

14 May 2023 Sunday



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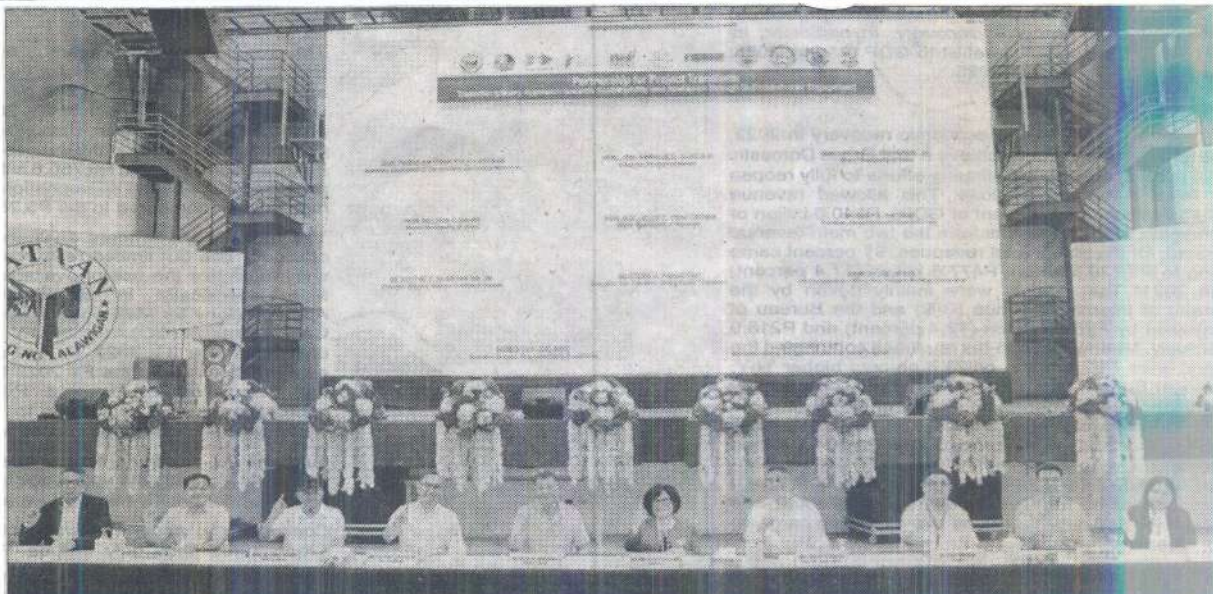
STRATEGIC COMMUNICATION AND INITIATIVES SERVICE



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PARTNERSHIPS FOR ONE RESILIENT BATAAN. The Department of Environment and Natural Resources Secretary Antonia Loyzaga (5th from right) recently led the launching of the Luzon edition of Project TRANSFORM in the province of Bataan, with the municipalities of Limay, Mariveles, and Orion as pilot sites, in recognition of the province's resilience initiatives. Project TRANSFORM, which stands for Transdisciplinary Approach for Resilient and Sustainable Communities, is the DENR's approach to implementing programs to alleviate poverty, enhance community resilience, and promote a more robust public-private partnership in local and provincial levels. Joining Loyzaga in photo are (from left) Peace and Equity Foundation executive director Roberto Calingo; National Resilience Council executive director Silvestre Barrameda Jr.; Limay Mayor Nelson David; Mariveles Mayor Ace Jello Concepcion; Orion Mayor Antonio Raymundo Jr.; Rep. Albert Garcia of Bataan's 2nd District; Bataan Peninsula State University president Ruby Matibag; Philippine Business for Social Progress executive director Elvin Ivan Uy and Zuellig Family Foundation president Jenilyn Ann Dabu.



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'WHAT WAS BURIED UNDERNEATH CAN NO LONGER BE RECOVERED'

Land reclamation is threat to ecosystems, biodiversities



A LAND reclamation project of the DPWH and DENR, the controversial Dolomite beach along Manila Bay shore on Roxas Boulevard in Manila, is being cleaned regularly to lure local tourists. NOMEI REYES

BY JONATHAN L. MAYUGA

THE Department of Environment and Natural Resources (DENR) recently met with leaders of environmental groups and held an experts' forum on land reclamation as part of ongoing consultations and policy review to get inputs from various stakeholders on critical environmental issues.

In both forums, Environment Secretary Maria Antonia Yulo-Loyza underscoring that inputs from all sectors are valuable for the DENR to deliver its mandate.

She added that the dialogues enable the gaining of ground-based knowledge, and accelerate the collection of data and evidence from affected communities and stakeholders.

"We are reviewing everything—policies, processes and the immediate actions that need to be taken in order to address this environmental issue. Your inputs today are valuable for the DENR. I am here to listen. That is the promise I am giving you. That listening will result in what we are trying to actually achieve: changes in the process, changes in the policy, and possibly, changes in people," Yulo-Loyza said during a dialogue with critics of land reclamation last month.

Similarly, on May 8, she reiterated the need to listen to experts before deciding on the issue of land reclamation, taking into consideration the costs and benefits of such development projects.

Legal arsenal

ENVIRONMENTAL groups have been resisting the planned massive land reclamation projects in various parts of the country.

Sought for expert legal opinion on the regulatory powers of the DENR to stop the projects, Oceana Vice President Gloria Estenzo-Ramos said the Philippine Constitution states clearly the state policy that guarantees the right of every Filipino to a healthy and balanced ecology.

This provision alone, according to Estenzo-Ramos, an environmental lawyer, should be enough basis to say "no" to land reclamation and even cancel the environmental compliance certificates (ECCs) and area clearances that were issued by the DENR in the past.

"Other pertinent provisions declare the state duty to protect the country's marine wealth. There's a law on the preferential right of municipal fisherfolks which is defined in the Fisheries Code," Estenzo-Ramos told the *BusinessMirror* via Zoom on May 4.

She said several regulations pointed out "cumulative impact assessment" in its totality as a requirement in granting approval to land reclamation projects.

"Standards have been set. There is a principle in environmental law that once a standard is set, you can no longer regress. There are strong arguments for really mainstreaming the duty of protecting our natural life support systems, including our oceans, which clearly need to be prioritized," she added.

Role of local, national governments

ACCORDING to Estenzo-Ramos, local government officials are mandated by the

Fisheries Code to protect the municipal fishing grounds and say "no" to land reclamation.

She expressed dismay that some local officials are pushing for land reclamation in the name of development and profit, setting aside the more important longer-term benefit of having a healthy and productive coastal and marine ecosystem.

"If you consider the right of fisherfolks, *dapat wala nang* [there should be no more] land reclamation," Estenzo-Ramos argued.

She said there are other laws against land reclamation, including that on protecting mangroves.

Oceana believes that the national and local governments have an overwhelming number of reasons and legal arsenal that can be used to fight land reclamation "yet they choose to ignore [the laws] and keep their eyes closed."

Estenzo-Ramos said the national and local governments have a long list of models to make the coastal and marine areas sustainable development models that would generate green jobs that would ensure a sustainable income and create more livelihood opportunities in the process.

Tourism and sustainable fisheries alone, she said, would benefit coastal communities more than land reclamation that would not only destroy coastal and marine ecosystems, but also result in biodiversity loss, and worse, threaten the lives of thousands of people in the process.

Deliberate process of converting bodies of water

ACCORDING to the Philippine Reclamation Authority (PRA) land reclamation is a deliberate process of converting foreshore land, submerged areas or bodies of water into land by filling or other means using dredge fill and other suitable materials for specific purposes.

The PRA said anything can be built on a reclaimed land just like a natural land feature, provided that the reclamation is properly done.

They include power plants, water systems, commercial buildings, industrial establishments, airports, seaports and housing units, among others.

Urban, rural expansion

LAND reclamation is often proposed by local government units (LGUs) and its development partners from the private sector to expand territories for various purposes, including residential, commercial and industrial.

They address concerns caused by overpopulation and overcrowding by creating more space or area "where businesses and the people are no longer happy to live, work and do business."

Land reclamation also takes place "to create a large space as a viable and practical option rather than procuring right-of-way in congested urban areas to be used as a platform for vital government infrastructure projects, such as airports, ports, roads, bridges, water and power utilities or simply to decongest traffic in a particular area."

25 approved land reclamation projects

THERE are 52 land reclamation projects in



SUNSET on Manila Bay BERNARD TESTA

various stages in the country, 25 of which have already been approved and 27 are in the process of application.

Some of these projects are in Manila Bay, particularly the waters adjacent to Roxas Boulevard in Manila, Pasay and Parañaque cities. Two projects are in the side of Bacoor, Cavite.

The land reclamation projects sit on one of the country's most important water bodies that have spurred economic activities and continue to support the country's economic growth through the so-called blue-economy activities, including shipping, fisheries, and tourism.

Threatened by massive pollution, Manila Bay is currently the subject of a Supreme Court continuing mandamus directing 13 government agencies, led by the DENR, to rehabilitate and restore its water quality back to its pristine state.

Moratorium on new reclamation projects

IN her welcome remarks during the experts' forum, Yulo-Loyza underscored the need to consider all of the risks, including that posed by climate change.

"It's our role to ensure that our core facets to protect and preserve our ecosystems and enhance our environments must be for the benefit of all," she said.

The DENR chief noted that there is an existing moratorium on land reclamation, referring to Presidential Directive 2022-016, dated April 12, 2022.

She said the DENR intends to follow the order, which directs the agency and the PRA to put on hold the acceptance of new applications for reclamation projects.

Furthermore, she noted that Executive Order 74, signed on February 1, 2019, provides that no reclamation project shall be approved without area clearance, and DENR-issued ECC.

Manila Bay master plan

DR. Rex Victor Cruz, Professor Emeritus at the University of the Philippines Los Baños College of Forestry and Natural Resources, presented the Manila Bay Sustainable Development Master Plan (MBSMDMP) that was initiated in 2018 with the National Economic and Development Authority taking the lead.

The deputy team leader of the Consortium that developed the MBSMDMP, Cruz said the vision of the Manila Bay master plan is to ensure a sustainable and resilient Manila Bay, which include improving water quality, restoring ecosystems, reducing disaster risks and promoting inclusive growth in the region.

According to Cruz—an expert in forestry, watershed management, climate change and integrated land use, environment and natural resources planning—the four pillars of the MBSMDMP are the integrated coastal zoning management Planning Framework, which defines the principles of any development in Manila Bay; Priority Measures that focuses and strategically addresses priority concerns; Enabling Environment, which sets it toward ensuring priority measures that are timely and smoothly implemented; and Stakeholders Engagement, which aims to motivate commitment and optimize proactive

participation, including compliance of policies and programs.

Dump-and-fill

FERNANDO SIRINGAN, a professor at the University of the Philippines Marine Science Institute, said land reclamation, also called dump-and-fill, in various parts of the country, might adversely affect coral reefs and associated habitats, seagrass beds in the case of coastal or marine area, and non-coral reef-related areas like rivers, lakes inter-tidal and sub-marine tidal areas.

Siringan—who specializes in marine/coastal ecology, sedimentology and seismic stratigraphy—said many mangrove areas in Manila Bay no longer exist because of land reclamation.

He cited Rizal Park and Roxas Boulevard, which were results of land reclamation.

"What was buried underneath can no longer be recovered," he pointed out.

Mangrove forests, coral reefs, seagrass beds and tidal and muddy flats provide important ecosystem functions, Siringan explained.

He said many ecosystems were lost already, but what else may be lost, such as the subtropical environments, remain unknown due to lack of data and information.

He appealed to the DENR to study what is to be lost in land reclamation.

Land reclamation, he added, has adverse environmental impacts and associated risks.

They include an increase in turbidity and sedimentation in nearby areas; cascade effects of loss of habitats and changes in substrate types of adjacent areas, changes in surface and groundwater hydrology, changes in wave and tidal current patterns, and stability of reclaimed areas.

Threat to ecosystems, biodiversities

IN her talk, Executive Director Theresa Mundita S. Lim of the Asean Centre of Biodiversity, presented "Biodiversity-Inclusive Impact Assessment for Reclamation Projects."

She cautioned against altering natural landscapes through land reclamation.

Citing the case of Waikiki in Hawaii, a wetland that was converted into a beach resort through land reclamation, she said that with climate change, the beach is starting to erode.

Engineering solutions, she said, is delaying the worst-case scenario, wherein Waikiki will be claimed back by nature.

A former director of the DENR's Biodiversity Management Bureau, Lim presented a 2014 study commissioned by the DENR-BMB during her time, wherein the economic valuation of goods and services derived from Manila Bay was undertaken.

According to Lim, the study was triggered by the proposed land reclamation in Manila Bay encompassing 26,234 hectares affecting critical habitats, mudflats, mangroves, ponds and marine ecosystems.

"It is not just a beach area, not just a mangrove area; we also have ponds, mudflats [in Manila Bay]. So it's a variety of ecosystems [that will be adversely affected]," she said, adding that some P9.7 billion in revenues may be lost if ecosystem goods and services are not taken into account.



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EDITORIAL

Plastic in the air we breathe

There's something in the air that should worry the public and it's not just the pollution coming from motor vehicles and industrial facilities. Scientists call it SAMP or suspended atmospheric microplastic.

A Philippine study has recently established, for the first time, the presence of SAMP in the atmosphere making it more imperative for the government to tighten already existing measures to improve the air quality and reduce the amount of plastic waste in the environment. The study, "Breathing plastics in Metro Manila, Philippines: Presence of suspended atmospheric microplastics in ambient air," investigated the air quality of 16 cities and one municipality and found that all sampling areas had the presence of SAMPs with fiber as the most common microplastic, specifically polyester (74 percent). Among all the areas surveyed, Muntinlupa and Mandaluyong cities had the highest concentration of SAMP. The study estimated that an adult person in Metro Manila has the potential to inhale about one SAMP under normal minute ventilation if exposed for about 99.0 to 131.57 hours. It defines normal minute ventilation as the amount of air a person would take in a minute, which is roughly around five to eight liters per minute.

Microplastics are tiny plastic particles measuring less than five millimeters in diameter—imagine the size of a sesame seed or smaller. You may have used them through health and beauty products (microbeads), clothing and other textiles (microfiber), or spotted them on a beach as those tiny, colorful plastic bits that have been broken down from larger plastics. But because they are plastics, they take hundreds or even thousands of years to decompose. This is a serious problem for a country like the Philippines, which has been tagged as one of the world's biggest sources of plastic pollution, producing over one-third of the global oceanic plastic waste. Plastic wastes ranging from product sachets, food wrappers, grocery bags, etc., choke the rivers, waterways, and seas and may find their way back to humans through the food they eat. A 2020 study revealed that nearly half of rabbitfish samples from Dumaguete and neighboring areas had microplastics in their digestive systems increasing the likelihood that other local fish catch also contains the harmful plastics.

Now, they're also in the air we breathe.

Studies have already been made for years on the health effects of ingesting microplastics with research in the 1990s pointing to a probable connection between plastic fibers and lung cancer. Several studies have also shown that particle pollution has long been known to damage lung tissues which could lead to cancer, asthma attacks, and other health complications.

At this point, little is known about SAMP in the local setting and further studies must be made to see the full extent of its impact on the environment and what direction to take to minimize its harm. This is as much a problem of manufacturing, waste management, and poverty, as it is of pollution. Three years ago, the Department of Environment and Natural Resources (DENR) said air quality monitoring was a top priority to ensure that the environment and public health are protected from the dangers of air pollution. In its 2021 report, however, there was no mention of SAMP with its air monitoring more focused on pollutants from vehicles and industries. The DENR must now look into SAMP as a critical element in its air quality monitoring.

Knowing the air quality as well as the volume of specific pollutants present in the atmosphere of any given area could help the DENR in its surveillance and monitoring of erring industries, businesses, and local government units (LGUs). This is crucial information in the implementation of Republic Act No. 11898 or the Extended Producer Responsibility Act of 2022, which, among others, places the burden of collection, sorting, and recycling on plastic packaging producers with assets of over P100 million. Before RA 11898, the responsibility of waste management has fallen largely on LGUs but many of them lack the capacity to do so as seen in how the country's problem of garbage continues to mount despite clean-up efforts. This new law could be a breakthrough in finally and significantly reducing plastic waste through its "polluter pays" principle imposing stiff fines on big businesses that do not clean the plastic waste that they produce. But its success will once more depend on implementation—always a weak spot in Philippine governance.

Despite the name, microplastics are a major pollutant and, therefore, a major problem. If not studied and addressed urgently, they will pose a significant threat to the health of both the environment and the public. The government must act now before Filipinos pay the high price for toxic air.



Microplastics 'up in the air' – scientists

TWO scientists from Mindanao State University-Iligan Institute of Technology already have devised a study to suggest that microplastics are up in the air, particularly in Metro Manila.

"There are studies that reveal there are already microplastics in the air," environmentalist Rodolfo "JayR" Romarate 2nd said in a recorded video interview with *The Manila Times*.

"We have 10 studies conducted worldwide, three of which were conducted in China and Indonesia, and this would be the first here in the country."

Romarate and his fellow scientist, Dr. Hernando Bacosa, did a study that confirmed the presence of microplastics in Metro Manila.

"The Philippines is the third biggest polluter of plastics into the ocean, after China and Indonesia, and when it comes to plastics coming from the rivers or sources that go to our oceans, the Philippines is the biggest source of plastics from river sources," Bacosa said.

"In our previous studies, we have found that microplastics are found in our sandy beaches ... microplastics are in riverine and estuarine waters, as well as in seagrass beds."

The scientists conducted this study in December 2021, at the height of the Covid-19 pandemic.

Using a respirable dust sampler, they brought filters to their laboratory for a microscopic examination, and found different kinds of microplastics in different cities across Metro Manila.

According to Romarate, this study was conducted outdoors, strategically located next to the Department of Environment and Natural Resources (DENR) stationary monitoring resources.

"We found out that there are different types of microplastics in different shapes and colors in different cities and one municipality in Metro Manila," Romarate said.

"Basically, we conducted air sampling for 12 hours with a total volume of air suction of about 864 cubic meters per city and we conducted it in 17 LGUs (local government units) in Metro Manila."

Romarate added that when they tested their samples, they analyzed 19 types of microplastics in four broad shapes and collected 155 microplastics in the ambient air in Metro Manila, which includes polystyrene and polyester

and polyvinyl chloride.

"We have polypropylene, PET (polyethylene terephthalate), polyamides ... these are the different types of plastic polymers," Bacosa said.

He explained that microplastics are very new pollutants.

"Microplastics are relatively new [pollutants], and we are still trying to understand their effects on human health. But recent studies show that when microplastics enter the human body, they can cause oxidative stress in our organs and cells," Bacosa explained.

According to Bacosa, there are two kinds of microplastics, primary and secondary.

The Mindanao State University scientist said wearing a mask can help contain the entry of microplastic into the body.

"These are particles, so putting on a mask can definitely help. But we found that polypropene could be a potential source of microplastic, as well," he said.

"But I think it's better because if you inhale the microplastics from your own mask, it's better than inhaling the microplastics coming from somewhere, carrying all these bacteria, viruses, and possible other organic contaminants."

"Yes, masks can protect you from inhaling the microplastics, but, at the same time, masks can also be a source of this plastic, because masks themselves are polymer," he added.

"The DoST (Department of Science and Technology) is making a mask made out of indigenous materials, so they are not [made from] plastic polymer."

Microplastics were first known as widespread contaminants in 2021.

"Microplastics are now recognized as widespread contaminants in the atmosphere, where, due to their small size and low density, they can be transported by winds around the Earth," said a Greenpeace study in 2021.

According to the United States National Ocean Service, microplastics are small plastic pieces that are harmful to ocean and aquatic life.

"Microplastics come from a variety of sources, including from larger plastic debris that degrades into smaller and smaller pieces. In addition, microbeads, a type of microplastic, are very tiny pieces of manufactured polyethylene plastic that are added as exfoliants to health and beauty products, such as some cleansers and toothpastes," the study added.

ARIC JOHN SY CUA



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The Manila Times

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Unctad worried life might imitate art in the world's oceans

LAST week, the UN Conference on Trade and Development (Unctad) released its annual report, "Trade and Environment Review 2023," and devoted the entire thing to a focus on the world's oceans. This certainly seems appropriate, as nearly half the world's population — more than 3 billion people — rely on the ocean for food and livelihood, and the total value of the ocean economy is estimated to be between \$3 trillion and \$6 trillion annually, depending on what source you consult.

Unfortunately, Unctad's assessment is not very encouraging; reading the report, in fact, reminded me of a movie that terrified me as a youngster, the 1973 classic "Soylent Green," star-



ROUGH TRADE BEN KRITZ

ring Charlton Heston and Edward G. Robinson, which produced the memorable line, "Soylent Green is people!" The reason Soylent Green, the only available sustenance for the bursting-at-the-seams, impoverished human population in the film's dystopian future, was "people" was that runaway climate change and pollution had killed the world's oceans, forcing humanity to turn to recycling actual humans into food.

In Unctad's view, and the report

provides strong evidence to support it, unless comprehensive and rapid action is taken to halt our destruction of the planet's maritime environment, life will imitate art and provide us with exactly the kind of future portrayed in that half-century old cinema masterpiece. Accelerating global warming, unchecked pollution and widespread overexploitation of marine resources are killing the ecosystem that makes up 70 percent of the Earth's surface, and Unctad is urgently calling for a global "Blue Deal," something similar to the sweeping scope of the 2015 Paris climate agreement, to bring the management of the oceans under control.

One of the appealing things about

the Unctad report is that because of the focus of the organization — after all, the word "trade" is right there in its name — its approach to recommendations to repair and conserve the marine environment is to focus on ways that can be done while presenting new economic opportunities. Two of the areas in which Unctad feels a great deal of economic growth could be sustainably achieved are in seaweed cultivation and in developing a bigger industry for plastic substitutes. Some of the raw materials for plastic substitutes (such as seaweed) can be harvested from the ocean, while others simply help to cut down on the demand for plastic

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Unctad worried life might imitate art in the world's oceans

and its subsequent pollution of the seas. Either way, the effort would create new businesses and new jobs.

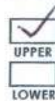
Other recommendations made in the report have a similar balance between purely conservation efforts intended to pay dividends indirectly by eliminating or reducing the costs of environmentally unsustainable alternatives, and opportunities for economic exploitation that have little to no adverse impact. Examples of the former include ratification of the World Trade Organization's (WTO) Agreement on Fisheries Subsidies, which was adopted in June 2022; ratification of the Marine Biodiversity Beyond National Jurisdiction agreement, better known as the "High Seas Biodiversity Treaty," which was adopted in March; restoration and conservation of mangrove forests; and decarbonization of the world's shipping fleet, which to be fair to that industry, is already picking up steam. Examples of more commercial uses of the oceans that would aid in sustainability or at least do no further harm include the expansion of sustainable ocean food production such as the aforementioned seaweed and managed fisheries; and expansion of offshore wind power. Unctad estimates that investing \$2.8 trillion more or less immediately (that is, between now and 2030) in mangrove management, shipping decarbonization, food production and offshore wind would produce net benefits of about \$15.5 trillion by 2050. That is an attractive rate of return, although exactly how the investment should be distributed to actually make that dividend a reality is not explained in any detail.

As one of the world's leading maritime nations, the Philippines ought to take Unctad's suggestions to heart, particularly with the ratification of the two important treaties. The WTO agreement is particularly important, given the Philippines' struggles against

government-supported illegal commercial fishing, mostly from China, which engages in fishing piracy on a global scale, but occasionally from other neighbors as well, most recently Vietnam, although these are fortunately infrequent incidents. The agreement on fisheries subsidies prohibits WTO members from subsidizing illegal, unregulated and unreported fishing; bans subsidies and other forms of support for any fishing in areas (comprising about 34 percent of the oceans now) considered to be overfished and depleted; and ends subsidies for any fishing on the high seas, outside the jurisdictions of national waters or exclusive economic zones. If the treaty comes into force, it is estimated that about \$20 billion of the \$35 billion in annual subsidies to the global fishing industry would be immediately ended, with the remainder accounted for by permissible support for countries' own local fishing industries.

China will probably decline to ratify the treaty, though it has signed it and made a big show of its concern for sustainability in doing so. Even if it does ratify the treaty, it has ramped up activity in what is seen as several loopholes, such as reangling subsidies to cover "transportation of catches to Chinese ports" rather than the fishing activity itself, reflagging many of its fishing vessels under countries (particularly African countries such as Liberia) with looser regulations and devolving central government responsibility for fishing industry support to local governments, such as the big fishing ports of Zhangzhou, Xiamen, Fuzhou and Shenzhen. Ratification of the treaty by everyone else, however — it needs a two-thirds vote of WTO's 164 members for it to come into force — is still considered worthwhile, because it will further isolate and expose China for its illegal and unsustainable practices.

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Oil spill damage to tourism at P886M

THE oil spill caused by the sinking of MT Princess Empress off the waters of Oriental Mindoro in February will cost Philippine tourism P886 million in lost revenue within a six-month period.

The latest situation report of the national task force on the incident said 55 tourism enterprises in three regions have been adversely affected by the 800,000 liters of oil leaking from the sunken vessel.

It added that in Calabarzon (Cavite, Laguna, Batangas Rizal and Quezon), Mimaropa (Mindoro, Marinduque, Romblon and Palawan), and Region 6 (Western Visayas), 65 tourism attractions and 34 marine protected areas were contaminated by the oil spill.

The specific areas mentioned in the report were the Municipality of Pola in Oriental Mindoro, including KingFisher Reserve, St. John the Baptist Marine Sanctuary, Song of the Sea Fish Sanctuary, Stella Mariz Fish Sanctuary, Bacawan Fish Sanctuary, St. Peter the Rock Fish Sanctuary and San Isidro Labrador Fish Sanctuary; Bihiya Beach; 3 Cottage; Long Beach K. I; Aguada Beach Resort; Oloroso Beach Resort; Munting Buhangin Tagumpay Beach Resort; and Buhayna Tubig White Beach Resort.

The estimated total length of coastlines affected by the oil spill is 74.71 kilometers while the total number of affected tourism workers is 1,438.

Meanwhile, the waters of Clusters 4 (municipalities of Bongabong, Roxas, Mansalay and Bulalacao) and 5 (municipalities of Puerto Galera, Baco and San

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Oil spill tourism damage

Teodoro) in Oriental Mindoro are now within acceptable standards for fishing activities based on tests conducted by the Bureau of Fisheries and Aquatic Resources on April 17 and 24.

The Department of Environment and Natural Resources said that while all monitored shorelines affected by the oil spill have generally improved, the Philippine Coast Guard will

continue its offshore containment operations.

It added that a team of subject matter experts from the United States Coast Guard, National Oceanic and Atmospheric Administration and the US Navy are sharing the Philippines satellite imagery for better monitoring and forecasting of the oil spill's trajectory.

FRANCO JOSE C. BAROÑA



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MSU-IIT's CocoFlexSorb aids in oil spill cleanups

THE Philippines may soon have the technology remove oil spills, such as that off Oriental Mindoro in February, with the "CocoFlexSorb" that was developed at Mindanao State University-Iligan Institute of Technology (MSU-IIT).

The bio-based polyurethane foam was developed through the Department of Science and Technology (DOST) Balik Scientist program. It was presented to the public on May 11, said a news release from the DOST-Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD).

Unlike those available in the market, CocoFlexSorb has superior oil absorption capacity and can absorb different types of oil from light, vegetable, kerosene, engine and bunker oil, DOST-PCIEERD said.

CocoFlexSorb may also be reused 40 times and is not harmful to the environment.

The technology was used during field tests in Occidental Mindoro with the Philippine Coast Guard in May. It showed promising results, indicating that this technology could be a solution to an oil spill problem.

However, further testing and development are necessary before the technology can be adopted and commercialized, DOST-PCIEERD said.

"The development of eco-friendly and cost-effective polymers derived from natural sources shows promise in mitigating the

impact of oil spills," said Dr. Arnold A. Lubguban, DOST Balik Scientist and Project Leader of MSU-IIT's Center for Sustainable Polymer.

"With this achievement, we hope to inspire researchers to continue investing in innovative technologies and collaborations to work towards a cleaner and healthier environment," Lubguban added.

Science Secretary Renato U. Solidum Jr. said, "DOST is very proud of the accomplishments of MSU-IIT with its collaborative efforts with industry."

"The DOST is steadfast in driving the industry through continuous R&D to enable technological advancement. Innovations like the CocoFlexSorb provides options for a better life to Filipinos like clean water and a healthy environment," Solidum added.

The technology was developed from the DOST-Niche Centers in the Regions for R&D (Nicer) program Center for Sustainable Polymers at the MMSU-IIT.

The innovation center is inaugurated on May 10, showcasing three product lines, DOST-PCIEERD said.

First, Rigid Insulation Foam Panels designed for building and construction industry, targeting



SCIENCE Secretary Renato U. Solidum Jr. (left) holds an oil soaked CocoFlexSorb, a foam technology developed by the MSU-IIT that can absorb different types of oil, with reuse capacity of 40 times. DOST Undersecretary Leah J. Buendia (second from left) holds a clean pack of the technology. DOST-PCIEERD PHOTO

the segment who prioritize sustainable and eco-friendly materials.

It is the first of its kind to use polyol derived entirely from coconut oil, without any petroleum-based substitutes.

Second, Viscoelastic Foams, a bio-based alternative to commercially available "memory" foams. It has higher density than conventional foams and possesses the signature feature of memory foams—slow recovery.

Third, Superoleophilic Foams that has shown potential to absorb numerous types of oil. The material has been proven to have high affinity and absorption capacity in bunker oil, fresh and used engine oil, kerosene and vegetable oils.

It is hydrophobic in both fresh and salt water and has superior reusability as its oil sorption capacity does not diminish with use.

DOST has been funding universities like MSU-IIT through

the Nicer Program to capacitate higher education institutions in the regions to make significant improvement in regional research by integrating its development need with the existing R&D research capabilities and resources.

It has been providing institutional grant for R&D capacity building to improve their S&T infrastructure.

Science Undersecretary for R&D Leah J. Buendia said: "We need to develop the country's innovation and entrepreneurial ecosystem through linkages between academe, industry, and government. This translates to upgrades in products and services in our local companies."

Buendia also pointed out: "The breakthroughs in MSU-IIT is the perfect example of harmonizing our resources combined with the support given to our Filipino scientists."



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THE CORALS OF CURRIMAO

By SIGRID SALUCOP & CRISTINA MANALAD

IN mid-April of 2023, Dr. Joven Cuanang and the representative of Ilocos Norte's Second Congressional District Angelo Marcos Barba embarked on a monumental project—to lead a sculpture submersion that would encourage marine biosystem regeneration. Their target date was May 1st and the underwater project's location, they agreed, was going to be Currimao.



CONGRESSMAN Angelo Marcos Barba is seen explaining to his cousin, Laoag City Mayor Michael Marcos Keen, why Poblacion Bay was chosen as the submersion site. THE OFFICE OF CONGRESSMAN ANGELO MARCOS BARBA

Devoid of nightlife and vibrant city lights, Currimao is often described by locals as a sleepy town.

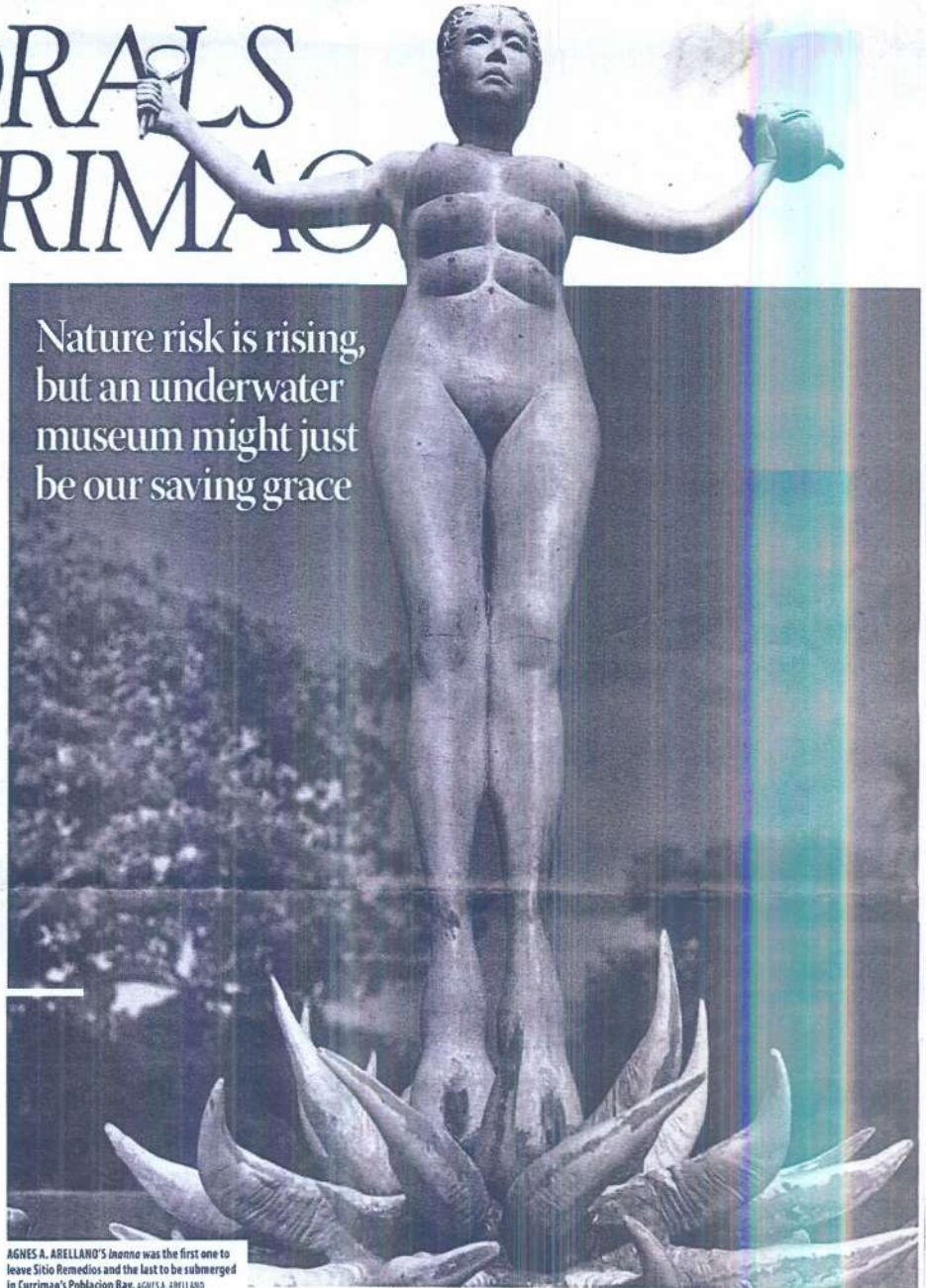
One of Ilocos Norte's hidden gems, this part of the Ilocano coast has a rather tranquil vibe. Visitors looking at the town from the newly constructed bay walk would see a majestic combination of coral rocks, the sea, pockets of greenery, and a few small hotels that dot its shoreline.

By dusk, Currimao is more peaceful than usual and after see-

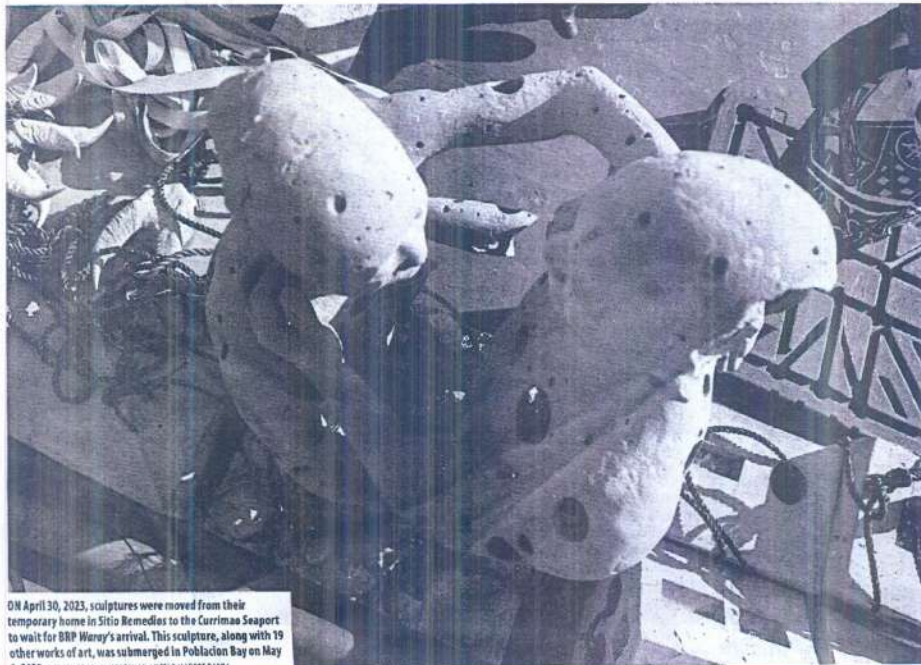
ing the sunset, local photographers would go out to capture the bay and the stars. While the Ilocano sun is scorching during summertime, the weather makes up for it by offering clear skies at night.

During the colder months, when Currimao gets a proper licking from the cold front, the sea is not as peaceful. But this is just a seasonal consideration because Currimao's waters used to contend with something worse. Dynamite fishing was rampant for a

Nature risk is rising, but an underwater museum might just be our saving grace



AGNES A. ARELLANO'S *Inanna* was the first one to leave Sitio Remedios and the last to be submerged in Currimao's Poblacion Bay. AGNES A. ARELLANO



ON April 30, 2023, sculptures were moved from their temporary home in Sitio Remedios to the Currimao Seaport to wait for BRP Waryay's arrival. This sculpture, along with 19 other works of art, was submerged in Poblacion Bay on May 1, 2023. THE OFFICE OF CONGRESSMAN ANGELO MARCOS BARBA

THE BRP Waryay and its crew assisted the Office of Congressman Angelo Marcos Barba in his quest to save marine life. SIP HARRY LEM



time and in 2010, the Philippine Coast Guard intensified measures against the illegal activity.

Despite their efforts, many parts of Currimao's waters took several hits. Coral reefs were destroyed and the catch dropped each year because of the havoc that the explosives caused. The Philippine Statistics Authority reported in 2018 that fish production in Ilocos Norte went down from 1,932.90 metric tons in 2017 to 1,653.98 metric tons the next year. It can be safely assumed that this decrease was due to the destruction of Currimao's marine sanctuaries as the town is among the primary fishing zones in the province.

Locals already know this without looking at the numbers. Barba recalled in one meeting that in his youth, he "was not deprived of pristine waters to swim in and fresh fish to eat." Cuanang, a native of Currimao's neighbor Batac, shares the same experience. He built Sitio Remedios along Currimao's coast several years ago and the small resort functions as his summer house. After many homecomings, the neurologist finally put his foot down and decided to do something for the fishing village where Sitio stands. His idea was to have several sculptures submerged underwater so that they can become

CONTINUED ON A2



TITLE:

THE CORALS OF CURRIMAO

CONTINUED FROM A1

sanctuaries for the coastal town's marine life.

A planetary crisis

BARBA and Cuanang know that nature plays a critical role in people's health, livelihood and food security. And they are also armed with the knowledge that the death of ecosystems can lead to catastrophe—SARS-Cov-2 being their frequent example.

What many referred to as *annus horribilis* made the world understand that humanity's treatment of nature can lead to cataclysmic events and that it can affect the world's population at a very personal level. In 2020, Wuhan became a household name and Covid-19 effectively put a stop to trade. Based on a 2023 report from the World Health Organization, the disease killed 6,915,286 people worldwide.

There were many discussions at the height of the pandemic but it was rare for television channels to address biodiversity and how it is a critical component to the situation the world was in at the time. This is despite the fact that 60 percent of emerging infectious diseases originate from wildlife areas.

Although the effects of wiping out rainforests to put up industries

have been studied and authorities are now more alert to the possibility of yet another global health emergency, only a few studies focus on marine mammals and their potential to decimate a portion of the world's population as well as the probability of land animals transferring diseases to them.

With coral reefs dying and with more plans of encroaching on parts of the world's coasts, the results are likely going to be devastating.

Ocean acidification caused by carbon emissions is killing coral reefs. According to a report from the UN, a whopping 90 percent of what is left of them will be wiped out by 2050. In the Philippines, their death will come faster due to dynamite fishing. Soon, there won't be a lot of fish in the sea and the saying associated with it will lose its touch.

Alarm bells

IN the year 2000, a little over 10,000 endangered Caspian seals perished within a four-month period. Scientists from the Center for African Resources: Animals, Communities and Land Use later found that the deaths were caused by the canine distemper virus. Infectious diseases are known to have brought mass mortality among several species but those of aquatic



BRP Wazay was escorted by the Philippine Coast Guard. CHRIS FERNANDEZ

animals are rarely studied. The story about the Caspian seals should have already set off alarm bells. Unfortunately, it did not.

Meanwhile, miles away, Angelo Marcos Barba was serving his third term as mayor of his hometown of San Nicolas. Years before the year 2000, the threat of El



TOG 1 showcased PAF's capabilities through a search-and-rescue demo on May 1, 2023, while onlookers silently prayed that there won't be any need for rescuers during the submersion ops. THE OFFICE OF CONGRESSMAN ANGELO MARCOS BARBA

Niño still lingered in the province of Ilocos Norte. This is when Barba decided to build water-impounding facilities. The local government was able to build five.

In an interview with the Philippine News Agency 18 years later, right after a massive clean-and-green campaign, Barba said, "We must protect and care for Mother Earth."

In 2019, while talking about art and nature, Cuanang said, "There's a science to it already. It has already been proven. Also, it provides happy hormones in your body, and pleasure comes about. And that's well-being, and that's what we want to share in the end."

Years passed and the two Ilocanos collaborated on a number of projects, but they never got to talk about their shared passion for nature and healthy ecosystems. Barba kept working silently and after only a few years in Congress, he already filed several House Bills on wildlife conservation, land use sustainability, and farmland preservation for food security. Just this year, he proposed the rehabilitation of three of the bigger water-impounding facilities that he put up when he was still San Nicolas's mayor.

And then the sculptures came to Sitio, and he and Cuanang started working on what would be a moment in history that will likely define their legacies.

A massive undertaking

THE core team was led by Bam Cabal Sevilla, a seasoned organizer and problem solver; Pinto's Kathrine Dacanay Lagustan, a supplies management specialist; Sigrid Salucop, a policy analyst whose body of work concentrates on environmental policies; and Ralph Atienza McKenzie, a special operations expert. Barba is knowledgeable about the components of the operation and his expertise came in handy when it was time to put

everything together.

The marine ecosystem regeneration project involved a lot of planning since the sculptures weighed between 400 kilograms and 2.5 tons each. While plans for the submersion operations were being prepared, the congressman called marine biologists from the Mariano Marcos State University to check Poblacion Bay's substrates. This was to ensure that it was stable enough to anchor the sculptures in place. The Bureau of Fisheries and Aquatic Resources and the Department of Environment and Natural Resources were also kept in the loop.

On April 30, BRP Wazay, one of the country's biggest landing craft, docked on Currimao. The naval vessel and its crew were greeted by the congressman, Pintó Art Museum's curator, the Philippine Coast Guard, the Philippine Air Force's TOG 1, and a boom truck carrying all the sculptures. By 0300H that day, the sculptures, along with the boom truck, boarded the landing craft.

"The submersion operations require military precision. There is very little room for error," explained Ralph Atienza McKenzie.

"In some photos, May 1st in Currimao looked like a regular day at the beach but every single detail needed clearance. The submersion site needed clearance from the LGU, the DENR and the BFAR, and all nonmilitary personnel who boarded BRP Wazay needed clearance as well. Congressman Barba also made sure not to include civilian divers in the operation to guarantee everyone's safety," he added.

In a short interview, Erik Franco said in the vernacular that the operation was "a difficult undertaking." While the submersion was strictly a military operation, Franco's company was handpicked to handle the submersion itself.

BRP Wazay sailed to Poblacion Bay at 0600H on May 1. It was es-

corted by three rescue boats from the Philippine Coast Guard. The Coast Guard stationed in Currimao also ferried several tactical divers from the Philippine Navy, master divers from their own ranks, and divers from the Philippine Army.

The 4th Marine Brigade of the Philippine Marines, on the other hand, stationed themselves along the bay walk. Reports say that the Marines were there to protect military assets. The Philippine Air Force's TOG 1 was also on standby.

By evening, Commander Concepcion of the BRP Wazay said that they are already on their way to their next mission. "From the officers and crew of BRP Wazay LC288, we are thankful to Congressman Barba for giving us the opportunity to help the province of Ilocos Norte, specifically Currimao. Your Philippine Navy and the whole Armed Forces are always here in service of the Filipino people. We will always be here for the country's national development goals," Commander Concepcion wrote.

For the younger generation

"TO the younger generation in the audience, please know that this project is yours, too. Very soon you will be in charge and I trust that you will make us proud," Barba expressed during the launch. Cuanang, on the other hand, said that this is his way of "giving back to the province" that nurtured him.

While the project will only help Currimao's coast, Barba and Cuanang are hoping that it would inspire others to do the same.

Based on several studies done on artificial reefs in Turkey in 2009, ecosystem improvement can be seen within a span of 14 years.

"Extensive studies concluded that there was an increase in aquatic biodiversity, fish eggs, larvae and fish diversity, as well as an increase in size in a number of species," *Daily Sabah* noted in an April 2023 report.



TITLE: *Global diversity framework*

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■ ALGO FROM A5

Global Biodiversity Framework

environment. Without proper interventions, impacts such as coral bleaching, loss of wetlands, displacement of native trees and plants and disruptions in flight patterns of migratory birds would become more common.

Filipinos must understand the importance of nature for development and shift away from the notion that the environment should be sacrificed to achieve progress. Biodiversity and ecosystem loss would lead to not only the extinction of more wildlife, but also adverse impacts on the livelihoods of about 15 percent of Filipino laborers and 5 percent of the country's gross domestic product.

Our biodiversity management, especially on protected areas, also needs to be expanded. As of 2022, only 15 percent of our lands and less than 2 percent percent of our waters are covered by protected areas. Furthermore, there are 137 places identified by experts as key biodiversity areas yet are not part of the country's network of protected areas.

The GBF provides numerous opportunities for the Philippines to enhance its strategies for biodiversity

management. It can access available funding opportunities to fill in the gap of P14 billion every year for addressing relevant domestic issues. Accessing this finance, along with technical resources and other modes of support, may also enable it to declare more protected areas and reach the "30x30" target.

The framework could also strengthen accountability and transparency in both public and private-led activities in the Philippines. As part of its terms, companies would be required to publicly disclose the impacts of their operations on biodiversity and ecosystems. It is up to the Philippine government to enact the necessary reforms in existing policies and laws to realize this target.

Furthermore, the GBF strongly recognizes the importance of Indigenous peoples (IPs) in biodiversity and ecosystem conservation. Their rights and well-being must always be accounted for, and their insights must be included in relevant decision-making processes.

In the Philippine context, policymakers should

reconcile potential overlaps in existing legislation to ensure the proper management of existing and potential protected areas without compromising the capacity of IPs to meet their needs.

The GBF marks another important milestone in our collective actions to better take care of our world.

Even as a non-legally binding agreement, it needs to learn from the pitfalls of the implementation of the Paris Agreement, which so far has been underwhelming.

It now rests on national governments, businesses, civil society groups and communities to work together to translate these words into concrete solutions, from agreement to action.

John Leo Algo is the deputy executive director for Programs and Campaigns of Living Laudato Si' Philippines and a member of Aksyon Klima Pilipinas and the Youth Advisory Group for Environmental and Climate Justice under the UNDP in Asia and the Pacific. He has been a climate and environment journalist since 2016.



TITLE:

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EYES WIDE OPEN

IRIS GONZALES

Mother, Mother Nature and the Last Eden

There is nothing more comforting than a mother's care and warm embrace. I know it, you know it. A mother gives all that she can so that her children may live a life better than hers.

And so today on Mother's Day, let me put the spotlight on the mother of all beings, she that we must all protect, Mother Nature. Everything we need to survive comes from her and through her – water, sun, air.

Yet, we often forget to care for her as she cares for us. How carelessly we have ravaged our bountiful natural resources. Our seas are teeming with garbage – from heaps of plastic waste to spilled oil; our mountains have gone bald because of mining while farm lands have been turned into subdivisions.

Defending the Last Eden

How do we change this? We can start by supporting the efforts of those fighting tooth and nail to protect our environment.

Just early this month, I drove up to the mountains of Baras, Rizal to join a diplomatic reception hosted by Masungi Georeserve Foundation titled "Defending the Last Eden."

From the gate, driving deeper inside Masungi, I saw a blanket of lush green forest and majestic rock formations as far as the eye can see.

The event, held one early Friday morning, gathered members of the diplomatic corps to raise awareness on the importance of this last green corridor, said Ann Dumaliang, managing trustee of Masungi Georeserve.

The reception was held at the charming Silayan, a repurposed hilltop al fresco hut that gives visitors a 360-degree panorama overlooking the Sierra Madre Mountain Range and the Metro Manila skyline.

It was the perfect venue to talk about the urgent need to protect the environment. Silayan's design elements are hand-crafted with love and passion by local craftsmen using sustainable materials, including reclaimed timber and cogon grass.

Mother Nature rolled out her red carpet that morning. There was a euphony of birds chirping, a fresh breeze and the warmth of the morning sun.

In the crowd were Her Excellency Ambassador Laure Beaufls of the United Kingdom; H.E. Ambassador Christian Lyster of Norway; H.E. Ambassador William Carlos of Ireland and H.E. Ambassador Titanilla Toth of Hungary.

The event also welcomed Jumpei Tachikawa, First Secretary of the Japan embassy and Natalia Rankine-Galloway, Political Officer of the US embassy.

It was a sight to behold – a morning of deep discussions on the problems surrounding Masungi with members of the diplomatic corps intently listening to the numerous environmental issues facing the country.



The speakers included Atty. Galahad Benito, an expert on environmental laws, human rights lawyer Sol Taule and political scientist Dr. Antonio Contreras.

They talked about threats against environmental defenders, conflicts in our laws and the lack of laws on preserving the environment in the Philippines, among other pressing issues.

"You're not alone...The international community is focused on human rights issues and that of environmental defenders and the overlap among climate change, environment change and human rights. And we are also very aware of our role in terms of protecting, raising awareness and convening," said British Ambassador Beaufls.

The esteemed diplomats, usually dressed to the nines, donned casual clothes, rubber shoes and sunglasses as they joined a hike in one of Masungi's discovery trails after the talk.

Being there at Masungi reminded me that there is so much we need to do to preserve our resources as these affect our daily lives.

Water, power supply

We are already feeling the many problems caused by the lack of care for our environment, from water to power shortages.

This is the reason we need to protect our natural resources, including the Marikina River and other sources of water. As consumers, we also need to be conscious of our consumption of water and electricity.

It's already the dry season and the transition to El Niño in the latter part of the year are serious tests for water concessionaires like Razon-led Manila Water.

It's good that the east zone concessionaire announced that it would continue to provide 24/7 water supply, especially during the summer season.

Manila Water maintained that its business continuity plan remains in place to continue water services for its 7.4 million customers in the East Zone.

These include the maximization of the 100 million-liter-per-day (MLD) capacity of the Cardona Water Treatment Plant, which draws water from the central portion of Laguna Lake; the operation of deep wells that can provide an additional 115 MLD and the operation of the 20-MLD Marikina Portable Water Treatment Plant, which will treat water from the Marikina River.

It also aims to harness water from the eastern section of Laguna Lake.

Sustaining the water cycle

It's also a welcome development that Manila Water is focused on sustainability pillars to ensure the viability of the environment which sustains the water cycle.

At the same time, the company still urges the public to do its share in conserving this precious resource.

Along with conserving and recycling water, we should also harness renewable sources of power to lessen the impact on the environment.

Mother Nature

Indeed, there is so much that needs to be done to protect Mother Nature, including defending the last remaining pockets of paradise such as the Masungi Georeserve.

Yet, we often forget to do that. Like our mothers, Mother Nature gives all that she can. Until she can't anymore.

As we celebrate our beloved mothers today, may we also remember our duties as children of the Earth.

* * *

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TITLE:

Global Biodiversity Framework: From agreement to action

BY JOHN LEO ALGO

DID you know that May 22 is the International Day for Biological Diversity?

This day should remind us of the importance of biodiversity in our world. It should never be overlooked again, not after the Covid-19 pandemic reminded us of how much healing nature truly needs. Not after the disasters and crises of the past decade demonstrated the importance of its protection and conservation.

Biodiversity loss is part of the "triple planetary crises," a term under the UN system referring to three intersecting environmental issues, which also includes the climate crisis and pollution. The scope and severity of their impacts require the formulation and implementation of global strategies to address them.

For the climate crisis, this comes in the form of the landmark treaty Paris Agreement. Since its adoption in 2015, multilateral conferences have used it as a template for developing other environmental frameworks, including the ongoing development of the treaty to end plastic pollution by 2040.

What must not be overlooked is the Kunming-Montreal Global Biodiversity Framework (GBF), which was adopted last December. Considered as the "Paris Agreement for Nature," it aims to address all threats to biodiversity and ecosystems and reverse their current decline.

Key features

The GBF consists of four goals to be achieved by 2050. These are reducing ten-fold the rate of extinction of all species by 2050, sustainable biodiversity management, fair sharing of benefits from using genetic resources and making the needed resources to implement the framework accessible to all countries.

The most significant of its 23 targets is the commitment to protect 30 percent

of the world's terrestrial and marine ecosystems by 2030. This is based on the findings of experts that 30 to 50 percent of our lands and oceans must be conserved to maintain a sustainable environment to support life on Earth. In comparison, only 17 percent of terrestrial and 10 percent of marine areas are currently under protection.

Participating countries are required to submit a National Biodiversity Strategies and Action Plan that shows how they plan to achieve the so-called "30 x 30," along with the rest of the goals and targets under the framework. Among these are avoiding the loss of areas of high biodiversity importance, reducing global food waste by half and phasing out harmful subsidies by at least \$500 billion every year.

To implement the GBF, countries commit to mobilize at least \$200 billion per year from both public and private sources. Developed nations must also raise this funding they provide to developing countries to at least \$30 billion every year by 2030, aligned with the principle of "common but differentiated responsibilities and respective capabilities" that the latter defended at the December conference.

Is it relevant to Filipinos?

The Philippines is one of the 17 mega-diverse countries in the world, home to countless flora and fauna that can only be found within its 7,600-plus islands and surrounding waters.

Its biodiversity and ecosystems, however, face multiple natural and human-induced threats, such as plastic pollution, deforestation and species overexploitation.

Another such threat is the climate crisis, to which the nation is one of the most vulnerable. This does not just apply to human settlements and infrastructure; the high vulnerabilities also apply to the natural

➤ **AlgoA6**



STRATEGIC
COMMUNICATION
AND
INITIATIVES
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USE REVENUE SHARE

INVEST IN POTABLE WATER SYSTEMS, LOCAL GOV'TS TOLD

By Ronnel Domingo
@RonWDomingoINQ

Local governments need to take initiative in investing in potable water systems using their share from the national revenues they receive per the Mandanas-Garcia ruling, according to Finance Secretary Benjamin Diokno.

Diokno urged the local governments to do so even as the government was taking the needed measures to solve long-standing issues on water security in the country.

Meanwhile, the creation of an "apex agency" for matters related to water supply and ser-

vices is still pending, even if the National Economic and Development Authority (Neda) has been pushing for such for decades.

The creation of a Department of Water Resources as well as a Water Regulatory Commission was identified as an urgent matter in the aftermath of the El Niño and a supply crisis that hit parts of Metro Manila during the Duterte administration.

"The administration of President Marcos recognizes that we cannot have a prosperous, inclusive and resilient society if our citizens are not afforded the basic building blocks

of a healthy life," Diokno said in a statement.

The finance chief cited the weak and fragmented institutional setup, competing and changing priorities of water infrastructure, lack of science-based decision support systems and the unequal delivery of basic water and sanitation services due to inadequate funding and low technical capacities to be the causes of water insecurity in the country.

"If the sector remains business-as-usual, the water crisis is projected to worsen by 2040," he said.

Diokno said that, in order to

head off such a crisis, the government must upgrade and expand water infrastructure projects in the country.

He said this was already underway as the Neda Board recently approved 194 Infrastructure Flagship Projects that include irrigation, water supply and flood management.

He added that the Philippine Water Supply and Sanitation Master Plan launched in September 2021 would be used as a guide to achieve universal access to safe, sufficient, affordable and sustainable water supply, hygiene and sanitation by 2030. INQ



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PERSPECTIVE

Race to zero in Asia and Pacific: Our hopes in the climate fight

BY ARMIDA SALSIAH ALISJAHBANA

BANGKOK, Thailand: The latest synthesis report from the Intergovernmental Panel on Climate Change makes for grim reading: every fraction of a degree of warming comes with escalated threats, from deadly heat waves to severe hurricanes and droughts, affecting all economies and communities.

It is a reality that the people of Asia and the Pacific know only too well. "The worst April heat waves in Asian history" last month was just a taste of the worsening climate impacts we will continue to face in the years to come.

Our latest report highlights that the sea level is creeping up in parts of the region at a slightly higher rate than the global mean, leaving low-lying atolls at existential threat. Annual socioeconomic loss caused by climate change is mounting and likely to double in the worst-case climate scenario.

Inequity is yet another threat as climate change sweeps across the region. Asia and the Pacific already accounts for more than half of global greenhouse gas emissions, and the share is growing.

But there is another picture of hope in our region: 39 countries have committed to carbon neutrality and net zero between 2050 and 2060. The cost of renewable energy is falling almost everywhere, with installed capacity growing more than three-fold in the past decade.

Electric vehicles are entering the market en masse as countries such as China, India, Japan, the Republic of Korea and Thailand have made electric mobility a priority.

This momentum needs to accelerate like a bullet train. Because nothing short of a breakthrough in hard-to-abate sectors will give us a good chance of stopping catastrophic global warming.

Accelerating a just, inclusive energy transition

The recent energy crisis has kicked renewable energy into a new phase of even faster growth, thanks to its energy security benefits. There is an opportunity now to leverage this momentum

and turn it into a revolutionary moment.

Cross-border electricity grids can be the game changer. The Economic and Social Commission for Asia and the Pacific (Escap) has simulated different scenarios for grid connectivity and scaling up renewables. It shows that a green power corridor, cross-border power grid integration utilizing renewables, can help to remove the last hurdles of the transition. We are working with countries to chart a path to improved regional power grid connectivity through cooperation.

Achieving low-carbon mobility, logistics

The exceptional growth of electric vehicles has proved that electric mobility is a smart investment. And it is one that will help stave off carbon dioxide emissions from transport, which has stubbornly increased almost by 2 percent annually the past two decades.

Through the Regional Cooperation Mechanism on Low Carbon Transport, we are working with the public and private sectors to lock in the changeover to low-carbon mobility, clean energy technologies and logistics.

This is complemented by peer learning and experience sharing under the Asia-Pacific Initiative on Electric Mobility to accelerate the penetration of electric vehicles and upgrading public transport fleets.

Building low-carbon industries through climate-smart trade, investment

The net-zero transition is incomplete without decarbonizing the industrial sector. The region accounts for nearly three quarters of global greenhouse gas emissions in manufacturing and construction.

Binding climate considerations in regional trade agreements can be a powerful tool. While climate-related provisions have entered regional trade agreements involving Asian and Pacific economies, they offer few concrete and binding commitments. To unlock further benefits, they will need to be broader in scope, deeper

in stringency and more precise in obligations.

As foreign investment goes green, it should also go where it is needed the most. It has not been the case for any of the least developed countries and small island developing States in the region.

Financing the transition

The transition can be only possible by investing in low- and zero-emission technologies and industries.

Current domestic and international financial flows fall well short of the needed amount.

The issuance of green, social and sustainability bonds is rapidly growing, reaching \$210 billion in 2021 but were dominated by developed and a few developing countries. Both public and private financial institutions need to be incentivized to invest in new green technologies and make the uptake of such technologies less risky.

Linking actions, elevating ambitions

The code red to go green is ever so clear. Every government needs to raise their stake in this crisis. Every business needs to transform. Every individual needs to act. A journey to net zero should accelerate with a fresh look at our shared purpose.

At Escap, we are working to bring together the pieces and build the missing links at the regional level to support the net-zero transition work at the national level. The upcoming commission session will bring countries together for the first time in an intergovernmental setting — to identify common accelerators for climate action and to chart a more ambitious pathway.

This is the start of an arduous journey that requires cooperation, understanding and determination. And I believe we have what it takes to get there together. **IPS**

Armida Salsiah Alisjahbana is under-secretary general of the UN and executive secretary of the Economic and Social Commission for Asia and the Pacific (Escap).



THE future of cups—biobased cups using recycled poly(lactic acid) TOTALENERGIES CORBION

New biobased cups from recycled PLA launched

DUSSELDORF, Germany—TotalEnergies Corbion and Coexpan launched a polylactic acid (PLA)-biobased cup using recycled PLA, available in both white and high transparency.

After completing all tests at Coexpan's Innotech center, in Madrid, Spain, full validation was achieved for line speeds and output using form fill seal (FFS) technology, an automated computer-operated technology, to prepare sterile products, said TotalEnergies Corbion in a news release.

With regards to packaging design complying with the new sustainability demands, Coexpan and Innotech are continuously researching for options to reduce the footprint of the products they offer.

Thus, TotalEnergies Corbion, Coexpan and Innotech are creating a new package and contributing actively to one of today's main challenges in terms of sustainability.

"Another milestone has been achieved! We are very proud to include in our portfolio a new sustainable product that increases the number of technical solutions we can put on the market, a clear added value for all our customers," said Gonzalo Sanchez, Coexpan's recycling manager.

"Having used this material for more than 10 years, we are undoubtedly the leading

PLA resin converter in the FFS market," Sanchez added.

Derek Atkinson, senior director of Sales and Business Development, added: "Providing PLA solutions to our customers with their existing technology is a priority for TotalEnergies Corbion. We have a team of specialized engineers to work with our partners and develop the right Luminy® PLA grades."

Atkinson explained: "And we also buy back the used PLA to recycle it at our facilities. Advanced recycling of PLA is much more energy efficient process in comparison with other plastics. We appeal to all PLA users to get in touch and set up a collection structure."

Environmental stresses have increased pressure to meet recycling and sustainability targets. With the readily available recycled rPLA, brands can offer consumers sustainable options, without additional investment or significant changes in existing FFS facilities.

Luminy® rPLA is a bio-based polymer produced from sugarcane. The carbon captured from the atmosphere by the sugarcane is kept in the cycle with advanced recycling, TotalEnergies Corbion said.

The rPLA has the same properties as virgin PLA, including food contact approval in the European Union, United States and China.