MARCH 2023 QUARTERLY PUBLICATION OF THE ADRINStitute S and ACTION the key (ink between) adrinstitute.org

SUSTAINABILITY AS A WAY OF LIFE: EARLY GAINS AND CHALLENGES IN THE SHIFT TO A CIRCULAR ECONOMY

At a Glance: Global Risk of an Environmental Crisis

Since mankind started to exploit natural resources, it has always been from the linear perspective of extracting or consuming resources and throwing them away after use. That was how the world's forests were leveled down over time to build tools, transport, and homes, and left as waste when people moved to other grounds. This process eventually expanded in multiple scales during the Industrial Revolution of the 18th century and down the road to the present time.

As a result, much of the world's natural resources are now depleted, endangering all living organisms with the threat of extinction. Among these natural resources are the trees and other plant life, which are a major source of oxygen and food necessary for sustaining human existence. These plants also absorb carbon dioxide in the air, and thus help keep the balance that makes the planet organically healthy.

According to the *Circularity Gap Report 2023*¹ by the organization Circle Economy, rising material extraction and use have reduced global circularity from 9.1% in 2018 to 8.6% in 2020, and 7.2% in 2023. This means that in 2023, materials that are cycled back into the global economy after the end of their useful life account for only 7.2% of all material inputs into the economy. These figures indicate that the world currently depends on new materials, and that over 90% of materials are either wasted, lost, or are unavailable for reuse as they have been utilized for non-current assets such as buildings and machines.

The report² estimates that in order to bring human activity back within the safe limits of the planet's resources, there is a need to reduce global material extraction and consumption by one-third. This can be achieved by integrating circular solutions across four global systems: (1) agrifood; (2) mobility and transport; (3) manufactured goods and consumables; and (4) the built environment. Specifically, these circular solutions revolve around the following: narrow (use less); slow (use longer); regenerate (use again); and cycle (make clean).

When the first *Circularity Gap Report* was published in January 2018 during the World Economic Forum's Annual Meeting in Davos, Switzerland, it was revealed that the world was 9.1% circular at the time, leaving a massive circularity gap.³ This indicated that from 2018 to 2023, global circularity even declined by 1.9%.

To date, disasters of untold proportions due to the depletion of natural resources have resulted in an alarming lack of supply of vital inputs to production in factories, which have, in turn, led to global inflation and geopolitical tensions or even wars. COVID-19 pandemicinduced supply chain problems worldwide, exacerbated by the ongoing war between Russia and Ukraine, have also triggered a cost-of-living crisis that the World Economic Forum (WEF), in its Global Risk Report 2023,4 says will be the most severe global risk looming in the next two years. In fact, according to the International Monetary Fund (IMF),5 global inflation averaged at 8.8% in 2022, which was way above the prepandemic levels of around 3.5%.

As shown in Table 1, environmental risks are identified by the WEF⁶ as the most severe challenges in the next ten years.

Specifically, these include the failure to mitigate climate change, the failure of climate change adaptation, natural disasters and extreme weather events, and biodiversity loss and ecosystem collapse.

Along this line, thought leaders have brought up the idea of sustainability to address the problem of resource depletion and waste. In his paper entitled The Product-Life Factor that won the Mitchell Prize in 1982, Swiss architect Walter R. Stahel, who was influential in developing the field of sustainability, first described the "closed loop economy" which provided the context for what is now known globally as the "circular economy." Specifically, his study8 called for extending the product life of goods and reduce depletion of natural resources and their waste as a good first step towards transitioning to a sustainable society. He also stressed the need for the active and independent role of the private sector in carrying out this endeavor.

Today, many countries have adopted the concept of "reduce, recycle, reuse" in varying degrees while preparing to shift to a circular economy. In the Philippines, most malls, stores, and various buildings in the urban centers have a waste management system of this nature in place.

Global Risks Ranked by Severity Over the Short and Long Term

Table 1

Rank	2 Years	10 Years
1	Cost-of-living crisis	Failure to mitigate climate change
2	Natural disasters and extreme weather events	Failure of climate change adaptation
3	Geoeconomic confrontation	Natural disasters and extreme weather events
4	Failure to mitigate climate change	Biodiversity loss and ecosystem collapse
5	Erosion of social cohesion and societal polarization	Large-scale involuntary migration
6	Large-scale environmental damage incidents	Natural resource crises
7	Failure of climate change adaptation	Erosion of social cohesion and societal polarization
8	Widespread cybercrime and cyber insecurity	Widespread cybercrime and cyber insecurity
9	Natural resource crises	Geoeconomic confrontation
10	Large-scale involuntary migration	Large-scale environmental damage incidents

Note: Green - Economic Risks; Blue - Environmental Risks; Yellow - Geopolitical Risks; Pink - Societal Risks; Purple - Technological Risks. Source: World Economic Forum (WEF)

FEATURES

02

AT A GLANCE: GLOBAL RISK OF AN ENVIRONMENTAL CRISIS

Since mankind started to exploit natural resources, it has always been from the linear perspective of extracting or consuming resources and throwing them away after use

Cover, title page, and contents page: serp-p.pids.gov.ph/feature/public/indexview?feauredtype_id=1&slug=climate-crisis;

serp-p.pids.gov.pn/reature/public/index-view?feauredtype_id=1&slug=climate-crisis; heconversation.com/why-the-world-is-looking-to-the-philippines-for-climate-justice-91792; and ana0403.wordpress. com/2016/04/06/global-warming; cnnphilippines.com/world/2019/01/16/Climate-change-solution

ON THE COVER

ABOUT THE AUTHOR

Venice Isabelle Rañosa

Is the Research Manager at the policy think tank Stratbase ADR Institute where she is in charge of the quarterly publications Politika and Economic Snapshots. She co-authored a special study on a proposed Extended Producer Responsibility in the Philippines, which was published in 2018 In her larger role at the Stratbase Group, she oversees research engagements on the economy, public policy, and sustainable development. She received her master's degree in development policy and a bachelor's degree in international studies, with honors, from De La Salle University-Manila and was awarded a diploma in Spanish by the Instituto Cervantes in Madrid, Spain.

05

WASTE GENERATION AND MANAGEMENT IN THE PHILIPPINES

Population and economic growth lead to an increased demand for food, social services, infrastructure, transport facilities, power, and other basic needs, but meeting this growing demand requires increased extraction, processing, and transport of both renewable and non-renewable resources

08

POLICY DEVELOPMENTS GEARED TOWARDS SUSTAINABILITY AND A GREEN ECONOMY

Environmentalists have called on national policymakers to make sustainability and environmental concerns mainstream



<u>11</u>

PROMOTING SUSTAINABILITY THROUGH GREEN MANUFACTURING

The recent public health crisis may be the perfect opportunity to encourage more investments that are aligned with the circular economy, where waste and natural resources are managed in an effective manner.

15

LESSONS AND POLICY RECOMMENDATIONS

As the Philippine economy recovers from the detrimental impact of the COVID-19 pandemic as well as other emerging external risks, there is much room for opportunities that can simultaneously address the ongoing economic crises and climate change, which is a long-term threat that is expected continue to endanger the planet's survival in the years to come



CONTENTS

the circular economy

According to the Ellen MacArthur Foundation (EMF),9 a circular economy is more than an industrial economy that is restorative or regenerative by value and design, but also a "systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution." The circular economy is driven essentially by three principles: (1) the elimination of pollution and waste production; (2) the circulation of products or materials; and (3) the regeneration of resources. The EMF10 further describes the circular economy as "regenerative by design and aims to gradually decouple growth from the consumption of finite resources."

In a circular economy, the most notable factor is the elimination or reduction of waste and the corresponding reusability of existing materials or products. To date, this is actualized in private sector initiatives that underscore the recycling of plastic products into pellets that, in turn, are reused or redeveloped into new plastic products. When the old plastic materials are recycled into pellets, the waste becomes a new raw material that leads to the creation of a new product altogether. With this kind of process, industrial plastics are transformed from a negative to a positive resource - that is, one with value. Ultimately, this system becomes a force multiplier in creating new products, industries, jobs, and even careers for environment-related professions.

Indeed, shifting to a circular economy will be instrumental in mitigating not just a looming environmental crisis, but also a cost-of-living crisis that threaten the world today.

Waste Generation and Management in the Philippines

Population Growth and Urbanization

Economic activities, specifically industry expansion, progress, and innovation, are typically concentrated in urban cities, which serve as hubs for job creation, livelihood opportunities, and resource use. However, with the rapid expansion of economies and increasing urbanization, waste generation has been rising as well due to deficient waste management systems in place. Moreover, the increasing costs of tackling waste, which involves collection, segregation, transportation, and processing, pose a significant challenge to developing countries like the Philippines.

According to the 2020 Census of Population and Housing 11 of the Philippine Statistics Authority (PSA), 58.93 million or 54.0% of the total 109.03 million population lived in urban barangays. This indicated that the country's urban population in 2020 rose by 7.20 million, from the recorded 51.73 million urban residents in 2015. On the other hand, those who lived in rural barangays accounted for 46.0% of the population.

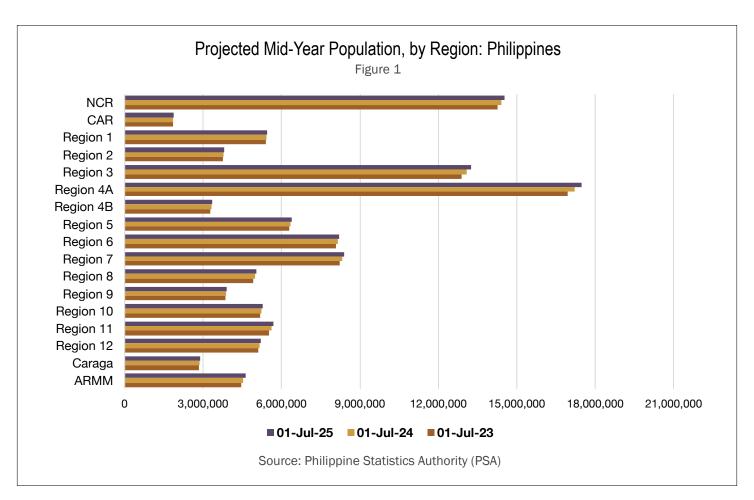
Ultimately, population and economic growth lead to an increased demand for food, social services, infrastructure, transport facilities, power, and other basic needs. However, meeting this ever-growing demand requires increased extraction, processing, and transport of both renewable and non-renewable resources. 12 In a 2021 report, the World Bank¹³ described the Philippines as a "sachet economy" where there is a heavy reliance on sachets to provide cheap consumer goods to poor and middle-income families. It further noted that the Philippines consumes around 163 million pieces of sachets daily, with 2.7 million tons of plastic waste generated every year and approximately 20% ending up in the ocean.

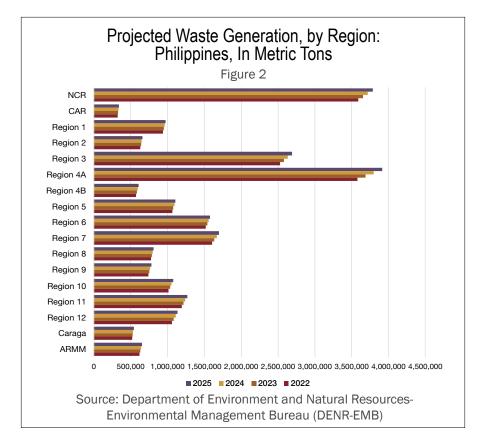
Estimates from the Philippines' Department of Environment and Natural Resources-Environmental Management Bureau (DENR-EMB)¹⁴ show that by the end of 2023, the country would have generated approximately 22.7 million tons of waste and is expected to increase to 23.2 million in 2024 and 23.6 million in 2025. One of the factors that perpetuate this negative development is the

cost of clean-up. The DENR has limited financial and logistical resources to clean up and properly dispose of such wastes. Hence, the DENR needs the cooperation of and assistance from other key stakeholders such as the private sector and civil society in implementing a clean-up of massive proportions.

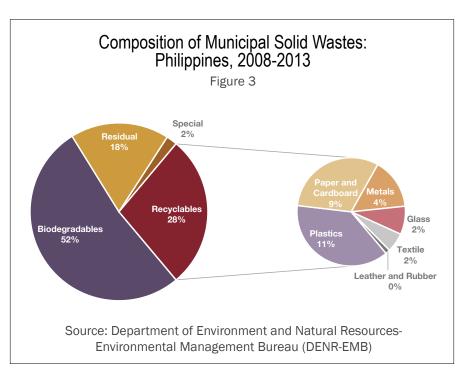
As reported by the United Nations Environment Programme (UNEP), on a global scale, plastic waste accounts for approximately 400 million tons of global solid waste that is generated annually.¹⁵

Given these figures, waste management is indeed a pressing concern for several countries including the Philippines, whose population continues to grow each year. As seen in Figures 1 and 2, data from the PSA¹⁶ and the DENR-EMB¹⁷ indicate a direct relationship between population growth and waste generation. Notably, highly populated regions are expected to generate the most waste, particularly Region IV-A (CALABARZON), the National Capital Region (NCR), Region III (Central Luzon), and Region VII (Central Visayas). These are also the areas characterized by high economic activities.





Notably, as shown in Figure 3, around 28% of the solid wastes generated in the Philippines during the period 2008-2013 are recyclables, based on the latest data of the DENR-EMB.¹⁸



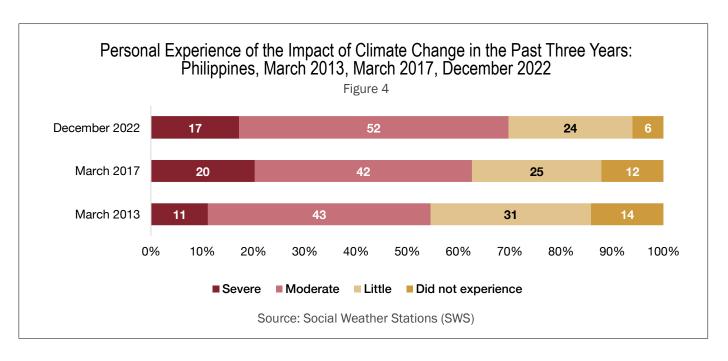
Climate Change and Waste Mismanagement

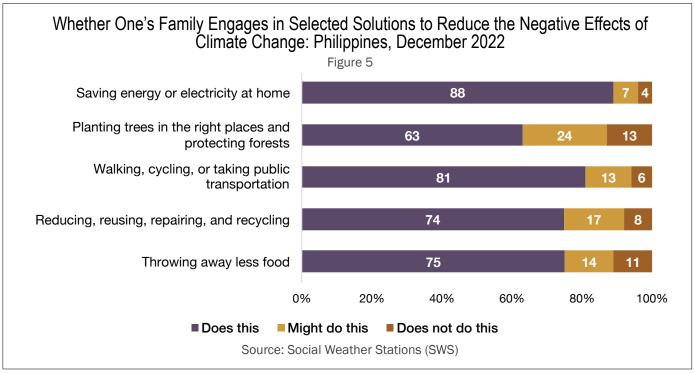
The consequences of waste mismanagement are exacerbated by the impact of climate change and other natural calamities.

Because of its geographical location in the Pacific Ring of Fire and the Typhoon Belt, the Philippines is highly vulnerable to massive calamities such as typhoons, flooding, and landslides, which are likely to worsen due to climate change. On top of these, the Philippines experiences other climate-induced extremes like long periods of drought and extraordinary floods due to the El Niño and La Niña weather phenomena.¹⁹

According to the Fourth Quarter 2022 Social Weather Survey that was conducted by the Social Weather Stations (SWS)20 in December 2022, some 93% of adult Filipinos said that they have personally experienced the impact of climate change in the past three years. Out of this figure, 17% said they have experienced the "severe" impact of climate change, 52% experienced "moderate" impact, while 24% experienced "little" impact. Only 6% said that they did not experience any impact. As shown in Figure 4, the proportion of those who personally experienced the impact of climate change in December 2022 increased by 6 percentage points from March 2017 and 8 points from March 2013.

The same survey found that 88% of adult Filipinos believe that they can do something to reduce climate risk, or risks resulting from climate change. Meanwhile, 10% were undecided while 3% expressed disagreement. This resulted in a net agreement score of +85, which is classified by the SWS as "very strong," therefore indicating "a very strong personal efficacy to do something to reduce climate risk." It is





also worthy of note that based on the findings of the survey, 76% of adult Filipinos think that humanity could do something to stop or slow down climate change if everyone really tried, while 23% think that climate change is beyond humanity's control. Only 1% of the respondents are unsure.²¹

There is a very high awareness by adult Filipinos of several solutions to reduce

the negative effects of climate change. Most of them reported that their families engage in these solutions to reduce the negative effects of climate change: 88% save energy or electricity at home; 81% walk, cycle, or take public transportation; 75% throw away less food; 74% reduce, reuse, repair, and recycle; and 63% plant trees in the right places and protect forests (Figure 5).²²

Policy Developments Geared Towards Sustainability and a Green Economy

Environmentalists have called on national policymakers to make sustainability and environmental concerns mainstream. Green investments are those that make use of renewable energy and sustainable production processes that do not

damage the environment. Through these investments, not only will the environment be protected; jobs can also be generated in multiples for millions of Filipinos over the long term.

The Government's Overall Policy Blueprint

In July 2022, Department of Finance (DOF) Secretary Benjamin Diokno announced that the Marcos Jr. administration will implement an 8-Point Socioeconomic Agenda in the near- and medium-term to respond to external risks and steer the economy back to its high growth trajectory. The 8-Point Socioeconomic Agenda is stated as follows:

- 1. Protect the purchasing power of families by ensuring food security, and reducing transport, logistic, and energy costs;
- 2. Reduce vulnerability and mitigate scarring from the COVID-19 pandemic by tackling health, strengthening social protection, and addressing learning losses;
- 3. Ensure sound macroeconomic fundamentals by improving bureaucratic efficiency and ensuring sound fiscal management;
- 4. Create more jobs by promoting investments, improving infrastructure, and ensuring energy security;
- 5. Create quality jobs by increasing employability, expanding digital infrastructure, and encouraging R&D and innovation;
- 6. Create green jobs by pursuing a green and blue economy and establishing livable and sustainable communities:
- 7. Uphold public order and safety, peace and security; and
- 8. Ensure a level playing field by strengthening market competition and reducing barriers to entry and limits to entrepreneurship.

It is important to note that part of the government's agenda is the creation of green jobs, which is defined by the International Labour Organization (ILO)²³ as "decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction. or in new, emerging green sectors such as renewable energy and energy efficiency." The ILO further noted that these green jobs contribute to improving energy and raw materials efficiency, reducing greenhouse gas emissions, minimizing waste and pollution, protecting and restoring ecosystems, and supporting adaptation to the effects of climate change.

The UNEP²⁴ describes a "green economy" as low carbon, resource efficient, and socially inclusive, where the "growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services." On the other hand, for the World Bank,²⁵ a "blue economy" is the "sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health."

The government's 8-Point
Socioeconomic Agenda serves as the strategic framework of the Philippine
Development Plan (PDP) 2023-2028,²⁶ which is the country's medium-term plan that comprehensively lays out the priorities, strategies, policies, programs, and proposed legislative measures that will contribute to the achievement of socioeconomic targets. Among the specific objectives of the PDP 2023-2028 is to establish livable communities, which will

allow residents to thrive as these communities offer equitable, inclusive, and resilient opportunities for the improvement of human well-being. This objective also seeks to promote the social environment, improve environmental quality, upgrade the built environments, and advance responsive governance.

On top of these, the National Economic and Development Authority (NEDA), together with other government agencies, the private sector, academe, and civil society, spearheaded the formulation of the Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP),27 which was launched in early 2023. The PAP4SCP aims to identify concrete interventions to address these issues and influence behavior towards accelerating sustainable consumption and production in the country. This plan also covers programmatic interventions, including circular economy approaches that are geared towards decoupling the country's economic growth from environmental degradation under the "new normal" brought about by the COVID-19 pandemic. Considering the cross-cutting scope of the needed interventions, the operationalization of PAP4SCP follows a whole-ofsociety and whole-of-government approach, primarily in implementing and financing priority actions, as well as in developing innovative and green technologies and circular economy practices across sectors.

It is also important to note that in 2022, under the administration of then President Rodrigo Duterte, the government issued Memorandum Order No. 61,²⁸ approving the 2022 Strategic Investment Priority Plan (SIPP). The SIPP outlines specific

industries which qualify for fiscal incentives under the Corporate Recovery and Tax Incentives for Enterprises (CREATE) Act due to their importance to the overall economy. The length of the incentives – such as income tax holidays (ITH) and enhanced deductions (ED) – depends on which of the three tiers a particular economic activity falls under.

Tier II covers economic activities that are "envisioned to promote a competitive and resilient economy and fill in gaps in the Philippines' industrial value chains, and are deemed critical in promoting green ecosystems, ensuring a dependable health system, achieving robust self-reliance in defense systems, and realizing modern, competitive, and resilient industrial and agricultural sectors." Specifically, this tier includes green ecosystems, which covers electric vehicle (EV) assembly (e.g., pure EV, plug-in hybrid EV, hybrid EV, fuel cell EV), manufacture of EV parts, components and systems, establishment and operation of EV infrastructure; manufacture of energy efficient maritime vessels and equipment; electronic devices and circuits for smart grid and renewable energy (includes wearable solar devices); bioplastics and biopolymers; renewable energy; energy efficiency and conservation projects; energy storage technologies; and integrated waste management, disposal, and recycling. ²⁹

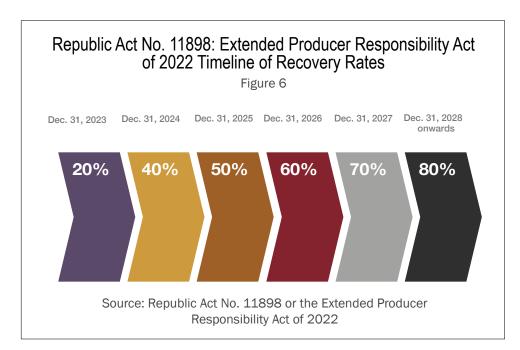
The Extended Producer Responsibility (EPR) Scheme

Presently, people recognize the advantages that plastics provide in terms of protecting, preserving, and ensuring the safe transportation of goods, most especially food. On the other hand, people are also aware of the potential negative effects that plastics may have on the environment and public health if improperly managed after use.

A closer look at the situation, however, shows that plastics per se are not the problem, and so completely removing them from the system may not be the most practical solution, given the lack of better and widespread alternatives. Hence, there is a need for a careful transition to address the prevailing old linear model that is heavily centered on consumers' throw-away mentality where goods are immediately disposed of after use. Any change in this respect should be gradual in order to provide a practical continuity in the production and distribution processes and avoid unnecessary job cuts and resulting socioeconomic problems.

Armida Salsiah Alisjahbana,³⁰ Undersecretary General of the United Nations and Executive Secretary of the Economic and Social Commission for Asia and the Pacific, has noted certain pace leaders in the Asia-Pacific in terms of accelerating efforts to achieving the Sustainability Development Goals (SDGs) of the United Nations. "The region is both a victim of the effects of climate change and a perpetrator of climate change. Countries are not on track to achieve greenhouse gas emissions reduction targets, and more countries must report emission levels for all sectors to properly monitor their contribution toward global climate agendas," she said.

The recent public health crisis ma also be the erfect pportunity encourage investments that are ligned with thĕ circular where waste and natural resources are managed in an effective <u>manner..</u>



Alisjahbana³¹ further stated that the national accomplishments made across the 17 Sustainable Development Goals (SDGs) are grounded on evidence-based approaches and offer encouragement and useful lessons for other nations in the region to adopt. Hence, the region can collectively accelerate its progress towards achieving the SDGs by learning from and building on one another's accomplishments.

Despite some progress in recent years, the Philippines is still far from achieving mainstream sustainability as aimed by the United Nations and global environmental agencies.

A possible legislation institutionalizing the Extended Producer Responsibility (EPR) scheme in the Philippines was already being discussed in various for abefore the onset of the COVID-19 pandemic, with the experience of European models as the main reference. The Organisation for Economic Cooperation and Development (OECD)³² defines EPR as "an environmental policy approach in which a producer's

responsibility for a product is extended to the post-consumer stage of a product's life cycle." An EPR policy is characterized by the following: (1) the shifting of responsibility upstream toward the producer and away from municipalities; and (2) the provision of incentives to producers to consider environmental factors in designing their respective products.

Republic Act (RA) No. 11898, otherwise known as the Extended Producer Responsibility (EPR) Act of 2022, lapsed into law in July 2022. With the aim of amending RA 9003 or the Ecological Solid Waste Management Act of 2000, the EPR Act seeks to establish an efficient waste management system that focuses on plastic waste reduction, recovery, and recycling, and developing environment-friendly products. Specifically, it institutionalizes the practice of the EPR scheme on "obliged" enterprises that produce, sell, and make use of plastics. Specifically, these enterprises are mandated to establish their own - either collectively with other obliged enterprises or through a producer responsibility organization (PRO) - an EPR program to divert plastic waste away from landfills and prevent its leakage to the environment as well as achieve plastic neutrality. Moreover, obliged enterprises are given 20% target recovery rates starting in 2022 for their generated plastic waste in the immediately preceding year, and this amount increases every year until it reaches 80%.

Promoting Sustainability Through Green Manufacturing

Shifting to an Investment-Led Growth

The COVID-19 pandemic in early 2020 devastated most economies in the world. The Philippines was not spared from this public health emergency as it forced the government to impose strict lockdowns across the archipelago and left the economy severely damaged. Since these COVID-19 lockdown measures had a significant impact on economic activity, it was during this year that the economy suffered its worst full-year contraction of 9.5% the lowest since 1947, shortly after World War II - and set record-highs for unemployment, national government debt, and other indicators. The COVID-19 crisis not only brought an economic fallout; it also exposed the fragility of the country's healthcare system and deficiencies of the national government's ability to respond to emergencies.

Moreover, the pandemic briefly pushed national attention away from climate change and other

environmental problems as the Philippine government put greater emphasis on public health, social amelioration, and economic recovery.

A few years following the outbreak of the COVID-19 pandemic, the findings of the social surveys conducted by Pulse Asia Research Inc. indicate that Filipinos' concern on the public health crisis had somehow subsided. By now, their most urgent national concerns have become highly economic in nature, particularly controlling inflation, increasing the pay of workers, and creating more jobs.33

As the Philippine economy gradually picks up its former strength and continues its recovery from the detrimental impact of the COVID-19 crisis, the current period presents itself as an opportunity to change the government's strategy in paving the way for long-term economic expansion by shifting to a more investment-driven growth. For years, the economy has traditionally been largely consumptionled. It is about time the government adopted an added measure to help mitigate the impact of a looming global cost-of-living crisis. These investments could help create more jobs, provide income security, boost consumption, and ultimately stimulate the economy.

The recent public health crisis may also be the perfect opportunity to encourage more investments that are aligned with the circular economy, where waste and natural resources are managed in an effective manner. In the long run, these green investments will not only create jobs and livelihood opportunities for the people but will likewise preserve the environment while reducing the cost of extraction, processing and distribution of raw

materials and the final production of goods. This includes the promotion of renewable energy instead of the traditional fossil-driven power plants and factories, human activities that produce lower carbon footprints and built environments that depend less on traditional energy sources.

As stated by author James Canton in his book Future Smart: Managing the Game-Changing Trends that Will Transform Your World,34 achieving a Green Economy based on clean technology, jobs, businesses, laws, and infrastructure would take decades to build. Nonetheless, for the long-term good, the Philippine government could start providing fiscal and non-fiscal incentives to attract these kinds of investments, as well as to encourage public-private partnerships (PPPs).

Moreover, in his 2022 study on pursuing an investment-led and more sustainable economic growth, former Bangko Sentral ng Pilipinas (BSP) Deputy Governor Diwa Guinugindo³⁵ underscored that a green and inclusive recovery will increase the resilience of economies and societies amid the severe recession and worsening environmental challenges. He also emphasized that environmental, social, and governance (ESG) considerations in investment decisions is crucial as they "correct for a market failure known as tragedy of the commons. ESG forces firms to consider the real cost to the environment and society that their activities impose." Guinigundo added that:

This is especially relevant for the Philippines, which is extremely exposed to natural hazards and calamities. These could potentially spill over to the real economy and the financial system. Natural disasters interrupt the production activities of firms and households, increasing their financial vulnerability, reducing the value of their assets pledged as collateral for loans, and making it more difficult for them to repay their obligations.

As exhibited in their efforts in cushioning the socioeconomic impact of the COVID-19 emergency, the private sector exhibited its capacity as a strong driver of economic growth and recovery post-pandemic. As emphasized by Department of Trade and Industry (DTI) Secretary Alfredo Pascual: the private sector is "the engine of economic growth."36

The Role of the Private Sector

In his 1982 study entitled The Product-Life Factor,37 Walter R. Stahel argued that the private sector has the necessary resources and skills that enable it to initiate the transition towards a sustainable society, which is characterized by the balanced use of resources and other societal goals. He added that potential disincentives and challenges can be addressed through appropriate education and fiscal and policy measures. He further noted that:

The private sector, whether R&D, manufacturing or finance, will find innumerable business opportunities in product-life extension activities reuse, repair, reconditioning and recycling. Indeed, while increasing the number of skilled jobs available and reducing our dependence on strategic materials, such activities will provide the private sector with fresh impetus to make cheaper

goods available as part of a self-replenishing economy built on a spiral-loop pattern which allows a substitution of manpower for energy. In this way, unemployment and poverty which certainly aggravate the fundamental instability of the world economy might be substantially reduced.

Today, Filipinos on the ground recognize the private sector's role as an important driver of national growth and development. Based on the results of a survey commissioned by the Stratbase ADR Institute to Pulse Asia Research Inc. in September 2022, some 86% of Filipino adults agree that the private sector plays a crucial role in accelerating the country's economic growth. Moreover, the survey found that 89% of Filipinos believe that the government and the private sector should engage in partnership to sustain the country's economic recovery. In particular, Table 2 shows that around 19% of Filipinos believe that the private sector can manage natural resources and take care of the environment.

In another Pulse Asia survey commissioned by the Stratbase ADR Institute in late 2022, 83% of Filipino consumers said they preferred products and/or services of brands or enterprises that they believe have environment-friendly operations and products (Table 3).

The 2022 CEO Survey³⁸ of PwC Philippines and the Management Association of the Philippines (MAP) noted that among the consumer trends following the outbreak of the COVID-19 pandemic is consumers' heightened awareness of the effects of reduced human activity on the environment. As a result of this realization, more people became encouraged to practice mindful consumerism, therefore elevating sustainability awareness to one of their top concerns.

Moreover, according to the report, 39 the following are the major changes that CEOs carried out in their respective business plans: included technology and digital upskilling goals in the business plan (64%); introduced new talent retention and development strategies (58%); improved the customer experience (49%); increased the investments in innovation (46%); incorporated ESG goals in the business plan (30%); and expanded the stakeholder engagement goals by including employees, communities, and suppliers (29%). On the other hand, around 11% of CEOs did not make any significant changes.

Green Manufacturing

According to the United States Environmental Protection Agency (EPA),40 sustainability has become an indispensable objective being pursued by an increasing number of businesses across different sectors, particularly in their strategy and operations to boost growth and global competitiveness. Among the reasons for this initiative are to boost operational efficiency by cutting

Issues the Private Sector Can Address to Boost the Philippine Economy: Philippines, September 17-21, 2022

(In Percent, up to 3 Responses)

Table 2

Base: Total Interviews, 100%									
In your opinion, which of the following		LOCATION				CLASS			
can private investors address to boost the Philippine economy? You may give up to three issues.	RP	NCR	BL	VIS	MIN	ABC	D	E	
Creating jobs	69	77	71	60	66	62	71	64	
Help uplift the lives of Filipinos out of poverty	65	70	60	64	73	66	68	52	
Expanding livelihood opportunities	49	50	47	57	48	51	49	50	
Improving healthcare systems	37	29	44	37	27	33	38	34	
Improving the quality of and access to digital services	27	31	29	30	18	37	25	28	
Managing natural resources and taking care of the environment	19	18	17	24	21	15	20	20	
Developing public infrastructure	16	14	16	15	21	16	15	25	
Improving the quality of education	12	10	13	8	12	18	10	13	
Source: Pulse Asia Research, Inc.									

Whether or Not They Prefer to Patronize Products and/or Services of Brands or Enterprises that Have Environment-Friendly Operations and Products: Philippines, November 27-December 1, 2022 (In Percent)

Table 3

Base: Total Interviews, 100%								
As a consumer, do you prefer to patronize products and/or services of brands or enterprises that you believe have environment-friendly operations and products?	RP	NCR	BL	VIS	MIN	ABC	CLASS D	E
YES NO	83 5	85 1	77 10	89 1	88 1	81 2	82 6	85 2
I don't care how a product is made	6	5	7	7	5	4	7	4
I am not aware how the products I use are made, whether it is good or bad for the environment	6	9	7	3	7	13	5	9
	Source: Pulse Asia Research, Inc.							

down costs and waste, respond to or reach new markets and increase competitive advantage, strengthen brand reputation and establish public trust, build long-term business viability, and respond to regulatory constraints and opportunities.

A potential growth area is green or sustainable manufacturing, which is defined by the EPA as "the creation of manufactured products through economically-sound processes that minimize negative environmental impact while conserving energy and natural resources." It also enhances employee, community, and product safety.⁴¹ For the OECD,⁴² sustainable manufacturing - or managing operations in an environmentally and socially responsible manner - has become a business imperative and not just something that is nice to have amid the increased costs of materials. energy, and compliance, as well as higher expectations of customers, investors, and local communities.

Schneider Electric Chairman and Chief Executive Officer Jean-Pascal Tricoire⁴³ noted that green manufacturing is not just about leveraging high-tech materials production and promoting energy-efficient practices. In contrast to traditional

manufacturing that is linear, green manufacturing is circular as it moves beyond the 3R approach of "reduce, reuse, recycle" toward a 5R approach: "repair, reuse, refurbish, re-manufacture, and recycle." Through this strategy, the use of resources can be optimized, and the life of products extended considerably. For instance, Schneider has expressed its commitment to recover 100% of its industrial waste at its 200 manufacturing sites by 2030. The global appliance manufacturer Whirlpool has also adopted similar enhanced recycling practices.

In the case of the Philippines, several private enterprises have voluntarily gone beyond their corporate social responsibilities in an effort to not just improve their operations, but also to protect the environment and minimize pollution. A noteworthy example is Coca-Cola Beverages Philippines' (CCBPI) first polyethylene terephthalate (PET) plastic bottle recycling facility known as PETValue, which began operating at full capacity in 2022. With the objective of developing a circular economy, this PHP 2.28-billion recycling plant is anticipated to process around 2 billion pieces of used clear PET plastic bottles every year. In addition, this initiative is aligned with the company's goals of making 100% of their packaging recyclable by 2025, and of using at least 50% recycled material in their packaging by 2030. It is important to note that this facility, which is a joint venture between CCBPI and Thailand-based chemical company Indorama Ventures, was granted pioneer status by the Philippine Board of Investments (BOI) in January 2021, and therefore enabled the project to be eligible for tax incentives.44

Creating Sustainable and Green Infrastructure

According to the Asian Development Bank (ADB), 45 investments are naturally attracted to areas where there are adequate roads, ports, and other essential infrastructure in place. Ultimately, these essentials determine the profitability

of a firm due to reduced production costs and ability to reach wider markets.

Given this, another specific aspect in national development where the private sector can take the lead is in developing green and sustainable infrastructure, such as through public-private partnerships (PPPs). It is clear that Filipinos believe that the private sector should actively infuse investments to accelerate infrastructure development. considering its multiplier effect. Not only will these efforts improve the delivery and transport of goods and services; these will also contribute to poverty reduction by creating jobs and livelihood opportunities and providing income. If carried out in such a way where environmental considerations are taken into account, then these infrastructure investments will likewise play a critical role in preserving the environment and mitigating the impact of climate change.

Lessons and Policy Recommendations

As the Philippine economy recovers from the detrimental impact of the COVID-19 pandemic as well as other emerging external risks, there is much room for opportunities that can simultaneously address the ongoing economic crises and climate change, which is a long-term threat that is expected to endanger the planet's survival in the years to come. As the recent pandemic brought into light the deep flaws of the prevailing linear economic model, there is a need to shift to a circular economy, where scarce resources can be better managed and used over the long term. Economic crises should not push sustainability to the backburner, even temporarily. Due to the complex and multi-sectoral nature of this predicament, all stakeholders must

actively take part in the solution and genuine sustainability should be swiftly integrated into all aspects of people's lives.

Instead of kick-starting economic recovery through the traditional approaches of a linear economy, it is imperative to build communities and infrastructure with "green" designs that are grounded on sustainability principles. Green investments not only generate more jobs, spur the economy, and minimize costs. They also conserve the environment in the long run. By not compromising the environment, the business of production becomes more efficient, sustainable, and less costly over time.

The COVID-19 pandemic, global inflation and the ongoing geopolitical tensions between Ukraine and Russia provide a larger backdrop that intensifies the collective need to achieve the SDGs and address long-term problems once and for all. The economic rebuilding does not have to continue according to the old perspective of repeating past mistakes, especially since the linear economy has directly contributed to the depletion of food sources on land and the sea.

Through new policy directions, the Philippine government should gradually redirect industry attention to the serious risks and consequences of continuing production based on the traditional process. How the Filipino society transforms in the coming years will determine how sustainability and climate change risks will be mitigated. Likewise, how the country manages its environment will directly affect socioeconomic conditions regardless of the political timelines of the national government. The government should participate consciously to bring human activity back within the safe limits of the planet's

resources by targeting to reduce material extraction and consumption by one-third, as recommended by environmental experts. This may mean added circular economy regulations on tree-based products like paper or related packaging tied up to reforestation programs, recycling, and development of mangroveoriented projects in coastal areas. since mangroves have the capacity to absorb more carbon dioxide, thus greatly reducing greenhouse effect while serving as a first line of defense against typhoons and soil erosion. Among the neutral human activity programs are the use of bikes instead of fossil-driven motor vehicles. development of a "walk culture" with the use of elevated walkways in urban centers, promotion of digitalization in transactions, and a reversal of the "throw-away" culture based on the circular solutions of narrow (use less), slow (use longer), regenerate (use again), and cycle (make clean).

Perhaps the only main challenge that bears watching is in the areas of construction, built environment and the production of machines, tools and gadgets. For now, these cannot yet be completely replaced because of serious socioeconomic repercussions.

It is about time that the country's manufacturing sector is optimally strengthened through green orientations by equally providing foreign and local investors that cater to both the international and domestic markets with the right incentives. Investors engaged in manufacturing activities should be encouraged to be more inward-looking to provide the domestic consumer market which makes up a huge chunk of the population - with more affordable and accessible goods, while doing so

under the domain of a circular economy. After all, producing things right is less costly over the long term because waste is turned into a new raw material and input for production.

As manufacturing enterprises play a crucial role in spurring economic growth, the government will do well to extend support to them by giving them uniform incentives that apply to both export-oriented and domestic-positioned ventures, such as defined income tax holidays for certain sectors, softer credit, and the like. The government could likewise encourage bringing in pioneering technology that could help the country to become more competitive. Green investments in manufacturing will ensure that economic productivity is promoted without compromising the environment. These investments include plastic waste infrastructure that could support pooled companies' recyclable packaging initiatives, banking support

to finance recycling plants and civil society involvement in implementing sustainability programs on the ground level.

With this focus of carving the path towards a green investment-led growth in the manufacturing sector, there will be a strong multiplier effect in the form of better opportunities to form new markets targeting the country's young population, assuming that the government addresses perennial issues about ease of doing business, trade facilitation, access to raw materials, and good governance. Ultimately, this will generate higher consumption, create more jobs and livelihood opportunities, and allow for greater prospects for upward mobility. Hence, government support in policy development is strongly needed to enable an effective economic transition from the linear economy to the circular economy.

Amid a business environment characterized by the existing sweet spots enjoyed by the country in the areas of demographics, natural resources, geographical location, and language facility, a green-oriented manufacturing sector will become a game-changing force multiplier in powering up the country's position of strength in the world's fastest growing region. On this score, it would be mutually beneficial for all if stakeholders - government, private sector, academe, civil society contribute their share to make the collective achievement possible in the foreseeable future by reducing, this early, the economic and social costs of the unmindful destruction of the environment.

- ² Ibd.
- Gircle Economy. (2023b). About the CGRi. Retrieved from https://www.circularity-gap.world/about
- World Economic Forum. (2023). The Global Risks Report 2023 (18th edition). Retrieved from https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf
 - ⁵ International Monetary Fund. (2023). World

economic outlook update: Inflation peaking amid low growth (January 2023). Retrieved from https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023

⁶ WEF (2023)

- ⁷ The Product-Life Institute. (n.d.). The 30th anniversary of Walter R. Stahel's prize winning paper "The Product Life Factor". Retrieved from http://www.product-life.org/en/the-30th-anniversary-of-walter-rstahel-prize-winning-paper-the-product-life-factor
- ⁸ Stahel, W. R. (1982). The product-life factor. Retrieved from https://www.quebeccirculaire.org/data/sources/users/4/32217.pdf

- ⁹ Ellen MacArthur Foundation. (n.d.-a). What is a circular economy? Retrieved from https://ellen-macarthurfoundation.org/topics/circular-economy-introduction/overview
- Ellen MacArthur Foundation. (n.d.-b). The circular economy in detail. Retrieved from https://archive.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail
- Philippine Statistics Authority. (2022). Urban population of the Philippines (2020 census of population and housing). Retrieved from https://psa.gov.ph/population-and-housing/node/167692
 - National Economic and Development

¹ Circle Economy. (2023a). The circularity gap report 2023. Retrieved from https://www.circularity-gap.world/2023

endnotes

Authority. (2023a). Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP). Retrieved from https://neda.gov.ph/wp-content/ uploads/2023/01/Philippine-Action-Plan-for-Sustainable-Consumption-and-Production.pdf

- The World Bank. (2021). Market study for the Philippines: Plastics circularity opportunities and barriers. Retrieved from https://openknowledge. worldbank.org/bitstreams/8850e8f0-ea54-5c55-87bb-b1044331cc79/download
- Department of Environment and Natural Resources-Environmental Management Bureau. (n.d.) Projected Waste Generation from 2020 to 2025. Retrieved from https://app.powerbi.com/view?r=eyJrljoiNjc4OTE2OTktMDdhMC00YzM1LTkwMjEtYWUx-MDlyMjl0MWMwliwidCl6lmY2ZjRhNjkyLTQzYjMtND-MzYi05MmlyLTY1YzRINmNjZDkyMClsImMiOjEwfQ%3 D%3D&pageName=ReportSection&fbclid=IwAR264S fm3ocnSBovLnpGgdSKXljXQeGAx9JpZlxcAS3YyV4voqVpHzPTBNw
- United Nations Environment Programme. (n.d.-a). Our planet is choking on plastic. Retrieved from https://www.unep.org/interactives/beat-plasticpollution/
- Philippine Statistics Authority. (2020). Updated projected mid-year population for the Philippines based on the 2015 POPCEN results: 2020-2025. Retrieved from https://psa.gov.ph/sites/ default/files/attachments/hsd/pressrelease/Cities%20and%20Municipalities%20Population%20 Projections_2015CBPP_Phils.pdf
 - DENR-EMB (n.d.)
- 18 DENR-EMB. (2018). Solid wastes. Refrom https://emb.gov.ph/wp-content/ trieved uploads/2018/09/3-Solid-Waste-1.8.pdf
- Asian Development Bank. (2020). Green infrastructure investment opportunities: Philippines. Retrieved from https://www.adb.org/sites/default/ files/publication/653566/green-infrastructure-investment-philippines-2020.pdf
- Social Weather Stations. (2023). Social weather report: 93% of Filipino adults have personally experienced the impacts of climate change in the past three years. Retrieved from https://www. sws.org.ph/swsmain/artcldisppage/?artcsyscode=A RT-20230323020321
 - lbd
 - 22
- International Labour Organization, (2016). What is a green job? Retrieved from https://www.ilo. org/global/topics/green-jobs/news/WCMS_220248/ lang--en/index.htm
 - UNEP. (n.d.-b). Green economy. Retrieved

from https://www.unep.org/regions/asia-and-pacific/ regional-initiatives/supporting-resource-efficiency/ green-economy

- World Bank Group, (2017). What is the blue economy? Retrieved from https://www.worldbank. org/en/news/infographic/2017/06/06/blue-economy
- NEDA. (2023b). Philippine development plan (PDP) 2023-2028. Retrieved from https:// pdp.neda.gov.ph/philippine-developmentplan-2023-2028/
 - NEDA (2023a)
- Memorandum Order No. 61, approving the 2022 Strategic Investment Priority Plan. (2022). Retrieved from https://www.officialgazette.gov.ph/ downloads/2022/05may/20220524-MO-61-RRD.pdf
- Alisjahbana, A. S. (2023, March 26). Championing sustainability despite adversities. The Jakarta Post. Retrieved from https://www.thejakartapost. com/opinion/2023/03/20/championing-sustainability-despite-adversities-in-asia-and-the-pacific.html
 - Ihd
- Organisation for Economic Cooperation and Development. (n.d.-a). Extended producer responsibility. Retrieved from https://www.oecd.org/ environment/extended-producer-responsibility.htm
- Mangaluz, J. (2022, October 6). More Filipinos see 'controlling inflation' as most urgent nat'l concern. Philippine Daily Inquirer. Retrieved from https:// newsinfo.inquirer.net/1676058/more-filipinos-seecontrolling-inflation-as-most-urgent-natl-concern
- Canton, J. (2015). Future smart: Managing the game-changing trends that will transform your world. Cambridge, MA: Da Capo Press.
- Guinigundo, D. (2022). Philippines: Pursuing an investment-led, more sustainable economic growth. In Victor Andres 'Dindo' Manhit (Ed.), Beyond the crisis: A strategic agenda for the next president (pp. 137-168). Quezon City, Metro Manila: Rex Printing Company Inc.
- Office of the Press Secretary. (2022). Post-SONA economic briefing. Retrieved from https://pco. gov.ph/wp-content/uploads/2022/07/20220726-POST-SONA-ECONOMIC-BRIEFING.pdf
 - Stahel (1982)
- PwC Philippines & Management Association of the Philippines. (2022). The wins of change: Thriving in a world of in-betweens (PwC MAP 2022 CEO Survey). Retrieved from https://www.pwc.com/ ph/en/publications/ceo-insights-surveys/ceo-survey-2022.html

- Ibd
- United States Environmental Protection Agency. (2023). Sustainable manufacturing. Retrieved from https://www.epa.gov/sustainability/sustainablemanufacturing
- 42 OECD. (n.d.-b). About sustainable manufacturing and the toolkit. Retrieved from https://www. oecd.org/innovation/green/toolkit/aboutsustainablemanufacturingandthetoolkit.htm
- Tricoire, J. P. (2019, January 22). Here's why green manufacturing is crucial for a low-carbon future. World Economic Forum. Retrieved from https://www. weforum.org/agenda/2019/01/here-s-why-greenmanufacturing-is-crucial-for-a-low-carbon-future/
- Monzon, A. M. (2022, October 15), Coca-Cola PH ramps up output of recycling facility. Philippine Daily Inquirer. Retrieved from https://business. inquirer.net/367946/coca-cola-ph-ramps-up-outputof-recycling-facility
- Asian Development Bank. (2005). Philippines: Moving toward a better investment climate. Retrieved from https://www.adb.org/sites/default/files/ publication/29707/philippines-better-investmentclimate.pdf



the key link between IDEAS and ACTION

The article featured in this series is the sole property of Copyright 2023

The Financial Tower, 6794 Ayala Avenue, Makati City 1226

V (632) 8892.1751 F (632) 8892.1754



The key link to idea and action – is the on-line newsletter of ADRi (Albert Del Rosario Institute) that covers socio-political, economic and security analysis of timely issues that affect the direction of the economy and political landscape governing the Philippines. STRATBASE ADR INSTITUTE Stratbase ADR Institute is an independent, international and strategic research organization with the principal goal of addressing the issues affecting the Philippines and East Asia through: 1) effecting national, regional and international policy change or support; 2) fostering strategic ideas based on cooperation and innovative thinking; 3) providing a regional venue for collaboration and cooperation in dealing with critical issues in East Asia; and 4) actively participating in regional debates and global conversations.