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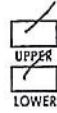
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STRATEGIC COMMUNICATION AND INITIATIVES SERVICE



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A broader look at today's business



TITLE:

WHAT GOES AROUND COMES AROUND

Public, private cooperation shows 'whole-of- society approach' is key to Extended Producer Responsibility law's success

By RODERICK L. ABAD
Contributor

COOPERATION of multistakeholders and consumer behavioral change are necessary to make the Extended Producer Responsibility (EPR) law, or Republic Act (RA) 11898, succeed in addressing the perennial plastic waste problem in the country and advancing a circular economy towards a more sustainable future.



DEPARTMENT of Environment and Natural Resources (DENR) Secretary Ma. Antonia Yulo-Loyza keynotes the forum dubbed "Rethinking Plastic: EPR paving the way towards circularity" held at the DENR Social Hall in Quezon City.

In a recent media briefing, Department of Environment and Natural Resources (DENR) Secretary Maria Antonia Yulo-Loyza flagged the critical need to produce volumes of products and packaging sustainably based on market demand.

"The EPR is, I feel, a very concrete first step in putting order in this system," she told reporters, referring to the policy that requires big companies and enterprises to be ecologically responsible throughout the life cycle of their products—from manufacturing to usage and post-consumer stage—by establishing EPR programs and mechanisms that guarantee effective ways to manage plastic packaging waste with focus on reduc-

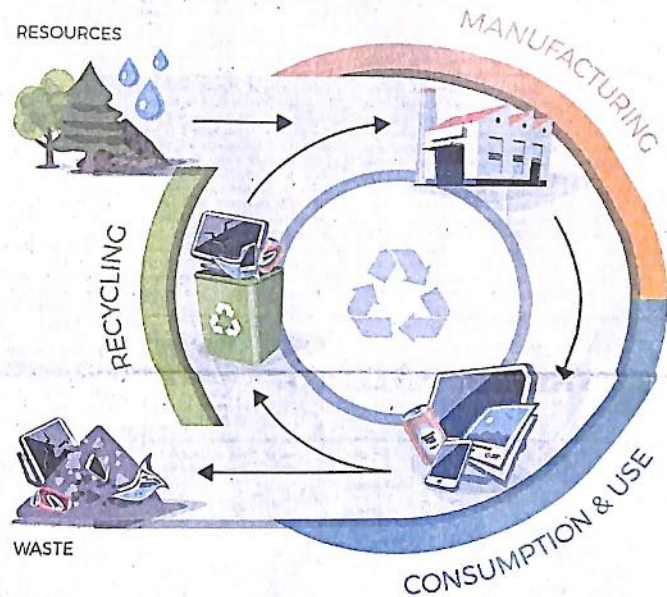
tion, recovery, treatment, recycling and/or disposal.

Such legislative measure lapsed into law on July 23, 2022. Earlier this year, Loyza signed its implementing rules and regulations (IRR). She noted that RA 11898 "is a good start and a wiser approach to waste reduction" that enables producers to become environmentally responsible and balances the process of handling wastes all throughout.

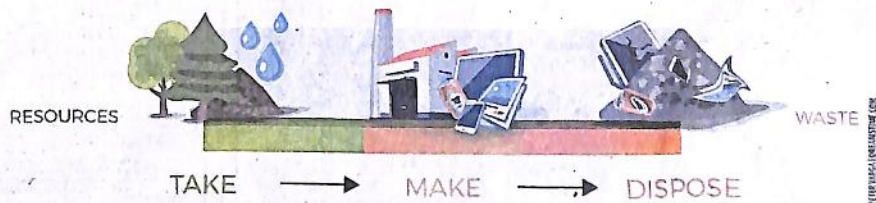
Promising law
NOW that the EPR law is in place, hopes are high that it will create positive impacts on the country's economy and environment.

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CIRCULAR ECONOMY



LINEAR ECONOMY



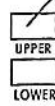
NATIONAL Solid Waste Management Commission Vice Chairman Crispian Lao (left) talks about the Expanded Producer Responsibility (EPR) law during a forum held at the Department of Environment and Natural Resources (DENR) office in Quezon City. Joining him in the panel discussion are DENR Undersecretary Atty. Annaliza Teh (center) and Nestlé Philippines Corporate Affairs Head Jose By III (right).



NESTLÉ Philippines Corporate Affairs Head Jose By III (middle) listens to one of the participants in the roundtable discussions about the implementation of the EPR Act.



ATTENDEES dive deeper into the enforcement of the EPR Act specifically in terms of compliance and integration among stakeholders, innovation of EPR programs, and collaboration between the private sector, civil society and the government.



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This law, per National Solid Waste Management Commission Vice Chairman Crispian Lao, opens the potential income generation of a minimum of P15.1 billion and 5,000 to 7,000 green jobs creation in the recovery and recycling infrastructure.

Above all, it will help lessen the ever-growing environmental problems the country has been facing since time immemorial. The DENR cited a study in 2021, which shows that the Philippines is the "single, largest contributor" to the ocean plastic waste problem worldwide at a whopping 356,371 tons.

The World Wide Fund for Nature Philippines also found that Filipinos consume an average of 20 kilograms of plastics annually, of which more than 75 percent becomes waste.

Atty. Jonas R. Leones, DENR Undersecretary for Policy, Planning and International Affairs, revealed that based on the data of the Environmental Management Bureau, only about 672 (13 percent) of the 4,000 obliged enterprises have registered under the EPR law. He said: "For now, our first step is to rally industries to help us also."

"EPR is proven to address packaging collection through recycling meaningfully and through various EPR schemes that require companies to pay for the collection, sorting and recycling of their plastic packaging," added the DENR chief.

Early adopter

EVEN prior to the enactment of the EPR law, "green" practices, including sustainable plastic waste management, have been already apparent in the private sector.

Lao pointed to, for instance, global food and beverage giant Nestlé, which has been practicing plastic neutrality here and abroad in the past recent years.

The company, in fact, has already diverted 64,000 metric tons of plastic packaging waste from landfills, oceans, lakes and rivers with such a banner program.

This could be attributed mainly to initiatives like taking out the secondary plastic of sachet products with the use of paper packs, and "lightweighting" or reducing their sizes to avoid unnecessary wastage in terms of packaging materials. Nestlé is also the first fast-moving consumer goods brand to replace plastic straws with a paper-made one for its ready-to-drink offering.

Nestlé Philippines has actively campaigned for the passage of the EPR Act via continued dialogue with policymakers and active engagement in the legislative process. A couple of years before it was passed into law, the company had already started its voluntary practice of the EPR through various initiatives toward plastic neutrality.

"Those are just some of the key initiatives that we've done. But, of course, we've committed as well that by 2025, we will cut our use of virgin plastics by one-third and de-

sign 100 percent of our packaging for recyclability. As of today, globally, Nestlé has already achieved 88 percent that our packaging is recyclable or reusable already. And so we're on track so far," said Nestlé Philippines Corporate Affairs Head Jose Uy III.

Collective acts

GIVEN the milestones so far achieved by the multinational, the goals of the EPR law are undoubtedly achievable also with the cooperation of industry players and stakeholders.

"Plastic waste is a global problem in which everybody has a stake. Through collaboration, we will find workable solutions," Uy emphasized.

The targets set under RA 11898 include the recovery of waste of the plastic product footprint generated by 20 percent and 80 percent in 2023 and 2028, respectively.

On the other hand, the deadline for establishing the Compliance Auditing Manual and Accreditation System is in September of this year. Meanwhile, the EPR Compliance Audit Report is required for submission in July 2024.

"Also within one year, from the EPR law effectivity, we are required to already assess the volume or the footprint of the other generated waste," DENR Undersecretary Atty. Annaliza Teh pointed out. "These are the immediate next steps that we have to do. That's why we are also setting up, accordingly, our organizations so that we can

comply with all these immediate next steps that we need to deliver under the law."

She also cited the need to provide support to informal sectors, resources for the establishment of circularity infrastructure, pushing for capacity development, promotion of incentives, and imposition of fines and penalties to sustain the system.

"Crucial to those are transparency and accountability that we need to mobilize on the part of the government so that we can support really our long-term goal of achieving circularity," Teh underscored.

For her, involvement from the local government units is also important. Proof of which was the activity called the "Project Transform" held in Bataan on May 9, 2023, wherein 17 companies registered under the EPR law.

"It's really a whole-of-society approach. We need the government, the private sector, the academe, and the development partners to be there to really come up with these infrastructures to achieve the targets," Teh said.

While the EPR law mainly

requires compliance among the large-scale companies and producers, micro, small and medium enterprises (MSMEs) are also enjoined to do their share in plastic waste management and help accelerate circularity in the country.

The DENR undersecretary bared that there are exemptions or a flexible approach in engaging the MSMEs, which comprise over 99 percent of all registered businesses in the country today.

They will be supported by the government, through the Department of Trade and Industry, for their compliance, she noted.

For its part, the Philippine Alliance for Recycling and Materials Sustainability (PARMS) has actually opened its doors for EPR membership to MSMEs.

"Instead of just focusing on the big companies who are already prepared, what we have done is that we extend that hand like a 'big brother, small brother' concept, so that we can help the smaller players to comply with EPR. For the big players who have already done their homework over the past few years, it is now a time for us to help

others, including the MSMEs," said Lao, who is also the founding president of PARMS. He was referring to 224 MSMEs on their roster who are willing to support and participate EPR on a voluntary basis.

"We already have a roadmap and a program to execute EPR and comply with the challenging mandates of the law."

While adherence to RA 11898 has a price that may be a turn-off for small business players with limited financial means, they are reminded of an economic prize to be seized from transitioning towards more sustainable solutions.

"When we talk of sustainability, we look at it as an investment and not as a cost. We believe that companies taking action on ESG [environmental, social and governance] will be rewarded for their efforts by discerning consumers. They will face reduced regulatory and supply chain risks. So I think in that way we feel that it is already a good investment," Uy asserted.

"There are many benefits like, for instance, it drives investor confidence also when they see that you're doing good for the environ-

ment. There is also such a thing as employee attraction. So it affects a lot of myriad of stakeholders when you really take action on ESG."

Not to be ignored in the whole plastic ecosystem, of course, are the consumers who must have behavioral change. Yulo-Loyzaga advised them to purchase goods that are sustainably packaged in order to inspire more producers to comply with the EPR law.

"How we treat plastics is a matter of chemistry. There needs to be an investment in research for recycling and upcycling. We cannot stay with today's state of science and technology. There must be a way to actually produce a material with the durability that we need at the cost that is affordable and actually in the kind of environmental impact that we actually like to have for these," Yulo-Loyzaga stressed.

CIRCULAR ECONOMY

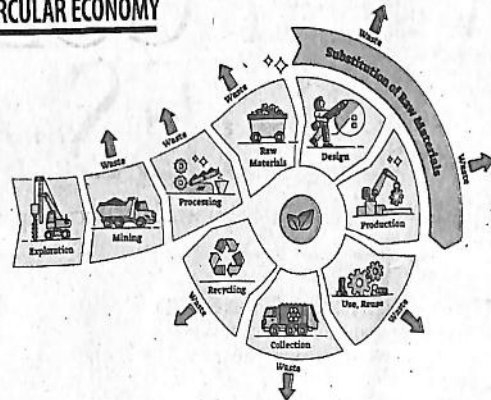


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Never again

I'm sure that the last thing President Marcos wants to happen is for monopolies and cartels to thrive under his watch.

After all, his late father's administration was marred by controversies involving state monopoly as well as control by so-called cronies over two of the country's largest export industries at that time – sugar and coconuts.

More recently, Sen. Risa Hontiveros has been raising concerns about the relentless surge in sugar prices, despite claims of a stable supply from the ongoing importation.

HIDDEN AGENDA



**MARY ANN
LL. REYES**

What exacerbates the situation, according to her, is the government's decision to favor only three companies to import sugar, triggering alarm bells and fueling speculation that history is repeating itself and that cronyism is creeping back into the administration of PBBM.

According to Hontiveros, the problem is not a sugar shortage, but the fact that three traders have cornered the buying and selling of imported sugar.

Acting Sugar Regulatory Administration (SRA) administrator Pablo Azcona

had reported that before April 1 this year, 179,000 metric tons of sugar had already arrived in the country, with 86,000 MT made available for domestic consumption. Despite this, sugar prices remain high.

Hontiveros said that these continued high prices, despite stable supply, exhibit traits of a monopoly behavior and suggest the presence of a hidden cartel.

We do not want uncontrolled importation of sugar because this would mean the death of the domestic sugar industry.

But at the least, PBBM should allow more entities such as industrial users and food manufacturers to import sugar directly in order to prevent prices of many products that use sugar from rising.

Hontiveros, however, maintains that importation should only be done as a last resort and that revenues earned by

government from sugar imports be earmarked for the growth and development of the local sugar industry.

The push for waste-to-energy

The Philippines is undoubtedly one of the largest generators of solid waste in Southeast Asia. And with the power crisis the country is experiencing, converting some of these wastes into energy makes a lot of sense.

Unfortunately, existing laws and policies have conflicting views about the idea of waste-to-energy technology (WTE), with mainly calls for burning waste to generate electricity.

For instance, Republic Act 8749 or the Clean Air Act prohibits incineration for treating municipal, bio-medical, and hazardous wastes due to toxic and poisonous emissions and fumes that can be produced.

The DENR has clarified, however, that the said law prohibits only burning processes which emit poisonous and toxic fumes. It said that any thermal treatment technology, whether burn or not burn, that meets the emission standards is allowed to operate in the country. The standards are, however, very stringent and the DENR has admitted that it has insufficient capabilities to monitor emission from municipal solid waste incineration.

RA 9003 or the Ecological Solid Waste Management Act on the other hand mandates the use of landfills for waste disposal.

Meanwhile, the House of Representatives already approved a bill seeking to allow the use of WTE technology, including incineration, so long as it does not produce hazardous fumes amending RA 8749 to allow the use of incineration for WTE purposes.

Then there's the Renewable Energy Act which includes biodegradable organic fractions of industrial and municipal wastes as biomass resources that can be used by biomass energy systems to produce energy although the Department of Energy has identified solar and wind as priority renewable energy power sources.

The only clear thing about the push for waste-to-energy as an alternative to fossil fuels is the lack of clarity in policies.

Waste-to-energy is not cheap. Facilities that would turn heat from burning waste into energy would require substantial capital and technical expertise. Public-private partnerships would be the ideal route to take.

Waste-to-energy facilities would require higher tipping fees that would be charged against waste generators, including local governments. But who would end up bearing the added costs?



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Without government funding and incentives, consumers would have to pay for these.

As waste-to-energy facilities need wastes, they would need more and more trash to ramp up production of energy. Importing wastes should be out of the question.

In our search for clean and reliable sources of energy, let's not simply jump out of the frying pan and into the fire.

Promoting fintech

Securities and Exchange Commission (SEC) commissioner Kelvin Lester Lee recently bagged two international awards for leading the country's business sector into pursuing new innovations in financial technology or fintech.

Lee was named a Gold Stevie winner for Thought Leader of the Year in the 10th annual Asia-Pacific Stevie Awards, which recognizes innovation in the workplace in the 29 nations of the AsPac region.

He was also recognized as outstanding Fintech Regulatory and Innovation Leader in the Philippines by the Asian Fintech Academy during the Asian Digital Finance Forum and Awards last March.

Lee has been instrumental in spearheading groundbreaking initiatives within the realm of fintech. He also crafted the SEC's "delicate balancing act" policy which enables the SEC to foster an environment conducive to fintech growth while upholding its responsibility as a financial regulator to safeguard the interests of investors.

He was largely responsible for the establishment of the SEC PhiloFintech Innovation Office or PhiloFINNO which serves as the SEC's primary office for fintech regulation and policy formulation as it seeks to promote an innovative culture in the corporate sector while reducing the gaps in consumer and investor protection.

Last December, Lee was also honored as one of the Philippine blockchain champions by the BlockChain Council of the Philippines for his contributions in driving the adoption of blockchain and Web3 technologies in the Philippines.

Last January, he solidified a partnership with the UP Law Center to pave the way for joint research and capacity-building projects focused on digital assets, blockchain, non-fungible tokens, and decentralized finance.

For comments, e-mail at mareyes@philstarmedia.com.



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Oriental Mindoro oil sheens persist; 2 tugboats deployed

By MARTIN SADONGDONG

Two tugboats have been deployed to Oriental Mindoro to contain the oil sheens that were again monitored in the municipal waters of Naujan nearly three months since motor tanker (MT) Princess Empress sank and sparked a massive oil spill, the Philippine Coast Guard (PCG) said. The PCG released on Saturday, May 20, a consolidated report on the collective offshore and shoreline clean-up efforts of its response teams along with other partner-agencies during the past week to control the spread of the oil leaks from the sunken tanker.

One of the efforts undertaken was the deployment of MTug Titan-1 and MTug Cabilao by the

Malayan Towage and Salvage Corp. to contain oil sheens spilt in Naujan. "The joint team from the PCG-Marine Environmental Protection Command (MEPCOM) and Malayan Towage and Salvage Corp. aggressively collected the oily water mixtures accumulated from the offshore recovery operations," the PCG said.

Malayan is the contractor hired by the owner and operator of MT Princess Empress, RDC Reield Marine Services, Inc.

Meanwhile, the PCG-MEPCOM's National Strike Force was deployed to Sitio Buloc-Buloc, Barangay Montemayor in Naujan to remove the stranded oil-contaminated debris attached to mangroves.

Oil stains were also sighted attached to rocks at the shoreline of Sitio Buloc Buloc and the joint

response teams cleaned the remaining oil traces in the area.

"MEPCOM National Strike Force personnel conducted manual wiping of cobbles and pebbles using sorbent

pads in the affected shoreline at Sitio Buloc-Buloc," the PCG said. The PCG also supervised personnel of Harbor Star and Shipping Inc. who were hired to conduct "shoreline flushing" in

Oriental Mindoro.

"They used high-pressure water to wash stranded oil from boulders in Barangay Puting Cacao, Pola, Oriental Mindoro," the PCG explained. "The shoreline cleanup team hired by Harbor Star and Shipping Inc. washed sediments inside a concrete mixer with sand, water, or a non-toxic agent and rinsed using mesh as a Phase 2 oil spill cleanup method."

MT Princess Empress sank off Naujan on Feb. 28 while carrying 800,000 liters of industrial fuel oil.



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Microplastics found in Laguna de Bay

High concentration recorded on Metro Manila side

BY ARIC JOHN SY CUA

A HIGH concentration of microplastics was found in Laguna de Bay, the country's largest lake, with the highest recorded on the side that is facing Metro Manila, according to two scientists who made a study on the matter.

In a joint video interview with *The Manila Times*, Prof. Cris Gel Loui Arcadio and Dr. Hernando Bacosa, Mindanao State University (MSU) scientists, **EXCLUSIVE** said they have analyzed the waters at the 900-square-kilometer lake for microplastics, as their presence could lead to harmful effects on humans and marine life.

The Laguna de Bay is a main source of water for Metro Manila. It stretches over the provinces of Rizal and Laguna. In the vicinity are Manila, Quezon City and San Pablo. Laguna de Bay is fed by 21 rivers, with a catchment area of about 3,820 sq km.

"We were able to extract 100 microplastics," Arcadio, who authored

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Microplastic found in Laguna

a study, conducted in February of last year, said. "We examined the morphological characteristics of it, and the majority of the microplastics that were found in Laguna Lake were fibers and they were all blue colors."

In that study that was funded by the Department of Science and Technology-Accelerated Science and Technology Human Resource Development Program, it showed that the West Bay of the lake, which is the Metro Manila side, has the "highest concentration of microplastics, with an average of 20 microplastics per cubic meter, compared to the Central, East, and South Bays of the lake, which all registered 10 microplastics per cubic meter."

"Microplastics were ubiquitously detected in all sites with the concentration highest in areas of the lake characterized by intensive human activities such as but not limited to household discharges,

effluents from chemical industries, and intensification of economic activities," the study said.

Effects on human health

In the same interview, Bacosa said that once microplastics enter the human body, this could cause oxidative stress in the cells.

"When the cells are stressed, they cannot function normally and they cannot actually detoxify," he said. "That could lead to inflammation in the long run and abnormal functions of our organs."

The scientist also said that there are also smaller plastics called nanoplastics that can penetrate the human body's organs and can be found in fetuses and blood.

"When it comes to indirect effects, microplastics could be a carrier, they could be a vector of other pollutants," Bacosa said. "It could be a vector of harmful bacteria in water,

viruses, heavy metals including lead, mercury, arsenic, chromium, organic pollutants and PCBs (polychlorinated biphenyls)."

"So if these plastics can carry these biological and chemical contaminants, that could further aggravate [their] effect on human health," he added.

Bacosa also said that microplastics also have effects on fish physiologically, hampering their functions, blocking their digestive system, making them inefficient in the digestion of their food, and several others.

Arcadio also said the overall impact of microplastics has yet to be determined, but it has been an emerging focus of ongoing studies.

"The toxicity of these microplastics really depends on how much it's consumed," he said.

"Plastics have a negative impact on the ecological environment, but they may underestimate that impact," Arcadio added.

El Niño's impact

Bacosa said during El Niño, there could be a chance that microplas-

tics could "enhance the growth of more micro-algae that could lead to more algal blooms."

"We know that more algal blooms could lead to more fish kills, and that's really alarming, that's something that we need to study," he added.

Solutions

Bacosa has called for a global treaty on how to address microplastic and other plastic problems.

"Plastic is really one of the most challenging problems in our generation," he said. "I think globally, we need a treaty on how we can address microplastic and plastic pollution at a global level. So there must be a legally binding agreement at an international level on how we reduce and manage, and how we can chart our future when it comes to plastic pollution and plastic usage."

For Arcadio, the root cause of the problem of plastics and what normal citizens can do is divert their attention to plastics for biodegradable things to reduce the impact.



Surprising dissent vs global plastics treaty

A PROPOSED UN treaty to eliminate plastic pollution has come under fire from an unexpected source, the founder of the nonprofit environmental group Ocean Recovery Alliance. In a recent interview in the online magazine Eco-Business, Doug Woodring, who heads the California- and Hong Kong-based group known for its efforts to clean up plastic pollution, said the UN treaty will “backfire if it stifles the transnational plastics trade” and “forces every country to create its own circular economy.”

I think the most accurate way to describe that point of view would be “idiotically unrealistic,” and it is quite disappointing to be coming from one whose expertise and solid record of action against plastic pollution would otherwise suggest he should know better.

The treaty in question does not even exist yet, but should be developed in the next couple of years, following a landmark accord by 175 countries in March of last year to create an internationally legally binding agreement by 2024. Even though that deadline is probably optimistic, there is progress being made, and by 2025 or 2026 a treaty with provisions governing the production, use and disposal of plastic may be available.

What that treaty most likely will not include are provisions discouraging countries from imposing bans on imported plastic waste, or obliging those that have already been implemented to be rescinded, and that bothers Woodring. Without a system allowing cross-border trade in plastics, and an effective plastics credit system (similar to carbon credits) to fund collection programs in smaller countries and recycling infrastructure in larger ones, most plastic will not be recycled, Woodring argues. A treaty that



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implicitly encourages plastic import bans, as the yet-to-be-crafted global plastics treaty presumably will, would simply leave most plastic as waste.

That is a reasonable presumption, but where Woodring and others who share his views get it wrong is in presuming there is a practical alternative. Globally, only about 9 percent of all plastic is recycled, and a significant part of that is accounted for by so-called waste-to-energy, which isn't really recycling at all but another form of waste disposal. It is simply not economically viable to recycle plastic on a large scale, for a variety of reasons, the main one being that most forms of plastic simply can't be recycled into anything useful with current technology. Even those that can only go through one or two reuse phases before becoming unrecyclable waste, since each recycle results in a lower grade of plastic. In addition, a great deal of collected plastic waste — cleaned up from the ocean or land — is too contaminated by exposure to recycle (the term for it is “biofouled”) and must be disposed of, hopefully in a more responsible manner.

The only way currently known to recycle all plastic, regardless of type, in a manner that doesn't simply delay its becoming waste by one or two more usage cycles, is through chemical or heat pyrolysis. This is a process whereby plastic is refined in reverse, broken down into its constituent chemicals that can then be reprocessed into virgin plastic. The technology is currently astronomically expensive, extremely energy-intensive, and yet to be deployed



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on any meaningful scale, but does seem as though it could be improved and made more cost-effective with enough effort.

Necessity is the mother of invention, and the only way that effort is going to be applied is if there are restrictions that make applying it the only option. That means not encouraging false "circular economies" and providing opportunities for countries to export their waste problems, on the one hand, and on the other, providing some kind of carrot-and-stick mechanism to encourage greater research and development into plastic alternatives. These can either be sustainable, nonplastic materials where possible, or new forms of plastic that can be more easily recycled into equally useful products.

Neither of those two categories of things have been developed on any meaningful scale as of yet — the world is still pumping out something between 350 million and 400 million metric tons of new plastic annually — but again, if binding treaties and laws are in place that remove other options, development will follow.

For many people, the recent hot weather we have been experiencing seems to be much more unbearable than in years past, and continual news of the impending El Niño has certainly helped to reinforce that perception.

Of course, those who closely study and understand developments in climate science — as opposed to those who prefer to study right-wing rants about how climate change is a liberal deep-state hoax meant to make everyone's life more inconvenient — realize, and are careful to point out to the public, that global warming and its climate change effects are phenomena measurable over years and decades, and that it is difficult, perhaps even fallacious, to directly attribute one uncomfortable season to it.

That has been the case until now, at least, but new information from the World Meteorological Office (WMO) suggests that we may already be experiencing immediate consequences of global warming, and certainly will experience them within the next four years.

Research by the WMO released earlier this week has found that a combination of a strong El Niño, expected to begin between now and the end of the year, and the continuing high volume of greenhouse gas emissions, which are again expected to reach record levels this year, will push global temperatures over the dreaded 1.5 degrees Celsius above the pre-industrial average by 2027, and probably sooner.

The 1.5-C threshold is the level at which many climate change effects would accelerate and become irreversible. Although global climate policymakers still publicly express hope that climate mitigation efforts can keep global average temperatures below that level, most knowledgeable authorities acknowledge that is a lost cause, and that a more realistic goal is about 2.1 C. The 1.5-C red line, however, wasn't expected to be breached until sometime next decade at the earliest.

The WMO researchers carefully clarified that their results do not suggest the breach of the 1.5-C threshold will be permanent — yet — but that it would almost certainly be surpassed more often in the next few years. But, in discussing the limitations of their research, they acknowledged the elephant in the room — that their findings that 1.5 C would be surpassed more-or-less "now" is something that is happening 10 to 20 years sooner than anticipated, and so their estimate of when the global average may permanently stay above that mark might be entirely too optimistic.

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Plastic-eating fungi found in Chinese coastal salt marshes

LONDON: An international team of scientists identified plastic-eating bacteria and fungi in Chinese coastal salt marshes, presenting new possibilities for global waste management, said a study published on Thursday. A total of 184 fungal and 55 bacterial strains capable of breaking down various plastics were found in China's eastern Jiangsu province, the Royal Botanic Gardens in Kew said in a statement.

Researchers from China and the United Kingdom in May 2021 sampled microorganisms from China's Dafeng, a United Nations Educational, Scientific and Cultural Organization-protected site near the coast of the Yellow Sea. They found a distinct "terrestrial plastisphere" described as a "man-made ecological niche" which is an ecosystem that has evolved to live with the presence

of coastal plastic debris. Scientists are increasingly looking at microorganisms, such as fungi and bacteria, to help tackle some of the most pressing challenges of the modern age, including the rising tide of plastic pollution," Kew Gardens said. The new findings contribute to existing studies on plastic-degrading microorganisms, with some 436 species of fungi and

bacteria found capable of breaking down plastic to date, it added. "Kew scientists and partners believe their latest findings could lead to the development of efficient enzymes designed to biologically degrade plastic waste," it went on. In 2020, approximately 238 million metric tons of waste from short-lived plastics — such as packaging that ends up in municipal waste — were generated

worldwide, said a recent report from the United Nations Environment Program. Roughly half of that was mismanaged for example, dumped in the environment or burned. Later this month, representatives from nearly 200 countries will meet in France's capital Paris for a new round of negotiations aimed at reaching a legal agreement next year to end plastic pollution. **AFP**



Conserving Asean waters for migratory birds

WATER sustains all forms of life—for human needs, crops and livestock, the operation of industries, preservation of natural ecosystems and all forms of wildlife, including migratory waterbirds that feed, nest and drink in wetlands.

Dr. Theresa Mundita S. Lim, executive director of Asean Centre for Biodiversity (ACB), said: "Despite the myriad of benefits derived from water resources, aquatic ecosystems around the world face severe threats caused by anthropogenic activities exacerbated by climate change."

The freshwater ecosystem—rivers, lakes, aquifers and wetlands—account for less than 3 percent of the world's water, an alarming figure that could threaten human survival, natural environment, and wildlife, Lim said in a press statement on World Migratory Bird Day on May 13.

With this year's theme, "Water: Sustaining Bird Life," she said the ACB joins the global community in amplifying the call for "protecting and conserving the freshwater ecosystems not only for human survival" but also "for biodiversity and the sustenance of wildlife, especially migratory waterbirds that serve as bioindicators of ecosystem health."

The Asean region's inland waters and wetlands span a total of about 2 million square kilometres, comprising 60 percent of the world's tropical peatlands and 42 percent of the global mangrove forests.

"This vast amount of wetland resources and their ecosystem functions are yet to be widely acknowledged as a response to the increasing demand for clean water and as nature-based solutions to the impacts of climate change and biodiversity loss," the ACB leader pointed out.

Lim said well-managed wetlands can help protect the quality and quantity of water needed by all species.

During extreme weather conditions resulting from climate change, inland waters can serve as natural reservoirs as the ecosystems recharge groundwater and provide additional supply of surface water during rainy seasons.

"By absorbing excess nutrients and filtering pollutants, wetlands contribute to halting species extinction by providing healthy habitats for all wildlife to thrive. Mangroves and vegetation in riverbanks serve as shield from flooding and erosion and mitigate their effects to communities on land," she explained.

She said several programs to rehabilitate forests and wetlands in the region have been conducted by the Asean, in line with the United Nations Decade on Ecosystem Restoration.

Through ACB, support to important wetlands and protected areas have been established in terms of capacity development programs, livelihood development and strict enforcement of regulations through one of its flagship programs—the Asean Heritage Parks (AHPs).

Another initiative, the Asean Flyway Network (AFN) was created to enable coordinated conservation actions and international knowledge sharing and cooperation for the protection and conservation of the region's wetlands and migratory birds, Lim explained.

It helped address knowledge gaps, including the identification of potential flyway sites and wetlands of international importance, or Ramsar sites.

The Asean is also attending to urban wetlands in order to address the challenges of population density and improve the quality of urban waters.

Studies revealed that almost 70 percent of the world's population will settle in cities and urban areas by 2050. This is expected to put tremendous pressure on wetlands to provide the required demand for clean water, she pointed out.

Among the 55 AHPs, urban wetlands are found to be currently under-represented; and as a response, integration of urban wetlands into the AHP Network through the updating of the AHP Regional Action Plan is now being done by ACB.

Two urban wetlands are now considered as pilot sites for this Action Plan, namely, the Nong Kham Sen Wetland in Lao PDR and Bang Pu Nature Education Centre in Thailand, Lim said.

"The survival of over 50 million migratory waterbirds from over 250 different populations that fly along the East Asian-Australasian Flyway [EAAF] depend on healthy and productive wetlands in the region," she said.

Hence, a "more inclusive and assertive regional stand is necessary to deal with the global water crisis and safeguard these ecosystems" from which the migratory species depend.

She pointed out that "national governments must implement relevant policies to effectively manage the freshwater sources with a healthy balance of ecosystem protection and economic considerations guided by the principles of sustainable development."

"The adoption of nature-based solutions in development planning, continuous research on freshwater resources, and developing ecologically-friendly hydrologic technologies are indispensable to fully utilize the benefits that nature can provide," Lim explained.

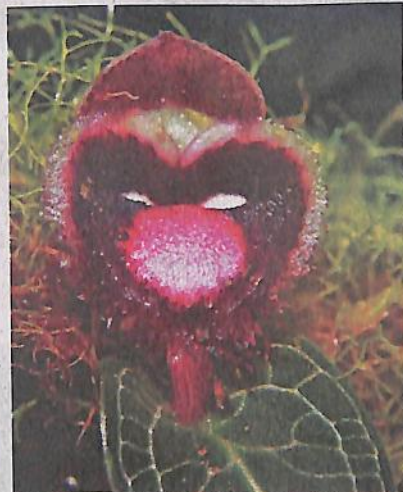
All of the mentioned actions and interventions in the region can only be fully realized through cross-border collaboration and flyway-scale conservation, she noted.

Lim pointed out that full cooperation of the Asean member states in the AFN, the EAAF Partnership and linkages with the other major flyways "are needed to amplify our message of migratory bird conservation to the rest of the world," and "to ensure that specific threats to the Asean freshwater ecosystems are addressed with relevant and holistic action plans with a high chance of successful implementation."



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NEW HELMET ORCHID SPECIES
(Photo courtesy of Danilo N. Tandang)

New helmet orchid species discovered in Davao Oriental

By RAAB BUSTAMANTE

The first helmet orchid species—*Corybas Hamiguitanensis*—was recently discovered in Mount Hamiguitan, Davao Oriental.

Corybas Hamiguitanensis, the first documented helmet orchid on the island of Mindanao, was named after the Mount Hamiguitan Range Wildlife Sanctuary, a United Nations Educational, Scientific, and Cultural Organization World Heritage site. ▶ 9

New helmet orchid species discovered in Davao Oriental ◀

The first helmet orchid species was recently discovered in Davao Oriental.

Corybas Hamiguitanensis, the first documented helmet orchid on the island of Mindanao, was named after the Mount Hamiguitan Range Wildlife Sanctuary, a United Nations Educational, Scientific, and Cultural Organization World Heritage site.

The discovery made by a group of researchers—Dany Tandang, Raab Bustamante, Micheal Galindon, Rudolph Docot, Tomas Reyes, Edwin Tadiosa, Cecilia Moran, and Sue Dixie Tandang—was published in *Phytotaxa*, a botany-focused scientific journal this month.

According to them, this discovery is an evidence of the Philippines' rich

biodiversity and also stressed the need to safeguard different habitats, including ultramafic habitats, that are threatened by mining activities and deforestation.

Helmet orchids can be found from India to Australia where they grow among mosses and leaf litter on the forest floor.

Eight *Corybas* species have been recorded in the Philippines. This new endemic helmet orchid was recorded in several locations within Mount Hamiguitan, making it the first *Corybas* species in Mindanao.

Corybas Hamiguitanensis is easily distinguished from the eight other *Corybas* species in the Philippines by the distinct coloration of the labellum,

which is predominantly black, except for a bright magenta patch and margin on the limb.

A thorough review and comparison of all known *Corybas* species was carried out as part of this research. The findings were summarized and submitted to the peer-reviewed journal, which agreed with the findings.

Corybas Hamiguitanensis grows in ultramafic habitats which is associated with high biodiversity, because plants here have evolved to grow on mineral rich soil which would be challenging to most other plants.

Unfortunately, since this soil is rich in minerals, it is under constant threat from mineral prospectors and mining.

The researchers hope that the recent discovery of *Corybas Hamiguitanensis* could inspire the younger generations to preserve and conserve the natural wonders of the Philippines.