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DENR

IN THE NEWS

Strategic Communication and Initiative Service



DENR to public: Surrender rescued Taal wildlife

By ELIZABETH MARCELO

The Department of Environment and Natural Resources (DENR) has appealed to the public to turn over to authorities any rescued endangered and endemic animals from Taal Volcano.

"We are appealing to the public to rescue and turn over to the DENR any wildlife species within the vicinity of Taal Volcano to ensure their safety," Environment Undersecretary Benny Antiporda said in a statement over the weekend.

Antiporda said endangered and endemic animals within the Taal Volcano Protected Landscape (TVPL) may have migrated to residential communities after the volcano started spewing ash and other hazardous particles since last week.

Antiporda said the animals, which local residents may have unintentionally captured, must be brought to wildlife rehabilitation centers for proper care.

Antiporda made the appeal after he received a rescued rufous hornbill from Cavite Educators Lions Club member and Bacoor City resident Flor Locson. The bird is suspected to have fled from the TVPL.

The rufous hornbill, locally known as kalaw, is a large species of hornbill found only in the Philippines. The animal falls within the "Red List" of the International Union for Conservation of Nature, which means that it is considered a vulnerable species, nearly threatened by extinction.

The DENR warned that eating wildlife or keeping them as pets is against the law.

Meanwhile, environment assistant secretary and concurrent Biodiversity Management Bureau (BMB) director Ricardo Calderon said rescued wildlife from Taal Volcano may be turned over to the DENR field offices in Batangas or in Cavite.

"The DENR field offices in Batangas – Calaca and Lipa – are ready to receive these animals once they are rescued," Calderon said.

"We have teams from the field offices on site that are helping in rescuing the animals in the peripheries of the area," he added.

Apart from wildlife species, Calderon said the BMB is also helping in the rescue of domesticated animals. Calderon said the rescued animals are either turned over to the owners or to the local government units in the area.

As to the rescued rufous hornbill, initial checkup shows that it is "generally healthy despite being stressed," Calderon said.

The hornbill is currently at the BMB's Wildlife Rescue Center in Quezon City, where it will be rehabilitated before being released into the wild.

"Once the bird recovers, it can be released in the same area (TVPL) once everything is settled or in the Calabarzon area where their species are widespread," Calderon said.

Sanitary disposal

With many animals killed in areas affected by the volcanic eruption, the Department of Health (DOH) issued an advisory on how the remains should be buried.

For one, the agency said those burying dead animals should wear gloves and a mask when they handle the animal's carcass. The burial ground should be three to four feet deep and, for mass burials, the depth of the burial ground should be six feet from the last animal buried there.

The agency added that the burial ground must be far from water sources.

Many domestic animals and livestock were left on Taal Volcano island when their owners evacuated due to the eruption a week ago. Efforts by various groups are currently underway to rescue them.

On its website, the Atlanta-based Center for Disease Prevention and Control (CDC) in the US had issued some recommendations on proper animal disposal following an emergency.

According to the CDC, proper hand washing by those involved in the disposal is important to prevent infection with "certain pathogens that may be transmitted from farm animals, including salmonella and E. coli."

"People working to clean up areas containing swine or poultry carcasses should... wear protective clothing, including waterproof gloves, waterproof boots and protective eyewear" and to cover any open wounds, the agency added.

The CDC recommended the use of duct tape to "seal tops of gloves and boots to prevent water seepage." It also recommended respiratory protection such as N95 face masks or respirators, adding that if there is a smell of hydrogen sulfide (like a rotten egg smell) one must leave the area.

The agency also advised the public to wash hands and shower and wash hair thoroughly after handling animal carcasses or carcass-contaminated materials. All clothes and boots should be cleaned and disinfected. Wash work clothes separately from street clothes. –With Sheila Crisostomo



Turn over wildlife displaced by volcano eruption, public told

By ELLALYN DE VERA-RUIZ

The Department of Environment and Natural Resources (DENR) urged the public on Saturday to turn over to authorities any wildlife species that have fled after the Taal Volcano's eruption.

Not only did the volcanic eruption drive thousands of people in the Taal Volcano Island and neighboring areas to evacuate, but the DENR noted that endangered and endemic animals within the Taal Volcano Protected Landscape (TVPL) could have also migrated to nearby communities after the active volcano ejected giant clouds of ash and lava last week.

DENR Undersecretary Benny Antiporda advised the public to immediately turn over to authorities any wildlife species they see or unintentionally capture to allow these animals to be brought to wildlife rehabilitation centers for proper attention and care.

"We are appealing to the members of the public to rescue and turn over to the DENR any wildlife species within the vicinity of Taal Volcano to ensure their safety," he said.

A rufus hornbill was turned over to the DENR last Thursday by Bacoor City resident Flor Locson, who suspected that the bird she rescued came from TVPL.

The hornbill which was "generally healthy despite being stressed" is currently at the Biodiversity Management Bureau's (BMB) Wildlife Rescue Center in Quezon City, where it will be rehabilitated before releasing it to the wild.



Bayanihan saves animals

Hundreds of wildlife creatures were affected by Taal Volcano eruption

BY MAXINE LOUISE LAGMAN
IMAGES BY ALI VICIO

When Taal volcano erupted last Sunday, Jan. 12, the once green pasture, lively neighborhood, and tourist attraction became a black-and-white portrait of a land enveloped by ashes with no signs of life.

At least 6,000 residents were forced to evacuate immediately to safe centers when the volcano spewed plumes of ash that fell to nearby provinces and areas as far as Central Luzon. The Philippine Institute of Volcanology and Seismology (PHIVOLCS) raised the alert level to 4, indicating that a "hazardous eruption" was possible within days or hours.

People had no choice but to leave their pets and farm animals behind as ferries and trucks could not accommodate them. The rescue efforts were not ready to transport animals. But when the volcano rested, the Filipinos wasted no time to go back for their animal companions.

BAYANIHAN COMES TO RESCUE

Many residents, who unfortunately left their pets at home, asked for help on social media.

There was **CJ Masongsong** who posted on Facebook and asked for assistance to rescue his dog named Shark. "*Hindi lang po naisama sa pag-evacuate kasi walang masasakyan* (I wasn't able to bring him because there was not enough transportation)," he says. Pet owner and Siberian Husky and Bully breeder, **Aries Vinson Clarin**, had the same dilemma and pleaded for help online as he failed to bring half of his kennel with him during the evacuation.

Animal rescue organizations, welfare groups, and even regular pet lovers heeded their call and came to the rescue the next day to help pet owners and animals in need.

The University of the Philippines Metropolitan Manila Development Authority Vanguard (UPMV) K9 Corps, a non-profit organization that trains dogs for search and rescue and disaster operations, was one of the first groups to rescue animals, even helping evacuees in the disaster-stricken communities.

"It was not an easy task, but to-

gether with the purest hearts of our volunteers, partner groups, and the generosity of everyone who donated, we were able to reach out and provide little comfort to the affected families," said the group. "The smiles of the people and the hope we saw in their eyes are what fuels our endless passion to serve."

Pet owner **Aljay Esguerra** shared that he returned to their home in Talisay, Batangas to rescue his dog Milktea. He was crying, because he couldn't find Milktea anywhere until he saw a note posted on their gate, saying that UPMV K9 rescued his dog and a contact number where he could get in touch with them.

Those with free spaces in their homes, like **Edsel Pagcaliwangan Paredes** and **Ritchie Fabella Carreon**, offered temporary shelter for animals who needed a place to stay. All for free.

People for the Ethical Treatment of Animals (PETA) Asia and its volunteers have also been on ground in the evacuation zone, providing

'Animals left behind were found dead when owners came back to retrieve them.'

food and veterinary care to abandoned animals. They are also the first to reach Taal island where they helped rescue dogs, cows, and even Taal's unsung beauties, the horses.

When the Provincial Disaster Risk Reduction and Management Office (PDRRMO) announced that they would no longer evacuate horses and other animals on the island and that animal rescuers were also not allowed to go back, horse owners themselves took turns and used three to four of their wooden boats to row more than 50 kilometers across the lake to transport the animals from the island to Balete, Batangas.

"We couldn't rely on anyone," said one horse owner according to the Philippine Animal Welfare Society (PAWS) as there were about 3,000 horses on the island, which were used to carry tourists who visited Taal's crater.

They rescued about 30 horses while the Philippine National Police Maritime Group managed to rescue

50 more on Thursday, before government rescue teams decided to call off efforts to save the animals until they got the go signal to return and continue the rescue efforts.

The National Disaster Risk Reduction and Management Council (NDRRMC) spokesperson **Mark Timbal** said some towns have been placed under lock down to avoid residents from returning to the danger zone.

Veterinarians from the Philippine Pet Birth Control Center Foundation (PPBCC) helped in giving vet care to the rescued animals. "We're trying to treat as many as we could. All need vet care and most were dehydrated," says **Dianne Marie** of PPBCC.

CALL TO ACTION

When they reached Taal island, PETA Asia did not hold back and said it was "covered with dead animals and reeks of decomposing flesh."

All-Breed Association of the Philippines (ABAP) K9, another non-profit search and rescue organization, was also at the scene. Secretary general **Red Oliva Lim** says that "animals left behind were found dead when owners came back to retrieve them."

Though it's been great that a lot of people have been collaborative in rescuing animals, **Jana Sevilla** of PETA Asia reiterated the need for provisions. This includes animals in evacuation plans as part of the Animal Welfare Act, which states the need to "protect and promote the welfare of all [animals]" to avoid more animal deaths in time of natural disasters in the future.

Vice President **Leni Robredo** asked Batangas Vice Governor **Mark Leviste** to consider putting up a separate evacuation center for animals after a number of evacuees kept going back to their homes to check on their pets.

Aside from farm animals and pets, the Department of Environment and Natural Resources also calls for the protection of other affected wildlife that might have migrated to other places from Taal island like the endangered hornbill.

Continuous relief efforts for rescued animals are underway, because what's important right now is to help them get through the trauma and back on track. As PETA Asia says, "but among all [these] deaths, there are also survivors."



Makati sasaklolo sa mga naiwang hayop

Tutulong ang Pama-
halaang Lungsod ng
Makati sa pagliligtas ng
mga hayop na na-trap sa
mga delikadong lugar na
tinamaan ng pagsabog ng
Taal Volcano.

Ayon kay Maka-
ti City Mayor Abi-
gail 'Abby' Binay, bu-
kod sa kanilang pagpa-
padala ng mga kagamit-
an sa disaster response
ay maghahatid din sila ng
isang impounding vehicle
sa Bauan, Batangas nga-
yong araw kasama ang
ilang mga tauhan ng Vete-
rinary Services Depart-
ment (VSD) na maglal-
agak ng mga pagkain ng
aso at pusa, bitamina, an-
tibiotics, at antiseptic solu-
tion sa atangas Provincial
Veterinary Office.

Aniya, mahalagang
mailigtas ang mga alagang
hayop sa panahon ng mga
sakuna dahil bahagi rin ito

ng pamilya.

Ayon kay Dr. Ma.
Katherina Mangahas, pi-
nunong Makati VSD, ang
impounding vehicle ay
may walong kulungan na
maaaring mapaglagyan
ng hanggang 24 na medi-
um sized na mga aso.

Marami sa mga neti-
zen ang nag-aalala para sa
kapakanan ng mga hayop
na naiwan malapit sa Taal
Volcano.

Kumalat sa internet
ang mga larawan at vi-
deo ng mga hayop, kabi-
lang ang mga kabayo
at baka na nababalutan
ng abo, bagay na nag-
udyok sa mga animal
rights group at mga lokal
na pamahalaan na mag-
bigay ng pagkain at basic
veterinary care sa mga nai-
wang mga hayop.

Nauna nang ipinag-
utos ni Mayor Binay ang
pag-deploy ng mga sa-

sakyan at kagamitan ng
lungsod na laan sa pag-
tugon sa sakuna pa-
tungong Bauan upang
matulungan ang libo-li-
bong mga evacuees mula
sa mga lugar na apektado
ng patuloy na pagsabog ng
Taal Volcano.

Kasabay nito, nanawa-
gan ang DENR na sagipin
ang mga hayop na naiwan
sa mga lugar sa Batangas
at Cavite

Umapela si DENR
Usec. Benny Antiporda
na ibigay sa ahensya ang
mga wildlife na makuku-
ha sa isla para sa wastong
pangangalaga.

"We are appealing to
the public to rescue and
turnover to the DENR
any wildlife species with-
in the vicinity of Taal Vol-
cano to ensure their safety,"
sabi ni Antiporda. (**Armi-
da Rico/ Riz Domin-
guez**)



Mare-rescue na wildlife species sa Taal 'wag gawing pet - DENR

Nanawagan ang Department of Environment and Natural Resources (DENR) sa publiko na tumulong na ma-rescue at protektahan ang wildlife species na matatagpuan sa paligid ng Bulkang Taal sa Batangas.

Ayon sa DENR, ang mga endangered at endemic animals sa Taal Volcano Protected Landscape (TVPL) ay nag-migrate na sa mga komunidad sa paligid ng bulkan makaraan ang pagsabog nito.

Inabisuhan ni DENR Undersecretary Benny Antiporda ang publiko na agad na ibigay sa mga otoridad ang anumang wildlife species na makikita at matatagpuan upang ang mga ito ay mailipat at maalagaan sa wildlife rehabilitation centers para sa kaulangang disposisyon.

Ang panawagan ay ginawa ni Antiporda makaraang makarating ang ulat sa kanya na may nakapag-rescue ng rufous hornbill na sinasabing mula sa TVPL.

Ang Rufous hornbill (*Buceros hydrocorax*), na kilala sa tawag na kalaw, ang pinaka malaking species ng hornbill na matatagpuan sa Pilipinas na pinangangambahan ng maubos.

Pinayuhan nito ang makakakuha ng endangered species na huwag itong gawing pets at huwag kakainin dahil ito ay labag sa batas.

Ang mga rescued wildlife ay maaaring ma-turnover sa DENR field offices sa Batangas at Cavite para sa kaulangang disposisyon. (*Angie dela Cruz*)



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Damaged Coffee farmer Abner Javier of Amadeo town, Cavite checks the coffee trees covered with volcanic ash from the eruption of Taal volcano last Sunday. AFP

Taal: Worst ain't over yet

By Maria Romero
@tribuneph_mbr

The Philippine Institute of Volcanology and Seismology (Phivolcs) on Saturday maintained a catastrophe is still looming even as Taal Volcano seemed "quieter" the past couple of days.

A "steady" stream of steam and fewer tremors were showcased by the volcano in the last 48 hours, but these

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A "steady" stream of steam and fewer tremors were showcased by the volcano in the last 48 hours, but these "weaker" activities do not indicate a full-blown and violent eruption

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"weaker" activities do not indicate a full-blown and violent eruption.

"The volcano is still under alert level 4, the second-highest danger level, which means a hazardous explosive eruption is possible within hours to days," Phivolcs director Renato Solidum said in a press briefing.

There was still "intense" activity underground as magma continued to move beneath, he added.

"What we see on the surface is different from what's happening underneath," Solidum explained.

He likewise warned that towns and cities within Taal Volcano's 14-kilometer radius remains at high risk of being caught by base surges in case of a bigger eruption.

The National Disaster Risk Reduction and Management Council (NDRRMC), in its latest situation report, said around 22,472 families, or 96,061 persons, were displaced by the volcano's phreatic eruption a week ago.

Of the said number, 16,174 families, or 70,413 individuals, are temporarily seeking shelter in 300 evacuation centers scattered in local government

units marked "safe" in Batangas and Cavite.

The NDRRMC also bared that the total cost of assistance already given out by the Department of Health, Department of Social Welfare and Development and several LGU have now reached P17,227, 950.61.

After the Taal volcano started spewing lava and a huge plume of ash last week, endangered and endemic animals within the Taal Volcano Protected Landscape (TVPL) have migrated to communities.

Thus, the Department of Environment and Natural Resources (DENR) is calling on the public to help rescue and protect wildlife species fleeing the wrath of Taal Volcano in Batangas province.

In a statement over the weekend, DENR Undersecretary Benny Antiporda advised the public to immediately turn over to authorities any wildlife species they see or unintentionally capture so these animals can be brought to wildlife rehabilitation centers for proper care.

"We are appealing to the members of the public to rescue and turn over to the DENR any wildlife species within the vicinity of Taal Volcano to ensure their safety," Antiporda said.

Antiporda made the appeal after he received a rescued rufous hornbill on behalf of the DENR from Cavite Educators Lions Club member and Bacoor City resident Flor Locson, who suspected the bird she rescued came from TVPL.

Rufous Hornbill (*Buceros hydrocorax*), locally known as *Kalaw*, is a large species of hornbill found only in the Philippines.

Its species are listed in the Red List of the

International Union for Conservation of Nature as vulnerable species, which means the bird is near threatened.

According to Antiporda, who is also the first vice district governor of Lions Club International District 301-A2, the government would need everyone's help in saving the

wildlife species affected by the volcanic eruption.

"We in the government cannot do this alone," Antiporda pointed out. "We need the help of the Filipino people to save the wildlife species near the Taal volcano vicinity."

Kristina Maralit @tribuneph_tina

Tent City Among the evacuees in towns affected by the eruption are children who have to let go of their energies. YUMMIE DINGDING



Creation of Taal Commission sought to map out rehab plan

**By Leila B. Salaverria
and Patricia Denise M. Chiu**
@Team_Inquirer

Senate President Pro Tempore Ralph Recto wants a new body that would oversee the rehabilitation of affected areas around Taal Volcano.

Recto, a native of Batangas, said in a radio interview that he would draft a bill to create the Taal Commission, to be patterned after the Mt. Pinatubo Commission that was organized after the 1991 eruption of that volcano in Central Luzon.

"We will file a bill probably creating a similar commission, a Taal commission, so we can help our countrymen not just in Batangas but also Cavite, and so that there would be [a] rehabilitation and recovery fund in the coming years," Recto said in an interview over dwIZ.

The Mt. Pinatubo Assistance, Resettlement and Development Commission was created in 1992 under Republic Act No. 7637. The government set aside P10 billion as Assistance, Resettlement and Development Fund to help victims in the communities affected by Mt. Pinatubo's eruption.

The 11-member commission had the power to formulate policies and plans for the relief, rehabilitation, resettlement and livelihood services as well as infrastructure support in accordance with the other plans and policies of the national government.

The commission could also enter into contracts and seek and accept grants, donation of funds, equipment, materials, and services. The commission had a six year term that could be extended once for not more

than three years.

Good model

According to Recto, the Mt. Pinatubo Commission is a good model to follow because it was able to help Pampanga province recover.

"Pampanga is now able to stand on its own feet. That is the model we will follow for Taal," he said, adding that, "Rehabilitation and recovery will take a long time."

Regarding the P4 billion cut from the 2020 calamity fund, now reduced to P16 billion, Recto said the remaining fund from 2019 could be used this year.

He estimated the unused fund to be about P700 to P900 million.

"What is important is there is an appropriations item, and this can always be augmented," Recto said.

He said he was satisfied with the government response to the eruption, although it was not perfect.

Base surge

Taal Volcano erupted on Jan. 12 and covered several Batangas towns in thick layers of ash, forcing the evacuation of some 450,000 residents, especially those within the 14-kilometer-radius danger zone.

Alert level 4, which remains in effect, means a hazardous eruption could take place in hours or days.

"What we see above ground or on the surface is very different from what is happening under the surface," Director Renato Solidum of the Philippine Institute of Volcanology and Seismology (Phivolcs) said in a press briefing on Saturday.

"The magma is still moving, we have not detected a trend

that the volcanic activity has slowed down," he added.

As of Saturday, Phivolcs reported that the volcano has spewed a plume of ash as high as 600 meters in the air. The volcano's sulfur dioxide emission was measured at 360 tons, although this was weaker than in the past few days.

Solidum further brought up the danger of a base surge.

Base surges are clouds of hot gases, ash, and rocks traveling horizontally at speeds of more than 80 kilometers (km) per hour.

Hazard map

He recommended that residents steer clear of the 14 km high-risk area, but clarified that Tagaytay ridge, with its higher elevation, will not likely be affected by a bay surge.

"If you want to check on your homes or areas, you can use the Hazard Hunter application of the Phivolcs," Solidum said, explaining the app which identifies dangers and hazards in particular areas and can be used for planning.

A hazard map released by Phivolcs on Saturday showed the concentration of fissuring or cracking of the ground in the southwest side of the volcano.

Of the four towns where fissuring was earlier observed, three—Lemery, Agoncillo and San Nicolas—are on the southwest of the volcano, and one was observed in Talisay, on the northeast side.

Phivolcs research specialist Lincoln Olayta said one possible explanation for the orientation of the fissures is that the Pansipit River Valley is "being pulled, possibly because intrusive magma is flowing underneath."



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Creation of taal commission sought to map out retreat plans

"But that is open for interpretation, since we are still constantly data gathering," he added.

"It's possible that lava is flowing underneath, but since the main crater is already open and has released the magma

there, we don't expect magma flow from these fissures," Olayta also said, affirming an earlier assurance by Phivolcs Monitoring and Eruption Prediction Division chief Maria Antonia Bornas.

But then he pointed out that if magma erupts, the chambers and conduits could

be emptied, and the ground could possibly sink.

"Subsidence is possible after all this is over, but deposits can also form in the cracks, and settle there," Olayta said.

Subsidence is the sudden sinking or gradual downward settling of the ground's surface. INQ

GENERAL LOCATION OF FISSURES RELATED TO THE JANUARY 2020 TAAL VOLCANO ERUPTIVE ACTIVITY (as of 18 January 2020)



This map shows the locations of the fissures observed around Taal Volcano and vicinity on blue lines. Locations are based on actual field data. The fissures generally trend northwest-southeast.



The fissures observed in Brgys. Trance and Poblacion in Talisay were displaced by a few centimeters laterally and vertically.



A fissure with a vertical displacement of 30 to 40 cm cut the road parallel to the seashore in Brgy. Bilbinwang, Agoncillo.



Along the Lemery-Agoncillo Road in Brgy. Dayupan, Lemery, northeast-trending fissures were measured with a vertical displacement of 29 cm. Widening of fissures by ~5cm was also documented.



More fissures appeared and existing ones widened in Brgy. Sinalan East, Lemery. The general trend of the fissures is northeast-southwest. The vertical displacement of the fissures in this area is measured at 29 to 60 cm.

Fissures in Brgy. Sambal Ibaba, Lemery were observed to continue towards the shore, with a vertical displacement of 5 to 10 cm.

Fissures at the Lemery - Taal Diversion Road in Brgy. Laguilan, Taal had a ~50 cm. vertical displacement during investigation.



DOST-PHIVOLCS

Department of Science and Technology
Geological Survey of the Philippines
1680 Alabang Road, Alabang, Muntinlupa City, Metro Manila
Tel: (02) 8866-6000, 8866-6001, 8866-6002, 8866-6003, 8866-6004, 8866-6005
Fax: (02) 8866-6006, 8866-6007, 8866-6008, 8866-6009, 8866-6010
www.phivolcs.dost.gov.ph



AFTER POLLUTANTS WERE DETECTED IN A STUDY SCIENTISTS CALLED FOR CLOSE MONITORING OF LAGUNA LAKE

SCIENTISTS from the University of the Philippines (UP) recently urged for the extensive monitoring of Laguna Bay against potentially harmful pollutants like antibiotics, steroid hormones, industrial chemicals, fecal bacteria, protozoa and heavy metals after their study established the presence of those pollutants in the lake.

Although, most of the pollutants are still within the limits of the water quality standards as set forth by law, the detection of antibiotics, steroid hormones and protozoa is a cause for the conduct of further studies in order to establish a more comprehensive data.

"The study, which established lower concentrations of pollutants when compared to other parts of the world, is a good start for more in-depth studies," said Dr. Mylene G. Cayetano, a professor from the UP Institute of Environmental Science and Meteorology who led the third team of scientists that studied the presence of heavy metals in the fishes of the Laguna de Bay.

The Department of Science and Technology (DOST), through the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), in collaboration with the Laguna Lake Development Authority, commissioned the UP scientists' study, the Program Synergistic Capacity Advancement in the Management of Laguna Lake (Program Scale).

The group studied the Laguna de Bay and

selected tributaries for one year.

Scale's Project 1 was led by Dr. Maria B. Espino of the Water Research and Management Laboratory of the UP Diliman Institute of Chemistry.

It studied the lake's level of steroid hormones, such as estradiol and estrone, and industrial chemical plasticizer bisphenol A, which are known endocrine disruptors; among beta-lactam antibiotics, such as cefalexin and penicillin G; and heavy metals, such as arsenic, chromium, nickel and copper.

According to Project 1 study, among the beta-lactam antibiotics, only cefalexin and penicillin G were detected in concentrations up to 4.53 ng (nano grams)/L and 4.75 ng/L, respectively.

And among the endocrine disruptors, the estradiol and estrone, as well as bisphenol A, were detected in the lake water in concentrations up to 0.36 ng/L, 2.74 ng/L, and 50.89 ng/L, respectively.

These concentrations are low compared to those found in lakes in other countries.

The Project 1 study added that heavy metals—arsenic, chromium, nickel and copper—were consistently detected with concentrations up to 0.007 mg (milligrams)/L, 0.004 mg/l, 0.003 mg/L and 0.015 mg/L, respectively.

These levels of heavy metals are below the water quality guidelines for Class C waters as provided in Department of Environment and Natural Resources Administrative Order 2016-08.

However, higher concentrations of arsenic, up to 0.1 mg/L, were found in the south bay of the lake near Los Baños. This may be due to volcanic origins based on other studies.

Scale's Project 2 was led by Dr. Windell L. Rivera of the Pathogen-Host-Environment Interactions Research Laboratory of the UP Diliman Natural Sciences Research Institute. It studied the Microbial Source Tracking in Laguna Lake and selected tributaries.

The study revealed that based on the presence of fecal bacteria, *Escherichia coli* and *Bacteroides* species, domestic source contributes the most fecal contamination, particularly human origin in most river tributaries.

Among the animal sources—swine and duck feces—are abundant in the rivers of Sapang Baho in Cainta, Rizal and in Pila, Laguna.

The Project 2 added that these results corroborated with the findings that zoonotic pathogens or microorganism that cause diseases like *Cryptosporidium* species from humans, swine and poultry are detected in five river tributaries—Bagumbayan, Biñan, Santa Rosa, Sapang Baho, and Pila.

Giardia spp. were also detected in all tributaries, namely, Bagumbayan, Mangangate, Sapang Baho, Tunasan, Biñan, Pila, San Cristobal and Santa Rosa.

The presence of these intestinal protozoan parasites may pose a threat to water safety and human health since Laguna Lake serves as a catch basin.

Consistently, Bagumbayan River has been marked to be the most contaminated among the sampling stations.

Scale's Project 3 was led by Cayetano. It studied trace metals and organics in commodity fishes of the lake: method optimization, extent of contamination and health risk due to fish intake.

Project 3 results showed that 0.43 mg/kg was the average lead concentration detected in *bangus* from Biñan but below the detection limit for the samples from Pila.

For tilapia, the lead average value of 1.10 mg/kg and 0.48 mg/kg were obtained from Biñan and Pila, respectively.

For cadmium, Biñan samples have an average concentration of 0.04 and 0.24 for the tilapia and *bangus*, respectively. The mean cadmium content in *bangus* from Pila is 0.20.

The study also noted that the mean arsenic content in *bangus* samples remains high on both dry and wet season, and higher than the tilapia.

The daily human intake of lead and cadmium in tilapia and *bangus* does not exceed the guideline limits set by the World Health Organization, and the Food and Agriculture Organization.

For the arsenic content in *bangus*, higher daily consumption (90th percentile) exceeded the US Environmental Protection Agency's oral reference dose, while the daily intake of arsenic in tilapia does not exceed the oral reference dose of the US EPA. **S&T Media Service**



Oras o araw na lang, Taal sasabog uli – Phivolcs

MATAAS pa rin ang tiyansa na magkaroon ng pagsabog ang Bulkang Taal kaya nananatili nakataas ang Alert Level 4.

Ayon sa Philippine Institute of Volcanology and Seismology (Phivolcs) may posibilidad pa rin ng pagkakaroon ng hazardous explosive eruption anumang sandali kaya hindi pa rin dapat na maging kampante ang mga residente.

Sa nakalipas na 24 oras ay nagkaroon pa rin ng steam emission at mahihinang pagsabog ang Taal, ang abo na inilabas nito

ay may taas na 50 hanggang 600 metro.

Nakapagtala pa rin ng 32 na volcanic earthquake na may lakas na 1.1 hanggang 3.3 magnitude.

Paliwanag ng Phivolcs na ang mga naitatalang seismic activity ay patunay na mayroon pa ring magma intrusion sa ilalim ng bulkan at anumang oras ay maaari itong umakyat pataas.

Dahil patuloy na nakataas ang banta ng Taal ay muling iginiit ni Phivolcs Director Renato Solidum sa mga Local Government

Unit at mga ahensiyang nangan-gasiwa sa evacuation na panatili-hin ang 14km danger zone.

“Binabantayan natin ang pos-ibleng mga steam explosion. Kapag lumaki na ang pagsabog posibleng mangyari ang base surge,” giit ni Solidum.

“Though Taal Volcano showed signs of calming down, there was still intense activity underground as magma continued to move beneath. Naiiba ang nakikita natin sa taas at naiiba sa ilalim,” dagdag pa nito. **(Tina Mendoza)**



Taal recovery task group hinirit

ANG pagbuo muna ng Taal Recovery Task Force ang dapat na pagtuunan ngayon ng mga adviser ni Pangulong Rodrigo Duterte para sa mabilis na pagbangon ng mga biktima ng pagputok ng Bulkang Taal.

Iminungkahi ito ni House Deputy Speaker Rep. Mikee Romero habang hindi pa umano naitatag ang Department of Disaster Resilience (DDR).

Paliwanag ng kongresista, habang hindi pa umano naitatag ang DDR ay dapat bumalngkas na

umano ang pamahalaan ng Inter-Agency Taal Rehabilitation, Recovery and Livelihood Program na patatakbuhan at pangangasiwaan ng bubuung task force.

Sa pamamagitan umano nito ay mabibigyan agad ng atensiyon ang mga biktima tulad ng masisilungan ng mga ito, trabaho at kabuhayan.

"While we do not have yet a Department of Disaster Resilience, this will do for now. Housing, jobs and livelihood should be the key

result areas of the program and its implementing task group," ayon kay Romero.

Si Human Settlements Secretary Eduardo del Rosario ay maari umano ng magsisilbing chairman ng task group.

Dagdag pa ng kongresista, kailangan ang mabilis na aksyon ng pamahalaan para sa pagbangon ng mga biktima at hindi umano dapat na hayaang matutulad ito sa mapinsala at maeskandalong Yolanda relief, rehab at recovery. **(Eralyn Prado)**



'PSYCHOLOGICAL RESCUE'
SENDING IN THE CLOWNS—AND COUNSELORS—
FOR KIDS WHO FLED VOLCANO

By Delfin T. Mallari Jr.
@dtmallarijrINQ

LUCENA CITY—Children traumatized by the eruption of Taal Volcano are being ministered to by volunteers seeking to boost their psychological, educational and spiritual well-being.

An estimated 2,813 families or 11,683 persons, mostly young children, have fled Batangas province and taken refuge in this city and 16 towns in Quezon province.

In Dolores town, more than 600 evacuees are being provided food and lodging at the central compound of the Suprema de la Iglesia del Ciudad Mystica de Dios, or Mystica, in Barangay Sta. Lucia at the base of Mt. Banahaw.

Members of Mystica, one of a number of religious sects based on Banahaw, is seeing to the evacuees' spiritual wellness, while teachers and psychologists invited by Dolores Mayor Orlan Calayag are engaged in the "psychological and educational rescue" of the trau-

matized children.

The local tourism office posted on its Facebook page photos of the children undergoing counseling and debriefing.

One photo caption spoke of the many ways of helping those in need, such as through one's knowledge or profession, and not only in material or financial terms: "*Maraming paraan po ng pagtulong, hindi lamang sa materyal o pinansyal. Maaari din natin ibahagi ang ating kaalaman o propesyon upang tayo ay makatulong.*"

Also in the photos were a clown and a magician who arrived at the evacuation center to cheer up the children.

Relief from near and far

A number of the evacuees are being sheltered by their relatives, but their condition is being monitored and recorded by local government agencies.

The provincial government of Quezon led by Gov. Danilo Suarez continues to accept do-



KEEPING THEM COMPANY Children of families forced by the Taal Volcano eruption to leave their homes in Batangas province are treated to a clown and magic show in Dolores, Quezon, where they have found temporary shelter—as well as the comforting arms of civic and religious groups now attending to their psychological and spiritual well-being. —PHOTO FROM THE DOLORES TOURISM: FAITH AND WELLNESS DESTINATION FACEBOOK

nations for its relief campaign dubbed "Yakap Kababayan (A call for donations for the victims of Taal Volcano eruption)."

Concerned citizens and public and private offices have donated bottled water, canned goods, hygiene kits, medicines, sleeping mats, used clothes and cash to the Quezon Convention Center.

"We will bring the collect-

ed donations to different evacuation centers in the coming days," Quezon public information officer Ma. Janet Geneblazo-Buelo said yesterday.

Donations for the Taal victims have come from as far away as Kalayaan, the smallest and farthest municipality of Palawan province facing the West Philippine Sea. Bottled water, clothes,

canned goods, instant noodles, and other relief goods have been sent from the Kalayaan Island Group to its extension office on the mainland at Barangay Santa Monica, Puerto Princesa City, since Monday through the efforts of the municipal government's employees.

Kalayaan's population is 251. It is composed of seven islands and islets, including Pag-Asa, which China has been claiming.

Riders from Bicol

"Help is help no matter how small it is, and this is a paradigm shift considering how small we are compared to other towns sending support," Kalayaan Mayor Roberto Del Mundo said on Friday night. "We are thinking of channeling our donation through the Palawan Provincial Disaster Risk Reduction Management Office or to the lead couriers in the country so it will get to the victims."

Some 20 motorcycle riders from Bicol also traveled yester-

day for more than 10 hours to Batangas to personally deliver more than 4,000 N95 face masks, ready-to-eat food, and hygiene kits worth P500,000 that they had collected from various organizations and private individuals. The relief items were loaded in four pickup trucks.

Eruption still possible

"We will coordinate with the barangay officials to identify families living with their relatives and friends who seldom receive relief goods," said Vincent Villar, one of the riders.

"Bicolanos know the effects of ashfall, and this can happen not just once because there is a possibility of a more hazardous eruption," Villar added, alluding to Mt. Mayon in Albay, another active volcano.

Since Jan. 12, Taal Volcano has remained on alert level 4, meaning a hazardous eruption is possible. —WITH REPORTS FROM MA. APRIL MIER-MANJARES AND ROMAR MIRANDA INQ



We listed some of these good Samaritans who gave their best, even to the point of putting their own lives at risk to help the victims of the Taal Volcano eruption.



ASHES TO ASHES, BRICK TO BRICK Taal bricks MRF uses Taal Volcano ash to produce durable bricks

BRICK BY BRICK

What has always been considered as a threat and health hazard has been put into good use.

The Materials Recovery Facility (MRF) of Biñan, Laguna has used the volcanic ash spewed by Taal Volcano to produce bricks.

To make this happen, City Mayor Arman Dimaguila, through the Biñan City Information Office, says he ordered residents all over the city to collect ash inside and outside their home.

"[The] clean-up drive collected almost two dump trucks of volcanic ashes on its first day," Dimaguila tells *Manila Bulletin Lifestyle*. "These were then transferred to the MRF along with other plastic wastes. Seeing the amount of ash that came in, we thought of creating bricks out of it."

For two years now, the city has been producing eco-bricks out of plastic waste, white sand, and cement, which they use for pathways in public schools. This time, using the same machine, MRF employees added volcanic ash—about 40 percent of the mix—in the production of bricks. On average, Biñan City's MRF produces around 5,000-7,000 bricks per day.

This initiative to create what Dimaguila calls the "taal bricks" is part of "*Bayanihan sa Biñan*," a program inspired by the city's battle cry, "*Sa lungsod ng Biñan, mamamayan ay maaasahan.*"

"[We want to show that] bayanihan in Biñan is alive with or without disaster," he says. This is precisely why the city has also decided to donate the bricks to the victims of the eruption.

"Residents in Batangas whose houses were directly affected by the disaster will be the recipients of the bricks," Dimaguila says. "We are also willing to donate it to other LGUs and organizations that will be needing it."



FAQs on ASHFALL

BY PAOLA NAVARETTE

Major volcanic eruptions are rare, but they can represent a serious risk to your health. Volcanoes produce and release gases mixed with water and tiny particles that form a type of pollution called vog. Erupting volcanoes also spew volcanic ash. Both vog and volcanic ash can be harmful, so learn more to take steps to protect yourself and your family.

Q—Is it okay to operate an air conditioning system during a heavy ashfall?

An ashfall that leaves a thick layer of ash may cause roofs to collapse, clog gutters, and interfere with air conditioning units.

According to usgs.gov, air intakes on heating, ventilation, air-conditioning (HVAC) systems are vulnerable to volcanic ash ingestion.

“Ash ingress may cause ash accumulation in the radiator and air filters, reducing air flow and HVAC

condenser system performance. Reduced airflows may cause stalling and overheating,” it said.

In a statement, Aircon Manufacturers advised customers to protect their air conditioning system. “If you experience heavy ashfall, kindly refrain from using your Split type air conditioner and window type air conditioners,” it said. “Continued use with heavy ashfall will result in the clogging of the outdoor condenser coil, which in turn will cause overheating of the compressor and overall air conditioning system.”

Q—What is the best mask to use and where can I buy if the stores in the city near me have already exhausted their supplies?

Physician **Jai Cabajar** advised people to wear N95 masks from local drug stores to avoid inhalation of the hazardous particles.

“It can filter smaller particles compared to a regular face mask,” he

said in a tweet.

A regular mask cannot stop these gases from entering our nostrils. A wet mask, however, can.

So in place of face masks, dermatologist **Dr. Winlove Mojica** said that people can dip a clean handkerchief or face towel in water and wrap it around the nose and mouth area before stepping out.

Q—How do I protect my vehicle during this time?

Here are the preparations that should be taken according to the International Volcanic Health Hazard Network (IVHHN):

- Avoid driving, as ash is harmful to vehicles and the roads may be slippery. Visibility may also be affected.

- If driving is crucial, drive slowly, use headlights and ample windscreen fluid. Using wipers on dry ash may scratch the windscreen

- Change oil, oil filters, and air filters frequently or every 80 to 160 kilometers in heavy dust, and every 800



THE HOUSE OF ASH A resident retrieves belongings at their destroyed house covered in mud and ash due to the eruption of the nearby Taal volcano, at a village in Laurel, Batangas province (Photo by Ted Aljibe)

to 1,600 kilometers in light dust.

- Clean your car and have a service garage clean wheel assemblies every 80 to 160 kilometers for very severe conditions or every 300 to 800 kilometers for heavy dust conditions.

- Clean the vehicle, including the engine, radiator, and other essential parts daily if necessary, using water to flush the ash.

- Wash the engine compartment with a garden hose. Keep your car or truck engine switched off. Avoid driving in heavy ashfall. Driving will

stir up ash that can clog engines and stall vehicles. If you do have to drive, keep the car windows up and do not operate the air conditioning system. Operating the air conditioning system will bring in outside air and ash.

- Wear protective clothing especially if working in the ashfall, and goggles to protect the eyes. If you must drive, drive slowly as ashfall will reduce visibility. You may need to use the car headlights because of the reduced visibility. Do not use the car's ventilation system.



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PAGE 1/

LIVELIHOODS DESTROYED

Taal wrath falls not only on homes but sources of income of folks living around the volcano

P.2



DEAD fish float along the shores at the foot of a mountain next to Taal volcano crater at a fishing village in Laurel, Batangas. (Inset): Horses evacuated from the Taal volcano are brought ashore from a boat, near Laurel. Decimated fish, scorched coffee plants and vanished tourists: the Taal volcano eruption in the Philippines has inflicted significant damage on the livelihoods of tens of thousands and is expected to cause more.

AFP / IAN ALBER, EJ JONES

LIVELIHOODS DESTROYED

By Ron Lopez

AMADEO, Batangas - Decimated fish, scorched coffee plants and vanished tourists: the Taal volcano eruption in the Philippines has inflicted significant damage on the livelihoods of tens of thousands and is expected to cause more.

When Taal exploded to life Sunday it spewed towering columns of fine grey ash, which officials said destroyed crops and killed off potentially tonnes of fish raised in the lake that rings the volcano.

"We lost a lot of money because all our fish are gone," said Cesario Rodriguez, 34, a fish farmer. "We just need to find a way to survive."

It didn't help either when government health officials warned people not to eat the fish as it could have been contaminated with volcanic sulphur, though the nation's health agency told AFP no formal ban is in place.

The warning of a further, potentially catastrophic eruption, also led authorities to urge the thriving tourism industry near the volcano—a popular attraction—to suspend activity as a precaution.

The nation's seismological agency has issued its second-highest alert, saying Taal could unleash an "explosive eruption" at any time.

With scores of bookings cancelled and many restaurants and hotels shuttered, the eruption will hurt, but no one knows how much yet.

"It going to be negative... 90 percent of the tourism establishments in Tagaytay are closed," said Elinia Sangalang, a local tourism official, referring to the resort town with stunning views of the volcano.

The town alone draws about 5.5 million tourists per year, in part because it is a mere 60 kilometres (37 miles) south of the hot and crowded capital Manila.

Estimates of the harm to farmers and fishermen are already coming in to focus, and authorities say the amount could grow.

The agriculture agency said Friday it estimates so far the volcano caused about \$59 million in damage to the industry, which is just about four percent of what the region produced in 2017.

In the Philippines life is already hard for those who have not benefited from

the nation's rapid growth in the past decade. Millions still live on less than \$2 a day.

However the pain for some, like coffee growers, will take years before it can be fully calculated.

That's because it takes about two years for coffee plants to mature and begin bearing fruit, said Arnold Bay, an official with a cooperative of about 150 small growers.

There are already signs their plants were heavily damaged, though they hope to still harvest some of their crop.

"It will be difficult for us and for our clients," said Bay. "It will take two years for the farmers to have their livelihood back."

The process of recovering is far from started, especially for the over 60,000 people forced out of homes near the volcano and into evacuation centers.

They can't go home while the threat of a new, powerful eruption remains, so they will live in limbo for now.

"We don't know what to do next," Dandy Belencio, 43, a fish vendor whose home was destroyed in the eruption.

"We're still lost on what will happen to us," he told AFP.



01-19-20

DATE

From rainwater to drinking water

Hyundai's facility processes nature's resource



The Hyundai HD36 truck customized into a water delivery truck (top right photo) was formally turned over by HARI Foundation Inc. (HFI) president Maria Fe Perez-Agudo (left) to Tanay Mayor Rex Tanjuatco.

By PINKY CONCHA COLMENARES

The rainy season is not a problem to people in the municipality of Tanay where the Hyundai Rainwater Harvesting Facility processes nature's resource into potable water for the community.

For two years now, Hyundai's contribution to the community has been processing nature's resource at the Rawang Elementary School in Barangay Tandang Kutyo. Since October 2019, the clean water is being distributed to neighboring barangays – thanks to a Hyundai HD36 truck customized into a water delivery truck.

The truck was formally turned over by HARI Foundation Inc. (HFI) president Maria Fe Perez-Agudo to Tanay Mayor Rex Tanjuatco.

The water delivery truck symbolizes the second phase of the partnership of Hyundai Motor Company Korea (HMC), HFI, and the Tanay LGU.

The water delivery truck will deliver potable water to neighboring communities, starting with Barangay Plaza Aldea.

The pilot facility initially provided clean drinking water to 200 students of the school which needed a source for

drinking water.

"In the first three months after the rainwater harvesting facility was installed, the people were hesitant to drink. So, the teachers and the students of Rawang were the first ones to make use of the water. The rest of the community decided to get water for themselves only when they saw that the children were not getting sick and that they were needlessly spending on buying water from other places," Tanjuatco said during the turnover ceremonies.

"In the next few years, we realized that Rawang was producing excess water, so the donation of this water delivery truck is a great help to us. The people do not need to bring their water containers to get clean water from the school premises. Now the truck will bring water to them," he added.

Agudo said the Rainwater Harvesting Project is very close to the heart of HARI as it benefits so many people.

"Now that we are in phase 2, the more we should pursue the project to bring clean water to more communities," she said. "My dream is to multiply the success of the project to the various islands of this country."



Duterte slams past water deals as greatest rip-offs

By **EFREN MONTANO**

PRESIDENT Rodrigo Duterte took a dig at two former presidents under whose time the water concession agreements with Maynilad and Manila Water existed, which he described were the "greatest rip-offs" in the country.

Speaking at the thanksgiving gathering of the Fraternal Order of Eagles in Davao City Friday, Duterte resumed his tirades against the two concessionaires and warned anew he would do everything to bring its owners to jail for what they did to the Filipino people.

Duterte also lashed against government lawyers who agreed to the contracts, which he said violated the Constitution and the anti-graft law.

"Kung gusto nyo ng rip-off, many were asking where the big fish... sabi ko, dito sa itaas ang pinaka-corrupt - tax exemptions, no collection of taxes... itong mga elitista talaga who choose the country's leaders, sila 'yan," he said.

"I will not try names, but just because your mother died, you are qual-



ified to run for president, just because the big business pati yung mga tycoon, sila ang mapili, ito ang kandidato natin, o sige suportahan nyo, bigyan nyo ng pera. Ganito ang politika ever since, sa Maynila lang ninyo niluluto kung ano ang kapalaran ng Pilipino," Duterte added.

Duterte has publicly protested a liability clause in the concession agreements with the Pangilinan-led Maynilad Water Services Inc. and the Ayala-led Manila Water Company Inc. that holds the government liable if it interferes with the implementation of water rates and accountable to indemnify the companies for losses incurred.

The government's contracts with the water con-

cessionaires are set to expire in 2022 after the Metropolitan Waterworks and Sewerage System canceled the extension of the agreement that was supposed to be until 2037.

Duterte said the government will present new contracts with the concessionaires, which he said, they should take, otherwise, he would nationalize the distribution of water.

Duterte said the deals with the two concessionaires were "null and void" from the time they were signed in 1997 because of violations of the law and the Constitution.

"Ang masakit pa rito, yung mga abugado ng gobyerno, it boggles the mind na itong mga abugado pumayag sa kontrata in

violation of the Constitution and the Anti-Graft and Corrupt Practices Act," he said.

"Dito sa kontrata, pag-basa ko pa lang na water will be treated as a common commodity, dun pa lang pumutok na talaga ako... Lahat ng nakalista sa anti-graft law, nandun sa kontrata that's why my stand is the contract is null and void from the beginning in 1997," he said.

It was during the administration of President Fidel Ramos when Maynilad and Manila Water bagged the agreement to distribute water in Metro Manila, Rizal province and parts of Cavite province.

The concession agreements signed by the firms with the Metropolitan Waterworks and Sewerage System (MWSS) would be for 25 years.

"Well, it started during the time of Ramos and it was also... Sandali 'yung ilaw napapatay. Stop! Lahat ng kontrata na nakita ko sa buhay ko. We surrendered sovereignty. We allowed our natural and valuable natural resource such as water, ginawa nilang common commodity. That is a violation of the Constitution," Duterte said.



EX-PRESIDENTS SLAMMED OVER WATER DEAL

P.2

2 ex-presidents slammed over water deal

PRESIDENT Rodrigo Duterte took a dig at two former presidents on whose watch were inked the water concession agreements with Maynilad and Manila Water which he described as the "greatest rip-offs" in the country.

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Efren Montano



SALUTE TO THE NEW PNP CHIEF

LIEUTENANT GENERAL
ARCHIE GAMBOA

EDITORIAL

'Zero hunger'

WITH just 29 months before June 30, 2022, the administration of President Duterte is still up against one of its greatest challenges: millions of people remain hungry due to extreme poverty.

At 12 noon on this day, the six-year presidency of the hard-hitting but highly-popular Chief Executive from impoverished Mindanao ends as provided under the 1987 Philippine Constitution.

To free more Filipinos from hunger and achieve food security, President Duterte has created an inter-agency task force (TF) on "zero hunger," drawing cheers from various sectors of society.

In setting up the TF, Duterte recognized that involuntary hunger, food security, under-nutrition, and child wasting, stunting and mortality continue to be serious concerns in the country.

There's a need to coordinate, rationalize, monitor and assess the efforts of state offices to ensure a whole-of-government approach to eradicating hunger and achieving food security, he said.

Heading the 13-member task force is Cabinet Secretary Karlo Nograles, with Secretary Rolando Bautista of the Department of Social Welfare and Development (DSWD) as vice chairman.

Members are the heads of the Departments of Agriculture, Agrarian Reform, Budget, Education, Environment, Labor, Science, Trade, Communication, National Economic and Development Authority, and Commission on Higher Education.

The TF is mandated to formulate a National Food Policy (NFP), which will outline national priorities based on a comprehensive understanding of the problem of hunger and related issues.

Under the NFP, the task force members will identify and come up with initiatives for ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture.

We commend the Duterte government for exerting its best efforts to make productive the countryside as part of its program of action to wipe out hunger and achieve food security.



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POSTSCRIPT

FEDERICO D. PASCUAL Jr.

A yellow, not red, light to reclamation

ENVIRONMENTALISTS and people's organizations opposing further reclamation of historic Manila Bay had better note that President Duterte has flashed only the yellow, and not the red, light to the bay projects still awaiting the green light.

Some objectors to reclamation were somewhat buoyed by the President's sounding in a radio interview on Monday like he was against the reclamation of the remaining open space in the coastal strip of the 194,000-hectare bay.

Duterte's statement, however, was iffy: "If it's an investment to infuse more money into the economy, it seems to be OK. But the hugeness of the area you are trying to reclaim is almost mind-boggling, because that entire 10,000 hectares will surely be for habitation... There might be some offices and some residences.

"I am not ready even to say that I will grant it, not in my time, as long as there is no guarantee that the environment will be protected and the health of the people also safeguarded."

We see a hint there that if his requirements for environment protection and public health are met, he would allow more reclamation. Left unsaid are the realities of politics, business and personal relationships that could also influence him.

The decision to flash the green light for any bay reclamation project rests exclusively on President Duterte. In February last year, he issued Executive Order No. 74 retaining the power delegated to the Philippine Reclamation Authority to approve projects.

The EO said: "The PRA shall be under the control and supervision of the Office of the President, while the power of the President to approve all reclamation projects shall be delegated to the PRA Governing Board.

"Such delegation, however, shall not be construed as diminishing the President's authority to modify, amend or nullify the action of the PRA Governing Board."

Under EO-74, reclamation ventures will no longer need the approval, but only the opinion, of the National Economic and Development Authority as to their being "consistent with national and regional development planning and programming, and government national priorities."

The NEDA, like the courts, has been regarded by some project proponents and investors as an obstruction. The EO took care of that complaint.

The PRA is now required also to get the opinion – not the approval – of the Department of Environment and Natural Resources as to a project's sustainability and compliance with environmental laws, and of the Department of Finance as to its economic and fiscal viability.

Last month, the PRA – presumably with Duterte's go-signal – said four reclamation projects have been given notices to proceed: the Navotas City Coastal Bay project, the Pasay project (360-ha.), the Horizon Manila project (418-ha.) and the P62-billion Pasay Harbor City project (265-ha.) said to be controlled by a crony.

They are among some 40 projects earlier submitted for development on a strip of coastal area of 10,000 hectares in Cavite, Parañaque, Pasay, Manila, Malabon, Navotas, Bulacan, Pampanga and Bataan.



Other projects, some already approved, mentioned in earlier reports are: Manila Solar City (148 ha.), New Manila Bay International Community (407.42 ha.), Expansion of Manila North Harbour Center (50 ha.) in Tondo, Manila Bay Integrated Flood Control, Coastal Defense and Expressway project (18 ha.), Navotas City Coastal Bay (650 ha.), Baseco Rehabilitation & Dev't Inc. reclamation (50 ha.), City of Pearl in Baseco (407 ha.), PRA Baseco (40 ha.), Waterfront Manila Bay (318 ha.), SMC's "Aerotropolis" in Bulacan, Bulacan (1,168 ha.), Las Piñas-Parañaque Coastal Bay (635 ha.), SM Prime Holdings (300 ha. and 60 ha.), Bacoor City (944 ha.), and Cavite Coast on Sangley Point (2,700 ha.).

Despite the glow of its romanticized image, the bay is the virtual septic tank of some 13 million people packed into the 16 cities and one town of Metro Manila whose sewage is dumped mostly untreated into the Pasig River flowing to the bay.

The bay is in bad need of quick rehabilitation, a herculean job that could be complicated by the massive reclamation projects being rushed.

The iconic bay is being smothered and pushed away to its final sunset, another victim not only of pollution, but also of inordinate commercial reclamation masked as progress.

• Duterte's 'soft heart' to carry the day

DESPITE President Duterte's saying that he was against renewing the franchise of broadcast giant ABS-CBN that expires on March 30, the multi-sectoral crowd arguing for its extension has been growing.

We support renewal of the franchise to help promote the full and free flow of information. If ABS-CBN or its executives have committed any violation of law as the President alleges, we think the proper recourse is to file the complaint in court.

Support has been coming from various sectors, from plain folk to professionals, the entertainment industry, and the families of the workers affected by the closure of the network.

Election lawyer Romy Macalintal shared yesterday his "feeling" that the President's "soft heart" would prevail: "The thousands of employees of ABS-CBN and their dependents will be considered by the President, including the call of his allies and celebrities."

He said Duterte's known "kindness and compassion" will carry the day. "If he could forgive businessman Lucio Tan for allegedly 'funding destabilization plots' after Tan's Philippine Airlines provided free flights to OFWs from Kuwait, he might do the same for ABS-CBN in view of its helping victims of the Taal volcano eruption and its special coverage of the disaster."

"The soft heart of Duterte will not allow him to ignore the interest of the thousands of employees and talents who would be affected by the closure of ABS-CBN," he said.

The former opposition senatorial candidate said he knows that "deep inside his armor, the warrior is a child," to borrow from that popular song of Gary Valenciano, "because when I last met him and addressed him 'Mr. President,' he replied: 'Idol, kumusta ka na,' and held my hand and we had a selfie."

NOTA BENE: All Postscripts can be accessed at manilamail.com. Follow author on Twitter as @FDPascual. Email feedback to dikpascual@gmail.com



FINANCE INSIDER

NI ERICK BALANE

GUSTONG tangkain ng Department of Finance (DOF) sa pamamagitan ng Bureau of Internal Revenue (BIR) na makakolekta ng karagdagang bilyong-pisong buwis bilang back taxes sa mga business establishment na nakatayo sa Manila Bay reclamation area bago man lamang magtapos ang panunungkulan ni Pangulong Rodrigo 'Digong' Duterte dahil sa umano'y hindi pagbabayad ng capital gains tax sa pinasok na joint-venture agreement o memorandum of understanding na nilagdaan, ilang dekada na ang nakalipas.

Sinabi ng source na lehitimo ang planong paghahabol ng BIR sa mga hindi binayang buwis noong panahong itinayo ang mga malaking business establishments at iba pang naglalakihang gusali sa unatayang mahigit na 1,500 ektaryang reclamation area sa Manila

Bay.

Umano'y kuwestiyonable ang nangyaring bilihan sa noo'y karagatang Manila Bay na tinabunan ng lupa sa kung paano binayaran ng capital gains tax sa BIR? Kung paano naging pag-aari ng mga kilalang negosyante ang property? At kung saan ibinase ang halaga ng zonal o market valuations matapos tayuan ng mga mala-higanteng buildings o gusali?

Ang anggulong ito ay sumagi sa isip ng mga opisyal ng DOF at BIR matapos umanong madismaya si Presidente Duterte sa tinamang shortfall sa 2019 tax collections ng BIR at Bureau of Customs (BOC). Ang BIR, ayon sa datus ng DOF ay nakakolekta lamang ng P2.17 trillion mula buwan ng Enero hanggang buwan ng Disyembre noong nakalipas na taon o nabigo itong makolekta ang target tax goal na P2.33 trillion o short ng P16 bilyon, samantalang umabot lamang

BILYONG BUWIS, HABOL NG BIR SA MANILA BAY RECLAMATION!

sa P630.6 bilyon ang nakolektang buwis ng BOC na bigo ring nakuha ang target tax goal na P661 bilyon o short ng P31 bilyon noong fiscal year 2019.

Sinabi ng source na walang balak si Presidente Duterte sa isa pang mungkahing reclamation project ukol sa sinasabing construction ng P100-billion worth 419 hectare commercial district at sa isa pang 140 ektarya sa port area ng Manila Bay reclamation o maging ang diumano'y planong 10,500 ektaryang panibagong reclamation area.

Ayon sa source, sa sinasabing planong itayong 419 hectare-business at residential district, ang 181 ektarya rito ay ilalaan para sa gobyerno, samantalang ang matitirang 238 ektarya ay mapupunta naman bilang pag-aari ng gustong umaklong developer o ang 43.2 percent ng kikitain sa proyektong ito kung matutuloy ay para sa gobyerno, samantalang ang malaking porsiyento o 56.8 percent ay maliwanag na gustong mapunta naman bilang parte ng hahawak na developer na umano'y isang malaking kalokohan.

Sinabi pa ng source na kung matuloy ang proyektong ito, ang gustong maging bilihan sa rate ng average market value ay P200,000 o tinataya sa P362 bilyon ang revenues pabor sa gobyerno, samantalang tinataya sa P476 bilyon ang ayudang gustong maging parte para umano sa panig ng developer.

Tulad ni Pangulong Digong, tutol din sa planong ito si Manila Mayor Isko Moreno. Ayaw umano ng Chief Executive na sang-ayunan ang mungkahing panibagong reklamasyon sa panahon ng kanyang panunungkulan.

Gayunman, sinabi ng source na gustong makaharap ng DOF at BIR officials ang matataas na opisyal ng Philippine Reclamation Authority (PRA) na siyang nagsusulong ng balaking ito upang mabawi ng BIR ang tinatayang bilyong-pisong back taxes na posibleng makolekta o mabawi ng gobyerno sa naunang reklamasyong itinayo sa nakalipas na dekadang panahon.

Ang diumano'y panibagong pinaplanong reklamasyon, ayon pa sa source ay gaya ng mga sumusunod: New Manila Bay International Community (407.42 ektarya), ang kontrobersiyal na Solar City Urban Center (148 ektarya) at ang P7.4 bilyong expansion ng Manila Harbor Center sa Tondo, Manila.

Ang planong panibagong reklamasyong ito ay maigting na tinututulan din ng mga environmentalist at maging ng mga religious organization.

Paniwala niya, guguho at lalamunin ng baha sa panahon ng kalamidad ang buong Metro Manila sa sandaling maganap ito.

❖❖❖
Para sa komento o opinion, mag-text lamung pos sa 09266481092 o mag-email sa erickbalane04@yahoo.com



SUSTAINING THE NEW BORACAY

Combined efforts are keeping the world-famous island at its best

By ANGELA CASCO

It's been almost two years since the six-month closure and rehabilitation of Boracay Island.

It's as if it only happened yesterday, though, as the memory of the abrupt closure remains clear to **Rose Brillantes-Gabas**, a hotelier who has spent three out of her 20 years of hotel management experience in Boracay.

"There were talks, hearsay, but no one was confirming if the closure would push through," she tells *Manila Bulletin Lifestyle*. "When it was finally said that Boracay would be closed, we were all surprised because we still had guests. We were also told by the local government that all hotels must not accept guests anymore, even though some had already booked a room months or even a year before."

This abrupt closure lasted for half a year, during which establishments were subjected to inspection, and were made to comply with existing and new requirements, particularly their sewage and wastewater treatments.

Since the island's reopening last September 2018, though, much has changed in the island—for the better.

NEW PHASE, NEW FACE

Instead of the familiar party crowds and after-party trash, the beachfront is nearly spotless now, thanks largely to the strict enforcement of guidelines and restrictions by the Department of Interior and Local Government (DILG), Department of Tourism (DOT) and its attached agency, Tourism Promotions Board (TPB), Department of Environment and Natural Resources (DENR), and the Boracay Inter-Agency Rehabilitation Management Group (BIARMG).

Multiple signages along the shore prohibit littering, smoking, drinking of alcohol, pets, fire dancing, and vendors. Even building commercial sand castles, as well as structures and furniture are not allowed, too, in compliance with what is called the 25X5 meters easement.

Ever since the closure and reopening, no LaBoracay event has been held. A "no hotel, no entry" policy also requires incoming tourists to present hotel reservations, before entering the island. Far from the cesspool it was once called, hotels now get the green light to open only upon putting in place a sewage system connection or their own treatment facility.

Abiding by these rules and representing the new phase of Boracay is the just opened Citic Hotel.

Apart from impressive amenities and perks—a total of 339 stylish suites, ranging from a cozy 35-square-meter room to a spacious room of 55 square meters complete with Wi-Fi, television, in-room mini bar, and in some, direct pool access; three pools including one for kids; three-minute walking distance from the beachfront; four food and beverage outlets serving uniquely Filipino drinks and dishes; a business meeting room; tour and activity booking services; and daily shuttle services—this Boracay hotel operates with sustainability and inclusivity in mind.

For starters, the majority of the staff servicing guests inside and outside the hotel are locals, in accordance with an ordinance that requires local establishments to hire at least 40 percent of its employees from Malay, Aklan.

"We patronize the locals here and so I would say around 80 percent of the staff here are from different parts of Western Visayas," says Rose, who is now general manager of Citic. "Some are from Iloilo, Aklan, Roxas, and Dumaguete."

'With the new Boracay, rules can't be violated anymore. Now, we're putting things back in order. We're optimistic to do what is right and what this island deserves.'



continuation: Sustaining The New Boracay Combined efforts are keeping the world-famous island at its best

Food sources are also local.

"We try as much as possible to get our ingredients locally," Rose says. "That's also because we want to reach out to local farmers and communities, and support them."

For their oyster omelet, the hotel uses the earthy yet sweet Aklan oysters. Much of the vegetables they use, including those in their simple yet comforting garlic butter stir-fried broccoli and cauliflower, are delivered fresh from Baguio.

Citic's take on *painitan*, a popular breakfast platter from Dumaguete, serves a slice of world-famous

Guimaras mangoes with *budbud* or sticky rice, and *sikwate* or *tsokolatibatiro* with a kick of *siling labuyo*.

Reduced plastic use is also a norm in the hotel, a practice Rose and the rest of Citic implements in every part of the hotel. As seen at the suites' in-room mini bar, complimentary drinking water comes in glass bottles. In the bathroom, meanwhile, shampoo, conditioner, and body wash bottles are all refillable.

"The ban on single-use plastic, we like it," she says. "All hotels are complying with that and that includes us."

Every month, Citic also does beach cleanups that are coordinated with the local government, which requires every establishment on the island to take part in the effort. The hotel's approach, however, is a tad bit different compared to others.

"We encourage our guests to join the cleanup," Rose says. "We wanted to engage our guests and let them appreciate the beauty of the island and, at the same time, help keep it clean as well."

WORTH IT

Though workers were left jobless, hotels emptied, and tropical paradise seekers shunned, GM says the closure has resulted in a number of improvements.

"When the closure was ordered, I felt bad for everyone—the business owners, stakeholders, and employees," Rose says. "The outcome, however, has been amazing. Boracay is cleaner now."

Regulations on smoking and, recently, vaping are stricter now, too. "Before, people can smoke anywhere they want," Rose recalls. "Now, it's under control. The first time they launched the smoking regulations, there was only one place—a spot at D'Mall—where it was allowed. Owners would have to go to the municipal office for permits now should they want to designate a smoking area in their establishments."

The rehabilitation has also resulted in more opportunities to explore

other sights in the region that, in turn, decongests Boracay of incoming tourists. Currently, the island has 13,000 rooms that can accommodate 26,000 tourists. Daily, only 6,405 are allowed to enter the island.

TPB is at the helm of this decongestion effort.

"In sustainable marketing, you have to make sure that you have several packages that you can offer to decongest, and ultimately, to sustain a destination," says **Alberto Gadia** from TPB's domestic promotions department. "This is what we're doing now in Boracay. There are now packages available for tourists to visit other spots."

Some of the packages feature the Bugang River, the cleanest inland body of water in the country, is also on Panay Island, specifically in Pandan, Antique. A river tour is available at the site, swimming in the river's clear waters, and enjoy fishing.

Tourists can also visit Kalibo's mangrove sites, which also happens to be one of the longest stretches in the country at 220 hectares. Oysters and *tamilok* or woodworm are absolute must-tries.

People are also starting to discover more of the island's "Filipino touches," like its local museum and cuisine. Motag Museum in mainland Malay, for instance, is an interactive space that features the traditions of Panay Island.

All of this is, as indicated in the beachfront signages, "to ensure the preservation of Boracay island" and to "push for a better Boracay."

"In the new Boracay, rules can't be violated anymore," Rose says. "Now, we're putting things back in order. We're optimistic to do what is right and what this island deserves."

FOCUS

Solar-powered barge a key 'interceptor' for plastic waste

KLANG, Malaysia: Scooping waste from a Malaysian river to stop it reaching the sea, a solar-powered barge named the "Interceptor" is the latest weapon in a global battle to rid the world's waters of plastic.

Trash is being dumped into seas and rivers in enormous quantities, polluting vital habitats, endangering a kaleidoscope of marine life and sullying once pristine tourist spots.

Some 8 million tons of plastics enter the world's oceans every year, from straws tossed into gutters to mismanaged waste from rapidly growing economies, according to United States-based group Ocean Conservancy.

But as governments and environmental protection groups struggle in the face of the growing tide, a Dutch non-profit group — The Ocean Cleanup — has come up with a novel solution in the form of the Interceptor.

The 24-meter-long vessel resembles a large houseboat and uses a curved barrier to catch waste floating downstream.

The trash, much of it plastic, is directed to the "mouth" of the barge — which operates autonomously and silently — from where it rolls up a conveyor belt and is dropped into dumpsters.

The barge can collect up to 50 tons of waste a day.

In October an Interceptor was stationed on the Klang River, a heavily polluted, major Malaysian waterway, which flows through the capital Kuala Lumpur and its surrounding areas.

Ocean Cleanup is working with local government company Landasan Lumayan, which started cleaning the river in 2016, and says efforts are bearing fruit.

"The Klang River was like a floating landfill," said Syaiful Azmen Nordin, managing director of the Malaysian firm.

"Boats could not pass through, and there was a lot of plastic. Now you can see the river is generally free from floating debris."

Tires and teddies

Ocean Cleanup hopes their project will have a major impact in fighting the waste crisis globally, as rivers are

one of the greatest sources of plastic flowing into the seas.

Some 80 percent of plastic waste that ends up in the sea floats down just 1,000 rivers worldwide, according to the group, which hopes to one day station trash-collecting barges in all these waterways.

The Klang River alone sends more than 15,000 tons annually into the sea, a map on their website shows, making it one of the 50 most-polluting rivers across the globe.

"We know the goal of 1,000 rivers is ambitious, but it is a necessary one," said group spokesman Joost Du Bois, adding they aimed to have dealt with the problem within five years.

But the group has some way to go to turn the tide — they have so far built four Interceptor boats at a cost of 700,000 euros (\$775,000) each, although they expect the price will come down as more are produced.

As well as the barge in Malaysia, one has been stationed in Jakarta, the overcrowded capital of neighboring Indonesia, while two others will be sent to Vietnam and the Dominican Republic.

Thailand has signed up to put one near Bangkok and an agreement is being negotiated to station a vessel in Los Angeles.

The barge on the 120-kilometer Klang River complements seven existing log barriers placed along the waterway to catch trash.

Rubbish taken out of the river is currently sent to a landfill, although efforts have begun to retrieve recyclables.

Some 50,000 tons of garbage had been hauled from the water since clean-up work started four years ago, according to Syaiful.

"We have [collected] tires, teddy bears, even dead animals... but generally it is plastic," he said.

While the barges may help, they would only succeed if people do their part and act responsibly by refraining from thoughtlessly tossing plastic away, Syaiful added.

"Some people don't see the impact of throwing rubbish. They throw the plastic on the streets and eventually the plastic will flow into the river," he said.

"If we change our behavior, we can help our rivers [become] clean." **AFP**



NESTLÉ LEADS SHIFT TO FOOD-GRADE PLASTICS

NESTLÉ said it is investing up to CHF 2 billion (Swiss franc) to lead the shift from virgin plastics to food-grade recycled plastics and accelerate the development of innovative sustainable packaging solutions.

Building on its 2018 commitment to make 100 percent of its packaging recyclable or reusable by 2025, Nestlé will reduce its use of virgin plastics by a third in the same period while working with others to advance the circular economy and endeavor to clean up plastic waste from oceans, lakes and rivers.

Food quality and safety are paramount, and packaging plays a major role in assuring this. Most plastics are difficult to recycle for food packaging, leading to a limited supply of food-grade recycled plastics. To create a market, Nestlé says it is committed to sourcing up to 2 million metric tons of food-grade recycled plastics and allocating more than CHF1.5 billion to pay a premium for these materials between now and 2025.

"No plastic should end up in landfill or as litter," said Mark Schneider, CEO of Nestlé. "Making recycled plastics safe for food is an enormous challenge for our industry. That is why in addition to minimizing plastics use and collecting waste, we want to close the loop and make more plastics infinitely recyclable. We are taking bold steps to create a wider market for food-grade recycled plastics and boost innovation in the packaging industry. We welcome others to join us on this journey."



FARM TOURISM AND MAHOGANY



MERCURY RISING
BY BOB ZOZBRADO

THANKS to the untiring efforts of three leading personalities in the country, "farm tourism" has become a buzzword in our local travel industry.

More than a decade ago, former Tourism Secretary Mina Gabor educated us on the benefits of farm tourism through specialized courses she offered in her International School of Sustainable Tourism.

Almost at the same time, the hardworking Senator Cynthia Villar taught small-time farmers all over the country that there is money in farm tourism, if done in the right manner. Her Farm Tourism Development Act of 2016 showed farmers that their properties could have an alternative source of income aside from crop production.

Of course, with the designation of Berna Romulo-Puyat as our current Tourism secretary, her expertise and



According to the director of Ecosystems Research and Development Bureau, mahogany plantations are adversely affecting the farm tourism in the country. (Photo from treeworldwholesale.com)

experience as a former undersecretary in the Department of Agriculture made our government's involvement with farm tourism even stronger.

Everything has been going well for this sector of our tourism industry, with more of our countrymen now convinced of its financial benefits. However, a recent discovery has put forward a warning to those belonging to this sector.

The mahogany tree is popular in the country because it is the prime source of durable, elegant, and well-designed furniture. But the Ecosystems Research and Development Bureau (ERDB), the research arm of the Department of Environment and Natural Resources, has announced that the mahogany tree has characteristics that make it a nuisance plant.

The director of ERDB confirms that mahogany plantations are adversely af-

fecting the farm tourism in the country.

It has been observed, for some time now, that the areas surrounding mahogany trees show dehydrated fruits falling off even before they become ripe. It turns out, mahogany trees suck whatever available nearby water there is.

No vegetables or other smaller plants grow underneath a mahogany tree because its leaves cause these other plants to die, and the tree's leaves take a long time to rot. Worse, the ecosystem is definitely disrupted because it is observed that birds avoid contact with the tree.

Taking these findings into consideration, it is sad to note that these mahogany trees, which are favorites of furniture makers, can destroy our farms and forests which are our major sources of food and livelihood.

Turn to D2



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Go pushes passage of bill creating department of disaster resilience

By ARMANDO B. FENEQUITO JR.

DAVAO CITY – Senator Christopher Lawrence “Bong” Go is urging his colleagues in the Senate to hasten the passage of the bill creating the Department of Disaster Resilience.

Go made his appeal in an interview on Friday here after his visit to fire victims in Bangkerohan district. He said the creation of the new department has become an urgent matter given the latest string of calamities to hit the country.

“Sana po ay bilisan na natin ito. Nanawagan na po ako sa ak-ing mga kapwa Senador na huwag na nating hintayin pa na magkaroon pa ng mga lindol, pagputok ng bulkan, bagyo (I hope we will fast-track this. I am now calling on other senators not to wait for

another earthquake, volcanic eruption and typhoons before we act),” he said.

He said the bill was still under discussion with the Senate Committee on National Defense and Security being chaired by Sen. Panfilo Lacson.

Go said it was about time for a separate department that will have a cabinet position for a more proactive response in times of disaster.

He added that if the person in-charge of this department has a cabinet position, the other secretaries will also respect him since they have the same position.

“Kung bibigyan lang po natin ng manager lang tapos ang position hindi pang-cabinet level, hindi rerespetuhin (If we just appoint a manager that has no cabinet position, that person will not be respected),” he said.

Go said if the new department will be created, its head could also immediately act on emergency situations by coordinating with the different departments and offices for monitoring and actions.

The head of this department will also be the one to coordinate with the concerned local government units hit by a certain disaster.

The senator said he will push this in the Senate because this was also among the priority legislation enumerated by President Duterte in his State of the Nation Address last year.



Avoiding the loss of livestock during disasters

The Taal Volcano eruption has taken a terrible toll on the lives of our fellow Filipinos. The misery of being evacuated and relocated, perhaps permanently, from one's own home is unimaginable. We can only hope—and act—that those affected will be able to bounce back.

One aspect that we must address when it comes to such a national disaster is one of rebuilding livelihoods in the future—and in this case, how to rescue and, if necessary, replace lost agricultural resources, particularly livestock.

In January, 2018, the Philippine News Agency reported that Legazpi City had set up an animal evacuation center due to the continuous eruption of Mayon Volcano. The local government found it necessary to create such a center for all the animals found in the permanent 6-kilometer danger zone and the 8-kilometer extended danger areas. A one-hectare area outside the danger zone was assigned as the animal center.

Such intervention is particularly laudable, since these animals are a crucial part of the residents' livelihood and daily source of income. Some have even described such livestock as the farmers' "living savings accounts."

Now, with the ongoing Taal disaster, the Department of Agriculture (DA) is estimating a possible loss of 1,967 animals, and agricultural damage affecting 2,772 hectares. To counter this, the DA is planning to have provisions for livestock restocking, and the replenishing of up to millions of fingerlings for the various fish species that aquaculture operations breed in Taal Lake, once operations can resume.

More study and policy experimentation should now touch on how we take care of our agricultural livestock resources before and during—as opposed to just after a disaster hits. The Asian Development Bank, for example, has a Disaster Management Handbook where the importance of warning systems is underscored as integral to the disaster response. And in the case of livestock, this may mean the timely evacuation of animals from the danger areas.

Meanwhile, there is a 2009 Eastern Asia Society for Transportation Studies paper on the subject of livestock evacuation itself. The paper acknowledged that preparation beforehand is important, particularly for unpredictable disasters such as earthquakes—and, in the case of Taal, volcanic eruptions. Logistical problems will present themselves, and proper preparation and organizational actions can minimize the loss of livestock. This could mean the repositioning of disaster response assets, and constant drilling and practice.

In Western Australia, livestock owners are responsible for their animals, though the government does emphasize that a previously prepared emergency plan is needed. As with what happened in Legazpi City, evacuation centers for animals are also one of the options for the local communities there during natural disasters.

What we need to study and prepare for now are future disasters where agricultural resources, specifically our livestock, will be affected. Given typhoons, earthquakes, and, yes, volcanic eruptions, we have to talk with community stakeholders in agricultural areas about the possibility of

animal evacuation centers, the logistical process for keeping track of ownership,

and how all the animals will be fed and kept reasonably healthy for the duration of the disaster.

With our filing of Senate Bill 331, the proposed Disaster Resilience Act of 2019, the creation of a Department of Disaster Resilience could possibly jumpstart talks on minimizing damage to our agricultural resources, particularly on how to evacuate and save animals as part of disaster preparedness, risk reduction, and recovery.

In the past few days, we have seen how a volcanic eruption can catch communities by surprise; we have seen haunting images of animals and livestock, buried in mud, haunting symbols of the loss of livelihood for many families. Looking back, we have also seen how, in 2014, 50,000 people and their livestock were evacuated in Albay, a preemptive move to keep people and their livelihoods safe from an impending eruption of Mayon Volcano. While we cannot avoid natural disasters, let us all come together to make sure that we will be prepared for them in the future. Evacuating livestock can mean livelihoods preserved.



BETTER DAYS

SENATOR
SONNY ANGARA



Typhoon-hit towns of Iloilo and Mindoro get aid from PAGCOR



PAGCOR reached out to the families living in the inner communities of Iloilo like Rebecca Franco, a 30-year-old mother of three, who lost her longtime partner at the height of typhoon Ursula.

The Philippine Amusement and Gaming Corporation (PAGCOR) poured much-needed assistance to thousands of locals in Northern Iloilo, Occidental and Oriental Mindoro who are still reeling from the aftermath of Typhoon Ursula, which struck on Christmas day.

Recently, PAGCOR's relief operations team brought food and non-food items to the far-flung towns of Balasan, Batad, Estancia and Carles in Northern Iloilo. The state-run gaming firm also delivered relief packs to hundreds

of needy families in Gigantes Island in Carles town, whose homes were ravaged by the storm.

A total of 2,000 food packs and 1,000 non-food items were distributed to the families of these affected municipalities.

Balasan town recorded four fatalities when a huge portion of an earthen water reservoir serving as irrigation source for 400 hectares of agricultural land, collapsed at the height of continuous heavy rains. It dumped tons of floodwater and mud to several communities in the town.

PAGCOR was able to reach out to the inner communities of affected towns, which can only be accessed through long stretches of unpaved and narrow roads.

Aside from Iloilo, the agency also distributed 2,250 relief packs to the towns of San Jose, Calintaan and Rizal in Occidental Mindoro. Likewise, 750 relief packs were given away in Bulalacao, Oriental Mindoro.

According to Occidental Mindoro Provincial Administrator for District II Jose Franco Mendiola, the Southern tip of Mindoro Island was the worst-hit by Typhoon Ursula.

The local government of Bulalacao was likewise grateful to the agency for reaching out to the affected residents who are mostly composed of indigenous Mangyan tribe living in the mountains.

Based on the report of the National Disaster Risk and Reduction Management Council (NDRRMC) Typhoon Ursula affected more than 2.1 million people in over 2,000 barangays in Regions V, VI, VII CARAGA and MIMAROPA. Its damages to infrastructure and agriculture, which include schools, public structures and health facilities cost over P1 billion.



A resident of Barangay Tanyag, Calintaan, Occidental Mindoro received a relief pack from PAGCOR. The agency distributed more than 600 assorted relief packs to the town which was heavily affected by the wrath of typhoon Ursula. An additional 1,640 packs were also provided by the agency to the towns of Rizal and San Jose.



PAGCOR's Community Development Officer Dan Ramos spearheaded the distribution of 2,250 relief packs to the affected residents of typhoon Ursula in the towns of San Jose, Calintaan and Rizal in Occidental Mindoro.



Make 'Kindness' our word for 2020

Woke" was the Top Trending Word for 2019, reported the Global Language Monitor (GLM) just a few months before the last quarter of the year concluded.

Paul JJ Payack, president and chief word analyst of GLM, explains the word: "In Progressive lingo, 'woke' describes an epiphany-like experience, where one is awakened to the call of social justice—and the failures of the past."

More often, it takes a certain kind of jolt to be woke. Such a shove happened when teen climate change activist Greta Thunberg gave her now famous speech before United Nations' Climate Action Summit in New York City. To be a told by a child "How dare you!" for not doing enough to preserve the earth, for passing on the burden of the future to the youth, struck a raw nerve.

There is no please in her plea. How can one sound polite when one talks about a matter of urgency that's been enabled by big business interests and lukewarm government regulations? "I want a concrete plan, not just nice words," she said.

Not woke yet? Try soaking up this study by the Global Peace Index 2019: The Philippines is the most susceptible country to hazards brought about by climate change. The report reveals that 47 percent of the country's population is situated in areas highly exposed to climate hazards like floods, tropical cyclones, earthquakes, drought and tsunami.

The future isn't looking too bright, but along with this thought comes courage. Exactly what young Greta had. She brought her fears to the next level by taking the courage to speak out and by organizing strikes with fellow school-

COMMENTARY

FRANCINE M. MARQUEZ

children that eventually led to the organization of coordinated school strikes around the planet.

Our Filipino youth are also taking part in this global movement through school strikes demanding that government get its act together in mitigating climate change. Filipino students have been making concrete solutions to the crisis. Amin Hataman, a 15-year-old student in 2015, for instance, bagged a bronze medal in an international contest for inventing biodegradable plastic bags made from nata de coco.

Last Jan. 6, the 1st Lockton Philippines Legacy Awards honored college students with sustainable action research studies on managing environmental risks. The grand prize winners, IT students from the University of Southern Philippines Foundation, proposed installing smart solid waste containers to reduce the effect of solid waste in Cebu City. Besides awarding students, Lockton Philippines will also tap corporations that are willing to fund the research proposals for implementation.

There is a war threatening to escalate. As we have already witnessed, war brings nothing but destruction and deaths of human lives and the environment.

We may look puny before world leaders and gargantuan organizations, but we can be brave. Like Greta and our Filipino youth who are aiming for clear solutions to the climate crisis. We can start by embracing our small-

ness and by practicing kindness as mothers, daughters, sisters, coworkers, employers, neighbors and as inhabitants of this planet.

When things become senseless as in conflict, war and hatred, kindness becomes a powerful act of defiance.

Kindness can never be lame, because it emboldens people to be compassionate about the plight of others and our surroundings. Small acts of kindness for the environment such as recycling plastic packaging at home, raising an edible backyard garden and car-pooling make an impact when they become part of our collective practice.

Lately, society is praising kindness to one's self; to practice self-care, self-love. We can also become kind as a nation if we start rising above our cynicism, resentment and fatigue for mass actions by making our voices heard through organized efforts to get conversations going on climate change, volunteering in cleanups and signing proenvironment petitions.

Marcus Aurelius said, "Kindness is unconquerable."

To include others in our quest for transformation for a healing nation and earth requires kindness and tolerance to educate the ignorant. As we make gratitude our currency, let us make kindness our driving force. By all means, make kindness your top hashtag and make it really, really matter in real time.

Francine M. Marquez is the cofounder of OutFit Philippines, a young firm advocating outdoor fitness and love for the environment. She is also a writer, editor, digital media consultant and aspiring athlete.



Australia's farmers count cost after bushfires wipe out livestock

In the wake of ferocious bushfires that tore through Kangaroo Island, local farmer Rick Morris has endured the gruelling task of burying 400 sheep killed when most of his sprawling property went up in flames.

"It puts it in perspective to say that we're one of the lucky ones," he said.

Australia is reeling from bushfires that since September have claimed 28 lives, including two on Kangaroo Island, and razed 10 million hectares (25 million acres) of land – an area larger than South Korea or Portugal.

Vast swathes of the burned land were used for grazing cattle and sheep, and officials believe the livestock toll exceeds 100,000 across Australia – including at least 43,000 on Kangaroo Island alone, where farmers like Morris endured three blazes in just 10 days.

"We faced the full wrath of Mother Nature," he told AFP at his 930-



MOVING ON – Australia is reeling from bushfires that, since September, have claimed 28 lives, including two on Kangaroo Island. (AFP)

hectare (2,300-acre) farm.

"The fire (swept) from the south side to the north side of the island and took no prisoners between... I'm amazed there were not more people killed."

Faced with the scale of the disaster, Australia's army has deployed 3,000 soldiers to assist in bushfire-affected areas.

Here, the defense force flew in firefighters from the mainland and dropped bales of hay from helicopters to farmers isolated by fires in the island's western reaches.

Brigadier Damian Cantwell, the joint bushfire task force commander for South Australia state, said he foresaw a "long road ahead" for Kangaroo Island.

"I've seen a level of destruction which is still surprising me now," he told AFP.

"There's a lot of farmers that are in distress, a lot of community members are struggling, some families have lost everything, and they're struggling to find out where they can move forward from here," he said.

"There's no end date assigned to this mission, and it's very important that there's no sense of anyone... thinking about when this is going to end." (AFP)



NO LEGAL STANDING

CHILDREN CAN'T SUE US GOV'T OVER CLIMATE CHANGE

A US federal appeals court on Friday threw out a lawsuit by children and young adults who claimed they had a constitutional right to be protected from climate change, in a major setback to efforts to spur the US government to address the issue.

In a 2-1 decision, the 9th US Circuit Court of Appeals said the plaintiffs, who were between the ages of 8 and 19 when the lawsuit began in 2015, lacked legal standing to sue the United States.

Circuit Judge Andrew Hurwitz said the majority reached its conclusion "reluctantly," given "compelling" evidence the government had long promoted fossil fuels despite knowing they could cause catastrophic climate change, and that failing to change policies could hasten an "environmental apocalypse."

Catastrophic

Our Children's Trust, an Oregon-based nonprofit behind the lawsuit, said in a statement that it would seek an 11-judge panel of the court to review the decision. The ruling had "catastrophic implications," said Julia Olson, the group's executive director.

A Department of Justice spokesperson said the government was pleased with the outcome.

The 21 children and young adults had accused federal officials and oil industry executives of violating their due process right to a "climate system capable of sustaining human life," by knowing for decades that carbon pollution poisons the environment but doing nothing about it.

The government argued that neither US law or history supported the young people's claim of a fundamental right to a "livable climate." It also called the lawsuit an unconstitutional attempt to control the entire country's climate and energy policy through a single court. —REUTERS



Gathering for good Join these eco groups to go green



By JOHANNES L. CHUA

It is not hard to go “green” – it just takes a few clicks on the computer or taps on the screen of a phone to see a bevy of options if you and your company are really serious in joining a tree-planting session, learning about native trees, or attending a reforestation program.

A company team building can be done with a green twist, too. It can be fun yet educational, with a meal that is made from local produce, and with accommodations that respect nature and one that implements sustainable practices.

There is no excuse not to go green, especially these days when everyone is affected by climate change. A step – no matter how small that may be – can go a long way in helping our Earth survive. What more if it is a company’s employees – from 10 to a hundred people – all joining hands to plant a tree, to teach others about recycling, or putting in time and effort to volunteer for a green cause. The impact will resonate to other companies and can inspire more people to go green.

There are a lot of organizations who welcome your support, whether in the form of financial donations or participation in their activities. Here are some of them:

Haribon Foundation

Haribon Foundation, formed in 1972, has worked to benefit our planet’s “ridge to reef.” In Mt. Banahaw alone, the group has planted 17,000 native tree seedlings in over 13 hectares of land.

It has also helped in the management plans of 16 marine protected areas where fishermen and coastal communities depend on fish supply and coral reef habitats to thrive.

Armed with over 2,000 volunteers who attend their tree-planting (top right photo), school tours, and various activities, they also partner with groups and government agencies to conserve biodiversity. (www.haribon.org.ph)

Mother Earth Foundation

Imagine the tons of garbage thrown every day, made worse by the lack of proper or effective waste management. Mother Earth Foundation pushes its zero-waste advocacy to local government authorities. It also conducts programs in schools and barangays to promote environmental education and proper waste management (photo below). (www.motherearthphil.org)

The Plastic Solution

This group helps find solutions to the enormous plastic crisis with a goal to eliminate the presence of non-biodegradable waste from the environment through “eco-bricking,” where an average-sized PET bottle is stuffed with non-biodegradable waste (plastic wrappers, soft plastic bags, chip packets, shampoo sachets, etc.).

Then, they use these eco-bricks to build projects such as perimeter fencing and bathroom stalls, a seedling nursery, as well as planter boxes and benches in public schools. (www.facebook.com/theplasticssolution)

Marine Wildlife Watch of the Philippines

The Philippines sits in one of the most strategic locations for marine biodiversity. We are surrounded by bodies of water which are ideal breeding ground for marine life. If we don’t act properly, these biodiversity may suffer irreparable damage. This group protects sea creatures from harm and encourages everyone to be part of it. (www.mwwphilippines.org)

Save Philippine Seas

With a mantra “Don’t do unto others what you don’t want done unto you,” the group calls on people to treat the ocean with respect so that in turn, it can also nurture us. With the vastness of the ocean that surrounds our country, imagine the harm it can inflict on us if we don’t take care of it.

The group’s “advocaseas” is to promote community empowerment, environmental education, and shark conservation. It also conducts citizen-led programs to encourage behavioral change for the benefit of the planet. (www.savephilippineseas.org)



The Green Agenda: Companies become advocates for the environment

By JOHANNES L. CHUA

Talking about "green" issues used to be just for advocates – a group of people shouting at the top of their lungs letting you know the importance of recycling and taking care of Mother Earth. But with the impact of climate change heard, seen, and felt by everyone, green issues are not anymore whispered at the backdoor, but discussed as part of the agenda at the boardroom. **►6**



GREEN START – Volunteers join a tree-planting activity of Haribon Foundation.

2 From rainwater to drinking water
Eco-groups to help you go green **3**

Companies that are not traditionally "green" are now taking the cudgels for the environment. The real estate industry, for example, has only prioritized building soaring structures and unveiling large communities. But through the years, the importance of being green was highlighted as climate change drastically impacts their projects. Soon, local developers are making sure their projects are certified by LEED, or the Leadership in Energy and Environmental Design. LEED, a green building rating system, provides a framework ensuring that a structure is not only green, but also efficient, and "healthy" to occupants.

There is also the BERDE, or the Building for Ecologically Responsive Design Excellence, a local voluntary green building rating system, ensuring that a structure is less on carbon footprint, yet more on features that fight climate change.

Drive to green

This is also the case for the motoring industry. Used to be, car companies are just that – to sell cars as many as they can. With the negative impact of cars burning fossil fuel, car manufacturers have created more "cleaner" engines – with some introducing hybrid engines utilizing electricity. But that is not enough. Local car manufacturers and distributors, such as Toyota, Mitsubishi, Isuzu, Nissan, Hyundai, among others, have allotted funds to push for green projects and advocacies. In fact, a group called the Society of Philippine Motoring Journalists (SPMJ), has conducted an annual search for the best green projects among the motoring brands.

Green 'virus' spreads

The green agenda has spread not only to the real estate and motoring industries. Today, companies in the lifestyle arena – food, fashion, design, even arts and culture – have implemented various green projects and sustainable efforts to drumbeat the need to save the environment.

For example, the WWF-Philippines has launched a Sustainable Diner project, partnering with various restaurants to highlight the importance of local produce. In fashion, the trend nowadays is to wear locally produced fabric and those that support local communities such as Rags2Richers; or those that utilize sustainable raw materials such as bamboo, as in the case of Kawayan's watches or The Bamboo Company's eyewear.



A class act: Two new orchid species



Aeridesturma and Aeridesturmafina anniversarius

By Dr. DONNA APOLINARIO- AÑEL

Two new orchid species from the Philippines were published by the Cootes Orchid Research Group (CORG) in the latest volume of the *Orchideen Journal*.

Described by researchers Miguel De Leon, Jim Cootes, Derek Cabactulan and Rey Pimentel, these findings highlight the luxuriant mega-biodiversity of the Philippines. According to CORG director Dr. De Leon, the ongoing revelation of such rare and delicate plant species—what



he calls “the living jewels of the Archipelago”—is a call for greater vigilance in conservation.

Dr. De Leon is a retinal surgeon and a field biologist from Cagayan de Oro. If he is not re-attaching detached retinas and making the blind see, he is in the woods — sometimes up in a tree, sometimes flat on his belly on the forest floor, always with a camera in hand.

He chose the names for the two newly described flowers: *Aeridesturma* and *Aeridesturmafina. anniversarius*. *Turma* is Latin for “batch” and both are named after his colleagues, the batch 1995 from the University of the Philippines College of Medicine.

The second orchid was named specifically to commemorate their

25th anniversary this year.

He describes a distinct excitement when he photographed these new species. “I was face to face with these two beautiful orchids at about the same time my class started planning our silver anniversary celebration. I was filled with nostalgia so I had to find a meaningful way to mark the occasion.”

Alongside his provincial practice, he runs two major research groups—the Robert S. Kennedy Bird Conservancy and the Cootes Orchid Research Group.

His scientific contributions are so prolific, varied and salient that ornithologist Robert S. Kennedy cheered him on for his “success where others have failed.” In a country named

as one of the “17 mega-biodiverse hotspots in the world” —areas with the world’s richest but most threatened animal and plant life—this is a crucial role.

UP College of Medicine Class of 1995 has been given a truly special gift on its silver anniversary. According to Jim Cootes, book author and the foremost authority on Philippine orchids: “To the best of my knowledge, there has never been an orchid species named after a class of students. The non-pigmented form *Aeridesturmaforma anniversarius* is extremely rare. It is of uttermost rarity: only one plant is known to exist.”

Meanwhile, Dr. De Leon and his colleagues have published more than 30 new species of orchids, two new species of *Hoya*, with more queued for publication.

For poorly-known birds and mammals, they contribute field data to science with the ultimate goal of conserving what mammologist Dr. Lawrence Heaney calls “the vanishing treasures of the Philippine rain forest.”

He has named orchids in honor of his grandfather, Dr. David De Leon, an alumnus of the UP College of Medicine Class 1936 (*Epicrianthes davidii*), his aunt (*Dendrobium carmindae*), a conservation colleague (*Grastidiumginalopeziae*) and two Philippine presidents (*Robiquetia dutertei* and *Epicrianthes aquinoi*), to name a few.

The two new orchid species will be presented during the Kita-Kita 2020 homecoming launch on January 20 at the UP Manila Museum of a History of Ideas.



THIS WEEK'S MILESTONES

Jan. 19 to Jan. 25

Jan. 21, 2019

A plebiscite for the ratification of the Bangsamoro Organic Law (BOL), the final step in a peace agreement signed in 2014 between the government and the Moro Islamic Liberation Front, was held in the now-defunct Autonomous Region in Muslim Mindanao (ARMM) and the cities of Cotabato and Isabela. About 85 percent of

voters turned out for the poll that decided whether residents would join the new Bangsamoro Autonomous Region in Muslim Mindanao. The "yes" won with 1,540,017 votes against 198,750 "no" votes in the ARMM. Some 144,640 voted in Basilan province to include Isabela, its former capital, as part of the new region, overwhelming

the 8,487 no votes. Isabela residents, however, voted against inclusion 22,441 to 19,032. The yes won by a slim margin of 11,688 votes in Cotabato City. The second round of voting for ratification of BOL in 67 villages in Cotabato province and six towns in Lanao del Norte was held on Feb. 6, 2019.

Jan. 22, 2016

A 612-hectare area in the town of Magsaysay in Misamis Oriental province was designated by the Department of Environment and Natural Resources as a critical habitat for hawksbill turtles through an administrative order.

The area, which is known as the "Magsaysay Critical Habitat for Hawksbill Turtle," is composed of parcels of land in the coastal villages of Candiis, San Isidro and Damayuhan where nesting sites had been found. Hawksbill turtles are classified as critically en-

dangered, or near extinction, by the International Union for Conservation of Nature's Red List of Threatened Species.