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DENR

IN THE NEWS

Strategic Communication and Initiative Service



Kalidad ng hangin sa MM, bumubuti na - DENR

NI ANGIE DELA CRUZ

Gumaganda na ang kalidad ng hangin sa Metro Manila makaraang maapektuhan ng matinding ashfall mula sa pagsabog ng Bulkang Taal sa Batangas.

Ayon sa Department of Environment and Natural Resources (DENR) batay sa latest data, ang level of Particulate Matter 10 (PM 10) o kilala sa tawag na alikabok ay pawang good ang resulta sa mga lokalidad sa Kalakhang Maynila.

Sa air quality monitoring ng DENR sa ibang lugar sa Metro Manila, lumabas sa data na sa San Juan ay 46: good, Makati City 35: good, Mandaluyong City-34: good, Pateros-22: good, Malabon City 22: good, Las Piñas 14: good, Parañaque City - 6: good at Pasig City-6: good.

Lumabas naman ang level of Particulate Matter 10 (PM 10) sa Taguig City ay nananatiling 89 na kinokonsiderang "moderate o fair."

Ayon sa DENR, mas maganda ang resulta ng kalidad ng hangin sa nabanggit na lokalidad kung ikukumpara noong Lunes ng gabi.

Inihalimbawa rito ng DENR na noong Lunes ng gabi, ang Malabon City ay nagtala ng PM 10 record na 53 ng Malabon City.

Batay sa air quality index na gamit ng DENR ang pagkakaroon ng "good" record ng kalidad ng hangin ay nangangahulugan na ang polusyon sa hangin ay may maliit hanggang sa walang ganoong epekto, ang "moderate o fair" rating naman ay may katamtamang health risk para sa maliit na grupo ng mga tao na dati ng sensitive sa hangin na may polusyon.

Samantalang ang air quality na umabot sa 301 hanggang 500 ay isinasalarawang "hazardous" at ang mga tao ay pinapayuhang manatili na lamang sa kanilang tahanan.

Noong nagdaang araw ng linggo nang pumutok ang Taal Volcano, umabot ang ashfall sa MMLA dala ng hangin na nagdulot ng pagsuspinde ng klase at trabaho sa mga tanggapan ng pamahalaan.



Explosive Taal eruption imminent

Mandatory evacuation in 12 towns, 2 cities in Batangas ordered

By ALEXANDRIA SAN JUAN and HANAH TABIOS

An explosive eruption of Taal Volcano is imminent as magma continues to rise beneath, Philippine Institute for Volcanology and Seismology

(Phivolcs) director Renato Solidum Jr. said on Wednesday.

Solidum warned the public not to be confused by the weaker activity seen in the surface crater of Taal Volcano, noting that frequent tremors and fissures ▶6

Explosive Taal eruption... 1 ◀

near Taal signify continuous magma movement underneath.

"Ihihiwalay natin 'yung nakikita natin sa ibabaw ng Taal, sa nangyayari sa ilalim (Let us separate what we are seeing on Taal's surface from what is happening underneath)," Solidum said on Wednesday.

"Hindi nanahimik ang bulkan. Patuloy 'yung activity nito sa ilalim. Yung nangyayari sa ibabaw ay consequence pa 'nung nangyari noong Linggo, pero ngayon ay mayroon pa ring dagdag na intrusion (The volcano is not silent. Activity continues beneath it. What is happening now on the surface is a consequence of what happened on Sunday, but now there is the addition of magma intrusion)," Solidum said.

In its latest bulletin, the state seismology bureau said Taal Volcano displayed a "continuous but generally weaker eruption of the main crater due to magmatic and hydrovolcanic processes."

Since Tuesday night, Taal continued to spew dark gray steam-laden plumes or ash clouds reaching up to 1,000 meters high that blanketed areas on the southwest of the main crater.

Despite the slower volcanic activity of Taal, Solidum strongly reiterated total evacuation of the volcano island and high-risk areas identified on the hazard maps within the 14-kilometer radius from the volcano's main crater.

Mandatory evacuation

With Taal's imminent explosive eruption, the local government units (LGUs) of 12 towns and two cities of Batangas were advised to immediately conduct mandatory evacuation as the areas are now susceptible to ballistic projectiles, base surges, and volcanic tsunami.

The Department of the Interior and Local Government Unit (DILG)-Batangas issued the advisory Wednesday based on Phivolcs assessment.

Covered by the mandatory evacuation are:

- Talisay
- Sta. Teresita
- Taal
- San Nicolas
- Mataas na Kahoy
- Malvar
- Lemery
- Laurel

- Cuenca
- Balete
- Agoncillo
- Alitagtag
- City of Tanauan
- Lipa City

Residents in these localities were instructed to coordinate with their LGUs and local disaster risk reduction and management (DRRM) officers for further instructions. These include:

Experts defined ballistic projectiles as volcanic materials directly ejected from the volcano's vent. These are highly destructive materials that can endanger life and property due to force of impact.

Base surges, in simple terms, is like a landslide composed of solid debris from the volcano and moves radially outward at high speed originating from the base of a vertical eruption column. Its simple Filipino definition would be "mga rumaragasang mainit na bato na nanggagaling sa paanan ng bulkan."

Several barangays in at least 12 cities and municipalities in Calabarzon also experienced power outage due to Taal's eruption. The affected barangays are located in Lipa, Tanauan, Laurel, Talisay, and Lemery in Batangas; Amadeo, Tagaytay, Alfonso, Indang, and Mendez in Cavite; and Calamba and Cabuyao in Laguna.

466 quakes plotted

In a press conference on Wednesday, Solidum said more volcanic quakes were plotted near Taal since its phreatic or steam-driven eruption last Sunday.

Based on the monitoring of Phivolcs Seismic Networking, there were 159 tremors recorded from 5 a.m. on Tuesday to 5 a.m., Wednesday, 28 of which were felt with intensities ranging from Intensity I to III. This brings the total number of tremors recorded to 466 after the eruption on Sunday.

More fissures observed

More fissures or cracks on the ground were also observed in several barangays in different towns of Batangas due to the series of quakes felt in the area.

These were found in the barangays of Sinisian, Mahabang Dahilig, Dayapan, Palanas, Sangalang, Poblacion, and Mataas na Bayan in the municipality of Lemery; Pansipit, and

Bilibinwang in Agoncillo; Poblacion 1, Poblacion 2, Poblacion 3, Poblacion 5, in Talisay; and Poblacion in San Nicolas.

A fissure was also documented on the road connecting the towns of Agoncillo and Laurel.

Phivolcs' Volcano Monitoring and Eruption Prediction Division chief Mariton Bornas said fissures are caused by magma pushing its way out of Taal Volcano, and often appear before an explosive eruption and then subside after it is over.

Bornas referred to the 1911 eruption of Taal when fissures were also found on the same areas where the new cracks were recently spotted, before the volcano's major eruption.

She said after the 1911 eruption, ground subsidence occurred in places where fissures were observed, which caused many houses and buildings to collapse due to the lowering of the land surface.

"Noong 1911 kasi, mabilis ang pangyayari. Nagkaroon ng fissuring, then eruption, then subsidence. Iba kasi ang phasing ngayon (In 1911, things happened so fast. There was fissuring, then eruption, then subsidence. The phasing of Taal's activity is different now)," Bornas said.

Explosive eruption

These stronger and frequent quakes, and the increasing number of fissures, Solidum said, means there is a continuous magmatic intrusion beneath the Taal edifice. The continuous movement of magma beneath Taal may lead to further explosive eruption.

Despite these signs, Solidum said the eruption of Taal is still unpredictable just like with any other active volcano, even if it is one of the most instrumented volcanos in the country.

Phivolcs said again that volcanic threats still persist and that residents should not let their guard down and avoid going back to their houses, especially if they are living within the danger zone.



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FILE: "Explosive Taal eruption imminent"

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Civil aviation authorities were also advised to warn the aviation industry to avoid the airspace around the volcano as airborne ash and ballistic fragments from the eruption column pose hazards to aircraft.

Apart from prolonged ash fall, residents were also warned of other deadly volcanic hazards that Taal could produce during its eruption such

as volcanic tsunamis, base surges, and mudflow.

Taal Volcano's sudden eruption on Sunday surprised thousands of unaware residents and tourists visiting the picturesque lake.

Phivolcs said Taal has not erupted since 1977, but there was volcanic unrest recorded in 2011, 2012, and 2014.

Taal is the second most active volcano in the country in terms of number of eruptions with at least 34 eruptions recorded since 1572.

Although tagged the world's smallest volcano, Taal is also one of the deadliest following its violent eruptions in 1754, 1911, and 1965 that left thousands of casualties in the wake of various volcanic hazards.

River dries up

Meanwhile, fear gripped Taal residents after a portion of the Pansipit River that runs in the town suddenly dried up early Wednesday morning, triggering speculations that the Taal Volcano is gathering strength for a more destructive eruption.

"Kaninang umaga lang 'yan. Kahapon mataas pa ang tubig, lagpas tao (It happened just this morning. Water level Tuesday was still high)" Lolo Peping, 74, told the Manila Bulletin.

So why did a portion of the river, which hosts a regular fluvial parade, suddenly dry up?

Dr. Winchell Sevilla, of the Phivolcs Volcano Monitoring Department explained that what happened at the Pansipit River is indeed Taal Volcano eruption-related.

He said that since they have been monitoring magma activity inside the volcano, the tendency is for the ground to swell because of the magma accumulation.

The areas where the ground swelling are monitored are in Lemery, Taal and other areas which are close to the Taal Volcano.

"And since the natural flow of water in the river is that it goes to the lower areas, a portion of the Pansipit River dried up possibly because of the swelling or bulging of the ground in the area," Sevilla told the Manila Bulletin in an interview.

As such, the natural flow of water at the Pansipit River at the portion of Barangay Tatlong Maria in Taal was disturbed and is no longer accessible to water because the area suddenly went up.

Another explanation, which is unlikely according to Sevilla, is that there

is a blockage that hinders the flow of water from the supply.

So where did the water go?

One explanation is that the water was stuck in the lower area since its natural flow was disturbed by sudden swelling of the ground.

Another logical explanation, according to Sevilla, is that water that was supposed to flow along the Pansipit River was absorbed by the fissures that were monitored in the past days.

Lolo Peping, the oldest fisher in the area, said they caught some 10 tubs of various live fish, including tilapia and milkfish, a day before the river dried up.

Dead fish surface

In Barangay Buso-Buso in Laurel town, a fisherman said Wednesday that they had been recovering tubs of dead milkfish since Tuesday on the coast of Taal Lake.

They believed the temperature of the water which rose due to the eruption of the volcano killed the fish.

Residents of the island-village at the foot of Taal said they found their animals already dead and hardened by thick mud, which was caused by volcano ash and rainfall.

A group of men in Barangay Sala in Balete was trying to rescue more animals in Barangay Banga, Talisay, but they were prohibited by the Coast Guard.

"Siguro may isang daan pa ang mga kabayo doon... Wala na silang makain," John Paul Silva, 18, a resident who volunteered rescuing animals, told the Manila Bulletin.

Motorists, including mediamen, from Tanauan going to Agoncillo could no longer push through as the Barangay Buso-Buso in Laurel, a town near Taal Volcano, was already placed on lockdown. Only personnel of the Department of Public Works and Highways clearing the roads and several police were seen along Tanauan-Talisay Road.

Residents trying to return home to get their belongings after they were evacuated also failed to pass through.

"Sabi naman maglalakad na lang po kami pa Agoncillo, pero di kami pinayagan (We were told that we can proceed to Agoncillo by foot, but eventually we were not allowed)," Anna Marie Vergara, 20, said. (With reports from Aaron B. Recuenco, Marting A. Sadongdong, and Joseph Pedrajas)



TAAL CRATER LAKE, RIVER DRY UP: SIGN OF COMING BIG BANG

NEWS / A4

PRICE FREEZE IMPOSED ON 218 MEDS, SUPPLIES NEWS / A4

AFP: 82K EVACUATED; BATANGAS REPORTS 2 DEATHS NEWS / A6

GREEN TO GRAY Ash belched out by Taal Volcano blankets a pineapple plantation in Tagaytay City. Farm caretakers say they will spray the fruits with water, hoping these will recover from the ashfall and be ready for harvest in March. This small and sweet pineapple variety, called Formosa, is a popular "pasalubong" (gift) from Tagaytay and goes at three for P100 at stalls along the Santa Rosa-Tagaytay Road. —NIÑO JESUS ORBETA

Taal crater lake, river dry up • Sign of coming big bang

By Patricia Denise M. Chiu
@PDMChiuINQ

The main crater lake of restive Taal Volcano has dried up, indicating intense heat generated by magma—molten rock—pushing up from the volcano's belly and nearing the surface, threatening a violent eruption.

Parts of the Pansipit River, which feeds into Taal Lake, have also dried up, which could be the result of continuing volcanic activity, the Philippine Institute of Volcanology and Seismology (Phivolcs) reported on Wednesday.

Taal's main crater is a lake, and new satellite images have shown that it has been completely drained and that new vents have formed inside the crater and on the northern flank of the volcano, Phivolcs said.

Whole area lifted

"We're looking at several explanations. Most evident to us is that parts of Pansipit dried up due to the continued volcanic earthquakes being felt, which could have lifted up the whole Taal area," Maria Antonia Bomas, the institute's chief senior research specialist, told reporters.

But the fissures that have opened up in the ground, from Lemery town to Talisay City, may also have something to

do with the main crater lake and the river going dry, Bomas said.

"It's possible that the fissures from Lemery go straight to Talisay, and there might be underwater fissures [in] Taal Lake, where water from Pansipit and the main crater lake could have seeped," she said.

But all this, Bomas said, is related to the ground deformation caused by magma pushing up from the bowels of the volcano.

Rising magma, she added, indicates that an explosive eruption is coming.

Taal has calmed slightly in the past 24 hours, but Phivolcs maintains its alert level at 4 out of 5, meaning "a hazardous explosive eruption is possible within hours to days." Level 5 means a hazardous eruption is underway.

The institute said new fissures had been seen in the area around the volcano, including Sambal Ibaba in Lemery.

Bomas said that prior to Taal's explosive eruption in 1911, the main crater lake did not exist, and the craters were smaller and far from one another.

Following the eruption that began Sunday, the institute's scientists had observed that the craters had become larger and that new vents had formed in-



NATURE'S WARNING Parts of the Pansipit River in Taal town, Batangas, have begun to dry up. The country's seismological agency believes the earthquakes that come with the eruption of Taal Volcano may have "lifted" the entire volcano area, causing the river and Taal's main crater to run dry. —CHRIS QUINTANA/CONTRIBUTOR

side the main crater.

"There is a potential for an explosive eruption, based on our data monitoring, particularly since earthquakes are continuous and are considerable in magnitude, indicative of magma pushing upward," Bomas said.

Since Sunday, Phivolcs has recorded 520 volcanic quakes, of which 169 had intensities ranging from 1 to 5.

taken refuge in shelters since the volcano came to life on Sunday.

Police subsequently set up no-go zones and mandatory evacuations in at-risk towns around the volcano.

But days later locals were losing patience and demanding access, despite Phivolcs' warnings that the volcano could unleash a more powerful eruption any time.

Melvin Casilao said he and his neighbors in Talisay town needed to feed their livestock, remove the thick ash from the roofs of their houses and pull their boats from the water.

Their community is on the shore of Taal Lake, which rings Volcano Island.

"We want to visit our houses and clean the roofs. They are smothered in thick ash and they could collapse," Casilao said.

Soldiers have been deployed at checkpoints in some areas, including Talisay, to stop residents from going back in.

On Wednesday, the Department of the Interior and Local Government ordered mandatory evacuation of residents in the towns of Agoncillo, Alitagtag, Balete, Cuenca, Laurel, Lemery, Lipa City, Malvar, Mataas na Kahoy, San Nicolas, Santa Teresita, Taal, Talisay and Tanauan City.

It said these towns and cit-

ies were "susceptible to ballistic projectile, base surge and volcanic tsunami as a result of the eruption of Taal Volcano."

In Agoncillo, earlier on Wednesday, a convoy of trucks and rescue vehicles drove in and volunteers were heard calling on residents, offering them a ride to safety before the town was shut.

Ghost town

A similar convoy of vehicles, carrying volunteers from the Red Cross and the Nasugbu municipal government, swept into San Nicolas in search of residents who might still be there, although it had turned into a ghost town since the volcano erupted on Sunday.

Police set up checkpoints at entry and exit points in Agoncillo and San Nicolas, stopping private motorists trying to drive into the two towns.

On the stretch between Agoncillo and San Nicolas, dozens of concrete houses stood with large cracks on their walls.

Only dogs and cats, whose owners fled after Sunday's sudden eruption, greeted rescuers in houses now covered in volcanic ash.

The Inquirer saw a rescuer pull over and leave biscuits for the animals. —WITH REPORTS FROM MARICAR CINCO AND AFP INQ



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More cracks, fissures on Day 4 of Taal Volcano eruption

BY JONATHAN L. MAYUGA

✉ @jonlmayuga

CONTINUOUS but weaker eruptions of the main crater of Taal Volcano due to magmatic and hydrovolcanic processes were recorded over the past 24 hours, the Philippine Institute of Volcanology and Seismology (Phivolcs) reported on Wednesday.

Since Sunday, eruptions of one of the world's smallest volcanoes sent thousands of residents fleeing their homes for safety. Volcano experts have been anticipating a hazardous magmatic eruption reminiscent of the volcano's 1754 eruption that altered the natural landscape in that part of the Calabarzon region.

The 1754 eruption, according to history, devastated many towns around the volcano and created the unique caldera that is now known as the Taal Lake, which became home to the *tawilis*, the only freshwater sardine and the freshwater *maliputo*, also called *talakitok*, which can be found only in Taal Lake, now a popular tourist spot in Luzon.

It was said that volcanic debris and pyroclastic material from the volcano completely blocked the Pansipit River, and cut off the lake from the Balayan Bay, which explains why the lake's waters became freshwater after some time.

Part of its violent past, the 1754 eruption of Taal Volcano lasted for seven months, according to Phivolcs, submerging lakeside towns near it.

On Tuesday, the Provincial Government of Batangas declared the province under a state of calamity as volcanic ashes covered many towns in the province, forcing thousands of residents to flee their homes and take shelter in government evacuation centers in various parts of the province.

In its Volcano Bulletin released 8 a.m. on Wednesday, January 15, 2020, Phivolcs reported that the eruption generated dark gray steam-laden fumes that reached

approximately 1,000 meters high, dispersing ash to the southwest of the main crater.

Moreover, Phivolcs' volcanology experts detected new fissures or cracks in more areas. These are in Sinisian, Mahabang Dahilig, Dayapan, Palanas, Sangalang, Poblacion, Mataas na Bayan, in Lemery; Pansipit, Bilibinwang in Agoncillo; Poblacion 1, Poblacion 2, Poblacion 3, Poblacion 5, in Talisay; and Poblacion in San Nicolas.

Phivolcs reported that a fissure cut across the road connecting Agoncillo to Laurel towns.

Meanwhile, volcanologists recorded a total of 466 volcanic earthquakes on Sunday, January 12, 2020, 156 of which were felt with intensities ranging from Intensity 1 to 5.

The past 24 hours, from 5 a.m. on January 14, 2020, until 5 a.m. on Wednesday, there were 159 volcanic earthquakes, 28 of which were felt with intensities ranging from Intensity 1 to 3.

"Such intense seismic activity probably signifies continuous magmatic intrusion beneath the Taal edifice, which may lead to further eruptive activity," the Phivolcs Volcano Bulletin read.

Meanwhile, Phivolcs reported that an average of 1,686 tonnes of sulfur-dioxide emission was spewed by the volcano on January 14, 2020.

As such, Phivolcs maintains that Alert Level 4 remains in effect over Taal Volcano.

Alert Level 4 means that hazardous explosive eruption is possible within hours to days, reiterating the need for total evacuation from the Taal Volcano island and high-risk areas as identified in the hazard maps within the 14-kilometer radius from the Taal main crater.

Phivolcs also recommended that people stay away from the Pansipit River Valley where fissuring has been observed.

According to Phivolcs, residents should prepare for the effects of heavy and prolonged ashfall.

At the same time, civil aviation authorities were advised to

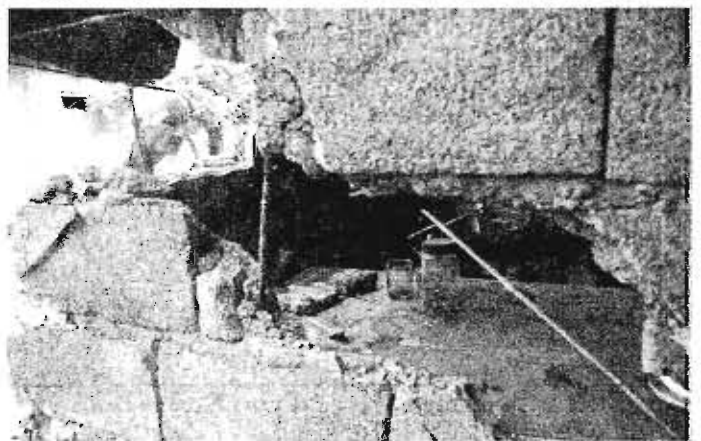


FILE: *WIDE CRACKS, FISSURES ...*

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RESIDENTS of Barangay Sinisian East in Lemery, Batangas, express their concern after a series of volcanic quakes left wide cracks and fissures on the ground. Their concrete houses were also not spared.

BERNARD TESTA

strictly inform pilots to avoid the airspace around Taal Volcano as airborne ash and ballistic fragments from the eruption column pose hazards to aircrafts.

Lincoln Olayva, science research specialist at Phivolcs' Volcanology Division earlier said the fissures, or cracks being discovered, indicate magmatic and hydrovolcanic activity is happening.

He said Phivolcs field personnel will look into the cracks as soon as it becomes safe for a site inspection. Because Alert Level 4 remains in effect, he said, the entire 14-kilometer

Permanent Danger Zone from the main crater of the volcano is "a no man's land."

He said lava fountains and spewing of ashes are expected in the next few hours or maybe days.

"We are still monitoring and as soon as it is safe, we will start conducting an assessment to determine the volume of deposits that were spewed by the volcano," he said.

Forestry experts said the eruption of Taal Volcano will adversely impact on the surrounding environment. Ricardo Calderon, an

assistant secretary of the Department of Environment and Natural Resources (DENR) and concurrent director of the Biodiversity Management Bureau (BMB) said they expect total destruction of ecosystems in Taal and surrounding areas.

A forester and a former director of the DENR's Forest Management Bureau (FMB), Calderon said it will take years for forest destroyed by a volcanic eruption to recover.

As soon as possible, they will immediately conduct an assessment of the damage.

For now, he said, field personnel of the DENR are out to rescue affected wildlife that were observed to flee from the Taal Volcano island since Sunday. The DENR appealed to the public not to harm distressed wildlife and urged them to turn-over rescued wildlife, including birds and reptiles to the DENR. Rescued wildlife will be brought to the Ninoy Aquino Parks and Wildlife Center in Quezon City where they will be observed, treated of their injuries and kept safe until they fit to be released back in the wild, Calderon said.



'Weaker' activities at Taal but eruption still possible

BY VICTOR REYES

TAAL Volcano showed "generally weaker" activities yesterday but the danger of a hazardous eruption remains, the Philippine Institute of Volcanology and Seismology (Phivolcs) said.

There were 159 volcanic earthquakes recorded from 5 a.m. Tuesday to 5 a.m. yesterday, way less than the number in the previous monitoring period. From 8 a.m. Monday to 10 a.m. Tuesday, Phivolcs recorded 261 volcanic earthquakes. Since Sunday after-

noon when Taal started acting up, 466 quakes have been recorded.

"Over the past 24 hours, the eruption of Taal Volcano at the main crater continued but it's generally weaker compared to the previous days," Phivolcs director Renato Solidum said in a press briefing.

"What we are saying is it's generally weaker compared to the previous days ... but it's (eruption) continuing ... It's hard to say its going away. It's just generally weaker compared to the previous days," he said.

Phivolcs, in a bulletin issued at 8 a.m., said Taal's activity in the past 24 hours was characterized by "continuous but generally weaker eruption of the main crater due to magmatic and hydrovolcanic processes."

"This ongoing eruption generated dark gray, steam-laden plumes that reached approximately 1,000 meters high and dispersed ash to the southwest of the main crater," it also said.

Alert "level 4" remains in effect over Taal Volcano, which means "a hazardous explosive eruption

is possible within hours to days."

Phivolcs science research specialist Princess Cosalan said danger remains. "The worst-case scenario is there is a possibility of explosive eruption. Another possibility, is it won't (erupt)."

On which is more likely, Cosalan said: "We can't say."

Solidum said though Taal's activity is now weaker, there were new fissures reported in Lemery, Agoncillo, and San Nicolas towns.

Solidum and Cosalan said the

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WEAKER

fissuring is principally the result of the earthquakes and intrusion of magma beneath the volcano.

Solidum, in a briefing in Malacañang, was asked about the possibility of a major eruption.

"We are seeing the same fissures and recording large earthquake events," he said.

He added that if a major eruption happens, the extent of the impact on Metro Manila and nearby areas would be more in terms of ashfalls, and it would depend on the how tall the eruption column would be and the direction that the wind will blow.

He said the public should brace for heavy and prolonged ashfall events in case Taal's major eruption would be similar to that in 1754 which took about seven months for the volcanic activities to end completely. He said the explosions did not happen every day as there were gaps between the minor and major explosions.

Phivolcs, in a 5 p.m. update, said Taal's eruption "has been characterized by continuous magmatic and hydrovolcanic activity that generated 700-meter-tall dark gray steam-laden plumes that drifted to the general southwest."

"It said there was drying up of portions of Pansipit River where fissures were also observed.

"Furthermore, newly acquired satellite images would show that the main crater

lake has been drained and new vent craters have been formed inside the main crater and on the north flank of the volcano.

Phivolcs also said it recorded 53 volcanic quakes from 5 a.m. to 4 p.m. yesterday, signifying continuous magmatic intrusion that may lead to "further eruptive activity."

The Batangas Provincial Disaster Risk Reduction and Management Office said 18,646 families or 82,068 persons have been evacuated from the 14-kilometer danger zone.

Brig. Gen. Marciliano Teofilo, commander of the AFP's Joint Task Group Taal, said less than a thousand people are still inside the danger zone.

"There are still people inside. You know the typical (Filipinos)," said Teofilo. "Maybe, there are less than a thousand (still inside the danger zone). Some of them were already evacuated but sneaked back in," he said.

On the evacuation of livestock and pets, Teofilo said they are also being evacuated but rescuers are giving priority to people.

Teofilo said there were reports of looting inside the 14-kilometer danger zone but could not immediately give details.

"Our problem is the looting ... Just like in previous disasters, that's our concern," he said adding the PNP is conducting patrols.

PNP officer-in-charge Lt. Gen. Archie Gamboa said the regional police office has not received any report of

looting and other forms of criminal activities in affected areas.

The Department of Education said at least 7,000 families are using 148 classrooms in the Calabarzon (Region IV-A) as evacuation centers.

DepEd said of the 148 schools, 132 are in Batangas, 14 in Cavite, and two in Laguna.

The Batangas Provincial Disaster Risk Reduction and Management Office said two people died in relation to Taal's activities.

It identified the fatalities as Anatlia Perez Dionisio, 65, of Talisay, Batangas and Danilo Toledo, 27, of Taal, also in Batangas, who both died of cardiac arrest on Monday and Tuesday.

It said it also monitored two deaths due to a vehicular accident in San Jose, Batangas yesterday but did not say if it was directly related to the eruption.

Police named the two fatalities as Rio John Abel, a student of the Dela Salle University in Lipa City, and Maximo Alcantara. The fatalities' companion, Darwin Lahara, was injured in the car crash. Reports said Lahara died yesterday morning.

Police said the victims just delivered relief to victims of the eruption when they figured in the accident in Barangay Banay-banay at around 1:30 a.m.

Police said the victims' car was traversing a national road in the barangay when it the rear part of an Isuzu truck loaded with sacks of corn. — *With Jocelyn Montemayor and Raymond Africa*



Fear grips Taal residents as major river dries up

By AARON RECUENCO •
JOSEPH PEDRAJAS

TAAL, Batangas – Fear gripped residents here after a portion of a major river that runs in this town suddenly dried up early Wednesday morning, triggering speculations that the Taal Volcano is gathering strength for a more destructive eruption.

According to a resident, the Pansipit River in Barangay Tatlong Maria, Taal, dried up due to continuous eruption of Taal.

"Kaninang umaga lang 'yan. Kahapon mataas pa ang tubig, lagpas tao," Lolo Peping, 74, said.

The oldest fisher in the area, Lolo Peping said they caught some 10 tubs of various live fish, including tilapia and milkfish, a day before the river dried up.

"Hindi ganyan karami. Madalas hindi lagpas sa sampung kilo ang nakukuha namin," he added.

The fisher believed that the fishes were from several fish cages nearby, which were damaged by constant earthquakes caused by the volcano's activities.

Lolo Peping said the river, which hosts a regular fluvial parade, had been part of his childhood.

Dr. Winchell Sevilla, of the Volcano Monitoring department of the Philippine Institute of Volcanology and Seismology (Phivolcs), explained that what happened at the Pansipit River is indeed Taal Volcano eruption-related.

He said that since they have been monitoring magma activity inside the volcano, the tendency is for the ground to swell because of the magma accumulation.

The areas where the ground swelling are monitored are in Lemery, Taal and other areas which are close to the Taal Volcano.

"And since the natural flow of

water in the river is that it goes to the lower areas, a portion of the Pansipit River dried up possibly because of the swelling or bulging of the ground in the area," Sevilla said in an interview.

As such, the natural flow of water at the Pansipit River at the portion of Barangay Tatlong Maria in Taal was disturbed and is no longer accessible to water because the area suddenly went up.

Another explanation, which is unlikely according to Sevilla, is that there is a blockage that hinder the flow of water from the supply.

So where did the water go?

One explanation is that the water was stuck in the lower area since its natural flow was disturbed by sudden swelling of the ground.

Another logical explanation, according to Sevilla, is that the water that was supposed to flow along the Pansipit was absorbed by the fissures that were monitored in the past days.

Based on the situation report from the Batangas Provincial Disaster Risk Reduction and Management Office (PDRRMO), fissures or large cracks were observed in Sinisian, Mahabang Dahilig, Dayapan, Palanas, Sangalang, Poblacion in the town of Lemery; Pansipit in the town of Agoncillo; Poblacion 1, Poblacion 2, Poblacion 3, Poblacion 5 in the town of Talisay and Poblacion area of San Nicolas town.

"A fissure was also documented across the road connecting Agoncillo to Laurel, Batangas," according to the situation report of the Batangas PDRRMO.

"The drying up of river is consistent to the fissures that were seen in the areas near the volcano," said Sevilla.

And what does this indicate?

The message is simple, according to Sevilla: It is not yet safe to return to the areas which were earlier

recommended to be evacuated.

"This is the reason why Taal is still under Alert Level 4. There are still a lot of activity so it is not yet safe for them to go back to their homes," Sevilla said.

In Barangay Buso-Buso in Laurel, a fisherman said Wednesday that they had been recovering tubs of dead milkfish since Tuesday on the coast of Taal Lake.

They believed that the temperature of the water which rose due to the eruption of the volcano killed the fish.

DEATHS AND DAMAGES

Meanwhile, authorities reported on Wednesday the death of two people during the Taal Volcano eruption, saying one of them died while being evacuated.

In a report from the Batangas Provincial Disaster Risk Reduction and Management Office (PDRRMO), 65-year-old Anatalia Dionisio suffered heart attack while being evacuated from Talisay town on Sunday while 27-year-old Danilo Toledo also succumbed to heart attack on Monday.

Authorities also monitored two deaths due to vehicular accident in Lipa City on Monday but investigation is still being conducted to determine if the road crash is volcano eruption-related.

The PDRRMO of Batangas also reported a total of ₱217,794,702 in damage to agriculture, especially in the areas that were blanketed by thick ashes emitted by the volcano since Sunday afternoon.

The figure, however, is a result of the initial assessment.

Based on the breakdown, cassava and other high-value crops suffered the most with ₱93.3 million and ₱92 million in damage respectively.

As of 5 a.m. on Wednesday, the Batangas PDRRMO reported that there were 18,646 families, or 82,068 evacuees staying in 287 evacuation centers in Batangas.



Taal, a game changer for the economy?

At this point, Philippine economic managers must be concerned about the economic implications of Taal Volcano's phreatic explosion, its uncertain and prolonged duration, and widespread effects.

It is unlikely that we have seen the worst of Taal.

If Mt. Pinatubo's eruption of June 15, 1991, is any guide, we should be armed to the teeth. Obscure for at least 600 years, Mt. Pinatubo suddenly released pyroclastic surges, ash falls, and spewed lahar, covering vast tracts of land, collapsing and burying buildings and houses in Zambales, Tarlac, and Pampanga. Torrents of deadly volcanic debris flowed down major river systems, forever changing the topography, and altering the economic activities of these three provinces.

The damage wreaked by Pinatubo was estimated at nearly \$1 billion. Its explosion affected 16 aircrafts flying at the time of the eruption, agricultural crops, personal property, and infrastructure. Billions of pesos were also re-allocated for relief and recovery, also to build dikes and dams to prevent further damage. The cost was staggering and unquantifiable, considering the painful loss of thousands of lives.

In a paper on the socio-economic impact of the Mount Pinatubo eruption written by Remigio Mercado, Jay Bertram Lacsamana, and Greg Pineda of the NEDA Regional Office in San Fernando, they proffered that public policy should go beyond traditional relief and recovery efforts. This column agrees.

Given the game-changing impact of volcanic activity on topography, infrastructure, and economic activities, restoring pre-eruption conditions is impossible. It is necessary, therefore, to move people away from territories vulnerable to future lahar flows and flooding. This would require public ownership of such strategy. Most important, the challenge is to establish infrastructure that would be resilient and could withstand future climatic shocks.

I recall delivering intervention remarks at the Executive Board of the

International Monetary Fund (IMF) sometime in 2003, a few months before we returned to Manila after a two-year secondment. I argued that economic growth in emerging markets in the Asia Pacific region becomes more challenging owing to their vulnerability to various climatic challenges. In our region, infrastructures are built only to be destroyed by natural disasters. In the case of the Philippines, we periodically receive the brunt of the world's typhoons, earthquakes, and volcanic eruptions. This could be one of the reasons prolonged use of IMF resources was inevitable during the two oil crises in the 1970s, the debt crisis of the 1980s, and after the Asian Financial Crisis of 1997.

The Philippines was made more desolate after the floods of the 1980s, the deadly Baguio earthquake of mid-1990, and yes, the Mount Pinatubo eruption in mid-1991. Massive destruction caused by these calamities required rehabilitation and rebuilding, greater budgetary allocations and reallocations from capital buildup to capital restoration.

Today, the world is wiser — the IMF and the World Bank especially. Investors from Europe and beyond now insist on ESG—environmental, social, and governance factors—when it comes to benchmarking financing options and financing destinations.

So what do we make of Taal's ash fall in progress?

In news reports, geologists make the dire prediction that Taal's unrest could be prolonged from a few days, to a few weeks, to a few months. Seven months is worst-case scenario. Tagaytay Highlands is now under a blanket of "gray snow." The Sta. Elena golf course is a huge sand trap. But the midlands and lowlands sustained minimal ash fall on account of the wind blowing north, driving the dangerous particles towards Metro Manila.

What should bother us is the warning that it is not exactly ash that we are seeing, but rather, microscopic pieces of glass that could be extremely harmful to health. Maynilad has had to assure its clients

that their water supply remains safe. How long this state of air and water affairs will last is an empirical question. The economy is bound to receive some collateral blows.

Meanwhile, despite the initial findings of Diwata 1 and Diwata 2 satellites that the air quality in Metro Manila "never got worse than during the New Year's Eve," panic buying and hoarding of masks are reported, with the DTI and the President himself strongly warning against overpricing. This should be short-lived.

Despite the obvious danger, Taal Volcano and Taal Lake will continue to draw tourists for two reasons. First, Taal Volcano is in an island in the middle of Taal Lake, an amazing spectacle of nature. And second, tourists love a volcano in action. This is affirmed by how Mayon Volcano in its active state, drew thousands of tourists from all over the world a few years back.

Some scientists believe that the magnitude of potential volcanic activity of Taal will be less spectacular than Mount Pinatubo's given its periodic eruptions compared to six centuries of Pinatubo's inactivity. Despite the enormous cost of mitigating the damage caused by Pinatubo, the Philippines managed like a Phoenix, rising from the ashes to grow into one of the fastest growing economies in the region and the world. The challenge posed by Taal should be less of a game changer.

There could be a transitory increase in both private and public expenditures to relieve and rehabilitate affected areas. Some incremental increases are expected in infra spending on top of the massive "Build, Build, Build" projects. This was what we saw after the earthquake of 1990 and the volcanic eruption in 1991. Real output growth



OF SUBSTANCE AND SPIRIT

DIWA C. GUINIGUNDO



STRATEGIC
COMMUNICATION
INITIATIVES
SERVICE

THE REPUBLIC OF THE PHILIPPINES
MANILA BULLETIN
THE NATION'S LEADING NEWSPAPER

6 PAGE	UPPER LOWER	PAGE 1 STORY	BANNER STORY	EDITORIAL	CARTOON
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TOPIC: "Taal, a game changer for the economy?" PAGE 2/2

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in 2013 was kept at 7.1 percent despite Typhoon Yolanda and the subsequent growth performance, while lower than 7.1 percent, remained upbeat.

Today, the nation's tested resiliency and sustainability is much more potent on account of government's improved ability to respond to, and manage, disasters and other climatic problems.

The key is the country's success in building good and effective economic, social, and political institutions. By this, I refer to the infrastructure we are currently building today. I refer to the foundational policy and structural reforms we have been undertaking for the last 25 years. I refer to our opening up to global competition that helped galvanize our industries into higher productivity and efficiency.

Indeed, we have, and must continue to transcend simple rehabilitation and relief efforts in favor of strengthening the base of a more robust and resilient economy - one that will remain strong in the face of unavoidable climatic challenges.

Taal Volcano is featured in the P50 New Generation Banknotes released by the BSP in 2010 along with the Scriptural inscription "Pinag pala ang Bayan na ang Diyos ay ang Panginoon."

The catadromous fish that is the Maliputo which grows in Taal Lake is also on the same banknote. The Maliputo happens to be my favorite fish. If we abide by God's promise in Psalm, our economy should be like the Maliputo which shall continue to tenaciously thrive even in volcanic waters.



Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

Trusted Since 1898

The Manila Times

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Fact sheet on Taal: A 'Decade Volcano' with a long eruption history

First
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OBSERVER

**YEN
MAKABENTA**

the current eruption of Taal Volcano and allay fears about the future to work with fact sheets on the volcano, its eruption history and the current situation. **► MakabentaA9**



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MAKABENTA FROM A1

Fact sheet on Taal

There are so many things going on, and so many stories are being reported by the media that it is impossible for the citizen to keep track of what is happening and calculate what may yet befall the nation because of Taal.

I believe in preparing a modest fact sheet that is within easy reach and can be constantly updated whenever the nation faces a major national disaster or crisis.

I am now doing the same in the case of Taal's current eruption. I dread the prospect of being asked by a child about Taal's eruption and having nothing informative to say.

A Decade Volcano

Let's start with the intriguing international designation of Taal as a "Decade Volcano." It is 1 of 16 Decade Volcanoes in the world.

The same distinction has not been conferred on Mayon Volcano and Mount Pinatubo, which arguably have had a more colorful history.

The 16 Decade Volcanoes have been identified by the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) as being worthy of particular study in light of their history of large, destructive eruptions and proximity to populated areas. The Decade Volcanoes project encourages studies and public-awareness activities at these volcanoes with the aim of achieving a better understanding of the volcanoes and the dangers they present and, thus, being able to reduce the severity of natural disasters.

They are named "Decade Volcanoes" because the project was initiated in the 1990s as part of the United Nations-sponsored International Decade for Natural Disaster Reduction.

A volcano may be designated a Decade Volcano if it exhibits more than one volcanic hazard (people living near the decade volcanoes may experience tephra fall, pyroclastic flows, lava flows, lahars, volcanic edifice instability and lava dome collapse); shows recent geological activity; is located in a populated area (eruptions at any of the decade volcanoes may threaten tens or hundreds of thousands

of people and, therefore, mitigating eruption hazards at these volcanoes is crucial); is politically and physically accessible for study; and there is local support for the work.

Hopes that UN funding might be available for Decade Volcano projects did not come to fruition, and funding was sought instead from other sources.

Fact sheet on Taal

Next on my to-do list is a fact sheet on Taal Volcano.

Taal Volcano is a large complex volcano filled with a 15x20-kilometer lake located in the province of Batangas on Luzon island.

It is the second most active volcano in the Philippines with 34 recorded historical eruptions, all of which were concentrated on Volcano Island near the middle of Taal Lake. The lake partially fills Taal Caldera, which was formed by prehistoric eruptions between 140,000 and 5,380 BP (years before present time).

Taal is part of a chain of volcanoes along the western side of the edge of Luzon that were formed by the subduction of the Eurasian plate underneath the Philippine mobile belt. Taal Lake lies within a 25- to 30-kilometer caldera formed by the explosive prehistoric eruptions. Each of these eruptions created extensive ignimbrite deposits, reaching as far away as where Manila stands today.

Since the formation of the caldera, subsequent eruptions have created a volcanic island within the caldera, known as Volcano Island. This island covers an area of about 23 square kilometers with the center of the island occupied by the 2 km main crater with a single crater lake formed from the 1911 eruption.

Taal Volcano and Lake present one of the most picturesque and attractive views in the Philippines. It is located about 50 km south of Manila.

All volcanoes of the Philippines are part of the Pacific Ring of Fire.

The Ring of Fire is a major area in the basin of the Pacific Ocean where many earthquakes and volcanic eruptions occur. In a large 40,000-km horseshoe shape, it is associated

with a nearly continuous series of oceanic trenches, volcanic arcs and volcanic belts and plate movements. It has 452 volcanoes (more than 75 percent of the world's active and dormant volcanoes.)

About 90 percent of the world's earthquakes and about 81 percent of the world's largest earthquakes occur along the Ring of Fire. All but three of the world's 25 largest volcanic eruptions of the last 11,700 years occurred at volcanoes in the Ring of Fire.

Eruption history

There have been 33 recorded eruptions at Taal since 1572. The 2020 eruption is the 34th.

The first eruption of which there is any record occurred in 1572, the year the Augustinian friars founded the town of Taal on the shores of the lake (on what is now San Nicolas, Batangas).

Taal Volcano's greatest recorded eruption occurred in 1754 and lasted from May 15 to December 1. The event is meticulously recorded in a narrative account by Fr. Buencuchillo, parish priest of Sala, who was stationed in Taal at the time.

One of the more devastating eruptions of Taal occurred in January 1911. It claimed a reported 1,335 lives and injured 199 although it is known that more perished than the official records show.

Great changes took place in the crater after the eruption. Before 1911, the crater floor was higher than Taal Lake and had several separate openings in which were lakes of different colors. There was a green lake, a yellow lake, a red lake and some holes filled with hot water from which steam issued.

Taal's 2020 eruption

This takes us to the present time.

Taal erupted again on the afternoon of Jan. 12, 2020, 43 years after the 1977 eruption, with the alert level warnings of the Philippine Institute of Volcanology and Seismology (Phivolcs) escalating from Alert Level 2 to Alert Level 4. It was an eruption from the main crater on Volcano Island. The eruption spewed ashes to Calabarzon (Cavite, Laguna, Batangas, Rizal and Quezon), Metro Manila and some parts of Central Luzon.

Taal Volcano is currently on Alert Level 4 for the third day, which means that a violent eruption may happen within hours or days.

Fissures or cracks on the ground were spotted in several towns of Batangas amid the Taal Volcano's possible hazardous explosive eruption, according to the Phivolcs.

Phivolcs said the fissures appeared in Barangay Sinisian, Mahabang Dahilig, Dayapan, Palanas, Sangalang and Poblacion in Lemery town; Barangay Pansipit in Agoncillo; Poblacion 1, Poblacion 2, Poblacion 3 and Poblacion 5 in Talisay; and Poblacion in San Nicolas. These fissures sometimes become degassing vents, which may emit steam or other chemical compounds.

Phivolcs reiterated that a total evacuation is needed in Volcano Island as well as those in the 14-km radius from the main crater because these areas are vulnerable to possible pyroclastic density currents and volcanic tsunami.

Those in other areas surrounding the volcano must also prepare for heavy and prolonged ashfall.

President Rodrigo Duterte declared Taal's Volcano Island a "No man's land." He approved other recommendations and measures to ensure public safety and security.

"As of this moment, Taal Volcano continues to be on Alert Level 4. *Medyo wala munang babalik doon hangga't hindi makakalma* (No one is allowed to return until it has calmed down)," Duterte said.

The volcanic island is part of the 14-km danger zone declared after Taal Volcano exploded on Sunday afternoon, displacing thousands of people.

The President made clear his thinking: "This is an issue of public order and security and an issue of health. Those are the functions of government — to come up with measures to protect public interest, public safety, public health."

Duterte vowed that the government would assist communities affected by Taal's ash explosion.

He expressed satisfaction at thanks for the response of local governments to Taal's eruption.



Camiguin to limit tourists to sustain environment

By GERRY LEE GORIT

MAMBAJAO – With the huge influx of local and foreign tourists visiting the island-province, the Camiguin provincial government has taken measures to ensure that residents will protect the environment as an important natural resource.

The province recorded P213.088 million in investments for the first three quarters of 2019, Gov. Jurdin Jesus Romualdo noted, as he assured the public of environmental protection and sustainability with the implementation of Population Carrying Capacity during his State of the Province Address (SOPA) on Jan. 7 at the Camiguin Convention Center.

“We are happy to share that we have taken the first steps last year toward establishing carrying capacity limits in our ecotourism sites, to be able to determine the maximum number per species that can be sustained by the environment currently and in the future,” Romualdo said.

Survey enumerators of the Department of Environment and Natural Resources (DENR) regional office have gathered secondary data on infrastructure, population, water consumption for households, hotels and resorts, waste generation, wastewater, biodiversity, municipal profile and other limiting factors for analysis.

“I want us to have a carrying capacity on tourists. Before, we wanted to have a lot of people, but it wasn’t correct. There should be a carrying capacity to sustain all our environments,” the governor said.

Noting the 11.56 percent increase in commercial aircraft movement and seven percent increase in passenger traffic, Romualdo said there is a need to take further action to protect and conserve the island’s

environment.

Thus, the Climate Adaptation, Mitigation and Disaster Risk Reduction Center shall ensure that all policies, laws, regulations and ordinances are enforced pertaining to the conservation and protection of the environment and natural resources.

Furthermore, the Provincial Environment and Natural Resources Office (PENRO) has carried on numerous programs in line with the DENR’s national priorities.

These include the expanded national greening program, enhanced biodiversity conservation, scaling up of marine and coastal ecosystem, improved land administration and management, intensified forest protection and anti-illegal logging.

The governor said PENRO has fo-

cused on maintenance and protection for the expanded national greening program under which plantations were established in 2017 and 2018. These include a 50-hectare bamboo plantation, three-hectare rich forest and mangrove enrichment, and 50-hectare bamboo plantation along the riverbanks.

For protected areas, PENRO also pursued activities that focus on advocacy, assessment and monitoring of sites and species.

While it is good to note the economic gains of having a lot of investments on the island, Romualdo said it is everybody’s role to ensure that the environment will always be healthy and beautiful because after all, this is what the island is well known for.



TOURISTS enjoying the serene waters of Burnham Lake

DOT chief vows to revitalize Baguio

THE triumvirate of the Department of Tourism (DOT), led by Tourism Secretary Bernadette Romulo Puyat, the Department of Environment and Natural Resources, and the Department of the Interior and Local Government visited the City of Pines on January 10.

Puyat, together with Secretaries Eduardo Año and Roy Cimatu, visited Burnham Park, Wright Park, Mines View Park, Baguio City's sewage treatment plant and Balili River, and the sanitary landfill in Irisan. An interagency meeting with the Baguio local government unit took place to tackle the prevailing problems that ail the premier tourist site, such as overtourism, and discuss the possible sustainable infrastructure rehabilitation projects on the urban carrying capacity of Baguio, La Trinidad, Itogon, Sablan, Tuba and Tublay, along with other plans to redevelop and decongest the Unesco Creative City.

"The commitment to our mandate to sell and protect our natural attractions remains our paramount objective. It is a shared responsibility, however, among government and our people to be responsible stewards of our planet," the tourism chief added. More than a year since Boracay underwent massive restoration, the DOT bared plans to rehabilitate the flagship tourist destination.

Among the projects the DOT pledged to bankroll in the City of Pines, through its infrastructure arm, the Tourism Infrastructure and Enterprise Zone Authority, is the P480-million rehabilitation of the iconic Burnham Park. Tieza and Baguio signed a MOA on the funding commitment.

Meanwhile, the DOT and Tieza are also intently studying Baguio's request for funding for the construction of a sewerage system and the rehabilitation of the Mines View Park.



Kahit isailalim sa rehab **BAGUIO HINDI ISASARA SA TURISTA**

HINDI tulad sa Boracay, ang Baguio City ay hindi isasara sa mga turista kahit na isailalim ito sa major rehabilitation, ayon sa Department of Environment and Natural Resources (DENR).

Nagpulong na ang Department of Tourism (DOT), DENR, Department of the Interior and Local Government (DILG), at ang lokal na pamahalaan ng Baguio upang maglatag ng mga plano para sa rehabilitasyon ng lungsod.

Ayon kay DOT Secretary Bernadette Romulo-Puyat, may P480 million ang inilaan para sa pag-

sasaayos sa makasaysayan at sikat na Burnham Park.

Kabilang dito ang reconstruction ng sewerage system ng lungsod bagama't hindi pa itinatakda ang petsa ng pagsisimula ng proyekto.

Ikinalungkot ni DILG Secretary Eduardo Año ang unti-unting pagkasira ng Baguio bagama't pinuri niya ang paghingi ng tulong ni Baguio Mayor Benjamin Magalong sa national government para sa rehabilitasyon.

Tinukoy rin ni Año ang pagdagsa ng mga turista at ang kawalan ng aksiyon sa mga nakalipas na taon na dahilan ng pagkawak ng Baguio City. Dagdag pa

niya, ang iba pang problema ay hindi naresolba sa nakalipas na tatlo hanggang apat na dekada.

Aniya, ayaw niyang tawagin ang Baguio na 'Highest Smokey Mountain of the Philippines'.

Bagama't bubuksan pa rin ang Baguio sa mga turista, nanawagan ang mga ahensiya ng pamahalaan ng kooperasyon sa mga residente sa pangangalaga sa summer capital ng bansa.

Magkakaloob ang DENR ng technical support at assistance para makagawa ng mga bagong ordinansa upang matulungan ang Baguio na maging climate change-resilient.

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Bacoor twin land-reclamation projects offers 'best solutions' to urban devt, mayor says

BY JONATHAN L. MAYUGA [@jonlmayuga](#)

CLAIMING that the two proposed land-reclamation projects in Bacoor City have been receiving overwhelming support from various stakeholders, Cavite local officials said they intend to integrate and adopt "a most effective approach to the long-term cleanup of Manila Bay" as mandated by a decade-old Supreme Court continuing mandamus.

The twin land-reclamation projects are being opposed by coastal communities and fishermen of Bacoor, known as the birthplace of oyster and mussel farming in the country.

The Pambansang Lakas ng Kilusang Mamamalakaya ng Pilipinas and Oceana Philippines, an international ocean conservation advocacy nongovernment organization, are vocal about the adverse environmental impacts of land reclamation, particularly in Manila Bay, which is currently the subject of a massive rehabilitation effort by the Duterte administration under the Battle For Manila Bay campaign being waged by the Department of Environment and Natural Resources (DENR).

The Office of Sen. Cynthia Villar had also expressed strong opposition to the projects because, according to the lady legislator, the projects will cause massive flooding.

President Duterte declared during an interview on national television that he will not allow new land-reclamation projects to proceed under his watch.

The proponent of land-reclamation projects, the Bacoor City local government, through its public information officer, said the Bacoor Reclamation and Development Project (BRDP), consisting of a total of 320-hectare island and the Diamond Reclamation and Development Project (DRDP), consisting of one 100-hectare island via public-private partnership under the PPP Code of Bacoor are the only projects along Manila Bay that carry with it a program for relocation and resettlement squatter dwellers. The city targets the relocation of would-be affected residents living in ten coastal barangays.

In a news statement, Mayor Lani M. Revilla said the twin development projects would also address flooding in the city. She said the projects are integrated with the various long-term flood mitigation projects of the Department of Public Works and Highways (DPWH).

The Flood Risk Management Project of the DPWH will improve river channels and create diversion channels from Imus to Bacoor City, which will serve as the flood discharge system of the rainwater catchment basin of Bacoor, in Buhay na Tubig.



Reclamation best solution along Cavitex

Generates overwhelming support

Bacoor City, Cavite -- The proposed 420-hectare reclamation projects in Bacoor City earned overwhelming support from directly-impacted stakeholders during the public hearing held by the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) last January 9, 2020. The public hearing is part of the Environmental Impact Assessment System as mandated by law under Presidential Decree 1586 and DENR Administrative Order No. 2003-30.

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RECLAMATION

FROM PAGE 1

The City Government of Bacoor is the proponent of twin reclamation projects, namely Bacoor Reclamation and Development Project (BRDP), consisting of a total of 320-hectare islands, and the Diamond Reclamation and Development Project (DRDP) consisting of one 100-hectare island via Public-Private Partnership under the PPP Code of Bacoor.

The City hopes to integrate in these two projects a most effective approach to the long-term clean-up of Manila Bay as mandated by a SC continuing mandamus, being the only projects along the Manila Bay that carry with it a program for relocation and resettlement of Informal Settler Families (ISFs) living along the ten coastal barangays.

The City Mayor Lani M. Revilla explained that the proposed projects will address flooding in the city as she made sure they are integrated with the various long-term flood mitigating projects of the Department of Public Works and Highways (DPWH). The Flood Risk Management Project of the DPWH will improve river channels and create diversion channels from Imus to Bacoor City which will serve as the flood discharge system of the rain-water catchment basin of Bacoor in Buhay na Tubig. The proposed reclamation islands are so situated and formed as to conform with the anti-flooding projects of DPWH, having more than sufficient channels in between the islands which are aligned with existing

natural river outflows. The studies conducted by the private sector partners of the city show that the islands will also serve as anti-storm surge walls of the City.

Among the sectors represented in the public hearing were the concerned barangay officials, the fisherfolk, Informal Settler Families (ISFs), student leaders, mussel and oyster farmers, businessmen, environmental groups, and other concerned government agencies. The fishermen are most satisfied with the proposed Fisherman's Village in Barangay Alima which is also part of the proposed reclamation projects in order to make sure that they will not be displaced from their industry. The proposed projects are expected to uplift their living conditions with the establishment of the Fisherman's Wharf along Sinaguelasan coasts which will also develop and preserve the 40-hectare mangroves plantation of the City.

"Sa mga sinabi po ng opisyal ng Bacoor na kami ay hindi maiiwan, bagkus ay mabibiyayaan kami po ay lubos na natutuwa at nagpapasalamat," said Cherielyn Espiritu, leader of the League of Modern and Responsible Women composed of female residents living along the city's coastal areas.

One of the stakeholders also expressed gratitude to the city government for holding the public hearing to address their concerns, noting they were never consulted for a similar project in the past, which is the construction of the Cavite road.

In-city relocation

The projects are expected to boost the city government's on-going relocation program for the concerned coastal residents and hasten its compliance with the SC mandamus for Manila Bay clean up.

It could be recalled that in 2008, the SC issued a continuing mandamus, directing the Department of Environment and Natural Resources and several other government agencies to clean up, rehabilitate, and preserve Manila Bay, and restore and maintain its waters to make them fit for swimming, skin-diving, and other forms of contact recreation.

Specifically, for the DENR, the Court ordered the full implementation of its Operational Plan for the Manila Bay Coastal Strategy (OPMBCS), which includes the reduction of illegal settlers, establishments and structures along coast lines and prevent future occupation of these shorelines.

"Nakita po natin na hindi naging matagumpay ang rehabilitation ng Manila Bay sa nakaraang administrasyon. Natuto na po tayo sa mga naging karanasan ng national government sa kaso ng Manila Bay," Bacoor City Mayor Lani Revilla said, noting that after over six years of continued effort and expenditure of more than P50 billion, the problem of Manila Bay pollution has yet to be sufficiently addressed.

"Ang nakikita natin, reclamation ang pinakamagandang long-term solution lalo na sa may Cavite area," she added. Revilla pointed out that the city is readying two resettlement sites for the ISFs and fishermen living along coastal areas who would

be affected by the reclamation projects.

"Masasabi natin na ito ay isa sa mga ilang reclamation projects sa Pilipinas na may in-city relocation," Revilla assured the Bacooreños.

One of the resettlement sites is a property in Molino II that would be called "Ciudad Kaunlaran," where medium-rise buildings will be constructed with basic facilities and livelihood support programs. A government center with social services will also be established within the site. Among the target beneficiaries for Ciudad Kaunlaran are ISFs from 10 barangays of Bacoor who would be affected by the project.

Likewise, properties in Barangay Alima would be transformed into a Fisherman's Village for the resettlement of fishermen living along the coastlines of Bacoor Bay. The relocation site would still allow fishermen to ply their trade while a wharf with berthing facility will be constructed for their use.

She also pointed out that the relocation program would be conducted under the Community-based Initiative Approach of the National Housing Authority (NHA), which calls for the participation of the affected ISFs in the planning stage.

New metropolis in the offing

With the reclamation projects, Revilla said Bacoor will soon be transformed into a new center of growth in line with President Rodrigo Duterte's vision to decongest Metro Manila and spread development to other areas of the country.

She said reclamation is the prudent, sustainable, and viable solution to effectively address Bacoor's critical need for available land necessary to cope with



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economic stagnation and provide additional space for residential and commercial purposes.

"Reclamation ang nakikitang tugon para sa pangangailangan natin ng karagdagang lupain upang isulong and pag-unlad ng ating lungsod. Matutugunan ang lumalaking populasyon at mapabubuti ang kalagayan ng ating mga mamamayan," Revilla said.

Official data shows that as much as 73 percent of Bacoor's available land space is already devoted to residential use, with only about 2 percent utilized for commercial purposes.

On the other hand, the agri-fishery areas—covering all rice lands, other productive agricultural lands, and water bodies or fishponds — have shrunk to a total area of 410 hectares, or a mere 6.61 percent of the total land area of Bacoor.

Based on the 2015 census, the city's population density is at 13,009 per square kilometers or a total of about 600,609 individuals. If the trend continues, it is projected that Bacoor's population will double its size by 2025.

Revilla claimed that the projects will attract new investments and businesses in the mixed-use zone for residential, leisure, commercial and education and technology hubs. Moreover, the twin projects will enhance the city's potential as a tourist attraction and increase its income from ecotourism activities.

With the establishment of business hotels in the reclamation area and their operation, Bacoor is projected to earn an additional P1.8 billion in revenues from tourism activities alone.

The reclamation projects are likewise expect-



NEW GROWTH CENTER - Bacoor City Mayor Lani Revilla makes her pitch for the proposed 420-hectare reclamation projects along the city's coastal area during the public hearing held last January 9, 2020. Aside from its expected economic benefits, she touted that the projects provide for the clean up of Manila Bay, in-city relocation, and address flooding woes in the city. Majority of directly-impacted stakeholders have expressed their support for the project.

ed to boost productivity and efficiency for economic enterprises and open new business and livelihood opportunities.

"Sisigla ang negosyo at magkakaroon ng aabot sa 700,000 na mga bagong trabaho para sa mga taga-Bacoor at mga karatig-lugar. Kaya ngayon palang ay nagbukas na kami ng mga libreng kurso sa aming TESDA Center upang maging handa ang Bacooreño para sa mga kakailanganin at mabubuksang oportunidad," Revilla said.

"Increased revenues will also enable the city government to improve the delivery of government services, particularly through extensive use of smart technology," she declared.

Moreover, the reclamation projects would provide much-needed high-quality landscape and public open space, or parks and playground for the people of Bacoor, which currently has no public green space and development large enough to become the center of urban outdoor activities for its residents.

Support flood-control infrastructure

The reclamation projects which are designed with deep channels and waterways for the efficient flow of water to the sea, complement the anti-flood measures being implemented by the national government. These are necessary because Bacoor is currently the catch-basin of the Province of Cavite and naturally prone to flooding. These channels will serve as outlets of the government flood-control infrastructures aided with the most advanced technology with least inconvenience to the public.

Elevated and equipped with wave deflectors at the banks, the reclamation would likewise serve as an integral part of the city's coastal defense that would shield it and adjacent areas from the threat of storm surge. The reclamation islands inside Cavite road also complement the Bacoor Diversion Road project of the DPWH as this structure and the islands will also serve to block the influx of high tide waters into the often-inundated areas along the coastal barangays of Talaba 2, Maliksi 1 and 3 and Digman.



RECLAMATION BEST SOLUTION ALONG CAVITEX

BACOR City, Cavite — The proposed 420-hectare reclamation projects in Bacoor City earned overwhelming support from directly-impacted stakeholders during the public hearing held by the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) last Thursday, January 9.

The public hearing is part of the Environmental Impact Assessment System as mandated by law under Presidential Decree 1586 and DENR Administrative Order No. 2003-30.

The City Government of Bacoor is the proponent of twin reclamation projects, namely, Bacoor Reclamation and Development Project (BRDP), consisting of a total of 320-hectare islands, and the Diamond Reclamation and Development Project (DRDP) consisting of one 100-hectare island via Public-Private Partnership under the PPP Code of Bacoor.

The City hopes to integrate in these two projects a most effective approach to the long-term clean-up of Manila Bay as mandated by a Supreme Court continuing mandamus, being the only projects along Manila Bay that carry with it a program for relocation and resettlement of informal settler families (ISFs) living along the 110 coastal barangays.

City Mayor Lani M. Revilla explained that the proposed projects will also address flooding in the city as she made sure they are integrated with the various long-term flood mitigating projects of the Department

of Public Works and Highways (DPWH). The Flood Risk Management Project of the DPWH will improve river channels and create diversion channels from Imus to Bacoor City which will serve as the flood discharge system of the rainwater catchment basin of Bacoor in Buhay na Tubig. The proposed reclamation islands are so situated and formed as to conform with the anti-flooding projects of DPWH, having more than sufficient channels in between the islands which are aligned with existing natural river outflows. The studies conducted by the private sector partners of the city show that the islands will also serve as anti-storm surge walls of the City.

Among the sectors represented in the public hearing were the concerned barangay officials, the fisherfolk, informal settler families (ISFs), student leaders, mussel and oyster farmers, businessmen, environmental groups, and other concerned government agencies. The fishermen are most satisfied with the proposed Fisherman's Village in Barangay Alima which is also part of the proposed reclamation projects in order to make sure that they will not be displaced from their industry. The proposed projects are expected to uplift their living conditions with the establishment of the Fisherman's Wharf along Sinaguelasan coasts which will also develop and preserve the 40-hectare mangroves plantation of the City.

"Sa mga sinabi po ng opisyalles ng Bacoor na kami ay hindi maiiwan, bagkus



NEW GROWTH CENTER. Bacoor City Mayor Lani Revilla makes her pitch for the proposed 420-hectare reclamation projects along the city's coastal area during the public hearing held last January 9, 2020. Aside from its expected economic benefits, she touted that the projects provide for the clean up of Manila Bay, in-city relocation, and address flooding woes in the city. Majority of directly-impacted stakeholders have expressed their support for the project.

ay mabibiyayaan kami po ay lubos na natutuwa at nagpapasalamat," said Cheriefyn Espiritu, leader of the League of Modern and Responsible Women composed of female residents living along the city's coastal areas.

One of the stakeholders also expressed gratitude to the city government for holding the public hearing to address their concerns, noting they were never consulted for a similar project in the past, which is the construction of the Cavite road.

In-city relocation

The projects are expected to boost the city government's on-going relocation program for the concerned coastal residents and hasten its compliance with the SC mandamus for Manila Bay clean-up.

In 2008, the SC issued a continuing mandamus, directing the Department of Environment and Natural Resources and several other government agencies to clean up, rehabilitate,

and preserve Manila Bay, and restore and maintain its waters to make them fit for swimming, skin-diving, and other forms of contact recreation.

Specifically, for the DENR, the Court ordered the full implementation of its Operational Plan for the Manila Bay Coastal Strategy (OPMBCS), which includes the reduction of illegal settlers, establishments and structures along coast lines and prevent future occupation of these shorelines.

"Nakita po natin na hindi naging matagumpay ang rehabilitation ng Manila Bay sa nakaraang administrasyon. Natuto na po tayo sa mga naging karanasan ng national government sa kaso ng Manila Bay," Bacoor City Mayor Lani Revilla said, noting that after over six years of continued effort and expenditure of more than P50 billion, the problem of Manila Bay pollution has yet to be sufficiently addressed.

"Ang nakikita natin, reclamation ang pinaka-

magandang long-term solution lalo na sa may Cavite area," she added. Revilla pointed out that the city is readying two resettlement sites for the ISFs and fishermen living along coastal areas who would be affected by the reclamation projects.

"Masasabi natin na ito ay isa sa mga tilang reclamation projects sa Pilipinas na may in-city relocation," Revilla assured the Bacooreños.

One of the resettlement sites is a property in Molino II that would be called "Ciudad Kaunlaran," where medium-rise buildings will be constructed with basic facilities and livelihood support programs. A government center with social services will also be established within the site. Among the target beneficiaries for Ciudad Kaunlaran are ISFs from 10 barangays of Bacoor who would be affected by the project.

Likewise, properties in Barangay Alima would be transformed into a Fisherman's Village for the resettlement of fishermen living along the coastlines of Bacoor Bay. The relocation site would still allow fishermen to ply their trade while a wharf with berthing facility will be constructed for their use.

New metropolis in the offing

With the reclamation projects, Revilla said Bacoor will soon be transformed into a new center of growth in line with President Rodrigo Duterte's vision to decongest Metro Manila and spread development to other areas of the country.

She said reclamation is

the prudent, sustainable, and viable solution to effectively address Bacoor's critical need for available land necessary to cope with economic stagnation and provide additional space for residential and commercial purposes.

"Reclamation ang nakikitang tugon para sa pangangailangan natin ng karagdagang lupain upang isulong and pag-unlad ng ating lungsod. Matutugunan ang lumalaking populasyon at mapabuti ang kalagayan ng ating mga mamamayan," Revilla said.

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Revilla also claimed that the projects will attract new investments and businesses in the mixed-use zone for residential, leisure, commercial and education and technology hubs. Moreover, the twin projects will enhance the city's potential as a tourist attraction and increase its income

from eco-tourism activities.

With the establishment of business hotels in the reclamation area and their operation, Bacoor is projected to earn an additional P1.8 billion in revenues from tourism activities alone.

The reclamation projects are likewise expected to boost productivity and efficiency for economic enterprises and open new business and livelihood opportunities.

"Sisigla ang negosyo at magkakaroon ng aabot sa 700,000 na mga bagong trabaho para sa mga taga-Bacoor at mga karatig-lugar. Kaya ngayon pa lang ay nagbukas na kami ng mga libreng kurso sa aming TESDA Center upang maging handa ang Bacooreño para sa mga kakailanganin at mabubuksang oportunidad," Revilla said.

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SUSTAINABLE SOURCE OF LIVELIHOOD

GOV'T WANTS 19,000 HA OF LAND PLANTED TO BAMBOO

By Roy Stephen C. Canivel
[@roycanivel_INQ](#)

The government wants to convert at least 19,000 hectares of land into bamboo plantations this year in line with plans to encourage more people to join the industry.

The Philippine Bamboo Industry Development Council (PBIDC), an interagency group composed of national and local government representatives, plans to have 13,000 ha of the target located in Western Visayas, according to a statement of the Department of Trade and Industry (DTI) on Wednesday.

Trade and Industry Secretary Ramon Lopez heads the

council as its chair.

PBIDC will launch an official campaign in March to promote the bamboo industry.

Bamboo takes only three years to fully grow, compared to 10 to 20 years for wood trees, the DTI said. Bamboo can be used as construction materials and materials for furniture and paper-making, among its many uses.

"Bamboo planting can provide a sustainable source of livelihood to people in the countryside," Lopez said.

Since the plant grows quickly and is weather-resilient, it is an ideal business for farmers who are looking for alternative sources of income, he added.

In a meeting on Jan. 9, Lopez said the DTI was ready to provide shared service facilities for those who wish to venture into bamboo processing.

On top of this, there are other forms of government support that could soon be tapped by businesses. For example, the DTI said that agribusiness ventures like bamboo production and processing form part of the strategic investments priorities plan (SIPP), which entitled investors to tax incentives.

The SIPP is part of the government's push to rationalize tax incentives and lower the corporate income tax through the Corporate Income Tax and Incentives Rationalization Act. [INQ](#)



Bamboo industry targets 19,000 hectares for new plantations

THE Philippine Bamboo Industry Council (PBIC) plans to convert at least 19,000 hectares of land into bamboo plantations this year, including 13,000 hectares in the Western Visayas.

The government inter-agency group said in a statement Wednesday that the Department of Trade and Industry (DTI) will be providing shared service facilities for agri-businesses that venture into bamboo processing.

Trade Secretary Ramon M. Lopez, who chairs PBIC, said that bamboo plantations will be included in the department's Roads Leveraging Linkages of Industry and Trade program, which aims to build plant-to-market roads to ease the delivery of products, especially from remote areas.

Agri-business ventures like bamboo production and processing are also entitled to tax incentives under DTI's Strategic Investments Priorities Plan.

"Bamboo planting can provide a sustainable source of livelihood to people in the countryside. Since the plant grows quickly and is weather-resilient, it is an ideal business for farmers who are looking for alternative sources of income," Mr. Lopez said.

PBIC Vice Chairman and Ilocos Sur Representative Deogracias Victor B. Savellano, a Deputy Speaker, volunteered his district for the pilot program.

He said the target areas for plantations will increase as various groups, including the Department of National Defense and some State Universities and Colleges, are interested in planting bamboo on their properties.

The Department of Environment and Natural Resources (DENR) also committed more than half of its national greening program to the propagation of more bamboo, according to Environment Secretary Roy A. Cimatu.

DENR will also provide training on bamboo production, and will offer loans with 2% annual interest for bamboo farmers through LAND-BANK's Agricultural Competitiveness Enhancement Fund (ACEF) Lending Program.

DTI said that the plant, which takes two to three years to grow compared to the decades-long growth of wood trees, can be used for construction, furniture, and paper-making.

In March, PBIC will launch its official campaign, known as "Kawayan, Kalikasan, Kabuhayan, Kaunlaran, Kinabukasan" promoting the bamboo industry. — **Jenina P. Ibañez**



Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

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PBIC eyes more bamboo plantations

BY EIREENE JAIREE GOMEZ

THE Philippine Bamboo Industry Council (PBIC) on Wednesday said it is looking to convert at least 19,000 hectares of land into bamboo plantations this year, citing the government's readiness to provide facilities and support for those who wish to venture into bamboo processing.

Of the total, about 13,000 ha are in Region 6 (Western Visayas), the interagency group composed of national and local government representatives said in a statement.

This development came after a meeting last week led by Trade Secretary and PBIC Chairman

Ramon Lopez.

During the meeting, Lopez said the Department of Trade and Industry (DTI) is ready to provide shared service facilities to those who wish to venture into bamboo agribusiness, particularly production and processing, which is also part of

the DTI's Strategic Investments Priorities Plan (SIPP) that entitles investors to tax incentives.

"Bamboo planting can provide a sustainable source of livelihood to people in the countryside. Since the plant grows quickly and is weather-resilient, it is an ideal business for farmers who are looking for alternative sources of income," Lopez said.

He also committed to include bamboo plantations in the DTI's Roads Leveraging Linkages of Industry and Trade Program with the Department of Works and Highways. The program aims to build "plant-to-market" roads to ease the delivery of products, especially from

remote areas.

The target areas for plantations, said PBIC Vice Chairman, Ilocos Sur Rep. and Deputy Speaker DV Savellano, will increase since the Department of National Defense and some state colleges and universities are also interested to plant bamboo on their properties.

"When we talk about bamboo, everyone is excited," Savellano said. The congressman also volunteered his district for the pilot program, which can be replicated across the country.

Earlier, the Department of Environment and Natural Resources (DENR) said it was eyeing Panay Island as the center for bamboo production in the Philippines.

Environment Secretary Roy Cimatu has committed more than 50 percent of the DENR's National Greening Program to propagate and plant more bamboo, which includes providing farmers with training on bamboo production. They can also get loans at 2-percent interest a year under the Agricultural Competitiveness Enhancement Fund Lending Program of the Land Bank of the Philippines.

Bamboo is known as a fast-growing plant that takes only three years to fully mature, compared to 10 to 20 years for wood trees. The plant could be processed into various products like constructions materials and fabrics/clothing.

Executive Order 879 that created the PBIC also mandates that 25 percent of desk and other furniture in public schools should be made of bamboo, as it is widely recognized as a "versatile renewable resource" that protects the environment, improves the microclimate, controls soil erosion, protects riverbanks, reduces flash floods, serves as windbreakers, and sequesters atmospheric carbon efficiently.

The council will launch an official campaign in March to promote the bamboo industry. The campaign will be named 5Ks or *Kawayan, Kalikasan, Kabuhayan, Kaunlaran, Kinabukasan*.



Council eyes 19,000 has of bamboo plantation

THE Philippine Bamboo Industry Council (PBIC), an interagency group composed of national and local government representatives, plans to convert at least 19,000 hectares of land into bamboo plantations this year.

Around 13,000 hectares of these are in Western Visayas (Region 6).

In a meeting last January 9, Trade Secretary and PBIC chairman Ramon Lopez said the Department of Trade and Industry (DTI) is ready to provide shared service facilities for those who wish to venture into bamboo processing.

Agri-business ventures, like bamboo production and processing, is also part of DTI's Strategic Investments Priorities Plan, which entitles investors to tax incentives.

Lopez also committed to include bamboo plantations in DTI's Roads Leveraging Linkages of Industry and Trade Program with the Department of Works and Highways.

The program aims to build "plant to market" roads to ease

the delivery of products, especially from remote areas.

"Bamboo planting can provide a sustainable source of livelihood to people in the countryside. Since the plant grows quickly and is weather-resilient, it is an ideal business for farmers who are looking for alternative sources of income," said Lopez.

PBIC vice chairman and Ilocos Sur Rep. Deputy Speaker DV Savellano said the target areas for plantations will surely increase since the Department of National Defense and some state universities and colleges are also interested to plant bamboo on their properties.

Savellano volunteered his district for the pilot program, which can be replicated nationwide.

Bamboo is known as a fast growing plant that has high carbon dioxide absorptive capacity. It also provides livelihood opportunities to farm communities.

Secretary Roy Cimatu of the Department of Environment and



Fast-growing plant. Bamboo has high carbon dioxide absorptive capacity that provides livelihood opportunities to farm communities.

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Natural Resources (DENR) has likewise committed more than 50 percent of its National Greening Program to propagate and plant more bamboo.

DENR's Ecosystems Research and Development Bureau will provide training on bamboo production. Bamboo farmers can also get loans at 2 percent interest per year under Landbank's Agricultural Competitiveness Enhancement Fund Lending Program.

Bamboo takes only three years to fully grow, compared to 10 to 20 years for wood trees. The plant can be used as

construction materials, as well as furniture and paper-making, among other uses.

Executive Order 879 that created the PBIC also mandated that 25 percent of desk and other furniture in public schools should be made of bamboo. Bamboo is effective in preventing floods and absorbing carbon dioxide, mitigating the effects of climate change.

The council will launch an official campaign in March to promote the bamboo industry.

The campaign will be named 5Ks: Kawayan, Kalikasan, Kabuhayan, Kaunlaran, Kinabukasan.



MSMEs goes green, help save the environment

DESPITE being one of the fastest-growing countries in Asia, the Philippines is considered the most susceptible to hazards brought by climate change. This alarming reality, which can put the lives of Filipinos at risk, calls timely attention to the pressing environmental issues that need to be acknowledged and addressed before it is too late.

Local organizations, especially the Micro, Small, and Medium-Scale Enterprises (MSMEs), have a role to play in tackling these environmental challenges. With 99.56 per cent of companies in the Philippines registered as MSMEs in 2017, these businesses have the potential to take the lead in helping address the collective burden and help mitigate the effects of climate change in the country.

When it comes to running an eco-friendlier business, Epson's printers can help SMEs reduce its energy consumption through its heat-free Micro Piezo and PrecisionCore printing technology and can consider these three steps to go green and save the environment.

One option for MSMEs is the use of efficient office equipment, such as printers, projectors, and other electronic devices, that can support business processes using less power. For instance, MSMEs can consider switching from laser to inkjet printers, which can save up to 85 per cent energy in normal operations.

MSMEs should incorporate the habit of recycling paper, plastic, and e-waste into

their regular operations. MSMEs should also consciously seek out alternatives to reduce garbage disposal, such as recycling spent consumables or using office devices like inkjet printers that do not employ non-reusable cartridges, which can significantly lessen the environmental impact of using printers.

Eco-initiatives play a key role in companies to impact climate change. It may come in simple ways like taking part in annual environmental activities or by conducting social responsibility projects, such as information dissemination campaigns on environmental issues, clean up drives, among others.

For instance, Epson Philippines Corporation has partnered with the Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB) and its youth-led organization GREENducation Philippines in rolling out eco-initiatives for two years now. This year, Epson Philippines' eco-projects focus on upcycling, a practice that transforms by-products and waste materials into new materials of better quality and environmental value.

These initiatives include a denim upcycling workshop for the youth beneficiaries of Alay Pag-Asa Christian Foundation, Inc. and the EcoVision Short Film Competition, an inter-collegiate competition which taps the artistry of Filipino students in raising public understanding of the environment and its conservation through the power of the visual medium.



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Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

Customs to ship back 5,000 tons of waste to South Korea

BY WILLIAM B. DEPASUPIL

THE Bureau of Customs (BoC) will ship back to South Korea starting next week more than 5,000 tons of hazardous waste that had been discharged at the Mindanao Container Port (MCT) in Togoloan, Misamis Oriental as these were misdeclared as recyclable plastic synthetic flakes.

Mindanao International Container Terminal (MICT) Customs Collector John Simon disclosed on Wednesday that the reexportation-exportation would be done in two batches with the first 60 containers scheduled on January 19 and the remaining on February 9.

The waste products had been kept since July 2018 at the Phividec Industrial Estate in Tagoloan, Misamis Oriental.

The return of the remaining waste to South Korea was delayed because of financial and logistical issues related its rebagging and transfer from the Phividec

site to the MICT.

Simon said that the reexportation of waste materials would be done in coordination with the South Korean government through its embassy in Manila.

"This is a clear signal to all concerned that our beloved country is not a global dump and that waste traffickers will be held accountable to the fullest extent of the law," he said.

Records showed that Verde Soko, on two separate occasions, brought into the country one shipload containing 5,176.91 metric tons of various plastic and waste materials misdeclared as plastic

synthetic flakes. Fifty-one 40-foot containers were also declared as plastic synthetic flakes.

The 51 containers were shipped back last year to the port of origin in Pyeongtaek City, South Korea.

Both shipments were issued the corresponding warrant of seizure and detention for violating Sections 117 and 1400 of the Customs Modernization and Tariff Act.

Customs Memorandum Circular (CMC) 44-2015 prohibits the unloading of hazardous shipment without clearance.

CMC 44-2015 stipulates a "No Importation Clearance, No Unloading Policy" under Republic Act 6969, otherwise known as the "Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990," and the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal.

The Environmental Management Bureau (EMB) of the Department of Environment and

Natural Resources-Region 10 had examined the shipments and found them to contain household hazardous waste. The broker was identified as Mary Claire T. Booc.

Davao City-based Interfacing Development Interventions for Sustainability and Quezon City-based EcoWaste Coalition hailed the planned return of the waste materials.

At the same time, the EcoWaste Coalition pressed the national government to speed up its ratification of the Basel Ban Amendment, which entered into force on December 5 last year, and to adopt a full ban on foreign waste importation to protect the country from illegal waste traffic.

The Basel Ban Amendment prohibits the export of hazardous waste for all reasons, including recycling, from rich countries belonging to the Organization of Economic Cooperation and Development, European Union and Liechtenstein to developing countries like the Philippines.



THE TACLOBAN City landfill located in Barangay San Roque.

**EASTERN VISAYAS: TACLOBAN CITY
Tacloban appeals for stricter waste
segregation with 1-year old landfill almost full**

THE TACLOBAN City government called on barangay officials to implement stricter waste segregation in their communities as the city's sanitary landfill, which was opened just a year ago, is "about to reach its full capacity." In a statement posted on the local government's official social media page, City General Services Office (CGSO) Officer-in-Charge Leoncio Parado II said village leaders are at the forefront of garbage management. "They should conduct intensive monitoring... to ensure the participation of their constituents in the proper disposal of their wastes," Mr. Parado said. "We already have this ordinance on Solid Waste Management (City Ordinance 2017-13-37), so I guess there's no reason not to implement it in their respective barangays," he added. The city government also stressed that under the ordinance, those caught "carelessly" disposing garbage face the following penalties: P300 or one day community service for the 1st offense; P1,000 or two-day community service on the second violation; and P3,000 and at least three days of community service for the third time. Meanwhile, the CGSO, City Engineers Office, and City Environment and Natural Resources Office have recently undertaken a joint garbage collection activity to collect piles of trash in different areas, which was aggravated by the onslaught of typhoon Ursula (international name: Phanfone) last December. "We should help one another in implementing waste segregation and maintaining the cleanliness of our surroundings. Otherwise, our sanitary landfill will suffer once it reaches its capacity," Mr. Parado said. At least 120 tons of trash is generated daily in the city, the regional center of Eastern Visayas.



Ignored water solutions

If certain water solutions were implemented instead of ignored, we would not have our water crises today. One key neglected practice done by other countries extensively and successfully is water impoundment.

On Dec. 11, 2019, Sen. Grace Poe stated clearly the context of our water crisis in a hearing of the committee on public services. She opened the hearing with an “inconvenient truth” and said: “Millions of Filipino households—and not just in the greater Manila area, but more so in many regions across the country—still have no access to safe water nor to sanitary toilet facilities. So much more suffer through yearly debilitating droughts. The country is already below the international water stress threshold.”

On Jan. 14, in a meeting of the Movement for Water Security (MWS) board chaired by nine-year president of the League of Provincial Governors Roberto Pagdanganan, it was pointed out that most of the current media water exposure was on the Metro Manila water concessionaires. Though it is clear that privatization significantly improved water delivery, discussion is now being held to improve the concessionaire contract terms. The

COMMENTARY

ERNESTO M. ORDOÑEZ

MWS directors believe that water management should remain with the private sector, noting the bad experience that might occur again under direct government control.

But as Senator Poe correctly pointed out, the water problem was not just in Metro Manila. This summer, the water problem will become worse, and will be felt throughout the country.

With climate change, there will be more water scarcity. Last year, we actually violated guidelines by sourcing water from our already depleted underground water tables. This postpones our problem through a worse situation in the future, with even less water. We should instead embark on a national program to conserve water. Examples are to stop wasting water through careless practices like leaving the tap open and using water excessively for washing and cleaning.

More urgently, we should embark on a national initiative of water impounding. Instead of excess water being ignored, and worse, allowed to turn into

floods, we should construct water impoundment systems.

When I was the secretary general of the legislative-executive-private sector steering committee on the Water Roadmap and Summit that produced seven presubmits nationwide and seven water sector volumes signed by seven University of the Philippines Los Baños deans, a key private sector contributor then was now Agriculture Secretary William Dar. His main emphasis, learned from 15 years of experience as head of the international organization International Crops Research Institute for the Semi-Arid Tropics, was that we must do what other countries successfully do: construct impounding systems in both the uplands and lowlands.

Water impoundment is defined as “a body of water confined within an enclosure.” It can be constructed on a big scale such as a large reservoir, or a small scale, which our country badly needs. According to the Humanity Development Library 2.0, small water impounding system refers to “structures using readily available materials for the storage and/or diversion of surface water (running water from springs, creeks, streams or rivers).”

Concentrating too much on large projects at the expense

of these faster turnaround and dispersed projects has been our government’s folly. Even today, the budget of the large-oriented National Irrigation Administration is more than P40 billion, while that of the small-oriented Bureau of Soils and Water Management is less than P2 billion. Note that small impounding projects prevent floods, provide irrigation and enable fish-oriented livelihood activities.

Since we harvest only 4 percent of our rainwater, compared to India’s 60 percent in several areas, it is imperative we take action now. The Department of Agriculture, Department of Public Works and Highways, nongovernmental organizations and most importantly, the local government units (backed by a directive from President Duterte to show leadership in this area) should immediately undertake the construction of water impoundment systems on a national scale before the rains come. INQ



The author is Agriwatch chair, former secretary of Presidential Programs and Projects and former undersecretary of Agriculture and Trade and Industry. Contact him via agriwatch_phil@yahoo.com



NWRB TUMULONG SA PAGLINIS NG BAYWALK AT BASECO

NOONG Disyembre 18, 2008, ang Korte Suprema ay nag-isyu ng Mandamus na nag-uutos sa 13 ahensya ng pamahalaan upang linisin at muling paunlarin at preserbahin ang Manila Bay sa kani-kanilang sariling pamamaraan.

Sa pamantayan ng pagpapatupad sa iba't ibang pamamaraan upang lalong maganda ang kondisyon ng Manila Bay. Marami pang dapat na gawin at isaayos. Ang pag-asenso ng kalidad ng tubig sa Manila Bay ang binabantayan ni Secretary Roy A. Cimatu ng Department of Environment and Natural Resources (DENR).

Inatasan ni Secretary Cimatu ang mga opisyal at kawani ng DENR na gawin araw-araw ang paglinis sa Baywalk ng Maynila at sa Baseco bilang bahagi ng isinasagawang rehabilitasyon ng Manila Bay.

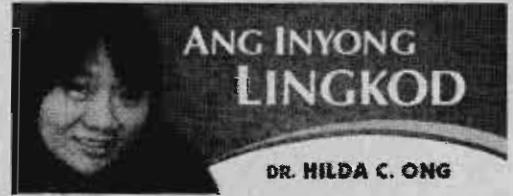
Ang direktiba ni Cimatu ay nakatuon sa mga kawani ng DENR sa central at regional offices na nasa Manila Bay region, pati na rin mga bureaus at attached agencies.

Alinsunod sa kautusan ni Cimatu, naglabas si DENR Undersecretary for Priority Programs and Field Operations-Luzon at Manila Bay Task Force Ground Commander Juan Miguel Cuna ng memo para sa mga opisyal at

kawani ng DENR na inatasan magsagawa ng daily cleanup drives na nagsimula noong ika-6 hanggang 10 ng Enero.

Bitbit ang mga gloves at thongs, nakiisa ang mga kawani ng National Water Resources Board (NWRB) sa isang makakalikasang aktibidad sa layuning maisalba ang kapaligiran. Naglinis sila sa Baywalk at Baseco sa pangunguna ni NWRB Executive Director Seville David Jr. bilang supervising official noong Enero 9.

Nagbigay ng pahayag si Executive David, "Umaasa ako na titigilan na ng mga tao ang pagtatapon ng basura na siyang nakasisira sa kani-kanilang estero. Kahit na patuloy



ANG INYONG LINGKOD

DR. HILDA C. ONG

ang paglilinis, hindi pa rin nito mapipigilan na makontamina ang Manila Bay. Dapat na maging 'environment conscious' sa pamamagitan ng tamang pagtatapon ng basura.

Samantala, inatasan ni Cimatu ang DENR-National Capital Region at ang apat nitong field offices na planuhin ang paglilinis sa mga susunod pang linggo. Inaasahan niya ang "bottomless support" mula sa lahat ng opisyal at kawani ng DENR sa pagtahak ng mas mapaghamong taon kaugnay ng pagsasaa-yos ng Manila Bay.

Nauna nang sinabi ni Ci-

matu na marami nang naga-wa buhat nang nagsimula ang rehabilitasyon ng Manila Bay noong Enero 2018 nguni't marami pa ang kailangang gawin bago matamo ang layuning maging ligtas ito na languyan at sa ibang anyo ng contact recreation.

Tuloy-tuloy na ang rehabilitasyon ng Manila Bay, inaasahan ni Cimatu na ang momentum sa pagbalik ng Manila Bay sa dati nitong ganda at linis ay mapapanatili sa darating na mga taon. Sini-guro rin ni Cimatu na mananatiling top priority ng pamahalaan ang rehabilitasyon hanggang 2022.





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Build Better Berde!



**FELINO A.
PALAFOX JR.**

THE land area of Metropolitan Davao is seven times the size of Metro Manila; seven times the size of Seoul, South Korea; six times the size of Singapore; and one-and-a-half times the size of Hong Kong. The Davao Region is the second fastest growing economy in the country with 8.6-percent growth. It is one of the major gateways of the Philippines to the BIMF-EACA or the Brunei Darussalam-Indonesia-Malaysia-Philippines East Asean Growth Area and to the Asia Pacific and can transform Mindanao into one of the front doors to the world, south of the Philippines.

Davao Harbor is one of the largest natural harbors in the world; it can accommodate tremendous economic trade through its international seaports. And international cruise ships and world-class international airports are access points in experiencing the beautiful islands of Mindanao, starting from the paradise Island Garden City of Samal; the world-class surfing waves and blue

waters of Davao Oriental; climbing the boulders of the majestic Mount Apo, the last breeding ground of our Philippine Eagles in Davao City; the Hot Spring Waterfalls of Maco, which the Japanese tourists would definitely love; and the United Nations Educational, Scientific and Cultural Organization world heritage park of Mount Hamiguitan, among many others. Davao Region, Metropolitan Davao and the rest of the Mindanao are diamonds that are waiting to be polished. The future of the Philippines rests greatly in the success of Davao and the rest of Mindanao.

Metro Davao urban master plan

We were fortunate to have been

selected to help plan the future of Metro Davao, with the lead agency Mindanao Development Authority (MinDA), partner university institutions, other agencies such as the National Economic Development Authority and the Davao Integrated Development Planning office, and the eight local government units of Metropolitan Davao which are: Digos City, municipality of Sta. Cruz, Davao City, Panabo City, municipality of Carmen, Tagum City, Island Garden City of Samal and municipality of Maco.

What is unique about the plan, especially MinDA, that our partners stressed is that the principles of collaboration and citizen-participation will be at the foundation and core of the plan. In the entire duration of the planning process, the team was able to hold more than a hundred meetings and have a conversation with more than a thousand citizens, both formal

and informal, including interviewing the "masahistas" along the Roxas Night Market, business chambers and students.

Through the collaborative process, citizens were able to voice their aspirations and dreams for the emerging metropolis, but more importantly, they were able to express the importance of outcomes and not outputs as indicators in measuring the success of the plans. Outcomes such as clean source of water as the result of better environmental waste management infrastructure, new economic opportunities and new access points as a result of new road developments, cleaner air and more places for active leisure as a result of new park developments and landscaping of pedestrian walkways, and a more convenient and faster travel time as a result of an integrated mass transport system.

The collaborative process
➤ PalafoxA11



■ PALAFOX FROM A10

Build Better Berde!

stimulated multi-disciplinary solutions to multisectoral challenges against silo type and departmentalized approaches. It encouraged effective sustainable use and management of environmental resources such as the flow of water from ridge-to-reef; the overall impact of extreme ground water extraction to land subsidence, saltwater-intrusion, and flooding; and the increase the general quality of life of the citizens through mass transportation and pedestrian mobility. And urged local government units to advance complimentary intercity development strategies, economies of scale, and specialization of human capital, agricultural and industrial production.

The plan proposed interconnected parks, sky gardens and pedestrian networks with lush urban landscaping; institutionalization of mass transportation

and development of new transportation corridors; development of international cruise ports and marinas and world class international airports that will serve as one of the regional gateways; display and preservation of culture and heritage in the design of structures; the development of bid data and data-science facilities to help manage the challenges and resources of the metropolis; and identification of areas that will be affected by the negative impact of climate change and other hazards, among many others. But more importantly it envisions a united Metropolitan Davao by encouraging the possible institutionalization of the Metro Davao Development Authority.

Build Better Berde!

While we celebrate the emergence of the Golden Age of Infrastruc-

ture in the Philippines, wherein trillions of pesos are set in the pipeline, it is also critical that these infrastructure projects are well integrated to achieve outcomes in equitable social development, expansive economic growth and environmental sustainability. These infrastructure plans and projects are not meant for only one specific sector or an isolated and fragmented problem, but it is a critical support in achieving problems and challenges that are multisectoral in nature.

Through the various consultations and collaborations with both private and public sector, Build Better Berde! became the rallying vision of the Metro Davao Urban Master Plan.

Build, is for the continuous development of major infrastructure projects such as road networks, hospitals, schools, airports and seaports;

Better is for the uplifting of quality of life by considering economic growth, peace and security, and culture, identity and spirituality, and drive to achieve integral human development; and

Berde (Green) for ecological integrity, environmental sustainability, and climate change adaptability.

The Metropolitan Davao Urban master plan envisions a metropolis and region that is smart, sustainable, livable, and resilient. We at Palafox strongly believe that the plan is achievable and within reach.

With commitment and belief in the future of Davao and Mindanao, we decided to open a Palafox Mindanao Headquarters in Davao City to continuously extend our knowledge and experience in urban and regional planning, sustainable architecture design, and allied services and expertise.

Now the implementation begins.



Judiciary battles NHA as UNTV q'finals begin

TWO-TIME champion Judiciary tries to extend its winning run to five when it battles National Housing Authority

today as the quarterfinals of the 8th UNTV Cup get going at the Paco Arena in Manila.

Coming off a four-game sweep of the second round for a 6-3 mark, the Judiciary Mag's are slightly favored over the Builders in their 4:30 p.m. showdown.

Mentored by former UST hot-shot Benneth Palad, the Builders also finished the round with a 6-3 record in the event organized by UNTV President and CEO Dr.

GAMES TODAY

(Paco Arena)
3 p.m. - Agriculture vs. PITC
4:30 p.m. - Judiciary vs. NHA

Daniel Razon.

Clashing in the other game at 3:30 p.m. are Department of Agriculture and PITC, with the win-

ner boosting its record to 6-4.

The four teams play a single-round with the top two finishers joining No. 1 and defending champion Armed Forces of the Philippine and second-ranked Department of Environment and Natural Resources in the Final Four.

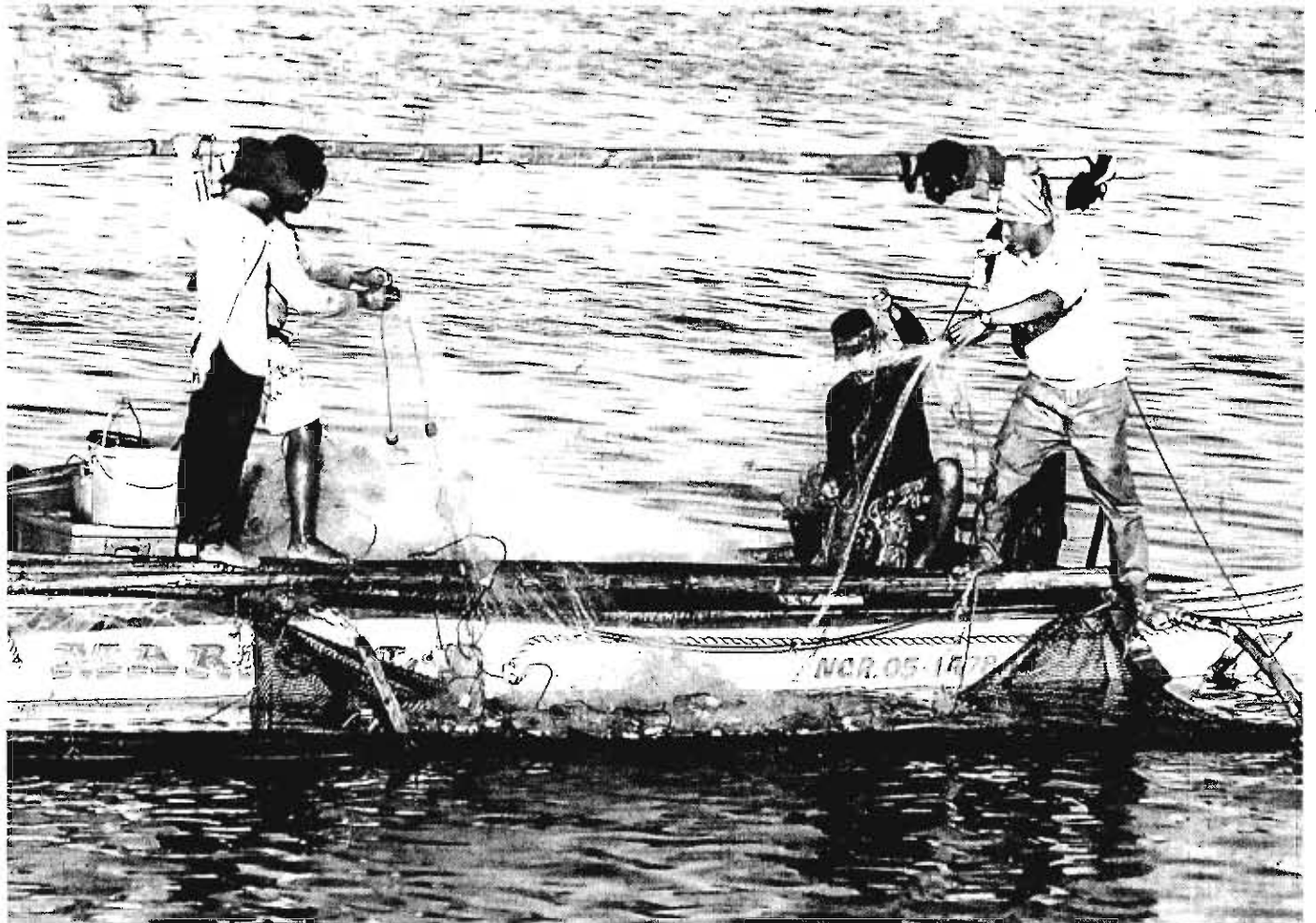
AFP and DENR advanced outright to the semis after finishing 1-2 with 8-1 and 7-2 marks, respectively, in the eliminations.



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A day's haul Fishermen hoist up their nets with their catch of the day along the shoreline of the Manila Bay. A way of life for most Navotas residents, fishing is the city's main source of livelihood.

ROMAN PROSPERO @tribunephil_RRP



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SENATOR Cynthia Villar leads a clean-up activity in the coastal area of Manila Bay in Gasangan to mark the 5th anniversary of her projects at Baseco Compound in Tondo, Manila. (Manny Llanes)



DOST sets research sights for 2020

By RAINIER ALLAN RONDA

The Department of Science and Technology (DOST) will push for more extensive and technical research and development initiatives on natural resource conservation as it seeks to ensure that R&D funds go to projects that benefit the people as well as the planet.

Science Secretary Fortunato dela Peña said that by supporting R&D on environment conservation and rehabilitation, the DOST can further showcase how S&T and R&D improve lives and the economic wellbeing of people, and thus encourage more public and private sector investments as well as innovation.

"For me, Pope Francis made a timely reminder through his encyclical 'Laudato Si.' In that encyclical, he is saying that we should listen not just to the cry of people but also to the cry of our Mother Earth," Dela Peña said.

He said that for 2020, the DOST was giving high priority to an advocacy for closer monitoring of Laguna de Bay and rehabilitation of the lake.

The DOST will also intensify efforts to promote the use of locally developed technologies that were also supported by DOST through R&D funding assistance to the Department of Environment and Natural Resources (DENR).

The DOST had provided substantial funding to a two-year University of the Philippines study that showed the presence of heavy metals and other toxic substances in Laguna de Bay, which serves as a source of food and water for the Greater Manila area.

Dela Peña said the DOST is ready to play a support role to the Laguna Lake Development Authority (LLDA) on any action it will take to address the results of the UP study.

Laguna de Bay is the largest lake in the Philippines and third largest freshwater lake in Southeast Asia. It is surrounded by the provinces of Laguna and Rizal, and also Metro Manila. It has area of around 76,000 hectares and 3.2 billion cubic meters of water. The lake is an important source for fishing, irrigation and domestic water needs; it is also a temporary reservoir as well as water transport route.

Water concessionaires Maynilad and Manila Water source some of their water from Laguna de Bay. The water, however, is periodically contaminated by algae.

The DOST, through the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), in partnership with the LLDA, had commissioned the UP scientists' study project called SCALE or Synergistic Capacity Advancement in the Management of Laguna Lake study in 2018.

The PCIEERD had provided P55.5 million for the SCALE study.

While it established the presence of potentially harmful pollutants like antibiotics, steroid hormones, industrial chemicals, fecal bacteria, protozoa and heavy metals in Laguna Lake, the SCALE study showed that most are still within the limits of water quality standards set forth by law.

The SCALE study had three components or projects that zeroed in on the presence and volume of a group of potentially harmful pollutants. One of the projects focused on the intake of pollutants of the fish farmed in fishpens in Laguna Lake.

Fortunately, the results of this research showed that the presence of heavy metals in the fish in the lake, such as *bangus* or milkfish and tilapia, was within the "dosage" of international bodies, making it still safe for human consumption as long as within a certain volume a day.

"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 Mylene 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 fish in Laguna de Bay.

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



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Disaster preparedness needs more preparation

THE Philippines gets on average about 20 tropical cyclones a year. This means that about 20 typhoons enter the Philippine area of responsibility annually. The country is also earthquake-prone and while we do experience quakes every day, most of these are not felt. The Philippine Institute of Volcanology and Seismology (Phivolcs) reports that there are on average about 100 to 150 earthquakes that are felt each year. Another natural disaster that from time to time plagues our country is volcanic eruptions, and with the recent eruption of Taal Volcano, the issue on disaster preparedness has once again caught our attention.

At this point, there are already several nongovernment organization-, individual- and group-led efforts to donate various relief goods to those who are currently displaced, given the situation in Taal. A lot of folks from these groups are even going to the evacuation centers themselves to personally distribute the goods. These efforts are indeed very heroic but I cannot help but ask



MANAGEMENT ACTION

KAY CALPO LUGTU

in the process: how can we make these efforts more efficient and less troublesome for everyone?

Ah, I forgot that our disaster management program is still what it is: a disaster in itself!

Case in point: in the 2018 World Risk Report, the Philippines ranked third in the list of the most vulnerable countries prone to disaster. We are side-by-side with other countries in the Pacific. In the latest 2019 report, we have slipped down to ninth but still remain in the red as being part of the most vulnerable.

To appreciate the evolution of how the Philippines is responding to disasters (side note: one would think that we should be experts in responding to these calamities already given how frequent these occur), we have to understand how Presidential Decree 1566 back in the 1970s

created the National Disaster Coordinating Council, which, at that time, was the highest level of policy making body in charge of disaster management. This agency was under the Office of the President.

However, in the next two decades or sometime 1991, this agency has been changed or has transitioned to a decentralized form, i.e. disaster response was decentralized to be served by the autonomous local government units (LGUs), which was at the lowest level of policy making. Close to another two decades later, or around 2009, Republic Act 10121 was signed and was meant to update the previous agency set up with Philippine Disaster Risk Reduction and Management Act; plus minus a consortium of other similar disaster management plans, we now have the present-day NDRRMC or the National Disaster Risk Reduction and Management Council.

Now, NDRRMC is not under the Office of the President but rather has the Department of National Defense (DND) as its parent agency. In addition,



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DISASTER PREPAREDNESS NEEDS...

NDRMMC operates on four thematic pillars, which means that there are sub-agencies involved — making this whole council nothing but an establishment meant to coordinate whatever activities are needed that fall under the four pillars that they operate on.

As an example: disaster prevention and mitigation has the Department of Science and Technology as the lead agency but they would need to coordinate with other members from the Office of Civil Defense (OCD), Department of Environment and Natural Resources, and Department of Public Works and Highways (DPWH); disaster preparedness has the Department of Interior and Local Government (DILG) as the lead agency but they still need to coordinate with the Philippine Information Agency and OCD; disaster response has Department of Social Welfare and Development (DSWD) as the lead agency but they still need to coordinate with OCD, DRRMC, Department of

Health (DoH), DILG, DND and LGUs; and finally for disaster rehabilitation and recovery, we have the National Economic and Development Authority as the lead agency but again they still need to coordinate with National Housing Authority, OCD, DPWH, DoH and DSWD.

I suppose that by the time this coordination is done, we are probably dealing with the next disaster already. In other words, it is not difficult to get lost in translation and that is the very reason why we see a lot of relief operations that are not consolidated enough to have an efficient process of reacting and dealing with calamities such as the Taal volcano eruption.

Think about it: with no proper governance, structure or framework to follow, we organize our own relief operations without taking a step back and assessing the best practice to execute this. I see a lot in social media several requests for donations of items and food, and also even cash donations to be deposited to an individual's bank account. These are relief operations done day in

and day out with no audit, no accountability and key performance indicator, and obviously are very open to interpretation. And this is what happens when there is no concerted effort in organizing all of these into one cohesive approach for us not to waste everyone's resources such as time, energy and effort.

This is exactly why we need a dedicated agency to handle this and for this to be under the Office of the President to have the highest level of policy making, budget and teeth in enforcing such policies. We must also bear in mind that responding to disasters is a political minefield — that it will either make or break you, and politicians try to bring their best foot forward to earn their people's votes come election day.

Kay Calpo Lugtu is the chief operating officer of Hungry Workhorse, a digital and culture transformation firm. Her advocacies include nation-building, education and financial literacy. The author may be reached at kaycalpolugtu@hotmail.com.



TITLE:

ISANG senador ang nagsabing ang mga nagsasamantala sa bentahan-bilihan ng face mask ay dapat bitayin.

Sa puno dapat bitayin ang mga nagtitinda ng napakamahal na face mask, maring pahayag ni Senate President Tito Sotto.

Kaugnay nito, nagbabala naman mismo si Pangulong Rodrigo Duterte na ipadadala nito ang mga sundalo upang walisin ang mga mapagsamantala.

Naiintindihan ng lahat na sa oras ng emergency, may kapangyarihan ang mga awtoridad, lalo na ang Pangulo, na pakilusin ang mga pwersa ng pamahalaan na tumugon sa labis na pangangailangan ng mga mamamayan.

HALAGA NG FACE MASK

Maituturing na batayang pangangailangan ang face mask sa problema sa pagputok ng bulkan.

Nakamamatay at nakalilikha ng matinding pagkakasakit ng tao ang makalanghap ng abo, asupre, alikabok at iba pang likha ng pumuputok na bulkan.

Katumbas ng face mask ang halaga ng mga pagkain, gamot, damit, tubig at iba pang mga batayang kailangan ng biktima.

Lahat ng taong biktima, may sakit o wala, dapat na magsuot ng pantakip sa ilong.

Ang mga nakalanghap ng mga galing sa bulkan nagkakaroon ng sakit sa ilong at lalamunan, ubo, bronchitis, hirap sa paghinga, asthma, sakit sa mata at sakit sa balat.

Ang mga asthma at maysakit sa baga na bata at iba pa ay maaaring manganib ang buhay kapag napasukan sa ilong ng mga dumi mula sa ibinubuga ng bulkan.

Kaya naman, batayang pangangailangan medikal ang face mask.

PAGSASAMANTALA
Ang pagsasamantala ay maaaring gawa mismo ng mga manufacturer o gumagawa.

Pupwede ring gawin ito ng mga distributor at tindahan.

Meron ding mga scalper na pumapakyaw ng maraming piraso o bulto-bulto para lang itinda nang mahal sa mga nangangailangan.

Ayon sa Department of Trade and Industry, pinapayagan lang ang pagtataas ng presyo ng produkto hanggang 10



NI BENNY ANTIPORDA

MAPAGSAMANTALA SA FACE MASK BITAYIN

orsyento.

Pero kung nagdoble, nagtriple o higit pa ang presyo dahil sa krisis o emergency, dito na nagkakaroon ng overpricing kung higit sa 10% ang pagtaas ng presyo.

Pero sa mga lugar na deklarado ang state of calamity, walang dapat na pagtaas ng presyo sa mga batayang pangangailangan.

MAPAGSAMANTALA TALAGA

Sa lumabas na coverage ng media sa pamamasyal mismo ng DTI sa mga tindahan ng face mask, anak ng tokwa, natagpuang nagsasamantala talaga ang mga tindahan o medical supply stores.

Una, halatadong nagtataas sila ng presyo ngunit ayaw magbigay ng resibo.

Ikalawa, kung may reklamo ka, bahala na umano ang kanilang mga abogado.

Ito'y sa harap ng klarong presensiya na mismo ng DTI sa bilihin-bentahan.

Ang N95 ay naglalaro sa P50-75 bawat piraso, depende sa tatak o brand.

Pero lumalabas na nagkakahalaga na ng P200-P400 bawat piraso.

Ang ordinaryong face mask na kung minsan ay tinatawag na surgical mask, nagkakahalaga ng P50-P60 kada isang box o nasa P1 bawat piraso dahil may lamang 50 piraso ang isang box.

Sa mga lalawigan gaya ng Bulaan, Laguna, Rizal at Cavite, anak ng tokwa, nasa P150-P200 bawat box.

Ibig sabihin na may overpricing din.

KASO ANG REMEDYO?

Para sa mga utak-ligal ang lahat, kaso ang kahihinatnan ng lahat.

Pero para sa mga awtoridad na emergency ang pagtingin sa kalagayan ng mga biktima, hindi pupwedeng pairalin ang larong mga abogado para maayos ang presyuhan.

Kailangan na kailangan ang produkto sa oras ng kalamidad, sa oras ng kagipitan.

Hindi pupwedeng daanin mo sa pagsasampa

ng kaso sa piskalya at husgado ang lahat para maitama ang presyo.

Kailangan ang kamay na bakal sa harap ng klarong pagsasamantala sa krisis, sa emergency sa kalagayan.

Hayaan mong ang mga switik at mapagsamantala ang maghabol ng gusto nilang katarungan at sila ang magdedemanda.

Pero dapat na kakaibal ng kamay na bakal ang pagsasara sa mga manufacturer at tindahan at pag-aresto sa mga scalper.

Walang kaibhan ang gagawing emergency ang pag-takeover, halimbawa, ng militar at pulisya sa mga katulad ng kuryente at tubig sa oras ng emergency.

PASASALAMAT

Para naman sa mga nakipag-unahan sa mga switik, mapagsamantala at scalper sa bilihin ng face mask at nagpamahagi ng libre, God bless you all.

May your tribe increase.

Kayo'y dapat na mapasalamatan ng lahat ng mga biktima ng kalamidad at ng mga naglatakad para makatulong sa mga ito.

Hindi malilimutan ng sambayanang Filipino ang inyong kabayanihan.

Hayaan ninyo, 'pag nakabalik na sa normal na pamumuhay ang mga biktima, babalik at babalik sila sa inyo at tiyak na hindi nila malilimutang minsan ay kinalinga sila sa kanilang kagipitan.

Anong malay natin na tayong nag-aalay ng tulong ngayon ay magkakaroon din ng mga kalamidad at kahit hindi sila hingan ay maisipan nilang mag-alay rin ng anoman meron sila para sa atin.

'Yan ang diwa ng bayanihan, ng pagkabayani at pagmamahal sa kapwa.

oOo

Anonang reaksyon o reklamo, maaaring iparating sa 0922840-3333 o i-email sa bantipordia@yahoo.com.



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RA 9048/ RA 10172 Form No. 1.1. (LCRO) (Modified 7 January 2013)

Local Civil Registry Office
Province - Metro Manila
City of Valenzuela

Republic of the Philippines)
Valenzuela City) SS

Petition No. RA 10172

PETITION FOR CORRECTION OF CLERICAL ERROR IN THE CERTIFICATE OF LIVE BIRTH

1. I, **IRIES JEN E. LUMBIAO** of legal age, Filipino and a resident of Blk 8, Lot 28, Marthella 2-8, Pantarin, Valenzuela City, after having duly sworn to in accordance with law, hereby declare that:
2) I am the petitioner seeking correction of the clerical error in my Certificate of Live Birth
3) I was born on February 9, 1991 at Valenzuela, Metro Manila, Philippines
4) The birth was recorded under registry number 81-1833
5) The clerical error (s) to be corrected is (are) (Use additional sheets, if necessary):

Item No.	Description	From	To
1	CHILD'S SEX	MALE	FEMALE
2	CHILD'S FIRST NAME	IRIES JEN	IRIES JEN
3	CHILD'S DATE OF BIRTH	2 FEBRUARY 1991	2 FEBRUARY 1991
4	CHILD'S LAST NAME	LUMBIAO	LUMBIAO
5	MOTHER'S MIDDLE NAME	ANNA	ANNA
6	FATHER'S LAST NAME	LUMBIAO	LUMBIAO
7	REFORMANT'S LAST NAME	LUMBIAO	LUMBIAO

5) The facts/reasons for filing this petition are the following: Change of Gender, Correction of Clerical/Typographical Error
6) I submit the following documents to support this petition: (a) PSA/Local Copy of Birth Certificate, Baptismal Certificate, Voters ID & PSID, 28 Pictures (NBI) & Police Clearance, (b) Copy of Birth Cert. of Father (No Record) & Mother (c) Affidavit of Non Employment, Medical Certificate, Voters ID & PSID of Father (d) Certificate of Indigency from Brgy. & CSWD, Form 137
7) I have not filed any similar petition to the best of my knowledge, no other similar petition is pending with any LCRO, Court of Philippine Consulate.
8) I am filing this petition at the LCRO of Valenzuela, Metro Manila in accordance with R.A. No. 9048 and its implementing rules and regulations.

(Sgd.) **IRIES JEN E. LUMBIAO**
Signature over printed name of petitioner

RA 9048/ RA 10172 Form No. 1.1. (LCRO) (Modified 7 January 2013)

Local Civil Registry Office
Province - Metro Manila
City of Valenzuela

Republic of the Philippines)
Valenzuela City) SS

Petition No. RA 10172

PETITION FOR CORRECTION OF CLERICAL ERROR IN THE CERTIFICATE OF LIVE BIRTH

1. **ELYIRA F. AUSA** of legal age, Filipino and a resident of #277 C, San Juan St., Pacolo, Valenzuela City after having duly sworn to in accordance with law, hereby declare that:
2) I am the petitioner seeking correction of the clerical error in my Certificate of Live Birth
3) The birth was recorded under registry number 80
4) The clerical error (s) to be corrected is (are) (Use additional sheets, if necessary):

Item No.	Description	From	To
1	CHILD'S DATE OF BIRTH	FEBRUARY 25, 1971	JANUARY 27, 1971

5) The facts/reasons for filing this petition are the following: Change of Date of Birth
6) I submit the following documents to support this petition: (a) PSA Copy of Birth Certificate, Baptismal Certificate, (b) NBI & Police Clearance, Voters ID, PSID, (c) Affidavit of Non Employment, Medical Certificate, Voters ID of Mother & Father, (d) Certificate of Indigency from Brgy. & CSWD
7) I have not filed any similar petition to the best of my knowledge, no other similar petition is pending with any LCRO, Court of Philippine Consulate.
8) I am filing this petition at the LCRO of Valenzuela, Metro Manila in accordance with R.A. No. 9048 and its implementing rules and regulations.

(Sgd.) **ELYIRA F. AUSA**
Signature over printed name of petitioner

Republic of the Philippines
Department of Environment and Natural Resources
NATIONAL CAPITAL REGION
National Ecology Center East Avenue, Diliman, Quezon City

SALE OF PUBLIC LANDS

Notice is hereby given that the Department of Environment and Natural Resources, National Capital Region, Patents and Deeds Section, in pursuance to Administrative Order No. 38 dated 19 April 1990, will sell at **DENR-NCR Licenses, Patents and Deeds Division, National Ecology Center, East Avenue, Diliman, Quezon City**, through sealed bidding to the highest bidder at 10:00 A.M. on **MAY 05 2020**, the tract of land situated in **Sarangay Western Bicutan (Pinasagama), Taguig City** which are specifically described below to wit:

APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-2088	MELIZA D. TALAMAYAN	Lot 7, Block 46, Psd-00-038894	60 sq.m.	Php140.00	Php 8,400.00	200,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-2088". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

ATTY. ALVIN JOSEPH G. CONSTANTINO
OIC, Licenses, Patents and Deeds Division

PJ - January 18, 23, 30, Feb. 6, 13 and 20, 2020

Republic of the Philippines
Department of Environment and Natural Resources
NATIONAL CAPITAL REGION
National Ecology Center East Avenue, Diliman, Quezon City

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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-1956	ALEXANDER M. TRAYGO	Lot 41, Block 4, Psd-00-057780	48 sq.m.	P140.00	P6,720.00	P80,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-1956". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-418	VICTOR T. GANTALA	Lot 16, Block 48, Psd-00-038894	118 sq.m.	Php140.00	Php 16,520.00	250,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-418". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

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NATIONAL CAPITAL REGION
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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-2052	CONCHITA D. HAYARES	Lot 3, Block 58, Psd-00-038894	60 sq.m.	P140.00	Ps 8,400.00	P300,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-2052". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

ATTY. ALVIN JOSEPH G. CONSTANTINO
OIC, Licenses, Patents and Deeds Division

PJ - January 18, 23, 30, Feb. 6, 13 and 20, 2020

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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-2086	JEMALYN S. BAUTISTA	Lot 12, Block 12, Psd-00-038894	60 sq.m.	P140.00	Ps 8,400.00	P700,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-2086". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

ATTY. ALVIN JOSEPH G. CONSTANTINO
OIC, Licenses, Patents and Deeds Division

PJ - January 18, 23, 30, Feb. 6, 13 and 20, 2020

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NATIONAL CAPITAL REGION
National Ecology Center East Avenue, Diliman, Quezon City

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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUED PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007607-1981	ADONES P. CRUZ	Lot 25, Block 2, Psd-00-057782	53 sq.m.	P140.00	P7,420.00	P150,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in MSA/SA/IGPSA No. 007607-1981". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines

ATTY. ALVIN JOSEPH G. CONSTANTINO
OIC, Licenses, Patents and Deeds Division

PJ - January 18, 23, 30, Feb. 6, 13 and 20, 2020



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Department of Environment and Natural Resources
National Ecology Center East Avenue, Diliman, Quezon City

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APPLICATION NUMBER	NAME OF APPLICANT	LOT NO./BLK NO./PLAN NO.	AREA IN SQ.M.	APPRAISED VALUE PER SQ.M.	TOTAL VALUE OF LAND	TOTAL VALUE OF IMPROVEMENT
IGPSA NO. 007807-2089	SUSANA T. VILLANUEVA	Lot 17, Block 16 Psd 00-036894	63 sq.m.	Php140.00	8,820.00	Php 200,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in IGPSA No. 007807-2089". The sealed bids must be accompanied by cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines.

A. Joseph
ATTY. ALVIN JOSEPH (s. CONSTANTINO)
OIC, Licenses, Patents and Deeds Division
P1 - January 24, 25, 26, Feb. 6, 13 and 20, 2020

Republic of the Philippines
Department of Environment and Natural Resources
National Ecology Center East Avenue, Diliman, Quezon City

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IGPSA NO. 007807-2071	FLORANTE R. SALVADOR	Lot 40, Block 28 Psd 00-036894	60 sq.m.	Php140.00	8,400.00	Php 1,000,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in IGPSA/IGPSA No. 007807-2071". Bids must be accompanied with cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

Quezon City, Philippines.

A. Joseph
ATTY. ALVIN JOSEPH (s. CONSTANTINO)
OIC, Licenses, Patents and Deeds Division
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IGPSA NO. 007807-1488	HONORIO A. DEQUINA	Lot 24, Block 16 Psd 00-036894	60 sq.m.	Php140.00	8,400.00	Php 1,200,000.00

All bids must be sealed and submitted to the above-mentioned Division on or before the hour and date stated above and plainly marked "Bid for Land Described in IGPSA No. 007807-1488". The sealed bids must be accompanied by cash, money order, treasury warrant, certified check, cashier's check or manager's check for a sum equivalent to 10% of the bid. Then a bid is withdrawn after the highest bidder is determined, the corresponding deposit therefore shall be forfeited to the government. No bid shall be less than the appraised value of the land. The right is reserved to reject any or all bids.

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A. Joseph
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