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IN THE NEWS

Strategic Communication and Initiative Service



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Project aims to eliminate mercury use in gold mining

By RHODINA VILLANUEVA

The Philippines has embarked on a five-year project aimed at eliminating the use of the highly toxic mercury in artisanal and small-scale gold mining (ASGM), the Department of Environment and Natural Resources (DENR) said.

The project, funded by the Global Environment Facility (GEF) with the DENR as implementing agency, aims to promote legislation to legalize and support ASGM while encouraging miners to extract gold using environment-friendly alternatives to mercury.

DENR Undersecretary Analiza Rebueta Teh last weekend said the GEF-Global Opportunities for Long-Term Development or GEF-GOLD project is a way to help small-scale miners who are willing to abide by government policies on responsible mining practices.

Teh said the project is expected to help the Philippines "contribute to the elimination of mercury in ASGM through a supply chain approach from miners to refiners."

"We hope that small-scale miners will see mercury-free gold mining as viable," said Teh, who also serves as operational focal point person of GEF-Philippines.

Mercury, also known as quicksilver, is widely used in ASGM as a "magnet" to extract gold that is mixed with soil and other sediments in ores. This exposes miners to the metal, which is known for its toxicity that could affect the nervous, immune and digestive systems.

Aside from the Philippines, the GEF-GOLD project, which has an allocation of \$45 million is also being implemented in Peru, Colombia, Guyana, Indonesia, Kenya, Burkina Faso and Mongolia.

In the Philippines, the project sites are the towns of Maco in Compostela Valley, T'boli in South Cotabato and Rosario in Agusan del Sur.

The components of the project include a review of policies and legal frameworks supporting the ASGM sector; introduction of financing schemes allowing miners to invest in sustainable mercury-free technologies; upscaling of these technologies; dissemination of information to ensure replication, and monitoring and evaluation.

According to the DENR's Mines and Geosciences Bureau, there are a total of 38 small-scale mining sites in the Caraga region, while 78 exist in the Cordillera Administrative Region.

Small-scale mining is protected and regulated under Republic Act 7076 or the People's Small-Scale Mining Act, as well as Executive Order 79, which provides for the establishment or declaration of "minahang bayan."

To date, there are 26 sites which have been declared "minahang bayan."

Aside from promoting mercury-free gold mining, the GEF-GOLD project also aims to address issues involving ASGM such as working conditions, child labor and gender gap.

The project is also one of the strategies as the Philippines aims to be mercury-free under the Minamata Convention on Mercury, which is yet to be ratified by the Senate.

Apart from ASGM, mercury has also been detected in some fuels, recycled metals, and consumer products like whitening cosmetics, batteries and dental fillers.



Mercury-free mining intensified

The treaty is seen to give the country protection from being a dumping ground for products containing the toxic substance

By Elmer N. Manuel

The Department of Environment and Natural Resources (DENR) on Wednesday said that an international organization is pouring in \$45 million to seven countries – including the Philippines – to eliminate the use of mercury in artisanal and small-scale gold mining (ASGM).

In a statement, the DENR said that aside from the Philippines, other countries that would benefit from the Global Environment Facility's (GEF)

project include Peru, Colombia, Guyana, Indonesia, Kenya, Burkina Faso and Mongolia.

This, as DENR Secretary Roy Cimatu said the Philippines is close to ratifying the Minamata Convention on Mercury – a global treaty to protect human health and the environment from the adverse effects of mercury.

The treaty is seen to give the country protection from being a dumping ground for products containing the toxic substance.

The GEF is partnering with DENR to embark on a five-year project that aims

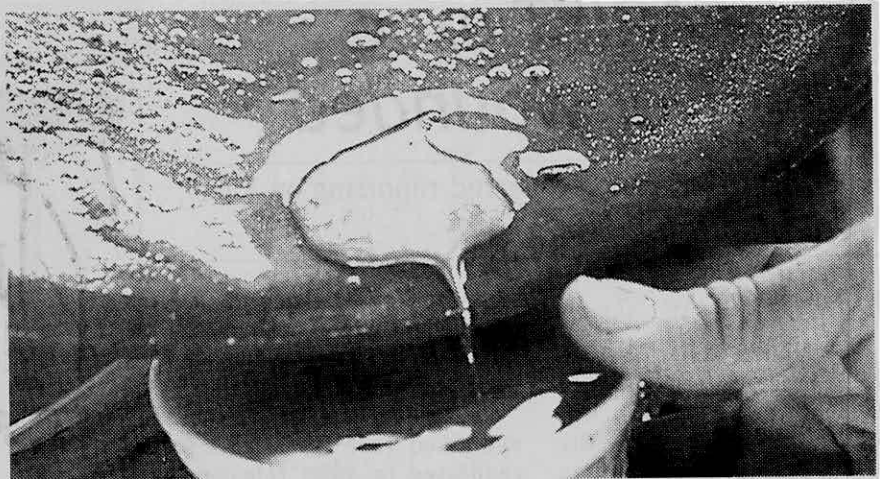
to promote the legalization of ASGM and encourage miners to extract gold using environment-friendly practices.

Mercury, also known as “quicksilver,” is widely used in small-scale mining as a means to extract gold.

The practice, which is common in the northern part of the country, exposes miners to toxics that could affect the nervous, immune and digestive systems.

Project sites in the Philippines would include the towns of Maco in Compostela Valley, T'boli in South Cotabato and Rosario in Agusan del Sur.

The country's small-scale mining sites are concentrated in the regions of Caraga which has 38 sites, while the Cordillera region has 78.



Toxic substance The government is working hard to eliminate the use of mercury in small mining operations and protect the miners and the environment from its adverse effects.



Full gov't mobilization urged for Laguna de Bay

THE Management Association of the Philippines (MAP) said President Rodrigo R. Duterte needs to issue an executive order broadly mobilizing government agencies to work toward the rehabilitation of the Laguna de Bay.

In a statement, MAP cited as a model government efforts to clean up Boracay Island and called for a similar level of commitment to preserve Laguna de Bay for water security and eco-tourism.

"We urge PRRD to take similar action... and order a Save Laguna Lake action by issuing an Executive Order to direct all national and local government units and instrumentalities to immediately implement all existing laws, rules, regulations and directives to protect and rehabilitate Laguna Lake and the forest cover of its watershed in the surrounding hills and mountains," MAP said.

MAP also urged Mr. Duterte to direct the national and local water

boards to tap Laguna de Bay as a "dependable, inexhaustible and proximately-located source of raw water for Metro Manila and the lake's surrounding communities, with other sources such as dams serving a complementary role to ensure water security under all circumstances, including potentially catastrophic earthquakes."

"Further, that all resources, including funding from whatever source, be devoted for the said purpose," MAP added.

MAP said Laguna de Bay has "continuously degenerated from neglect and wanton disregard for the lake's well-being much like other natural resources of our country."

"The public must be warned that the government will strictly enforce existing laws that prohibit, under pain of penalty, the dumping of waste into the lake," MAP added.

As such, the group recommended the imposition of strict regulations on polluting industries, including

factories, aquaculture, poultry and livestock farms.

MAP also called for a ban on the use of vessels powered by fossil fuel, adding some countries have adopted policies allowing only vessels running on clean energy in certain waters.

MAP also urged the imposition of a no-build zone starting from the high-water mark stretching back no less than fifty meters inland, especially in populated areas, to allow space for public recreation and enjoyment of the national resource.

The group also pointed the need for massive reforestation in the lake's surrounding hills and mountains to enhance the productivity of the watershed with the sustainable utilization of indigenous wood species, fruit-bearing trees and bamboo.

MAP also requested Mr. Duterte to direct the Department of Transportation to plan and implement a lake ferry system to provide convenient, affordable and reliable con-

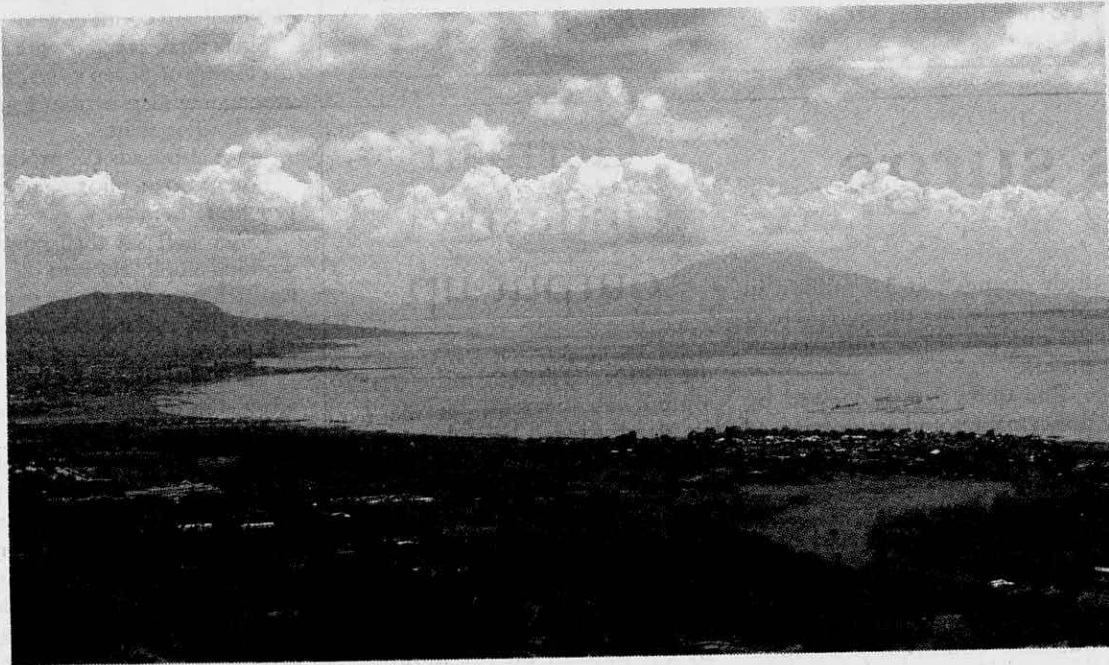
nectivity between the towns and cities along the shoreline.

It asked the Department of Tourism to plan, develop and implement eco-tourism projects to fully exploit the lake's potential, and for the Biodiversity Management Bureau, an attached unit of the Environment Department, to recommend public recreational parks for implementation and maintenance of various agencies. It proposed to name its campaign the Save Laguna Lake Movement, inviting broad-based support from all sectors.

"Ideally, this Movement should be adopted by private corporations as among their primary social responsibility projects. Civil society, including all environment protection organizations, are stakeholders and must participate," it said, proposing that the recommended rehabilitation model for Laguna de Bay be replicated in the preservation of all freshwater lakes in the Philippines. — **Janina C. Lim**



MAP calls for Laguna Lake rehab



Full potential. MAP says Save Laguna Lake Movement can become the model for the protection and rehabilitation of all freshwater lakes, and replicated all over the country.

THE Management Association of the Philippines (MAP) asked the Duterte administration to order the rehabilitation of Laguna Lake both for water source and for eco-tourism.

The group urged President Duterte to take action similar to what it has done in Boracay where he ordered the closure of establishments violating environmental laws.

MAP also urged Duterte to issue an executive order for the implementation of Save Laguna Lake that will strictly enforce existing laws that prohibit, under pain of penalty, the dumping of waste into the lake.

The group said polluting industries, such as factories, fish culture, poultry and livestock farms, must be strictly regulated and restricted to a sustainable level.

Under its proposal, MAP said all sources of pollution must be prohibited including the use of vessels powered by fossil fuels. But it said a lake ferry transportation system should be implemented to provide convenient, affordable and reliable connectivity.

MAP said all development and structures must be banned within a no-build zone starting from its high water mark to within preferably no less than 50 meters.

It added Laguna Lake must be harnessed as a dependable, inexhaustible and proximately-located source of raw water for Metro Manila and the lake's surrounding communities.

The group also stressed the need for massive reforestation in the lake's surrounding hills and mountains to enhance the productivity of the watershed.

MAP said the Department of Tourism should fully exploit the lake's potential as an ecotourism destination and for the Biodiversity Management Bureau to build public recreational parks.

If all these proposals are implemented, MAP said Save Laguna Lake Movement could be the model for the protection and rehabilitation of all freshwater lakes, and replicated all over the country.

Laguna Lake is the largest freshwater lake in our country and among the largest in Southeast Asia.

"Unfortunately, the water quality of Laguna Lake has, despite sporadic efforts, continuously degenerated from neglect and wanton disregard for the lake's wellbeing much like other natural resources of our country," MAP said.



'Bokashi balls' to rehabilitate Bocaue River

By **RAMON EFREN LAZARO**

BOCAUE – Officials of the Bulacan environment and natural resource office (Penro) of the Department of Environment and Natural Resources recently started using "bokashi balls" to rehabilitate the Bocaue River.

Also known as "mabuhay balls," bocashi is a Japanese water rehabilitation technology wherein fist-sized mudballs are scattered in the river system to reduce its pollutants.

Emelita Lingat, Bulacan Penro chief, explained that the mudballs contain molasses, rice hulls or "ipa" and an effective microorganism (EM) solution, which helps promote the growth of good bacteria to consume pollutants in the river.

"They are basically probiotics, able to clean up one cubic meter of water each," Lingat pointed out.

Results of water quality test done by the DENR Environmental Management Bureau showed that the Bocaue River has a dissolved oxygen level of 0.22 mg/L, much lower than the standard of at least 1.0 mg/L to support fish and other aquatic life.

Lingat said the bokashi balls are expected to help increase dissolved oxygen level at the river system to support aquatic life.

Bocaue Mayor Eleonor Villanueva-Tugna told **The STAR** that a non-government organization is willing to teach local residents to produce bokashi balls and sell these to concerned local government units for P15 each.

Mass production of the bocashi balls is being eyed as an alternative livelihood for the displaced fireworks industry in the town and at the same time help in the rehabilitation of the

river.

Meanwhile, in Alaminos City, the river system that discharges water into the famous Hundred Islands in Pangasinan has been adjudged as one of the entries of Region 1 the Ilocos Region together with the Naguilian River System, for the DENR's R.I.V.E.Rs for Life Award.

R.I.V.E.Rs stands for Recognizing Individuals/Institutions towards Vibrant and Enhanced Rivers. It aims to raise awareness of the need to protect and conserve rivers as the lifeblood of the Earth and human civilization.

Launched in 2017, the award intends to recognize individuals and institutions for their initiative and concerted efforts to protect the country's rivers from degradation and pollution and to improve their designated use and classification by coming up with appropriate mitigations and interventions.

The Regional Evaluation Committee headed by DENR Regional Executive Director for Ilocos Carlito Tuballa has declared Ilog Alaminos and the Naguilian River System as the region's entries in the national level.

Based on the water sampling done in November last year, the coliform level of the water of Ilog Alaminos was 2,800 most probable number (mpn). The standard of a Class C river is 200 mpn pursuant to DENR Administrative Order No. 2016-08.

The coliform level of the Naguilian River System, on the other hand, improved significantly from 160,000 mpn to 7,836 mpn in the most recent sampling.

Appropriate mitigations and interventions are continuously done to reduce the river's coliform level and to improve the use of its water for possible recreational purpose, Tuballa said.

National winners of the R.I.V.E.Rs for Life will be announced on June 10, 2019 in time for the anniversary of the DENR.

– With Eva Visperas



Department of Environment and Natural Resources
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Mountaineering to promote ecotourism in Camiguin



Mt. Hibok-Hibok
summit. (Rhonson Ng)

Known for its beaches, waterfalls, and hot and cold springs, Camiguin is looking up to its mountaineers to promote ecotourism.

This after the provincial government recently launched its "Climb Camiguin" campaign which is aimed at showcasing its chains of volcanoes.

Mt. Hibok-Hibok, Camiguin's iconic peak, and Mt. Timpoong were recently declared by the Association of Southeast Asian Nations (ASEAN) Center for Biodiversity as an ASEAN heritage park.

Now officially known as the Mt. Timpoong-Mt. Hibok-Hibok Natural Monument, the two volcanoes are among the country's few protected areas which is habitat to endemic flora and fauna species found in only northern Mindanao.

"The province recognizes the potential of volcano tourism for driving the socioeconomic growth and development of the local community," said Camiguin Governor Maria Luisa Romualdo during the event's launch with partner agencies Department of Tourism and the Department of Environment and Natural Resources.

The climb program, participated in by DENR personnel and tourism stakeholders, also explored a new and equally exciting trail in Itum village in the capital town of Mambajao.

The proposed new path is a six-kilometer trek which commences at the DENR Protected Area Superintendent station in Mambajao and winds up to the summit at 1,332 meters above sea level.

The PASU jump off point teems in butterfly and avian life, while the whole trail is habitat to diverse flora, dominated by pitcher plants, wild romblon and giant rattan.

In the report by the Climb Camiguin expedition team submitted to the provincial tourism office, among the birds spotted are turquoise and rufous paradise flycatcher, purple-throated sunbird, yellowish white eyes, everett's white eyes, Brahminy kite, Philippine serpent eagle, etc.





CRITICALLY ENDANGERED

HABITAT LOSS, POACHING BLAMED FOR DECLINE IN TAMARAW POPULATION

CITY OF CALAPAN—The number of tamaraw (*Bubalus mindorensis*) now roaming in the mountains of Mindoro has declined to below 500 as conservationists blame human activity for the reduced population of this animal endemic to the island in Southern Tagalog.

June Pineda, Tamaraw Con-

servation Program (TCP) coordinator of the Department of Environment and Natural Resources (DENR), said the latest count held in mid-April at Mounts Iglit-Baco National Park in Occidental Mindoro showed 466 to 494 tamaraw, lower than last year's 523 animals.

The International Union for Conservation of Nature's Red List of Threatened Species has classified the tamaraw as "critically endangered," with its population trend described as "decreasing."

Pineda said the decrease in tamaraw population in Mindoro could be attributed to "contin-

ued habitat destruction, hunting and poaching."

The DENR, in its website, said the number of tamaraw in the early 1900s was estimated to be at 10,000, but an outbreak of rinderpest (infectious viral disease affecting cattle, also called "cattle plague") in the 1930s reduced the popula-

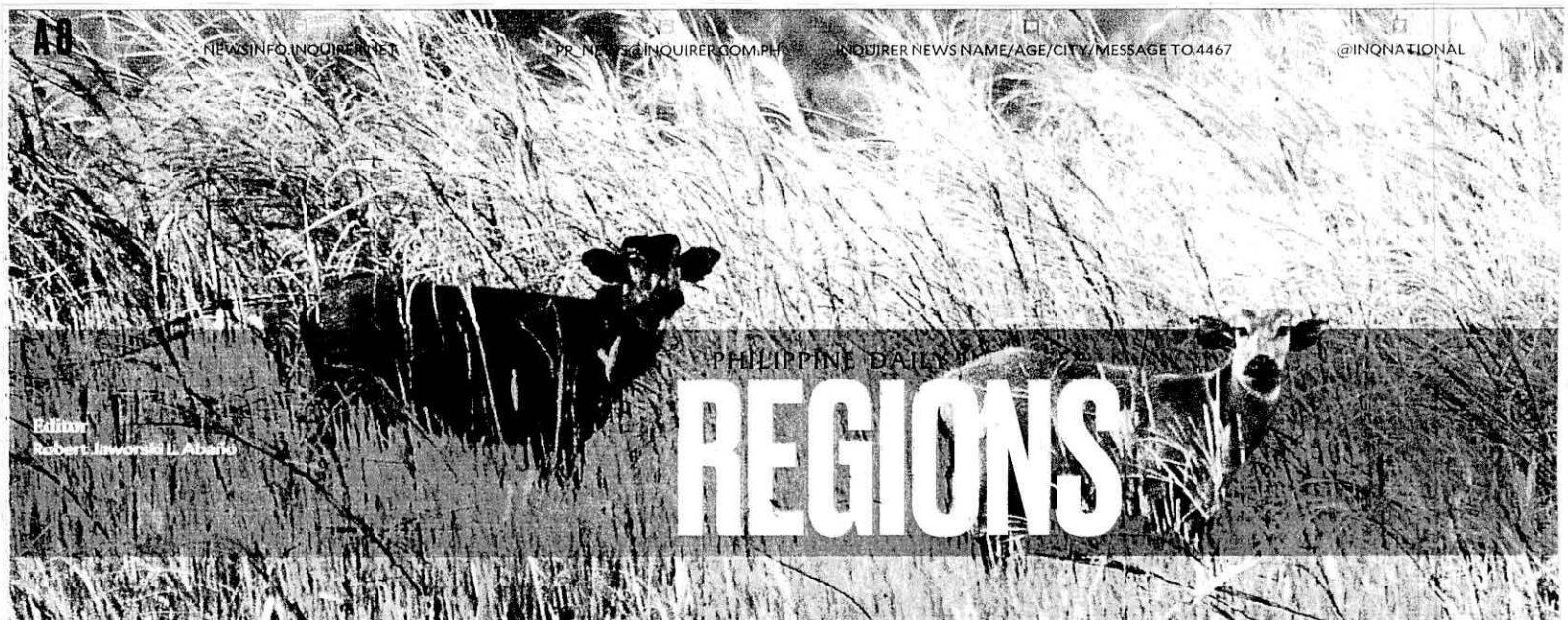
tion drastically.

The tamaraw is often mistaken for a small carabao (water buffalo). It is a meter tall and its tail is shorter than a carabao. Its horns are V-shaped unlike the carabao's flaring ones.

Grace Diamante, executive director of Mindoro Biodiversity Conservation Foundation,

said TCP, through the help of IUCN specialists, said the actual count used the "simultaneous multivantage point count method" where teams were stationed at 18 observation sites or vantage points in the national park, to avoid multiple counting and ensure an accurate count.

—MADONNA T. VIOLA INQ



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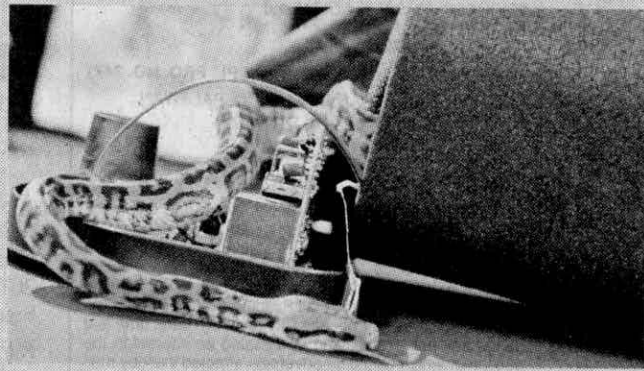
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REGIONS

Editor
Robert Jaworski L. Abante

MINDORO'S PRIDE Herds of the critically endangered tamaraw (*Bubalus mindorensis*) graze in Mounts Iglit-Baco National Park in Occidental Mindoro province amid threats of poaching and forest destruction. —PHOTO COURTESY OF MINDORO BIODIVERSITY CONSERVATION FOUNDATION



Intercepted. A 20-inch long python slithers out of a bluetooth speaker at the Ninoy Aquino International Airport.

BOC foils attempt to smuggle python

ALERT Bureau of Customs officials foiled last Sunday an attempt to smuggle into the country a 20-inch long reticulated python hidden inside a bluetooth speaker at the Ninoy Aquino International Airport.

The python was turned over to the Department of Environment and Natural Resources.

In a statement, the BOIC reminded the public that importing, exporting, and trading of wildlife animals without the necessary permit is a violation of Republic Act 9147 or

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BOC

Wildlife Resources Conservation and Protection Act in relation to RA 10863 (Customs Modernization and Tariff Act).

Violators may face imprison-

ment of one year and one day to two years and a fine of P2,000 to P200,000.

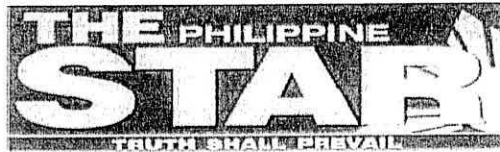
The BOC-NAIA has been active in protecting the country's borders against illegal wildlife trade and stopping the entry and exit of

contrabands.

Last April 1, the BOC also intercepted 757 live venomous tarantulas from Poland while 1,529 exotic turtles and tortoises from Hong Kong were intercepted last March 3.



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UN issues extinction report, warns of sand use

Nature is in more trouble now than at any time in human history, with extinction looming over one million species of plants and animals, scientists said Monday in the United Nations' first comprehensive report on biodiversity.

It's all because of humans, but it's not too late to fix the problem, the report said.

Meanwhile in Geneva, the UN's environment program is warning about the overuse of sand resources, saying a three-fold increase in demand over the last 20 years amid increasing population, urbanization and building work has contributed to beach erosion, flooding and drought.

In a new report launched Tuesday, UNEP urged a re-think about the use of the world's second-most extracted resource, after water, by industry, governments and the public.

UNEP said demand for sand and gravel amounts to 40-50 billion tons every year, and pointed to the need

for conservation, recycling and a look for alternatives like sawdust.

Pascal Peduzzi, director of a UNEP program with the University of Geneva, said more thought needs to be taken: "We aren't very smart about how we use sand, because we think: this is just sand."

Species loss is accelerating to a rate tens or hundreds of times faster than in the past, the report said. More than half a million species on land "have insufficient habitat for long-term survival" and are likely to go extinct, many within decades, unless their habitats are restored. The oceans are not any better off.

"Humanity unwittingly is attempting to throttle the living planet and

humanity's own future," said George Mason University biologist Thomas Lovejoy, who has been called the godfather of biodiversity for his research. He was not part of the report.

"The biological diversity of this planet has been really hammered, and this is really our last chance to address all of that," Lovejoy said.

Conservation scientists from around the world convened in Paris to issue the report, which exceeded 1,000 pages. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) included more than 450 researchers who used 15,000 scientific and government reports. The report's summary had to be approved by representatives of all 109 nations.

Some nations hit harder by the losses, like small island countries, wanted more in the report. Others, such as the United States, were cau-



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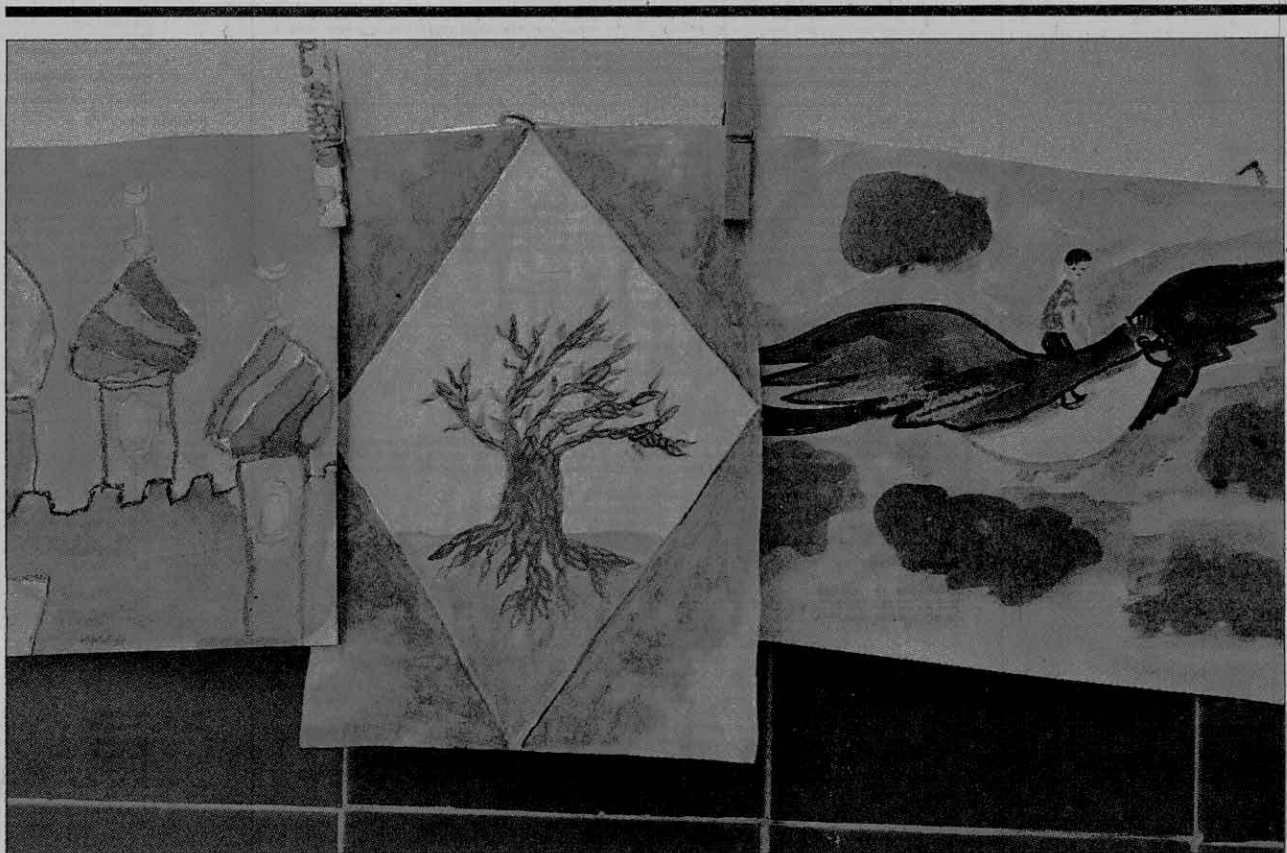
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Drawings are seen during Pope Francis' visit to a refugee center on the outskirts of Sofia, Bulgaria last Monday.

VATICAN MEDIA/HANDOUT VIA REUTERS

tious in the language they sought, but they agreed "we're in trouble," said Rebecca Shaw, chief scientist for the World Wildlife Fund, who observed the final negotiations.

"This is the strongest call we've seen for reversing the trends on the loss of nature," Shaw said.

The findings are not just about saving plants and animals, but about preserving a world that's becoming harder for humans to live in, said Robert Watson, a former top NASA and British scientist who headed the report.

"We are indeed threatening the potential food security, water security, human health and social fabric" of humanity, Watson told *The Associated Press*. He said the poor in less developed countries bear the greatest burden.

The report's 39-page summary highlighted five ways people are reducing biodiversity:

- Turning forests, grasslands and other areas into farms, cities and other developments. The habitat loss leaves plants and animals homeless. About three-quarters of Earth's land, two-thirds of its oceans and 85 percent of crucial wetlands have been severely altered or lost, making it harder for species to survive, the report said.

- Overfishing the world's oceans. A third of the world's fish stocks are overfished.

- Permitting climate change from the burning of fossil fuels to make it too hot, wet or dry for some species to survive. Almost half of the world's land mammals – not including bats – and nearly a quarter of the birds have already had their habitats hit hard by global warming.

- Polluting land and water. Every year, 300 to 400 million tons of heavy metals, solvents and toxic sludge are dumped into the world's waters.

- Allowing invasive species to crowd out native plants and animals. The number of invasive alien species per country has risen 70 percent since 1970, with one species of bacteria threatening nearly 400 amphibian species.

– AP



Garbage sets sail for Canada May 15—Locsin

FOREIGN Affairs Secretary Teodoro L. Locsin Jr. on Wednesday repeated his earlier statement that the Canadian garbage will be returned to Canada on May 15.

“Nope. Deadline for the garbage to be onboard the ship taking it away is May 15 and Canada and the Philippines are exerting all efforts to get that done,” Locsin tweeted when asked by a Canadian media entity whether “sensitive negotiations regarding the garbage issue is at an end.”

“If I may speak for the Canadian ambassador, I think it is best we keep things to ourselves until the garbage is loaded on time,” Locsin replied.

Locsin also denied allegations that there were 209 container vans from Canada that arrived at the Manila Port some six years ago.

“It is 69 containers more or less. Let’s not include our f---ing garbage,” Locsin tweeted, adding: “and remember the Canadian garbage was imported by f---ing natives of ours.”

He said a Department of Finance (DOF) functionary was trying to delay the shipping out of the garbage, but did not name the person.

Since it was discovered that the garbage was not simply electronic refuse but contained diapers and other useless and health-threatening trash, Manila has filed diplomatic protests with Ottawa several times to get back their shipload of garbage. The Canadian government has maintained it had no hand in the shipment, saying it was a commercial transaction.

Last week, President Duterte threatened to sail to Canada and “dump their garbage there.”

In response, the Canadian Embassy in Manila vowed to work with the Philippines in ensuring that the waste shipment will be “processed in an environmentally responsible way.”

Many Filipinos on Twitter, meanwhile, cautioned their countrymen against using strong language to criticize Canadian Prime Minister Justin Trudeau, noting that overseas Filipino workers there send home remittances of more than \$1 billion yearly, reputedly “the largest source of remittances by Filipino migrant workers.” **Recto L. Mercene**



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The Manila Times

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Editorial

Make it clear to the world: PH is not a dumpsite

THE nation must be breathing a sigh of relief that the Canadian government has apparently begun making arrangements to take back, at its own expense, 69 containers of trash shipped from that country into the Philippines in 2013 and 2014. But this resolution of the Canadian trash scandal should not be the end of our efforts to rid the Philippines of other countries' garbage.

President Rodrigo Duterte had earlier expressed exasperation over the unresolved issue and demanded that Canada remove the waste that has been festering for too long at the port in Manila by May 15.

Although the Bureau of Customs has reported that the Canadian authorities are unlikely to be able to meet that deadline due to various import requirements, the necessary work at least seems to have gotten underway at last.

The Canadian trash shipment is just one of many cases of unwanted and hazardous waste being dumped on the Philippines by shippers from other countries. In recent months, foreign trash has been discovered in Cebu and Northern Mindanao.

If our authorities do not act aggressively to prevent it, the problem for the Philippines is bound to grow worse, compared with that for other countries such as China, Thailand, Vietnam and Malaysia as their governments have started imposing bans on most waste imports.

China at one time was the world's largest importer of waste, particularly plastic waste, which could be recycled into thousands of cheap products. But the Chinese government has been making an effort to clean up the country's poor reputation for environmental protection, and to that end imposed a ban on 34 categories of imported waste last year. The ban will take effect in two steps this year and next, but its impact on neighboring countries was felt almost as soon as it was announced. Countries like the US, Japan and South Korea that generate enormous amounts of waste and had been relying on China to dispose of it were suddenly left scrambling for new destinations.

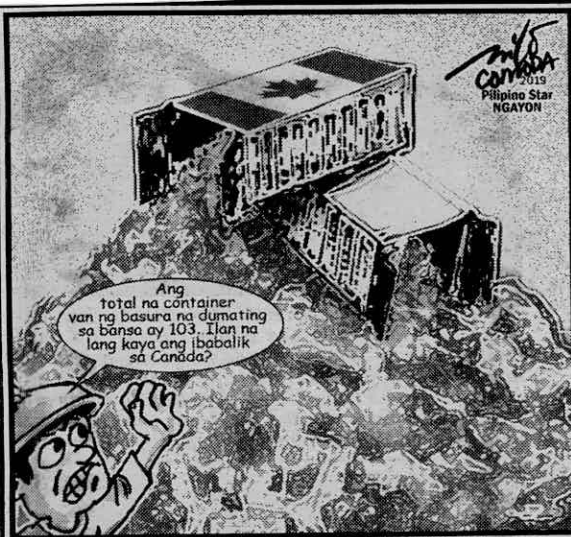
The Philippines, with its unfortunate reputation for having weak import controls and a casual attitude toward environmental risks, naturally became an attractive alternative.

Neighboring countries that were also targeted recognized the implications of the Chinese ban much more quickly and imposed their own restrictions. But not fast enough, in some cases; as of late last year, an estimated 30,000 containers of waste were sitting stranded in Thai and Vietnam had some 9,000, most of them in already badly congested port of Cat Lai.

Those examples should serve as a warning of what could happen in the Philippines if quick action is not taken. The country does have import regulations that apply to various forms of waste and scrap materials, but these are too often abused by unscrupulous traders and pliable Customs personnel. Likewise, we have a very strong law in RA 9003, the Solid Waste Management Act, but it has proven difficult to enforce because the country's waste management infrastructure is so inadequate for our growing population.

For the country's protection, the government should impose an immediate, comprehensive ban on waste imports, including those dodgy product classifications that allow waste to enter the country, such as "raw materials" or "scrap for recycling." More focus should also be given to developing waste management and recycling facilities, and rigorously enforcing existing environmental laws.

A clear message needs to be sent that the Philippines is not the world's dumpsite, and it needs to be sent now, before we find ourselves grappling with a problem that makes Canada's unwanted trash look insignificant by comparison.



Editorial

Basurang Canada ilang containers ba?

SA Mayo 15 ay ibabalik na ang mga basura ng Canada na dinala rito sa Pilipinas ng Chronic Inc. noong 2013 at 2014. Ipinag-utos ni Finance Sec. Carlos Dominguez sa Bureau of Customs na ibalik sa Canada bago mag-Mayo 15 ang mga basura sa utos ni Presidente Duterte. Nagbanta ang Presidente na makikipaggyera siya sa Canada kapag hindi pa kinuha ang mga basura. Ang mga basura ay kinabibilangan ng household at hospital wastes na hindi maaaring i-recycle. Nang unang buksan ng Customs ang mga container noong 2013, natambad at nalanghap nila ang mga nabubulok na basura. Nang mag-usap sina Presidente Duterte at Canadian Prime Minister Justin Trudeau noong nakaraang taon nang dumalo ang huli sa APEC Summit sa Maynila, nangako na sosolusyunan ang problema. Pero lumipas pa ang isang taon at walang action ang Canada ukol dito na ikinagalit ni Duterte. Sabi ng Presidente sa Canada, huwag gawing tambakan ng basura ang Pilipinas.

Kung matutupad ang deadline na pagpapabalik sa Canadian trash sa Mayo 15, (at sasagutin daw ng Canada ang gastos) mabuti at matatapos na ang problema na anim na taon ding tiniis ng bansa ang basurang imported. Pero ang tanong ngayon, ilan ba talaga ang containers ng basura na ibabalik sa Canada? Ang tanong ay lumutang nang sabihin ng Customs na marami na palang basura ang naitapon sa Tarlac noong Hulyo 2015 sa utos ni dating DENR Secretary Alberto Lina. Ayon sa report, 34 containers ang naitapon sa landfill ng Metro Clark Waste Management Corp. sa Bgy. Kalangitan, Capas, Tarlac. Hindi malaman kung bakit ipinag-utos ng dating DENR secretary ang pag-disposed sa 34 containers.

Ayon sa Customs ang total containers ng basura na dumating sa bansa ay 103. Sa bilang na ito, 55 ang naka-consigned sa Chronic Plastics at 48 sa Live Green Enterprises. Ayon sa Ecowaste Coalition, may nawawala pang walong containers at hindi mapaliwanag kung saan ito napunta. Ang mga container ay kasalukuyang nasa Subic Bay International Terminal Corp. at sa Manila International Container Terminal.

Narapat tiyakin kung ilang containers talaga ang ibabalik sa Canada? O wala nang ibabalik dahil na-disposed na? Narapat namang imbestigahan kung bakit kailangang ipag-utos ng dating DENR Secretary na itapon ang mga basura sa Tarlac. Household at hospital wastes ang basura na maaaring magdulot ng pagkakasakit ng mga residente sa lugar.



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DRIVING ON PLASTIC

Our oceans are dying partly because of plastic waste, and I used to think that limiting plastic production as well as banning single use would be the more effective remedies particularly against marine plastics. But I have started to see things in a different light, especially after I attended a forum co-hosted by the World Bank and the Norwegian Embassy in Manila.

I give credit to one presentation, in particular, from a private sector representative who noted that the Philippines did not produce nearly as much plastic products as other countries, and yet it was among the top producers of plastic waste in our oceans. In a sense, the issue is not our production or use of plastic, but our inability to properly dispose of our plastic waste.

In this line, I believe our incumbent as well as incoming lawmakers should give this issue more consideration. We desperately need measures to ensure

strict enforcement of existing solid waste management policies, and the will to take "politics" and "corruption" out of garbage collection and disposal.

As the World Bank had noted, "millions of tons of plastic enter the ocean each year, a significant volume of which comes from the Philippines." It had also noted that there were "no official statistics" as to "the magnitude of plastic waste thrown on land and ending up in rivers, lakes, and the oceans," but "what is known is that the amount of mismanaged plastic waste is continuously increasing, and this crisis requires urgent action."

What I hope can be among the viable local solutions to proper disposal of plastic waste is their use in energy production, and in construction. At this point, please allow me to tackle primarily the latter, considering the ongoing construction boom in the country as well as long terms plans for improving public infrastructure.

One study, out of the University of Baghdad, by researchers Zainab Ismail and Enas A Al-Hashmi, used waste plastic in concrete mixture as aggregate replacement. After 86 experiments and 254 tests, the duo concluded that reusing waste plastic as a sand-substitution aggregate in concrete could reduce the cost of construction materials and address plastic waste problems.

Research at the University of Bath also concluded that plastic waste could be a viable partial replacement for sand in structural concrete. The study, done in partnership with Goa Engineering College in India, showed that plastic waste in place of sand in concrete could help in the reuse of plastic waste as well as address India's national sand shortage.

A study by Ahmad Jassim of the University of Basrah, meantime, concluded that "plastic cement" could be produced from mixing high density poly-

ethylene waste (used plastic bottles and food crates) and Portland cement. He also noted that this cement's "density was decreased, ductility increased, and workability improved," resulting in the production of "lightweight materials."

All these point to the viability of repurposing plastic waste into something productive and useful. More important, it also points to at least one of the ways to keep plastic waste from ending up in our oceans. At the same time, this approach cuts down on the need to further exhaust natural resources like sand, river pebbles, and rocks for use as concrete aggregates for construction.

What I would like our policy makers to consider is something similar to the effort in India, where a government order in 2015 has since required all road developers in that country to use plastic waste for road construction. Plastic waste is mixed with bitumen, using a technol-



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STATIC MARVIN A. TORT

I hope that policy makers will consider providing support and incentives for industries effectively repurposing plastic waste, and that they will look into a national call or government order to utilize plastic waste technologies particularly in road construction.



ogy first credited to Professor Rajagopalan Vasudevan of Thiagarajar College of Engineering in Madurai.

Some literature indicate that plastic-bitumen composite roads actually have better wear resistance than standard asphalt concrete roads. Also, they do not absorb water, have better flexibility which results in less rutting and less need for repair. Road surfaces also remain smooth, are lower maintenance, and absorb sound better. Moreover, the addition of plastic in asphalt can reduce the viscosity of the mix, allowing for a lower working temperature.

Waste from plastic product packaging are sorted, cleaned, dried, and shredded. The shredded plastic is then mixed and melted at a high temperature. Hot bitumen is then added and mixed with the melted plastic. After mixing, the mixture is laid as one would with regular asphalt concrete when building roads.

In the Indian cities of Pune and Bengaluru, for instance, they already have about 40 kilometers of roads that were built with recycled plastics. About 100 metric tons of waste were repurposed for road construction, which were said to be equivalent to about 25 million plastic flexible pouches – waste that could have instead ended up in landfills and perhaps in our oceans.

“Plastic” roads have also been built in Jamshedpur in India, and Indonesia’s Bali, Surabaya, Bekasi, Makassar, Solo, and Tangerang. Last year, the Dutch company Volkerwessels built a bicycle path made of recycled plastic in Zwolle, in northeast Netherlands. And just last January, the UK Department of Transport announced a £1.6 million trial of a plastic road technology developed by Scottish reinforcement company MacRebur.

Locally, in March, San Miguel Corporation announced that it would partner with Dow Chem-

ical to start looking into building roads out of recycled plastic waste. The aim is to produce an alternative to asphalt using plastic materials that are “hard-to-recycle.” Dow has reportedly worked with partners in India, Indonesia and Thailand to use plastic waste in roads.

Beyond this effort, which is mainly private sector led, I hope that policy makers will consider providing support and incentives for industries effectively repurposing plastic waste. Moreover, I hope they will seriously look into a national call or government order, by legislation or by executive fiat, to utilize plastic waste technologies particularly in road construction. ■

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NIA: Only court can stop Chico project

By Tonette Orejas
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CITY OF SAN FERNANDO—The National Irrigation Administration (NIA) is not suspending construction of the China-financed Chico River Pump Irrigation Project in Kalinga province because it has complied with the requirements, the agency's administrator, Ricardo Visaya, said on Wednesday.

Visaya said only a court could stop the NIA project.

The National Commission on Indigenous Peoples (NCIP) has asked the NIA in a letter to suspend construction, pointing out that the project has not been

issued a certificate precondition (CP).

A CP indicates that the project received the free, prior and informed consent of indigenous communities, a requirement for projects in ancestral domain of indigenous peoples (IPs) under the Indigenous People's Rights Act of 1997.

Asked if the project had failed to obtain the consent of IPs in the area, Visaya told the Inquirer by phone: "That's not true. Everything is in order."

Neda informed

The NIA has documents and an agreement to prove that, he said. The matter, he added, was being resolved by the Regional

Development Council (RDC).

It was the NCIP in the Cordillera that informed the National Economic and Development Authority (Neda) about the project's lack of a CP.

Sumanghal Sagga, NCIP legal affairs director, on Tuesday asked NIA officials and the Chinese contractor to suspend work on the P4.373-billion irrigation project.

Sagga made the request after a committee of the Cordillera RDC said proponents of the project had not been issued a certification that they had obtained the consent of affected IPs in Kalinga.

NCIP Commissioner Gaspar Cayat said the NIA should com-

ply with the process and obtain first a CP showing the government project received the free, prior and informed consent of clans in Kalinga whose lands have been bought for the project.

Open to dialogue

Visaya said both the central and regional offices of the NIA were open to dialogue with the IPs.

Without naming any group, he said the issue was being exploited by left-leaning organizations.

"If the Left has enough proof of their allegations, I advise them to go to court and let the court order us to stop," said

Visaya, a former chief of staff of the Armed Forces of the Philippines.

Rice production

He said the project was important because Cagayan Valley was second to Central Luzon in rice production. Cagayan Valley consists of Nueva Vizcaya, Quirino, Isabela, Cagayan and Batanes provinces and Tuguegarao City. Part of Kalinga is contiguous to Cagayan.

"We have to sustain that and improve it to meet the increasing demand for rice in our country," Visaya said.

Highlands like Cagayan and parts of Kalinga have insuffi-

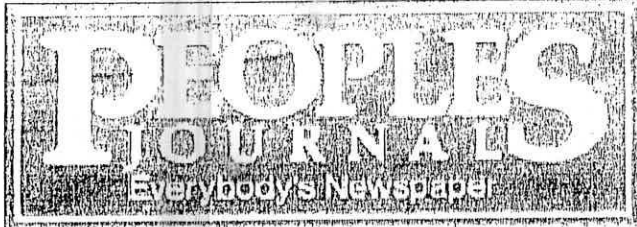
cient irrigation systems though they have good sources of water in the area, such as Chico River, according to Visaya.

"The only problem is Chico is too deep. That's the reason we have to pump up the water from Chico to water the rice fields located on top of mountains in the boundaries of these two provinces," he added.

China CAMC Engineering Co. has begun constructing 143 kilometers of diversion tunnels and lateral canals that will channel water from the Chico River to 7,500 hectares of rice farms in the towns of Tuao and Piat in Cagayan and 1,170 ha of farms in Pinukpuk town in Kalinga. INQ



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STRATEGIC COMMUNICATION INITIATIVES SERVICE



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DENR man slain in Ecija home

SAN ANTONIO, Nueva Ecija — A contractual employee assigned at the Department of Environment and Natural Resources office in Cabanatuan City on Tuesday night was shot dead by a lone gunman in this municipality.

Killed was Ricardo Perez, 59, of Bgy. San Mariano, this town.

The gun attack occurred in front of the victim's house at 6 p.m. on Tuesday.

Town police head Maj. Arnel Aguilar said the victim tried was opening their gate while talking to the suspect, who immediately pulled out a cal.45 pistol and shot the victim several times.

Aguilar said they are initially looking at land dispute as possible motive for the killing. **Steve Gosuico**



Canada cites short animation in curbing climate change

PART of its "What A Waste!" initiative to increase awareness and address the looming problem of waste management in the country, the embassy of Canada in the Philippines has recognized the thesis film *Halimaw sa Basura* of iACADEMY students.

"We are honored to be part of this very big initiative. We really wanted to use it for something

bigger; something that will help push the discussion about waste management and for people to better understand that this issue needs to be addressed," said Maria Isabella Parca, one of the directors and producers of the film and a BS Animation Graduate (Class of 2018).

The Canadian Embassy's Counselor and Senior Trade Commis-

sioner Crista McInnis introduced the animated film during the What A Waste symposium in March. The campaign aims to alleviate waste in Metro Manila, where 19 municipalities and 13.7 million residents generate an approximate 3,500 tons of household waste on a daily basis.

Said confab encouraged discussions highlighting a range of tech-

nological, social and circular economy solutions to manage waste.

The initiative will target key decision-makers such as city mayors, local government units and the Department of Energy, as they will meet with Canadian companies, experts, social enterprises and private Philippine companies to discuss and deploy their plans for waste management.



Cash, political will: Coessential tools vs catastrophic impact of climate change

BY CAI U. ORDINARIO [@cai_ordinario](#)

NADI, Fiji—The greenback may lead to greening the earth, so some believe. ❖ However, for experts at a conference here last week, money is just one of the weapons in this perennial contradiction of man against nature as the latter appears to have the upper hand.

At the 52nd Asian Development Bank (ADB) Annual Governors' Meeting on this Pacific island, a panel of experts organized by the ADB Independent Evaluation Department (IED) raised the urgency in addressing climate change. The experts said Asia and the Pacific has a high exposure to climate change.

They said that from the start of the millennium up to last year, around 84 percent of the 206 million people on average affected by weather and other disasters globally each year were from the region.

These and other disasters equaled 7 percent of GDP from 2000 to 2018 in Pacific countries, far higher than in the sub-regions of Asia, which range from under 1 percent in East Asia to 6 percent in South Asia.

Among the highly destructive climate-related events were the 2016 Cyclone Winston in Fiji, causing estimated losses of 31 percent of GDP, and the 2017 Cyclone Pam in Vanuatu, causing damage equivalent to around 64 percent of GDP.



Billions in damages

BASED on assessments made by the United Nations Environment Programme (UNEP), the Philippines is one of the countries most vulnerable to natural disasters.

The National Economic and Development Authority (Neda) said the country incurred at least P388.74 billion worth of damage from disasters between 2011 and 2018.

A 2016 study by the state-owned think tank Philippine Institute for Development Studies (PIDS) titled "Economic Impact of Typhoon Ondoy in Pasig and Marikina Cities Using a Multiweek CGE Model Analysis" said disasters in the country affected 4 million to 6 million people annually.

The PIDS also cited data from the Center for Research in the Epidemiology of Disasters (CRED) and the International Federation of Red Cross and Red Crescent Societies that as of 2012, "almost 20,000 people have died, while 2.7 million people have been directly affected and 94 million indirectly affected by natural disasters from 1992 to 2011."

The study found that the damage caused by extreme flooding in Pasig and Marikina cities due to Tropical Storm Ondoy in 2009 reached P22.54 billion, and 90 percent of the amount represented the loss of households and businesses located in Pasig City.

The Philippines ranked third overall in the Climate Risk Index (CRI) and scored 20.2, where the lower CRI score indicates a higher level of exposure and vulnerability to extreme events.

Between 1997 and 2016, an average of 860 Filipinos died every year due to extreme weather-related phenomena. This translates to 1 death for every 100,000 population. The country incurred economic losses worth \$2.89 billion annually and this accounted for 0.6 percent of GDP during the period.

Using fund channels

ACCORDING to Finance Undersecretary Mark Dennis Y.C. Joven, the government taps several facilities to address climate change issues.

One of these is tapping its war chest.

Joven told the BUSINESSMIRROR the government spent P198 billion and around P278 billion in 2017 and 2018, respectively, for climate change and disaster risk mitigation projects.

The government is expected to spend less at P242 billion this year despite 2019 being an El Niño year. Majority or 85 percent of these funds are allocated for the Department of Public Works and Highways (DPWH) for projects such as sustainable infrastructure.

The government has also tapped the \$8-billion Climate Investment Fund (CIF), which aims to accelerate climate action by empowering transformations in clean technology, energy access, climate resilience and sustainable forests in developing and middle-income countries.

Based on its website, the CIF's large-scale, low-cost, long-term financing lowers the risk and cost of climate financing. It tests new business models, builds track records in unproven markets, and boosts investor confidence to unlock additional sources of finance.

Six projects

OF the CIFs available, the Philippines was able to tap Clean Technology Funds (CTF) to finance six projects, five of which were cofinanced with the World Bank and one from the ADB.

Based on the CIF website, it approved \$134.48 million for the Cebu Bus Rapid Transit (BRT) project, the Philippines Manila BRT, Renewable Energy Accelerator Program (REAP), Renewable Energy Development (PHRED) project and the Sustainable Energy Finance program, which are all implemented with the World Bank. Also approved was the Market Transformation through Introduction of Energy Efficient Electric Vehicles (e-Trike) project, which is done with the ADB.

There is also the Global Environment Facility (GEF), which extends financing to developing countries and those with economies in transition to meet the objectives of the international environmental conventions and agreements. GEF support is provided to government agencies, civil society organizations, private-sector companies, research institutions, among the broad diversity of potential partners, to implement projects and programs in recipient countries.

In the Philippines, the GEF extended grant financing worth \$572.73 million for 111 projects. Through the GEF, the country was also able to gain access to \$4.71 billion worth of additional cofinancing with GEF agencies such as the ADB, World Bank, Food and Agriculture Organization, the UNDP, UN Industrial Development Organizations, and the GEF Secretariat.

Insurance vs. catastrophe

APART from these, Joven said a host of "hybrid" facilities are at the country's disposal.

One such facility is the parametric insurance, which is funded through a parametric insurance that allows vulnerable LGUs to take out insurance for their protection in case disaster strikes.

In January, the World Bank, which finances the parametric in-

urance, said it is extending \$390 million in insurance against major typhoon and earthquake events in 25 provinces. Under the program, the World Bank enters into an agreement with private reinsurers to provide coverage against disaster and severe weather impacts for national government agencies and the participating provinces.

The renewed policy is facilitated by the World Bank through a catastrophe swap, which provided the Philippine peso equivalent of \$206 million in insurance. The panel of risk takers, selected through a competitive bidding process, also doubled under the renewed policy. Risk takers were able to participate in the transaction either through a derivative contract or a retrocession agreement.

The Washington-based lender said insurance payouts are made when predefined parametric triggers are met. The Government Service Insurance System (GSIS) provides the parametric catastrophe insurance coverage. The insurance policy is designed to provide rapid liquidity in the face of disasters to the government, to enable rebuilding and recovery to commence.

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New initiatives

THE World Bank is also supporting the Philippines in preparing a sovereign catastrophe bond to complement the existing insurance program by providing cover for more extreme events.

Apart from this, there are regional facilities such as the ADB's extension of \$5 billion to finance projects on the blue economy, ecosystem management, pollution control and sustainable infrastructure.

Bruce Dunn, director of the ADB Sustainable Development and Climate Change Department's Safeguards Division, said the funds will be provided using various financing modalities such as lending, grants and bond floats. Dunn said the funding, which will be extended starting this year until 2024, is part of the Action Plan for Healthy Oceans and Sustainable Blue Economies for the Asia and Pacific region. The plan was launched at the 52nd Annual Meeting of ADB's Board of Governors here.

The ADB said the "Oceans Financing Initiative" will leverage public sector funds to create investment opportunities able to attract financing from a range of sources, including the private sector. Technical assistance and funds from ADB and donors, along with innovative financing instruments such as revenue guarantees and credit-enhanced blue bonds, will be used to reduce project risks and make them "bankable."

The initiative will be piloted in Southeast Asia in collaboration with the Asean Infrastructure Fund and the Republic of Korea. The World Wide Fund for Nature, a longtime partner of ADB, will support the design and implementation of the financing initiative.

Extending loans

IN the Philippines, the ADB will also extend \$100 million worth of loans to construct sustainable infrastructure, specifically greenways. The amount will finance the construction of six to seven elevated greenways in congested parts of Metro Manila.

ADB Southeast Asia Director-General Ramesh Subramaniam recently told reporters that the ADB and the Philippine government intend to complete at least one greenway by 2020. The first three locations for the greenways project, which is still being evaluated by the National Economic and Development Authority (Neda), will be North Edsa in Quezon City, Pasig City, and Taft Avenue.

Subramaniam said the models being used for the greenways are those found in Hong Kong, Kuala Lumpur and Seoul. He added that the ADB is also looking at Europe-based designs. He said completing

at least one greenway this year or next year would also serve as an example on how to do the succeeding greenways that will be built.

ADB Southeast Asia Department Deputy Director General F. Cleo Kawawaki explained that the greenways can be used by both pedestrians and cyclists. She said the ADB and the government are currently designing a structure to turn this into a reality.

Solving two problems

DESIGNING the greenways this way will ensure the structures solve two problems: road congestion and road safety, Kawawaki said. Traffic along major thoroughfares had cost the economy billions worth of lost economic productivity while road accidents have increased.

On top of these funds, Joven said the private sector also helps shore up climate finance. In February, ADB announced that it invested \$20 million in the maiden climate bond issuance of AC Energy Inc., a wholly owned subsidiary of Ayala Corp. in the Philippines. This public listing is the first Climate Bond Initiative (CBI)-certified US dollar climate bond in Southeast Asia listed on the Singapore Stock Exchange.

ADB is an anchor investor in the 10-year tranche, contributing to a total issue volume of \$410 million. Proceeds of the bonds will finance renewable energy projects in the Asia and Pacific region, including Vietnam, the Philippines and Indonesia.

This climate bond will be used to support AC Energy's plans to establish and expand a regional presence in the development of clean energy projects in accordance with environmental best practice.

Strategy 2030

THE climate bond is ADB's third and its first publicly listed climate bond.

In December last year, the ADB invested 5 billion Thai baht in B. Grimm Power Public Co. Ltd.'s maiden 5-year and 7-year climate bonds—Thailand's first certified climate bond. In 2016, the ADB also extended a guarantee to support an issuance for the Tiwi and Makban geothermal power projects in the Philippines—the first climate bond in Asia.

This investment is in line with ADB's new "Strategy 2030," which mandates that at least 75 percent of the number of ADB's committed operations support climate change mitigation and adaptation by 2030, with climate finance from its own resources reaching \$80 billion over 2019-2030.

"Actually, there are a lot of facilities for climate financing, not only at the GAA [General Appropriations Act] level but at the international or multilateral level," Joven told the BUSINESSMIRROR. "So I guess the idea is to come up with bankable projects and match these with the funding source."



Maturity lacking

IF there are other global and regional funds that are being tapped by the Philippines, however, the Finance Department said they still have no knowledge about them, given these projects are not yet mature.

The DOF said these agencies are coming up with their own projects but encounter challenges such as administrative ones like lag times. But this does not mean that there are no climate financing options available for countries like the Philippines.

"The biggest challenge is really for climate change and disaster risk projects to deal with several departments and agencies," Joven said. "So, determining who the lead is for a particular project—that's a challenge."

Efforts to improve the situation are being worked on, especially given that interest payments, especially those considered the most vulnerable to climate change, or the "Vulner-

able Group of 20" (V20), are finding it difficult to keep up with their financial obligations to address their climate change-related needs. The Philippines is a member of the V20.

In a recent study, UNEP said climate change is costing the V20 an additional \$62 billion in interest payments alone, including \$40 billion in additional interest payments on government debt paid over the past 10 years. Based on their model, it is estimated that the incremental debt cost for the V20 countries was almost \$9 billion in 2016 alone. The report said countries with the higher degrees of climate vulnerability face higher sovereign borrowing costs.

Increasing threats

FINANCE ministers from the V20 group of vulnerable economies recently announced new financial instruments in collaboration with international partners at the Spring Meetings of the World Bank Group and International Monetary Fund to ensure continued global economic growth in the face of increasing threats from climate change.

The group aims to lower the cost of capital and unlock large capital inflows to climate-proof the economic development of at least 1 billion people living in some of the fastest-growing regions who are exposed to severe climate impacts.

The V20 has proposed the Accelerated Financing Mechanism (AFM) for Maximal Resilience and a 100-percent Renewable Energy Transition to upscale existing risk mitigation tools, guarantees and blended finance facilities, and a new menu of instruments within MDBs and other development banks for adaptation, resilience and renewable energy projects.

Another V20 instrument, the Sustainable Insurance Facility (SIF), intends to promote private-sector insurance uptake to address climate risks and promote low-carbon development. The V20 sees SIF as a tool that can crowd in investments in risk reduction, enhance credit access, and better manage public contingent liabilities related to infrastructure and social resilience.

"The government considers this as a priority because we are a member of the V20," Joven said.

Responding to needs

WHILE all these funds are important in responding to the needs of those affected by disasters, Institute for Climate and Sustainable Cities (ICSC) Executive Director Renato R. Constantino said there is much more to climate finance than disaster response.

"The challenges, when it comes to climate finance, are multidimensional," Constantino told the BUSINESSMIRROR on the sidelines of the ADB Annual Meeting in Fiji.

Constantino said this compels governments to look into various permutations in terms of financing that address not only disaster finance but mitigation and adaptation needs.

Disaster response is not the end all, be all of climate finance, according to Constantino.

Unfortunately, many countries, including the Philippines, spend more on disasters rather than mitigating them or adapting to climate change.

He, however, noted that the Duterte administration has been very responsive to the need to address environmental concerns, even more than the previous administration. He said the efforts to clean up Boracay and Manila Bay are at the top of the list as well as efforts to address mining concerns.

He added that the government's efforts in terms of taxation, the implementation of a higher carbon tax, is commendable and certainly needed at this time given the commitments to keep global temperature increase to 1.5° Celsius in order to save more natural resources such as coral reefs.

Really concerned

BANGKO Sentral ng Pilipinas (BSP) Governor Benjamin E. Diokno agrees with Constantino, saying President Duterte has been very consistent about environmental issues. This did not only begin when he became President but was actually part of his campaign promises, Diokno said. He added this only shows the kind of political will that this administration has.

The six-month closure of Boracay, the country's top tourist destination, was a testament to this political will. Tourism Secretary Bernadette Romulo-Puyat said the country lost around 500,000 tourists due to the closure of Boracay last year.

"Yes, *grabe ang* political will [of the President]," Diokno said, citing the Boracay closure and the Manila Bay clean-up.

"And we plan to fix other tourist destinations. We are very active on the 'Green, Green, Green' program," he told the BUSINESSMIRROR. "We are financing green investments in all cities; that's in the budget. In fact, we can use that to tap into [a] 'Green Fund.'"

According to the chairman of the Monetary Board, the government "should be more active."

The President is really concerned with the environment, especially the abuse of natural resources.

Overall goals

CONSTANTINO said there is a serious lack of planning when it comes to climate financing.

He explained that should funds be available at the speed and quantity that is needed, there is no clear long-term plan available that will help channel these investments into concrete projects leading to climate change mitigation and adaptation.

The horizon by which policymakers peg their planning efforts and policies is contingent upon human timelines, not geologic, Constantino said. He added the catastrophes that countries are experiencing today are a result of the failure of governments to address emissions three or four decades ago.

"If money flows tomorrow, on the scale and speed that you'd like, it will probably get stolen or dissipated or wasted because you don't have plans that go beyond six years and that's too short term when it comes to climate realities," Constantino told the BUSINESSMIRROR. "You need to have plans that are... that see over several planning cycles; maybe at least three [planning cycles] or 18 years because the impacts are not short term."

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Further, Constantino said it is important to consider "slow-onset impacts."

Slow-onset impacts, Constantino said, "take place without the drama of calamity."

Reclamation, reality

DISASTERS, Constantino further explained, are episodic in nature and, as such, governments and multilateral development banks (MDBs) are more familiar with them. For instance, the onslaught of Supertyphoon Yolanda cannot be ignored given the scale of the catastrophe in economic terms and in lost human lives.

While there is no destroyed infrastructure to repair and dead bodies to count, slow-onset impacts have the capacity to change the face of the planet. These include rising sea levels that occur over long periods of time. The changes are as minute as paint peeling off of walls, Constantino said.

Given this reality and the fact that the Philippines is embarking on massive reclamation projects, Constantino said, is simply "worrisome."

"This year is the 10th anniversary of Ondoy. Last year was the fifth anniversary of Yolanda and you can say Pablo, Sendong and all of that. Those are extreme weather events that are likely traceable to emissions that we failed to pre-

vent 30 years ago," Constantino said. "So what for us is 'History,' is still 'Current Affairs' for [Mother] Nature. This is all linked toward a slower pace that is more attuned to nature."

Backing wrong deal

CONSTANTINO said the government, particularly the BSP, should also evaluate how it considers climate finance. He said the BSP should take time to examine the efforts of commercial banks to finance environmentally harmful projects.

In a study by the Institute for Energy Economics and Financial Analysis (IEFA) and the ICSC, stranded coal asset cost is already being realized in Mindanao due to an oversupply of approximately 700 megawatts of coal and hydro. The study found that between 2014 and 2016, stranded costs were conservatively equivalent to P3 billion or \$60 million. This risk is not always taken into consideration by banks, the study said.

The study added that stranded asset risk across coal-fired electricity-generation sector is rising and is driven by an overbuild of coal-fired plants as well as a trend toward falling power prices. This is driven by the deflationary nature of renewables and accelerating policies on retail competition.

These trends, the study stated, may leave ratepayers at risk of having to pay above-market prices and may affect the ability to service debt and return prospects of the equity investor.

"It's not within our powers to direct lending or, to say that, [the BSP orders that] you cannot lend to this," Diokno, however, told the BUSINESSMIRROR in an interview at the sidelines of the 52nd ADB Annual Meeting here.

More hopes

FOR survivors like Janine Marie Soliman, the cost of climate change is very personal.

A decade ago, Soliman saw how water became deadly and dangerous when it inundated the second story of the newly built house of her grandparents in Provident Village, Marikina.

Her grandfather, injured by broken glass, stayed with them at their neighbor's roof for 12 long hours.

Soliman and her twin sister fell ill with leptospirosis, forcing them to a two-week hospital stay. Apart from their medical expenses, the cost to repair the damage to their new home came at a lofty price: P450,000.

The financial and psychological costs were also staggering.

But Soliman still considers herself lucky that despite the many deaths caused by Typhoon Ondoy, she and her family survived the tragedy and lived to tell the tale.

Her family has also upgraded their insurance coverage to include "Acts of God."

That move is recommended by a PIDS study, which said that, apart from the government efforts, households must also gird their loins when it comes to securing their future in the climate change era.

The PIDS study said city residents are willing to invest billions to reduce their exposure and vulnerability to adverse effects of extreme flooding.

The study estimated that residents in Pasig City may be willing to pay up to P13 billion for protection against the adverse effects of natural disasters such as Typhoon Ondoy. Marikina City residents, on the other hand, may have to pay a lot less for the same purpose, i.e., P2 billion.

"Rather than merely undertaking relief programs following a natural disaster, investing by local authorities in making the city less vulnerable to climate change shocks promises good returns," the PIDS study stated.

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