



Policy Brief

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Unpacking Policy Options to Reduce Single-Use Plastics in the Philippines

The world is facing a global plastics crisis. Plastics have been accumulating in landfills or worse, flowing into the natural environment. Accordingly, the Philippines is the third largest contributor to global ocean plastic pollution. As global concerted action and locally-led interventions to address this crisis gain momentum, the time is ripe for the country to study other policy options on a national scale to help stop plastic pollution and safeguard the environment, health, and well-being of its people.

Introduction

The widespread and indiscriminate use of plastic, a marvel of the modern economy since its industrial production began in the 1950s, has led to a serious environmental problem of global proportion. About 79 percent of the plastics that have ever been produced end up either in landfills or the natural environment. Plastic pollution is adversely affecting marine life, ecosystems, fisheries, people's livelihoods, health, and well-being, among other dimensions of sustainable development. In 2016, it was estimated that 8 million tonnes,¹ an equivalent of one garbage truck of plastic wastes every minute, leak into the world's oceans every year (WEF, 2016). If this trend continues, projections reveal that oceans will have more plastic than fish by 2050. For this reason, in 2022, the United Nations Environment Assembly, the world's highest-level decision-making body on the environment, agreed to forge an international legally binding agreement by 2024 to end plastic pollution.

To help reduce the staggering plastic pollution, the Philippine Congress passed the Extended Producer Responsibility Act (EPRA) of 2022 or Republic Act (RA) No. 11898 which lapsed into law in July 2022. This requires large enterprises to start recovering their plastic packaging wastes in December 2023. However, it appears that much more remains to be done in waste prevention or upstream dimension of the plastic pollution problem. The right combination of policy instruments could influence both producer and consumer behaviors and curb the projected steady increase in single use plastic production and consumption in the imminent future, a task which no single policy may be able to sufficiently address. The Philippines is the third largest contributor to global ocean plastic pollution (Jambeck, et al., 2015). It produces 2.7 million tonnes of plastic waste each year, of which half a million tonnes end up in oceans (McKinsey and Ocean Conservancy, 2015). In the 19th Congress, bills on nationwide ban on single-use plastics (SUPs) have been refiled both in the Senate and the House of Representatives (HRep). The Department of Finance (DOF) is likewise pushing for the imposition of excise tax on SUP bags. The proposed excise tax on plastic bags was approved on Third Reading by the HRep in November 2022 and sent to the Senate for concurrence.

In view of these developments, this Policy Brief presents a discussion of the plastic waste landscape and offers an analysis of the policy options to address the problem of plastic pollution and reduce its wide-ranging and harmful impacts. Reflecting on the documented experience of countries in implementing various policy instruments and learning from their successes and failures, this Policy Brief suggests key considerations in legislating an SUP regulation law and an SUP tax measure that fit the local context.



The SEPO Policy Brief, a publication of the Senate Economic Planning Office, provides analysis and discussion on important socio-economic issues as inputs to the work of Senators and Senate Officials. The SEPO Policy Brief is also available at www.senate.gov.ph.

¹ Tonne is the main unit of weight used in this Policy Brief. For consistency and comparability, figures expressed in tons or metric tons as used in the references cited were converted into tonnes.

1. Plastic waste landscape: Global to local perspective

Plastic is a persistent material used across various sectors such as packaging, building and construction, textiles, consumer products, transportation, electronics, and industrial machinery. It is a low-cost, easily formable, high-modulus,² water resistant, bio-inert³ material used in a broad range of consumer products (Lebreton and Andrady, 2019). The durable, lightweight, and inexpensive attributes of plastics are the main reasons for their popularity and increasing use among consumers. Plastic packaging is the largest application of plastic resins,⁴ accounting for 36 percent (158 million tonnes) of the world's total plastic production by mass (Geyer, 2020). Since the 1950s, plastic packaging has replaced paper, glass, metal and other reusable materials in the commercial, retail, household, tourism and agricultural sectors. Plastic packaging results in less breakage during transportation and handling compared to paper or glass packaging. The medical industry uses plastic packaging to ensure that equipment remains sterile and to securely store medicines in plastic containers (WWF, 2020). Aside from its direct economic benefits, plastic packaging can reduce food waste by extending shelf life and can lessen fuel consumption for transportation by bringing packaging weight down (WEF, 2016).

What are single-use plastics?

Single-use plastics (SUPs) are often also referred to as disposable plastics. They are made primarily from fossil fuel-based chemicals (petrochemicals). They are commonly used as plastic packaging including items intended to be used only once before they are thrown away or recycled (e.g., grocery bags, food packaging, bottles, straws, containers, cups, cutlery, etc.) (UNEP, 2018).

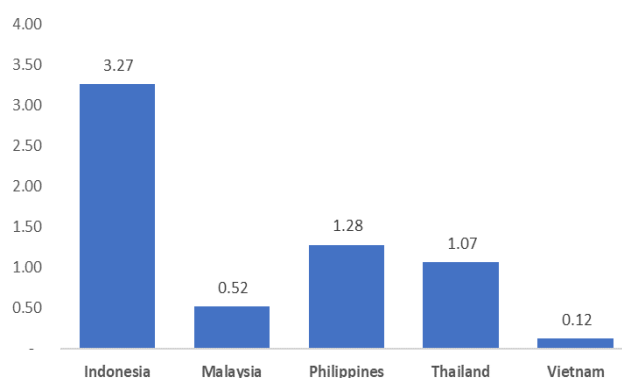
2. Plastic production and consumption in the Philippines

The Philippines is a net importer of plastics. In 2021, it imported a total of 1.98 million tonnes of plastic raw materials, plastic products, and plastic packaging, and exported 393 k tonnes of the same to other countries. As of 2019, the total virgin resin⁵ production capacity of the country was 900 k tonnes and projected to increase by at least 360 k tonnes from 2021 onwards (World Bank, 2021). The World Wildlife Fund (2020) estimates that 2.15 million tonnes of plastic materials were produced for local consumption in 2019.

Use of plastics in the country

The local plastic manufacturing, which converts plastic resins to industrial and consumer finished products, serves as an allied industry linked to automotive and transportation, home appliances, food, drug, and cosmetics, soap and detergent, fiber and textiles, electrical and electronics, buildings and construction, and healthcare industries. Finished products include flexible plastics, net, twine and sack, pipes and fittings, plastic bags, Polyvinyl chloride (PVC)⁶ products, recycled plastics, rigid plastics, styro products, tapes, and others (PPIA, n.d.). Plastics are pervasive and ubiquitous in the lives of Filipinos. The average plastic consumption per capita of the country is estimated to be 20 kilograms (kg) per year, around 40 percent to 50 percent of which are used for packaging (WWF, 2020). Moreover, the Philippines' total estimated annual household consumption of plastic packaging is 1.28 million tonnes, which is higher compared to Malaysia, Thailand, and Vietnam (Figure 1). In addition, from 1999 to 2019, the market share of refillables in the Philippines decreased by 27 percent, due to the thirteen-fold increase of single-use polyethylene terephthalate (PET) bottle sales (Wilcox and Mackenzie, 2021). The World Bank (2021) projects that under a business-as-usual scenario, plastic production and consumption in the Philippines will grow by more than 50 percent over the next 10 years and by up to 230 percent by 2040. Moreover, the volume of plastic products that are difficult to recycle are also expected to increase by more than 200 percent by 2040.

Figure 1. Annual Household Plastic Packaging Consumption (in million tonnes)



Source of data: WWF (2020)

² The higher the modulus, the stiffer the material (i.e., the greater the stress necessary to cause deformation).

³ Bio-inert materials do not interact, respond to, or promote a chemical reaction or other response with biological materials.

⁴ Resin is the core ingredient of all plastic products.

⁵ Virgin resin is manufactured from natural resources such as petrochemical feedstock, crude oil, natural gas, etc.

⁶ PVC is a commonly used polymer that finds applications in a variety of products (e.g., pipes, packaging foils, bottles, medical products).

2.1 The sachet economy

The sachet economy promotes the consumption of small units of consumer products—such as detergent, shampoo, soap, powdered milk, coffee, condiments, or cosmetics—in single-use packages. The products are packaged in small, disposable plastic bags called sachets. Sachets have been aggressively marketed by the fast-moving consumer goods (FMCG)⁷ industry in the 1990s to increase market penetration of products and influence consumer buying behavior across income groups. Prior to the proliferation of the sachet economy, the “*tingi*” (buying in small amounts) culture of Filipinos was defined by sustainable practices of refilling reusable containers. Non-recyclable sachets have since replaced reusable materials due to their low-price points, perceived convenience, wide availability, portability, and controlled dosage. Sachet products are sold almost everywhere in the country—from *sari-sari* and convenience stores to supermarkets. Sachets comprise 52 percent of the plastic waste stream in the country. According to a 2019 Global Alliance for Incinerator Alternatives (GAIA) study, the average Filipino consumes 591 sachets, 174 shopping bags, and 163 *labo*⁸ bags in a year. About 57 million shopping bags, 45.2 million *labo* bags, 1.1 billion diapers, and 164 million sachets are estimated to be thrown away each day. Among socioeconomic classes, sachet consumption was highest among those in Class E at 65 percent, followed by those in Class D at 61 percent, and Class ABC at 51 percent (GAIA, 2019).

2.2 Plastics as wastes

Most plastic packaging is disposed of after being used only once. As such, discarded packaging accounts for about half (152 million tonnes) of total global annual plastic waste generation (Geyer, 2020). Plastic food wrappers (chip bags, candy wrappers, drink pouches and similar packaging), cigarette butts (which contain plastic filters), plastic beverage bottles, plastic bottle caps, and straws and stirrers were the top debris items collected during the 2019 International Coastal Clean-up (Ocean Conservancy, 2020). In Metro Manila’s informal settlements where waste collection is more challenging, plastics and other wastes are thrown in waterways or on the streets, eventually blocking drains and causing flooding. The GAIA study revealed that more than 50 percent of all unrecyclable residual waste in the country is branded waste, and only 10 companies are responsible for 60 percent of branded waste in the study sites. The results of the brand audit point to the need for manufacturers to take responsibility for their plastic wastes, not only by collecting and recycling, but more so by reducing production of single-use plastic packaging.

Extent and impacts of plastic pollution

Model estimates by Lebreton and Andrady (2019) suggest that the Philippines generates 4.52 million tonnes of plastic waste per year. This amount is more than 1.5 times the often cited 2.7 million tonnes of plastic waste per year (McKinsey and Ocean Conservancy, 2015). Based on a 2021 market study by the World Bank, the Philippines only recycled about 28 percent (292 k tonnes per year) of the key resins consumed in 2019. The remaining 72 percent of unrecycled plastics end up either dumped in landfills or improperly disposed of, easily making their way to drainages, canals, rivers, and out to sea. Studies suggest that plastic bags and polystyrene (Styrofoam) can take up to thousands of years to decompose, contaminating soil and water (UNEP, 2018). External costs of plastics are present throughout their production, consumption, and end-of-life phase when plastic products become waste. In low-income countries, the cost of managing solid wastes is a large expenditure item, comprising nearly 20 percent of annual municipal budgets (World Bank, 2018).

Plastics, environment, and health

Poor management of plastic waste through open dumping, open burning, and disposal in waterways cause its unabated leakage to the environment. McKinsey and Ocean Conservancy (2015) found that about 74 percent of all plastic leakage in the country comes from already collected waste. They estimated that over half of open dumpsites in the country are located within a kilometer of a waterway and between 70 percent and 90 percent of the waste dumped illegally ultimately ends up in waterways. A more recent study by Meijer et al. (2021) found the Philippines contributed around one-third (36 percent) of plastic emissions from rivers that ended up in the world’s oceans. On a per capita basis, the Philippines emits 3.5 kg of plastic per person to the ocean, while the average for Asia is 0.17 kg per person (Ritchie, 2021).

⁷ FMCGs are products that are sold quickly and at relatively low cost.

⁸ *Labo* is a translucent plastic bag.

The abundance of plastic in the ecosystem negatively impacts coastal and marine species and habitats. Plastic debris, from small fragments to plastic bags and bottles, pose considerable threat by choking and starving wildlife such as sea birds, turtles, and other marine mammals (Barnes et al., 2009). Marine wildlife faces the threat of entanglement causing restricted movement for such animals, which can lead to starvation, suffocation, laceration, subsequent infection, and possible mortality. The seafood industry could also suffer long-term effects due to ingestion and bioaccumulation,⁹ which can result in public health risks if contaminated fish are eaten (UNEP and NOAA, 2011). A Department of Environment and Natural Resources-Ecosystems Research and Development Bureau (DENR-ERDB) study confirmed the presence of microplastics¹⁰ in ten study areas nationwide.

The pandemic exacerbates the problem of plastic pollution. Chowdhury et al. (2021) found that annual plastic waste generated from mismanaged face masks was 2.15 million tonnes in analyzed countries. The Philippines contributed six percent of plastic generation (139.53 k tonnes of mismanaged waste annually and from 20.93 k tonnes to 55.82 k tonnes of debris input into oceans from face masks only). As plastic particles propagate pathogens,¹¹ indiscriminately disposed face masks in the environment could possibly act as a medium for disease outbreak (Fadare and Okoffo, 2020).

Plastics and climate

By 2050, the cumulative greenhouse gas (GHG) emissions from plastic could be responsible for 10 percent to 13 percent of the world's remaining carbon budget¹² (Center for International Environmental Law, 2019). Aside from the emissions produced from oil and gas extraction and plastic production, landfilling, recycling, and incineration of plastic wastes generate differing amounts of emissions. Incineration is the primary source of emissions from plastic waste management.

3. Policy instruments adopted by countries and their effectiveness

The increasing adoption of laws and policies to control the production and use of SUPs globally started from the early 2000s. By July 2018, at least 127 countries have passed some form of legislation regulating plastics (UNEP, 2020). Policy instruments range from regulatory, economic, and informative or behavioral approaches. Regulatory approaches include bans, prohibitions, standards, input thresholds, or limits. Bans and restrictions directly prohibit the production, importation or exportation, distribution, sale, or use of one or more SUP products. Product standards, certification and labelling requirements can be designed to target sustainable alternatives to SUPs or to mitigate the harm caused by SUPs.

Meanwhile, economic instruments impose taxes to deter production or use of SUPs or offer tax breaks, subsidies, or other fiscal incentives to encourage the production and use of alternatives to SUP products. Economic instruments provide price incentives to firms and consumers to change behavior, use resources more efficiently, and reduce the negative environmental impacts, but do not force firms and consumers to change behavior if it is too costly (World Bank, 2022). Extended producer responsibility (EPR) requires companies to assume responsibility for their products in every stage of their product's life cycle. Deposit refund schemes motivate consumers via a full refund of a small deposit to return the packaging back to the shop/collection point to ensure proper recycling and increase the recycling rates.

Based on a 2018 United Nations Environment Programme (UNEP) study, Africa is leading in the imposition of total ban on plastic bags while a mix of bans and economic instruments are in place in Asia. According to a more recent study by Desalegn and Tangl (2022), taxing plastic products is often observed in developed countries, while banning plastic products is more common in developing countries. Meanwhile, a study by Karasik et al. (2020) found that national governments primarily used regulatory instruments, having been implemented 3.5 times more frequently than economic instruments and 3 times more frequently than information instruments (Figure 2).

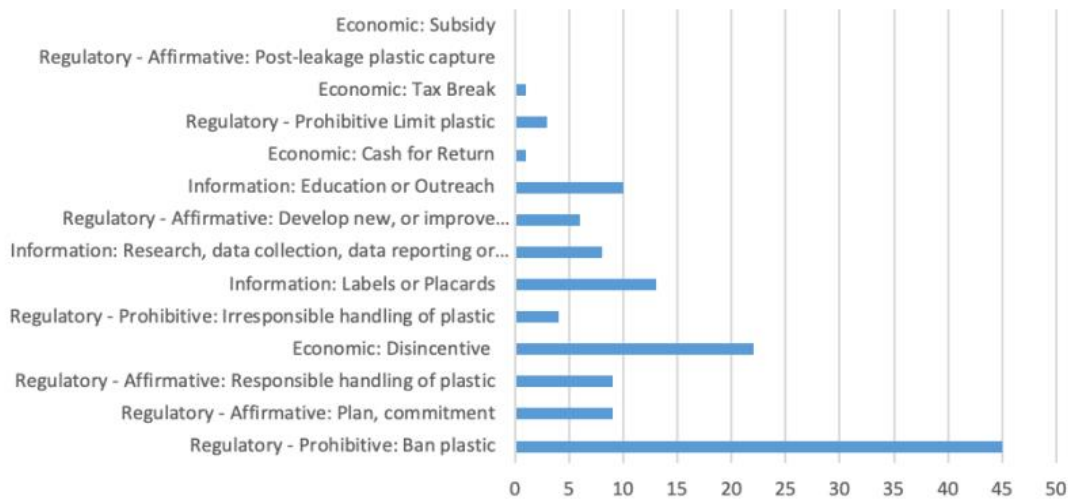
⁹ Bioaccumulation describes the accumulation and enrichment of contaminants in organisms, relative to that in the environment.

¹⁰ Microplastics are plastic particles less than 5 millimeters (mm). Primary microplastics are those originally produced at the micro-size level for applications such as cosmetics or industrial scrubbers; secondary microplastics are fragments at the micro-size level that have resulted from the breakdown of larger plastic products. According to WWF (2020), while the prevailing view is that microplastics simply pass through a human's digestive system, there is new evidence that plastic particles may be accumulating in human organs and tissues.

¹¹ A pathogen is an organism causing disease to its host.

¹² The carbon budget is the estimated amount of GHG emissions the world can emit while still having a likely chance of limiting global temperature rise to 2°C above pre-industrial levels.

Figure 2. Number of National Policies Using Each Policy Instrument to Manage Plastic Pollution



Source: Karasik et al. (2020)

In 2017, Kenya imposed what appears to be the most stringent ban on the production sale, and use of plastic bags, with violators subject to imprisonment for up to four years or fines of up to US\$40,000 (UNEP, n.d.).

In the European Union (EU), essential requirements must be met in order for packaging to be allowed entry into the European market. A set of standards for implementation of the essential requirements apply to all EU member states and have also been adopted by Iceland, Norway and Switzerland, and companies in Australia, the United States of America (USA), Asia and the Middle East. The essential requirements cover the manufacture and composition, reusable nature, and recoverable nature of packaging (UNEP, 2020).

Meanwhile, the plastic bag tax in Ireland is regarded as one of the most successful examples of an intervention to reduce the consumption of plastic bags. In 2002, Ireland imposed a tax on the sale of plastic bags to customers based on a survey of consumer willingness to pay for plastic bags. The levy was set six times higher, which may have provided a strong deterrent effect. When the consumption of plastic bags began to rebound in the years following introduction of the tax, the regulations were amended to raise the tax, increasing it to €0.22 in 2007, €0.44 in 2009, with a ceiling of €0.70 for subsequent amendments (UNEP, 2020).

Almost all EU member States have adopted EPR schemes for plastic packaging waste. This contributed to the significant increases in recycling rates in the EU, with the average plastic packaging recycling rate reaching 40 percent in 2015, well above the 22.5 percent target (Leal Filho et al., 2019).

Deposit refund schemes that encourage the return of plastic containers for reuse and recycling are spreading rapidly as these are adopted by countries as effective model for reducing plastic wastes (e.g., Australia, Canada, Chile, EU countries, Turkey, United Kingdom, USA) (World Bank, 2022). According to a 2021 study by non-profit research organization ReLoop, in 2020, 291 million people lived in countries or territories which used deposits, and by the end of 2023, this is expected to reach almost 500 million.

A combination of policy instruments allows regulators to target various types of consumer behavior, addresses multiple points of the life cycle of SUPs, and combines long-term and short-term initiatives, thereby creating a more comprehensive policy intervention (UNEP, 2020). The World Bank (2022) finds that none of the countries it analyzed in its case studies relied on a single policy instrument to reduce plastic wastes. For example, a plastic ban in Rwanda was complemented by government subsidies for manufacturers of alternative materials and products. In Bangladesh, because of the lack of cost-effective alternative materials, the utilization of polyethylene bags was still widespread despite the 2002 ban on plastic bags (Uddin et al., 2019). In response, the Bangladeshi government implemented the Jute Packaging Act (2010) to provide a market for local jute-based substitutes to plastic packaging. Finland has adopted and combined several interventions, including a beverage packaging tax, a voluntary deposit-refund scheme, and a behavioral-change campaign. Such a combination of approaches has helped ensure high rates of return under the deposit system. Producers who participated in the voluntary deposit-refund scheme were eligible for exemption from the beverage packaging tax, creating an incentive to join the deposit-refund scheme (Ettliger, 2016).

Meanwhile, for EPR to yield the expected benefits, it should be treated as a component of a wider policy mix. For instance, coherence should be ensured between the objectives and implementation of EPR and other regulatory and economic instruments such as recycling targets, bans, product/material and waste taxes, pay-as-you-throw schemes, labelling, voluntary agreements, procurement policies, and information and awareness campaigns (Leal Filho et al., 2019). To systematically quantify the multiple impacts of applying various policy instruments, World Bank piloted a Plastic Policy Simulator (PPS) in Indonesia, promoting coherence and sustainability in upstream and downstream policies (World Bank, 2022).

4. Benefits and implications of policy instruments on SUPs

While there is little evidence on how effective the policies to manage plastic pollution are, some studies on the experience of several countries provide encouraging results:

- a. **Reduced consumption of SUPs** – Some countries such as Bulgaria, Fiji, and Rwanda successfully used bans to reduce the consumption of plastic bags and food packaging (World Bank, 2022). In Portugal, four months after the tax was introduced in 2015, the consumption of lightweight plastic bags decreased by 74 percent, while that of reusable plastic bags, exempted from the levy, increased by 61 percent (Martinho, Balaia, and Pires, 2017). In the UK, usage of SUP bags fell by 85 percent after the introduction of a five pence per bag charge in 2015 (Smithers, 2016). In Ireland, within one year from the introduction of the tax, the use of plastic bags dropped by more than 90 percent and the consumption per person fell from 328 plastic bags per year to 21 bags (UNEP, 2018). When Lithuania implemented a deposit refund system, the number of drink containers wasted per capita fell sharply from 113 in 2015 to just 14 in 2017 (Wilcox and Mackenzie, 2021).
- b. **Increased production of sustainable alternatives** – In Italy, a ban on plastic bags stimulated an increase in the production of biodegradable and compostable bags. In Rwanda, government subsidies spurred the emergence of small businesses offering alternatives, including paper bags, textile bags, and bags made of hemp, papyrus, bamboo, or banana peel (World Bank, 2022).
- c. **Lowered waste management costs** – EPR applications in Europe and the Republic of Korea have reduced disposal rates, increased recycling rates, and lowered waste management costs by reducing the burden on public budgets for municipal waste management and increasing the cost efficiency of collection and recycling processes (Watkins et al., 2017).
- d. **Reduced plastic pollution** – In Ireland, it has been estimated that plastic bags constituted 0.13 percent of litter pollution nationally in 2014 compared to an estimated 5 percent in 2001 prior to the introduction of the levy (Anastasio and Nix, 2016).
- e. **Increased government revenues** – The Irish plastic tax also generated €200 million in 12 years, with the revenue used to fund Ireland's environmental protection agency, for environment remediation projects, awareness raising, and similar objectives (Anastasio and Nix, 2016).

The reduction in SUPs following the introduction of policies has been mainly highlighted in the studies. However, research related to environmental outcomes such as the positive impact on aquatic or marine environments is still lacking (Xanthos and Walker, 2017). This knowledge gap tends to be underscored by critics, aside from arguing that policies around SUPs are anti-poor and non-inclusive or they create other environmental problems.

4.1 Are policies against SUPs anti-poor and non-inclusive?

Plastic pollution already disproportionately affects vulnerable groups and communities who live near waste disposal sites. It would be unfortunate if policies to address plastic wastes will further exacerbate the economic disadvantage and social exclusion of the marginalized segments of the society. Therefore, a SUP ban or tax should consider how policies will be experienced differently by stakeholders and what is at stake when policy instruments are constructed without consulting marginalized populations. For example, if there are no affordable and suitable alternatives to SUPs, a plastic ban or tax will cause a predicament for small vendors, unless certain exemptions are provided to them. Other contentious aspects of plastic regulation are the resulting job and economic losses. For example, the plastic bag retailers in Nairobi, Kenya claimed that the plastic ban had resulted in the loss of 60,000 direct jobs. Another concern with the plastic ban, particularly on plastic straws, is the lack of regard for persons with disabilities who need plastic straws to drink, eat, and take medications, among others. Access to alternative and more expensive straw materials (e.g., metal, glass, and plastic reusable straws), and the ability to use them safely, is a privilege many persons with disabilities cannot afford (Jenks and Obringer, 2019).

4.2 Will plastic regulation help or hurt the environment?

The wider environmental impact of banning or taxing certain SUPs has been a subject of concern if consumers replace them with more environmentally harmful substitutes. A study by Taylor (2019) found that SUP bag policies have an adverse effect if carbon emissions were the only metric of success. Although it is known that plastic production leads to carbon emissions, how plastic waste affects marine ecosystems is not well understood. This makes it hard to evaluate the net positive environmental impacts of SUP bag policies. Moreover, life cycle assessments¹³ have difficulties in quantifying the toxicity of materials and impacts on wildlife (Freinkel, 2011). Hence, the choice of policy instruments on SUPs should be evaluated not only for their resulting carbon emissions but for their over-all environmental, economic, and social impact, especially on vulnerable populations.

5. Current policy landscape in the Philippines, recent developments, and gaps

Ecological Solid Waste Management Act (ESWMA) of 2000

The ESWMA of 2000 (RA No. 9003) serves as the main legal framework on solid waste management in the Philippines. It mandates the segregation of solid waste at source and prohibits the use of open dumps for solid waste. As an alternative, sanitary landfill sites shall be developed and operated as a final disposal site for solid and, eventually, residual wastes of a municipality or city, or a cluster of municipalities and/or cities. Pursuant to the Local Government Code (LGC) of 1991 (RA No. 7160), the law provides that local government units (LGUs) are primarily responsible for segregation, collection, and disposal of solid wastes within their respective jurisdictions. LGUs are mandated to develop and implement solid waste management plans and divert at least 25 percent of all solid waste from waste disposal facilities through re-use, recycling, and composting activities, and other resource recovery activities. Under the law, Materials Recovery Facility (MRF) shall be established in every barangay or cluster of barangays to improve resource recovery.

ESWMA of 2000 also directed the National Solid Waste Management Commission (NSWMC) to prepare a list of non-environmentally acceptable products (NEAP), provided that NEAP shall not be prohibited unless the NSWMC first finds that there are alternatives available to consumers at no more than ten percent greater cost than the disposable product. In 2015, the NSWMC approved Resolution No. 238, adopting the Life Cycle Analysis Study which found that non-woven reusable polypropylene bags, popularly known as *eco-bags*, have the least environmental impact compared to SUPs or paper bags. In 2021, the NSWMC passed Resolution No. 1428, which identified SUP straws and coffee stirrers as NEAP based on a rapid assessment by the Department of Science and Technology (DOST). More than two years on, the guidelines for the phase-out of the two products have yet to be issued, reportedly due to industry pushbacks. In addition, the NSWMC also passed Resolution No. 1363 in 2020 directing the DENR to prepare and implement the banning of the use of unnecessary SUPs by national government agencies, local government offices and offices of all other government-owned and -controlled corporations (GOCCs). The seven plastic products covered by the ban are cups less than 0.2 millimeter in thickness, drinking straws, coffee stirrers, spoons, forks, knives, and *labo* and thin-filmed *sando*¹⁴ bags lower than 15 microns. However, aside from a few government offices banning SUPs by virtue of their respective memorandum orders or circulars (e.g., Supreme Court, Philippine Ports Authority, Department of Health, Provincial and City Governments of Iloilo), government-wide implementation remains unclear.

Apart from the slow-paced implementation of the NEAP mandate, compliance to the more than 20-year-old law is weak. Only 1,147 (67 percent) out of 1,716 LGUs in the Philippines have an approved 10-year solid waste management plan as of February 2023. About 11,752 MRFs have been established serving 17,047 barangays, a mere 41 percent coverage of the 42,022 barangays in the country as of June 2022. There are 290 sanitary landfills that serve 590 LGUs or 36 percent of cities and municipalities as of December 2022. The LGUs' lack of available financial resources for engineered sanitary landfills and appropriate technologies, the NSWMC's shortcomings as the facilitator to LGUs, and weak waste reduction strategies are among the concerns that should be addressed to solve the country's solid waste management issues (PIDS, 2021). Despite the encompassing nature of RA No. 9003, the challenges of plastic waste management are not adequately addressed. Households likewise do not fully comply with the law, which may be partly attributed to lack of available infrastructure and consistent systems for waste segregation, collection, and

¹³ A life cycle assessment is a systematic analysis of environmental impact over the course of the entire life cycle of a product, material, process, or other measurable activity.

¹⁴ A *sando* bag is a type of plastic packaging with handles for the purpose of carrying, holding, and/or transporting goods and other produce.

processing (DENR, 2021). In terms of waste-segregation-at source behavior, the Philippines is far behind Malaysia, Thailand, and Vietnam and has 2-3 times the rate of littering (World Bank, 2021).

Extended Producer Responsibility Act (EPRA) of 2022

The EPRA of 2022 (RA No. 11898) has amended the ESWMA of 2000. It seeks to address the worsening problem of plastic pollution in the Philippines through the proper and effective recovery and management of plastic packaging wastes. It also mandates the development of a National Extended Producer Responsibility Framework for all product wastes, which includes the establishment of waste management infrastructure such as commercial or industrial scale recycling, composting, thermal treatment, and other waste diversion facilities for waste products.

EPR is a policy approach under which producers are given a significant responsibility for the end-of-life management of their used (or post-consumer) products which includes collection, sorting, and treating these for their recycling and recovery (EXPRA, 2016). The EPRA of 2022 is an application of the “polluter pays” principle,¹⁵ shifting the burden of managing plastic wastes from taxpayers to obliged enterprises. Under the EPRA, obliged enterprises or large enterprises with over PhP100 million in total assets that generate plastic packaging waste should establish or phase in recovery programs for plastic packaging within six months from the effectivity of the law.¹⁶ They are required to recover or offset 20 percent to 80 percent of their respective plastic packaging footprints beginning 2023 up to 2028 and beyond. Recovery programs may include redemption or buy-back schemes, recycling, clean-up of waste leaked to coastal areas, public roads, and other sites, establishment of commercial or industrial scale recycling, composting, and thermal treatment, and partnership with LGUs, communities, and informal waste sector. The National Ecology Center (NEC) under the NSMWC is mandated to monitor and evaluate the compliance of obliged enterprises and producer responsibility organizations¹⁷ with the registration of their EPR programs.

National Action Plans

Even with the intensified efforts to improve the compliance with the ESWMA of 2000, achieving the solid waste management targets proved to be difficult due to the lack of available waste diversion technologies and infrastructure and insufficient capacity to conduct compliance monitoring. The Philippine Development Plan (PDP) 2017-2022 targeted a national waste diversion rate of 75 percent and 80 percent by 2021 and 2022, respectively. In 2021, accomplishment for LGUs within and outside Metro Manila increased to 54 percent and 72 percent, respectively, but fell short of the 2021 target (NEDA, 2021). This means a significant share of wastes, including plastic wastes, still runs the risk of being mismanaged, improperly disposed of, and leaked into the environment.

In 2021, the DENR adopted the National Plan of Action for the Prevention, Reduction and Management of Marine Litter (NPOA-ML), which provides a blueprint to enhance the current efforts in resource and waste management and address marine litter issues towards an overarching goal of “Zero Waste to Philippine Waters by 2040.” Strategies include the establishment of science- and evidence-based baseline information on marine litter, mainstreaming circular economy¹⁸ and sustainable consumption and production¹⁹ initiatives, enhancing recovery and recycling coverage and markets, preventing leakage from collected or disposed waste, and strengthening LGU capacities and local level implementation of the NPOA-ML. Strategic actions towards increased circularity include the following, among others:

¹⁵ “Polluter pays” principle is the commonly accepted practice that the polluter should bear the costs of managing the pollution to prevent damage to human health or the environment.

¹⁶ Plastic packaging includes: (a) sachets, labels, laminates, and other flexible plastic packaging products; (b) rigid plastic packaging products which include containers for beverages, food, home, personal care, and cosmetic products, including their coverings, caps, or lids, and other necessities or promotional items such as cutlery, plates, drinking straws, or sticks, tarps, signage, or labels; (c) plastic bags, which include SUP bags; and (d) polystyrene.

¹⁷ Under Section 44-H of the EPRA of 2022, obliged enterprises may voluntarily organize themselves to form or authorize a Producer Responsibility Organization (PRO) for the purpose of establishing a viable platform to implement their EPR programs.

¹⁸ Circular economy or circularity refers to an economic model of creating value by extending product lifespan through improved design and servicing, and relocating ways from the end of the supply chain to the beginning. This intends to efficiently utilize resources by its continual use and aims to retain the highest utility and value of products, components, and materials at all times through sharing, leasing, reuse, repair, refurbishment, and recycling in an almost closed loop.

¹⁹ Sustainable consumption and production refer to the use of services and related products that respond to the basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials, as well as the emission of wastes and pollutants over the life cycle of the service or product, so as not to jeopardize the needs of future generations.

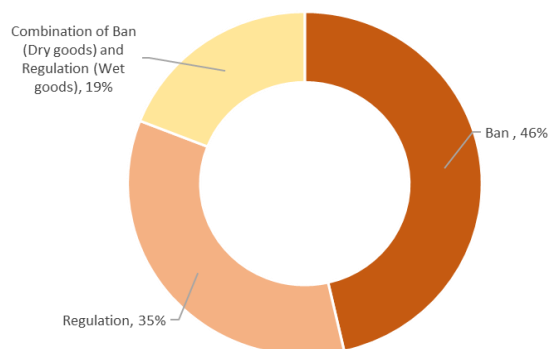
- a. Study, develop, and promote the use of sustainable packaging and other business models, which are environmentally sound and economically viable, including alternative product delivery systems, e.g., refill models;
- b. Promote research and enhance product/packaging re-design for improved reusability and recyclability; and
- c. Promote innovative and sustainable ways to a shift to avoid or reduce disposables consumption in establishments and institutions, including hotels, restaurants, delivery services, and healthcare facilities.

The National Economic and Development Authority (NEDA) developed the Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP), which will guide and facilitate the implementation of sustainable consumption and production across sectors in the country. To increase uptake of green products and services, the PAP4SCP aims to strengthen the country’s National Ecolabeling²⁰ Program. It also identified the need to study and develop alternatives to SUPs to support phase-out. Strengthening green public procurement is also considered to enhance compliance of procuring entities in integrating green criteria in procurement guidelines, bidding documents, and technical specifications.

Local ordinances on SUPs

Under Section 17 of the LGC of 1991, municipal and city governments are responsible for the “solid waste disposal system or environmental management system and services or facilities related to general hygiene and sanitation.” LGUs also have the primary mandate in implementing the ESWMA of 2000. Thus, several LGUs have taken the lead to address the problem of plastic wastes. Based on NSWMC 2019 data, 489 LGUs or 30 percent of all cities and municipalities in the country have a policy on SUPs. According to a stocktaking report by the United Nations Development Programme (UNDP), there are 168 recorded local ordinances to regulate the use of plastics. Almost half (46 percent) of the local ordinances enforce a ban, 35 percent implement a regulation, and the rest impose a combination of a ban of plastic bags and other non-biodegradable materials for dry goods, and regulation for wet goods (Figure 3). Plastic bags and polystyrene are the most common items banned or regulated. While a growing number of cities and municipalities are adopting SUP policies, UNDP (2020) found that implementation and compliance varies considerably. GAIA (2019) points out that local ordinances do not generally cover branded plastics that include sachets and other primary packaging used by food, personal care, and household products. It further argues that the existence of a plastic bag regulation in a city or municipality does not automatically equate to lower plastic bag use.

Figure 3. Nature of Plastic-Related Local Ordinances in the Philippines



Source of data: UNDP (2020)

Almost half (46 percent) of the local ordinances enforce a ban, 35 percent implement a regulation, and the rest impose a combination of a ban of plastic bags and other non-biodegradable materials for dry goods, and regulation for wet goods (Figure 3). Plastic bags and polystyrene are the most common items banned or regulated. While a growing number of cities and municipalities are adopting SUP policies, UNDP (2020) found that implementation and compliance varies considerably. GAIA (2019) points out that local ordinances do not generally cover branded plastics that include sachets and other primary packaging used by food, personal care, and household products. It further argues that the existence of a plastic bag regulation in a city or municipality does not automatically equate to lower plastic bag use.

Despite the encouraging developments in plastic wastes management with the recent enactment of the EPRA of 2022, the promulgation of national action plans, and the growing number of LGU-led efforts, the projected steady increase in the production and consumption of SUPs in the foreseeable future remains to be addressed. National policies mainly seek solutions in the downstream part of the plastic life cycle—after plastic products were used and became wastes. The Philippines, therefore, needs to learn from global experience of extending policy interventions towards upstream solutions—at the waste prevention at the design and production stages (World Bank, 2022).

6. Analysis of policy options

As of this writing, two major policy instruments are being proposed in the 19th Congress: 1) the SUPs Regulation and Management Act²¹ under Senate Bill No. (SBN) 246 by Senators Loren Legarda and Joel Villanueva; and 2) the SUP Bags Tax Act under SBNS 1449 and 1844 by Senators Villanueva and Raffy Tulfo, and House Bill No. (HBN) 4102 by Representative Joey Sarte Salceda et al.

²⁰ Ecolabeling is the practice of marking products with a distinctive label to show that their manufacture conforms to recognized environmental standards. In the Philippines, the National Ecolabeling Program is a voluntary program that provides criteria for environmentally sound and preferable products and services through life cycle consideration.

²¹ In the HRep, there are at least 18 similar measures on regulating single-use plastics as of April 2023, namely: HBNs 26, 507, 533, 1038, 1248, 2060, 2170, 2274, 2372, 2988, 3021, 3309, 4037, 4915, 6260, 6453, 6662, and 7365.

6.1 SUPs Regulation and Management Bill

In the Senate, the SUPs Regulation and Management Bill under SBN 246 was referred to the Committee on Environment, Natural Resources and Climate Change while its counterpart bills in the HRep were referred to the Committee on Ecology. These Senate and House bills are all currently pending at the Committee level.

SUP phase-out within one year. The proposed SUPs Regulation and Management Act mandates the phase-out of SUPs by all business enterprises to consumers and prohibits the importation of SUPs one year from the effectivity of the Act. SUPs are defined under the measure as disposable plastics which are commonly used for plastic packaging and include items intended to be used only once before they are thrown away or recycled. These include, but are not limited to, items such as grocery bags, food packaging films and bags, manufacturing water bottles, straws, stirrers, containers, styrofoam/styros, cups, sachets, and plastic cutlery. The measure stipulates that under the interim period (within one year), the provision of SUPs by food establishments, markets, and retailers shall be strictly prohibited. Consumers shall be encouraged/diverted to use reusable materials in substitution for SUPs. For each piece of SUPs already manufactured and in circulation at the time, the retailers shall charge the consumer a minimum levy of five pesos (PhP5.00), 20 percent of which shall be kept by the business enterprise to cover the cost of the said bags, while 80 percent shall be remitted to the Special Plastic Fund under the measure.

At the outset, a baseline assessment should inform any policy to curb the production and use of SUPs. Such assessment should include an analysis of the plastic waste problem and the concerns of manufacturers, retailers, and consumers. The immediate phase-out under similar proposed measures in the past has been met with resistance by the local plastics industry, citing adverse impact on employment. A viable compromise is to set a tiered phase-out schedule with a longer transition period. This would provide a reasonable timeframe for the industry to shift to the production of alternative packaging. In the 18th Congress, the HRep Committee on Ecology in its Committee Report No. 897 (HBN 9147) proposed the following phase-out schedule:

- a. Within one year from the effectivity of the Act – drinking straws, stirrers, sticks for candy, balloon, and cotton bud, buntings, confetti, and packaging or bags of less than 10 microns in thickness;
- b. Within four years from the effectivity of the Act – plates and saucers, cups, bowls, and lids, cutlery like spoons, forks, knives, and chopsticks, food and beverage containers made of expanded polystyrene, oxo-degradable plastics, film wrap, packaging, or bags of less than 50 microns in thickness, and sachets and pouches that are multi-layered with other materials; and
- c. Within two years upon determination of the DENR – plastic bottles, packaging, or products that are multi-layered with other materials, multi-layered tetra packs, election or advertising paraphernalia, streamers, and other non-compostable SUP products not in the above list that are deemed either high in replaceability,²² low in recyclability,²³ or low in retrievability.²⁴

Moreover, exemptions may have to be given in terms of SUP products that are needed for health, hygiene, accessibility, and other equally important considerations. HBN 9147 explicitly provided that properly labelled flexible disposable plastic drinking straws for persons with special medical conditions shall be allowed when no suitable reusable or compostable alternatives are available. It should also be clarified how small retailers, street vendors, and other workers in the informal sector will be affected by the measure as they oftentimes struggle to adapt to single use plastic bans due to the higher cost of alternatives or because alternatives do not meet the practical needs of their products. In China, markets selling fresh produce are exempted from the plastic bag ban until 2025. In Rwanda, exporters of fruits and vegetables were exempted from the ban because there were no suitable alternative packaging products.

Meanwhile, a provision should be introduced directing guidelines or standards on public procurement to shift away from SUP products towards sustainable alternatives. As a large consumer of services that use plastics, the government will be obliged to lead the transition, helping spur demand for reusables.

²² A condition wherein a plastic product is deemed non-acceptable, unnecessary, or can be replaced by a more efficient and eco-friendlier alternative.

²³ A condition wherein the value for recovery and reprocessing of a product is low, due to its design, composition, content, and density, among other things.

²⁴ A condition wherein after use of a product, a significant volume of its waste cannot be recovered, properly recycled, processed, or disposed of, on account of its low value for recovery, recycling, or reprocessing.

On the five-peso levy on SUPs during the interim/transition period, while it allows externalities of SUPs to be internalized by consumers, it may be worthwhile to conduct a survey on their willingness to pay. For example, a 2019 Social Weather Stations (SWS) survey showed encouraging results in support of reducing consumption of SUPs, with seven out of ten Filipinos willing to buy food condiments in recyclable or refillable containers and four willing to do the same for personal care items and household cleaning products. Support for regulations on SUPs and willingness to use more sustainable packaging alternatives was found to be strongest among the lower socioeconomic brackets (GAIA, 2020).

Development of alternatives. A successful nationwide phase-out requires the availability of suitable and affordable alternative products that would cater to the needs of Filipino consumers. The proposed measure, therefore, seeks to support research and development (R&D) in relation to alternatives to plastics and provide incentives to encourage business enterprises to invest in R&D in relation to such alternatives.

Under the legislative proposal, the DOST and NSWMC shall include such thrust in their respective programs and R&D Agenda, and consequently fund research on SUP packaging. The DOST, NSWMC, and the Department of Trade and Industry (DTI), through the Bureau of Product Standards (BPS), shall develop the standards and include in the Philippine National Standards (PNS) the products, items, or technologies from studies that were pilot tested.

In addition, business enterprises, individuals, cooperatives, partnerships, and corporations that engage in the manufacture of identified alternatives to SUPs shall be given incentives provided for under the Philippine Cooperative Code of 2008 (RA No. 9520), the Barangay Micro Business Enterprises Act (BMBEs) of 2002 (RA No. 9178), the Magna Carta for Micro, Small, and Medium Enterprises (MSMEs) (RA No. 9501), the Omnibus Investment Code of 1987 (Executive Order No. 226), or the Philippine Green Jobs Act of 2016 (RA No. 10771), where applicable.

Ramping up the production of alternatives entails considerable investments. Aside from these laws, the government's innovation fund and innovation development credit and financing program under the Philippine Innovation Act of 2019 (RA No. 11293) and the start-up grant fund and start-up venture fund under the Innovative Startup Act of 2019 (RA No. 11337) should be fully operationalized and tapped to support the development of substitutes for SUPs.

Implementation and compliance. Under the legislative proposal, the NSWMC and DTI, in coordination with the LGUs, and local law enforcement agencies, shall conduct regular inspection and monitoring of business enterprises and facilities of manufacturers. Penalties will be imposed for non-compliance, ranging from PhP5,000 to PhP100,000 and permanent suspension of business permit for micro, small and medium enterprises and PhP50,000 to PhP500,000 and permanent suspension of business permit for value-added tax (VAT)-registered stores, establishments, and enterprises, and for all plastic manufacturers found violating the Act.

Moreover, any citizen may file an appropriate civil, criminal, or administrative action in the proper courts/bodies against any person who violates or fails to comply with the provisions of the law and its Implementing Rules and Regulations (IRR), the relevant department or other implementing agencies concerning orders, and regulations issued inconsistent with the Act, or any public officer who willfully or grossly neglects the performance of an act, abuses authority, or improperly performs duties under the Act or its IRR.

As more than one agency and LGUs are named under the proposed legislation to handle inspection and monitoring, the measure should clearly identify which agency or if it is the LGU that is primarily responsible for such function and how it will work with other institutions. Proportionality of penalties to violations need a careful review, especially those that will be applied to MSMEs. Ways on how to make the measure more facilitative rather than punitive for MSMEs which may not have the capacity to shift immediately to alternatives should be explored.

Role of LGUs. The legislative proposal places LGUs at the frontline of implementation. LGUs shall have the primary responsibility in the effort to decrease the percentage of plastic bag waste produced within their respective jurisdictions. They shall also be primarily responsible for the enforcement of the prohibitions of the measure and the monitoring of the collection of recyclable used plastic bags by manufacturers. The LGUs concerned, after the conduct of a thorough examination and inspection, shall issue the necessary certificate to show whether business enterprises or manufacturers in their jurisdiction are compliant with the measure. The LGU certification shall be a requirement for the renewal of any local permits.

LGU ordinances imposing bans and prohibitions on the use of plastic bags, promulgated and enforced prior to the effectivity of the Act, shall be considered as automatically amended while LGUs that do not have ordinances are also encouraged to enact their respective ordinances in line with the provisions and mandates of the law. The provisions, mandates, and directives of the measure shall serve as minimum standards and stipulations for LGU ordinances. LGUs may impose stricter measures and standards than those provided for in the measure.

In view of the additional responsibilities of LGUs under the legislative proposal, they must be provided with the means to implement the measure. While the Special Fund for SUPs Regulation is envisioned to be utilized for capacity building of LGUs, this competes with the other uses of the fund. It may be recalled that LGUs' lack of available financial resources for engineered sanitary landfills and appropriate technologies has been identified as a foremost concern to address the country's solid waste management issues.

Role of the NSWMC. Pursuant to the ESWMA of 2000, the NSWMC shall be the lead agency for the implementation of the Act. It shall prepare the national strategic SUP roadmap, lead the R&D agenda preparation, conduct research and pilot testing of identified alternatives with the DOST, and review and monitor the implementation of the Act, among other functions. The latter includes monitoring local-level enforcement through the compilation of local-level ordinances on SUPs and conducting regular and routine inspections and monitoring of business enterprises and facilities of manufacturers.

The NSWMC is a multi-agency body, with the DENR Secretary and a private sector representative serving as chair and vice-chair, respectively. It bears stressing that the NSWMC's shortcoming as facilitator to LGUs has been identified as one of the reasons for the poor implementation of the ESWMA of 2000 (PIDS, 2021). Moreover, the NSWMC has failed to act on its mandate to formulate and update the list of Non-Environmentally Acceptable Products and Packaging (NEAPP), as only plastic straws and stirrers have been included by the NSWMC two decades since the enactment of the ESWMA of 2000. Still, such a list with only two SUP items has yet to be officially released. Hence, assigning additional responsibilities to the NSWMC should therefore be matched with strengthened competence, capacities, and financial resources.

It may be noted that EPRA of 2022 amended the composition of the NSWMC, reducing the government members from 14 to eight, and increasing the private sector members from three to five wherein three of these seats are for representatives from nongovernment organizations (NGOs) with a track record on solid waste management or waste reduction, recycling, and resource recovery. Further policy changes should consider providing the lead implementing agency with sufficient financial and human resources to fulfil its additional mandates and enhancing institutional cooperation.

Special Fund for SUPs Regulation. Under the proposed measure, a Special Fund for SUPs Regulation, to be administered by the NSWMC, will be created. The Fund shall be composed of tariffs, levies, and fees collected pursuant to the implementation and enforcement of the Act. It shall be used for strengthening the operations of the NSWMC, improving the capacity of LGUs and local law enforcement agencies, establishing recycling centers or remodeled business enterprises that exhibit best practices (as no single-use zones) in each region or province, conducting impact evaluation studies, conducting information and education campaigns, providing assistance and provision of incentives for manufacturers and community-based incentives for the production of SUPs, as well as for NGOs and civil society organizations (CSOs) promoting proper solid waste management, and allocating additional provisions for the Solid Waste Management Fund under the ESWMA of 2000.

The Special Fund is envisioned to support a wide range of activities for the implementation of the Act. However, the regular conduct of impact evaluation studies should be embedded in the measure, given a dedicated budget under the NSWMC, and should not be subject to availability of resources under the Special Fund.

Public information and education campaign. The legislative proposal mandates the DENR, in coordination with the LGUs, Department of the Interior and Local Government (DILG), Department of Education (DepEd), Commission on Higher Education (CHED), Presidential Communications Office (PCO), and Philippine Information Agency (PIA), to conduct a continuing information campaign on the proper regulation of SUPs in the country.

Such a campaign shall be incorporated in and shall be in addition to the public information and education campaign under Section 55 of the ESWMA of 2000. As it is the DTI that oversees consumer education, it should also be mandated to implement information dissemination programs on the SUPs regulation.

Policy evaluation. It is proposed that within six months upon the effectivity of the Act, the DTI, Technical Education and Skills Development Authority (TESDA), Department of Labor and Employment (DOLE), and the PCO, in coordination with plastic manufacturers/industries, NGOs, CSOs, and other concerned stakeholders shall determine the impact of the measures on affected plastic industry workers. They shall likewise, together with the DOST and the NEC, develop a capacity-building program for alternative livelihood opportunities for the affected employees and workers in areas such as recycling of used plastic products and cottage industries, among others.

It must be noted that while the conduct of an impact evaluation is a welcome provision, it should be undertaken when it is likely to be able to produce useful findings for its intended use. Hence, several impact evaluation studies may be conducted not only to determine the measure's impact on the affected plastic industry workers, but also the effect on the consumption of SUPs, development of alternatives, and plastic pollution, among other study areas that require scrutiny. Moreover, process evaluations (What can be learned from how interventions were delivered?) and value-for-money evaluations (Are the interventions a good use of resources?) should likewise be mandated to inform policy implementation and future policy revisions.

Unintended consequences. UNEP (2020) mapped several unintended impacts that emerge from SUP bans. First, a ban may lead to an inadvertent increase in consumption of other, unregulated plastic bag products. Producers and consumers may simply shift from one type of plastic product to another, without a significant reduction in the total number of bags used. Second, alternative materials may have a higher carbon footprint. Without life cycle assessments, policymakers risk trading one environmental problem for another. Third, a ban tends to spawn a black market for SUP products. In Bangladesh, market vendors defy the ban due to the shortage of cost-effective alternatives for handling perishable food. This concern stresses the importance of identifying the plastic products that are essential for the livelihoods of the low-income segments of the population and ensuring that viable alternatives are available before the institution of a ban. Fourth, bans are usually met with resistance from plastic manufacturers and associations. Lastly, some bans have had very little impact due to enforcement challenges.

6.2 SUP Bags Tax Bill

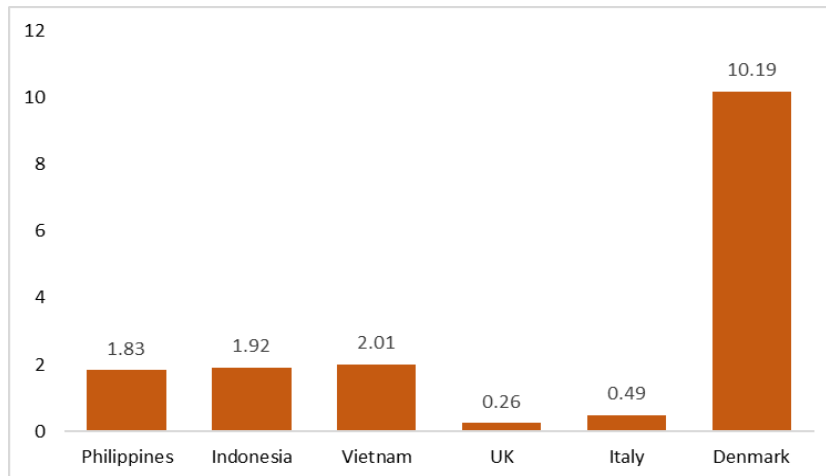
In the HRep, the SUP Bags Tax Bill under HBN 4102 was approved on Third Reading in November 2022. It was subsequently sent to the Senate for concurrence and referred to the Committee on Ways and Means, which shall also consider the counterpart measures filed in the Senate, namely SBNs 1449 and 1844.

Rate of tax. The proposed SUP Bags Tax Act imposes an excise tax in the amount ranging from PhP20 to PhP100 for every kilogram of SUP bag removed from the place of production or released from the custody of the Bureau of Customs (BOC). The rate of tax shall be increased by four percent every year effective on January 1, 2026. SUP bags are defined in the proposed measure as secondary level plastics made of synthetic or semi-synthetic organic polymer, commonly known as *labo* or *sando* bags, with or without handle, used as packaging for goods or products. Non-payment of the excise tax shall be subject to the imposition of corresponding fines, surcharges, penalties, and imprisonment or closure of business under Titles VIII and X of the National Internal Revenue Code (NIRC) of 1997 (RA No. 8424), as amended.

Lessons from the experience of other countries show that stakeholder acceptance of the plastic bag tax is a critical factor in the success of the policy. In the Irish model, the government consulted manufacturers, retailers and consumer groups and conducted plastic bag tax awareness campaigns to educate all stakeholders on the benefits of the tax. This led to a broader acceptance, and smooth implementation and enforcement of the plastic bag tax. However, in South Africa, studies pointed out that consultation was not comprehensively conducted and was only limited to advocacy campaigns, resulting in resistance from manufacturers which led to the reduction of the tax in 2008. Moreover, in order to set an optimum amount of tax with a prohibitive effect, the elasticity of plastic bag demand should be evaluated. An understanding of elasticity of demand allows policymakers to set a plastic bag tax amount that has a restraining effect (Muposhi et al., 2021).

The proposed excise tax of PhP100 per kilogram of plastic bag in the Philippines is slightly lower than the rates in its regional peers Indonesia and Vietnam. It is much higher compared to the UK and Italy but much lower than Denmark's (Figure 4). The excise tax does not distinguish between substantially recycled plastic and virgin plastic, as opposed to UK's approach wherein the tax applies to plastic packaging manufactured in or imported into the UK that contains less than 30 percent recycled plastic. This incentivizes businesses that use recycled content, which is more expensive than virgin plastic, and stimulates recycling.

Figure 4. Tax per One Kilogram of Plastic Bag (in US\$)



Source: Author's computation based on various data sources

Use of revenues. Under the proposed measure, the incremental revenues from the imposition of the excise tax on SUP bags shall be allocated to programs of the DENR for the implementation of the ESWMA of 2000 in municipalities. Representative Salceda, Chair of the HRep Committee on Ways and Means, said the imposition of at least PhP20 per kilogram excise tax will provide an additional PhP4.8-billion annual revenue to the government. Meanwhile, the DOF estimates that the excise tax will raise an additional annual revenue of PhP1 billion.

Transparency and full disclosure of the revenue generated from the plastic bag tax is also key to the acceptability of the tax. The utilization of tax proceeds for solid waste management at the local level should be transparent to gain and sustain public support.

Industry position. The Philippine Plastics Industry Association Inc. (PPIA) asserts that the plastic bag tax will hurt and eventually “kill” the industry. According to the PPIA, most micro and small plastic firms are engaged in the production of plastic packaging such as plastic bags and laminates (WWF, 2020). Based on 2021 Philippine Statistics Authority (PSA) data, 868 establishments in the country manufacture various plastic products, of which 93 percent (809) are MSMEs. The industry employs 51,130 workers, of which 63 percent (32,002) are in MSMEs and 54 percent (27,709) are in the manufacture of plastic articles for packing goods (e.g., boxes, bags, sacks, etc.).

The PPIA argues that the tax will severely affect not just plastics manufacturers but the entire domestic retail and micro-businesses on the use of plastic carrier bags, including over 1.3 million *sari-sari* stores. The PPIA instead urges the government to harness the PhP55 billion potential revenue from plastics recycling in the country. Meanwhile, the Philippine Amalgamated Supermarkets Association (PAGASA) warns that prices of basic goods may also spike further amid the rising inflation. The added costs due to the tax would eventually be passed on to consumers.

Challenges and unintended consequences. UNEP (2021) advises legislators to take account of the challenges and unintended impacts of taxing SUPs. First, uncertainty over broader environmental impacts of plastic bag levies still remains. Second, taxes on plastic bags may disproportionately burden low-income households who cannot easily absorb the cost of adapting their behavior (Schnurr et al., 2018). Similarly, smaller businesses could not quickly adapt to SUP taxes owing to the lack of affordable and suitable alternatives. Third, if cheap alternatives are not available, the tax will create a black market for SUPs. Fourth, a tax on producers will be effective only if the tax is passed on to retailers in full. Fifth, long-term results may be difficult to sustain as consumers become used to the tax, eroding its restraining effect on the use of plastic bags. An example is the Irish case where the tax rate was raised twice when plastic consumption rebounded. This highlights the importance of continuously reviewing the tax to maintain its deterrent effect. Finally, the unwise use of revenues may undermine public policy goals and affect public support for the tax.

7. Conclusion and policy recommendations

As the world wakes up to the dire consequences of plastic waste on the environment, climate, and human health, the move to curb plastic pollution has seen breakthroughs on global, national, and local levels in the past years. Current national and local policies to tackle plastic waste have either achieved limited success or have yet to be enforced. The implementation of the Ecological Solid Waste Management Act of 2000 was mainly concerned in managing the downstream challenges of the plastic life cycle—after plastic products were used and became waste. Hence, the upstream dimension of the plastic pollution problem—waste prevention at the design and production stages—remains to be addressed.

The Philippines, the third largest contributor of global ocean plastic pollution, should develop policies on SUP reduction that are integrated and coherent, informed by the best available evidence, and guided by a transparent and consultative process with key stakeholders. The experience of developed and developing countries alike in implementing plastic management policies suggests that there is no single policy instrument to reduce plastic waste. A policy mix can be made more effective by implementing complementary policy instruments simultaneously (World Bank, 2022). The right combination of policies should reward innovation, relieve pressure on local budgets for waste management, improve resource efficiency, enhance environmental quality, and gain public support. A regulatory measure, the proposed Single-Use Plastics Regulation and Management Act, and an economic measure, the proposed Single-Use Plastics Bags Tax Act, are important starting points in moving upstream policy interventions forward. These proposed measures could complement the Extended Producer Responsibility Act of 2022, which links the upstream and downstream segments of the plastic value chain by making producers responsible for their products throughout their life cycle. While a ban and a tax could be effective ways of reducing SUP consumption, the best approach depends on the result of a baseline assessment. A baseline assessment will identify the most problematic SUP products, obtain information on the environmental harm they cause, and assess market realities, consumer attitudes, and the potential social and environmental impacts of the proposed legislation. A baseline assessment would also facilitate the monitoring of results and effectiveness of the proposed measure (UNEP, 2020). The availability of suitable and affordable alternative packaging products that would meet the needs of consumers, especially of low-income households and small businesses, is crucial to the success of a ban or a tax. Conversely, a ban or a tax, coupled with support for R&D, changes in consumer preferences, and public information campaign, can drive a flow of investment in finding viable substitutes.

Implementation challenges and unintended consequences of the proposed measures should also be considered. These include increase in consumption of unregulated plastic bag products, higher carbon footprint of alternative products, creation of a black market, resistance from plastic manufacturers, challenges in enforcement, difficulty in sustaining long-term results, and unwise use of tax revenues that will undermine public support for the policy. These highlight the value of policy evaluation, which could guide program implementation and future policy revision. The World Bank's Plastic Policy Simulator (PPS) piloted in Indonesia offers policymakers an evidence-based approach of understanding the likely impacts of various policy instruments and their interactions before they are implemented and may be a useful tool to explore. The PPS may be applied in the Philippines to determine how best to combine policy instruments in a comprehensive and coherent way, including how to prioritize and sequence their implementation.

Congress, in exercise of its oversight function, should closely monitor the implementation of the ESWMA of 2000, especially the promulgation by the National Solid Waste Management Commission of the list of Non-Environmentally Acceptable Products and Packaging pursuant to the law. The EPRA of 2022 reiterated this mandate, tasking the National Ecology Center under the NSWMC to identify products and packaging materials that shall be phased out, especially those that are highly unnecessary or replaceable, or cannot be efficiently reused, recovered, or recycled, one year from the effectivity of the law.

On a final note, government institutions leading by example will send a clear signal that implementing a single-use plastic ban is necessary, urgent, and doable. In August 2022, Senator Pia Cayetano delivered a privilege speech urging the Senate to look inward and reflect on what can be done within the institution to reduce plastic wastes and other wastes. She called for a ban on the use of PET bottles and sachets in the Senate and encouraged the Secretariat to study and recommend ways for the Senate to work more sustainably. In September 2022, House Resolution No. 338 was filed by Representative Eduardo Villanueva mandating the ban of SUPs in all retail and service establishments within the premises of the HRep. As consideration of the proposed plastic regulation measures progresses, stakeholders may be looking to the Congress if it is serious about setting an example for the country to follow.

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