

DATE : 09 APR 2019

DAY : Tuesday

DENR

IN THE NEWS

Strategic Communication and Initiative Service



Department of Environment and Natural Resources
STRATEGIC COMMUNICATION INITIATIVES SERVICE

PEOPLES JOURNALS



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DENR starts search for sustainable, eco-friendly schools

THE Department of Environment and Natural Resources (DENR) yesterday announced that the search for the sustainable and eco-friendly schools is on.

The competition, which is already in its sixth year, is geared towards the adoption of behavioral solutions in addressing climate change and other environmental issues.

The competition also aims to initiate active responses and raising community awareness and participation on environmental concerns among students, faculty and school administrators.

The DENR's Environmental Management Bureau (EMB) organized the competition in collaboration with the Department of Education, Commission on Higher Education, Nestle Philippines and Landbank of the Philippines to encourage schools and academic institutions to become more actively involved in environmental issues at practical and local levels.

The competition is divided into three categories: elementary, high school and college. Both public and private institutions are invited to join.

Entries will be judged by noted individuals in the areas of environmental education coming from the government and private sector, both at the regional and national levels.

The top entry per category from every region will be forwarded to the EMB Central Office in Quezon City for national judging. Winning schools in the national level will receive P50,000 for first prize; P40,000 for second prize; and P30,000 for third prize, as well as plaques of recognition.

As for the regional level, a certificate of recognition and a prize of P15,000 will be given to regional winners for each category.

Aside from the main winners, the search will also be awarding three Special Category Leadership Awards, namely: The Nestle Water Leadership Award that seeks to recognize and promote solutions, practices and initiatives of schools in water management and conservation; the Energy Leadership Award which focuses on energy efficiency and conservation embedded in school activities; and the Landbank Green Leadership Award will be given to the three national first prize winners per category.

The Nestle Water Leadership Award and the Energy Leadership Award will grant P20,000 to each of the winners at the national level for college, high school and elementary school categories.

A prize of P10,000 and a certificate of recognition will be awarded to each of the regional winners of all categories. As for the Landbank Green Leadership Award, winners at the national level will be awarded P25,000.

The deadline for the submission of entries is on or before April 26.

For public elementary and high school categories, three hard copies of entries shall be submitted directly to their respective DepEd Division Offices.

For the private elementary and high school, and college categories, entries shall be submitted to the nearest EMB Regional Office. Entries that should include a one-page description of the environmental programs and projects of the school with two photos with caption, and the other required information should also be uploaded at the Eco-friendly School Facebook Page or atecofriendlyschools@gmail.com.

All the winning entries for each category, together with selected entries will be displayed during the national awarding ceremonies to be held in November in time for the celebration of the National Environmental Awareness Month.

For further details, call the National Program Secretariat at the Environmental Education and Information Division of the EMB-DENR at (02) 928-4674 and 376-5610 or visit them at the 2nd Floor HRD Building, DENR Compound, Visayas Ave., Diliman, Quezon City.

Cory Martinez



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IN BRIEF

Rehabilitation of rivers ensured

THE heavily polluted Parañaque River and Estero Tripa de Gallina waters are flowing to rehabilitation efforts.

This, after SM Prime Holdings Inc., led by its chairman Henry Sy Jr., in partnership with the Department of Environment and Natural Resources, adopted under the expanded effort for the "Battle of Manila Bay."

In a simple ceremony at the DENR office in Quezon City, Sy said the partnership with the government drive for the Manila Bay Rehabilitation Project was SM's expression of support to various government agencies, particularly Pasay City, Parañaque City and the DENR.

Sy, together with SM Prime Holdings president Jeffrey Lim and other SM Prime officials, signed a Memorandum of Understanding with DENR Secretary Roy Cimatu and other senior DENR officials to undertake and lead in the cleanup drive of the two waterways.

During the press briefing prior to the MoU signing, the DENR also announced it would expand the Manila Bay Rehabilitation to include major waterways, including rivers and tributaries that drain into the bay.

Lim said their partnership with DENR and the local governments of Pasay and Parañaque cities was to have a long term solution to reduce the pollution levels and improve water quality of the two waterways

He also said that adopting the two waterways for cleanup was a milestone for their company as he looked forward for the success and sustainability of the program.

He said SM Prime was not new with this undertaking. **Macon Ramos-Araneta**

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Dredging our assets

The daring attempt of a Chinese-manned vessel to conduct illegal dredging operations off the coast of Lobo, Batangas, is an incident that should not be allowed to pass unchallenged.

Without warning, and with not the slightest show of courtesy, the 2,900-ton Sierra Leone-registered hopper dredger called MV Emerald suddenly appeared on March 28 off the coast of Barangay Lagadlarin in Lobo, causing alarm among the residents and officials of the fishing village. That surprise turned to indignation when officials learned the ship's dubious purpose: to dredge and desilt Lobo River purportedly for flood-control purposes, and then ship the sand to Hong Kong for the construction of a runway for its international airport.

The local officials were aghast. They were not aware of the project, as they have an existing flood-control project with a local company. They were also afraid that dredging would damage the marine resources near their 30-hectare mangrove forest. Lobo is part of the Verde Island Passage, a marine sanctuary described by scientists as the "center of the center of marine shorefish biodiversity" in the world.

A representative of Seagate Engineering and Buildsystems, a company based in San Pascual, Batangas, came to the village to apologize and inform the locals that his company would put up signages regarding the Lobo River dredging project.

"I went totally hysterical and raised my voice at him," recalled Mafriel Dimaano, village chief of Barangay Lagadlarin. "I told him, how come their ship came ahead and only thought of putting up signages afterwards. We were not informed at all."

Seagate brandished a 2008 memorandum of agreement (MOA) it supposedly signed with the previous mayor of Lobo, and an environmental compliance certificate (ECC) from the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources in 2018. The MOA allows Seagate to dredge up to 2 million cubic meters of sand from the Lobo River. Seagate would sell the sand at \$2 per metric ton to Synergy Plus Holdings Ltd., for use in the reclamation and construction of the Hong Kong International Airport Three Runway System.

But, said Lobo Mayor Gaudioso "Jurly" Manalo, "a basic and fundamental rule is they communicate with us... We don't even allow our own fishing rafts to anchor there, how much more a foreign vessel?"

Thanks to the alert and courageous local officials of Lobo, the ship's work was halted. National officials reacted belatedly to cancel the Seagate ECC and send the ship away. But Seagate's Leo Campos wants to have the last word: He said they will come back soon and continue the project.

How was this company able to get an ECC for a project that was harmful to a critical area that the locals had taken pains to protect? Environment Undersecretary Benny Antiporda was quoted as saying that Seagate even presented deceiving permits, and that its real purpose was not to dredge but to quarry minerals. Who abetted this foreign company's audacity to engage in deception and run roughshod over local laws?

And it may not be an isolated case. Bayan Muna chair Neri Colmenares said similar Chinese-manned dredging ships have been seen just this month off Zambales, undertaking black sand mining operations. And in 2016, Zambales Gov. Amor Deloso claimed that mountains in Zambales were flattened and the soil used by China to reclaim and fortify its hold on Scarborough Shoal, which it had seized from the Philippines.

There is reason to be concerned, in view of the many alarming concessions being given to China by the Duterte administration, including relaxing the entry of Chinese workers into the country and acceding to what many have pointed out are patently onerous loan agreements. No less than Supreme Court Senior Associate Justice Antonio Carpio has warned that China can seize Philippine patrimonial assets, such as the Reed Bank, if the country fails to pay such loans.

National officials should follow the vigilant lead of Lobo leaders and citizens in scrutinizing, and shooing away if need be, foreign interests, Chinese or otherwise, who take advantage of the country's lax law enforcement and connive with unscrupulous government officials to exploit Philippine resources. A resolution filed by Sen. Risa Hontiveros seeking a Senate investigation on the Lobo dredging incident is a good place to start: Resolving the bureaucratic loopholes and lapses should help stop the likes of Seagate, and its Chinese patrons, from trifling with the country's laws, and send the message that Filipinos will fight for their patrimony even if their government won't.





Maynilad opens Putatan Water Treatment Plant 2 in Muntinlupa

By JONATHAN L. MAYUGA @jonlmayuga

MAYNILAD Water Services Inc., the private water concessionaire of the Metropolitan Waterworks and Sewerage System (MWSS) for the West Zone, has formally inaugurated on Monday The Putatan Water Treatment Plant 2 (PWTP 2) in Barangay Putatan, Muntinlupa City.

It is the company's second water-treatment facility that sources raw water from Laguna de Bay.

Maynilad Chairman Manuel V. Pangilinan said the new facility is part of Maynilad's water-security program that aims to minimize dependence on the Angat Dam in Bulacan as the primary source of raw water.

"PWTP 2 is a vital component of Maynilad's plan to develop alternative sources of water to ensure long-

term water security for its customers," he said in a statement.

The company's first water-treatment facility in the same area, the PWTP 1, became operational in 2009.

Tapping water from the Laguna de Bay boosts the company's capacity to supply its growing customer base.

In terms of customer base, serving about 9.5 million people to date, Maynilad is the largest private water concessionaire in the Philippines.

Under current sharing scheme as approved by the National Water Resources Board (NWRB), Maynilad receives 60 percent or 2,400 million liters per day of the total 4,000 MLD of raw water allocation from the Angat Dam. The East Zone concessionaire, Manila Water Co. Inc., receives 40 percent of the total allocation or 1,600 MLD.

The West Zone of the Greater Manila Area, its concession area, is composed of the cities of Manila (certain portions), Quezon City (certain portions), Makati (west of South Super Highway), Caloocan, Pasay, Parañaque, Las Piñas, Muntinlupa, Valenzuela, Navotas and Malabon, all in Metro Manila; the cities of Cavite, Bacoor and Imus, and the towns of Kawit, Noveleta and Rosario, all in Cavite province.

"Maynilad has been tapping Laguna Lake as a source since 2009 when our first treatment facility in Muntinlupa became operational," Maynilad President and CEO Ramoncito S. Fernandez said.

"In anticipation of the growing demand for water, we constructed this additional facility, which will

not only increase available supply, but also enable us to better address the variable quality of the raw water coming from Laguna Lake," he added.

As of April this year, PWTP 2 has begun producing 100 MLD of potable water for 1 million Maynilad customers in Muntinlupa, Parañaque, Las Piñas and Cavite.

The facility's output will be expanded in phases until it reaches its full 150-MLD capacity by the latter part of the year, at which point Maynilad's Putatan Water Treatment Plant 1 (PWTP 1) will be temporarily shut down for rehabilitation and upgrades.

"With the completion of this new facility, our priority is to increase service levels for existing customers in the south, who still have a limited supply window until now," Fernandez said.

PWTP 2 uses a multistage process of Dissolved Air Flotation, Biological Aerated Filter, ultrafiltration, reverse osmosis and chlorination to treat the lake water and convert it to a product that complies with the Philippine National Standards for Drinking Water of the Department of Health.



Maynilad inaugurates new water treatment plant

MAYNILAD Water Services, Inc. on Monday inaugurated the Putatan Water Treatment Plant 2 (PWTP2), its second treatment facility that sources raw water from Laguna Lake.

The PWTP2, which started operations on April 1, produces 100 million liters per day (MLD) of potable water to Maynilad customers in Muntinlupa, Parañaque, Las Piñas, and Cavite.

The facility will increase capacity in phases until it reaches the 150-MLD capacity later this year. Once PWTP2 operates at full capacity, Maynilad will temporarily shut down Putatan Water Treatment Plant 1 (PWTP1) for rehabilitation and upgrades.

Manuel V. Pangilinan, Maynilad chairman, said PWTP2 "is a vital component of Maynilad's plan to develop alternative sources of water to ensure long-term water security for its customers." He noted that it is the company's aim to lessen dependence on Angat Dam as primary source of raw water.

In a statement, Maynilad President and Chief Executive Officer Ramoncito S. Fernandez, said that the company constructed the new facility to address the growing demand for water in the West Zone.

"Maynilad has been tapping Laguna Lake as source since 2009 when our first treatment facility in Muntinlupa became operational. In anticipation of the growing demand for water, we constructed this additional facility which will not only increase available supply but also enable us to better address the variable quality of the raw water coming from Laguna Lake," Mr. Fernandez said.

Mr. Pangilinan said Maynilad intends to build two more water treatment plants.

"We want to build two more plants like this...Our target is to build up to 600 MLD," Mr. Pangilinan said. "We want to build plant num-



THE PHILIPPINE STAR/GEREMY PINTOLO

MAYNILAD Water Services, Inc.'s Putatan Water Treatment Plant 2 can produce up to 150 million liters per day of potable water.

ber 3 within the term of President Duterte. That's our commitment."

According to Maynilad, PWTP2 uses a multi-stage process of Dissolved Air Flotation, Biological Aerated Filter, ultrafiltration, reverse osmosis, and chlorination to treat the water from Laguna Lake and convert it to a product that complies with the Philippine National Standards for Drinking Water (PNSDW) of the Department of Health.

The Department of Environment and Natural Resources (DENR) is calling for a cleanup of Laguna Lake, which Maynilad says it is willing to support.

"*Sinabi naman ng DENR and Laguna Lake [Development Authority] na kailangang linisin 'yung lake (The DENR and LLDA said that we have to clean up the lake). For us, whatever we can do to help clean up Laguna Lake, we will do so,*" Mr. Pangilinan said.

Metro Pacific Investments Corp., which has majority stake in Maynilad, is one of three Philippine units of Hong Kong-based First Pacific Co. Ltd., the others being Philex Mining Corp. and PLDT, Inc. Hastings Holdings, Inc., a unit of PLDT Beneficial Trust Fund subsidiary MediaQuest Holdings, Inc., has interest in *BusinessWorld* through the Philippine Star Group, which it controls. — **Reicelene Joy N. Ignacio**



Water woes far from over?

BY JED ALDOUS MACAPAGAL

MANILA Water Co. Inc. is yet to fully restore water services in its entire concession area more than a month since supply disruptions started March 6.

But the company said it is implementing more measures to normalize water supply in its concession area.

Manila Water said at present, 99 percent of its customer base receives water supply for 8 to 12 hours, at least at ground floor level.

In a normal situation, Manila Water should be able provide 24/7 access to water to 100 percent of its concession area with water pressure enough to reach the third floor even without the aid of pumps.

The company said it is fast tracking the completion of 18 line boosters to extend water supply to elevated areas and those farthest from its central distribution system.

To date, six line boosters have been installed in Quezon City, two in Makati City and Mandaluyong City, three in Taguig City, four in

Marikina City and additional three in Pasig City and Rizal.

More line boosters are scheduled for installation within the coming weeks at various locations in Quezon City as well as in Antipolo City, Binangonan and Rodriguez in Rizal.

Other technical solutions that Manila Water is implementing to further increase water availability in the remaining pocket areas with intermittent water supply include valving and network adjustments, looping and interconnection of lines as well as other after-the-meter rectifications.

As of April 7, Manila Water has been able to reduce the supply deficit from 150 million liters per day (MLD) down to 75 MLD with the operation of the Cardona Water Treatment Plant which now delivers 31 MLD. Additional supply came from newly-operated deepwells which produce about 32 MLD and cross border flows from Maynilad at 12 MLD.

Manila Water is the east zone concessionaire serving customers

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in Makati, Pasig, Pateros, Marikina, Mandaluyong, San Juan, Taguig, some parts of Quezon

City and Manila; and several towns in Rizal province that include Taytay, Teresa, Angono,

Antipolo, Baras, Binangonan, Cainta, San Mateo and Rodriguez.



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Concessionaires or public utilities?

The summer heat seems unbearable, and has become even more unbearable upon hearing from the nation's weather bureau that Angat Dam in Bulacan, from which Metropolitan Manila gets its water supply, will reach a critical level this month. Aggravating the bad news is the fact that half of Metropolitan Manila has been dry since the first week of March.

That half pertains to the customers of Manila Water Company Inc., one of two water concessionaires the Metropolitan Waterworks and Sewerage System (MWSS) deals with.

Manila Water caught everyone by surprise in early March when it announced that its customers will experience major water service interruptions due to the El Niño phenomenon which, in turn, means less water in La Mesa Dam, which is part of its water collection and distribution system.

As a result, the last three weeks of March saw many people gathered in the streets of the Manila Water concession area, Mandaluyong in particular, all bearing empty pails and plastic containers and lining up for the precious water dispensed by fire engines and by the few water trucks of Manila Water.

If that were not irritating enough, the news media announced that the customers of the other MWSS concessionaire, Maynilad Inc., which had the southern half of the metropolis for its concession area, were not experiencing the same inconvenience. Adding to the public's annoyance was the discovery that Manila Water did not prepare remedial measures early enough to address the water shortage.

What further angered the customers of Manila Water is the added discovery that both MWSS concessionaires drew their water from Angat Dam, which in early March still had a viable volume, and that, unlike Maynilad, Manila Water had the exclusive use of the La Mesa Dam, a reservoir which for mysterious reasons was already running low at a time

when it should not. Under those circumstances, why did Manila Water go dry when Maynilad did not?

Surprisingly, the MWSS practically admitted that it was powerless to do anything about the situation.

A very angry President Rodrigo Duterte summoned officials of the MWSS and both concessionaires to Malacañang for a meeting. In the end, the MWSS and Manila Water officials were scolded and told to fix up the mess.

Thereafter, Manila Water officials apologized for the inconvenience and later announced that water service had been substantially restored in 90 percent of its concession area. For its part, the MWSS said that it will explore other possible sources

of water. Despite those assurances, the water pressure of Manila Water remains weak.

The temporary relief notwithstanding, there was the matter of the Manila Water bills for March. Customers demanded that Manila Water should not collect anything for that month because of its failure to provide the needed water. For this purpose, the help of the

MWSS was sought.

Inaction on the matter on the part of the MWSS prompted a militant group to file a complaint against Manila Water and Maynilad before the MWSS. The group demanded that Manila Water be enjoined from collecting on its water bills for March, and that the MWSS reconsider its earlier decision to allow both concessionaires to increase their service charges.

To everyone's surprise, the MWSS announced that it has no power to impose a fine on Manila Water for its improvident service because its concession contracts with both Manila Water and Maynilad do not allow the MWSS to impose any fine on the concessionaire.

A water distribution business is a public utility. Being a public utility, it must obtain a legislative franchise to be able to operate. Under the law governing public utilities, the government is obligated to protect a public utility from competitors. In exchange for that protection, the public utility may only charge reasonable fees.

It appears that the separate concession contracts entered into by the MWSS with the two concessionaires was approved by an executive order of a previous president. No legislative franchise appears to have been issued. It also seems like

the concession grants did not undergo a public bidding.

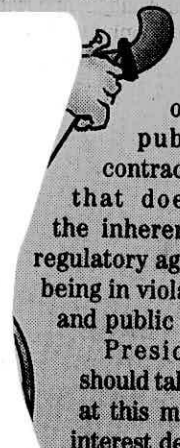
From all indications, the MWSS treats Manila Water and Maynilad not as public utilities but as private concessionaires. It is also rather unusual that the MWSS is a regulatory agency, and yet

it contracted away its power to impose fines on an erring public utility. A contractual stipulation that does away with the inherent powers of a regulatory agency is void for being in violation of the law and public policy.

President Duterte should take a second look at this mess. The public interest demands it.

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“ It is also rather unusual that the MWSS is a regulatory agency, and yet it contracted away its power to impose fines on an erring public utility.





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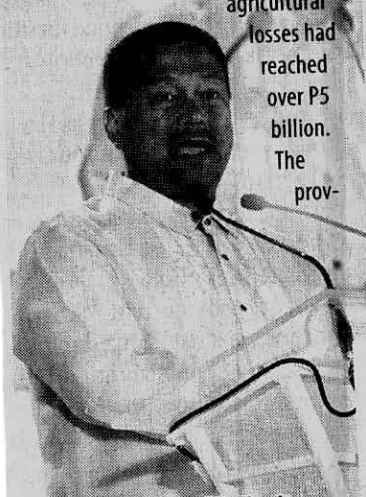
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JV calls for water summit

SEN. Joseph Victor "JV" Ejercito has urged President Rodrigo Duterte to hold a water summit to address the depletion of dams due to the prolonged drought that threatens food and water security.

The senator made the call after the Department of Agriculture reported that

agricultural losses had reached over P5 billion. The prov-



■ Sen. Joseph Victor 'JV' Ejercito.
PHOTO BY ROGER RANADA

inces of Cebu, Zamboanga Sibugay, and North Cotabato were placed under a state of calamity due to the lingering drought.

"The President can set the tone of the water summit to be straightforward and practical because of the urgency of the situation," Ejercito said.

The water summit, he added, would allow all concerned government agencies, local government units and private stakeholders "to coordinate their plans to allow the country to act swiftly on the depleting water resources while preventing wastage of resources and duplication of actions."

He noted that the Philippine Atmospheric Geophysical and Astronomical Services Administration had warned that the El Niño phenomenon could last until August this year.

The senator said damage to agriculture could go up and more provinces might declare a state of calamity if such forecasts come true.

"The agriculture sector is a signifi-

cant contributor in the country's gross domestic product, and employs over a fourth of the workforce. When we talk about the climate, we have to take into account the uncertainty in making plans. These unexpected changes in weather patterns are what we should be preparing for," Ejercito said.

He also urged the government to speed up the completion of dam projects and other related infrastructure to ensure water security.

"We should pursue water supply infrastructure projects," he stressed.

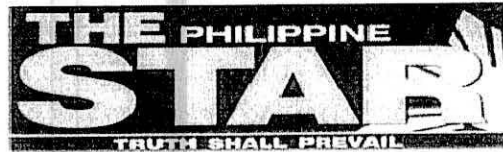
Existing dams were built in the 1960s and the country's need for water for drinking, power, agriculture and industrial uses have steadily increased with the growth of the population, Ejercito said.

The Angat Dam in Norzagaray, Bulacan supplies about 90 percent of raw water requirements for Metro Manila. It also irrigates about 28,000 hectares of farmlands in Bulacan and Pampanga.

BERNADETTE E. TAMAYO



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Lessons from the Manila Water crisis

In a more relaxed setting, we had the opportunity to exchange ideas with – as well as air some questions to – Metropolitan Waterworks and Sewerage System (MWSS) administrator Reynaldo Velasco on the recent water crisis that Manila Water, its Metro Manila east zone service contractor confronted.

As a short background, Manila Water had repeatedly warned in the past that unless new sources of water were

BIZLINKS



REY GAMBOA

developed, the fast population growth in the east zone would increase water demand and out-strip supply as early as 2018. Fortunately, this did not happen last year.

But with the onslaught of El Niño this year, Manila Water's usual fallback water source, La Mesa Dam, was not being replenished fast enough to compensate a 150 to 200 million liters per day (mld) shortfall.

The next option for Manila Water was rationing – which turned out to be a catastrophe. In the midst of panic, some areas were left without water for days.

While the crisis can be declared over today with acceptable water supply services resumed in most areas, shortages will likely appear again in the coming years if no new water sources are tapped, especially since the current water supply for Metro Manila will definitely not be enough to compensate for growing demand.

Immediate initiatives

Velasco shared that during the height of the crisis, which started during the second week of March carrying on till the last week of the month, MWSS just had to do what was needed to alleviate calls of distress by consumers.

First step in mid-March was to energize Manila Water's new Cardona Rizal Water Treatment Plant and add an initial 26 mld new water to the east zone. If technical problems that delayed the plant's full operations are resolved, its contribution would increase to 100 mld within the year.

MWSS also transferred 10 mld and 50 mld of Maynilad's raw water allocation and treated water, respectively, to Manila Water. Maynilad is MWSS's west zone concessionaire.

With still a supply shortfall, MWSS reactivated 91 standby deep wells, of which 19 were energized to contribute almost 30 mld. Water tankers and static tanks were also deployed.

Finally, MWSS commenced with the modification of the intake structure of the La Mesa Water Treatment Plant No. 2 with the construction of a diversion pipe. This will increase total flow of raw water to Manila Water's side by 40 mld starting April 12, and by another 40 mld by the end of April.

These immediate remedies would bring full water service by Manila Water to its customers by May. Until then, 14 areas will still need water supply through tankers.

Short-term measures

Within the year until 2023, Velasco enumerated the various measures that are being undertaken to increase water supply to Metro Manila by 1,727 mld. This year, Cardona is expected to contribute a total of 100 mld, while Maynilad's Putatan Water Treatment Plant 2 will bring in an additional 150 mld.

Next year, the resumption of the Sumag River Diversion Project undertaken by both Maynilad and Manila Water should bring in 188 mld. The project had been temporarily stopped in 2016 when an accident claimed the lives of six workers. Already 70 percent completed, the project could be operational early next year if immediately resumed.

In 2021, Maynilad will complete its 80 mld-Calawis Antipolo Source System. In 2022, MWSS will have completed the first phase of the Lower Ipo project that will tap on the unutilized water from Angat-Norzagaray Rivers, and contribute an additional 250 mld. Complementing this will be Maynilad's 100 mld-Poblacion Muntinlupa Water Treatment Plant 4.

In 2023, if plans are carried as intended, the Kaliwa Dam in Quezon, funded by Chinese money, would be completed and operational. This will add another 600 mld.

Non-revenue water (NRW) reduction initiatives by Maynilad should contribute another 210 mld from 2020 to 2022, and bring down acceptable loss levels to within 20 percent as prescribed by world standards. Manila Water has already reduced its NRW to within 12 to 15 percent.

Ongoing too is the construction of two new tunnels from Ipo Dam to Bigte in Norzagaray, Bulacan by MWSS (Tunnel 4) and Maynilad/Manila Water (Tunnel 5), and a new aqueduct linking both tunnels to La Mesa Dam. Combined, these will increase water supply by 4,984 mld by 2022.

Medium- and long-term roadmap

Velasco was proud of the short-term initiatives, calling them the crowning legacy of the current administration with regards putting in place a sustainable water supply for Metro Manila and nearby provinces.

The medium- and long-term roadmap as set by MWSS until 2040, if implemented, will add another 12,120 mld of water from eight identified projects that will be implemented by MWSS and its two concessionaires.

MWSS plans to pursue the second phase of the Lower Ipo project to tap unutilized water from Angat-Norzagaray (550 mld), Bayabas Dam (350 mld), and Kanan River (Phase 1 for 1,800 mld and Phase 2 for 2,000 mld).

Comprehensive water governance structure

Kudos to MWSS administrator Velasco, who despite restrictions on MWSS scope of authority, was able to obtain cooperation of water concessioners to undertake immediate short-term measures to bring remedies and full water service to Manila Water customers by May.

However, the future prospect of a better water situation is still hazy. As I mentioned in previous columns (Fight for Water), the country has enough water sources that can last many generations, if only it were properly managed. This is why a comprehensive water governance structure is needed to define hierarchical needs and institutional relationships to iron out kinks in a civilized manner.

Is the creation of a Dept. of Water at Cabinet level the solution?

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We are actively using two social networking websites to reach out more often and even interact with and engage our readers, friends and colleagues in the various areas of interest that I tackle in my column. Please like us on www.facebook.com/ReyGamboa and follow us on www.twitter.com/ReyGamboa.

Should you wish to share any insights, write me at Link Edge, 25th Floor, 139 Corporate Center, Valero Street, Salcedo Village, 1227 Makati City. Or e-mail me at reydgamboa@yahoo.com. For a compilation of previous articles, visit www.BizlinksPhilippines.net.



Nickel mining can be sustainable

(Part 1)



It would not be an overstatement to say that the Philippine mining industry has gone through a self-inflicted environmental and political crisis over the last two or three years. The environmental crisis can be attributed to real damage caused to the Philippine environment by some mining firms that resulted in either suspension or closure of mining operations. The political crisis resulted from decisions made during the early years of the Duterte Administration that exaggerated these violations of rules of sustainable development to the complete disregard of the many positive contributions of the mining industry to income growth, poverty eradication and employment generation. Politics is the art of the possible. It always involves balancing different societal objectives. Some of those who formulated mining policies at the beginning of the present Administration were not able to do the necessary balancing act among conflicting objectives. They gave short shrift to the economic benefits of the mining industry.

The Center for Social Responsibility of the University of Asia and the Pacific (UA&P), led by Dr. Colin Hubo, is doing its best to help both public officials and private investors attain the appropriate balance among the objectives of income growth, foreign exchange earnings, employment generation, poverty alleviation and environmental protection. This is especially important in the nickel industry because the

Philippines has become the world's second-largest supplier of nickel ore which has surpassed the production of the former top contributors such as gold, silver and copper. In 2016 and 2017, the country exported 577,000 metric tons of nickel. In 2017, nickel ore exports totaled 230,000 metric tons—a third less than the 2016 figure—but still raked in \$455.21 million (P224.533 billion) for the country. In fact, the Philippines has been the world's top nickel producer in decades past, but the shifting local political landscape combined with real environmental concerns forced it to lose ground to Indonesia.

Indonesia has capitalized on our country's uncertain situation as regards mining policies and kicked its production into high gear to feed the mineral-hungry economy of China. It has to be pointed out that as emerging markets like China, India, the Philippines, Indonesia, Vietnam and other countries in the ASEAN grow at an average of 6 or more per cent in GDP in the next decades or so, there will be an explosion in demand for the first applications of nickel, such as stainless steel, non-ferrous alloys, alloy steels and castings, plating, and batteries. Rapid industrialization and urbanization in the Asia Pacific region will see an increasing use of nickel-based products in Architecture, building and construction; process engineering, oil, gas, and power; food contact materials; pulp and paper; transport; healthcare; consumer products and water. Nickel is used in myriad products, especially in the ongoing fourth industrial revolution, because of the following qualities: high-melting point; resistance to corrosion and oxidation; highly ductile; alloys readily and can be fully recycled. The last quality gives nickel very high points in sustainability.

Researchers at the Center for Social Responsibility of UA&P has identified the following multiple challenges facing Philippine nickel miners in the coming years:

A. First, what was once one of the most liberal mining regimes in Southeast Asia is now subject to a government crackdown that

shows no sign of relenting, even with significant changes in leadership. As noted by Amanda Key in an article for Investingnews.com, "For now, one thing is certain: the direction the Philippines goes with its mining policy moving forward will impact the global nickel market."

B. The second challenge is to produce the right type of nickel ore that end-users, such as Chinese companies, will use to produce anything from stainless steel to batteries to electric vehicles. A recent Standard and Poor's analysis of the global nickel market indicates that most nickel producers started their operations geared toward producing nickel sulphide ores. When these ores became scarce, the market gravitated toward laterite ores that are costlier to extract.

C. Finally, local nickel miners have to decide what grade of ore to produce that would make the most profit, given the generally falling prices for the metal in the world market. Mining firms are slowly shifting to shipping medium-grade ores amid declining prices of the usual low-grade nickel ores — ninety percent of which goes to China from the Philippines. Dante Bravo, President of the Philippine Nickel Industry Association (PNIA), remarked in a recent forum: "For the long term, this would mean that some mines might slow down in their production in the coming years depending on the area being mined. The shift would have to make adjustments depending on mineralization." Despite some of these uncertainties, there is still a mood of optimism among the nickel miners because of the many uses of nickel in such sunrise industries as electronic vehicles, construction, consumer goods, health care and housing.

(To be continued)

For comments, my email address is bernardo.villegas@uap.asia



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RESPONSIBLE MINING:

PLANET, PEOPLE, PROFIT, POLICY

BLUEBOARD CARMEL V. ABAO

There are those who argue that the environment can still be protected despite the extractive nature of mining. One also has to protect the ancestral domain of the indigenous peoples where mining sites are often located, jobs of mine workers, and profit for mining companies. One also has to consider the overall potential of mining as a driver of economic development.

Mining is highly extractive. From the vantage point of environmental protection, “responsible mining” may seem like an oxymoron given the obvious toll of mining on natural resources, especially arable land, water and forests. The nature of this industry thus goes against the principle of preserving and cultivating land and nature for present and future generations.

There are those who argue, however, that the environment can still be protected despite the extractive nature of mining. There are also those who claim that the environment is not the only thing that needs protecting. One also has to protect the ancestral domain of the indigenous peoples where mining sites are often located, jobs of mine workers, and profit for mining companies. One also has to consider the overall potential of mining as a driver of economic development.

Above-mentioned values and interests, however, often run in opposition to one another and the debates around mining center on the idea of trade-offs: protection of ancestral domains or economic development? environmental

protection or job creation? profit or environmental protection? jobs in mining or no jobs at all?

In this piece, I present recent efforts to bring to the table concerns and interests that are mining-related. I argue that these efforts are necessary and must be sustained. For development to be genuinely “inclusive,” development strategies and policies must be contested and negotiated by all stakeholders. Everyone affected must have a seat at the negotiating table.

MULTI-STAKEHOLDER DIALOGUE

While there are no easy answers to the question of trade-offs, processes for consensus-building have recently been undertaken by several stakeholders, under the platform of “responsible mining.” Two dialogues were held in the latter part of 2018 while a third dialogue was held in March 2019.

The document “Discussion Paper on Mining: Consolidated Notes from the 1st and 2nd Roundtable Discussions on Responsible Mining held in Astoria Plaza Hotel on November 27, 2018 and December 11, 2018” reveals that the RTDs were precipitated by at least two developments: the signing of the Chamber of Mines

of the Philippines (COMP) of “a declaration to pursue responsible practices in November 2017,” in response to “President Duterte’s challenge to promote responsible mining,” and the invitation of Bantay Kita to the Mines and Geosciences Bureau (MGB) of the Department of Environment and Natural Resources (DENR), the CoMP and the Philippine Extractive Industry Transparency Initiative (PH-EITI) “to undertake a series of consultations, in a safe space and respectful atmosphere, through a round table discussion (RTD) with key stakeholders in the hope of finding a common understanding and mutually acceptable articulation of what ‘responsible mining’ is.” Bantay Kita is “a coalition of civil society organizations advocating for transparency and accountability in the extractive industry.”

The first RTD focused on large-scale mining operations while the second one discussed small-scale mining. The results of these two dialogues were then presented during a third RTD held at the Ateneo de Manila University on March 17, 2019. I had the privilege to help organize and participate in that third dialogue.



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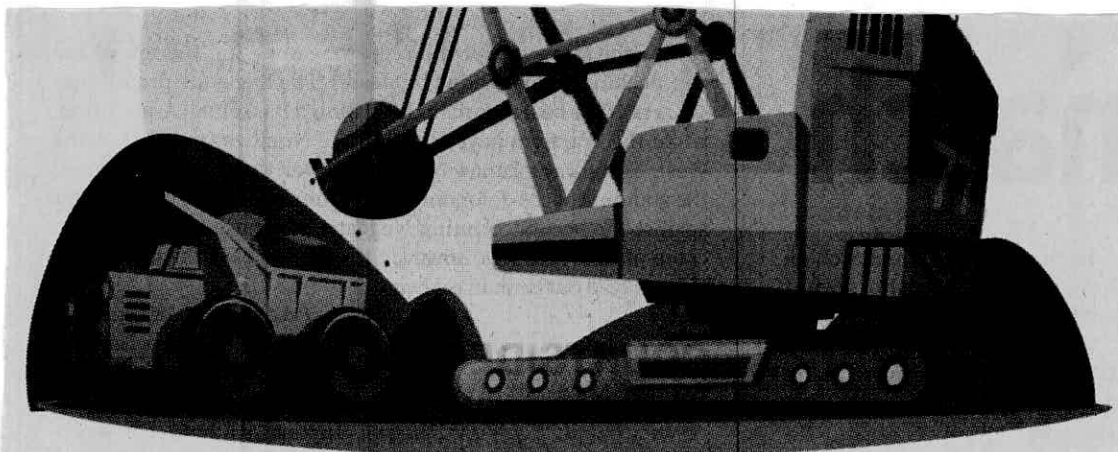
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Responsible mining



DETERMINING SOCIAL LIMITS TO DEVELOPMENT

The first two dialogues resulted in an initial definition of responsible mining as “one which contributes significantly to economic growth while at the same time ensuring that the impacts to the environment are remediated toward sustained productivity of the land after mining and the host and neighboring communities are developed into self-reliant communities beyond the life of the mine.” This definition was said to be “founded on the threefold elements of economic viability, technical feasibility and social acceptability.”

Moreover, the first two dialogues resulted in a claim that “for mining to be responsible, it has to meet the fundamental tenets of economic growth, environmental protection and social development or loosely translated as ‘profit, planet and people,’ all with the end goal of sustainable development. The three ‘Ps’ are to be treated as equals, but with ‘planet’ as the *primus inter pares* (first among equals), signifying that primordial consideration is to be given to mining’s responsibility to protect the environment.” A fourth “P” — policy — has also been deemed necessary because mining “should be legally compliant.”

In the third RTD, a representative of civil society, lawyer Gerthie Mayo-Anda of the Environmental Legal Assistance Center, emphasized the need “not just for a law but a robust policy framework that integrates rights and privileges, taxes, penalties, tree-cutting permits, resilience cost and benefit, wealth accounting and valuation, island ecosystem and biodiversity.” Attorney Mayo-Anda’s intervention was followed by a discussion on the need for a new law since the exist-

ing law RA 7942 or the Mining Act of 1995 is seemingly silent on many important issues.

Representatives of the mining industry, meanwhile, emphasized the need for “certainty” when it comes to mining policy. According to one representative, mining is a business enterprise and therefore predictability of operations is crucial. When policies change too often or are not implemented evenly, operations of mining companies suffer.

For my part, I argued that social limits must be taken into consideration and not just market limits. I also claimed that “planet” and “people” were, in fact, social limits and that it was commendable that the first two dialogues had raised these limits. I observed a glaring omission though: labor. The impact of mining on indigenous peoples and affected communities had been raised, and rightfully so, but mining workers were not considered. I also reminded the group that DOLE’s list of the top 20 violators of the contractualization law included two mining companies and that this should be a cause for concern for all stakeholders.

GOVERNMENT AS MAIN DUTY-BEARER

The third roundtable discussion also resulted in several discussions about the important role that government plays in mediating the various interests in the mining industry, and, ultimately, in locating the mining industry in a larger development strategy. Industry and civil society were agreed that government is the main duty-bearer especially when it comes to ensuring that policies are agreed upon democratically and implemented effectively.

Hopefully, the DENR, particularly the MGB, will step up to the task. It would also help if the PH-EITI were strengthened as a multi-stakeholder mechanism. The EITI is the “global standard to promote the open and accountable management of oil, gas and mineral resources.” The Philippines joined EITI in 2013, with the Department of Finance (DoF) as the lead institution and MGB, COMP and Bantay Kita as members. Since its establishment, Philippine EITI has produced five reports disclosing payments of and receipts from mining companies. Apart from these disclosures, PH-EITI has been important as a vehicle by which the various stakeholders — government, industry, civil society — are able to know and respect each other by working together in a sustained manner. I don’t think the recent dialogues on “responsible mining” would have been possible without the PH-EITI.

It is thus very important that in the coming elections, voters choose candidates who agree that policy should always be negotiated and are willing to support genuine multi-stakeholder dialogue on mining policy. For consensus-building to be sustained, there must be “responsible-mining champions” in government, in the executive and legislative branches, and at the national and local levels.

Let us vote for candidates who believe that planet, people, and profit must be protected — in that order. ■

CARMEL V. ABAO is a faculty member of the Political Science Department of the Ateneo de Manila University. She teaches political theory and international political economy.



Alarm raised as dozens of king cobras killed

By Maricar Cinco

@maricarcincoINQ

SAN PEDRO CITY—Wildlife conservationists urge more public awareness of dealing with the king cobra (*Ophiophagus hannah*), as dozens of the venomous snake have reportedly been killed, usually bludgeoned to death, in several provinces in the country.

Sightings of the relatively rare species of snake in human settlements have become frequent, as this is its breeding season and the weather is really hot.

"Too much hot or too much dry [weather] drive them out of their burrows to look for new habitats," said Emerson Sy of the Philippine Center for Terrestrial and Aquatic Research (PCTAR).

King cobras, usually found on forest edges, are the longest of venomous snakes. An adult king cobra could measure up to 5.5 meters.

The king cobra mainly feeds on other snakes.

From March to April 5, Sy said PCTAR had documented 24 king cobras "killed or found dead" in the provinces of Quezon, Laguna, Batangas, Aurora, Bohol, South Cotabato, Sarangani, Davao Oriental, Bukidnon and Compostela Valley.

He appealed for public awareness of how to deal with the snake, as killing it could do humans more harm.

"In one instance, that happened many years ago, [a person] died trying to kill a king cobra. The snake was already clinically dead, but its involuntary muscles still moved and the person got bitten," Sy said.

If a person encounters a king cobra, the best thing to do, according to Sy, is to step out of the way and allow the snake to leave.

The king cobra, considered an "apex predator" for being on top of the food chain, has an important role in keeping the ecological balance, Sy said.

King cobras feed on and help control the population of other snakes, which in turn feed on rats and farm crops.

At present, the king cobra is listed under the "other threatened species" status, primarily due to the lack of research on this species. INQ

IN THE KNOW

The king cobra (*Ophiophagus hannah*), found mainly in India, southern China and Southeast Asia, does not have the most potent venom among snakes, but it can kill an elephant or 20 people with a single bite.

This snake is known to avoid humans but attacks people when it is threatened or provoked by approaching objects or sudden movements.

It is the longest of all venomous



King cobra —AFP

snakes, growing up to 5.5 meters. It weighs up to 9 kilograms, and has an average life span of 20 years. It eats other snakes, lizards, eggs and small mammals.

When the king cobra is in "attack position," its head is raised, neck expanded, and fangs bared. It can raise

one-third of its body off the ground and move forward for the kill.

According to the Protected Areas and Wildlife Bureau, the king cobra is known to inhabit wet

and humid environments, such as bamboo thickets or forests crossed by rivers and swamps, and where the temperature is at least 35 degrees Celsius.

Lack of moisture and high temperatures may be among the reasons king cobras leave their natural habitat to look for shaded and cooler areas.

They usually survive in tropical areas but they could become listless when they lack moisture. They also depend on their external environment to regulate body temperature.

Other environmental factors to be considered include scarcity of prey or nearby construction projects and diggings affecting their habitats.

King cobras can hear but are deaf to ambient noises, so they sense ground vibrations instead.

The International Union for Conservation of Nature lists the king cobra as vulnerable, or "at high risk of extinction in the wild."

—INQUIRER RESEARCH

SOURCES: INQUIRER ARCHIVES, NATIONALGEOGRAPHIC.COM



Heat vulnerability map needed for Metro Manila

Heat index or "init factor" and real feel temperature are very common terms today.

While air temperature ranges from a high of 37 degrees Celsius around the country and 35C for Metro Manila, the heat index temperature is rising.

On Wednesday, Dagupan City in Pangasinan recorded a 48.2C heat index while Cuyo in Palawan, Sangley Point in Cavite, and Cotabato and Maguindanao had 41.4C.

The Philippine Atmospheric, Geophysical and Astronomical Services Administration (Pagasa) says the heat index in Metro Manila peaked at 40.8C on Saturday, specifically at the Ninoy Aquino International Airport-

Pasay station. The next day, it went up to 42C.

The Department of Health (DOH) has issued warnings about cramps, exhaustion and heat stroke due to the soaring temperatures. But sadly, the public remains unaware of the dangers posed by the heat.

While we have a projected temperature increase map of the country created by the Manila Observatory and the Department of Environment and Natural Resources (DENR), we still do not have heat vulnerability maps for Metro Manila and other cities.

If one goes to the United States and Australia, their major cities have extreme heat maps to



SHARP EDGES

JAKE J. MADERAZO

inform citizens of the dangers posed by external heat waves or a very high *init* factor.

Here, there are no coordinated efforts from the government to inform and warn the public when

temperatures soar.

The DENR, DOH, Metropolitan Manila Development Authority, local government units and National Disaster Risk Reduction and Management Council must issue an up-to-date heat index vulnerability map for Metro Manila ASAP.

With just 34 days before the polls, the Commission on Elections (Comelec) appears ineffective in curbing rampant campaign violations under the Omnibus Election code.

Section 97.1 considers unlawful the holding of dances, bingo and other games, beauty contests, lotteries or other forms of enter-

tainment in support of any candidate.

Section 97.2 says it is unlawful for a person or organization to accept gifts, food, transportation, cash contributions, or donations from any candidate or their representatives.

These provisions are very clear yet they are violated every time in every political meeting, with Comelec insisting on "crowdsourcing" complaints, forcing or convincing people to testify as the case progresses.

There are 15,000 Comelec officials and employees nationwide. Why can't they implement these laws?

In a recent media meeting, Globe Telecom officers advised there would be cell phone service shutdowns in the coming weeks ranging from 30 minutes to four hours. These will happen initially in rural areas but cities will also be affected later on.

Globe said the shutdowns were part of its cell site maintenance program and were necessary to further improve its services. I'm hopeful. INQ

Tune in to the "Banner Story" radio-TV show, Monday-Friday, 6-9 a.m., on dzIQ (990AM), ABS-CBN TV Plus Channel 30. E-mail jakejm2005@yahoo.com for comments.



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IP workers from 6 countries tapped for carbon accounting

PH losing 47,000 hectares of forest cover every year, says DENR

SOLANO, NUEVA VIZCAYA— A global environmental organization has tapped 18 indigenous peoples (IP) workers from six countries, including the Philippines, to do carbon accounting to protect forests and reduce greenhouse gas emissions.

Dr. Carly Green, founding director of Environmental Accounting Services (EAS), said four IP workers from Mindanao and the Cordillera had undergone an immersion-training on carbon accounting with 14 IP workers from Bhutan, Indonesia, Nepal, Vietnam and Fiji.

Carbon accounting is measuring where emissions come

from and where they are absorbed.

Protect forests

"[Carbon accounting] is a tough activity but it is something IPs need to know to plan and protect their forests, which are their homes," said Grace Guid of Maguindanao-based Timuay Justice and Governance.

The training, led by EAS, was held here and in Santa Fe town from March 25 to 29.

EAS is a New Zealand-based consultancy firm specializing in carbon estimation approaches, greenhouse gas policy and forest monitoring systems.

"IPs are custodians of the land. They are the foremost affected by any change in the climate since they live in the watershed areas," Green said.

She said the training provided participants with simplified step-by-step forest carbon accounting tool kits that they could use in training their IP communities.

Helen Valdez, member of Tebtebba Foundation Indigenous Peoples' International Center for Policy Research and Education, said IPs needed to learn technical methods and increase their awareness and knowledge on emission reduction.

Tebtebba is a nongovernmental organization with consultative status to the United Nations Economic and Social Council.

"This capacity-building will further strengthen existing traditional approaches in managing watersheds, which are the foremost tool in reducing carbon emission," Valdez said.

Emissions rising

The Philippines had 1.6 tons of average per capita carbon dioxide equivalent emissions in 2012, far below the global average of 6.5 tons, according to a study by the Asian Development

Bank published in the 2017 book "Pathways to Low-Carbon Development for the Philippines."

However, emissions are significantly rising rapidly, with 4-percent annual growth between 2006 and 2012, primarily from transport and energy sectors, the study said.

The country is losing 47,000 hectares of forest cover every year, according to data from the Forest Management Bureau of the Department of Environment and Natural Resources (DENR).

In 2010, the forest cover diminished to 6.8 million ha from 7.2 million ha in 2003. —KARL-STON LAPNITEN INQ



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Project preparation funding for climate resilient PPPs readied

By CZERIZA VALENCIA

A facility for funding the preparation of regional Public-Private Partnership (PPP) with climate resilience components is now being readied to build a robust pipeline of such infrastructure projects, the PPP Center announced over the weekend.

The agency said the creation of a regional Project Development and Monitoring Facility (PDMF) for climate-smart projects is now in the works with the help of development partners.

Once established, local government units can tap the facility to finance pre-investment activities for proposed projects.

"The PPP Center is currently in the process of creating a regional PDMF to help

strengthen the capacities of local implementing agencies in identifying and analyzing climate change issues like mitigation and adaptation in their PPP project portfolio," said Lerma Advincula, PPP Center director for Project Development and Monitoring Facility Service.

The center is now in discussion with several donors to secure grants for the establishment of a regional PDMF.

So far, the Urban Financing Partnership Facility of the ADB has approved a grant through its Urban Climate Change Resiliency Trust Fund (UCCRTF) which can be tapped for the preparation of local infrastructure projects serving vulnerable communities.

Specific projects that can be supported by this grant

are those in the sectors of renewable energy, water, sanitation, solid waste management, open/green spaces, food security, flood control, disaster risk management and green vertical development.

Agence Francaise de Developpement has also been approached for a grant that will help the PPP Center enhance its technical capacity in assisting implementing agencies in the preparation and development of climate-smart PPP projects.

This is done alongside with the center's collaboration with the Climate Change Commission in augmenting its knowledge on how climate change affects the development and implementation of PPP projects.

Under the regional PDMF, local governments, local water

districts, economic zones and state universities and colleges (SUCs) can be given assistance in developing the business cases of their proposed PPP projects.

Upon completion of the business case, projects needing more in-depth study may be referred to the PDMF for the conduct of a full feasibility study.

A panel of local PPP experts on climate change resilience will be assembled to provide support in preparing pre-feasibility and feasibility studies, as well as the bid documents and PPP contracts.

They will also provide assistance during project approval, bid management and financial closing. During project implementation, they will also provide an independent review and monitoring.



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Group urges plastic-free outings this summer

BY CORY MARTINEZ

PLEASE observe plastic-free summer excursions.

This is the appeal of the environment-advocate EcoWaste Coalition to the public particularly to families, workmates and barkadas who are planning to go to their favorite beaches and water parks to cool down and have fun amid the scorching heat.

The group's national coordinator, Aileen Lucero said that summer outings need not be synonymous with the bane of plastic, especially the single-use, that is polluting the oceans and harm-

ing marine life.

"Going out of the city for the much loved excursions and picnics and refreshing water fun in the beach or swimming pool should not add to the plastics in the oceans that are mistakenly eaten by fish and other aquatic animals," Lucero stressed.

She added that the 40 kilos of assorted plastics inside the stomach of a beached whale found in the east coast of Davao City last March 2019 should serve as a wake-up call for intensified plastic pollution prevention.

Lucero disclosed that over 100,000 marine mammals perish each year be-

cause of plastics leaking into the oceans.

"While we push corporations to design throw-away plastic out of the production system and replace it with eco-friendly and non-toxic alternatives, and while we urge governments to seek ways to curb single-use plastic, we, the people, should act to halt the further degradation of the oceans with plastic and chemical pollutants," Lucero added.

She further explained that individual and collective actions to combat plastic pollution, will help in cutting the amount of plastic waste that gets dumped

into the oceans from land-based sources, which is estimated at eight million tons per year.

"We need not wait for more whales and other marine animals to die because of the thoughtless production, consumption and disposal of single-use plastics, which, if not reversed, could further endanger sea life," she emphasized.

In a bid to encourage the public to embrace a plastic-free, ocean-friendly summer, the group suggested to those local as well as foreign tourists to plan in advance for a plastic-free family, workplace or barkada excursion, to avoid creating plastic trash and make plastic-free purchases whenever possible and put items bought in a reusable bayong or cloth bag.

da excursion, to avoid creating plastic trash and make plastic-free purchases whenever possible and put items bought in a reusable bayong or cloth bag.

The group further suggested that when buying vegetables, fruits and other foodstuff, select those that are locally grown, unpackaged or in least packaging

and prepare and bring food in reusable containers that do not require cling film or plastic wrap.

The group also recommended to wrap sandwiches in old but clean hankies or fabric scraps, which can double up as napkins, too and make use of plates, cups and cutlery that can be washed and used again.

One eco-friendly and healthy option is to eat on a banana leaf.

"In lieu of plastic sheet, paper napkins and wet wipes, go for washable fabric table cover and cloth napkins. Steer clear of wet wipes containing harmful ingredients that can elicit allergic contact dermatitis," the group said.



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The Manila Times

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Department of Environment and Natural Resources
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A tale of two watersheds

BY FERDIE MARCELO,
VERA FILES

ONE nourishes communities. The other has become a source of distress.

The Anayan-Rumangrap Watershed in Mount Isarog in Camarines Norte provides sustenance to the population living in nearby communities, who in turn take care of it.

The La Mesa Watershed in Novaliches, on the other hand, is in a state of distress; people living in Metro Manila can feel it.

A watershed is a source of life. It is high ground from where water from the uplands flow into several channels.

The state of the watershed determines the water that goes to the land that is consumed by the whole population.

Water is essential in life. A human body needs water to function. In the same manner, water is a vital component of a community. Without water, there is no life.

The water crisis that recently hit Metro Manila had brought into public attention the La Mesa Watershed, which is supposed to provide fresh water to over 12 million residents to the area as well as neighboring provinces.

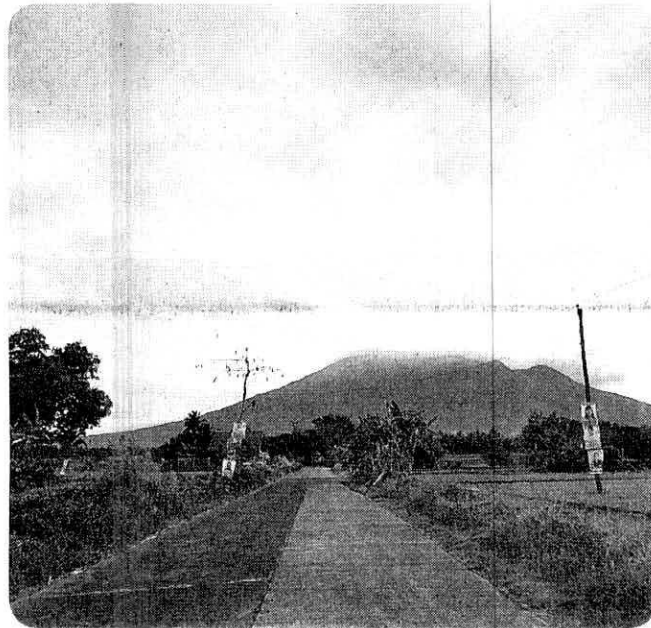
The La Mesa Watershed

The La Mesa Watershed is not healthy, said Joanaviva Caceres Plopenio, officer in charge and director at the Institute for Environmental Conservation and Research of the Ateneo de Naga University, during the March 22 celebration of World Water Day in Naga City.

A watershed's ability to mitigate flooding during the wet season and provide water during the dry season — its adaptive capacity during stressful conditions — is the barometer by which a watershed's health is gauged.

In this, the La Mesa Watershed seems to be failing, said Plopenio said.

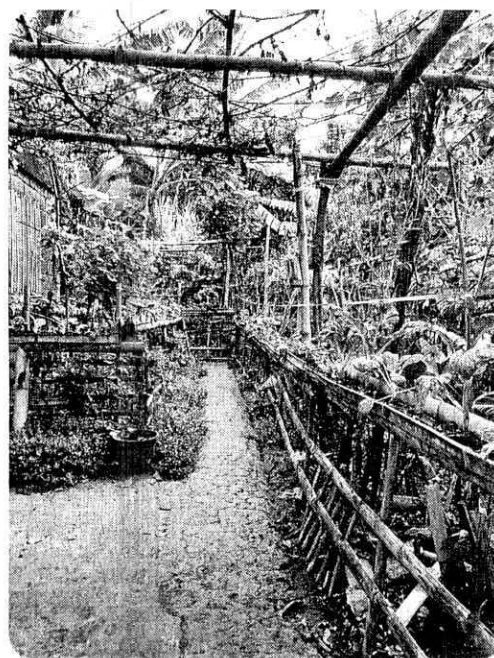
A 2013 vulnerability assessment by environmental scientist Cris-



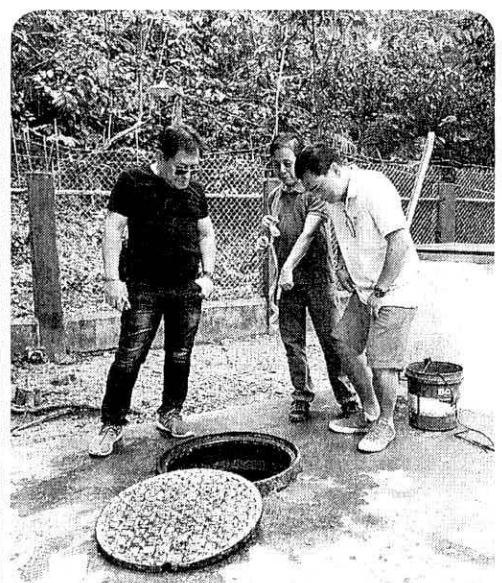
■ Mount Isarog



■ Restricted area in Anayan-Rumangrap Watershed.



■ Vegetable farming on rows of split bamboo.



■ Jorge Palma (in black shirt), chairman of the Metropolitan Naga Water District, inspects the water catchment and treatment facility.

ALL PHOTOS BY FERDIE MARCELO

tino Tiburan Jr. cited two major issues with the La Mesa watershed: erosion and landslide, and the biodiversity loss which are being blamed on deforestation.

Programs have been undertaken to reforest the La Mesa Watershed in the past years. Unfortunately, policy consistency appears lacking.

The Manila Seedling Bank Foun-

ation had a successful five-year reforestation program that started in 1978. Sadly, when the program ended in 1983, land conversion and illegal harvesting of trees resumed.

The Metropolitan Waterworks Sewerage System (MWSS), the agency that is tasked to take care of the La Mesa Watershed, has also been questioned by the Commis-

sion on Audit for its decision to sell a portion of the watershed to its own officers and employees.

The sale runs counter to Section II Article XII of the 1987 Constitution, which provides that "with the exception of agricultural lands, all other natural resources shall not be alienated."

► Watersheds A6



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The Manila Times

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A tale of two watersheds

Despite the constitutional prohibition, the Department of Environment and Natural Resources (DENR) issued an Environmental Compliance Certificate for the sale, but Gina Lopez cancelled it in December 2016 when she became Environment head.

La Mesa Nature Preserve guide Roden "Denden" Akbayin said the area allocated for housing of MWSS officers and employees had been fenced, but no building or cutting of trees has happened.

Akbayin said that at the last accounting of families in the area in 2014, there were still 25 families of informal settlers inside the watershed. *Kaingin*, or slash and burn farming, still occurs though not as often as when he first started working there in 2000.

He said tree planting efforts continue. Old trees are sparse and may be found only in a few areas further into the interior of the watershed.

The Anayan-Rumangrap Watershed

Mount Isarog in Camarines Sur was established as a national park in 1938. One of its watershed areas is the 317-hectare Anayan-Rumangrap Watershed.

It was going the same path as the direction the La Mesa Watershed is taking until the passage of the National Integrated Protected Areas System (Nipas) Act in 1992 that listed Mount Isarog as a protected area.

Prior to the declaration, 60 percent of the Anayan-Rumangrap had been converted to agricultural use and informal settlers already made their homes inside the watershed, according to information from the Metropolitan Naga Water District (MNWD).

Fluctuating water flow from its two primary springs and water shortages prompted the MNWD to work with the DENR for the rehabilitation, management, and protection of the watershed in 1993.

For many years the watershed has been the source for food, water, and timber — essentially all that the watershed settlers needed to survive.

Some of these settlers can trace their roots back to the indigenous Agta people, who have called Mount Isarog home long before the Spaniards came, and relocating them was the biggest challenge to the area's rehabilitation.

But the settlers eventually recognized that the relocation site being given to them offered better living conditions and opportunities.

MNWD Chairman Jorge Palma said they had a two-pronged approach to the problem, one of which involved the provision of infrastructure in the resettlement area.

With assistance from the Rotary Club of Naga, Plan International Bicol, and the local government of Pili town, they provided the community with a schoolbuilding, daycare center and a playground.

The Department of Agriculture also provided a multi-purpose pavement-solar dryer.

The other approach involved changing the mindset of the watershed rehabilitators. Instead of looking at the settlers as problems, they recruited the settlers as co-protectors of the watershed.

The last of the informal settlers were relocated to the resettlement site in 2015.

Menardo Nario, or Mang Nardo, is one of the Mount Isarog Guardians (MIG), a group organized to protect and reforest the watershed in 1993. He is among those who accepted a home in the resettlement site at the foot of Mount Isarog.

On top of that, Mang Nardo also guides the occasional tourist adventurous enough to go deeper into the watershed.

His regular clients are bird watchers drawn to Mount Isarog's rich ecosystem.

The mountain is home to at least 143 kinds of birds, 15 of which are endemic to Luzon. This includes a subspecies of the velvet-fronted Nuthatch that can be found only in the area.

Other endangered or threatened bird species that call Mount Isarog home are the Red Junglefowl, Tarsic Hornbill, Rufous Hornbill, Philippine Hanging Parakeet, Pygmy Woodpecker, Black-Naped Oriole, Bleeding Heart Pigeon, Brahminy Kite, White-Bellied Black Woodpecker, Sooty Woodpecker, Greater Flame-back, and Philippine Serpent Eagle.

When asked about poachers, Mang Nardo said there is hardly any but when the Guardians encounter one, they do not confront. They instead simply report the crime through text to

the local police. Authorities deal with the poachers.

Micro enterprises

Another group organized for Mount Isarog is the Conservation Farming Communities that engage in micro enterprises. These communities employ natural farming methods with the goal of spreading good practices to other settlements in the mountain.

Inside these communities are two model houses. One has devoted a huge darkened room for mushroom farming, the other has rows of hanging halved bamboos where vegetables are grown. These methods are used in settlements with a shortage of land to till.

The prospects of scaling up production enough to stimulate marketability gives the community a sense of excitement. They look forward to the day they can provide tourists with meals grown from their backyard.

At present, water from Mount Isarog is able to meet the needs of Naga City's 196,000-strong population.



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A tale of two watersheds

Given the output data from previous years and taking into account growth trends in population, Palma projects a daily water surplus of at least 6,000 cubic meters by 2027.

That is, as long as current watershed management practices continue.

Mount Isarog's case shows the positive results if every member of the community takes seriously the role of stakeholder in the watershed. Ultimately, the sustainability of the water that a watershed provides depends on the care given by the community it serves.

Ferdie Marcelo is the field representative for the Philippines of Seacology, a nonprofit based in Berkeley, California whose mission is to work with islanders around the world to protect threatened ecosystems.

This story is produced by VERA Files under a project supported by the Internews' Earth Journalism Network, which aims to empower journalists from developing countries to cover the environment more effectively.

Our close neighbor, Thailand, is quite familiar with revolutionary governments. Tanks roll into the streets of Bangkok, government offices are padlocked, and a junta of uniformed men declares that it is taking over the government. Soon, the task of rewriting a constitution, already several times over-written, commences anew. These takeovers are commonly classed as "coups." Thus far, Thailand has had no less than 17 constitutions — each bearing witness to the attempts of one faction to wrest governmental power.

Following the fall of Saigon, there came into power the Provisional Revolutionary Government of the Republic of South Vietnam — a transitional phase towards the demise of South Vietnam as a separate state. This

was, without doubt, a revolutionary government established by the conquering forces of North Vietnam. The government that the Japanese established in the Philippines after they had occupied it and following the capitulation of the defenders at Bataan and Corregidor was likewise revolutionary, no matter that we deride it — perhaps unjustly — as a "puppet government." The fact is that it effectively governed the archipelago and was administered by the agencies and instrumentalities of the occupying forces.

Franco and Chiang Kai-shek provide yet a third variation of revolutionary leaders. From the turmoil that embroiled Spain in different wars and that made it swing wildly from a republican state to a restored monarchy and back again, arose Generalissimo Franco who generally ruled by decree, rather than by constitutional fiat. It was no less true of Chiang Kai-shek, likewise dubbed "generalissimo" who took over, not all too amiably, from Sun Yat-sen, leading China and his party with scant regard for any fundamental law but according to the exigencies of the wars into which he engaged the forces under his command and his overwhelming dislike for the communists and his obsession with extirpating them. There were revolutionary governments established by persons who were actually at the helm of their governments but who found their constitutions an inconvenience either to be paid mere lip service to or, more radically, completely swept aside.

I wonder what it is that the President stands to gain by threatening to declare a revolutionary government. It could, of course, be exasperation over a legislature that has no sympathy for his agenda, or that he takes to be obstructionist. But the millions who elected him elected a President, not a king, not an autocrat, not even a Platonic guard-

ian! And the lawyer that he is, he knew that he was going to head a branch of government that was coordinate and coequal with two other branches that were in a constitutional position to check and balance his awesome powers. He swore in fact "to uphold and defend the Constitution." It should never be said that he took his inauguration oath lightly, especially when he professed that his oath was "without mental reservation or purpose of evasion!" The President invites disregard for law — and disregard for the powers vested on him by the fundamental law — when he threatens the undoing of the constitutional order and a government of personal dictate.

There is no such thing as "the law of a revolution." A revolution transgresses all law. When a revolution succeeds, if it does succeed, then there is the transition from a "de facto" government to one that can claim legitimacy — "de jure," and this will include elements of both municipal and international law, such as the democratically expressed acceptance of the people of the new government, and recognition by other States, in the varied forms such recognition may take. A revolution goes by its own dynamics — and these can be immensely different in different cases. The concepts of law and legitimacy reenter only the moment the transition has been effected from "de facto" to "de jure" — and "de facto" is, strictly, not a legal category. It is simply the recognition of an operative fact. Against a fact, after all, there can be no argument.



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A tale of two watersheds

The government's war on drugs, our protest at China's impertinence in the West Philippine Sea, our insistence on sovereignty, the continuing crusade against corruption, our unwillingness to compromise on the issue of human rights, the latest attempt at settling the long-simmering Mindanao problem through the Bangsamoro Autonomous Region — all of these rest, depend and arise from a commitment to law. The threat of a revolutionary government is the threat of introducing a regime that is the undoing of law, and that cannot be good for us. It is nothing less than the threat of undermining all that we have achieved and hope to achieve.

Much besides, when one cuts down every forest in the tree of the institutions of law and government, where shall we find shelter when the destructive winds of anarchy start to bellow? Thomas More asked Roper something similar. That is no literary conceit on my part. It is a genuine concern for me. I think it should be for all of us.

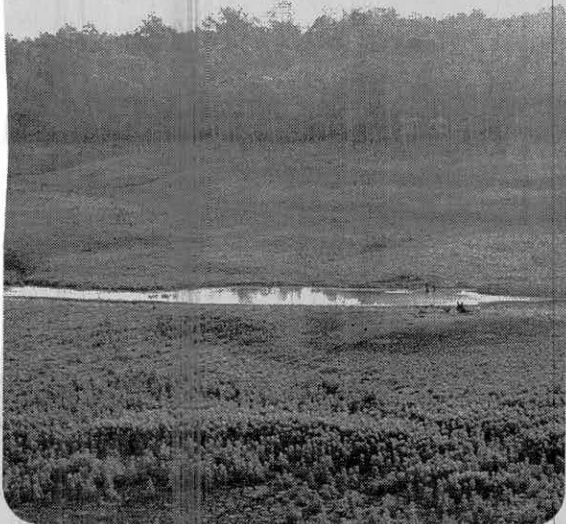
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■ La Mesa Watershed Preserve guide Roden Akbayan views the dry reservoir.



■ Dessication cracks at the sides of the reservoir.



■ Normally the water should reach up to where the trees begin.



■ Tree planting has been ongoing since 2000, but the trees take a lot of time to grow.



■ Bridge for hikers, runners and bikers who visit the watershed.



Haphazard disposal of toxic e-waste to draw fine, jail time

CONGRESS is being asked to pass a law banning the haphazard disposal of toxic electronic gadgets, with provisions for stiff fines and jail time for violators.

Once enacted into law, Senate Bill (SB) 2008 filed by Sen. Nancy Binay, makes it punishable to dispose of electronic devices and gadgets, such as laptops, desktop computers and flat-screen TVs, in any solid-waste management facilities in the country.

Citing serious health concerns posed by exposure to such hazardous substances and chemicals found in electronic devices, Binay warned that "exposure to these substances is dangerous and may cause serious health risks to people when improperly thrown out since they do not break down easily and they build up in the environment."

Binay's SB 2008 proposes a P20,000 fine and one to three months' jail terms for those found disposing

any electronic device in mixed solid waste.

The bill provides also that solid-waste management facility that "knowingly accept for disposal or incineration any electronic device or any truckload or container of solid-waste which includes electronic device will be meted with a fine of P50,000 and revocation of license."

Under an existing law (Republic Act 9003), solid-waste management facility refers to "any resource recovery system or component thereof; any system, program or facility for resource conservation; any facility for the collection, source separation, storage, transportation, transfer, processing, treatment or disposal of solid waste."

Binay said SB 2008, on the other hand, seeks to protect the people and prevent the proliferation and reduce the amount of hazardous materials being discarded in solid-waste management facilities through recycling and reusing. *Butch Fernandez*



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EDITORIAL

CARTOON

09 APR. 2019

DATE

Importation of toxic wastes

Dear PAO,
I am an employee of a company practicing recycling. I recently discovered that they were importing some toxic wastes which were concealed in recyclable boxes. Did my employer violate any law?

Tonton

Dear Tonton,
The law that addresses your situation is Section 48 (12) of Republic Act 9003, otherwise known as "Ecological and Solid Waste Management Act of 2000," which reads:

"Section 48. Prohibited Acts - The following acts are prohibited:
xxx

"(12) Importation of toxic wastes misrepresented as 'recyclable' or 'with recyclable content;'"

The same law provides a pen-



DEAR PAO
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alty for violation of the same, viz:

"Section 49. Fines and Penalties -

"(e) Any person who violates Sec. 48, pars. (12) and (13) shall, upon conviction, be punished with a fine not less than Ten thousand pesos (P10,000.00) but not more than Two hundred thousand pesos (P200,000.00) or imprisonment of not less than thirty (30) days but not more than three (3) years, or both;"

It is clear from the cited provisions that importation of toxic wastes misrepresented as

"recyclable" is illegal and may subject the offender to a penalty of fine or imprisonment, depending on the discretion of the Court. In your situation, your employer who is importing toxic wastes concealed in recyclable boxes can be apprehended and penalized accordingly for his action.

This opinion is solely based on the facts you have narrated and our appreciation of the same. The opinion may vary when the facts are changed or further elaborated. We hope that we were able to enlighten you on the matter.

Editor's note: Dear PAO is a daily column of the Public Attorney's Office. Questions for Chief Acosta may be sent to dearpao@manilatimes.net