

05 November 2022, Saturday



**DENR**

# **NEWS ALERTS**

# **NEWS CLIPPINGS**

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# DENR chief leads PH delegation to Egypt summit on climate change

**By Joel dela Torre**

**ENVIRONMENT** Secretary Maria Antonia Yulo Loyzaga will head a Philippine delegation to the 27th session of the Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) summit in Egypt.

To be held from November 8 to 16 at the Egyptian City of Sharm El-Sheikh, the nine-day meeting will touch on topics of climate change and its im-

pacts to which Loyzaga said the Philippines will continue to assert entitlement as far as climate support is concerned.

Before departing for Egypt, Loyzaga issued a statement on behalf of the Philippine delegation consisting of representatives and negotiators from the DENR, Climate Change Commission, Department of Finance, Department of Foreign Affairs, Department of Agriculture and Department of Energy, as well as advisers from climate scientists and climate and development experts.

"The Philippine delegation in the following days will continue to assert and safeguard the country's interest in climate change negotiation, ensuring that we receive the appropriate support and assistance as a country vulnerable to climate change," the statement read.

Come the summit, the DENR head said the delegation will reiterate the country's call for bolder climate action and demand the delivery of what is due for the developing countries which hardly produce any greenhouse gas (GHG)

emissions, yet they suffer the most and continue to bear the brunt of the adverse impacts of climate change.

"As developing countries need resources for climate adaptation, the Philippine delegation will continue calling on developed countries to step up to these obligations and deliver without delay on their commitments on climate finance, technology transfer and capacity building," she added.

Loyzaga noted that addressing the impacts of climate change is at the forefront

of the priorities of President Ferdinand R. Marcos, Jr.

In his statement at the 77th U.N. General Assembly last September, Loyzaga said the President rightly stated that "there is no other problem so global in nature that it requires a united effort."

"The Philippines is prepared to be a part of that solution. Participation in COP27 is important as this is the biggest platform for nations and stakeholders to negotiate and address climate change and its adverse impacts," Loyzaga said.





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**BUILT  
ENVIRONMENT**

AR. JOEL LUNA

This week, representatives of various governments and organizations—consisting of environment advocates and pro-fossil fuel lobbyists—will meet for the United Nation's COP 27 in Egypt.

As in past years, they will review, reaffirm, or strengthen their pledges on reducing carbon emissions in their respective countries. The annual conference is held as the Philippines recovers from yet another recent climate catastrophe (Typhoon Paeng). The fate of vulnerable countries like the Philippines—ranked highest in disaster risk worldwide in the 2022 World Risk Report—rests on the decisions and actions that wealthy nations and influential organizations will make next week.

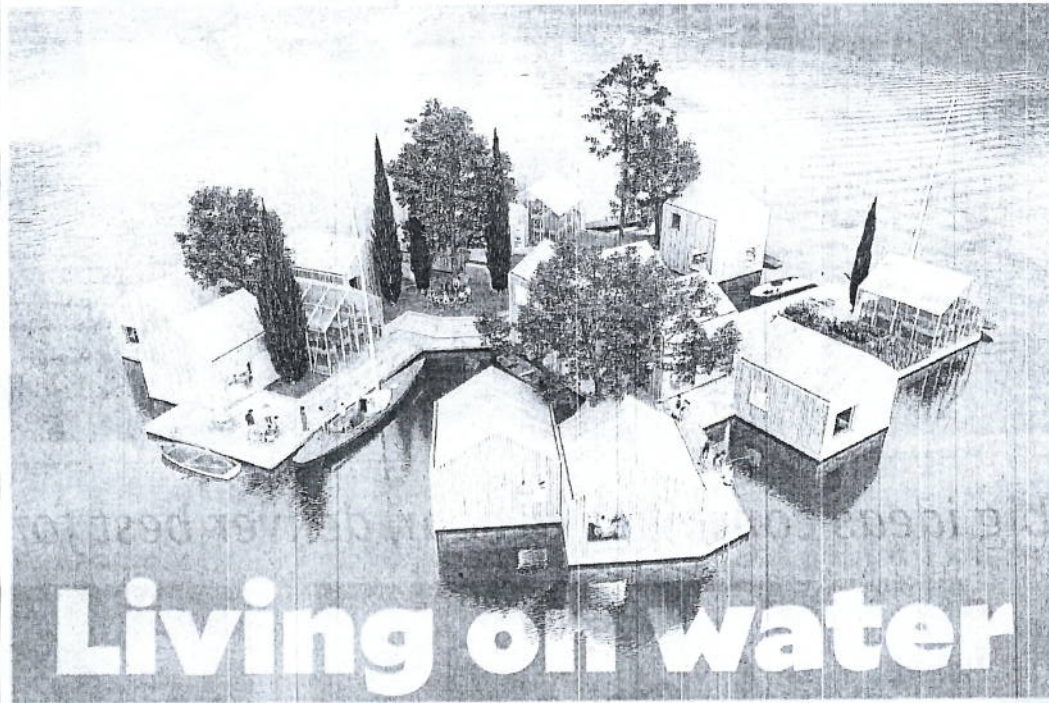
**ADAPTATION AS A RECOURSE**

We have long crossed the point where climate change could be averted as it is already upon us. Adaptation would now be the recourse of vulnerable cities while the world ponders how to decarbonize society to avoid global catastrophic climate disaster.

With 60 percent of our population living in coastal areas and with sea level rise in the Philippines being higher than the global average, our vulnerability is not difficult to imagine. And yet, more people are moving to coastal cities, putting even more settlements and livelihoods at risk.

Reducing human and economic costs of sea level rise would suggest settling farther from coastal areas. However, the opposite is occurring worldwide.

Some approaches to adapt to rising sea levels involve structural mitigation using engineered interventions such as sea walls, levees or reclamation. These approaches are capital- and material-intensive and tend to go against the more restorative, nature-based solutions to climate adaptation.



'Land on Water' by MAST

using man-made, island-farms.

**LIVING ON WATER**

Living on water has also been adapted by some communities and promoted by some designers as a way to cope with gradually rising sea levels.

Some low-lying areas of Europe, for instance, have adopted a climate-adaptive strategy that uses floating structures that are resistant to storms. An example is Schoonschip, a floating village of 46 houseboats designed by Space & Matter. The system of building "land on water" developed by MAST utilizes reinforced upcycled plastic arranged in modules to form the floating foundation for the structures on top.

Apart from climate adaptiveness, these communities have to be energy and water autonomous by necessity due to the absence of pipe connections to the mainland. Thus, they generate their own power from sun, wind or waves and source their water from harvested rainwater, solar desalination or captured humidity. Modern as these designs may be, they are anchored on older typologies of coastal living.

While many, even among the climate-anxious, may be skeptical about living on water, the above are examples of community-based, adaptive measures by those who are already feeling the impacts of sea-level rise.

They point to an alternative model for resilience that draws from traditional knowledge and local experience. It is a way to reconcile the conflict between addressing coastal precarity and creating real estate for coastal development.

Floating villages, if combined with floating agriculture, can be circular micro-environments that are net zero energy, net zero water, net zero waste and net zero carbon while concurrently avoiding the gentrification of our shores. They have the potential to connect built systems with the natural systems and our social systems, enabling the feedback loops necessary for adaptation.

But perhaps their biggest impact will be terrestrial—once we have learned as a society to live lightly on water, then perhaps would also have learned how to let the land heal.

The author is founder and principal of JLPD, a master-planning and design consultancy practice. Visit [www.jlpdstudio.com](http://www.jlpdstudio.com)

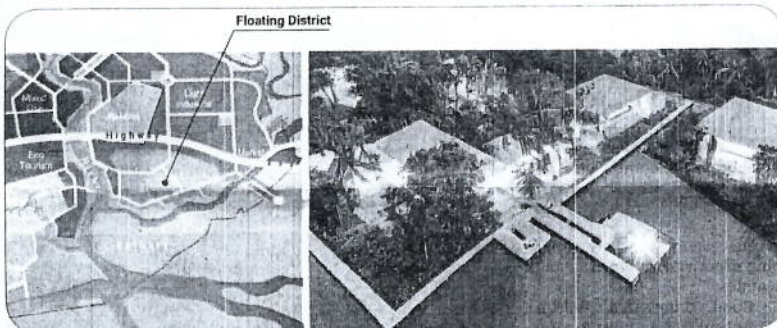
**LOCAL RESILIENCE**

Bangladesh is one such example. Also highly vulnerable to climate change, some experts predict that by 2050 about 20 percent of the available land in the country will be permanently submerged under water. During the monsoon season, farmlands in southern Bangladesh become flooded and remain inundated for several months, affecting agricultural production and livelihood.

Local resilience and the zeal to adapt to changing climate have led some farming communities to revive a tradition of building "floating farms". It is an age-old technique of hydroponics in which vegetables are planted on rafts made of aquatic weeds that rise and fall with the floodwaters.

This has enabled communities to survive and have enough food throughout the year despite the loss of land. Some experts claim that the productivity of this farming system is 10 times higher than traditional land-based agricultural production in the southern Bangladesh.

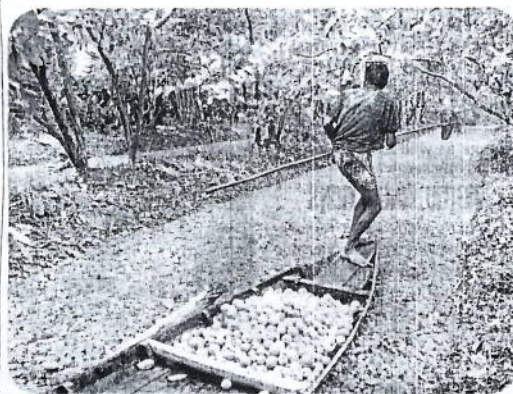
This soil-free method of cultivation is being used even in Mexico City, where some communities have revived the ancient Aztec farming technique



Concept for a floating district in a coastal township project by JLPD

Methods such as coastal reclamation also tend to isolate shoreline communities from their livelihoods, creating a form of ecological gentrification wherein original settlements are displaced by the affluent. It can thus be argued that structural mitigation is a form of resilience that favors the wealthy.

There are, however, some examples of more light-handed and community-based adaptive measures wherein many vulnerable ecological communities persist or even thrive without the heavy-handed, "global design best practice" methodologies that are used elsewhere.



Floating agriculture in Bangladesh

PHOTO: GETTY IMAGES





## FOOD FOR THOUGHT

CHIT U. JUAN

### Earthshot - give it a shot!

**T**he Earthshot concept is simple: Urgency + Optimism = Action. We have ten years to turn the tide on the environmental crisis, but we need the world's best solutions and one shared goal – to save our planet.”



“It's not too late, but we need collective action now. The Earthshots are unifying, ambitious goals for our planet which, if achieved by 2030, will improve life for all of us, for the rest of life on Earth, and for generations to come. They are to:

- Protect and restore nature
- Clean our air
- Revive our oceans
- Build a waste-free world
- Fix our climate”

Sometimes, we get a message from the Universe to do something phenomenal, something that will change the world and something simple that can be scaled across the globe.

This wonderful initiative led by HRH Prince William and supported by 200 organizations will award winners of the best ideas to turn the tide and save the planet in the next ten years.

I started to think; ten years? Yes, most of us will still be around and we should really give this initiative a chance to really change the world. And even if you do not make it as a winner, what have you thought about to do in your own home, in your own company or school, to change things for the better?

We are in talks with a company who wants to plant 10 million trees and has put their money where their mouth is. Now, all we need to do is to sow the seedlings to get to at least a million coffee trees. But if we could do that for coffee trees and others would make seedlings for cacao, narra, dao, banaybanay, yakal and other forest trees, that would be 10 million trees capturing carbon for many years to come.

That is a simple idea worth a shot, an Earthshot. Check out the website of Earthshot Prize -<https://earthshotprize.org> and jog your mind after you read the past winners' ideas.

We cannot always blame climate change for the recent floods and unprecedented landslides. Much of these are due to deforestation. Much of the damage has been caused by man. From denuded forests to improper waste disposal, we see rivers, streams and other waterways clogged and unable to let the waters flow. So what shall we do to correct these wrongs besides looking for the culprits? We need simple ideas we can scale, that we can do countrywide and globally.

In our humble little farm, we also had ponding of water due to the heavy rains brought by Paeng. But in two hours, the water drained and, like a golf course with proper drainage, our garden was good again. But did it need some kind of high technology like for keeping golf courses dry soon after a heavy downpour? No, it did not. Our secret? We regenerated the soil, causing earthworms to thrive around the property. Regeneration simply means bringing back life to the soil by adding mulch, brown material like natural used cartons, old leaves and farm discards, etc.

After a few months, we started to see fruits on trees we never saw before. I did not know we had more citrus trees, rambutan, guayabano and balimbing because I never saw their fruits in the past few years before our regeneration project. Though the farm has never used chemicals, pesticides and we stuck to natural farming, the soil became alive again, like magic! Our papaya started to bear more fruits, as well as our dwarf coconut and our chico tree. You may come to the farm to check out the magic that happened.

What was the idea? Build an environment to get Nature's best workers to work – these are the earthworms. They are not the African Night Crawlers many vermicompost producers swear by. These earthworms are your garden variety local wigglers that can dive deeper into the Earth than the African ones. Our biodynamic consultant says they dig deeper and they make little holes in the rich soil all over the farm. They know no boundaries or property lines so they can very well go next door and enrich even your neighbor's garden.

This is a simple idea that anyone can do in their backyard or in their whole farm. Create that environment for earthworms to thrive. They will know how to feed themselves with your discards, proper waste disposal and some used cartons for good measure. Then you can observe the magic they make. And like I said earlier, they have no limits or known land boundaries or mujons as we say in the vernacular. They just eat away and work their way to help create natural drainage systems, the way Nature intended it to be.

This is my Earthshot idea: Regenerative agriculture rather than chemical-based, weed-killer kind of agriculture. But this will mean multinationals changing their concoctions of pesticides and weedicides. This will mean stopping the use of agro chemicals for higher yields, but using more earth-friendly solutions.

I hope to see the spread of this idea, whether we make it to the Earthshot prize or not. This will mean less floods, more trees planted and more fruit-bearing trees, too. I am a witness to this natural blessing and this is why I am now slowly expanding it to our coffee farm. As soon as we started the regeneration, you will see, almost in time lapse style, the new sprouts of trees you thought were barren. The flowers have started to bloom for the insects to feed on, and the camote tops are there for the taking. This farm project may as well be a microcosm of the bigger Earth we know.

We can regenerate the planet and I am hopeful it can happen in the next ten years.

Let's give it a shot. An Earthshot.







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# BusinessMirror

A broader look at today's business

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## UN chief Guterres warns planet is heading toward 'climate chaos'

UNITED NATIONS—UN Secretary-General Antonio Guterres warned Thursday that the planet is heading toward irreversible "climate chaos" and urged global leaders at the upcoming climate summit in Egypt to put the world back on track to cut emissions, keep promises on climate financing and help developing countries speed their transition to renewable energy.

The UN chief said the 27th annual Conference of the Parties of the UN Framework Convention on Climate Change—better known as COP27—"must be the place to rebuild trust and re-establish the ambition needed to avoid driving our planet over the climate cliff."

He said the most important outcome of COP27, which begins Nov. 6 in the Egyptian resort of Sharm el-Sheikh, is to have "a clear political will to reduce emissions faster."

That requires a historical pact between richer developed countries and emerging economies, Guterres said. "And if that pact doesn't take place, we will be doomed."

In the pact, the secretary-general said, wealthier countries must provide financial and technical assistance—along with support from multilateral development banks and technology companies—to help emerging economies speed up their renewable energy transition.

Guterres said that in the last few weeks, reports have painted "a clear and bleak picture" of global-warming greenhouse gas emissions still growing at record levels instead of going down 45 percent by 2030 as scientists say must happen.

The landmark Paris agreement adopted in 2015 to address climate change called for global temperatures to rise a maximum of 2 degrees Celsius (3.6 degrees Fahrenheit) by the end of the century compared to pre-industrial times, and as close as possible to 1.5 degrees Celsius (2.7 degrees Fahrenheit).

Guterres said greenhouse gas emissions are now on course to rise by 10 percent, and temperatures are on course to rise by as much as 2.8 degrees Celsius under present policies by the end of the century.

"And that means our planet is on course for reaching tipping points that will make climate chaos irreversible and forever bake in catastrophic temperature rise," the secretary-general warned.

He said the 1.5 degree goal "is in intensive care" and "in high danger," but it's still possible to meet it. "And my objective in Egypt is to make sure that we gather enough political will to make this possibility really moving forward," the UN chief said.

"COP27 must be the place to close the ambition gap, the credibility gap and the solidarity gap," Guterres

said. "It must put us back on track to cutting emissions, boosting climate resilience and adaptation, keeping the promise on climate finance and addressing loss and damage from climate change."

Rich countries, especially the United States, have emitted far more than their share of heat-trapping carbon dioxide from the burning of coal, oil and natural gas, data shows.

Poor nations like Pakistan, where recent floods left a third of the country under water, have been hurt far more than their share of global carbon emissions.

Loss and damage has been talked about for years, but richer nations have often balked at negotiating details about paying for past climate disasters, like Pakistan's flooding this summer.

"Loss and damage have been the always-postponed issue," Guterres said. "There is no more time to postpone it. We must recognize loss and damage and we must create an institutional framework to deal with it."

The secretary-general said Thursday that "getting concrete results on loss and damage is the litmus test of the commitment of the governments to close all of these gaps."

"COP27 must lay the foundations for much faster, bolder climate action now and in this crucial decade, when the global climate fight will be won or lost," Guterres said. *AP*





## In Egypt, a fight on climate change



WRITE this column on the plane from Manila to Doha on my way to Egypt.

My ultimate destination in Sharm-El-Sheikh, the famous tourist resort city at the edge of the Sinai Desert and by the shores of the Red Sea.

I will join thousands of government officials, scientists, environmental activists, business lobbyists, and young people attending the Twenty-Seventh Conference of the Parties (COP 27) of the United Nations Framework Convention on Climate Change.

I have attended 22 of these conferences – Berlin (1995), Geneva (1996), Kyoto (1997), Buenos Aires (1998), Bonn (1999), The Hague (2000), Bonn (June 2001) Marrakech (December 2001), New Delhi (2002), Milan (2003), Copenhagen (2009), Cancun (2010), Durban (2011), Doha (2012), Warsaw (2013), Lima (2014), Paris (2015), Marrakech (2016), Bonn (2017), Katowice (2018), and Madrid (2019, just before the pandemic).

I missed the COPs in 2004 (Buenos Aires), 2005 (Montreal), 2006 (Nairobi), 2007 (Bali), 2008 (Poznan), and last year in Glasgow. But I followed them closely as an academic and advocate.

In most of these meetings, I was a lead negotiator of the Philippines and played major facilitation roles for the process. However, in Sharm, I will be a climate justice advocate.

I am part of a 12-person strong delegation from the Manila Observatory (MO).

Led by our Executive Director Fr. Jett Villarin SJ, we hope to influence the discussions in COP 27.

Although some of us are in the Philippine Delegation to assist our officials led by Environment Secretary Toni Yulo-Loyzaga (like me a former executive director of Manila Observatory), most of us will be in Sharm because MO is a core member of the Allied for Climate Transformation by 2025 (ACT2025), a consortium of research, led by the World Resources Institute, working to achieve climate justice.

MO is also implementing with Ateneo de Naga College of Law and other Ateneo Law schools the Climate Justice Capacity Initiative, supported by Client Earth and the Foundation for International Law for the Environment (FILE), and a pioneering effort in Southeast Asia on loss and damage, supported by the Stockholm Environment Institute, the Samdhana Institute, and the Heinrich-Böll-Stiftung.

We will be sharing lessons from these projects in Sharm, hoping that governments will listen to civil society voices.

They should as stakes are high in this meeting which is expected to begin with an agenda fight over the most critical issue in these negotiations: the creation of a loss and damage finance facility.

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) highlights the importance of loss and damage.

First, it is unequivocal that human influence has warmed the atmosphere, ocean and land. These include the burning of fossil fuels, continuing deforestation, and unsustainable agriculture, production, and consumption practices

Second, global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep

reductions in carbon dioxide (CO2) and other greenhouse gas emissions occur in the coming decades.

We need a cut of 45 percent of global emissions by 2030 so we can achieve a state of net zero emissions by 2050.

Third, if global warming transiently exceeds 1.5°C, many human and natural systems will face additional severe risks. Right now, if business as usual continues, we will exceed 3°C. That is catastrophic.

Fourth, human-induced climate change, including more frequent and intense extreme events, has already caused widespread adverse impacts to nature and people.

“Sea level rise and severe weather will affect more people here in our country than many other places”

It will get much worse as we overshoot 1.5°C, 2°C, and beyond. Typhoons will be stronger and droughts will be more frequent and last longer. All regions will experience seasons of extreme heat and excessive precipitation.

Fifth, the rise in weather and climate extremes has led to irreversible impacts as natural and human systems are pushed beyond ability to adapt. Among others, there will be serious impacts on public health, including more pandemics and outbreaks of diseases such as dengue, malaria, etc.

Fifth, the most vulnerable people and systems are disproportionately affected.

Poor countries and poor people in all countries will be first and most affected. Rich countries and rich people will also be affected but they have more resources to adapt to the impacts of climate change.

That is why climate justice is our battle cry in this fight.

The Philippines will be one of the most affected by climate change. We are not a stranger to the loss of lives and the damage to property, infrastructure, livelihoods, and non-economic assets caused by climate change.

Sea level rise and severe weather will affect more people here in our country than many other places.

We may not be an island state but we are a state of many small islands and we have one of the world's longest coastlines when you combine our coasts in one stretch.

Agriculture, fisheries and biodiversity will be severely affected, compromising livelihoods and increasing social conflict as saw this week with Typhoon Paeng devastating many parts of the country from Luzon to Mindanao.

We experienced this earlier this year with Typhoon Agaton and before that, last December 2021, with Typhoon Odette destroying much of Siargao and Dinagat Islands and parts of Bohol.

And a year before that, large areas of Luzon from South to North was hit by a quinta of storms in the last quarter.

We trust our delegation will not fail us in this fight over loss and damage in Egypt.

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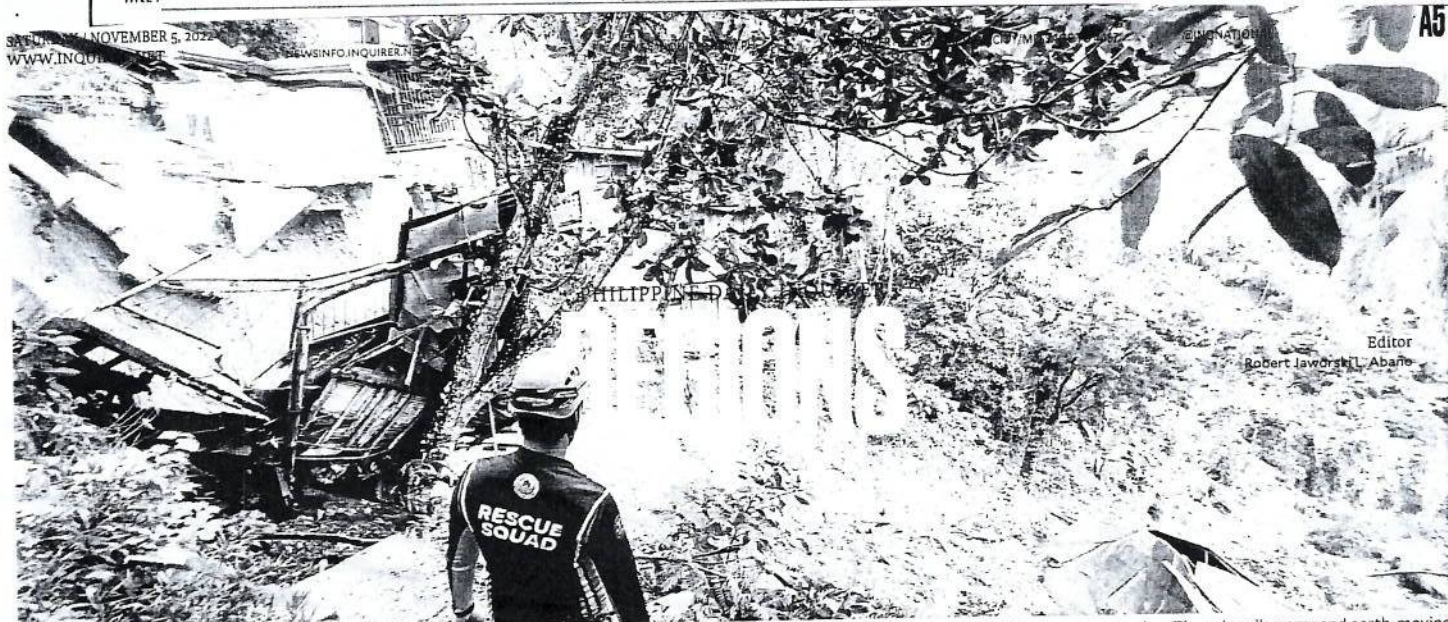
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**BURIED IN SOIL** The landslide on Oct. 29 that destroyed six houses in the upland village of Busay in Cebu City prompted Mayor Michael Rama to suspend on Thursday all quarry and earth-moving activities in the city. —PHOTO COURTESY OF THE CEBU CITY DISASTER RISK REDUCTION AND MANAGEMENT OFFICE

# Mayor suspends all quarry, earth-moving activities in Cebu City

Order prompted by destruction of houses in upland villages hit by storm-induced landslide

By Nestle Semilla  
@nestleINQ

CEBU CITY—The mayor of this city has suspended quarry activities, particularly in the 30 upland villages here, to avoid deaths and damages caused by landslides.

Cebu City Mayor Michael Rama, in Executive Order No. 13 signed on Nov. 3, also halted all earth-moving activities here to give the city government time to set up the mechanisms to prevent, mitigate, rehabilitate, prepare the response systems and manage incidents in landslide-prone areas in the city.

Rama's EO took effect on the same day and would remain effective until revoked.

"The lifting of the suspension is subject to the evaluation of the current geological condition of the city's 30 upland barangays, and the recommendation by the special task force," the mayor said.

The order came after a landslide destroyed six houses in the upland Sitio Garahe, Barangay Busay, on Oct. 29, following incessant rains spawned by Severe Tropical Storm "Paeng" (international name: Nalgae).

No one was hurt since all the occupants of the six houses moved to safer ground before the landslide happened.

Rama instructed the Cebu City Mining Regulatory Board to enforce the suspension of

permits and operation of quarry and earth-moving activities in the city's mountain barangays.

All village officials were also ordered by Rama to report and/or suspend quarry and earth-moving operations within their respective jurisdiction, stressing that all villages "must take an active role in the enforcement of all laws related to the environment, public health and safety within their respective barangays."

### Inventory

Rama also prohibited heavy equipment, including transport vehicles (six-wheeler and up), from traversing on roads in the mountain barangays that are affected by landslides and soil





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erosion, except emergency vehicles, public service vehicles and equipment operated by the government responders and public utility companies, subject to permission from the special task force.

Signage and advisories on the road restrictions would be put in these villages and would be enforced by personnel manning traffic control stations, he said.

Rama ordered the Cebu City Disaster Risk Reduction and Management Office (CDRRMO) to immediately conduct an inventory of all structures and drainage systems built within the 30 mountain barangays that were identified by the Mines

and Geosciences Bureau (MGB) in Central Visayas to be highly susceptible to landslides.

**Holistic approach**

The CDRRMO, along with other concerned agencies and village officials, were also directed to verify if the houses and other structures in these areas have complied with the National Building Code and other requirements, such as soil-testing and/or geo-technical studies prior to construction.

Structures illegally built in areas determined by the special task force to be highly susceptible to landslides must be vacated, Rama said.

An initial geo-hazard study

presented by the MGB in Central Visayas to the city government on Oct. 31 revealed that some upland barangays of the city, a number of them densely populated, were highly prone to landslides. These included Barangays Banilad, Budlaan, Busay, Babag, Bonbon, Malubog, Pung-ol Sibugay, Sirao, Pulangbato, Guba, Mabini, Binaliw, Agsungot and Sinsin.

The city government decided to adopt a "holistic" mechanism in addressing the hazards of landslides. The solutions include planning, engineering solutions, housing and resettlement solutions, disaster prevention, and mitigation and rehabilitation. INQ





# DENR seeks P2.5B for 2023 greening program

BY BELLA CARIASO

**A**RANKING official of the Department of Environment and Natural Resources (DENR) said the agency needs at least P2.5 billion to fund its tree planting program as part of the directive of President Ferdinand "Bongbong" Marcos Jr. to focus on reforestation efforts after blaming the bald mountains for the flooding and landslides in Mindanao.

Environment Undersecretary Jonas Leones said for next year, the agency targets to plant trees in 11,000 hectares of lands as part of the National Greening Program.

"For 2023, the DENR's proposed budget totaled to P23 billion, and for our National Greening Program, we are asking P2.5

billion. We already requested this at the House of Representatives and we will continue to lobby to the Senate to make sure we can cover at least 11,000 hectares of vulnerable areas, denuded forests, critical watersheds and to save our protected areas," Leones said.

Marcos blamed the denuda-

tion of forests for the landslide and flooding in Maguindanao in the wake of Severe Tropical Storm "Paeng."

"The President's aerial inspection when he visited BARM (Bangsamoro Autonomous Region in Muslim Mindanao) showed the extent of the effects of deforestation. He saw that the denuded forests caused flooding in areas affected by Paeng that is why he directed the DENR to strictly implement the National Greening Program," Leones added.

He said that under the National Greening Program, the DENR targets to cover at least 2 million hectares by 2028.

"Of the country's total 15 million hectares of forest lands, we still need to plant trees in at least seven million hectares, more than half of our total forest

areas," Leones noted.

He said from 2010 to 2020, forest cover increased by 6 percent.

"We are appealing to Congress to provide as the necessary resources to continue the National Greening Program. This is necessary to prevent landslide, to address the problem on flood prone areas and to combat the denudation of our forests," he added.

At the same time, Leones urged the Senate and the House of Representatives to pass a measure to boost the DENR's enforcement capability.

"We are proposing the Congress to pass a law that will boost the DENR's enforcement capability. At present, we only rely on help of the Philippine National Police and the military, but they have other priorities," Leones said.





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## DENR nagpasaklolo sa IPs

**NAGPASAKLOLO** na ang Department of Environment and Natural Resources sa mga indigenous people at hiniling na maging katuwang para maprotektahan ang mga natitirang kagubatan sa bansa.

Sa Laging Handa public briefing, inamin ni DENR Undersecretary Jonas Leones na hindi kasi kakayanin ng mga forest ranger ng DENR ang lawak ng kagubatang dapat bantayan ng gobyerno.

"Sa ngayon, ang ginagawa namin diyan, dahil kulang ang ating forest rangers, nakikipag-ugnayan po kami sa local government units. Makikipagtulungan po kami sa DILG para naman matulungan kami sa pag-inform nitong mga batas para sa kagubatan at environmental laws. Pati na rin po iyong mga IP at communities ay hinihingan din po namin ng tulong para maging part-ner namin para maprotektahan ang mga natitirang kagubatan di-to sa ating bansa," ani Leones.

Nasa 15 milyong hektarya ang forest land ng bansa at kaunting aniya ang bilang ng kanilang forest rangers para mabantayan ito.

Inaasahan nila lagi ang tulong ng PNP at AFP subalit may iba pang mandato at prayoridad ang mga ito na dapat tuparin kay ayaw din nilang masyadong umasa sa mga ito.

Sa gitna na rin ng kakulangan ng mga magbabantay sa mga kagubatan, ipinanukala na nila sa Kongreso na mabigyan sila ng resources at mga batas para mapalakas ang kanilang enforcement capability.

**KRIS JOSE**



# Worse disaster looms

The death toll and ravage in Maguindanao and other parts of the Muslim Autonomous Region inflicted by severe tropical storm "Paeng" (it is not even categorized as a super typhoon) were on the scale of severity as the one wreaked by super cyclones "Yolanda" and "Odette" in recent past.

This was an observation by meteorological pundits. But do you think we have seen the worst? Not, if we are to believe the results of studies conducted based on data analysis and scientific investigation. In fact, environmentalists warned that if man continues to ignore the red flags and the government pays lip service to its commitment to take aggressive action to reverse the trend, more severe disaster will ensue.

As correctly pointed out by President Ferdinand R. Marcos Jr., the despoilation of the forest in a nearby mountain caused mudslides and floods that killed several residents in the town of Datu Odin Sinsuat. Meaning, regulatory agencies like the Department of Environment and Natural Resources have been remiss in protecting the forest from illegal logging and deforestation.

But more profoundly, it indicates that man has nobody to blame but himself. His callousness and greed for income without regard to



SOUTHERN VOICES  
MACABANGKIT B. LANTO

its dire consequences drove him to ignore the warning about the catastrophic effects of illegal logging. That man has evaded the penalty for the forest rape and deserves investigation and meting out the appropriate penalty. This factor plus the topography of the area is a swathe of lowland and swampy added to the death of more than 50 residents of Maguindanao which the President observed as too much for mere flooding.

Against this backdrop, starting next week, the 27th United Nations annual meeting on climate COP27 (Conference of Parties) will take place at the tourist coastal city of Sharm al Shiek in Egypt. The heads of state and governments of more than 200 countries, prominent civic leaders and environmentalists

are expected to attend. They will meet on 6-18 November to assess their fight against carbon emissions to protect planet earth. In an advisory, COP27 "will focus on three main areas, reducing emissions, helping countries to prepare and deal with climate change and securing technical support and funding for developing countries for climate activities."

Countries have been alarmed by reports of studies conducted by the United Nations Framework for Climate Change and the World Meteorological Organization "pointing to an accelerating climate disaster, as their conclusion shows the world was falling drastically short of its goal to limit global warming."

The UNFCCC report likewise urges governments to comply with their commitment under the 2015 Paris Agreement to reduce dramatically the greenhouse gas and carbon emissions. It is an irony that the great polluters of the world like countries in the West and Europe are not showing an avid interest in this global fight to save Mother Earth. They should be on the frontline in this struggle after enriching themselves out of the operation of their industries which are the main source of waste and carbon emissions. Countries with limited resources and the most vulnerable to environmental disasters are left to fend for themselves.

The efforts of governments and the United Nation to save mother earth is bound to fail if people will not observe discipline by following modes that can reduce global warming. We all should complement the works of governments.

How can one contribute to the campaign for mitigation and prevention of the destructive effect of global warming? As simple as avoiding the use of plastic bags for one's grocery items will do the work. Plastic is a nonbiodegradable substance that aggravates the crisis. A study on the substance concluded that "when plastic is exposed to direct sunlight, it can react to produce the harmful greenhouse gasses methane and ethylene."

If we ignore our moral obligation, the next generation will point an accusing finger at us, saying we have not done our task of saving them.

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### Editorial

## Ipagbawal, pagtira sa paanan ng bundok

**N**OON pa nangyayari ang pagguho ng bundok at marami na ang namatay subalit walang ginawang solusyon ang pamahalaan kung paano malalayo sa disgrasya ang mamamayan na naninirahan sa paanan ng mga bundok. Hindi na mabilang ang mga nalibing nang buhay at hanggang ngayon ganyan pa rin ang senaryo. Lalo pang dumami ang mga naninirahan sa paanan ng bundok at mga pampang ng ilog. Walang naging plano ang mga nakaraang administrasyon kung paano maiiwasan ang trahedyang sa panahon ng bagyo at baha lalo ang mga nasa delikadong lugar. Kapag nangyari na ang trahedyang, saka lamang may maiisip na paraan pero hanggang doon lang—walang naipatutupad hanggang sa maulit na naman ang trahedyang.

Ang pinakagrabeng landslides na nangyari sa bansa ay nang gumuho ang bundok sa Bgy. Guinsaugon, St. Bernard, Southern Leyte noong Pebrero 2006. Nasa 1,126 katao ang namatay karamihan ay mga bata na nasa eskuwelahan nang maganap ang pagguho ng lupa dakong alas otso ng umaga. Ayon sa mga nakaligtas, nakarinig sila ng tila atungal ng hayop mula sa bundok at sa isang iglap, rumagasa ang mga malalaking bato at putik. Nabiyak ang bundok dahil sa walang tigil na pag-ulan. Naipon ang tubig sa bundok. Ang pagkakalbo ng bundok ang dahilan kaya nagkaroon ng landslides. Wala nang makapitan na mga ugat ng kahoy ang lupa kaya mabilis na naguho.

Halos ganito rin ang nangyari sa isang bundok sa Maguindanao del Norte makaraan bayuhin ng Bagyong Paeng noong nakaraang linggo na ikinatay nang mahigiti 60 katao. Rumagasa rin ang putik at bato sa bundok at inilibing nang buhay ang mga taong nasa kani-kanilang mga bahay. Tinatayang 100 bahay ang natabunan ng putik at bato.

Nang mag-inspeksiyon si President Bongbong Marcos sa pinsala ng bagyo sa Maguindanao del Norte, napansin niya ang kalbong bundok. Wala nang mga punongkahoy. Ayon sa presidente ang kawalan ng puno ang dahilan ng landslide. Kaya ipinag-utos niya sa DENR ang pagtatanim ng puno sa mga bundok.

Nararapat lang ang pagtatanim ng puno. Isagawa ito habang may panahon pa. Habang hinihintay ang paglaki ng mga puno, ipag-utos din na huwag nang tumira sa paanan ng bundok ang mga tao. Magkaroon na ng aral sa mga nakaraan.





# SMC power subsidiary growing over 5 M new trees

By MYRNA M. VELASCO

SMC Global Power Holdings Corp, the power investment arm of conglomerate San Miguel Corporation (SMC), has planted over 5 million new trees for its reforestation program and carbon capture initiative, including in the sites of its battery energy storage system (BESS) projects in various areas nationwide.

The company reported that it recently completed the planting and growing of more than 5.0 million new trees and mangroves via its "Project 747", a multi-year reforestation venture.

To date, according to SMC President and Chief Executive Officer Ramon S. Ang, the company's endeavor had already successfully brought to fruition the planting of 5,010,116 upland and mangrove trees in around 1,500 hectares of land.

The conglomerate noted the expansion of that undertaking will cover the various sites straddled by its BESS technology deployments across Luzon, Visayas and Mindanao.

"The project's goal is to plant seven million trees on some 4,000 hectares of land, in at least seven provinces," SMCGP stressed.

As specified by the company, tree-planting endeavors had already been carried out in Albay, Bataan, Bulacan, Davao Occidental, Negros Occidental, Pangasinan, Quezon province, and Zambales.

It was indicated though that there are additional areas already identified for SMCGP's next

wave of tree planting activities, primarily those that are linked to the sites of its BESS projects – and these are in Albay, Bohol, Cagayan, Cebu, Davao del Norte, Davao de Oro, Isabela, Laguna, Leyte, Misamis Oriental, Pampanga, Pangasinan, and Tarlac.

Ang emphasized "reforestation is one of the major sustainability priorities of the entire San Miguel Group," qualifying that "while we have had many similar efforts initiated by our various subsidiaries in the past, SMCGP has taken it to another level, planting a record 5 million trees in just under three years, with consistently high survival rates."

The SMC chief executive conveyed that "to ensure high survival rates for its trees--currently at around 90-percent for both upland and coastal projects--SMCGP partners with local communities to identify and plant needed indigenous tree species."

The company is currently ramping up its BESS installations across 31 jurisdictions nationwide – for an aggregate target of 1,000 megawatts.

"The battery facilities, which will minimize power wastage and redirect otherwise unused capacity to remote areas, are regarded as the best and most sustainable technical solution to the country's power quality and reliability issues," SMCGP explained.

Battery storage is seen as an alternative solution to guarantee the reliable operations of a power system; and this also serves as the best 'technology coupling' to the intermittency of renewables.





STRATEGIC  
COMMUNICATION  
AND  
INITIATIVES  
SERVICE

THE EXPOSURE OF PHILIPPINE PROGRESS  
SINCE 1900  
**MANILA BULLETIN**  
THE NATION'S LEADING NEWSPAPER

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## BPI Foundation to reforest 171 hectares in Cebu

BPI Foundation, the social development arm of the Bank of the Philippine Islands (BPI), said it will reforest 171 hectares of land in Cebu.

Through its recently launched "Lakbay Luntian - Visayas" under its Balik-Kalikasan program, BPI Foundation targets to reforest 171 hectares of 136,800 upland trees in Dumanjug, Cebu.

Aligned with BPI's sustainability efforts, this reforestation project, in partnership with Ramon Aboitiz Foundation, Inc., aims to preserve and restore rainforests across the country while equipping local communities with sustainable alternative livelihood.

"We encourage our employees, clients, and the general public to take part in this shared effort to offset our collective carbon footprint and help minimize climate risks," said BPI Foundation Executive Director Owen Cammayo.

Cammayo noted that the country's forests need healing. For it to continue to provide us with clean air to breathe—among other benefits it supplies human beings—several forests already require reforestation for it to sustain our lives.

In the case of Dumanjug in Cebu, according to globalforestwatch.org—an initiative of the World Resources Institute—in 2010, it had 632 hectares of natural forest, extending over 25 percent of its land area. But in 2021, it was reported that it lost 909 million hectares of natural forest, equivalent to 516 tons of carbon dioxide (CO<sub>2</sub>) emissions.

"The Lakbay Luntian - Visayas project reflects BPI's commitment to look after our communities and contribute significantly to the sustainability of our society. More importantly, the project is a call for collaboration - for a shared commitment in helping build back a more sustainable and better Philippines," Cammayo added.

The World Wide Fund for Nature Inc. said, "Forests provide us with shelter, livelihoods, water, food and fuel security. All these activities directly or indirectly involve forests."

With the help of BPI employees, BPI Foundation also reforested 68,000 trees in 170 hectares of land in Pantabangan, Carranglan Watershed Forest Reserve, Nueva Ecija, through the pilot run of Lakbay Luntian in 2021. (Bernie Cahiles-Magkilat)





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### /// Basurang nahakot sa mga sementeryo sa Maynila, dumoble

Halos dumoble pa ang dami ng basura na nahakot ng lokal na pamahalaan ng Maynila sa dalawang pinakamalaking pamublikong sementeryo sa siyudad nitong nakalipas na Undas kumpara noong bago tumama ang pandemya sa bansa.

Sa datos na ibinahagi ng Manila Public Information Office, mula Oktubre 28 hanggang Nobyembre 2, umabot sa 36 trak o katumbas na 108 metriko tonelada ng basura ang nakolekta sa Manila North Cemetery pa lamang.

Mas madami ito kaysa sa 18 na trak o 71 metriko tonelada ng basura na nakolekta noong 2019 Unidas o bago ang COVID-19 pandemic.

Sa Manila South Cemetery naman, umabot sa 42 trak ng basura ang nakolekta na katumbas ng 88 metriko tonelada na mas mataas sa 16 na trak o 65 metriko toneladang basura noong 2019.

Isa sa nakikitang dahilan ng pagdami ng mga basura ay ang pagtama ng bagyo kung saan may mga puno na bumagsak sa loob ng sementeryo, maging ang mas mahabang bakasyon na naging dahilan para maaga pa lamang ay nakapaglinis na ang mga kaanak sa puntod at museleo ng mga yumaong mahal sa buhay. (Danilo Garcia)





# PICK UP AS YOU GO

Congress and the Executive pin hopes on the recently enacted Extended Producers Responsibility Act, which shifts part of the burden on producers to cut plastic pollution.

By JONATHAN L. MAYUGA

**T**HE Philippines is one of the top producers of plastic waste in the world, with much of the uncollected garbage ending up in bodies of water from rivers to lakes and oceans.

In the past, environmental groups blamed poor solid waste management. Today, the blame is shifting to manufacturers, for failing to come up with measures to prevent their product packaging from polluting our water bodies, if not coming up with more environment-friendly packaging materials.

In the Philippines, a few companies are seriously taking up the challenge of accepting the responsibility for plastic waste.

One example: Coca-Cola Philippines' World Without Waste—a global sustainable packaging initiative to support a circular economy and eliminate plastic waste through the continual use of the packaging as a valuable resource—is now on its fourth year. With it, the company touts its compliance with the recently enacted Extended Producers' Responsibility (EPR) law which many hope would help address the country's ocean plastic waste problem.

## State-of-the-art recycling facility

A WORLD-CLASS bottle-to-bottle recycling facility making use of advanced recycling technologies is now 100 percent operational in General Trias, Cavite. This, through PETValue Philippines, a partnership between Coca-Cola Beverages Philippines Inc. (CCB-PH)—the bottling arm of Coca-Cola Philippines—and Thailand-based Indorama Ventures, a recognized global leader in packaging solutions and green technology.

The facility has a projected capacity of processing approximately 2 billion pieces of used clear PET plastic bottles—thus situating itself as a major contributor to a circular economy in the country, and in creating more direct and indirect job opportunities for Filipinos.

Clear plastic bottles—regardless of brand—that are collected from partners and collection points will be recycled at PETValue Philippines. The locally produced recycled PET resin straight from the facility will be used for Coca-Cola brands in recycled PET plastic packaging—thus creating a circular economy for the company's

"We are extremely proud of PETValue Philippines and our partnership with Indorama Ventures, whose global expertise in recycling technologies will prove to be an asset to the Philippines' collective goals for sustainability," Gareth McGeown, President and CEO of Coca-Cola Beverages Philippines Inc., said during a speech marking the 4th year of World Without Waste held at the Blue Leaf Events Pavillion in Taguig City on October 14.

"Sustainability is at the heart of who we are as a company, as proven by more than a century of Coca-Cola treating the Philippines as its home. And it is through innovations like PETValue and strengthened sustainable practices that we will be here for another 100 years, serving Filipino communities."

## Promoting partnership

THROUGH its World Without Waste initiative, Coca-Cola Philippines brings positive change to

individuals and small businesses such as *sari-sari* stores, waste collectors and junk shops, highlighting what can be achieved through partnerships—whether with the private sector, government units, or civil society.

The company has also partnered with the Technical Education and Skills Development Authority to create TESDA-certified skills training programs that will help develop the competencies of workers in the waste sector.

The National Solid Waste Management Training Program for a World Without Waste (NSWMTP-WWW) is currently being piloted by TESDA in the municipal government of Angono, Rizal, which has committed the full participation of all its 10 barangays.

The company's program with "Plastic Bank" has enabled the collection and recycling of almost 13.7 million PET plastic bottles—an undertaking that has simultaneously benefited the lives of informal waste collectors in Cavite.

## Empowering communities

THE initiative, meanwhile, also involved MSMEs to expand this network of collection points—through programs like Tapon to Ipon—Basta Klaro, Panalo! and Tindahan Extra Mile: Balik PET Bottle Program, empowering communities through recycling PET plastic bottles.

Likewise, there is a partnership with traditional trade outlets such as *sari-sari* stores and *carinderias* or eateries to become collection hubs, where community members can drop off used, clear PET plastic bottles and get incentives in return.

Significantly, the company announced that it will transition key brands Coca-Cola Original Taste and Wilkins Pure to 100-percent recycled PET plastic packaging (excluding caps and labels) by 2023.

These new packaging formats will expand the company's lineup of products in recycled plastic packaging in the Philippines.

## EPR Law of 2022

IN a speech, Sen. Cynthia Villar said the opening of the PET bottle recycling facility in the Philippines could not have come at a better time, with the EPR Act of 2022 or Republic Act 11898, which she principally authored, lapsing into law.

The EPR Act mandates large enterprises to be responsible for the proper and effective recovery, recycling or disposal of the plastic packaging on their products after the same has been sold and used by consumers. The goal: reduce the generation of packaging deemed non-environment friendly, improve the recyclability or reusability of plastic packaging waste, as well as promote the efficient waste recovery programs aimed at preventing plastic waste from leaking into the environment.

While saying the legislation is not in itself the solution to eliminate all the country's plastic waste, Villar said it is certainly a big step in the right direction.

According to Villar, the chairman of the committee on environ-





**VILLAR: "Cradle-to-grave management of products is no longer sufficient. Responsibility must begin at product conceptualization before it even sees production."**

ment and natural resources, the world is in the middle of a climate emergency, and not only does every individual have the obligation to reduce his or her own footprint, but also to find strategic interventions to drastically redeem what would have been valuable materials from the waste stream.

"Cradle-to-grave management of products is no longer sufficient. Responsibility must begin at product conceptualization before it even sees production," she said.

Around the world, Villar noted, there is abundant evidence that EPRs have allowed municipalities and taxpayers to deflect the financial burden of waste management and transferred it to producers.

"The public costs of hauling and disposal were reduced. More importantly, EPR systems have resulted in decreased volumes of waste for final disposal and ushered in a thriving recycling industry," she pointed out.

### Better policy

ACCORDING to Villar, the EPR law introduces a better policy than simply expecting citizens to segregate and manage their waste, and let the local governments in scattered settlements and islands deal with the massive problems brought about by the lack of legal responsi-

bility among the top producers of plastic waste. More importantly, she said, EPR requires manufacturers to reach collection targets, and hopefully, what is collected will no longer find their way back to the environment as unmanaged waste.

"The EPR Law places responsibility for products squarely on the shoulders of the manufacturer from cradle to grave. Hence I have to laud your company for not only looking at collection compliance but also developing ways in which your very packaging incorporates recycled material and uses less virgin plastic," the senator said in her speech, addressing the facility's proponents.

According to Villar, large enterprises should be able to recover and recycle a minimum of 20 percent of all packaging waste distributed for the year by the end of 2023. This target rises to 40 percent on the second year, 50 percent on the third year, and so on until 80 percent by 2028.

"It is actually my hope that your considerable resources will allow your industries to fast-track research and development, reach and breach these targets easily and go beyond mere compliance. When these very realistic targets are met or exceeded, EPR expenses will be deducted from taxable annual income," she said.

### Rapid development

IN her speech, Department of Environment and Natural Resources (DENR) Secretary Maria Antonia Yulo-Loyzaga highlighted the challenges faced by the Philippines as a rapidly developing country.

She said on top of the need to promote and ensure the implementation of the EPR law, the country is faced with the climate-change crisis, inconsistent degradation, biodiversity loss, and unsustainable production and consumption practices.

"And increasingly, waste generation is indeed our problem, and

we have a solid waste management system that is struggling to cope," she noted.

### Plastic waste generation

THE waste regeneration and plastic waste in the Philippines on an annual basis is about 2.7 million tonnes. About 20 percent of such waste, she said, end up in the ocean.

"Our own DENR data shows the country is producing over 7,000 metric tonnes per day of plastic waste. Addressing this pressing issue needs a comprehensive approach, involving many stakeholders from government agencies, corporations, local governments, especially cities, and consumers themselves," she said.

Yulo-Loyzaga said that as the Ecological Solid Waste Management Act has faced its own set of implementation challenges, there's a need for strong policy direction and action toward the effective implementation of a circular economy.

### Opportunity for collaboration

THE recent enactment of the Extended Producers Responsibility Act, she said, poses a further opportunity to collaborate to combat the environmental damages caused by plastic pollution and climate change.

"EPR is an environmental approach and practice that requires producers, as you know, to be environmentally responsible throughout the life cycle of the product, especially its post-consumer or end-of-life stage. The DENR is now working very hard to formulate implementing rules and regulations. We will be reporting to our boss, Senator Villar, at the Senate environmental committee this November," she said.

According to Yulo, the DENR has adopted a national plan of action for the prevention, reduction and management of marine litter to enhance current efforts in resource and waste management and control the additional leakage of waste into our environment.





# The first biodegradable water bottle is coming, for real this time

BY MARK BERGEN  
Bloomberg News

**T**HE Cove water bottle is a thin, sturdy cylinder, eggshell-white with a matching lid. It feels familiar. "If someone gave that to you," offered Alex Totterman, Cove's founder and chief executive, "you probably would have no idea that that wasn't a plastic bottle."

If someone does give you this bottle, it would be a remarkable achievement. Scientists and businesses have spent many years and much money trying to replace everyday packaging with natural materials that don't pollute the Earth—so far, that's given us little beyond compostable straws.

But the challenge hasn't deterred Cove from its own five-year journey to producing the first "fully biodegradable" bottle of water. In the coming months, Totterman says, Cove's creation will finally hit stores at \$2.99 a pop.

Totterman has also said this before. In February 2019, he told *Fast Company* Cove's bottles were arriving in stores later that month. They didn't. In October 2020, Tot-

terman told the *Los Angeles Times* his bottles were arriving after the new year. Still nope.

#### Expected delays

PANDEMIC delays and supply chain bottlenecks have repeatedly derailed the start-up's plans, as has the chemistry involved in its mission.

Cove's investors are still on board. The company has raised \$20 million since 2018 from luminaries like Salesforce co-founder Marc Benioff, media heir James Murdoch, and Valor Equity Partners, an early backer of Tesla Inc. Totterman also bagged investment from the DJs Diplo and Kygo, singer Ellie Goulding and a few pop stars he wouldn't name.

By his telling, grocers, music

festivals and corporate campuses are waiting with bated breath—and checkbooks in hand—for someone to produce a water bottle that people won't feel guilty about tossing out, and Cove is nearly ready to produce 20 million bottles a year to meet interest from "pretty much every major retailer and brand," Totterman said. (Whole Foods is the only named customer.)

#### How's it made?

COVE'S bottles start in kitchens. RWDC Industries, a chemical supplier with US headquarters in Georgia, first collects cooking oil from restaurants and ferments it into polyhydroxyalkanoates, or PHA, a polymer meant to dissolve in water or soil without any toxic residue. RWDC ships this creation to Cove's warehouse north of Los Angeles, where it arrives as tiny round pellets that look and feel like bits of Styrofoam. RWDC—the only cooking-oil supplier of Cove's that they would name—adds secret ingredients to its concoction, but Blake Lindsey, the company's chief commercial officer, said that there's nothing synthetic involved.

From there, the PHA pellets move to Cove's 25,000-square-foot factory, where they are sent through machinery to vacuum away mois-

ture, sift out metal, and stretch, cut and mold the material into a hollow canister fit for water. A printer then sticks a label onto each bottle ("Cove's plastic-free, renewable bottles"). The ink, made from algae, is meant to biodegrade, too.

Water from a purification plant nearby is poured in. By Cove's estimates, its bottles will disintegrate in water and soil in under five years.

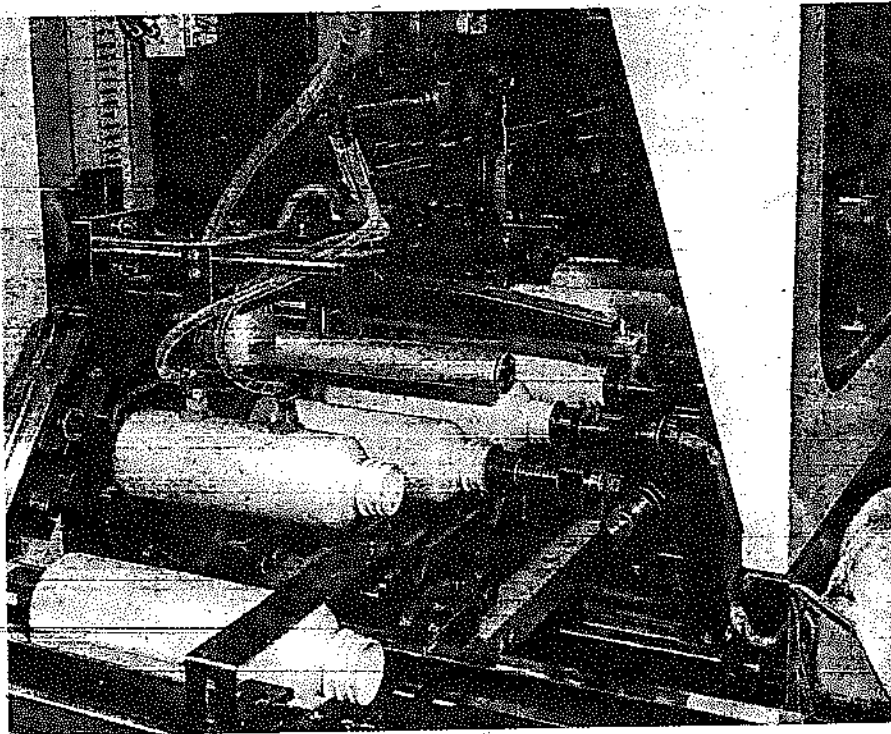
After starting in 2018, Cove cycled through at least one approach to making its bottles that didn't pan out. When the company decided to open its own factory, in early 2021, Cove quickly discovered the unpredictability of its Goldilocks material.

If PHA gets too cold, it becomes too brittle; if it's too hot, it goes soft. During one test run, the ingredient overheated, and Cove's factory floor erupted in steam and a pungent aroma of caramel that one early employee described as "especially vivid." (The unique properties of PHA mean that different batches produce different scents; during a visit in early October, Cove's factory floor smelled strongly of buttery popcorn.)

Every piece of bottling equipment Cove bought also needed to be modified to handle the fickle material, and most took forever to show up. Steel pipes to transport the pellets between machines and a temperature sensor tool didn't arrive for more than a year.

Still today, one of Cove's 12 employees manually sorts bottles rolling off the assembly line because a mechanical sorter is en route. "We ordered [it] back in January. It was promised to be here in April," explained Cove's vice president of technology Jim Shepherd, shouting over the machine din. "We're now in October and basically waiting on a robot."

When Cove first started production, it would ship PHA pellets to laboratories to test their physical properties, intending to wait on the results before forging them into bottles. "It wasn't fast enough," said Agnes Steckler, Cove's research director. So the company built Steckler her own lab, a room with eight machines to measure resilience, melting points and molecular weight of the PHA.



BOTTLES go through the labeling part of the production line at the Cove lab in Chatsworth, California. ROGER SIS/BLOOMBERG





TITLE: The first biodegradable water bottle is . PAGE P. 2

The lab cost the start-up more time and "millions of dollars," Totterman said. But it was worthwhile: "We had to take a step back to take two steps forward."

Even that wasn't the last hurdle. Once Cove finally began churning out bottles, most weren't strong enough to withstand a tight grip, or a drop from a few feet. "It turns out, it's very difficult to bring a new technology to market," said Peter Rahal, an early investor.

Others have tried to crack the biodegradable bottle. In 1990, the British industrial firm ICI announced a biodegradable plastic made from a mixture of bacteria and glucose that took 15 years to develop. ICI said the material absorbed enough carbon dioxide to match emissions from production, and rolled it out first as shampoo bottles in Germany.

But the material was expanded to few other items and six years later ICI sold the invention patents to Monsanto, which soon pawned off the biodegradables division to a company called Metabolix. It, too, tried remaking plastics, failed, then steered the research into agriculture.

Meanwhile, every food and beverage giant, under significant pressure to get off plastic, has experimented with natural substitutes. Few projects have left the lab. Last year, Coca-Cola Co. abandoned its plans for plant-based packaging in favor of 100 percent recyclables, arguing that consumers were demanding reusable bottles.

Such corporate efforts underestimate the expense and headache of converting organic materials into a viable plastic replacement, according to Ramani Narayan, a professor at Michigan State University and expert on bioplastics. He has seen a parade of companies try harvesting various chemical mixtures, only to give up or fall short of bold promises—and he's wary of RWDC's claims about PHA. "Every third person comes around, 'Oh, I've got this magic stuff now. I can save the world's problems,'" Narayan said.

Danimer Scientific Inc., a company planning to make straws, Skittles bags and rum bottles using plant-based PHA, was last year accused by scientists—and short sellers—of overstating biodegradability claims. (Danimer argued its process met international testing standards.) Cove's key ingredients from RWDC have been approved as biodegradable by certification body Tüv Austria, and Totterman says his company is awaiting similar approval for its bottle.

After initially working with contractors, Totterman decided to bring Cove's process in-house, recruiting a small team of material scientists and manufacturing veterans—though none of them are PHA experts. Before Cove, Totterman worked for a water purification start-up in his native UK. Shepherd is a molecular scientist who spent decades at Coca-Cola and Procter & Gamble, although he hadn't worked with PHA until joining last year. "We're figuring out the standards," said Totterman. "Because there isn't a blueprint."

### In striking distance

INVESTORS like this temerity. "Experience can be a burden," says Rahal, who created RxBar, the health food brand. "If you know too much and you're too smart, you don't jump. And you've got to jump."

More hurdles remain. Recent environmental legislation in California categorizes PHA as a plastic, limiting the amount of material Cove can use in production. (Ben Kogan, Cove's policy lead, is working on a counterproposal.) And pricing is in flux.

Two years ago, Cove promised a \$2.29 bottle, but it has since added 70 cents to that price in response to price hikes on raw materials. Totterman thinks expecting consumers to reuse bottles or recycle more often is naïve. Expecting people to pay more for compostable bottles sounds naïve, too, but Cove sees validation in Liquid Death, an aluminum can water brand worth an eye-watering \$700 million.

The company also takes inspiration from another premium product: An investor deck from this summer describes Cove's strategy as "the Tesla playbook"—sell an expensive item that conscious consumers will buy, driving down production costs. Pricey water is merely a "Trojan Horse" for a range of compostable consumer goods, Totterman said, hinting at future Cove shampoo bottles and other home care products.

But first, water. Behind the Cove factory, Totterman showed off a storage warehouse stocked full of boxes with Cove's bottles, ready to ship out when the time is right. "We kind of fought to get here, kicking and screaming this into existence," the CEO admitted. "We're basically in striking distance now." He didn't give a precise date.





### OPEN TO THE PUBLIC

Closed to the public for almost three years due to the Covid-19 pandemic, the Bangan Hill National Park in Bayombong, Nueva Vizcaya has been reopened to tourists on Thursday, Nov. 3, 2022, by the Department of Environment and Natural Resources in Cagayan Valley led by Executive Director Gwendolyn Bambalan. The protected area covers an area of 13.9 hectares. CONTRIBUTED PHOTO

# Bangan Hill National Park reopens

BY LEANDER C. DOMINGO

**B**AYOMBONG, Nueva Vizcaya: The Department of Environment and Natural Resources (DENR) in Region 2 (Cagayan Valley) has led the reopening of the Bangan Hill National Park (BHNP) after it was closed for three years due to the Covid-19 pandemic.

DENR Region 2 Executive Director Gwendolyn Bambalan said the park's reopening aims to promote ecological tourism in the protected areas (PAs).

Also the Protected Area Management Board (PAMB) chairman, Bambalan said it is important that collaboration among partner agencies continues for the devel-

opment of the BHNP and other PAs in the region.

"If we develop the area, we can showcase natural resource conservation sustainably not only for the Novo Vizcayanos but also for the entire region, since the province is the gateway to Cagayan Valley and nearby regions," she said.

She added that continuing tourism activities in Nueva Vizcaya will have direct and indirect benefits to the communities.

The BHNP reopening on Thursday, November 3, was made possible through the support of the Pro-

vincial Environment and Natural Resources Office (Penro) of Nueva Vizcaya and the PAMB.

Located in the heart of the capital town of Bayombong, the BHNP was recently renovated by the DENR with funding from the Biodiversity Management Bureau.

"There will be future improvements within the BHNP through the PAMB to offer ecotourism activities to visitors and tourists as well as their safety which is our priority," Penro officer Giovannie Magat said.

Magat said the improvements that will come are in addition to

the recent concreting of access roads and repair of the view deck tower, installation of the water system and park landscaping.

Present during the ceremony was Mayor Antonio Sergio Bagasao who underscored that the importance of nature should be instilled in the minds of the youth.

Bagasao thanked the DENR and PAMB members and the provincial government led by Gov. Carlos Padilla for spearheading the grand reopening of Bangan Hill in his town, which he said speaks of the people's "desire to go back to the

original design of creation."

Other officials joining the ceremony were Bayombong Vice Mayor Ramon Cabautan Jr., provincial environment officer Tito Tanguilig, division chiefs from the DENR Region 2 office, community Penro officers, PAMB members, civil society organizations, and other DENR and local officials.

The reopening of the park started with a motorcade around the national highways of Bayombong and Solano towns, followed by a thanksgiving Mass officiated by Fr. Enrique Tiongson.





## Declaring part of PH Rise as protected area

CAGAYAN de Oro City Rep. Rufus Rodriguez has asked Congress to pass a measure he proposed declaring a large part of the Philippine Rise, a vast undersea region east of Luzon, as a protected area so it could be managed and explored for its marine resources.

In House Bill 5687, Rodriguez proposed that the area known as Benham Bank and its neighboring waters, be designated as a protected area to be known as Philippine Rise Marine Re-

source Reserve under the Expanded National Integrated Protected Areas System Law.

HB 5687 indicates the geographic coordinates of Benham Bank, which is composed of 352,390 hectares. The Philippine Rise is believed to be more than 24 million has.

The lawmaker noted that most of the Philippine Rise, including Benham Bank, is within the country's 200-mile Exclusive Economic Zone.

He said while the undersea region is

3,000 to 3,500 meters beneath the ocean's surface, Benham Bank, the tallest seamount, is lying just 48-70 meters below the sea.

An all-Filipino group of research scientists discovered the proposed protected marine resource reserve in 2014, along with its diverse habitats and fish communities, he said.

Rodriguez said: "Filipinos actually do fishing activities in the area, but the state of its habitats and biodiversity must be closely monitored to ensure the sustainability of the resources therein."





## Zambo Sur environment officer slain

ZAMBOANGA CITY—A municipal environment and natural resources officer of Dumingag, Zamboanga del Sur was killed in a gun attack on Thursday.

Richard Cabilan was shot when he went out of the Agriculture Training Center to answer a call on his cellular phone, according to Zamboanga peninsula police director Brig. Gen. Neil Alinsañgan.

He said Cabilan was attending a meeting when the incident occurred.

Alinsañgan said Cabilan suffered two gunshot wounds in the head and another in his body and died at the scene.

The suspects escaped on two motorcycles.

Probers have yet to determine the motive for the killing.

Sen. Risa Hontiveros condemned the killing of Cabilan, who was her partymate in Akbayan.

"As a civil servant, it is very alarming that this gruesome attack happened inside the compound of a government-owned facility," Hontiveros said in a statement.

"As a partymate, Butch upheld and embodied the best of public service. He had a profound impact on his community. He is widely recognized in Zamboanga del Sur for his fight against poverty, inequality and injustice. His death is a huge loss," she added.

Hontiveros urged Philippine National Police chief Gen. Rodolfo Azurin to investigate what she described was a political killing.

The senator also appealed for "greater efforts from the state to protect our civil servants and all our citizens."

— Roel Pareño, Paolo Romero