

25 MAR 2019

DATE : _____

Monday

DAY : _____

DENIR

IN THE NEWS

Strategic Communication and Initiative Service



Cimatu to barangay leaders: Cleaning Manila Bay is your most important mission

By ELLALYN DE VERA-RUIZ

Department of Environment and Natural Resources (DENR) Secretary Roy Cimatu has called on barangay leaders to do their share in the Manila Bay rehabilitation by cleaning up waterways, rivers, and tributaries that flow into the heavily polluted body of water.

"The cleanup of the bay rests on them. That is how much I trust them," Cimatu said. ▶4

Cimatu to barangay...



Cimatu held a dialogue with the leaders of more than 200 barangays surrounding the river systems of Pasig-Marikina-San Juan, Muntinlupa-Paranaque-Las Piñas-Zapote, and Malabon-Tullahan-Tinajeros at the Bayview Park Hotel in Manila.

Aside from Cimatu, the meeting was also attended by other officials of the Department of Environment and Natural Resources (DENR) and the Department of the Interior and Local Government (DILG).

Cimatu reminded barangay officials of their duty to enforce environmental laws, particularly the Ecological Solid Waste Management Act of 2000 and the Philippine Clean Water Act of 2004.

"It is the responsibility of the local government units and the barangay captains to implement the environmental laws correctly," he said.

Cimatu also offered assistance to the barangay officials in fulfilling their mandates, including the relocation of illegal settlers along esteros and

rivers.

He told the officials of the need to coordinate with the Department of Human Settlements and Urban Development in ensuring the relocation of affected informal settler families (ISFs) before their houses are demolished.

"We will give them a chance to self-demolish or move to an appropriate relocation site," Cimatu said.

There are some 230,000 ISFs in the Manila Bay, around 56,000 of them live along its coast.

He also enjoined them to take part in the simultaneous cleanup of esteros and rivers around Manila Bay scheduled on March 31.

"Once and for all, we will clear the waterways of garbage," Cimatu said.

"If barangay captains can harness the power of the people to do it, then there will be a show of force to cleanup. Cleaning Manila Bay will be your most important mission as barangay captains," he added. (Ellalyn De Vera-Ruiz)



25 MAR 2019
DATE

TITLE:

PAGE 1/

'Villagers can help revive Manila Bay'

ENVIRONMENT Secretary Roy Cimatu is counting on barangay leaders to do their share in the Manila Bay rehabilitation by cleaning up the *esteros*, rivers and tributaries that flow into the polluted bay.

"It is the barangay captains who can solve the problem of Manila Bay," he told village executives. The cleanup of the bay rests on them. That is how much I trust them," he added.

Leaders of at least 200 barangays surrounding the river systems of Pasig-Marikina-San Juan, Muntinlupa-Parañaque-Las Piñas-Zapote; and Malabon-Tullahan-Tinajeros were present during the dialogue held at Bayview Park Hotel in Manila recently.

Cimatu reminded the barangay officials of their duty to enforce environmental laws, particularly the Ecological Solid Waste Management Act of 2000 and the Philippine Clean Water Act of 2004.

"It is the responsibility of the local government units and the barangay captains to implement the environmental laws correctly," he said.

He said the Department of Environment and Natural Resources is offering its assistance to the barangay officials in fulfilling their mandates, including the relocation of illegal settlers along *esteros* and rivers.



25 MAR 2019

TITLE:

PAGE 1/

DATE

Barangay leaders' role in Manila Bay rehab cited

Department of Environment and Natural Resources (DENR) Secretary Roy Cimatu is depending on barangay leaders to do their share in the Manila Bay rehabilitation by cleaning up waterways, rivers and tributaries that flow into the heavily polluted water body.

"The cleanup of the bay rests on them. That is how much I trust them," Cimatu said.

Leaders of more than 200 barangays surrounding the river

systems of Pasig-Marikina-San Juan, Muntinlupa-Parañaque-Las Piñas-Zapote, and Malabon-Tullahan-Tinajeros were present during a dialogue with the DENR chief.

Aside from Cimatu, the meeting was also attended by other officials of the Department of Environment and Natural Resources (DENR) and the Department of the Interior and Local Government (DILG).

During the dialogue, Cimatu

reminded the barangay officials of their duty to enforce environmental laws, particularly the Ecological Solid Waste Management Act of 2000 and the Philippine Clean Water Act of 2004.

"It is the responsibility of the local government units and the barangay captains to implement the environmental laws correctly," the former Armed Forces chief said. **(Chito Chavez)**



25 MAR 2019

DATE

Manila Bay rehab, nasa kamay ng barangay officials

Umaasa si Department of Environment and Natural Resources (DENR) Secretary Roy Cimatu na tutulong ang mga opisyal ng barangay sa ginagawang rehabilitasyon ng Manila Bay, sa pamamagitan ng paglilinis sa mga daluyan patungo sa lawa.

"The cleanup of the bay rests on them. That is how much I trust them," ayon kay Cimatu.

Nakipagdiyalogo ang DENR chief sa mga tagapamuno ng mahigit 200 barangay na nakapaligid sa ilog ng

Pasig-Marikina-San Juan, Muntinlupa-Parañaque-Las Piñas-Zapote, at Malabon-Tullahan-Tinajeros.

"It is the responsibility of the local government units and the barangay captains to implement the environmental laws (Ecological Solid Waste Management Act of 2000 at Philippine Clean Water Act of 2004) correctly," ayon sa dating Armed Forces chief.

Nag-alok din si Cimatu ng tulong sa mga barangay officials sa pagpapatupad sa kanilang mga mandato, kabilang ang reloksyon ng illegal settlers sa mga

estero at ilog.

Sinabi niya na kinakailangang makipagtulungan ng mga opisyal sa Department of Human Settlements and Urban Development sa pagtiyak sa reloksyon ng mga apektadong informal settler families (ISFs).

Mayroong 230,000 ISFs sa Manila Bay region.

Hinikayat din ni Cimatu ang mga opisyal na makiisa sa simultaneous cleanup sa mga estero at ilog sa paligid ng Manila Bay sa Linggo, Marso 31.

Ellalyn De Vera-Ruiz

Coordination, reclamation projects key to Manila Bay rehab-

-Cimatu, Oceana

THE government should stop any reclamation projects in the Manila Bay and instead preserve the area's rich ecosystem, as the body of water is home to the country's sardine species, according to a nongovernment organization.

Meanwhile, Environment Secretary Roy A. Cimatu believes strengthening coordination is also important. Oceana Philippines (Oceana) urged President Duterte "to review and assess the projects submitted to the Philippine Reclamation Authority that will result in irreversible damage to our marine habitats."

"We appeal to Duterte to stop all reclamation projects lined up in Manila Bay. This can be the legacy of your administration—that you were able to save the rich ecosystem of Manila Bay that carries national and natural heritage significance, especially with the discovery of this new sardine species in the Philippine waters," Oceana Vice President Gloria Estenzo-Ramos said in a statement over the weekend.

Oceana said Manila Bay has been identified by the Bureau of Fisheries and Aquatic Resources (BFAR) as a spawning area of sardines and remains to be one of the main fishing grounds of artisanal fishermen.

New species

CITING a recent peer-reviewed journal article by Japanese taxonomists, Oceana added that a new sardine species has been discovered in Manila Bay: *Sardinella pacifica*.

This could also be found in the waters of Quezon, Sorsogon and Samar, which has been found out to be endemic to the Philippines.

"Instead of dumping and filling our seas that bury and destroy mangroves, sea-grass beds, corals and other fisheries habitats, let's collectively save and protect these from destruction because of so-called 'development' projects," Ramos said.

"More importantly, let's help our artisanal fishermen earn decent livelihood to feed their families from our rich marine resources that are known all over the world," she added.

Ramos said reclamation projects in Manila Bay would displace artisanal fishermen and leave them without any income.

"These projects violate our Constitutional right to balanced and healthful ecology, as well as our fisheries and environmental laws. We are hoping that our government will listen to the people," she said.

"They will be facing even more harm and danger than they are experiencing now as consequences of flooding, subsidence of our coastal communities and the climate crisis," she added.

Cimatu's call

CIMATU urged barangay leaders on Sunday to exercise political will and help clean up esteros and rivers that lead out to Manila Bay.

Cimatu said in a statement that "it is the leaders of every barangay who can solve the problem of heav-

ily polluted Manila Bay."

He recently met with leaders of barangay within the Manila Bay area as part of the ongoing Manila Bay rehabilitation effort.

Tasked to lead the Manila Bay Task Force, Cimatu has ordered the Department of Environment and Natural Resources (DENR) to plan the simultaneous river and esteros cleanup activity next week and is enjoining barangay leaders to take the lead.

"The cleanup of the bay rests on them. That is how much I trust them," Cimatu said.

Leaders of more than 200 barangays surrounding the river systems of Pasig-Marikina-San Juan, Muntinlupa-Parañaque-Las Piñas-Zapote and Malabon-Tullahan-Tinajeros were present during the dialogue held at Bayview Park Hotel in Manila recently.

Aside from Cimatu, the meeting was also attended by other officials of the DENR and the Department of the Interior and Local Government (DILG).

During the dialogue, Cimatu reminded the barangay officials of their duty to enforce environmental laws, particularly the Ecological Solid Waste Management Act of 2000 and the Philippine Clean Water Act of 2004.

"It is the responsibility of the local government units and the barangay captains to implement the environmental laws correctly," the former Armed Forces chief said.

Coordination needed

CIMATU also offered assistance to the barangay officials in fulfilling their mandates, including the relocation of illegal settlers along esteros and rivers.

He told the officials of the need to coordinate with the Department of Human Settlements and Urban Development in ensuring the relocation of affected informal settler families (ISFs) before their houses are demolished.

"We will give them a chance to self-demolish or move to an appropriate relocation site," Cimatu said.

There are some 230,000 ISFs in the Manila Bay region, around 56,000 of them live along its coast.

Cimatu urged barangay leaders to exercise political will in guarding against ISFs who would return to riverbanks and esteros despite being given relocation. "If they file a complaint against you, include me," he said.

The DENR chief also enjoined them to take part in the simultaneous cleanup of esteros and rivers around Manila Bay scheduled on March 31. "Once and for all, we will clear the waterways of garbage," Cimatu said.

"If barangay captains can harness the power of the people to do it, then there will be a show of force to clean up. Cleaning Manila Bay will be your most important mission as barangay captains," he added. *Jasper Emmanuel Y. Arcalas and Jonathan L. Mayuga*



'The legal basis for saving Manila Bay'



Atty. Lorna Patajo-Kapunan

LEGALLY SPEAKING

ON December 18, 2008, the Supreme Court in a landmark decision issued a mandamus ordering 13 government agencies "to clean up, rehabilitate and preserve Manila Bay, and restore and maintain its waters to SB level [Class B sea waters per Water Classification Tables under DENR Administrative Order 34 (1990)] to make them fit for swimming, skin-diving and other forms of contact recreation."

The case started when, on January 29, 1999, concerned residents of Manila Bay filed a complaint before the Regional Trial Court (RTC) in Imus, Cavite, against several government agencies, among them, the Metropolitan Manila Development Authority, Department of Environment and Natural Resources, Education, Health, Agriculture, Public Works and Highways, Budget and Management, Philippine Coast Guard, PNP Maritime Group, and Department of the Interior and Local Government, for the cleanup, rehabilitation and protection of Manila Bay. The complaint alleged that the quality of the Manila Bay had fallen way below the allowable standards set by law, specifically Presidential Decree 1152 of the Philippine Environment Code. The complainants alleged the continuing neglect of these

government agencies in abating the pollution of Manila Bay.

On September 13, 2002, the RTC rendered a decision in favor of the complainants and ordered the government agencies concerned, jointly and severally, to clean up and rehabilitate Manila Bay and directed the DENR as the lead agency, within six months to act and perform their respective duties by devising a consolidated, coordinated and concerted scheme of action for the rehabilitation and restoration of Manila Bay.

On appeal by the government agencies concerned, the Court of Appeals by a decision on September 28, 2005, denied the appeal and affirmed the decision of the RTC *in toto*, stressing that the RTC's decision did not require these government agencies to do tasks outside of their usual basic functions under existing laws. The

It took the Philippine government 10 long years to heed the decision of the Supreme Court. With the confidence gained during the Boracay cleanup, President Duterte on January 8, 2019, mandated a major cleanup of the Manila Bay, warning hotels and other establishments in the area to refrain from dumping their waste into Manila Bay or else they face closure.

decision of the Court of Appeals was elevated to the Supreme Court (GR 171947-48) on the ground, among others, that the cleaning or rehabilitation of the Manila Bay is not a ministerial act that can be compelled by mandamus.

In upholding the decision of the Court of Appeals, the Supreme Court said:

"This case turns on government agencies and their officers who by nature of their respective offices on by direct statutory command, are tasked to protect and preserve, at the first instance, our internal waters, rivers, shores and seas polluted by human activities. To most of these agencies and their official compliment, the pollution menace does not seem to carry the high national priority it deserves, if their track records are to be norm. Their cavalier attitude towards solving, if not mitigating, the environmental pollution problem, is a sad

commentary on bureaucratic efficiency and commitment.

At the core of this case is the Manila Bay, a place with a proud historic past, once brimming with marine life and, for so many decades in the past, a spot for different contact recreation activities, but now a dirty and slowly dying expanse mainly because of the object official indifference of people and institutions that could otherwise have made a difference."

It took the Philippine government 10 long years to heed the decision of the Supreme Court. With the confidence gained during the Boracay cleanup, President Rodrigo Duterte on January 8, 2019, mandated a major cleanup of the Manila Bay, warning hotels and other establishments in the area to refrain from dumping their waste into Manila Bay or else

they face closure. In a speech before local officials during the Barangay Summit on Peace and Order, President Duterte announced that he had ordered the environment secretary to start cleaning up Manila Bay.

As early as 1975, Architect Felino Palafox Jr. and his colleague from the Planning and Project Development Office of the DPW, published the Manila Bay Metropolitan Region (MBMR) Strategic Plan. With the President's strong political will; DENR's clean directive and Arch. Palafox's Strategic Plan, the Supreme Court's 2008 mandamus hopefully will be respected.

That's what the Rule of Law is all about!



GLOBAL FIGHT AGAINST MERCURY USE

PH CLOSE TO RATIFYING MINAMATA TREATY

By **Jhesset O. Enano**
@JhessetEnanoINQ

The Philippines is inching closer to the ratification of the Minamata Convention on Mercury—a global treaty to protect human health and the environment from the adverse effects of mercury—nearly six years after its signing.

Environment Secretary Roy Cimatu said the culmination of the Philippine Minamata Initial Assessment (MIA) project, which looked into the readiness of the country as a party to the treaty, could serve as a kickoff point for

the government's campaign for a mercury-free lifestyle.

"Once it ratifies the convention, the Philippines will be protected from being a dumping ground for products containing mercury," Cimatu said in a statement.

"[It] will help avoid further risk to the country's aquatic life, where mercury levels have been increasing," he said.

Joe Amil Salino, MIA project coordinator, said at least 14 government agencies had concurred with the decision to ratify.

He said the documents had been forwarded to the Depart-

ment of Foreign Affairs and would soon be transmitted to the Office of the President for ratification, then the Senate for concurrence.

In 2013, the Philippines was one of the 128 nations that signed the convention, which regulates the use and trade of mercury. The treaty officially entered into force in August 2017.

In a countrywide assessment released last week, the Department of Environment and Natural Resources identified at least 18 hot spots, including rivers, landfills and mining sites, as potential areas of mercury pollution. INQ



EDITORIAL

Monitoring the mines

The mining sector, long sidelined by government restrictions and a freeze on the issuance of new permits, is seeing the proverbial light at the end of the tunnel.

Speaker Gloria Macapagal Arroyo recently announced in a conference of miners that both chambers of Congress are working to pass a new fiscal regime for the mining industry before the current joint session ends in June. She said the Senate has adopted the House version of a bill that would impose a range of royalties on mining operations. That version imposes a 1- to 5-percent margin-based royalty tax on large-scale mines, and a 1- to 10-percent windfall profit tax on mining operations.

Once passed into law, the mining industry will be paying the government 9 percent in taxes, following the recent doubling of the excise on mining operations to 4 percent from 2 percent under the Tax Reform for Acceleration and Inclusion (TRAIN) law.

After the TRAIN law took effect in January last year, stakeholders have been lobbying for the lifting of the moratorium on the issuance of new mining permits, but the government wants a clearer fiscal regime or higher tax structure for the industry.

More than a dozen projects seeking mining permits have been pending in the Department of Environment and Natural Resources (DENR) since the previous regime. The Chamber of Mines of the Philippines has estimated that these projects could bring in \$23 billion in investments and generate tens of thousands of new jobs.

However, more than the lure of money coming in and employment being generated, the government must remain vigilant in monitoring the industry. It must ensure that it will attract only the right investors with the capacity and track record to responsibly mine here.

The government audited last year 26 mining companies that former environment secretary Regina Paz Lopez had ordered shut down or suspended due to "adverse findings." A November 2018 report showed that the majority of the mining companies that appealed their closure or suspension to the DENR failed the agency's audit. Of the 13 companies involved, only one passed the review, while three were up for closure and nine for suspension.

Last January, the government announced that its plan to audit the remaining 15 to 17 active mining operations in the country would start this month, with the interagency Mining Industry Coordinating Council (MICC) tapping the same technical team that undertook the first review. It said the second round of audit was expected to be finished by June and that this exercise would complete the audit of all active mining firms, as only about 40 remain operating to date.

The adoption of a new fiscal regime for mining and the subsequent lifting of a moratorium on the issuance of new permits must be accompanied by vigilance on the part of the regulatory agencies in monitoring the industry, so that the environment is protected and the communities around the mining areas are not exploited.

The work of the MICC should not stop with the audit of those companies ordered closed by the former environment secretary. It must be a continuing effort to review the environmental, economic, social, legal and technical aspects of mining operations in the country.

Failing in this task can result in a backsliding to the old ways, where smaller miners will forego investing in facilities and simply dump their mine waste in the nearest river or stream or sea. Others could operate irresponsibly and cause the destruction of waterways and the communities around them due to siltation, soil erosion, lack of social development and rehabilitation projects, the decimation of forests by cutting trees without permits, and even potential fatalities due to inadequate facilities in the mining areas for emergency cases.

The casualties of irresponsible mining are inevitably the poor communities around the mining sites. These have happened many times before. Any reset of the mining industry cannot set aside the concerns of these communities and the larger impact on the country's environment, and dwell on only the fiscal and technical upgrades of the game.



Fight vs plastic pollution pushed

Dayrit said the waste management strategy of 3Rs – reduce, re-use and recycle – must be augmented with a fourth tactic, redesign

By Elmer N. Manuel

The Department of Environment and Natural Resources (DENR) yesterday sounded the alarm bells on the threat of plastic pollution in the ocean as it heeds the United Nations' (UN) global call to action to help end the said scourge.

In a statement, Environment Secretary Roy Cimatu called on Filipinos to do their part in saving the world's oceans by cutting down the use of plastic to reduce the threat

to marine life.

He stressed that plastic pollution is one of the greatest threats to ocean health worldwide, as an estimated eight million tons of plastic waste find their way into seas every year.

Cimatu pointed out the Philippines is one of the top contributors to plastic pollution as the country generates 2.7 million tons of plastic every year.

He added UN predicts that by 2050, there will be more plastic in the oceans than there are fish

if the problem is not addressed immediately.

"The task of reversing this issue is as big and wide as the ocean, but small actions can make a huge difference," he said.

And with the guidance of the Goal 12 of the 17 Sustainable Development Goals (SDG) launched by the UN – of which the *Daily Tribune* is a media partner – the National Academy of Science and Technology (NAST) has been gathering ideas from scientists and researchers nationwide to put an end to plastic pollution in the country.

The NAST has launched meetings in the country's three island groups to learn from one another, share opinions and produce significant

recommendations to curb plastic pollution.

Fabian Dayrit, NAST academician and professor of Ateneo de Manila University, said about 15 percent of solid waste in the country is made up of plastic materials and the volume is consistently rising due to increasing demand.

Dayrit said the waste management strategy of 3Rs – reduce, re-use and recycle – must be augmented with a fourth tactic, redesign.

The NAST is an attached agency of the Department of Science and Technology mandated by law to advise the President and Cabinet on matters related to science and technology.





Recycled floats featured in Strawberry Festival

By **ZALDY COMANDA**

LA TRINIDAD, Benguet – Women's organizations used recycled materials in the Pro-Environment float competition last Saturday, during the celebration of the 38th Strawberry Festival.

Mayor Romeo Salda said competing in the Pro-Environment Category are the barangays of Lubas, Balili, Pico, Alno, Shilan, Tawang, Poblacion, Betag, Alapang and Puguis

Salda said Barangay Lubas used old slippers, clothes, buttons, plastic

spoons, 2,000 vaccine caps, used tires, pet bottles, and plastic wrappers in creating its float.

The Barangay Balili float is made of recycled plastic bottles and caps, old tarpaulins, cartons, old sacks, dried sunflower, moss, bark and old motorcycle tires.

The competition aims to encourage the women organizations to recycle scraps and produce products from it to promote recycling. The profit goes to the barangay's feeding program for malnourished children.



MALAKI talagang problema ang basura.

Problema dahil malaking pinsala ang idinudulot nito sa ating buhay, ari-arian at kalayaan.

Kung sumunod lang tayo sa mga batas sa basura, mababawasan nang malaki ang kamatayan at pagkakasakit, pagkasira ng mga ari-arian at banta ng kulong bilang parusa sa ating paglabag.

PATAY KA SA BASURA

Akala ba ninyo hindi nakamamatay ang basura?

Nagkakamali po kayo.

Sa mga kalunsuran, kapag nabarahan ng mga basura ang mga ilog, kanal, estero, drainage, maaaring mamamatay ang tao sa pagkalunod sa baha.

Gayundin na kapag naiipon ang mga bakteriya ng ihi ng daga, mamatay ka sa leptospirosis.

Ang virus ng dengue, nakamamatay rin sa mga basura na may tubig na hindi gumagalaw at hindi mo kailangang magpa-injection ng Dengvaxia para mamamatay ka.

Kapag nabaha ka, nagkasakit ka leptospirosis, dengue at iba pa dahil sa basura at hindi ka nadedo, patay ka rin sa atake sa puso o gutom sa laki ng gastos sa punerarya at paglilibing at pagpapaospital.

Eh, kung masugatan ka mula sa mga basura ng ospital na nagamit sa mga nakahahawa at nakamamatay na sakit?

At kung makakain, makalanghap o makainom ka ng mga delikado at bawal na kemikal o nuclear waste?

Hazardous waste at nuclear waste ang tagwag sa mga ito.

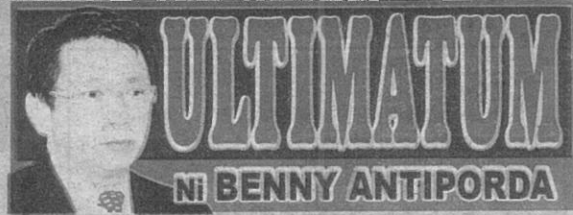
Hindi ka kaya magkasakit, mamatay at mawalan o masiraan ng ari-arian, kasama ang iyong sahod o kita dahil sa mga ito?

ARI-ARIAN SIRA

Matindi ring sumira ng ari-arian ang basura.

Halimbawa ang mga ari-arian ng bayan na pumping stations.

Ginagamit natin ang mga pumping station sa paglalabas ng tubig-baha papunta sa malalaking ilog gaya ng Pasig River o direkta sa Manila Bay para maprotektahan sa baha ang mga residente ng Metro Manila.



PATAY AT KULONG KANG BATA KA SA BASURA

lang tumitigil ang mga ito kapag pinuluputan na ng mga basurang plastik at iba ang mga elisi nito.

Dito na nasisira ang makina ng pumping station at malaking halaga ng buwis na naman ang kailangan para ma-repair o mapalitan ang mga makina o generator.

May mga oversees Filipino worker na kilala ko ang nagtayo ng computer shop sa Malabon at sa Marikina.

Akalain ba ninyong nalunod sa baha ang mga kompyuter at naglaho sa baha ang P500,000 na ginastos nito sa 10 kompyuter, printer, pag-aayos ng computer shop, lagayan ng mga kompyuter, silya at lamesa at ligal na pag-operate ng computer shop.

Bumaha kasi dahil a pagbabara ng basura sa mga estero at drainage sa kanilang mga lugar.

Nasayang ang dalawang taong inipon ng mga OFW sa pagtatrabaho sa Dubai at Saudi Arabia.

Ang dami ring sasakyan ang lumulubog sa baha at nasisira kapag nagkatulong ang malakas na ulan at barado sa basura na mga ilog, estero, drainage at iba pa.

MAY MULTA NA, MAY KULONG PA

Tinatalakay natin ito, mga Bro, dahil sa kawalan ng disiplina sa basura at kapabayaang na rin sa basura.

Alam na ng lahat na may batas laban sa bala-hurang pagtatapon ng basura.

At ang mga batas na ito ay may mga parusang ipinapataw.

May magagaan peromeron ding mabibigat.

Sa Ecological Solid Management Act of 2000, maging ang maliit na pagtatapon ng basura sa pampublikong lugar gaya ng kalsada, bangketa, kanal, estero parke at establisimyento, may multang P300-P1,000 at community service na 1-15 araw.

Karaniwang mga upos ng sigarilyo, pagkain at basurang bahay ang itinatapon dito.

'Pag nagsunog ka ng basura mo, may multang P300-P1,000 at kulong na 1-15 araw.

'Pag hindi mo pinaghiwalay ang nabubulok at 'di nabubulok na basura, magmumulta ka ng P1,000-P3,000 at makukulong ka ng 15 araw hanggang anim na buwan.

'Pag pinaghalo-halo mo naman ang nabubulok at 'di nabubulok na nakolekta mong nakahiwalay sa isa't isa, magmumulta ka ng P500,000, kakaltasan ang iyong kita o sahod ng 5% hanggang 10 porsyento at makukulong ka ng 1-3 taon.

Sa ilalim naman ng Toxic Substances, Hazardous and Nuclear Waste Control Act of 1990, mabigat ang pananagutan ng mga magbabasura.

Paggawa, pag-angkat, paggamit ng nailigal na kalalasang kemikal, delikado gaya ng mga basurang ospital at nuclear na basura ang malinaw na sakop ng batas na ito.

Pinakamagaang multa rito ang P4,000 at pagkakulong ng anim na buwan at isang araw hanggang anim na taon.

Pero sa mabibigat na paglabag, may multang P500,000 at pagkakulong na 12-20 taon.

Kung opisyal ng gobyerno ang lumabag, masisibak at hindi na mababalik pa sa gobyerno.

Makukumpiska pa ang lahat ng mga saksyang bangka, barko, eroplano na ginamit, kasama ang mga kita ng sinomang sangkot at pagpapasara ng kompanya o negosyo.

SUMUNOD SA BATAS

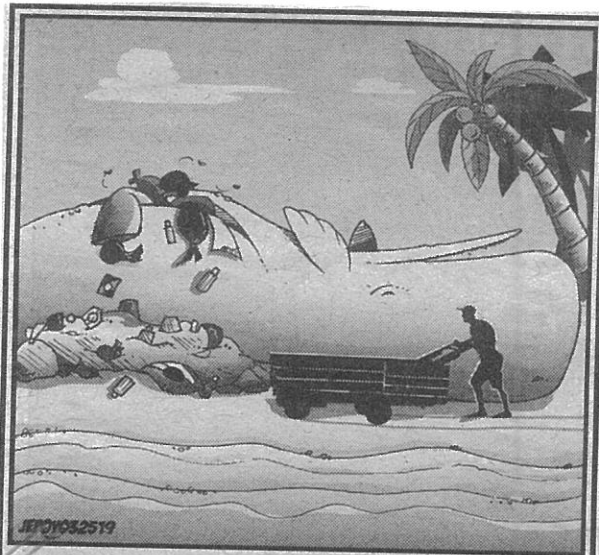
Wala tayong perwisyo kung sumunod tayo sa mga batas laban sa basura sa lupa, dagat, tubig at hangin.

Makatutulong pa tayo sa pagpigil sa kamatayan, pagkasira ng mga ari-arian at pananatiliing malaya sa mga multa at kulungan.

Paano, mga Bro?

oOo

Anomang reaksyon o reklamo ay maaaring iparating sa 0922840-3333 o i-email sa banti-antiporda@vshoo.com



Editorial

Nakakatakot ang dulot ng plastic pollution

PLASTIC pollution ang kalaban ng mundo ngayon. Ang bagay na nilikha ng tao ay nagbibigay ng problema at pati mga lamandagat ay apektado na rin. Buong mundo na ang pumapasan at kung hindi makokontrol ang pagtatapon ng mga plastic, maaring masira na ang mundo.

Dahil sa maling pagtatapon ng basurang plastic, humahantong sa dagat ang mga ito at sa maniwala't hindi, nakakain ito ng mga isda kabilang ang balyena. Marami nang nabalitang balyena na sumadsad sa dalampasigan at namatay. At nang suriin kung ano ang ikinamatay ng mga ito, napag-alaman na dahil sa mga nakaing plastic na basura. Iba't ibang uri ng plastic ang nakuha sa bituka ng mga kawawang balyena.

Noong nakaraang Marso 15, isang balyena ang nanghihinang sumadsad sa dalampasigan ng Mabini, Compostela Valley. Kinabukasan, patay na ang balyena. At nang suriin kung ano ang dahilan ng pagkamatay, napag-alaman na dahil sa mga kinaing plastic ng basura na tumitimbang ng 40 kilos.

Sinuri ng marine biologist na si Darrel Blatchley ang tiyan ng balyena at na-shock siya sa nakita. Tumambad ang 16 na empty bags ng bigas, 4 na banana plantation style bags, at iba't ibang plastic shopping bags. Ayon kay Blatchley, hindi siya makapaniwala sa nakita. Ito umano ang unang pagkakataon na nakakita siya sa tiyan ng balyena ng napakaraming plastic na basura.

Ang Pilipinas ay ikatlo sa mga bansa sa Asia na maraming plastic na basura. Nangunguna ang China at pumapangalawa ang Indonesia. Katibayan na maraming basurang plastic sa karagatan ng Pilipinas ay ang mga nakukuha sa Manila Bay na sa kasalukuyang nililinis.

Sa pag-aaral na ginawa, tinatayang 437 million hanggang 8.3 billion plastics ang inaadod sa mga coastline sa buong mundo. Sa baybaying dagat ng America, tinatayang 7.5 million plastics ang nakatambak at maski ang mga namumuno roon ay problemado sa mga basurang plastic.

Iisa ang solusyon para mawakasan ang problema sa plastic pollution. Magkaisa ang mga bansa na ipagbawal ang paggamit ng plastic. Sa Bangkok, Thailand ipinatutupad na ang pagbabawal sa paggamit ng plastic bilang lalagyan ng mga gulay at iba pang grocery items. Sa halip na plastic, dahon ng saging ang ginagamit doon.

Puwede itong gawin ng mga bansa. Umpisahan na. Kung hindi ito gagawin, hindi lamang mga balyena ang mamamatay, pati mga tao



TITLE:

PAGE 1/

DATE

GBP, WVSU launch Iloilo reforestation

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

THE Global Business Power (GBP) Corp. and West Visayas State University (WVSU) have partnered to launch the Handumanan Reforestation and Carbon Sink Project in a 150-hectare tract of land in the province of Iloilo.

The reforestation program aims to mitigate climate change and promote environmental awareness by planting trees that will serve as a carbon sink.

Handumanan is a Hiligaynon term that means "legacy."

GBP, through subsidiaries Panay

Energy Development Corp. (PEDC) and Panay Power Corp. (PPC), has adopted a property owned by WVSU-CAF in barangays Jayubo and Sagcup in the municipality of Lambunao.

"The 150-hectare carbon sink area inside the WVSU-CAF campus highlights the shared commitment

of GBP and WVSU to help conserve the environment and combat climate change," GBP President Jaime T. Azurin said in a statement.

"This partnership between GBPC and WVSU is one big step toward ensuring the survival of our future generation. Our joint effort to plant trees and preserve our forestland is a legacy of love for humanity and Mother Earth," said Dr. Luis M. Sorolla Jr., WVSU president. WVSU considers the project its first PPP or public-private partnership.

The seven-year project will have the first four years devoted to planting and establishment of the reforestation areas, while the remaining three years will be for the maintenance of the planted trees.

Under the memorandum of agreement, a minimum of 67,000 seedlings must be planted per year. Prior

to coordination and preliminary work on the reforestation project, GBP had been conducting planting activities in the area since 2015. It is estimated that 1,666 trees can be planted in 1 hectare, with provision for 2x3 meters of spacing in between trees.

In support of the project's agroforestry component, two types of trees will be planted—forest trees that are native to the area like narra, and fruit-bearing trees like jackfruit. Tall forest trees provide canopy while shorter fruit-bearing trees provide a livelihood.

"The project is envisioned to be sustainable and to go beyond compliance of the Environmental Compliance Certificate by incorporating community organizing and development," GBP Panay Operations Head Petronilo R. Madrid said.



Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

HATAW!
D'YARYO NG BAYAN
<http://www.hatawtablold.com> P10.00

PAGE

UPPER
 LOWER

PAGE 1
STORY

BANNER
STORY

EDITORIAL

CARTOO

25 MAR 2019

DATE

6 arestado dahil sa illegal logging sa Tiaong

DINAKIP ng pulisya ang anim na pinaghihinalaang illegal loggers at kinompiska mula sa kanila ang mga tabla ng Acacia at Mahogany sa bayan ng Tiaong, lalawigan ng Quezon, noong Sabado, 23 Marso.

Ayon kay S/Supt. Robert Arguelles, direktor ng Quezon police, nahuli sa akto

ng mga operatiba ng anti-illegal logging ang mga suspek na kinilalang sina Benigno Manimtim, Crispin Mendoza, Noli Lacorte, at Lolito Raujo habang nagpuputol ng puno ng Acacia sa Barangay Del Valle, dakong 4:45 pm noong Sabado.

Kinompiska ng pulisya

ang bagong putol na mga tabla, isang chainsaw, at ang isang truck na ginamit ng mga suspek na panghakot ng mga tablang ilegal na iprinoseso.

Nauna nang inaresto ng mga pulis sina Danilo Ednaco at Roger Tapalla matapos mahuli sa aktong nagpuputol ng mga puno ng

Mahogany sa Barangay Behia bandang 3:30 pm. Nakompiska din ng mga awtoridad ang isang chainsaw at mga bagong putol na tabla ng Mahogany.

Bigong magpakita ang lahat ng suspek ng mga kaukulang permit mula sa Department of Environment and Natural Resources

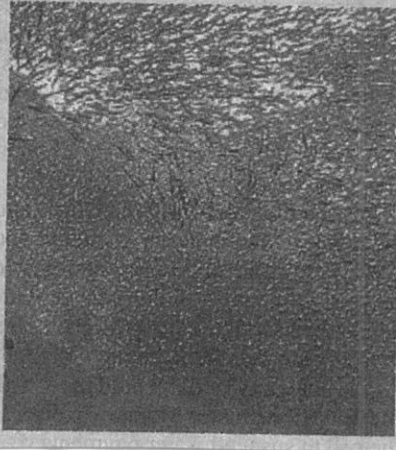
(DENR) na pinapayagan silang magputol ng puno.

Sasampahan ang anim na suspek sa paglabag sa Republic Act 9175 (Chain Saw Act) at Presidential Decree 705, o Revised Forestry Code of the Philippines na inamyendahan sa ilalim ng RA 7161, na nagbabawal magputol ng puno nang walang kaukulang permit galing sa DENR.



New sardine species thrives in Manila Bay

MANILA Bay's ecosystem is not dying. In fact, a new sardine species, *Sardinella pacifica*, has been discovered in Manila Bay waters and in other parts of the country. *Next page*



New...

From A1

According to a peer-reviewed journal article, Japanese taxonomists Harutaka-Hata and Hiroyuki Motomura collected samples from Manila Bay, Quezon, Sorsogon and Samar and those revealed distinct characteristics from other sardine species, concluding a new species of sardines was found only in the Philippines.

"We appeal to President Rodrigo Duterte to stop all reclamation projects lined up in Manila Bay," said Gloria Estenzo Ramos, vice president of Oceana in the Philippines.

"This can be the legacy of your administration—that you were able to save the rich ecosystem of Manila Bay that carries national and natural heritage significance, especially with the discovery of this new sardine species in Philippine waters."

Manila Bay was identified by the Bureau of Fisheries and Aquatic Resources as a spawning area of sardines and is still one of the main fishing grounds of artisanal fishermen who depend on the sea for their livelihood. Sardines is on top of the kinds of fish caught in the area.

"Instead of dumping and filling our seas that bury and destroy mangroves, sea grass beds, corals and other fisheries habitats, let's collectively save and pro-

tect these from destruction because of so-called "development" projects," Ramos said.

"More importantly, let's help our artisanal fishermen earn a decent livelihood to feed their families from our rich marine resources that are known all over the world."

Oceana appealed to Duterte to review and assess the projects submitted to the Philippine Reclamation Authority that would result in irreversible damage to the marine habitats.

Ramos said the irreparable destruction in Manila Bay would leave the artisanal fishermen almost without income because of low or no catch, and their families hun-

gry and displaced.

"These projects violate our constitutional right to balanced and healthful ecology, as well as our fisheries and environmental laws," Ramos said.

Oceana is co-organizing with Kalikasan People's Network for the Environment, Pambansang Lakas ng Kilusang Mammalakyaya ng Pilipinas, and Center for Environmental Concerns a People's Summit on Reclamation on March 26 to 27.

The summit will discuss scientific studies and legal review with the government, academe, scientists and legal experts, non-government organizations and the urban poor and coastal communities in Manila Bay.



STRATEGIC
COMMUNICATION
INITIATIVES
SERVICE

 PAGE

 UPPER
 LOWER

 PAGE 1
STORY

 BANNER
STORY

 EDITORIAL

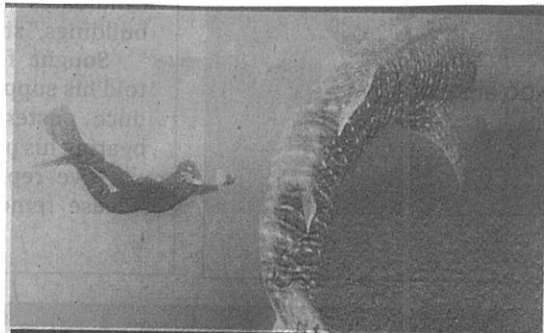
 CARTOON

25 MAR 2019

TITLE:

PAGE 1/

DATE



REGIONS

More whale sharks seen off Sarangani

ALABEL, SARANGANI—The provincial government of Sarangani appeals to people not to harm whale sharks that have come to the bay off the province in search of food. It was a timely plea as more whale sharks, or “butanding,” were sighted in Sarangani Bay on Thursday after at least 14 of the largest fish in the world were seen frolicking in the bay on March 10. —STORY BY EDWIN

FERNANDEZ

A10



'Leave whale sharks alone'

1/2

Sarangani provincial gov't appeals to people not to harm 'butanding' as their numbers grow

By Edwin O. Fernandez
@inqmindanao

ALABEL, SARANGANI—An appeal to leave whale sharks unharmed was made by the provincial government as experts confirmed the province's bay now has the country's second biggest whale shark population.

Authorities were also checking if whale shark migration was increasing following the sighting of up to four more whale sharks on Thursday, which could be new migrants

or part of the pod that was seen on March 10 in Sarangani Bay.

Experts from the Sarangani Environmental Conservation and Protection Center (ECPC) confirmed reports by local fishermen about the sighting of whale sharks (*Rhincodon typus*) off the coast of Ladol village here.

Migrants

ECPC officials, led by veterinarian Roy Mejorada, filmed at least three more whale sharks, or "butanding," near seaside fish cages at Ladol, a communi-

ty of mostly fishermen.

Mejorada told reporters that the four whale sharks were sighted on Thursday by fishermen.

He said whale sharks were "highly migratory" and stay in areas where they could feed on small fishes locally known as "lupuy."

Officials of the Department of Environment and Natural Resources in the region said the sighting of at least 14 whale sharks on March 10 in Sarangani Bay made the province host of the second

largest population of whale sharks in the country.

If sightings after March 10 were confirmed to be those of new whale sharks, the number of butanding in the bay would reach up to 22.

Hosts

Aside from Sarangani Bay, three other sites were known to host whale sharks—Oslob, Cebu; Donsol, Sorsogon; Pintuyan, Southern Leyte, and Honda Bay, Palawan.

Mejorada said data on whale sharks seen in Sarangani Bay

had been sent to Large Marine Vertebrates Research Institute Philippines for validation.

Plea

Following the sightings of butanding in Sarangani Bay, Gov. Steve Chiongbian appealed to all residents of the province not to harm the gentle marine giants.

The governor, in a statement, also asked fishermen to immediately alert his office about new sightings of whale sharks and other endangered species. INQ



STRATEGIC
COMMUNICATION
INITIATIVES
SERVICE

PHILIPPINE DAILY
INQUIRER

AD
PAGE

UPPER
 LOWER

PAGE 1
STORY

BANNER
STORY

EDITORIAL

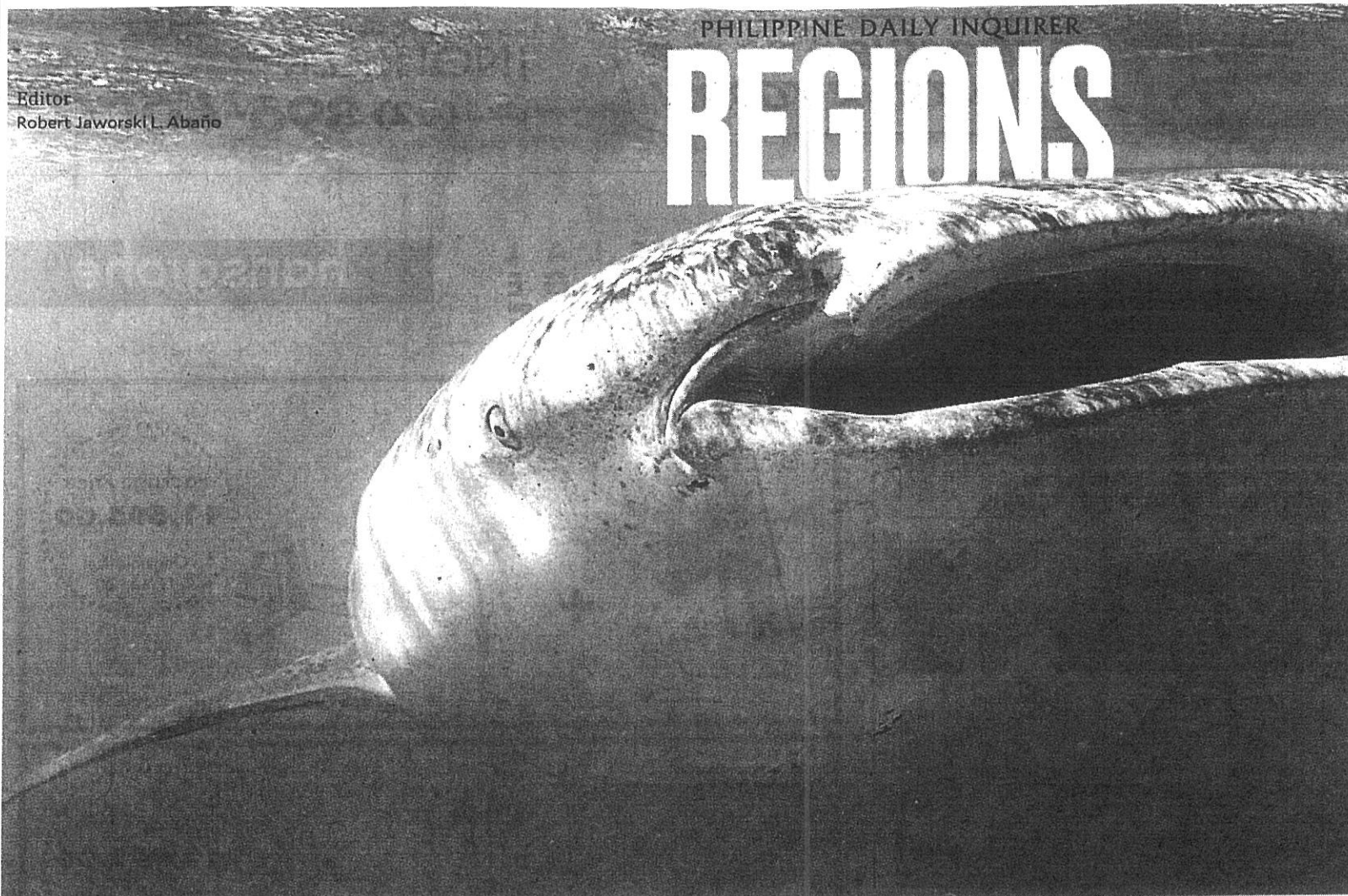
CARTOON

TITLE:

PAGE 1/

25 MAR 2019
DATE

2/2



PHILIPPINE DAILY INQUIRER

REGIONS

Editor
Robert Jaworski L. Abaño

GIANT MIGRANT A whale shark was photographed on March 21 in search for food in Sarangani Bay. —PHOTO FROM GUIRE GARCINEZ/TF BUTANDING GENSAN



Whale killers

In the Compostela town of Mabini last March 15, a juvenile Cuvier's beaked whale was found ashore and died shortly. When opened up for inspection on the cause of death, the beached 500-kilo creature had 40 kilos of plastic waste in its belly.

A marine biologist listed the plastic items, which included 16 rice sacks, four bags used in banana plantations and numerous types of shopping bags. Unable to ingest food due to the plastic, the whale died of starvation a day after its beaching.

It's not the first time that a marine creature has died because of plastic ingestion. Marine turtles have also been found dead with plastic waste in their guts. Their deaths are a frustrating reminder of humans' filthy habits and improper waste disposal despite the numerous warnings about the risks posed by plastic items to the environment.

Despite such warnings, plastic containers have a unique function that other materials such as paper cannot provide. In places where plastic bags have been banned, double layers of thick paper bags are now used for items such as meat and fish that are first placed in plastic wraps or thin, translucent plastic bags and Styrofoam containers. So-called eco bags cannot be used for wet items. Studies have also shown that laundry soap for cleaning eco bags pollute the water

EDITORIAL

and threaten aquatic life. Scientists continue to work on alternatives

to plastic for containing items that need protection from moisture. Several shopping malls and supermarket chains have switched to biodegradable plastic bags in place of single-use plastics. But environmental groups now say that even the biodegradable materials do not break down completely and instead turn into plastic microparticles that pose risks to marine life.

In the absence of a suitable replacement for plastic, there must be emphasis on proper garbage disposal, including solid waste segregation. Companies that manufacture plastic products have emphasized that they need discarded plastic, including shopping bags, for recycling into items such as PVC pipes and other construction and industrial materials.

The discovery of plastic sacks in the belly of the dead whale indicates the filthy habits of people who think the sea is their personal garbage receptacle. Local governments, starting at the barangay level, can compel people to comply with laws on proper waste disposal. It's possible to prevent or minimize the indiscriminate dumping of plastic. Residents of fishing communities in particular must be made to realize that their livelihoods depend on keeping the waters clean.



Semirara spent P2.92 B for rehab of Panian pit

Semirara Mining and Power Corp., the coal and mining giant of the Consunji Group, spent P2.92 billion in 2018 to accelerate the rehabilitation of the southern portion of its Panian pit in Semirara Island.

Of the amount, Semirara spent P1.83 billion for the acquisition of dump trucks, excavators and other support equipment to ramp up the company's stripping and hauling operations.

The rest of the amount or over P1 billion was spent on fuel, labor and other cash costs.

Panian pit was shut down in September 2016 following the depletion of its mineable coal reserves, as certified by the Department of Energy (DOE). Since then, Semirara has moved its operations to the Molave and Narra pits.

In December 2017, the DOE directed Semirara to expedite the backfilling of Panian pit (south portion) to serve as a

model for open pit mine rehabilitation in the Philippines.

A year later, Semirara has unloaded 120 million bank cubic meters (BCM) of overburden materials into the southern portion of Panian pit, bringing the current elevation to zero meters, a dramatic improvement from its starting elevation of -260 meters.

260 meters is roughly the height of a 78-story building.

BCM pertains to the volume of earth lying naturally, which is neither loose or compact owing to mine-site activities such as excavation, among other things.

Once the pit has been completely filled-in, Semirara will put humic acid, compost and other materials to restore soil nutrients in the area, before proceeding with reforestation. Semirara will then plant tree species that are endemic in the area.

The rehabilitation forms part of Semirara's goal of bringing back the original landscape of Panian, which had open grasslands

and a variety of trees and shrubs.

The company also implemented reforestation initiatives within the mining complex and planted more than one million trees as of June 2018.

Species include beach agoho, narra, and molave among other kinds of trees.

Meanwhile, surviving mangroves planted in parts of Semirara Island's shorelines have reached more than 650,000 hills covering over 196 hectares – perhaps the biggest area completed by a single private entity in the country – as of June 2018.

Another project, the Semirara Marine Hatchery Laboratory has also produced over 144,000 giant clams. Giant clams are very sensitive to water quality, and as such, it cannot thrive in polluted areas.

Semirara is the only vertically-integrated power producer in the country that mines its own fuel source, allowing it to generate affordable baseload power.

– Iris Gonzales



Semirara spends P3B for Panian pit rehab

SEMIRARA Mining and Power Corp. (SMPC) said it spent P2.92 billion last year to accelerate the rehabilitation of the southern portion of its Panian pit in Semirara Island.

The company said of the amount, P1.83 billion was used to acquire dump trucks, excavators and other support equipment to ramp up the company's stripping and hauling operations. Over P1 billion was spent on fuel, labor and other cash costs.

In December 2017, the Department of Energy (DOE) directed SMPC to expedite the backfilling of Panian pit (south portion) to serve as a model for open pit mine rehabilitation in the Philippines.

"A year later, SMPC has unloaded 120 million bank cubic meters (BCM) of overburden materials into the southern portion of Panian pit, bringing the current elevation to 0 meters, a



Backfilling ongoing. From an elevation of -260 meters - the equivalent of a 78-story building - the southern portion of the pit is now flat.

dramatic improvement from its starting elevation of -260 meters," it said.

The -260 meters elevation is roughly the height of a 78-story building.

"Once the pit has been completely filled in, SMPC will put humic acid, compost and other materials to restore soil nutrients in the area, before proceeding with reforestation, SMPC will then plant tree species that are endemic in the area," the company said.

Panian pit was shut down in September 2016 following the depletion of its mineable coal reserves, as certified by DOE. Since then, SMPC has moved its operations to the Molave and Narra pits.

SMPC is the only vertically-integrated power producer in the country that mines its own fuel source, allowing it to generate affordable baseload power.



SMC gets OPS on bridge project by Q2

SAN MIGUEL Corp. will likely secure by the second quarter this year original proponent status on its proposal to build a bridge between Boracay Island and the main island of Panay, Aklan, according to the Department of Public Works and Highway (DPWH).

DPWH confirmed last January the completeness of the project offered by SMC infrastructure unit San Miguel Holdings Corp. (SMCH) in accordance with Section 10.5 of the Build-Operate-Transfer (BOT) Law.

Alex Bote, DPWH officer-in-charge director for Public Private Partnership Service, said the project completeness is one of the prior steps before the award

of OPS to the project proponent. DPWH is evaluating the unsolicited proposal and is waiting for the SMHC to submit additional documents needed to secure the OPS.

When asked if it is possible to award the OPS by second quarter this year, Bote said "might be" as the grant of OPS will depend on the submission of the requirements.

The 1.2-kilometer limited access bridge infrastructure costs P5.6 billion, of which P4.5 billion will go to the construction cost and P1.1 billion to right-of-way acquisition, according to DPWH.

The project aims to facilitate provision of a public transport

access system carriage of power telecommunication, water supply and sewer utility line and transport of solid waste and cargo through authorized trucks.

SMHC's project aims to free up Boracay Island from pressures due to overcrowding and overuse of existing facilities which ultimately produce adverse environmental impact. The bridge is expected to encourage people to consider alternative accommodation and activity centers at the mainland Panay (Malay, Aklan).

SMC through TransAire Development Holding Corp. operates the Boracay Airport in Caticlan, Aklan, the major gateway to world famous Boracay.



SMC unit TransAire Development Holding Corp. operates the Boracay Airport in Caticlan, Aklan.



Wawa not an immediate fix, but fast solution to crisis — Razon

By RICHMOND MERCURIO

Ports and casino tycoon Enrique Razon said the development of an 80-meter dam in Montalban is not going to be an immediate remedy to the current water crisis, but gave assurance that it would be one of the fastest and most sustainable solutions.

Razon-led Prime Infra, through a partnership with San Lorenzo Ruiz Builders and Developers

Group (SLRBD), plans to develop a water supply facility of over 500 million liters per day at the Wawa

catchment area traversing the municipality of Rodriguez and city of Antipolo, both in the province of Rizal.

With its capacity, the water source is strategically located to serve the expansion areas of Manila Water Co., the east zone concessionaire of the Metropolitan

Turn to B13

Wawa.. From B9

Waterworks and Sewerage System (MWSS).

"This is not an immediate fix, but rather a medium to long term solution. Yet our project is one of the fastest and most sustainable ways to solve this current water crisis. If we don't act now, this will be a recurring problem," Razon said.

Prime Infra president and chief operating officer Guillaume Lucci said the group is optimistic the project would proceed consider-

ing government's support to fast-track the needed new water source for Metro Manila and the Rizal province.

"The proximity and water source quality of the Wawa catchment area will allow us to deliver first water no later than 2022. Because of the scale and life cycle cost of large dams, the public can be assured that we will deliver it in a cost-effective manner," Lucci said.

SLRBD president Anthony Violago, for his part, said the project is an important step

towards resolving the legal impediment preventing the development of one of the most strategic water supply source for Metro Manila.

Water experts have long-cited Wawa as the best potential water supply source for Metro Manila.

Compared to Laguna Lake and other similar water supply options, Prime Infra said it does not require an expensive treatment technology like reverse osmosis.

At its capacity, the project is capable of serving more than 500,000 households in the

MWSS franchise area.

Prime Infra last week signed a memorandum of understanding with Manila Water to cooperate in the possible development of the Wawa Bulk Water Supply Project.

The agreement formalizes the formation of a technical team that will conduct a technical study to be reviewed and approved by the MWSS.

Manila Water needs to produce 80 million liters of water per day to cope with its water requirements and solve one to two years of possible water supply deficit.



First water from Wawa by '21

THE first water from the proposed Wawa bulk water supply project in Rizal province could come as early as 2021, according to its proponent Prime Infra, the construction firm of port magnate Enrique Razon.

Prime Infra said the final dam structure will be completed no later than 2025.

A joint venture company for the project will be formed with Prime Infra as the project owner and majority shareholder, the company said.

"This is not an immediate fix, but rather a medium- to long-term solution. Yet our project is one of the fastest and most sustainable ways to solve this current water crisis. If we don't act now, this will be a recurring problem," Razon said in a statement.

Prime Water has formalized through a memorandum of understanding (MOU) its intended

partnership with Ayala-led Manila Water Co. Inc., possibly as offtaker, to cooperate in the possible development of the Wawa bulk water supply project.

The MOU paves the way for the creation of a technical team which will conduct a technical due diligence on the project.

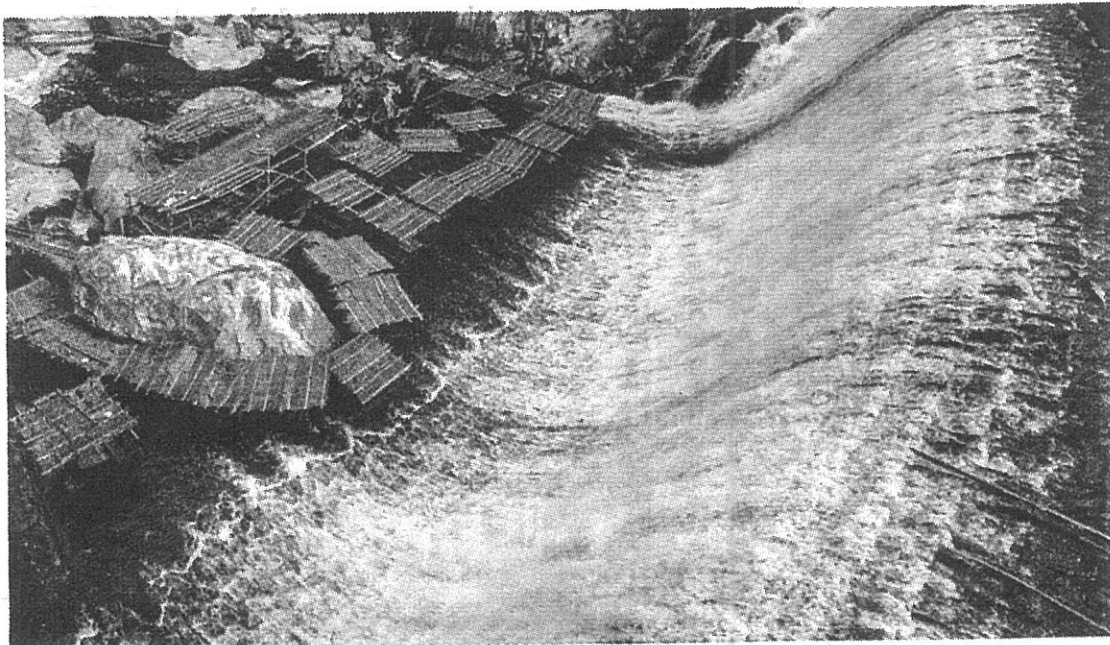
Based on the recommendations of the technical team, the parties will discuss the possibility of having an offtake arrangement, which offtake arrangement shall be subject to the prior review and approval of the Metropolitan Waterworks and Sewerage System.

Prime Infra will partner with San Lorenzo Ruiz Builders and Developers Group (SLRBD) to develop the water supply facility capable of over 500 million liters per day (MLD) at the Wawa catchment area traversing the municipality of Rodriguez and city of Antipolo.

Anthony Violago, SLRBD president, said the MOU among the parties is "an important step towards resolving the legal impediment preventing the development of one of the most strategic water supply source for Metro Manila."

The MWSS has long been citing the Wawa Lake as a potential water supply source for Metro Manila as it does not require an expensive treatment technology like reverse osmosis compared to Laguna Lake and other similar water supply options.

"The proximity and water source quality of the Wawa catchment area will allow us to deliver first water no later than 2022. Because of the scale and life cycle cost of large dams, the public can be assured that we will deliver it in a cost-effective manner," said Guillaume Lucci, Prime Infra president and chief operating officer.



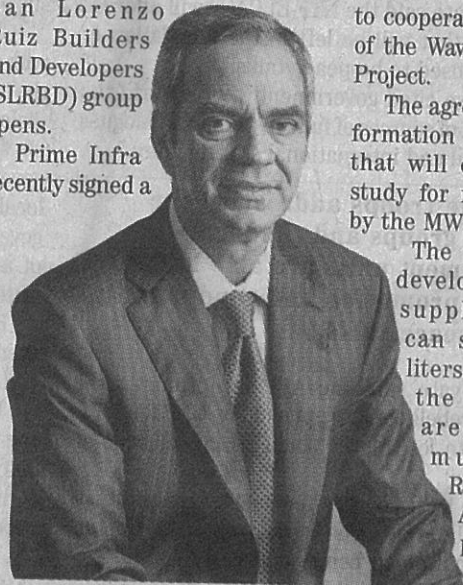
Not a quick fix. The Wawa bulk water supply project is touted to be one of the fastest and most sustainable ways to solve the current water crisis.



2021 Wawa Dam revival set

A solution to the perennial water crisis in Metro Manila may come as early as 2021 when a project of the Enrique Razon-led Prime Infra in partnership with San Lorenzo Ruiz Builders and Developers (SLRBD) group opens.

Prime Infra recently signed a



TYCOON Enrique K. Razon springs to the rescue amid the water problem.

memorandum of understanding with Manila Water Co., the east zone concessionaire of the state firm Metropolitan Waterworks and Sewerage System (MWSS), to cooperate in the development of the Wawa Bulk Water Supply Project.

The agreement formalizes the formation of a technical team that will conduct a technical study for review and approval by the MWSS.

The project involves the development of a water supply facility which can supply 500 million liters per day (MLD) at the Wawa catchment area traversing the municipality of Rodriguez and city of Antipolo, both in the province of Rizal.

M W S S
Administrator

Reynaldo Velasco had urged Manila Water and Prime Infra to immediately finalize their cooperative agreement.

"It's only over the last two years under the Duterte administration that serious efforts have been put in place to push for major water flagship projects such as the 600 MLD Kaliwa Dam, the 500 MLD from Wawa Dam, the 800 MLD to be sourced from unutilized water from Angat-Norzagaray, the 350 MLD from Bayabas Dam and

Turn to page

The project involves the development of a water supply facility which can supply 500 million liters per day at the Wawa catchment area

From page 1

500 MLD from Laguna Lake," he said.

Enough water for metro

"I wish to assure the public that there will be enough and sufficient water to supply the future needs of the 20 million residents in the metropolis and nearby provinces serviced by these concessionaires in the next 10 to 15 years," Velasco said.

During the American regime, the Wawa Dam was the first source of water supply for Manila and suburbs. The source of water supply became obsolete and was replaced by La Mesa Dam.

It's only over the last two years under the Duterte administration that serious efforts have been put in place to push for major water flagship projects.

Water experts have long cited Wawa as the best potential water supply source for Metro Manila. Compared to Laguna Lake and other similar water supply options, it does not require an expensive treatment technology like reverse osmosis. At its capacity, it can serve more than 500,000 households in the MWSS franchise area.

Based on the project timetable, the first water drop as a result of the project is expected as early as 2021 while the final dam structure will be completed not later than 2025.

Water experts have long cited Wawa as the best potential water supply source for Metro Manila.

Long-term solution

"This is not an immediate fix, but rather a medium to long term solution. Yet our project is one of the fastest and most sustainable ways to solve this current water crisis. If we don't act now, this will be a recurring problem," Razon, who is an 82 percent owner of the project, said.

Velasco facilitated talks between Prime Infra and Manila Water to start the project immediately considering the current water crisis.

"This is an important step towards resolving the legal impediment preventing the development of one of the most strategic water supply sources for Metro Manila," SLRBD president Anthony Violago said.

Based on the project timetable, the first water drop as a result of the project is expected as early as 2021 while the final dam structure will be completed not later than 2025.

Prime Infra president and COO Guillaume Lucci expressed optimism the project will be fast-tracked through government's support.

"The proximity and water source quality of the Wawa catchment area will allow us to deliver first water not later than 2022. Because of the scale and life cycle cost of large dams, the public can be assured that we will deliver it in a cost-effective manner," he said.



Rain, rain, we need you ASAP

BY ANGELA LOPEZ DE LEON

WATER reserve at Angat Dam in Bulacan is expected to reach its critical level of 180 meters by end of May, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) said yesterday.

Hydrologist Jason Bausa said

they expect the dam's water elevation to further plunge to 180 meters "between (the) first and third weeks of May if there will be no rain in the coming weeks."

Angat's water level has been declining since early this month.

As of 6 a.m. yesterday, the reservoir's elevation stood at 195.91 meters or 0.33 meters lower than

the water level of 196.24 meters recorded on Saturday morning.

Angat supplies 97 percent of Metro Manila's water needs. It also provides water for the irrigation requirements of thousands of hectares of farmlands in Bulacan and Pampanga. Part of the dam's

See RAIN > Page B6

RAIN

water supply is also being used to generate electricity for Luzon.

Bausa said that if Angat's elevation dips to 180 meters, the "water supply for the irrigation will likely be the first to be affected."

The La Mesa Dam in Quezon

City gets its water supply from Angat Dam.

Water from Angat passes through the Ipo Dam in Bulacan then flows into the La Mesa.

Bausa said the water reserve at La Mesa dam has dropped by 0.02 meters. He said the water level in the dam was at 68.62 meters on Satur-

day morning and it dipped to 68.60 meters at 6 a.m. yesterday, the lowest water elevation in La Mesa's record.

Bausa said the water reserve of Ipo Dam stood at 101.01 meters yesterday morning - a 0.01 meter short from the 101.02 meters on Saturday morning. Ipo Dam's critical water level is at 97 meters.



UN resolution calls for protection of rights, environment defenders

By JANVIC MATEO

The United Nations Human Rights Council (UNHRC) has approved a resolution calling for the protection of human rights defenders, including those working against degradation of the environment.

The 47-member body, which includes the Philippines, adopted without a vote the resolution during its 40th session in Geneva, Switzerland last week.

The UNHRC expressed grave concern at the situation of environmental human rights defenders around the world and condemned killings and all other human rights violations or abuses committed against them by state and non-state actors.

It noted the increasing rate of incidents that include gender-based violence, threats, harassment, intimidation, smear campaigns,

criminalization, judicial harassment, forced eviction and displacement of environmental human rights defenders. It added that this is also true for the indigenous and women human rights defenders and human rights defenders who are addressing issues relating to land rights.

The human rights body underscored the need to develop protection mechanisms for environmental human rights defenders, taking into account the intersectional dimensions of violations against women human rights defenders, indigenous peoples, rural and marginalized communities and persons belonging to minorities.

It stressed that human rights defenders must be ensured a safe and enabling environment to undertake their work free from hindrance and insecurity, in recognition of their important role to support states in fulfilling their obligations.

It also urged states to acknowledge, through public statements, policies, programs or laws, the important and legitimate role of human rights defenders in the promotion of all human rights, democracy and the rule of law.

The UNHRC said states must respect, protect and fulfill human rights, including in all actions undertaken to address environmental challenges, including the rights to life and to the enjoyment of the highest attainable standard of physical and mental health.

They must also promote a safe and enabling environment, as well as provide for effective remedies for human rights violations and abuses.

"(The body) urges states to take concrete steps to prevent and put an end to arbitrary arrest and detention, including of human rights defenders, and in this regard strongly urges the release of persons detained or imprisoned, in violation of the obligations and commitments of states under international human rights law, for exercising their human rights and fundamental freedoms," read the resolution.

UN: Environment is deadly, worsening, but not hopeless

WASHINGTON—Earth is sick with multiple and worsening environmental ills killing millions of people yearly, a new United Nations report said.

Climate change, a global major extinction of animals and plants, a human population soaring toward 10 billion, degraded land, polluted air, and plastics, pesticides and hormone-changing chemicals in the water are making the planet an increasing unhealthy place for people, says the scientific report issued once every few years.

But it may not be too late. "There is every reason to be hopeful," report coeditors Joyeeta Gupta and Paul Ekins told The Associated Press in an e-mail. "There is still time but the window is closing fast."

The sixth Global Environment Outlook, released last week at a UN conference in Nairobi, Kenya, painted a dire picture of a planet where environmental problems interact with each other to make things even more dangerous for people.

It uses the word "risk" 561 times in a 740-page report.

The report concludes "unsustainable human activities globally have degraded the Earth's ecosystems, endangering the ecological foundations of society."

But the same document says changes in the way the world eats, buys things, gets its energy and handles its waste could help fix the problems.

The report is "a dramatic warning and a high-level road map for what must be done to prevent widespread disruption and even

irreversible destruction of planetary life-support systems," said University of Michigan environment dean Jonathan Overpeck, who wasn't part of the report.

Several other scientists also praised the report, which draws on existing science, data and maps.

"This report clearly shows the connections between the environment and human health and well-being," said Stuart Pimm, a Duke University ecologist.

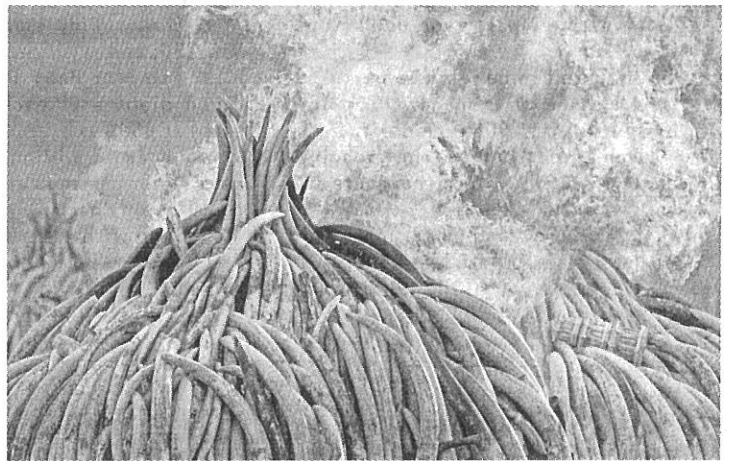
Gupta and Ekins, environmental scientists in Amsterdam and London, said air pollution annually kills 7 million people worldwide and costs society about \$5 trillion. Water pollution, with associated diseases, kills another 1.4 million.

The scientists said the most important and pressing problems facing humankind are global warming and loss of biodiversity because they are permanent and affect so many people in so many different ways.

Climate change

"TIME is running out to prevent the irreversible and dangerous impacts of climate change," the report says, noting that unless something changes, global temperatures will exceed the threshold of warming—another 1.8 degrees Fahrenheit (1 degree Celsius) above current temperatures—that international agreements call dangerous.

The report details climate-change impacts on human health,



PYRES of ivory are set on fire in Nairobi National Park, Kenya, in this September 4, 2017, photo. Kenya's president recently set fire to 105 tons of elephant ivory and more than 1 ton of rhino horn, believed to be the largest stockpile ever destroyed, in a dramatic statement against the trade in ivory and products from endangered species. AP/BEN CURTIS

air, water, land and biodiversity. Almost all coastal cities and small island nations are increasingly vulnerable to flooding from rising seas and extreme weather.

Biodiversity

"A MAJOR species extinction event, compromising planetary integrity and Earth's capacity to meet human needs, is unfolding," the report says, listing threats to ecosystems, fisheries and other major systems.

It notes conservationists are divided on whether Earth is in a sixth mass extinction.

Air pollution

NOT only are millions of people dying each year, but unhealthy air especially hurts "the elderly, very young, ill and poor," the report says.

Water pollution

WHILE 1.5 billion people now get clean drinking water they lacked in 2000, water quality in many regions has worsened, the report says.

Plastics and other litter have invaded every ocean at all depths, the report says.

Antibiotic resistance

PEOPLE getting sick from diseases caused by antimicrobial-resistant bacteria in water supplies could become a major cause of death worldwide by 2050, unless something can be done about it, the report says.

Land degradation

LAND is getting less fertile and useful. The report says degradation "hot spots," where it's difficult to grow crops, now cover 29 percent of all land areas. The rate of deforestation has slowed but continues.

"The report provides a road map to move beyond 'doom and gloom' and rally together to face the challenges and take the future in our hands," said former US National Oceanic and Atmospheric Administration chief Jane Lubchenco, who wasn't part of the report. "This is an all-hands-on-deck moment." AP



US survey finds lack of awareness on global warming

Do You Think The Effects Of Global Warming Will Be A Problem For You In Your Lifetime?



BY YASH BHANDARI
Inter Press Service

WISCONSIN—The UN's World Water Day was celebrated three days ago as the state of the world's consumable water supply remains dismal. Billions of people face at least the very real risk of scarcity, if they're not facing scarcity already; and about a third of the world's groundwater systems are in danger of becoming depleted.

With the Trump administration's withdrawal from the Paris Agreement in 2017, things are looking grimmer still. Several state governors, Republicans and Democrats both, and Puerto Rico have even ignored the federal withdrawal and pledged to uphold the agreement on a state level.

So far, 17 US states have committed to upholding it.

Furthermore, in October of 2018, the UN Intergovernmental Panel on Climate Change released a report claiming that only 12 years are left to keep global temperatures to about 1.5 degrees celsius—if there is even a half a degree increase, it would likely exacerbate floods, droughts,

extreme heat and poverty, all of which will affect millions of people all around the world. The Paris Agreement, in theory, would prevent this from happening.

But Dr. Isaac Hankes—a meteorologist and a Weather Research Analyst at Refinitiv—has a different view. He claims that “the Paris climate agreement is as political as it is scientific, and even if fully embraced, it will not offset much more than about 0.1°C of warming.

This underscores the importance of personal action by anyone concerned about the effects of warming to make a difference by making energy-saving decisions.

Such opportunity now exists in nearly all facets of a home, and actions as simple as installing LED light bulbs or smart power strips could easily supersede any slower-moving government action in offsetting emissions-based warming.

This points to the necessity for individual action in the face of institutional opposition, as well as institutional inefficacy. The problem is that in order for there to be individual action, there must be an impetus; in order for there to be an impetus, there must be, at base, awareness.

A recent survey conducted by Rockay—an eco-conscious manufacturer of running apparel—reveals that awareness is exactly what more than half of Americans lack on the issue of climate change. Conducted online via 3GEM Research and Insights, the survey polled 1,500 American adults, ranging from ages 18 to 55 plus. The findings were surprising.

For example, when the responders were asked if global warming will have deleterious effects in their own lifetime, the results were split.

Thirty-four percent answered they did indeed believe that there will be a global-warming-induced impact in their own lifetime; about the same percentage answered the opposite, with 7 percent claiming that global warming was a “hoax” outright.

Additionally, 32 percent seemed to be more ambivalent about the issue, answering “kind of,” pointing to an acknowledgment of a fundamental lack of awareness.

This same lack of awareness manifests itself in what is perhaps a more pernicious way. When asked the question, “Are you aware of the Paris Agreement and what it entails?” a whopping 56 percent of respondents answered “no.”

Remember, the Paris Agreement is designed to, in theory, mitigate or even prevent entirely floods and droughts, and extreme heat that are set to upend the lives of millions of people worldwide.

Remember too, that politically, the Agreement is a hot topic, creating rifts between politicians, government agencies and even among nations on how to proceed.

Given this, it's probably fair to say that climate change, and perhaps even foreign affairs, just isn't on the mind of most Americans. At least not in any potent sort of way.

In fact, when the respondents were asked about how often they actually spoke about global warming with their friends and family—effectively gauging their level of concern—a tepid 14 percent said they “often” do. By contrast, 50 percent responded that they “rarely” or “never” do.

The significance of these findings is potentiated by two assumptions.



BusinessMirror

A broader look at today's business

PAGE
UPPER

LOWER
PAGE 1
STORY
BANNER
STORY
EDITORIAL
CARTOON

Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

25 DATE:

P-2

US Survey finds lack of awareness on global warming

The first is that the Paris Agreement alone may not be as effective as would be ideal. The second is that the true solution lies in effectuating a change in the habits of individuals, rather than of entities.

Rockay's survey indicates that actually succeeding in effectuating this habitual change in individuals is difficult due in part to the fact that these individuals generally have no awareness that there is actually a problem to solve and, thus, they have no impetus to change.

To combat this, Rockay urges people to start small, with something easy that has potential to not just combat climate change, but water wastage, as well: laundry.

The hope is to raise awareness of the facts and trust that the collective consciousness will evolve to reflect them. Because only then would the earth and its inhabitants stand a chance.



OPINION

1/2

A New Green Revolution: The Green Bonds

(Second of two parts)

In the first part of this article, we discussed some of the environmental consequences brought on by the rapid increase of infrastructure and economic development in the country. Although the Philippines maintains the lowest ecological footprint in ASEAN, growing overconsumption, unregulated production, and waste mismanagement all contribute to the environmental burden on the land.

One method to increase the impact of environmental protection and sustainability involves grassroots efforts not just from private citizens, but from organizations, local communities, and Local Government Units (LGUs). Although there is a lack of funding on this front, the Department of Finance (DoF) has begun urging its Bureau of Local Government Finance to strengthening LGU fiscal autonomy.

To be discussed further are the use of green bonds as an alternative funding source, which can encourage self-reliance and project autonomy, how green bonds are structured, and how they can be adopted for local implementation.

Like conventional bonds, green bond prices are also driven by interest rates, credit risk, foreign exchange markets, market perceptions of liquidity, and supply and demand. As interest rates increase, bond prices decrease. Moreover, the required return for investors tends

to increase as the credit risk assessed to the issuer increases. Also affecting bond pricing are the anticipation of the project's success and backup plans for future business opportunities. All of these are taken into consideration in calculating bond return.

Slightly deviating from a conventional bond, other additional terms and characteristics of a green bond — whether it is a floating rate, cancellable or callable — also affect its price. Further studies from Harvard Business School show that most US municipal green bonds are issued at a premium, where after-tax yields are six basis points lower than a conventional municipal bond. It makes sense to encourage more investors to invest, although most green bonds are generally oversubscribed.

Since the first green bond issuance in 2007, investments in green bonds have increased in recent years, with the International Finance Corp. (IFC) a unit of the World Bank Group, reporting an annual additional \$1-trillion investment. While the creation of the green bond seems to follow conventional bond creation, evolving guidelines have been published across different markets around the globe to guide the creation and issuance of these bonds. It also provides a clear distinction for green bonds since investors demand identification.

Under the Climate Bonds Initiative, a four-stage bond certification process

needs to be passed: project identification, bond structuring, transparency on use of proceeds, and screening of credentials. Furthermore, the International Capital Market Association has issued green bond principles aimed at streamlining voluntary guidelines in creating and issuing a 'credible' green bond.

In the Philippines, the Securities and Exchange Commission (SEC) has adopted guidelines from the ASEAN Green Bond Standards (AGBS) to improve an awareness and appetite in capital funding for green projects in the ASEAN region. It outlines rules and procedures for issuing ASEAN Green Bonds in the country starting with:

- (1) The identification of eligible green projects, excluding fossil fuel power generation from the list;
- (2) Clear documentation of the utilization of proceeds; and
- (3) Proper establishment and disclosure of project selection and evaluation.

Management of proceeds must also be disclosed, where net proceeds must be tracked and adjusted periodically to match allocations required. Lastly, there should be an annual report on the projects done with their corresponding resource allocation.

APPETITE FOR GREEN BONDS

In the Philippines, the first green bond was issued in 2016 by Aboitiz Power Corp. Banco de Oro Unibank followed in December 2017. In 2018, a locally denominated green bond emerged through the \$90-million loan issued

SUITS THE C-SUITE
CHRISTIAN G. LAURON
AND ABNER E. SERANIA



TITLE:

PAGE 1/

DATE

2/2

by the IFC for Energy Development Corp.'s (EDC) geothermal energy generation output. This is just a piece of the \$30-billion funding requirement for the energy sector in the Philippines.

Both public and private sectors have already begun gently nudging investors and issuers towards the green bonds market, as can be observed with the SEC's recent adaptation of the AGBS, and the 2018 Philippine Investment Forum's discourse on the future of green bonds. However, though the returns are fairly comparable to that of a conventional bond, issuers hesitate at the cost of additional requirements of the "green" label. Thus, where investors seek to ensure they invest in truly green projects, issuers look at it as a burden to consider.

In the Philippines where the preliminary and strongest of impacts of climate change can be felt through intensifying typhoons and unusual flooding brought by rising sea levels, green bonds can be a way for the national government and the LGUs to raise funding for climate change mitigation and resiliency projects through proper waste management, waste-to-energy, and resilient infrastructure initiatives. This is the case in the US where municipal bonds were expected to increase to \$15 billion in 2018, up 43% from 2017 based on S&P Global Ratings report.

Given that the country requires much financing for its programs, green bonds can potentially tap into the \$36-trillion market. After the SEC adopted AGBS,

green bonds are now being seen as potential investment vehicles that can ease the flow of funds between needing LGUs and willing investors. They may be viewed as alternatives to the typical fund-raising avenues of the LGUs such as loan applications to Government Financial Institutions that are backed by their respective Internal Revenue Allotments to augment their income.

Given that such bond issuances have additional (and more tedious) requirements, the national government must also be able to extend technical assistance to such LGUs willing to explore this fund-raising track, through the BLGF. Strides can be taken to foster widespread awareness of the key role green bonds can play in securing the sustainable development in support of the country's economic and social growth. However, as in all worthwhile initiatives, it will require close and intense collaboration among the government, the private sector, and the country's banking and capital markets.

This article is for general information only and is not a substitute for professional advice where the facts and circumstances warrant. The views and opinion expressed above are those of the authors and do not necessarily represent the views of SGV & Co.

CHRISTIAN G. LAURON is a Partner and
ABNER E. SERANIA is a Senior Associate
of SGV & Co., respectively.



Mas maraming kawayan para sa kabuhayan at paglaban sa climate change

HINIHIKAYAT ang mga magsasaka sa bayan ng San Jose De Buenavista, Antique na magtanim ng mas maraming kawayan para sa kanilang kabuhayan at upang makatulong na malabanan ang tumitinding problema sa climate change.

Sinabi ni Edgardo C. Manda, pangulo ng Philippine Bamboo Furniture, Inc, kamakailan, na patuloy ang paglakas sa merkado ng mga produktong yari sa kawayan para sa mga komersiyal at industriyal na paggamit.

Sa kanyang talumpati sa First Provincial Disaster Risk and Reduction and Management/Climate Change Adaptation and Mitigation Summit sa bayan, sinabi ni Manda na malaki ang kahingian para sa mga produktong gawa sa kawayan, sa lokal at internasyunal na merkado.

Gayunman, nabanggit niya na kinakailangang sanayin ang mga magsasaka sa mga hakbang para sa pagsisimula ng bamboo propagation, nursery, pagtatatag ng kabuhayan at pakikipag-ugnayan sa merkado upang mapanatili ang kanilang mga interes. "There is a need to train farmers on crop management," aniya.

Isa pang pagsubok, aniya ay para sa lokal na pamahalaan, Department of Agriculture at sa Department of Environment and Natural Resources ang pangangailangan na maglaan ng atensiyon sa mga kawayan, tulad ng ibinibigay nito sa sektor ng niyog, kape at goma.

"The problem is that the Department of Agriculture does not accept bamboo as an agriculture commodity like fiber and other consumer products," ani Manda.

Idinagdag pa niya ang Department of Trade and Industry, na habang nagbibigay, aniya, ng kinakailangang pasasanay at mga kagamitan para sa komersyal at industriyal na paggamit ng kawayan, nakalilimutan umano ng mga ito na maglaan ng pagsasanay para sa pagpaparami ng mga hilaw na materyales na pangunahing kailangan upang malikha ang mga produkto.

Dagdag pa ni Mandan, sa pamamagitan ng pagtanim ng mas maraming kawayan, makatutulong din ang mga magsasaka na malabanan ang climate change dahil sa "carbon sequestration" na ginagawa ng kawayan.

"For one hectare of bamboo, it absorbs 62 tons of carbon dioxide," aniya.

May matibay at mahabang ugat din ang mga kawayan na epektibong panlaban sa pagguho ng lupa at landslide, paliwanag pa ni Mandan.

PNA



PH urged to ban toxic paint removers

Environmental group EcoWaste Coalition said the recent banning of methylene chloride (MC) in paint stripping products for consumer use in the United States should alert local authorities about the chemical's dangers.

"The regulation banning retail sale in US of paint removers with MC for consumer use sends a clear signal to importers, manufacturers, distributors and retailers in the Philippines about the need to switch to MC-free products," said Tony Dizon, chemical safety campaigner of EcoWaste Coalition.

Dizon noted "the prohibition, which is currently limited to consumer use of MC-based paint strippers, should also cover commercial paint and coating removal to prevent workers' exposure to this toxic chemical".

On March 15, 2019, the US Environmental Protection Agency (EPA) took action after finding the risks to consumers to be unreasonable resulting in acute fatalities due to exposure to MC.

"Acute (short-term) exposures to methylene chloride fumes can rapidly cause dizziness, loss of consciousness, and death due to nervous system depression. People have died after being incapacitated during paint and

coating removal with methylene chloride," the EPA said.

According to the advocacy group "Safer Chemicals, Healthy Families" based in US, "at least 64 people have died from acute exposure to MC since 1980."

The EPA has stated that "a variety of effective, less harmful substitutes are readily available for paint removal."

To raise local awareness about toxic MC in paint removers, the

EcoWaste Coalition partnered with the Philippine Association of Paint Manufacturers (PAPM) for a forum held I last October 2018 with visiting scientist Dr. Greg Morose from the University of Massachusetts Lowell as speaker.

"Based on environmental, health and safety evaluation and performance testing, it is possible to design and test alternatives to methylene chloride-based paint

strippers that are safer, cost effective, and have equivalent performance," Dr. Morose said.

The Quezon City-based toxic watchdog has lauded the positive outcome of Morose's inter-action with the local paint industry.

As a result, at least one major company has begun testing and evaluating MC-free substitutes for their paint removing product, the group said. **(Chito Chavez)**



METRO MANILA WATER-SUPPLY SCARCITY

Mismanagement at various levels

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

THE water-supply crisis being experienced in the east zone of Metro Manila is expected throughout summer, or at least until the onset of the rainy season in June, according to the country's weather bureau.



ANGAT Dam BERNARD TESTA



While the Metropolitan Waterworks and Sewerage System (MWSS), along with its water concessionaires, the Ayala-led Manila Water Co. Inc., the Pangilinan-led Maynilad Water Services Inc. and Ramon Ang-led Bulacan Bulk Water are now working together promising better days ahead, the country's climate outlook is not as promising.

Incidentally, the water-supply shortage happened as the country observed the World Water Day on March 22. The World Water Day is an annual United Nations event that highlights the importance of freshwater.

Climate outlook

BASED on the Climate Outlook released by the Philippine Atmospheric, Geophysical and Astronomical Services Authority (Pagasa) for March to August 2019, below normal rainfall conditions are expected in Luzon in the next three months, and the situation will only improve as it begins to receive above-normal rainfall in July.

The Philippines, a country of 7,641 islands and islets, is blessed with abundant water supply. It has 142 critical watersheds, 18 major river basins and 421 principal river basins.

On top of these potential surface freshwater sources, the country also has an abundant supply of groundwater, which, however, needs replenishment during the rainy season.

Without rain, many of these water sources are depleted as they are also used for irrigation.

Demand and supply

THE MWSS, led by Administrator Reynaldo V. Velasco, and Manila Water through its President Ferdinand de la Cruz, explained the reasons behind the severe service interruptions to the public. They were quick to blame the source of supply shortage to a combination factors. These include the increase in population and unusually huge demand for water from its growing number of customers.

They added that it is aggravated by the weak El Niño, the depleted water supply in the La Mesa Water Reservoir and the limited supply and allocation from Angat Dam, the single major water source for Metro Manila's more than 12 million population, and other water consumers in nearby provinces.

The 4,000-million-liters-per-day (MLD) water-supply allocations for Maynilad and Manila Water for their customers in Metro Manila and nearby provinces is the maximum capacity of the installed aqueducts and conveyance pipes from Angat to Ipo to La Mesa dams.

Receiving 1,600 MLD, or 40 percent of the total raw water supply allocated for Metro Manila, Manila Water said it has been drawing water from La Mesa Dam since 2016, to cover for the supply shortage of at least 140 MLD as total demand by its approximately 6.8 million customers continues to increase over the years.

In February, the demand peaked to 1,740 MLD. Unfortunately, it happened during a time when water in La Mesa Dam has reached a critical

level because of rainless days since December last year.

Project delays

THE water-supply shortage would have been cushioned by the on-time commissioning of Manila Water's Cardona Water Treatment Plant Project.

It was supposed to be completed and working as early as December last year. Once fully operated, the treatment plant could produce at least an additional 100 MLD, with the supply coming from Laguna de Bay.

Maynilad, which already has the Putatan Treatment Facility in Muntinlupa, has been producing 150 MLD of water from Laguna de Bay. This augments the company's water allocation of 2,400 MLD, or 60 percent, of total water allocation coming from Angat Dam.

However, due to engineering design flaws, the project's implementation was delayed, hence, the facility's commissioning did not materialize as planned.

El Niño, climate change

AS residents in areas of Metro Manila grapple with water scarcity for several days now, the Manila-based Institute for Climate and Sustainable Cities (ICSC), a climate and energy policy group, believes that climate change would only exacerbate existing risks and development issues.

Renato Redentor Constantino, executive director of ICSC said in a recent statement that climate change would only intensify existing challenges in securing water supply, particularly in urban and agricultural areas.

"Pagasa has already projected large variabilities in rainfall and dry seasons, which would be amplified by climate impacts," he said.

A perennial problem

ACCORDING to Constantino, water scarcity is an annual concern, especially during the summer season, which is why it is alarming that residents in areas of Metro Manila have not had water for several days.

The predicament of Manila Water customers started on March 6, when the company finally had very little water both from Angat and La Mesa dams to distribute to its customers.

"It is high time that the government takes a deeper look into how salinization, land and forest degradation, and other creeping impacts of climate change are baked into the government plans and budgets. More coordination and foresight is required among government, suppliers and regulators, but there is still time to address the challenges we face and stave off a full-blown water crisis," he said.

Not too fast...

OTHER environmental groups, however, were quick to point out that while El Niño and climate change may have something to do with the water-supply scarcity in general, in this particular episode, mismanagement of the water service provisioning is the culprit.

Sought for comment, they said it is unfair to blame El Niño and climate



MISMANAGEMENT...

change for the current predicament of Manila Water's customers.

Paolo B. Pagaduan, focal point person for water of World Wide Fund for Nature (WWF)-Philippines, said the weak El Niño has just started and the Angat and Ipo dams are still practically full.

"The problem is with the rate of consumption or demand from Metro Manila," Pagaduan said via messenger on March 15.

He said if the demand exceeds the maximum capacity of the conveyance of raw water from Angat to Ipo and eventually to La Mesa Dam, which is 4,000 MLD, Manila Water will naturally start to eat up the reserves at La Mesa.

"I think this is more of an issue on the demand side and not on the supply side," Pagaduan said.

According to Pagaduan, it is likely that the current predicament of Manila Water customers will continue until the onset of the rainy season because we are not expecting rain until then because of El Niño unless the demand side of the problem is addressed.

"Similar to what they did in Capetown, South Africa, last year... because their reservoir dried up due to a three-year drought, they had to set limits to the use of water to 105 liters per capita per day [l/c/d]. Metro Manila middle-class families use about 200 l/c/d. Industry and commercial sectors use a lot of water, too, but Metro Manila is mainly domestic. If we can reduce our demand, then maybe the water will be enough," he said.

According to Pagaduan, MWSS focuses on the supply or distribution side of the equation as it is "part of their mandate."

"What they don't discuss is how we can make do with the waters that we do have now because selling water

is also their business. Reducing sales is not in their interest. We will need new water sources to accommodate increased demand from population growth and/or decrease the demand side," he pointed out.

This is why the twin goals of WWF as an environmental solution provider, he added, is to increase biodiversity, which will cover the supply side, and decrease our footprint, which covers the demand side.

WWF has long been coming up with ways to reduce the consumption of clean water. Practical tips on water recycling, if observed, could go a long way in boosting water security, he said.

"Water-resources management should cover both the supply and demand side," he said.

Overconsumption, lack of water source

RODNE GALICHA, country director of the Climate Reality Project-Philippines agreed with Pagaduan's observation.

"Right now, I don't think climate change has had a significant impact on the water crisis in Metro Manila. Only the La Mesa Dam has approached critical water levels, while the Angat and Ipo dams have not. Given that a weak El Niño has only begun, it is unlikely the 'crisis' is due to climate change," he said.

According to Galicha, overconsumption, lack of other water sources for the dam, and poor planning are the primary reasons for the current situation.

"I would like to emphasize that we are in danger of using climate change as an excuse for our problems when a closer look tells a different story," he pointed out.

Dams: A false solution?

GALICHA said building large dams

“The Kaliwa Dam is a false solution, in my opinion. Overconsumption is not fixed by giving us another potential water source because it won't change our behavior regarding our environment. And it needs to change this time.”—GALICHA



MISMANAGEMENT.

4/4

would not address the water-security problems facing the Philippines.

"The Kaliwa Dam is a false solution, in my opinion. Overconsumption is not fixed by giving us another potential water source because it won't change our behavior regarding our environment. And it needs to change this time," he said.

He added that the Kaliwa Dam would also displace indigenous peoples and endanger our biodiversity.

"History keeps repeating itself. We, as a nation, never seem to learn. It is our very neglect of our environment and even our fellow Filipinos that keep leading us to messes like this. And yet we end up resorting to these same moves that we think improve the life of everyone, but in truth only benefits a select few and make it worse for the many," he lamented.

Efficient water use

SO how do we ensure water security without large dams? Through "efficient water use, proper planning for routing water sources," he quipped.

Galicha said if there is one important lesson that can be drawn from the current episode of the water-supply crisis, it is the need for more environmental awareness, as always, especially about just how big the impacts of climate change can be at specific cases, and the need for better integrated water resource management (IWRM), the need for behavioral change.

Mismanagement

LEON DULCE, national coordinator of Kalikasan-People's Network for the Environment, said the Philippines is objectively facing drier conditions from an El Niño cycle that scientists have ascertained is amplified by climate change compared to 50 years ago.

"In normal conditions, we should still have sufficient water supply to cover the increasing demand. But the recent problem with Manila Water's water supply is more of a mismanagement problem, where the private water utility overextended its coverage without making the necessary infrastructure upgrades," he said.

According to Dulce, water utilities in the hands of private companies have been proven to be a bad deal once again.

"A public utility must be run by the State as a public service, not as a profit-driven scheme that is constantly prone to market failures. The management of our water resources should also have long-term climate projections in full consideration," he said.

Moreover, Dulce said the country's forests must be protected and enhanced to improve the water-retention capacity of our watersheds.

He also believes that building dams like the Kaliwa Dam, or any other dam for that matter, is yet another quick-fix solution that will do more harm than good.

The Kaliwa Dam, he said, will have adverse long-term consequences on our water supply.

"The dam will destroy over 2,300 hectares of protected forest areas, thereby, eroding the capacity of our watersheds to sustain water and prevent siltation. Mega-dams also have other consequences, such as the disruption of forest and river biodiversity, contribute to climate change through the degradation of biomass that it will submerge in its water reservoirs, and its subsequent release of greenhouse-gas emissions, and heightening of flood risks," he said.

Water security sans dams

ACCORDING to Dulce, there are other ways of improving water supply other than dams.

"We can develop alternative technologies, such as rainwater catchments and wastewater-recycling systems. Water utilities also have a long way to go insofar as improving water-efficiency rates through the repair of leaks is concerned," he said.

He insisted that protecting and enhancing the country's forests is a key long-term alternative to dams, as it will improve the watershed's capacities over time.

"We do not need new dams to divert more water from other rivers if our watersheds supplying water to the existing dam facilities are buffered and enhanced. Rain catchments placed across the Metro Manila basin can also complement the existing water infrastructure," he added.

According to Dulce, a healthy mix of alternative water technologies means that the country is more resilient to climate shocks that may affect one or two major sources.