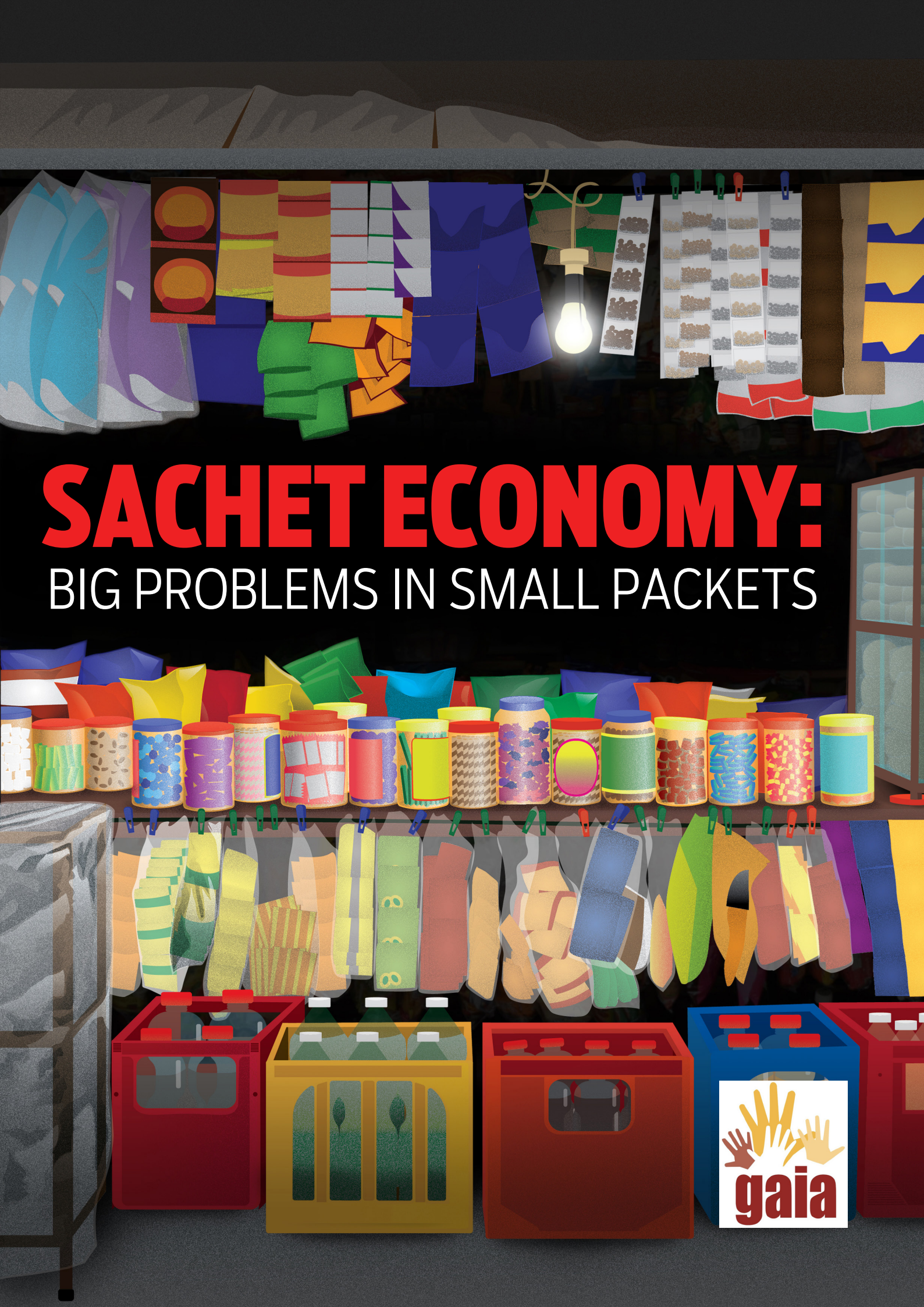

SACHET ECONOMY:

BIG PROBLEMS IN SMALL PACKETS

gaia

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SACHET ECONOMY: Big Problems in Small Packets

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GAIA is a global network of more than 800 grassroots groups, networks, NGOs, and individuals. We envision a just, Zero Waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped. We work to catalyze a global shift towards ecological and environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution.

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LIST OF ACRONYMS

DENR	Department of Environment and Natural Resources
EPR	Extended Producer Responsibility
HDPE	High-density polyethylene
LDPE	Low-density polyethylene
PET	Polyethylene terephthalate
PP	Polypropylene
WABA	Waste Assessment and Brand Audit

LIST OF FIGURES

PHOTO BY **SHERMA BENOSA**

EXECUTIVE SUMMARY

Single-use plastics are a growing concern in the Philippines, but it is the sachets—small, sealed packaging—that are particularly alarming. Comprising an estimated 52% of the residual plastic waste stream, sachets have been accumulating in the environment, where they defile the natural landscape, choke waterways, harm wildlife, and threaten livelihoods like tourism and fisheries. Filipinos use a staggering amount—around 164 million per day.

Still, encouraging results from a Social Weather Stations survey in 2019 indicate strong support among Filipinos for solutions to the mounting challenge of single-use plastics. For example, for every 10 Filipinos, 7 were willing to buy food condiments in recyclable or refillable containers, and 4 would do the same for personal care items and household cleaning products. Support for regulations on single-use plastics and willingness to use more sustainable packaging alternatives is strongest among the lower socioeconomic brackets.

Different stakeholder groups have stepped up to address the problem of single-use plastics. Certain local governments have gone beyond the usual plastic bag bans and plastic use levies by passing ordinances that prohibit specific single-use plastics like polystyrene and *labo* bags. However, the exclusion of sachets from local laws is striking, given the enormity of the problem.

Initiatives from the private sector and social enterprises include positive developments like Zero Waste stores and refilling stations, but these are still limited in number. Most efforts focus on collecting and recycling sachets. But whether single or multi-layered, sachets cannot be recycled easily. Often, they are merely "downcycled," or converted into another product that is compromised in quality, functionality, and market value. Sachets are combined with other types of plastic to make roads and construction materials such as "eco bricks," but these present new problems. These products do not eliminate the harmful effects of plastics—the plastics will still eventually degrade and enter the natural environment as microplastics, rendering it more difficult to be recovered. Similarly, "co-processing," as with other technologies that involve burning plastics, releases toxins into the atmosphere that are hazardous to human and environmental health.

The role of corporations in the burgeoning problem of sachet waste cannot be downplayed. Sachets are widely perceived as affordable, convenient, and indispensable, but only because their true costs are externalized, unaccounted for by corporations that have profited handsomely from the sachet economy, and disproportionately paid for by society.

Sachets are widely perceived as affordable, convenient, and indispensable, but only because their true costs are externalized, unaccounted for by corporations that have profited handsomely from the sachet economy, and disproportionately paid for by society.

Corporations have managed to shirk responsibility for sachet waste, leaving local governments struggling with practically unrecyclable waste. In addition, corporations use a range of greenwashing tactics that lend the impression that a company is environmentally responsible, when upon closer examination, the solutions they push for are predicated on further production of plastic, instead of halting their production. For these reasons, companies must be held accountable for their actions and compelled to reduce production of single-use plastics.

Recycling plastics, which has created livelihoods for waste workers and junk shop operators, remains a better option than sending plastics to the landfill. Nonetheless, it must be recognized for what it is—a stop-gap solution. GAIA elaborates on a waste hierarchy for sachet waste: Refuse, Rethink, and Redesign; Reduce and Reuse; Recycle; Residuals Management: and Unacceptable (such as landfilling high-value plastics). This hierarchy can guide Filipino policy makers and practitioners to help the country transition away from a sachet economy and return to more sustainable alternatives. The following action points are proposed:

i. Support alternative delivery schemes, such as Zero Waste stores and refilling.
ii. Pass a binding extended producer responsibility (EPR) legislation for companies to take greater responsibility for the impact of their products.
iii. Require corporations to fully disclose the amount of plastic used in manufacturing, shipping, retailing, and disposal.
iv. Develop guidelines on recycling and safe disposal of sachets that are already in the market.
v. Issue guidelines for environmentally friendly packaging.

SINGLE-USE PLASTICS: AN INTRACTABLE PROBLEM

Plastics have been around since the late 19th century, but it was only in the mid-20th century that they exploded in use. The virtues of plastic, such as their light weight, low production cost, versatility, and durability, catapulted the material into the mainstream. Their more recent growth can be attributed to the rise in applications for single-use plastics or disposable plastics. In 2017, 438 million tons of plastic were produced globally, with more than a third used for packaging.[1] Global plastic production has risen steadily and is projected to continue to rise by as much as 40% in the following decade.[2]

More importantly, the fossil fuel industry and its dumping of cheap feedstocks on the market has been mainly responsible for the proliferation of plastics. As economies have begun to transition away from fossil fuels towards renewable energy to mitigate climate change, the industry has identified plastics—which are derived from petrochemicals—as an opportunity to compensate for anticipated lost revenue.[3] By 2030, it is estimated that petrochemicals will comprise a third of the growth in global demand for oil, in great part because of plastics.[4]

The flip side of the low costs and conveniences offered by single-use plastics turns out to be an even greater inconvenience. The manufacturing of plastic contributes to climate change, which could still account for 10-13% of the Earth's remaining climate budget while keeping within the 1.5 warming target by 2050.[5] Moreover, what happens at the end of a plastic product's life cycle—referred to as "end of life"—is a problem that needs to be critically examined. Options are limited as to where to put plastics once people are done with them.

Nearly half of plastic products, mostly single-use packaging, become waste after less than a month.[6] The majority of single-use plastics are difficult to recycle, on account of their chemical composition. For example, plastics come in different types (see Figure 1), with each type entailing a separate recycling process.[7] This adds to the complexity of recycling. Plastics pollute in a wide variety of ways that all carry environmental and health burdens. Burning plastics, for example, releases harmful chemicals into the atmosphere. When plastics are improperly discarded, they tend to accumulate as litter in the natural environment and can potentially be ingested by birds and marine life. When ingested by the animals that some of us eat, plastics can eventually end up on our plates and in our digestive systems. Beyond being an eyesore, plastic litter can also clog up waterways and exacerbate flooding.

The Philippines, like other countries in Asia, is a haven for the fast-moving consumer goods companies that are peddling their products wrapped in single-use plastics, leaving the country struggling to cope with the sheer volume of the resulting waste.[8] Given its 1.8 million metric tons of mismanaged plastic waste, and the length of its coastlines, opportunities abound for plastic to leak into water bodies. In 2015, the Philippines was tagged as one of the major sources of land-based plastic pollution ending up in the oceans.[9]

Filipino retailers and consumers have embraced the benefits of single-use plastics. The most commonly used disposable plastics are plastic *labo* (thin plastics used to pack food and small products), *sando* bags (thin plastics with handles that are used as carrier bags), and sachets (small packaging intended for one-time use, mostly for food and personal care products). In 2018, a commissioned survey by Greenpeace found that 66% of Filipinos used disposable packaging for food, and 61% for personal care products.[10] GAIA's 2019 estimates extrapolated from Waste Assessment and Brand Audits (WABAs)[11] underscore how the country has become a throwaway society. Filipino consumers are now hard-pressed to find alternatives to plastic packaging. Any visit to the market or grocery will quickly reveal the magnitude of the plastic problem.

Figure 1. Types of Plastics

[1]Alexandra Caterbow and Olga Speranskaya, "Blessing and Curse," in Plastic Atlas, ed. Lili Fuhr and Matthew Franklin, 2nd ed. (Berlin: Heinrich Böll Foundation, Berlin, Germany, and Break Free From Plastic, 2019), 14–15.
[2]Break free from Plastic, "Branded: In Search of the World's Top Corporate Plastic Polluters" 1 (2018): 29, https://www.breakfreefromplastic.org/wp-content/uploads/2018/10/BRANDED-Report-2018.pdf.
[3]International Energy Agency and Organisation for Economic Co-operation and Development, The Future of Petrochemicals: Towards More Sustainable Plastics and Fertilisers, The Future of Petrochemicals, 2018, https://doi.org/10.1787/9789264307414-en.
[4]Ibid.
[5]Steven Feit and Carroll Muffett, "Not Green, but Greenhouse," in Plastic Atlas, ed. Lili Fuhr and Matthew Franklin, 2nd ed. (Berlin: Heinrich Böll Foundation, Berlin, Germany, and Break Free From Plastic, 2019), 26–27.
[6]Caterbow and Speranskaya, "Blessing and Curse."
[7]Doun Moon and Chris Flood, "We Cannot Recycle Our Way out of the Plastic Crisis," in Plastic Atlas, ed. Lili Fuhr and Matthew Franklin, 2nd ed. (Berlin: Heinrich Böll Foundation, Berlin, Germany, and Break Free From Plastic, 2019), 36–37.
[8]Global Alliance for Incinerator Alternatives, Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution, 2nd ed. (Quezon City: Global Alliance for Incinerator Alternatives, 2019), https://www.no-burn.org/wp-content/uploads/Plastics-Exposed-2nd-Edition-Online-Version.pdf.
[9]J.R. Jambeck, R. Geyer, C. Wilcox, T. R. Siegler, M. Perryman, A. Andrady, ... K. L. Law, "Plastic Waste Inputs from Land into the Ocean,". Science 347, no. 6223 (2015), 768–771. https://doi.org/10.1126/science.1260352.
[10]Social Weather Stations, "Survey Report on Plastic Pollution: Third Quarter 2018 Social Weather Survey (Commissioned by Greenpeace)," 2018. https://storage.googleapis.com/planet4-philippines-stateless/2019/01/ad34191e-swr-2018-iii-survey-report-on-plastic-pollution_final.pdf
[11]Global Alliance for Incinerator Alternatives, Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution, 2nd ed. (Quezon City: Global Alliance for Incinerator Alternatives, 2019), https://www.no-burn.org/wp-content/uploads/Plastics-Exposed-2nd-Edition-Online-Version.pdf.

According to the same WABA study, in the span of one year, the average Filipino uses 591 sachets, 174 shopping bags, and 163 *labo* bags. The national estimates are more unsettling. About 57 million shopping bags a day, or around 20.6 billion per year, are used. For plastic *labo* bags, usage totals roughly 45.2 million per day, or 16.5 billion per year. Diaper use is around three million each day, translating to 1.1 billion diapers thrown away every year. Finally, some 164 million sachets are thrown away each day—or 59.8 billion per year.

But it is the sachets that are particularly alarming because they take up the lion's share of the plastic waste stream at 52%.[12] Their use among Filipinos is both frequent and widespread. These sachets are not reusable, and they are hardly recyclable. Unfortunately, while great strides have been made in certain local government units (LGUs) to regulate or ban some single-use plastics, particularly straws and shopping bags, branded sachets have thus far generally managed to escape regulation.[13]

Figure 2. Plastic Residual Waste that Filipinos Discard per Year (in %)

The average Filipino uses **591** pieces of sachets, **174** shopping bags and **163** plastic *labo* bags yearly.

164 million sachets are used daily, or **59.8 billion** pieces of sachets annually throughout the Philippines

Every day, almost **57 million** shopping bags are used throughout the Philippines, or roughly **20.6 billion** pieces a year.

Plastic *labo* bag use throughout the Philippines is at **45.2 million** pieces per day, or **16.5 billion** pieces a year.

Around **three million** diapers are discarded in the Philippines daily, or **1.1 billion** diapers annually.

Source: 2019. Global Alliance for Incinerator Alternatives. Plastics Exposed: How Waste Assessments and Brand Audits are Helping Philippine Cities Fight Plastic Pollution.

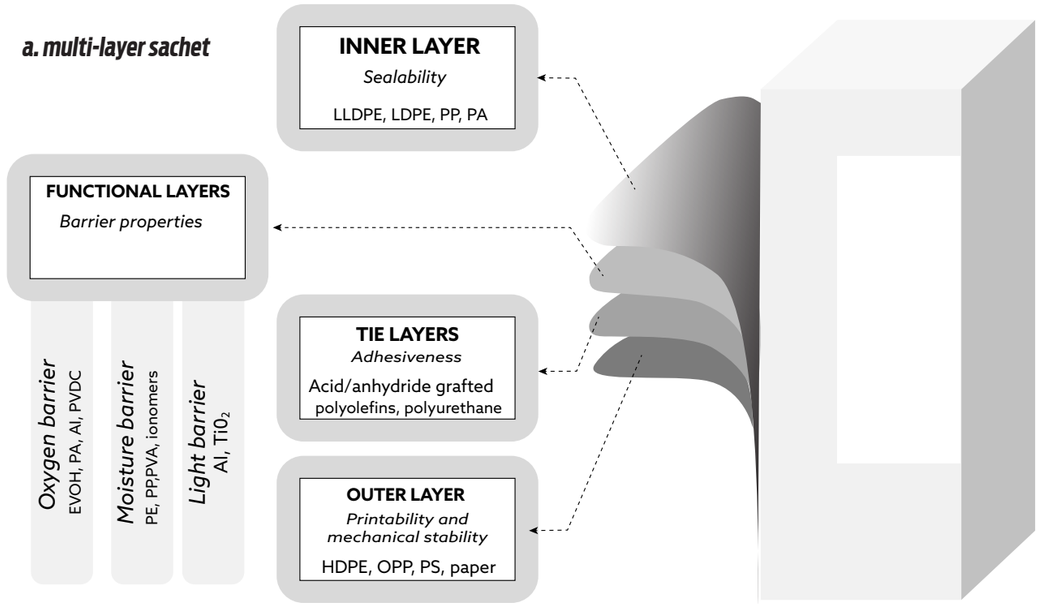
In view of this, this report is a contribution towards efforts to redress the situation and highlight the urgent need for regulations to include sachets, and to exact accountability from the companies that manufacture them. Furthermore, this report also presents current attitudes of Filipinos towards plastics. Finally, this report evaluates a growing number of initiatives, and recommends genuinely sustainable solutions to the growing scourge of sachets.

WHAT IS A SACHET?

Described as *"tingi"*-sized, a sachet is a type of small, sealed packaging made of single or multiple layers of plastics, intended for one-time use, whether by an individual or a family.

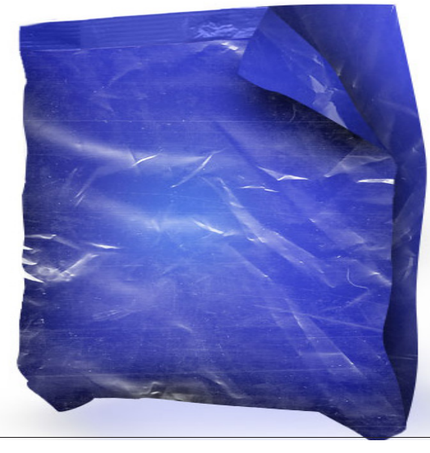
Figure 3. Multi-layer and Single-layer Sachets

a. multi-layer sachet



Source: Anukiruthika, T, Sethupathy, P, Wilson, A, Kashampur, K, Moses, JA, Anandharamakrishnan, C. Multilayer packaging: Advances in preparation techniques and emerging food applications. Compr Rev Food Sci Food Saf. 2020; 19: 1156– 1186. https://doi.org/10.1111/1541-4337.12556

b. single layer sachet



[12]Global Alliance for Incinerator Alternatives, Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution, 2nd ed. (Quezon City: Global Alliance for Incinerator Alternatives, 2019), https://www.no-burn.org/wp-content/uploads/Plastics-Exposed-2nd-Edition-Online-Version.pdf.

[13]Few municipalities cover sachets. One example is Malay, Aklan which crafted a regulation regulating single-use plastics, including sachet. See: "An Ordinance Banning the Use of 'Single-Use Plastics' in the Municipality of Malay, Aklan, Particularly in Boracay Island" (2018).

SACHET USE IN THE PHILIPPINES

According to the 2019 GAIA study, of the 164 million sachets used by Filipinos every day, multi-layer sachets comprise 62%. This equates to around 101 million multi-layer sachets discarded daily—sachets that are actually a composite of aluminum, adhesives, and different kinds of plastics (such as PVC or polystyrene). These multi-layer sachets are commonly used for liquids, such as shampoo, and powdered drinks like milk, juice, and coffee. On the other hand, the remaining 38%—equivalent to 62 million single-layer sachets daily—are used as the packaging for snacks and detergent bars.[14] In effect, the total number of sachets discarded in one year is enough to bury the entire Metro Manila under a foot of sachets.

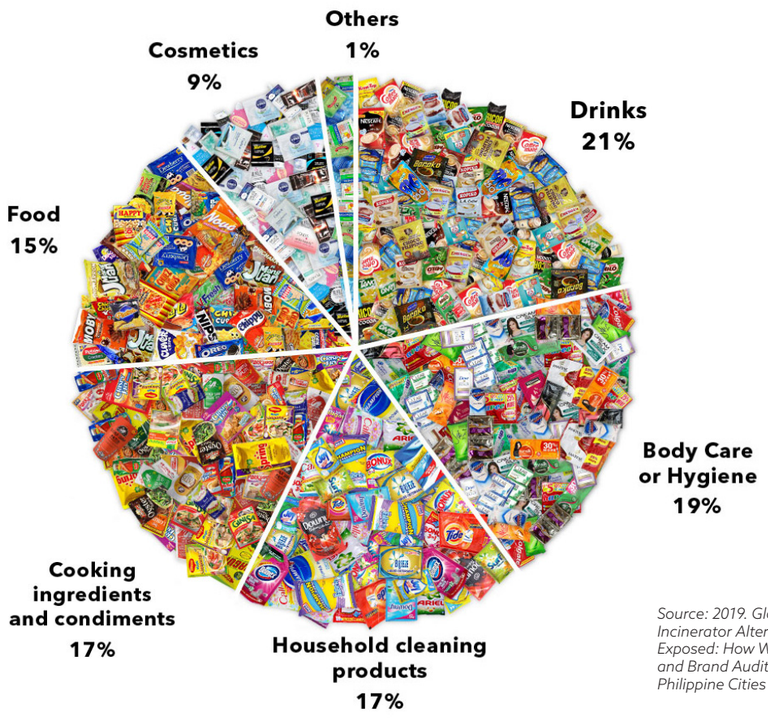
Sachet purchase and use tend to be higher among lower socioeconomic brackets. For example, while 6 out of 10 Filipinos receive or use single-use plastics in the form of a container or wrapper of personal care items, the proportion of those who use sachet is higher among socioeconomic classes E (65%) and D (61%) than ABC (51%).[15] In a study conducted by the Research Center for Social Sciences and Education at the University of Santo Tomas (UST)[16] among 1,200 residents in Metro Manila's three highest waste-generating cities—Quezon City, Manila, and Caloocan—three-fourths of respondents happened to be earning less than or equal to the minimum wage.[17] Forty-two percent of respondents purchased sachets on a daily basis. In comparison, 18% did so four to six times a week, while 40% purchased sachets once to three times a week.

While sachets dominate the residual waste stream in both rural and urban areas, consumption of sachet products is usually higher in urbanized areas than in rural ones. GAIA estimates that the average national per capita sachet consumption is 1.64 per day, but in highly urbanized Quezon City, for instance, the figure rises to as much as 6 per day.[18]

Beverages, such as instant coffee and powdered juice drinks, occupied the top spot for sachet products most frequently purchased by respondents (see Figure 3) in the UST study. These were followed by body care or hygiene products, like soap and shampoo. Tied at third were household cleaning products and cooking ingredients and condiments.

Beverages were the most frequently purchased in the markets, eateries, and *sari-sari* stores. For beauty, household, and cooking products, *carinderias* or neighborhood eateries were the primary place of purchase. Many of these *carinderias* have mini-stores selling basic commodities such as personal care items. On the other hand, *sari-sari* stores were the primary place of purchase for beverages, food (e.g. corn chips, watermelon seeds, peanuts), and hygiene products.

Figure 4. Sachet Products Frequently Purchased by Filipinos



Source: 2019. Global Alliance for Incinerator Alternatives. Plastics Exposed: How Waste Assessments and Brand Audits are Helping Philippine Cities Fight Plastic Pollution.

Before multinational companies flooded the market with sachets, Filipino communities already had systems that afforded the same benefits, without the environmental cost.

Affordability as well as convenience—primarily in terms of portion controllability due to the fixed amounts of product—are the main drivers behind sachet purchase. Sachets have enabled low-income households to afford branded quality products like shampoo, toothpaste, conditioner, and other commodities, albeit in small quantities, thanks to their low price points. Sachets have likewise helped consumers ration their use of a product better than big containers, thereby reducing product wasting. In addition, sachet products are easily found at the neighborhood eateries, *sari-sari* stores, and majority of establishments that sell food and personal care products throughout the country.

However, before multinational companies flooded the market with sachets, Filipino communities already had systems that afforded the same benefits, without the environmental cost.

[14] Global Alliance for Incinerator Alternatives, Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution.
[15] Social Weather Stations, "Survey Report on Plastic Pollution: Third Quarter 2018 Social Weather Survey (Commissioned by Greenpeace)," 2018. Socioeconomic classification may vary according to market research firms, and is based on several indicators, such as income and home ownership. Classes ABC usually represent less than 10% of families, whereas Class D makes up the majority – an estimated 60%. Around 30% of families would fall under Class E. Refer to presentation by Tomas Africa of Social Weather Stations, "Family Income Distribution in the Philippines, 1985-2009: Essentially the Same", 2011.
[16] Arlen A. Ancheta et al., "The Influence of Demography of Filipino Consumers towards Their Purchase Preference for Sachet Products" (Unpublished Manuscript, 28 January 2019) (Manila: Research Center for Social Sciences and Education (RCSSED), University of Santo Tomas, 2019).
[17] The minimum wage for non-agriculture workers in Metro Manila has been PhP537 since 22 November 2018.
[18] S Global Alliance for Incinerator Alternatives, "Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution - Global Alliance for Incinerator Alternatives."

PHOTO BY: SHERMA BENOSA

How the Filipinos' *Tingi* Culture was Co-opted by Big Business

The tingi culture, that is, the taking or using of only small portions of a product, is exemplified not only by branded sachets, but also by the small plastic bags containing the necessities of the day, be it a few cloves of garlic, or a few tablespoons' worth of oil or vinegar which are often sold in *sari-sari* stores. Nick Joaquin, National Artist for Literature, once wrote about the country's "heritage of smallness," taking note that enterprise is represented by the *sari-sari* store and commerce by the *tingi*.[19]

> *"Enterprise for the Filipino is a small stall: the sari-sari... Commerce for the Filipino is the smallest degree of retail: the tingi. What most astonishes foreigners in the Philippines is that this is a country, perhaps the only one in the world, where people buy and sell one stick of cigarette, half a head of garlic, a dab of pomade, parts of the content of a can or bottle, one single egg, one single banana."*

Filipinos' penchant for *tingi* dates back to the colonial era, continuing up to the post-war period when piecemeal purchases became a survival strategy.[20] The practice still persists in the country where 16.6% of the population lives below the poverty threshold[21] and where more than half of households comprise the poor and lower income class.[22] Buying piecemeal has allowed Filipinos to buy only what they need, in the specific amounts they need, so much so that nothing is wasted. Indeed, buying in *tingi* has tided many Filipinos over, especially the cash-strapped and the daily-wage earners.

Enter big business, which decided to capitalize on this facet of Filipino culture for profit, making their products available in single-layer and multi-layer sachet packaging and flooding the market with them. Sachets became a corporate marketing strategy[23] targeting the poor, which, based on the staggering number of sachets used in the country today, shows it has been widely successful. In a matter of decades, the *tingi* culture, once characterized by sustainable practices that used reusable materials, has been redefined into a culture of convenience dominated by fast-moving consumer goods packed in non-recyclable sachets. As a corporate marketing strategy, sachets have been considered ingenious.[24] They are widely perceived to address a need for quality goods without the high price tag. Corporations responsible for the proliferation of sachets in the country often mention that their sachet products are more affordable and are therefore "pro-poor." Sachets have expanded their customer base tremendously, from the lower socio-economic classes to the higher ones. Sachet marketing is also a way to move merchandise faster in stores and into consumers' homes. Sachets are so successful, in fact, that products such as 3-in-1 coffee are only available in sachets.

In a matter of decades, the *tingi* culture, once characterized by sustainable practices that used reusable materials, has been redefined into a culture of convenience dominated by fast-moving consumer goods packed in non-recyclable sachets.

The UST study[25] summarizes the literature on reasons for the success of sachet marketing in the Philippines:

i. the country's wide bottom of the pyramid (BOP) or socio-economic classes C, D, and E;
ii. Filipinos' exposure to Western media and Western-influenced consumer orientation;
iii. improvements in packaging technology and distribution efficiency that drive down the cost of sachets and increase their affordability;
iv. the presence of an efficient distribution network that renders the product available even in far-flung areas; and
v. its portability, dosage controllability, and consistent product quality.

These reasons seem to suggest that the rise of sachets was inevitable. However, one missing and crucial point is that corporations have profited handsomely[26] from the aggressive pushing of sachets. The pervasiveness of sachets is psychological, as seen in consumers' preferences at present. Equally important, the presence of sachets persists physically, meaning they remain in the environment.

Ironically, the relentless survival of sachets, especially as litter tainting the country's landscapes and seascapes, means that beyond serving as packaging for products, they also act as perpetual advertisements, ultimately further enriching corporations. Sachet pollution is thus both psychological and physical. Sachets are advertised now as indispensable, even though Filipinos had done well for a long time without them. They are promoted as convenient, despite the fact that their convenience is merely upon purchase and use, and that their inconveniences stretch out over a long time. They are presented as cheap, but only while disregarding other more sustainable alternatives like refilling stations.

Sachets come at a high cost to society and the environment, which are not included in almost all corporate accounting of expenses and losses. The true costs of sachets are externalized—that is to say, their manufacturers do not pay for environmental pollution and harmful effects on human health.

Instead, the burden of waste management disproportionately falls on the government, which at the end of the day is funded by taxpayers. Even Zero Waste Cities, or cities that are pursuing at-source waste reduction and segregation strategies, are confronted with the challenge of managing residual plastic waste, of which sachets make up a significant part. For example, the City of San Fernando, Pampanga, has been successful at sorting and diverting waste and preventing contamination,[27] as well as implementing initiatives like refilling stations and a plastic bag regulation. The fact that this model city is still struggling with the non-recyclable plastics raises concerns for other cities that are lagging behind with waste management, and at the same time underlining the need for the government to step in and set regulations. In the words of Mercy Sumilang, member of the barangay council of Barangay Talayan, Quezon City: "In my village, we do the best we can to manage waste effectively, but plastics remain a problem. If all our basic necessities are wrapped in sachets or plastic, we are forced to become part of the problem. This needs to be solved."

The environment also suffers: land and marine plastic pollution, increasing carbon emissions contributing to climate change, biodiversity loss, health hazards, and livelihoods in tourism and fisheries compromised.[28] Again, it is the Filipino public that must pay for the consequences of a society awash with sachet waste.

Until the myths surrounding sachets are debunked, until their heavy costs are internalized and accounted for by companies, and unless corporations adopt more principled practices under extended producer responsibility where they are accountable for the full lifecycle of their products and packaging, then little is likely to change.

Sachet pollution is both psychological and physical. Sachets are advertised now as indispensable, even though Filipinos had done well for a long time without them. They are promoted as convenient, despite the fact that their convenience is merely upon purchase and use, and that their inconveniences stretch out over a long time. They are presented as cheap, but only while disregarding other more sustainable alternatives like refilling stations.

[19] Nick Joaquin, "A Heritage of Smallness," 1966.
[20] Joseph A. Sy-Changco et al., "Managerial Insights into Sachet Marketing Strategies and Popularity in the Philippines," *Asia Pacific Journal of Marketing and Logistics* 23, no. 5 (2011): 755–72, https://doi.org/10.1108/13555851111183129.
[21] Philippine Statistics Authority, "PSA Press Briefing Full Year 2018 Official Poverty Statistics," 2018, https://psa.gov.ph/sites/default/files/2018 Full Year Poverty Statistics _FINAL.pdf.
[22] Jose Ramon Albert, Raymond Gaspar, and MJ Raymundo, "Who Are the Middle Class?," Rappler, July 8, 2015, https://www.rappler.com/thought-leaders/98624-who-are-middle-class.
[23] Sy-Changco, Joseph A., Chanthika Pornpitakpan, Ramendra Singh, and Celia M. Bonilla. "Managerial Insights into Sachet Marketing Strategies and Popularity in the Philippines." Asia Pacific Journal of Marketing and Logistics 23, no. 5 (2011): 755–72. https://doi.org/10.1108/13555851111183129.
[24] Sy-Changco, Joseph A., Chanthika Pornpitakpan, Ramendra Singh, and Celia M. Bonilla. "Managerial Insights into Sachet Marketing Strategies and Popularity in the Philippines." Asia Pacific Journal of Marketing and Logistics 23, no. 5 (2011): 755–72. https://doi.org/10.1108/13555851111183129.
[25] Arlen A. Ancheta et al., "The Influence of Demography of Filipino Consumers towards Their Purchase Preference for Sachet Products" (Unpublished Manuscript, 28 January 2019) (Manila: Research Center for Social Sciences and Education (RCSSED), University of Santo Tomas, 2019).
[26] Future Market Insights, "Sachet Packaging - 'On-the-Go' Convenience: Personal Care Industry and FMCG Leveraging the 'Convenience' Quo of Sachet Packaging (Press Release)," 2019, https://www.futuremarketinsights.com/reports/sachet-packaging-market.
[27] "Socio-Economic and Biophysical Profile of City of San Fernando, Pampanga (CSFP), 2015," p. 6-8 https://cityofsanfernando.gov.ph/files/cpdco/docs/SEBP.pdf; Global Alliance for Incinerator Alternatives. 2019. Picking Up the Baton: Political Will Key to Zero Waste.
[28] Break free from Plastic, "The Externalized Costs of Nestlé's Plastic Pollution."

Why do Filipinos Prefer Sachets? Insights from a Study

A survey conducted by the Research Center for Social Sciences and Education at the University of Santo Tomas (UST) among 1,200 respondents in three of Metro Manila's highest waste-generating cities (Caloocan, Manila, and Quezon City) concludes that affordability was the main reason behind the purchase of sachet products. This was followed by fixed amount/dosage controllability, then portability and the ease of buying and disposing of sachet products. Next, they are easily found in stores and are easy to use. Based on the survey results, people did not necessarily purchase sachet products because of the brand. Finally, the factor analysis grouped/summarized the motivations behind sachet purchasing into three main factors: affordability, convenience, and market presence.

The study also dissected the relationships between the demographic factors (city of residence, sector, gender, age, educational attainment, civil status, socio-economic status, and employment) and the frequency of sachet purchase or use. Their regression analysis revealed that educational level had a negative effect on frequency of sachet use. That is, the higher a respondent's educational level, the less their frequency of sachet use. However, for other variables (city, sector, age group, gender, civil status, job/employment, and class)—the relationship was not significant, meaning that the said demographic variables did not affect frequency of sachet use.

With regard to non-demographic factors, affordability, unsurprisingly, was strongly and positively correlated with frequency, as was "fixed amount" or portion controllability. Sachets help consumers ration their use of a product better than big containers, thereby reducing product wasting. These two factors predicted the frequency of sachet purchase and use. Brand was negatively correlated with frequency of use. This means that the classier the perception of the brand, the less likely people are going to buy it.

REASONS FOR PURCHASING SACHET PRODUCTS

AFFORDABILITY
- CHEAP

CONVENIENCE
- FIXED AMOUNT
- PORTABLE
- EASY TO PREPARE
- EASY TO BUY AND DISPOSE

MARKET PRESENCE
- COMMONLY PRESENT IN STORES
- AESTHETIC APPEARANCE
- BRANDED
- FREQUENT STORE CUSTOMER
- ONLY PRODUCTS AVAILABLE IN STORES
- SEEN IN TV ADVERTISEMENTS
- OTHERS

Source: Arlen A. Ancheta et al., "The Influence of Demography of Filipino Consumers towards Their Purchase Preference for Sachet Products" (Unpublished Manuscript, 28 January 2019) (Manila: Research Center for Social Sciences and Education (RCSSED), University of Santo Tomas, 2019).
Original title of the table: Results of the Factor Analysis of the Reasons for Sachet Purchase

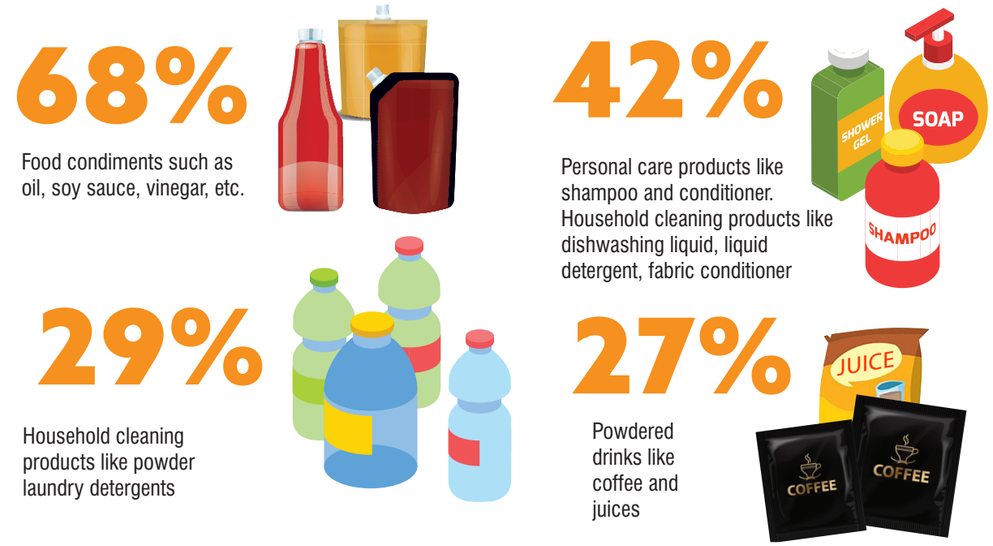
FINDING A WAY OUT OF THE PLASTIC CRISIS

Increasing Support among Filipinos for Solutions to the Sachet Crisis

A survey by Social Weather Stations (SWS) commissioned by GAIA in the third quarter of 2019 checked the pulse of Filipinos with regard to single-use plastics.[29] The results are encouraging, boding well for regulation of not only plastic bags, but also sachets.

When asked which products they would consider buying in recyclable or refillable containers, in lieu of sachets, 7 of 10 Filipinos were willing to buy food condiments, such as oil, soy sauce, and vinegar. This is the case across socio-demographics: age, gender, educational attainment, class, area, and locale. Four of 10 would do so for personal care products such as shampoo and conditioner, and household cleaning products such as dishwashing liquid, liquid detergent, and fabric conditioner. About 3 in 10 signified their interest in alternatives for powdered drinks like coffee and juices. Based on the UST study, as mentioned earlier, beverages are the leading type of sachet products purchased. Nonetheless, these figures still represent a substantial potential market that would welcome a transition from sachets into more sustainable options. Seven of 10 Filipinos were convinced about regulating or reducing the use of plastic *sando* bags. Half of Filipinos believed that sachets ought to be regulated or used less. Interestingly, the lowest proportion of the respondents (46%) was among NCR residents and highest among Visayans (56%). Support for regulation of plastics, including sachets, is generally stronger among those with a higher educational level, similar to the findings of the UST study.

Figure 5. Percentage of Filipinos Willing to Buy in Recyclable or Refillable Containers



Source: Social Weather Stations survey, 2019
Original Title of Table: Products that One Would Be Willing to Buy in Recyclable or Refillable Container

[29] Social Weather Stations, "Filipino Public Opinion on Plastics: Third Quarter 2019 Social Weather Survey (Commissioned by GAIA)," 2019.

Lastly, respondents were asked to select one from three options which would be the best way to address single-use plastics: ban the use of plastic at all times, ask the user of plastic to pay a premium, or do nothing (i.e., neither ban plastic use nor impose a higher price on plastic users). Consistent with responses as to which plastics in particular should be regulated, 6 out of 10 Filipinos opted for bans on plastics. There is little support for shifting responsibilities to users by making them pay more (16%), and interestingly, there is slightly more support for doing nothing (23%), especially when it comes to plastic bottled water (see Figure 6).

Support for solutions to plastic waste is strongest among the poor. Classes D and E comprised 95% of respondents. Of these, 73% of Class E, and 67% of Class D respondents expressed willingness to buy products in alternative containers instead of sachets. Similarly, 51% and 48% of classes D and E, respectively, feel that sachets should be regulated or used less, compared to only 35% among the ABC classes. Classes D and E (61%) are in favor of a ban, slightly higher than those from classes ABC (57%).

These SWS survey results suggest that there is an incentive among the lower socio-economic classes to reduce plastics. The results also help challenge the frequent argument put forward by manufacturers that the poor benefit from the sachets. Rather than dismiss the need for non-sachet alternatives for the sake of the "bottom of the pyramid," the results likewise show that this group is actually open to changing the status quo. It does raise questions why this is the case, given that usage is higher among the poor.

It is perhaps fitting to mention here the inequalities of waste. After all, while waste generation tends to increase alongside income levels,[30] the negative effects of plastic waste are strongly felt by the poor. Filipinos living in affluent communities are far removed from the problem of plastic pollution. It is those that reside in informal communities that suffer from the threat of flooding due to canals clogged by littered sachets and shopping bags, not to mention the stench and unsightliness caused by plastics accumulating in their surroundings. These people usually have fewer public services available to them, such as regular waste collection services.

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Figure 6. Best Thing to Do with Single-Use Plastics in %

Source: Social Weather Stations survey, 2019

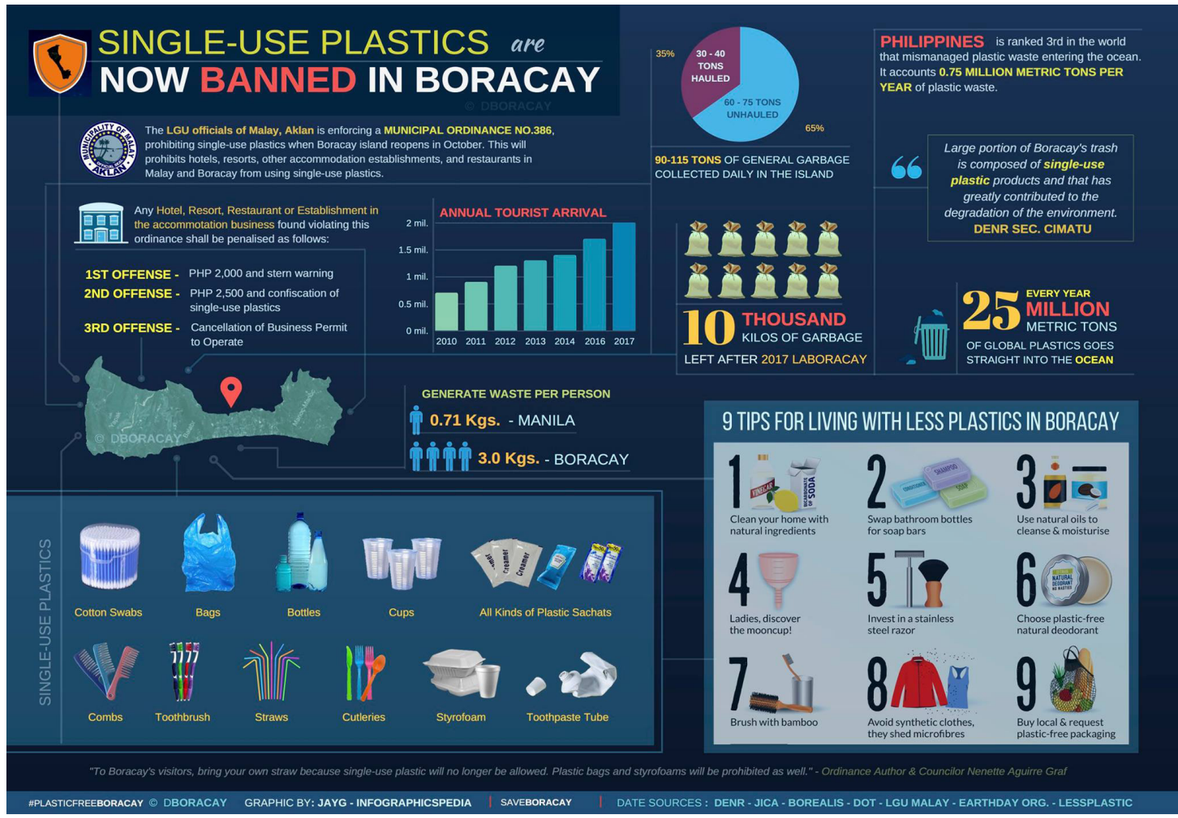
[30] Senate Economic Planning Office. Philippine Solid Wastes at a Glance. 2017. https://www.senate.gov.ph/publications/SEPO/AAG_Philippine%20Solid%20Wastes_Nov2017.pdf:
Silpa Kaza, Lisa Yao, Perinaz Bhada-Tata, and Frank Van Woerden. "What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050," Urban Development Series. Washington, DC: World Bank. 2018. doi:10.1596/978-1-4648-1329-0.

Initiatives to Regulate Single-Use Plastics: Local Governments Step Up

Today, sachets remain unregulated and left out of discussions surrounding plastic bans. At present, more than 300 local government units, from barangays to provinces, have passed ordinances regulating the use of single-use plastics.[31] So far, many of these have simply focused on plastic shopping bags, either by imposing levies on their use, or banning them completely in favor of more sustainable materials.

Certain local governments—such as El Nido, Palawan; Quezon City; and San Fernando, Pampanga—are dreaming bigger when it comes to curbing plastic waste, expanding the scope from plastic bags to include water bottles, straws, cutlery, stirrers, and polystyrene containers, among others. The island province of Siquijor passed an ordinance in October 2018 that phased out the use of specific single-use plastics, starting from prohibiting plastics as secondary packaging (such as shopping bags). Since February 2019, aside from shopping bags, *labo* bags, also known locally as cellophane, have been likewise prohibited for cooked food and water. Finally, in May 2019, sales of polystyrene and other disposable containers were banned.[32]

The municipality of Malay, home to the resort island of Boracay, passed an ordinance in 2018 that bans single-use plastics.[33] This is also part of its bid to market itself as an eco-friendly destination. The ordinance provides a more comprehensive list of single-use plastics that accommodation and dining establishments can no longer use, such as toothbrushes, toothpaste tubes, plastic cups, cutlery, shower caps, razors, and most importantly—sachets of coffee, sugar, creamer, shampoo, and conditioner.



Poster accompanying an announcement on the Facebook page *Boracay Island* on the ban on single-use plastics in Boracay.
PHOTO FROM THE **FACEBOOK PAGE, BORACAY ISLAND.**

[31] Department of Environment and Natural Resources, "National Solid Waste Management Status Report (2008-2018)," 2018.
[32] Global Alliance for Incinerator Alternatives, "Plastic Bag Bans in the Philippines," n.d., https://www.no-burn.org/bagbanph/.
[33] Municipality of Malay, Aklan, "An Ordinance Banning the Use of 'Single-Use Plastics' in the Municipality of Malay, Aklan, Particularly in Boracay Island" (2018).

Managing plastic waste is ultimately a national concern, meriting nothing short of a comprehensive national policy that stands firm against single-use plastics.

PHOTO BY **SHERMA BENOSA**

The exclusion of sachets from even fairly ambitious regulations is striking, given the magnitude of waste that sachets amount to. Sachets are the fundamental yet missing link to solving the plastic crisis. If the Philippines is to achieve dramatic reductions in plastic waste, it will not be enough to regulate just straws and shopping bags. The regulation of single-use plastics needs to broaden its scope. First, other types of single-use plastics, not just sachets, but also *labo* bags, should be included. Second, geographic coverage needs to expand.

Certainly, local initiatives are victories in themselves. They are legitimate contributions to the battle against plastic waste. It is important to recognize, however, the struggles faced by isolated LGUs with plastic regulations without a comprehensive national policy regulating plastics. Waste can easily cross city, municipal, and provincial borders, making it easy to circumvent any one city's plastic policies. Plastic bags can still be purchased and brought in from a neighboring city without any plastic legislation. This may create a "race to the bottom" effect, where dirty and unsustainable practices will flow to places without regulation or sufficient enforcement. Policies can differ from one city to the next, leading to confusion for citizens. San Carlos City in Negros Occidental is one example of an LGU that has encountered challenges to the implementation of its plastic ban. Its response is to patrol highway boundaries for vendors bringing banned plastic packaging from neighboring towns into the city.[34]

As of now, local governments cannot ban sachets outright. Besides, banning one form of single-use plastic can lead to the unintended consequence of shifting use towards another type of plastic or material (such as paper bags that are fully recyclable but still single-use). As an example, since the City of Navotas banned *sando* bags, usage of *labo* bags has increased.[35]

Managing plastic waste is ultimately a national concern, meriting nothing short of a comprehensive national policy that stands firm against single-use plastics. This would provide the needed response to the RA 9003—the Ecological Solid Waste Management Act of 2000—mandate to develop a list of environmentally friendly materials. Such a policy would harmonize existing standalone regulations that reduce plastic production and use. It would likewise determine the proper implementation mechanisms, as time and again experience has shown that the presence of legislation is not automatically tantamount to reductions in plastic use.

Initiatives from the Private Sector and Social Enterprises

Zero Waste Stores and the Refill Revolution

Refilling is an alternative distribution system that echoes how people previously obtained basic commodities—before the advent of cheap and disposable packaging. For this reason, Zero Waste refilling stations are gaining ground, with several established ones in Metro Manila, such as Refuse, Ritual, Loop, and Got Heart. Others have sprouted up in different cities: in Davao, Cagayan de Oro, and Bacolod. In Negros Island, eight *sari-sari* stores have gone Zero Waste, proving that micro-refilling stations can offer a reasonably priced alternative that meets the needs of the poor (see Wala Usik Lights the Way in Negros).

Zero Waste stores are packaging-free havens. Customers are encouraged to bring their own shopping bags and containers when they come to refill basic commodities such as oil, soy sauce, vinegar, sugar, rice, and dishwashing liquid, which would otherwise be available in sachets. The stores also promote "naked" or packaging-free alternatives like shampoo bars, toothpaste tabs, and even deodorant. Most sell items that facilitate the transition to a Zero Waste lifestyle, such as reusable cutlery, straws, and tumblers. Many promote healthy and toxics-free products. Finally, some shops are also accepting returns of their own containers, which customers will clean and reuse themselves. Waste is eliminated not only by avoiding single-use packaging, but also because customers are given the option to buy the exact amount they need—nothing more, nothing less.

In 2019, Unilever piloted the All Things Hair Refillery in three Ayala Malls over three weeks. Customers bringing their old bottles from Unilever brands to the refilling stations were allowed to refill these with their favorite shampoos and conditioners, but those without the proper bottles had to have them exchanged for new "100% recyclable" and reusable plastic bottles, or were made to purchase these for Php10.[36] A drawback to this system is that it places an additional barrier to people who may want to switch brands and variants, since this particular refilling mechanism only allowed for customers to get a refill of the variant that matched their old bottle. Moreover, it remains to be seen whether this initiative will be continued and later rolled out to more locations.

While the majority of Zero Waste stores are initiated by the private sector, some refilling programs have been spearheaded by local government units, government agencies, and civil society. In 2018, the Central Luzon Environment Management Bureau (EMB) rolled out "Refill Revolution" pop-up stores in towns such as San Fernando, Pampanga and Guiguinto, Bulacan as part of its anti-pollution program.[37,38] Wala Usik was organized by the Philippine Reef and Rainforest Conservation Foundation under the auspices of a USAID-funded project. More recently, the Quezon City government partnered with NutriAsia, one of the country's biggest condiment manufacturers, to launch its own refilling station Bring Your Own Bote (BYOB) within the city hall premises.[39]

Consumers buy refill fabric softener at the Refill Revolution pop-up store in San Fernando, Pampanga. PHOTO COURTESY **OF CSFP CENRO.**

[34] Personal communication with San Carlos City's City Environment Office, Marietta F. Lomocso, San Carlos City's City Environment Office, 31 January 2019.
[35] Global Alliance for Incinerator Alternatives, Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution.
[36] Unilever Philippines, "The All Things Hair Refillery Station," April 15, 2019, https://www.unilever.com.ph/news/press-releases/2019/the-all-things-hair-refillery-station.html.
[37] "Refill Revolution Reloaded in Bulacan Town," Philippine Daily Inquirer, April 30, 2018, https://newsinfo.inquirer.net/986317/refill-revolution-reloaded-in-bulacan-town.
[38] "City of San Fernando Launches 'Refill Revolution,'" SunStar Pampanga, June 5, 2018, https://www.sunstar.com.ph/article/1746617.
[39] Janvic Mateo, "Quezon City Opens Condiment Refilling Station," The Philippine Star, February 28, 2020, https://www.philstar.com/nation/2020/02/28/1996650/quezon-city-opens-condiment-refilling-station.

Wala Usik Lights the Way in Negros

In Wala Usik *sari-sari* stores, common household products like oil and vinegar are sold via refill to remove people's dependence on single-use packaging. PHOTO BY **PHILIPPINE REEF AND RAINFOREST CONSERVATION FOUNDATION.**

Launched in Bacolod City in early 2019, Wala Usik—"nothing wasted" in Hiligaynon—is Negros Island's first Zero Waste store. Typical of Zero Waste stores, it provides packaging-free basic commodities like rice, cooking oil, coffee, and vinegar. Majority of its products are organic or produced by local people's organizations or social enterprises.

But Wala Usik is more than just a Zero Waste store. Made possible through the efforts of the Sea Waste Education to Eradicate Plastic (SWEEP) project of the Philippine Reef and Rainforest Conservation Foundation, Inc. (PRRCFI), Wala Usik has also nurtured and supported a growing movement of *sari-sari* stores that are now upholding the principles of Zero Waste. *Sari-sari* stores in eight Negrense cities—Bacolod, Cauayan, Sipalay, Hinoba-an, Sta. Catalina, Basay, Siaton, and Bayawan—were transformed into Wala Usik stores. The stores are painted with bright colors with messages promoting environmental protection. The storeowners underwent design thinking to identify which fast-moving consumer goods could be sold in increments without the usual single-use plastic—some are 100% single-use-plastic-free, while some are still transitioning.

These micro-refilling stations show the way forward. Each refilled container can replace several sachets. To illustrate, in the seven months the stores had been operating, Wala Usik has managed to prevent the entry of some 45,000 pieces of plastics into the oceans. And perhaps the best part is that the stores offer a competitive price for their products, compared with sachets.

To this day, Wala Usik continues to innovate and test refilling prototypes, serving as living proof that Zero Waste is possible for the *sari-sari* stores. By working with one of the country's most important socio-economic institutions, Wala Usik is also showing that pro-poor does not mean pro-sachet, and that Zero Waste is for every Filipino.

**SWEEP: Sea Waste Education to Eradicate Plastic. January 19, 2020, https://www.facebook.com/pg/sweep.ph/*

PHOTO BY **SHERMA BENOSA**

Recovery and Recycling Efforts?

Manufacturing companies have responded to the problems posed by sachets in various ways. For example, Unilever Philippines and CEMEX launched collection systems direct from households, while Bulacan-based social enterprise GreenAntz collects from both households and corporations. Unilever Philippines' *Misis Walastik*, which runs in more than 370 households in the capital and neighboring provinces, encourages households to exchange a kilo of sachets (roughly 1,000 pieces) for Php10 worth of Unilever products, equivalent to two shampoo sachets.[40] It has a version in the City of Manila, called *Kolek Kilo Kita* (collect, weigh, earn) para sa *Walastik* na Maynila, which enjoys the support of its mayor. CEMEX's Tamang Segregation para sa Kalikasan (proper segregation for the environment) encourages communities to donate their dry plastic wastes for a chance to win products courtesy of Unilever. Meanwhile, Republic Cement is promoting the concept of "plastic neutrality," whereby companies can offset their use of plastic packaging by supporting plastic recycling initiatives. Partners include Nestlé, Hope in a Bottle, Century Pacific Food, and Shakey's Pizza.[42]

Third parties also seek to collect plastic wastes including sachets. Plastic Flamingo, a French social enterprise, accepts all types of plastics from various collection points.[43] Plastic Bank, meanwhile, a social enterprise with operations in Manila and Naga, collects from its network of collectors only high-value plastics (polyethylene terephthalate or PET, high-density polyethylene or HDPE, low-density polyethylene or LDPE, polypropylene or PP), of which sachets are not included. Plastic Bank claims to be paying their collectors a premium and ensuring that communities' lives are uplifted in the process of retrieving plastics.[44]

But recovery is an intermediate step. What happens to sachets once they are collected is the main concern. Often, what companies claim are "recycled" plastics are merely "downcycled," that is, converted from one type of product into another of lesser quality and functionality, as is usually the case with plastic packaging, of which only 14% is recycled globally.[45] For example, plastic waste turned into textiles (such as polyester), which cannot be transformed into an equally functional product after end of use.

In Plastic Bank's and Plastic Flamingo's programs, plastics are transformed into strips or pellets, and then used as feedstock for new plastic products. Plastic Bank's collected plastics are shredded and then sold as pellet or flake feedstock to manufacturing companies. Plastic Flamingo, meanwhile, converts different plastics into recyclable planks and boards, as well as construction materials, furniture, and transitional shelters for disaster-affected people.

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[40] Unilever Philippines, "Manila Launches 'Kolek Kilo Kita' in Partnership with Unilever Philippines," October 30, 2019, https://www.unilever.com.ph/news/news-and-features/2019/the-city-of-manila-launched.html.
[41] CEMEX Philippines, "CEMEX Partners with Unilever for TSEK Clean Community Program," January 21, 2019, https://www.cemexholdingsphilippines.com/-/cemex-partners-with-unilever-for-tsek-clean-community-program.
[42] Republic Cement, "Republic Cement Supports Environmental Sustainability Through Plastic Neutrality," October 21, 2019, https://republiccement.com/plasticneutrality
[43] The Plastic Flamingo, "Why We Are Different," n.d., https://www.theplaf.com/why-we-are-different.
[44] Plastic Bank, "Plastic Bank Philippines," n.d., https://plasticbank.com/philippines.
[45] World Economic Forum, Ellen MacArthur Foundation, and McKinsey & Company, "The New Plastics Economy — Rethinking the Future of Plastics," 2016. P.46.

Miniature version of an ecobrick. PHOTO BY **SHERMA BENOSA**

PARMS, or the Philippine Alliance for Recycling and Materials Sustainability,[46] invested in a materials recovery facility in Parañaque City, which doubles as a plastics recycling facility and research and development center, which aims to boost production of extruded plastic lumber[47] and Green Antz's bricks (see below).[48] PARMS had mentioned that their extrusion device would be able to process 250 kg of plastics in an hour.[49]

Aside from extrusion or molding melted plastic pellets to the desired shape by forcing it through a die, another practice is combining plastics with other materials to make construction products. GreenAntz shreds the plastics and then brings them to their manufacturing hubs for processing, where they are combined with cement and an additive that strengthens their final products—bricks, primarily, but also pervious pavers or porous concrete, and casts.[50] The products are described as "eco" e.g., "eco-bricks," but they look like traditional products, the only difference being they contain about 100 pieces of sachets, or roughly 45 grams of plastic waste in the mix of cement, sand, and gravel.[51]

Green Antz turns plastic waste into products that are being used by local governments, companies, and schools. Nestlé Philippines—one of its main supporters—used 3,500 "eco-bricks" for its multi-purpose building. Green Antz also gives back to institutions that provide them plastic, as in the case of Culianin Elementary School in Plaridel, Bulacan, which received "eco-bricks" for their infrastructure projects in return for the thousands of kilos of plastics collected and sent to the company.[52] The exchange rate is roughly 2.5 kilos of sachets to one "eco-brick." The resulting bricks are said to be stronger and more durable than their plastic-less equivalents; however, the toxic substances in the plastic waste nonetheless can lead to adverse environmental and health impacts.[53] In addition, this system leads to an illusion on the part of the well-meaning citizens and communities that their actions are solving the problem of plastic waste when in fact, it does the opposite by encouraging and incentivizing sachet use.

"Recycled" plastic waste has also found its way into road infrastructure. San Miguel Corporation made the headlines in late 2019 when it pioneered a road partly made of plastics for its new logistics center in General Trias, Cavite. The technology, developed by international chemical/materials science corporation Dow, made it possible to downcycle some 180,000 sachets and plastic bags, which served as binder with bitumen in the production of asphalt.[54]

Ecobricks—not to be confused with Green Antz's cement bricks mixed with plastic laminates—refer to the "manual securing of used plastic in a PET bottle to make a reusable building block."[55] The technology is simple: to make an ecobrick, one must wash and dry used sachets and other plastic residuals, including cigarette filters, and pack them tightly into PET bottles. But since ecobricks are to be used as building materials for furniture, structures, gardens—"green spaces"—among others, they must meet the density requirement. The Global Ecobrick Alliance (GEA) presents ecobricks as the simple sustainable solution for plastic, with established best practices for using ecobricks in short-term and long-term applications. Ecobricks Philippines trains groups all over the country that are interested in learning more about ecobricking. Thus far, ecobricks have mobilized students, church groups, and communities to create, donate, or use ecobricks for their infrastructure projects.

Unfortunately, the above-mentioned efforts fail to live up to the promise of eliminating the harmful effects of plastics. While current evidence on primary microplastics leakage only cover road runoff from markings,[56] construction materials derived from plastics, such as "eco-bricks," blocks, and pavers, as well as "plastic roads," will eventually break down and enter the natural environment as microplastics due to product wear and tear.[57] The risks these "recycled" products pose on the environment and human health include leaching of toxic substances that can accumulate in water sources, contaminating drinking water, fisheries, and agricultural land.[58]

Once these "recycled" construction materials reach their end-of-life, the question remains: what happens to the plastics? They will persist and will remain difficult to recycle and pose the same threats that the new products were designed to prevent in the first place. For example, ecobricks, if they contain mixed wastes, will be difficult to recycle in the end. The same applies to roads and other buildings made of plastic-mixed materials.[59] The International Finance Corporation (IFC) has underlined the need for standards to evaluate projects and mitigate problems arising from the decay of materials. On balance, these processes merely delay the final endpoint of plastics—that is, disposal—while rendering recovery more problematic as plastics are converted into microplastics.

Ecobricks used as primary material for a booth in a school in Ilocos Norte. PHOTO BY **LEILANIE ADRIANO**

[46] PARMS is a multi-sector group comprising multinationals (such as Unilever Philippines, Coca-Cola FEMSA Philippines, Liwayway Marketing, Monde Nissin, Nestlé Philippines, Pepsi-Cola Products Philippines, Procter & Gamble Philippines, and Universal Robina Corporation); industry association (Philippine Plastics Industry Association); and civil society organizations (Zero Waste Recycling Movement, Philippine Business for the Environment).

[47] A kind of lumber made of 100% plastic (virgin or recycled plastic). Plastic pellets are melted at high temperature and then extruded or molded to the desired shape by forcing the molten plastic through a die.

[48] World Economic Forum, Ellen MacArthur Foundation, and McKinsey & Company, "The New Plastics Economy — Rethinking the Future of Plastics," 46.

[49] Philippine Alliance for Recycling and Materials Sustainability; https://parms.com.ph/projects/r-d-facility-in-paranaque-mrf

[50] Vincent Mariel P. Galang, "How to Solve the Waste Plastic Problem One 'Ecobrick' at a Time," BusinessWorld, November 6, 2018, https://www.bworldonline.com/how-to-solve-the-waste-plastic-problem-one-ecobrick-at-a-time/.

[51] SIP Innovations Philippines Inc., "Can't Avoid Sachets? Turn Them into GreenAntz Ecobricks!," n.d., https://sip.ph/blogs/isip/cant-avoid-sachets-turn-them-into-greenantz-ecobricks.

[52] Galang, "How to Solve the Waste Plastic Problem One 'Ecobrick' at a Time."

[53] David Azoulay et al., Plastic & Health: The Hidden Costs of a Plastic Planet. Center for International Environmental Law February (2019): 49. https://www.ciel.org/wp-content/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf

[54] Lucia de Guzman, "San Miguel Tests Use of Asphalt Mixed with Recycled Plastic on Road," CNN Philippines, November 22, 2019, https://www.cnn.ph/business/2019/11/22/smc-plastic-road.html; "San Miguel Uses Asphalt Made with Recycled Plastics in Cavite Road Project," ABS-CBN News, November 22, 2019, https://news.abs-cbn.com/business/11/22/19/san-miguel-uses-asphalt-made-with-recycled-plastics-in-cavite-road-project.

[55] Global Ecobrick Alliance, "Ecobricks," n.d., https://www.ecobricks.org/.

[56] Julian Boucher and Damien Friot, Primary Microplastics in the Oceans: A Global Evaluation of Sources (Gland: IUCN, 2017), https://doi.org/dx.doi.org/10.2305/IUCN.CH.2017.01.en.

[57] Azoulay et al., "Plastic and Health: The Hidden Costs of a Plastic Planet."

[58] Global Alliance for Incinerator Alternatives, "Briefing: False Solutions to the Plastic Pollution Crisis," no. November (2018): 1–11.

[59] Saket Sundria and Debjit Chakraborty, "Diapers to Bricks: A $100 Billion Plastic Challenge," Bloomberg, February 14, 2020, https://www.bloomberg.com/news/articles/2020-02-12/from-diapers-to-bricks-a-100-billion-plastic-waste-challenge.

It is worth noting that Unilever's program is tied to cement companies, suggesting that the collected plastic waste is being used as fuel for cement kilns. *Misis Walastik* and other exchange schemes not only incentivize the increased use of sachets but also encourage burning more plastic waste. Holcim Philippines co-processed in its cement kilns more than 25,000 metric tons of plastic wastes from 2010 to 2018.[60] Co-processing is a practice among cement companies characterized by burning recovered plastics in cement kilns to produce supplemental fuel to manufacture cement.

Whether plastics are burned in kilns through "co-processing," as in the case of cement manufacturers, or are broken down into flakes and pellets and melted down and mixed with other substances before being turned into other products, they rely on heat that releases toxins into the environment as ash and wastewater. Pollutants from the burning of plastics include carbon monoxide, dioxins and furans, particulate matter, and volatile organic compounds—all of which are dangerous to human and environmental health.[61]

The Department of Environment and Natural Resources (DENR) permits the use of waste as alternative fuel for cement production.[62] However, the agency's capacity to monitor pollution control measures is grossly inadequate. Per DENR guidelines, monitoring of cement kilns using municipal waste as alternative fuel needs to be done only once a year. On the contrary, continuous monitoring of release of dioxins and other pollutants into the atmosphere is necessary to detect fluctuations in emission levels and to provide accurate information to nearby communities about their exposure to pollutants.[63] The country's regulatory framework for dioxin monitoring is only limited to waste-to-energy facilities, which are only required to submit quarterly self-monitoring report and semi-annual compliance monitoring report.[64] GAIA reiterates that incinerating, converting waste to energy by applying heat or burning in any name or form, locks society into a culture of continued extraction, thereby undermining sustainability goals.

> Incinerating, converting waste to energy by applying heat or burning in any name or form, locks society into a culture of continued extraction, thereby undermining sustainability goals.

[60] Roderick Abad, "Holcim to Help Curb Plastic-Waste Problem in PHL," Business Mirror, October 5, 2018, https://businessmirror.com.ph/2018/10/05/holcim-to-help-curb-plastic-waste-problem-in-phl/.
[61] Megan Ponder et al., Green Businesses and Cities at Risk: How Your Waste Management Plan May Be Leading You in the Wrong Direction (GAIA and the Tishman Environment and Design Center at The New School, 2017), https://www.no-burn.org/wp-content/uploads/Businesses-and-cities-at-risk.pdf;
Chung-Jung Tsai e., "The Pollution Characteristics of Odor, Volatile Organochlorinated Compounds and Polycyclic Aromatic Hydrocarbons Emitted from Plastic Waste Recycling Plants," Chemosphere 74, no. 8 (2009): 1104–10.
[62] Department of Environment and Natural Resources Executive Order no. 2010-06. "Guidelines on the Use of Alternative Fuels and Raw Materials in Cement Kilns." https://emb.gov.ph/wp-content/uploads/2015/12/DAO-2010-06.pdf
[63] Ibid.
[64] DENR Administrative Order No. 2019-21. "Guidelines Governing Waste to Energy (Wte) Facilities for the Integrated Management of Municipal Solid Waste", https://emb.gov.ph/wp-content/uploads/2020/01/Guidelines-Governing-Waste-To-Energy-WtE-Facilities-for-the-Integrated-Management-of-Municipal-Solid-Wastes.pdf

Recycling is Not Enough

In summary, recovery does not really solve the problem of what to do with the plastic waste. It may prevent plastics from ending up in undesired places, or in the case of co-processing, can even make matters worse by releasing toxins from the plastics into the air and contained in the cement. Neither is recycling, which is often proposed as the best solution to the plastic crisis. Recycling means that at the end of life of a piece of plastic, it will be processed and downcycled into another, less valuable piece of plastic. However, there is limited public awareness on the realities of plastics recycling, including the actual extent of recycling and its feasibility. Of all the plastics that have ever been generated globally since 1907, only an estimated 9% has been recycled.[65]

> Unless recycling reduces the production of primary materials, it merely delays waste generation—it becomes a stop-gap solution whose advantages often do not apply to sachets given their low resource value.

In terms of feasibility, plastics cannot be recycled indefinitely without compromising on quality, whereas glass or paper have better prospects.[66] That means virgin plastic materials will always be needed, fueling the demand for more petrochemicals. Some plastic products simply cannot be recycled owing to the toxic properties of certain additives,[67] if they are declared at all by the plastic manufacturers. Although recycling plastics is better than sending them to a landfill, it is more ideal to avoid producing this material in the first place.

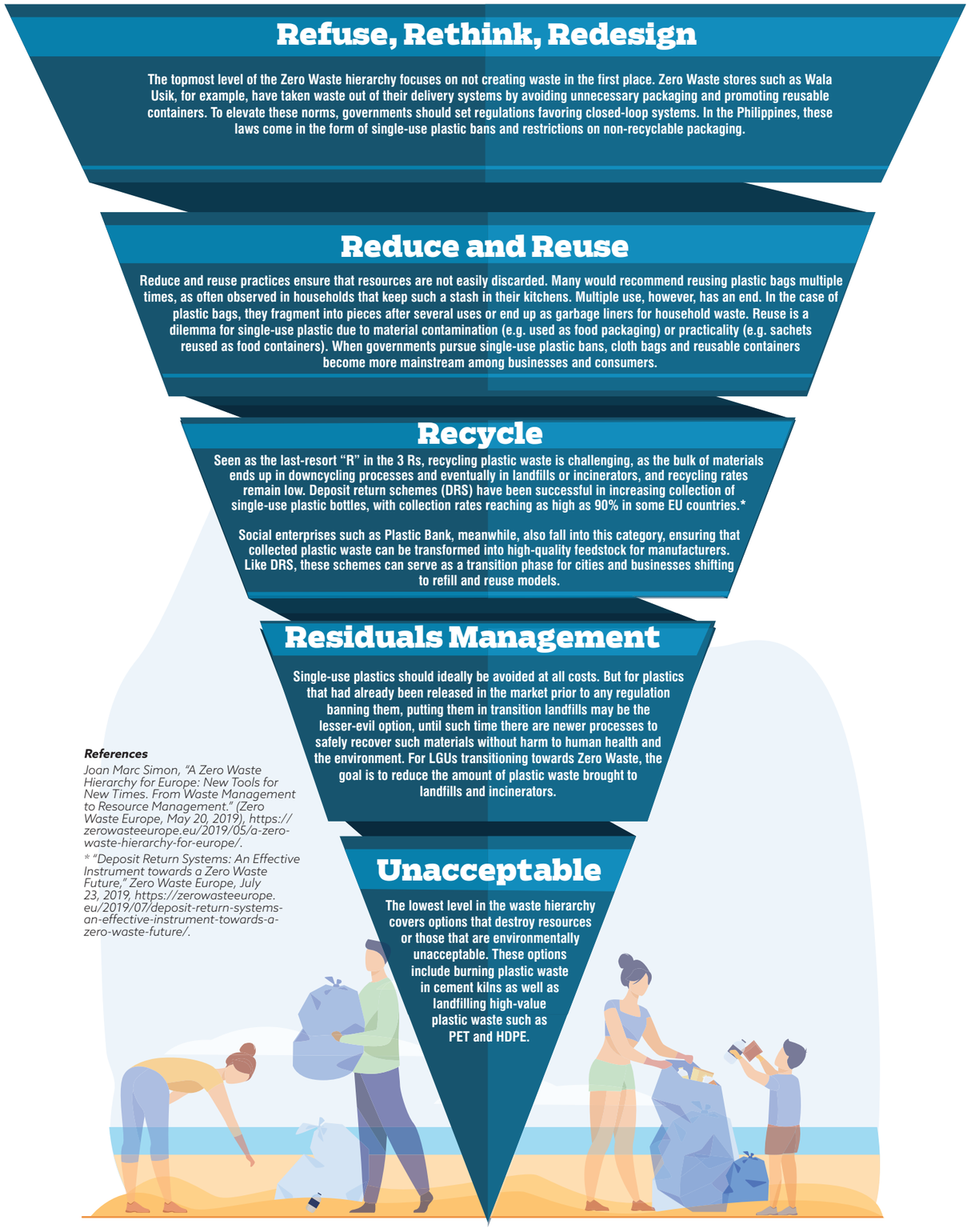
Unfortunately, companies do not readily acknowledge plastic waste leakage from their end, or voluntarily provide information about health and environmental risks of treating sachets through chemical recycling or co-processing. This makes it next to impossible to analyze the full range of impacts of these efforts. These purported solutions, placed under the convenient umbrella term "recycling," are fraught with problems.

Nonetheless, recycling does have its place in society. In the Philippines, recycling has benefited communities by enriching the livelihoods of waste pickers and junk shop operators. When materials recovery facilities are fully functional, they can also generate additional income streams for local governments. But unless recycling reduces the production of primary materials, it merely delays waste generation[69]—it becomes a stop-gap solution whose advantages often do not apply to sachets given their low resource value.

What should be done in the meantime, then? Elaborating on a waste hierarchy for sachet waste specifically can serve as a practical guide for policy makers and practitioners. Using the Zero Waste hierarchy developed by Zero Waste International Alliance and later adopted by Zero Waste Europe, GAIA developed a circular economy[70] framework towards Zero Waste—one in which the value of products, materials, and resources is maintained for as long as possible, thus minimizing waste and resource use.[71] The hierarchy seeks to design waste out of the system, by investing in waste-free products and services, influencing consumption habits, and enacting legislation to ensure compliance from businesses. It indicates that the Zero Waste movement and refill stores can continue to lead the way, capitalizing on the willingness expressed by key sectors of Philippine society to support alternative, progressive solutions.

[65] Roland Geyer, Jenna R Jambeck, and Kara Lavender Law, "Production, Uses, and Fate of All Plastics Ever Made," Science Advances 3, no. 7 (2017): 5, https://doi.org/10.1126/sciadv.1700782.
[66] Unlike glass (as long as contaminants are removed), the quality of plastic deteriorates each time it is recycled. Paper strength (fiber) downgrades as well, but the environmental benefits of recycling paper are clear. In contrast, plastic materials generally just get downcycled, not recycled.
[67] Some of the plastic additives include plasticizers, flame retardants, anti-oxidants, pigments, lubricants, etc. See https://www.sciencedirect.com/science/article/pii/S030438941730763X
[68] Global Alliance for Incinerator Alternatives, "Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution - Global Alliance for Incinerator Alternatives," Gaia, 2019, https://www.no-burn.org/waba2019/.
[69] Roland Geyer et al., "Common Misconceptions about Recycling," Journal of Industrial Ecology 20, no. 5 (2016): 1010–17, https://doi.org/10.1111/jiec.12355.
[70] The circular economy model challenges the prevalent "take-make-waste" linear model. According to the Ellen MacArthur Foundation, which is leading the agenda on circular economy, the circular economy is based on three principles: designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. For more information, see https://www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy.
[71] Joan Marc Simon, "A Zero Waste Hierarchy for Europe: New Tools for New Times. From Waste Management to Resource Management." (Zero Waste Europe, May 20, 2019), https://zerowasteeurope.eu/2019/05/a-zero-waste-hierarchy-for-europe/.

Figure 7. A Plastic-Focused Zero Waste Hierarchy for the Philippines



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A FALSE NARRATIVE THAT URGENTLY NEEDS TO BE REVISED

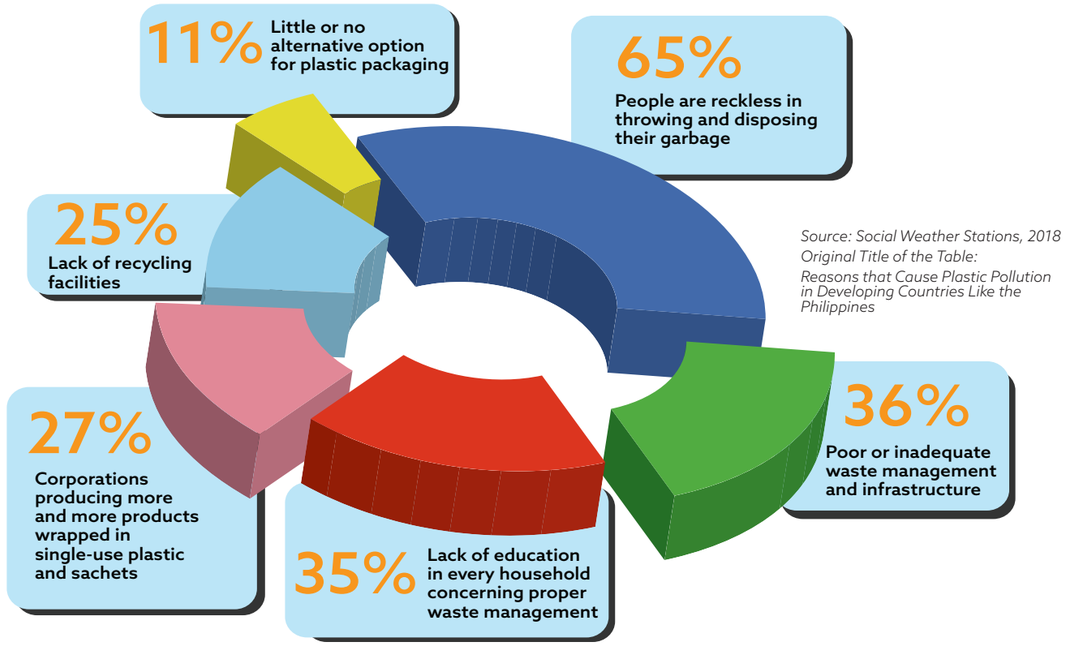
Unpacking Public Attitudes Towards Plastic Pollution

The SWS survey commissioned by Greenpeace in 2018 which sought to learn public opinions on the perceived causes of plastic pollution, as well as who has responsibility over reducing it, found that two of three Filipinos believe that people's reckless and indiscriminate disposal of garbage is the main reason behind plastic pollution in developing countries like the Philippines.[72] This is true across socio-demographics, but with two interesting patterns emerging. First, this belief was higher among Classes ABC (71%) than D (66%) and E (62%). Second, it was positively correlated to level of education.

Furthermore, a little over a third selected "inadequate waste management and infrastructure" (36%) and the "lack of education in households on proper waste management" (35%) as the reasons for plastic pollution. In contrast, 27% believed corporations "producing more and more products wrapped in single-use plastic and sachets" were to blame—likewise slightly higher among Classes ABC than D and E, but lower among college graduates than those with lower educational attainment. A quarter (25%) opined that it was due to the lack of recycling facilities, and 11% believed it was due to the limited options for plastic packaging. The highest percentage of those who selected few packaging options available as the reason behind plastic pollution was college graduates.

[72] Social Weather Stations, "Survey Report on Plastic Pollution: Third Quarter 2018 Social Weather Survey (Commissioned by Greenpeace)."

Figure 8. Percentage of Respondents who Identified these as Causes of Plastic Pollution in Developing Countries Like the Philippines



Source: Social Weather Stations, 2018
Original Title of the Table:
Reasons that Cause Plastic Pollution in Developing Countries Like the Philippines

In GAIA's own 2019 SWS survey results to the open-ended question on how companies could reduce plastic waste, 4 out of 10 Filipinos mentioned finding substitute materials—but they were more likely to say so the higher their socio-economic class and the higher their educational attainment. Slightly less than a quarter (23%) felt that the solution lies in recycling and buying or collecting plastics; 14% mentioned banning plastics or halting their sales and production.

When asked about who has more responsibility aside from the government—companies producing plastics or Filipino citizens, 7 of 10 Filipinos (69%) selected Filipino citizens, whereas 3 of 10 (30%) selected the companies. Again, the proportion of those believing that it is the responsibility of Filipino consumers was higher among Classes ABC (78%) than D (69%) and E (65%) similar to the results of the previous question. Those who were more educated were a little more likely to choose Filipino citizens versus companies.

Figure 9. Opinion on How Companies that are Responsible for the Single-Use Plastics Could Help Lessen Plastic Waste in the Philippines

Source: Social Weather Stations, 2019

Corporate Greenwashing Strikes Again

The survey results are a crucial springboard to understanding the scope of the plastic problem. Attitudes seem to run counter to analyses by academics and activists alike. In reality, this is a solid reflection of the narrative that has been told and sold to the public by big business, wherein the waste problem is simply a litter problem, fixable through proper waste management.[73]

But companies are the biggest problem—not consumers, not the government. In a move that seems straight from the corporate playbook of Keep America Beautiful,[74] the Philippine Plastics Industry Association (PPIA), the umbrella group of the country's plastic manufacturers, responded to proposed legislation on plastics by maintaining that it is not the plastic product itself that is the problem; rather, it is the lack of proper solid waste management, which legislation should address.[75] They imagine that if plastics were only collected, out of sight, and disposed of properly, then they would cease to be a problem. Never mind that it would simply accumulate. Their proposed solution would be a government-instituted recycling scheme, which again passes the buck to the government and consumers, and is not only unfeasible, but also unacceptable.[76] Corporations have profited because so far, waste—especially plastic waste—continues to be externalized.

"Our society is inundated with industry-sponsored messages about 'litter' and 'cleanups' that leave individual consumers believing and feeling guilty that they are the cause of the plastic pollution crisis... Moreover, individual consumers are burdened with inequitable and impossible choices, and plastic is unavoidable in modern life... corporations are rarely, if ever, meaningfully held responsible for the full costs of the harmful impact of their packaging."[77]

Companies are the biggest problem—not consumers, not the government.

[73] Heather Rogers, "Garbage Capitalism's Green Commerce," Socialist Register 43 (2007): 231–53.
[74] For more information, we recommend the following articles: https://www.plasticpollutioncoalition.org/pft/2017/10/26/a-beautiful-if-evil- strategy; https://orionmagazine.org/article/the-crying-indian/; https://press.uchicago.edu/books/excerpt/2015/Dunaway_Seeing_Green.html; and Heather Rogers (preceding footnote).
[75] Ecowaste Coalition. "Philippine Plastic Report (Unpublished Manuscript)," 2019.
[76] Plastics and Rubber Asia. Plastic Bag Ban in the Philippines: Debating for Real Solutions. http://plasticsandrubberasia.com/nov2012/leadfeature.html
[77] Break free from Plastic, "Branded: In Search of the World's Top Corporate Plastic Polluters" 1 (2018): 29, https://www.breakfreefromplastic.org/wp-content/uploads/2018/10/BRANDED-Report-2018.pdf. p.7

Companies have proposed recycling and recovery solutions that are not only unsustainable, they are also not realistic and have served as terribly convenient excuses for corporations to shirk responsibility for the waste they produce. Greenwashing refers to businesses' tendency—intentional or not—to market a product or practice as environmentally beneficial when it may actually be doing the opposite. It can also be exemplified by highlighting certain positive features of a company's environmental or social performance while leaving out the negative ones. Greenwashing, in these ways, has become common practice.[78]

Companies often claim that the packaging of their products is "recyclable." It is unfortunate that the term "recyclable" has become a meaningless label for plastic products and packaging; slapped on a product, it hints that the product will be recycled, but if recycling rates are anything to go by, this is wishful thinking. PET bottles, for example, are technically recyclable but they are not collected in areas where it does not make economic sense to collect, such as in islands and far-flung places because of lack of local recycling facilities.

It is unfortunate that the term "recyclable" has become a meaningless label for plastic products and packaging; slapped on a product, it hints that the product will be recycled, but if recycling rates are anything to go by, this is wishful thinking.

The true spirit of recycling means reusing material while preserving its integrity to prevent more virgin material from being extracted. Companies include the chasing arrow symbols on their products, or "please recycle me" requests, but these recycling labels are usually obscure or too simplistic. Consequently, well-meaning consumers in Western countries believe that the plastics that they deposit in the recycling bin are brought to a local recycling facility, when in fact they often end up exported to Global South countries like the Philippines. However, these waste-importing countries often do not have adequate infrastructure to process the wastes and lack the technical and financial capacity to deal with discarded plastics, let alone their own municipal waste.[79]

Local governments are saddled with unrealistic expectations of recycling a product that is difficult

to recycle in the first place. Or even if the sachets were recyclable, most places in the Philippines do not actually have the infrastructure to recycle them.[80] In addition, companies that proudly claim to recycle are actually merely downcycling, which is not effective recycling. Because downcycling fails to reuse plastics for their original purpose, the production of plastics, no matter how "recyclable" they claim to be, will merely continue unabated.

Another convenient myth is "plastic neutrality," which markets the idea that companies can offset their plastic use by paying a third party to collect plastic waste. "Plastic neutrality" is far from neutral, letting plastic manufacturers and users off the hook too easily. To their credit, "plastic neutral" programs prevent unwanted, mismanaged plastic residuals from ending up as land and marine pollution through the creation of economic and reputational incentives for corporations and institutions. However, the strategy is simplistic and fails to account for the other impacts of plastics, such as the emissions from fossil fuels extracted and used in production, and even recycling.

Furthermore, the proposed plastic solutions are premised on the need to produce more plastics, rather than halt their production. It is ironic—albeit unsurprising—that business technologies depending on recovering and recycling sachets need to acquire more plastic waste in order to grow. In other words, they can only be sustained with more plastics. This is similar to waste-to-energy plants, which demand to be continually supplied with waste. It points to the reality that such recycling initiatives are not supply-driven. Instead, they are just businesses hungry for feedstock to be viable. Demand is being forecast to keep up with production—not so much the other way around. For example, Unilever relies on sachets for the packaging of more than half of its products. If its plans to establish a recycling pilot plant in the Philippines materializes, it would need seven tons of used plastic sachets per day.[81] Similarly, GreenAntz was quoted as planning to acquire more plastic in order to keep up with their production plans.[82] Left unchecked, these initiatives could inadvertently serve as an escape valve for continued plastic production and consumption with unproven viability and sustainability.

These examples indicate that it is not so much corporate responsibility as much as it is a sense of economic opportunity that drives these investments. While that may not be wrong, strictly speaking, it does mean that in the case of plastic waste, these social enterprises and companies have no incentive to ultimately push for waste reduction. Their profit depends on sustaining waste numbers, not bringing these numbers down.

[78] Thomas P Lyon and John W Maxwell, "Greenwash: Corporate Environmental Disclosure under Threat of Audit," Journal of Economics & Management Strategy 20, no. 1 (2011): 3–41.
[79] Global Alliance for Incinerator Alternatives, "Discarded: Communities on the Frontlines of the Global Plastic Crisis," April 2019, https://www.breakfreefromplastic.org/wp-content/uploads/2019/04/Discarded-Report-April-22-pages.pdf.

[80] As previously mentioned, islands and far-flung areas in the country do not have their own recycling facilities, making it costly to collect recyclables and transport them to bigger cities. Currently, there is no definitive source on recycling rate in the country, and available information on recycling is not up to date.
[81] Cahiles-Magkilat.
[82] SIP Innovations Philippines Inc., "Can't Avoid Sachets? Turn Them into GreenAntz Ecobricks!," n.d., https://sip.ph/blogs/isip/cant-avoid-sachets-turn-them-into-greenantz-ecobricks.

In the meantime, sachet production continues relentlessly. Corporations remain secretive and non-transparent about the volume of plastic packaging they use for their products.

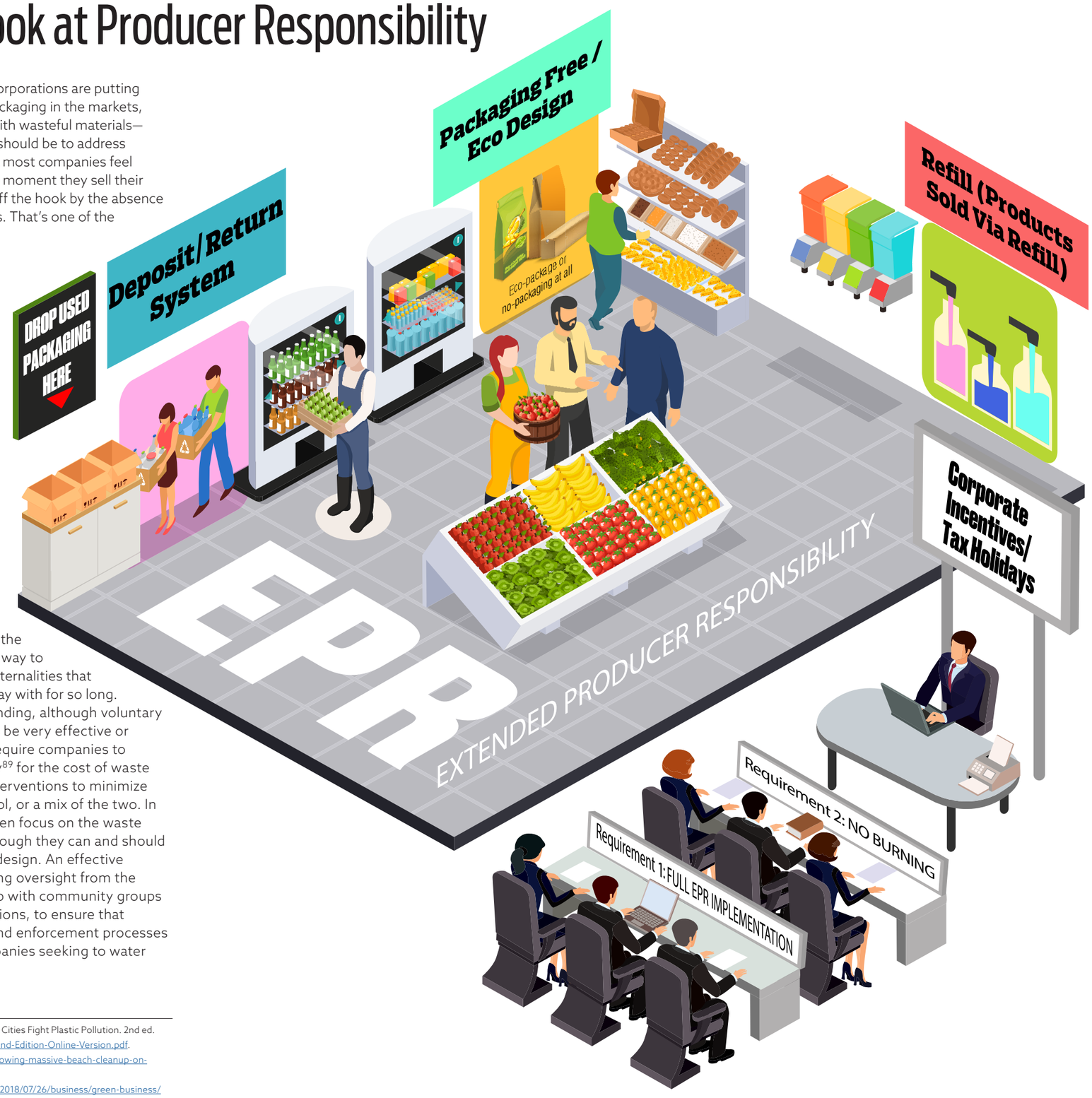
It must be reiterated that what sets sachets apart from other forms of single-use plastics is that they are all branded. Behind these consumer brands are parent corporations that are responsible for the relentless production of sachets. Coastal cleanups and brand audits have consistently exposed that the top sources of plastic waste are big multinational companies. According to GAIA, 55% of residual plastic waste is branded.[83] The Freedom Island[84] cleanup in 2017 found that 54% of the plastic found in the area were produced by just six companies. That year, the top 10 corporations producing plastic waste, based on results of WABAs, earned PhP1.16 trillion.[85] In contrast, local governments spend as much as PhP5.8 to Php7.2 million per day to manage residual (mostly plastic) waste, totaling to PhP2.1 to Php2.6 billion per year.[86] Waste management, including plastic residuals, is conveniently left to the government to handle. This means that the costs of managing plastic waste are shouldered by taxpayers.

While it is true that individuals and governments must exercise stewardship as the solution requires the full cooperation of stakeholders, the pressing need is to hold companies accountable for their actions and make them reduce their production of single-use plastics.

A Closer Look at Producer Responsibility

Because only a handful of corporations are putting all the difficult-to-recycle packaging in the markets, flooding the environment with wasteful materials—their primary responsibility should be to address this. But the problem is that most companies feel their responsibility ends the moment they sell their products and they are left off the hook by the absence of legislation to regulate this. That's one of the biggest injustices.

GAIA advocates for strong extended producer responsibility (EPR) policies that would compel corporations to become fully responsible for their products. EPR, which is a policy principle that extends the responsibility of product manufacturers to the entire life cycle of a product, even after these have been sold, is one solution to the problem. EPR shifts back the responsibility for the life cycle impacts of products, including the onus of managing waste to those that have manufactured the waste in the first place.[87] This is a fitting way to address the challenge of externalities that companies have gotten away with for so long. EPR can be voluntary or binding, although voluntary models have not proven to be very effective or accounted for.[88] EPR can require companies to take financial responsibility[89] for the cost of waste management and other interventions to minimize harm, or operational control, or a mix of the two. In practice, EPR programs often focus on the waste phase of the life cycle, although they can and should focus just as much on ecodesign. An effective EPR program requires strong oversight from the government, in partnership with community groups and waste picker organizations, to ensure that design, implementation, and enforcement processes are not hampered by companies seeking to water down binding targets.



[83] Global Alliance for Incinerator Alternatives. Plastics Exposed: How Waste Assessments and Brand Audits Are Helping Philippine Cities Fight Plastic Pollution. 2nd ed. Quezon City: Global Alliance for Incinerator Alternatives, 2019. https://www.no-burn.org/wp-content/uploads/Plastics-Exposed-2nd-Edition-Online-Version.pdf.

[84] Break Free From Plastic. 2017. https://www.breakfreefromplastic.org/2017/12/17/green-groups-reveal-top-plastic-polluters-following-massive-beach-cleanup-on-freedom-island/

[85] Ludwig O. Federigan, "Extended Producer Responsibility Policy for PH (Part Two)," July 26, 2018, https://www.manilatimes.net/2018/07/26/business/green-business/extended-producer-responsibility-policy-for-ph/423430/423430/.

[86] Break free from Plastic, "The Externalized Costs of Nestlé's Plastic Pollution," April 2019, https://storage.googleapis.com/planet4-philippines-stateless/2019/05/5a768fa0-5a768fa0-externalized-costs-kk-2.pdf.

[87] Thomas Lindhqvist, T. . Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems. IIIEE, Lund University. (2000) https://lup.lub.lu.se/search/ws/files/4433708/1002025.pdf

A common feature of EPR programs is manufacturers' "take back" of their products that have been discarded. So far, EPR in countries such as South Korea, Sweden, and Germany have aimed at addressing electronic products, batteries, tires, paints, and packaging. It is assumed that manufacturers would understand their product and packaging better, be in the best position to handle it post-disposal, and be encouraged to manufacture products that are easily reusable or recyclable to reduce disposal and pollution-associated costs. Once sound policy forces companies to foot the bill of their business model that they'd previously been passing on to the taxpayer, industry has a clear incentive to redesign their products to reduce waste.

A strong EPR program would be adapted to the local context. For example, if informal waste pickers already work in the jurisdiction, EPR systems should only put financial responsibility on producers to strengthen the recycling systems managed by the waste pickers, or focus only on non-recyclable materials that are not being collected by waste pickers.

Similarly, companies should be incentivized to engage in ecodesign for their products and packaging. Ecodesign considers the different stages of the production process and raw material inputs, eliminating the use of toxic materials and additives (which also increases the recyclability), and at end-of-life, the product is recycled back as raw material to produce the same product.[90] Lastly, the government should enact relevant legislation favoring mandatory EPR systems that respect parallel programs from waste pickers and waste workers and transcend "take-back" schemes.

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[88]Conrad Mackerron, "Unfinished Business : The Case for Extended Producer Responsibility for Post-Consumer Packaging," 2012. https://www.asyousow.org/reports/unfinished-business-the-case-for-extended-producer-responsibility-for-post-consumer-packaging

[89]Financial responsibility means that the company pays the government or a third party to run the program. Operational responsibility means the company itself runs the program.

[90]"How Producer Responsibility for Product Take-Back Can Promote Eco-Design," Clean Production Action, March 2, 2007, https://www.cleanproduction.org/images/ee_images/uploads/resources/EPR_ecodesign_Apr08.pdf.

MOVING TOWARDS A SACHET-FREE ECONOMY

As this report has argued, the narrative of waste—and plastic pollution—needs to be changed in order to shape a future without plastics. EPR programs are one policy mechanism that policy makers should consider, but only as a starting point. GAIA calls on the Philippine government to impose nothing less than a total ban on sachets in three years, to address the onslaught of plastic sachet waste. This is to give companies sufficient time to redesign their products and delivery systems and roll them out, accordingly. During this period, businesses should rethink present distribution systems. Some solutions will be a return to previous, more sustainable methods, while others will find innovative new businesses filling the niches vacated by sachets.

Given how deeply entrenched sachets are in Filipinos' lives, this transition to a sachet-less economy will not be easy. Filipinos have become accustomed to the affordability and conveniences sachets have offered. However, it is worth remembering that we managed all our daily needs without sachets just a few decades ago (See "The Way We Were: Philippine Retail Before the Advent of Plastic Sachets"). The time has come to wean ourselves from sachet dependence.

What are the benefits of an alternative economy without sachets? One victory would be the elimination of 164 million sachets from the country per day, in the process, resolving all the concomitant issues brought by sachets (microplastics, litter, marine pollution, health hazards, drain clogging, etc.). Furthermore, a Zero Waste, circular economy presents many opportunities for businesses such as design of products and packaging.[91] Alternatives to the sachet status quo may also have social benefits, such as job creation associated with reuse/refill systems and increased community interactions. Finally, with less waste to manage, local governments' resources are freed up for other development priorities, such as education and health.

"These sachet monsters represent a nightmare for recycling and the environment. The corporations responsible for the proliferation of these single-use, zero-value, and non-recyclable plastics need to own up to the massive pollution associated with their brands and products. They must clean up their act and start investing in alternative packaging materials and delivery systems that are ecologically sustainable for the people and the planet."—Von Hernandez, Global Coordinator of #breakfreefromplastic

What are the benefits of an alternative economy without sachets? One victory would be the elimination of 164 million sachets from the country per day, in the process, resolving all the concomitant issues brought by sachets (microplastics, litter, marine pollution, health hazards, drain clogging, etc.).

[91]Megan Ponder et al., Green Businesses and Cities at Risk: How Your Waste Management Plan May Be Leading You in the Wrong Direction (GAIA and the Tishman Environment and Design Center at The New School, 2017), https://www.no-burn.org/wp-content/uploads/Businesses-and-cities-at-risk.pdf.

GAIA recommends the following actions from the government:

1 Support alternative delivery schemes: Zero Waste stores and refilling stations.

As the SWS survey results validate, Filipinos are open to refills of products usually sold in sachets, such as food condiments, shampoo, and dishwashing liquid. Although still in its nascent stage, Zero Waste stores and refill systems in the country indicate that there is a growing market.

a. Review and change regulations that discourage refilling schemes. The Food and Drug Administration, for example, categorizes re-filling activities under filling, according to Administrative Order No. 153 s. 2004, or the Revised Guidelines on Current Good Manufacturing Practice in Manufacturing, Packing, Repacking or Holding Food. GAIA supports a petition calling for a new category for re-filling activities to address difficulties of packaging-free businesses in securing permits.
b. Offer incentives for private sector Zero Waste stores and refill systems, such as tax breaks, expedited business permits, and waived fees associated with the business permit.
c. Provide an enabling environment, like Italy with its new commitment to Zero Waste, by upholding the right of consumers to purchase using their own reusable containers, as well as the right of establishments to refuse supply should the containers be unclean. The latter would address fears of product contamination, and other legal concerns.[92]

2 Pass binding extended producer responsibility (EPR) legislation requiring companies to take financial, and in some instances, also operational responsibility to reduce harm to the environment, communities, and human health arising from the products that they manufacture or put on the market, including through ecodesign and waste management.

The government should involve all affected stakeholders in a transparent and participatory process to design EPR programs that would allow companies to take real responsibility for ecodesign and for their waste—not just plastic waste but also other forms of pre-consumer and post-consumer waste—and would not displace parallel systems put in place by waste pickers and waste workers. Robust EPR programs seek to reduce and avoid disposal (landfilling, incineration) to the greatest extent and operate at the highest possible levels in the waste hierarchy (reduce and reuse). Companies may be consulted in the EPR program design but there is a risk of having EPR programs watered down in the process. That is why it is important for the government to take the lead by enacting clear EPR policy, and ensure full compliance and enforcement.

a. Set clear and measurable reduction and recycling targets for private sector groups to help them shift towards upstream waste reduction and reuse measures, including alternative packaging and delivery systems. There should be a clear definition of products covered, and reporting should be detailed and verifiable.
b. Provide incentives for companies to adopt and innovate ecodesign packaging and products, and penalize them for wasteful packaging.
c. Ensure that EPR systems do not displace waste pickers and waste workers and other stakeholders involved in the recovery of materials and packaging but rather finance capacity development through infrastructure, trainings, and equipment.
d. Develop and implement regulations to ensure public oversight of the enforcement of EPR programs and transparent management of costs and revenues of the system.
e. Launch an information, education, and communication (IEC) campaign designed and implemented by governments to transform the public's mindset by raising awareness on corporate accountability.
f. Require the engagement of civil society to perform watchdog functions to ensure corporate compliance.

Corporations under the EPR scheme would be required to:

a. Shoulder the expenses related to managing their products at the end of their life, particularly cleanups, recovery, recycling efforts, and disposal.
b. Prioritize source reduction over material recovery; invest in research for alternative delivery systems that require no packaging and promote the use of refillable containers and recyclable materials.
c. Contribute to an environmental fund that would support community-level programs.
d. Ensure that products and packaging collected through EPR schemes meet reduction and recycling targets, and not sent for disposal or shipped abroad.

Inside Sierreza store in Maginhawa St., Quezon City. PHOTO BY **COLEEN SALAMAT**

[92] This refers to a provision in the country's new Climate Act; See amendment in Italy's Climate Act - Article 7 (page 44) of the Gazzetta Ufficiale della Repubblica Italiana (13 December 2019), Anno 160° - Numero 292, https://www.gazzettaufficiale.it/eli/gu/2019/12/13/292/sg/pdf.

This Zero Waste store in Dumingag, Zamboanga del Sur, is an initiative of the local government and prioritizes local organic products. PHOTO BY **BEAU BACONGUIS**

3 Require corporations to fully disclose the amount of plastic used in manufacturing, shipping, retailing, and disposal streams.

Transparency is necessary to ensure accountability. At present, corporations remain hush about their actual plastic footprint. Public disclosure allows for effective monitoring, including the establishment of baseline data—disaggregated by type of plastic—against which to measure progress.

4 Review current waste-to-energy guidelines to remove allowance for thermal processes and develop guidelines on recycling and safe disposal of sachets that are already in the market, including:

a. Separation, cleaning, baling, and safe stockpiling of sachets to ensure they are readily accessible when recycling technologies evolve to manage them in an environmentally-sound manner (no technology currently does that);
b. A requirement not to incinerate or co-incinerate sachets or process them in "chemical recycling" or plastic-to-fuel operations, given toxic pollution (toxic ash and air pollution) and climate change impacts;

5 Issue guidelines for environmentally friendly packaging. The guidelines must explicitly include sachets in the list of non-environmentally acceptable products (NEAP) that are to be strictly prohibited.

CONCLUSION: NO EXCUSES

Sachets have long provided benefits to Filipinos, their size making products more convenient as well as more affordable. However, they have become a scourge of the environment due to their volume and composition, as well as of local governments and communities because of growing cleanup and disposal costs. Filipinos are increasingly aware of this problem and have expressed willingness to move towards pro-environmental and more sustainable behaviors.

While efforts have been introduced by companies that pretend to effectively recycle sachets, at best they are infeasible solutions that do not address the root and the magnitude of the problem. They merely delay waste generation rather than prevent resource extraction. In short, they do not take the long view—for the long view will mean doing away or breaking free from single-use plastics.

The plastic crisis is often likened by environmentalists to a tub full of water, wherein false solutions are the same as removing water a few teaspoons at the time, while the tap is running. We must turn off the tap. It is possible, because there have always been better alternatives to plastics. Corporations must exercise greater leadership and stewardship over the environment, with the support of government and consumers. The path forward—a path without sachets and other single-use plastics—is walked along together.

Inside Happy Earth, a Zero Waste store in Cagayan de Oro. PHOTO BY **BEAU BACONGUIS**

The Way We Were: Philippine Retail Before the Advent of Plastic Sachets

Portioned meat strung together with bamboo twine. PHOTO BY **ELTON JOHN MAMARIL**

Glaiza Lee, a writer in her mid-30s, still remembers her family owning and managing a *sari-sari* store (small neighborhood store selling household essentials) in Caloocan City in the early 1990s. Then a grade school pupil, Glaiza often helped in the store.

Glaiza's mother used to buy items from the public market in bulk—cooking oil by the gallon, bagoong (fish paste) by the gatang, vinegar by the liter, and salt and sugar by the kilo—which they would then resell in their store *tingi* style, meaning, in much smaller quantities, usually enough for one-time use or maybe for a few times (at most a week) depending on the item. Other household items commonly bought *tingi* from *sari-sari* stores include cloves of garlic, a piece or two of tomato or onion, a quarter of a piece of ginger, a stick of cigarette, etc.

To measure liquids and grains for resell, Glaiza and her mom used a measuring device, usually a tin can or glass from canned or bottled goods, to measure small quantities of household items. They would then transfer these items into their customers' containers, usually bottles or jars. To transfer liquids or grains from bigger containers to smaller and small-mouthed ones, they usually used an embudo (funnel).

A deposit scheme was also in place during Glaiza's childhood, especially for sodas in glass bottles. *Sari-sari* stores would require customers to pay a deposit whenever they bought soda. Customers would then receive a refund on their deposit once they returned their empty bottles, which in turn distributors would collect from *sari-sari* stores. So the cycle would continue.

Mario Tejada, 65, a retired government employee of Piddig, Ilocos Norte, also used to help his mother sell in the public market during "market days"—Wednesdays and Sundays—in the 1960s. They also owned a *sari-sari* store at home.

Market goers used to bring basket bags, commonly made of rattan or bamboo. Meat vendors either wrapped the meat in banana leaves or strung them using bamban (bamboo twine). This is still being done in some provinces these days, especially by smalltime fisher folks selling their catch by the roadside. Vendors also used samak (a kind of tree) leaves to wrap their goods, including meat, shells, bamboo shoots, fruits, vegetables, etc.

Mario's family usually would estimate the content that they would pour into the customer's container. "For example, if a customer wanted half a bottle of cooking oil, we would designate a half-bottle mark and pour content into the customer's container. When the remaining content has reached the mark, we stop pouring," Mario explained.

The containers that the customers brought depended on the items they were buying. "If they wanted gas for their gasera (gas/kerosene lamp), they brought the gasera itself and we would pour the gas directly into it," said Mario. "If they wanted a shot of an alcoholic drink, they would bring their drinking glass and they would drink the alcohol right after we pour it!"

PHOTO BY **MIKO ALIÑO**

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ANNEX

LIST OF SOME ZERO WASTE STORES IN THE PHILIPPINES

Croft Bulk Foods
Unit 5A & 6A Ruby Street, Corner Opal St, Marfori Heights, Davao City, 8000 Davao del Sur
https://www.croftbulkfoods.com/
FB: https://www.facebook.com/croftbulkfoods/

MNQ Handmade Cosmetics
2nd Lot, Talisay St, Juna Subd., Matina, Davao City, Davao del Sur
https://web.facebook.com/pg/MNQHandmadeCosmetics/posts/
IG: https://www.instagram.com/mnqhandmadecosmetics/

Ritual
2nd Floor, Languages International Bldg., 926 Arnaiz Ave., Makati, Philippines
www.ritual.ph
FB: https://www.facebook.com/ritualph/

Humble Market
Ydg Coffee, GF Mandala Park, Shaw Blvd, Mandaluyong City
Group and Boiler Coffee Co., GF Molito Lifestyle Center, Madrigal Ave., Muntinlupa City, Philippines
www.humblemarket.ph
FB: https://www.facebook.com/humblemarketph/
IG: https://www.instagram.com/humblemarketph/

Got Heart Shop
122 Katipunan Ave., White Plains, Quezon City
www.gotheartfoundation.org
FB: https://www.facebook.com/GotHeartPH/
IG: https://www.instagram.com/gotheartshop/

Happy Earth Store
Lane 101, Masterson Ave., Cagayan de Oro City
FB: https://www.facebook.com/HappyEarthStore/
IG: https://www.instagram.com/happyearthstore/

We DO: Dumingag Organics
Magsaysay St., Dumingag, Zamboanga del Sur
FB: https://www.facebook.com/dumingagorganicsph/
IG: https://www.instagram.com/dumingagorganicsph/

Loop Store
Unit 30, 68 Roces, 68 Don A. Roces Ave, Quezon City, 1103 Metro Manila
https://loopstore.ph/

Wala Usik: Tiangge + Kapehan
Door 6 Teresa Bldg. Mandalagan, Bacolod City 6100
FB: https://www.facebook.com/walausik.tiangge/
IG: https://www.instagram.com/walausik.tiangge/

Girl and the Outdoors
UP Stop, Stall 5, Centennial Dormitory, E. Jacinto Street, University of the Philippines, Diliman, Quezon City
https://www.facebook.com/UPStopConvenienceStore/

Messy Bessy
Refilling stations: Power Plant Mall, Venice Grand Canal Mall
SM City Fairview, and Uptown Mall BGC
http://www.messybessy.com/
FB: https://www.facebook.com/messybessycleaners/
Twitter: https://twitter.com/hellomessybessy
IG: https://www.instagram.com/hellomessybessy/

Refuse Zero Waste Store
Caffeina's Brew, 367 Aguirre Avenue, BF Homes (Beside Green Mango and before Elysium Townhomes)
Phone: +63 9178733873
FB: https://www.facebook.com/RefusePH/

KatHa Lifestyle Store
3 General Romulo Ave, Quezon City
https://kathalifestylestore.com/
FB: https://www.facebook.com/KatHalifestylestore/
IG: https://www.instagram.com/kathalifestylestore/

AMGU A Zero Waste Store
Betty's Apartment, Queen's Rd., Kamputhaw, Cebu City 6000
(032) 383 4900 | 0995 742 7472 (Viber/ WhatsApp) SMS Only
FB: https://www.facebook.com/amgu.cebu/

Mike Charlie
Arevalo, Iloilo City
FB: https://www.facebook.com/pg/mikecharlieph/

Two Chickpeas
112 Gamboa Street, Makati City | Phone: (02) 946 2026
FB: https://www.facebook.com/TwoChickpeas/
IG: https://www.instagram.com/twochickpeasph/

The Naturale Market
Burgos Circle, Forbestown Road, Fort Bonifacio, Taguig City
www.thenaturalemarket.com
FB: https://www.facebook.com/thenaturalemarketph/
IG: https://www.instagram.com/thenaturalemarketph/

Human Nature Flagship Store
463 Commonwealth Ave, Matandang Balara, Quezon City, 1119 Metro Manila
FB: https://www.facebook.com/humanheartnature/
IG: https://www.instagram.com/humanheartnature/

Old Manila Eco Market
Intramuros, Manila
FB: https://www.facebook.com/oldmanilaecomarket/
IG: https://www.instagram.com/oldmanilaecomarket/

BukidFresh (Online)
http://www.bukidfresh.ph/shop
FB: https://www.facebook.com/bukidfresh/
IG: https://www.instagram.com/bukidfresh/

Good Food Community
Unit 108 Union Square Condominium, 145 15th Ave, Cubao, Quezon City, Metro Manila
https://www.goodfoodcommunity.com/
FB: https://www.facebook.com/pg/goodfoodcommunity/

JuanaZero
Unit 337, Eagle Court Condominium, 26 Matalino Street, Brgy. Central, Quezon City
FB: https://www.facebook.com/JuanaZeroMEF/

Being Eco
2nd Floor, Stall 4. SB Building, Lower, Session Rd, Baguio, Benguet
www.beingecoph.com
FB: https://www.facebook.com/beingecoph/

Sierreza
Agapita Road, Los Baños, Laguna
FB: https://www.facebook.com/Sierreza/
IG: https://www.instagram.com/sierreza/

Lipay Mundo Co.
Gabby's Bed & Breakfast Compound, Cimafranca Sudv., Clay Town, Daro, Dumaguete City, Negros Oriental
http://www.lipaymundo.com/
FB: https://www.facebook.com/pg/lipaymundoco/

Casa de Lorenzo Organic Products
8100 C. Raymundo Avenue Unit 4 Sy Building, Caniogan, Pasig 1606
https://www.cdlnaturals.com/
FB: https://www.facebook.com/cdlnaturals/

SLO Store
Bean & Yolk Cafe, Westgate Hub, Alabang, Muntinlupa City
https://slostore.co/
FB: https://www.facebook.com/slostoreph/
IG: https://www.instagram.com/slo.store/

The Good Goods Manila
SM North EDSA, The Block
https://thegoodgoodsmnl.com/
FB: https://www.facebook.com/TheGoodGoodsMNL/
IG: https://www.instagram.com/TheGoodGoodsMNL/

Wasteless PH
https://www.wastelessph.bigcartel.com
Phone: 0923 422 1858
FB: https://web.facebook.com/wastelessph/

Back to Basics Ecostore (online)
Facebook: https://www.facebook.com/pg/BTBEcostore/
Phone: 0915 777 5398
Email: btbecostore@gmail.com

Pasta and grains for sale in Happy Earth, a Zero Waste store in Cagayan de Oro. PHOTO BY **BEAU BACONGUIS**

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26 Matalino Street, Barangay Central
Quezon City, Philippines 1100
www.no-burn.org
FaceBook: GAIAAsiaPacific
Twitter, Instagram, Youtube: Zero Waste Asia