

16 MAR 2019

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**DENR**

**IN THE NEWS**

**Strategic Communication and Initiative Service**



# Mining's dirty secret faces

BY DAVID FICKLING | *Bloomberg Opinion*

**C**AN mining be green? That's certainly the ambition of some of the biggest companies in the sector. Rio Tinto Group last year became the first major miner to stop digging up coal altogether. Glencore Plc, historically one of the commodity's most vocal boosters, has promised to cap production at current levels.

## climate reckoning

**2.3 TONS** Total quantity of carbon dioxide typically released to the atmosphere to produce a single metric ton of steel, not much less than you'd get from burning a ton of thermal coal for energy.

"We have a portfolio free of coal and oil and gas," Rio's Chief Executive Officer Jean-Sebastian Jacques told investors after annual results last month. "We are well-positioned to thrive in the world that values sustainability more and more."

Well, up to a point. Miners

have certainly been working to reduce the impact of their own operations. Partly thanks to asset sales and spinoffs, carbon pollution from on-site fuel and electricity – so-called Scope 1 and Scope 2 emissions – has fallen by almost half in the past five years at the two biggest players, Rio Tinto and BHP Group.

Still, judging mining companies on the basis of their operational emissions is a bit like judging tobacco companies on the basis of their record on labor rights and board diversity. It's interesting and

SEE "MINING," A2

worthy, but ultimately misses the big picture.

Take a look instead at Scope 3 emissions—those that result when the products are consumed—and a very different picture emerges:

On that measure, of resources companies for which Bloomberg has data, only Royal Dutch Shell Plc is a bigger emitter than Rio and BHP, both of which feature on S&P Global Inc.'s Dow Jones Sustainability Indexes. Soot-stained coal dinosaurs like Glencore, and Exxaro Resources Ltd. come in well down the ranking.

How to account for the difference? It's ultimately about steel.

Producing a single metric ton of steel in a blast furnace typically releases around 2.3 tons of carbon dioxide into the atmosphere, not much less than you'd get from burning a ton of thermal coal for energy. Moreover, the commodity portfolios of the two biggest miners and Vale SA are dominated by the key blast furnace feed stocks of iron ore and (in the case of BHP) coking coal.

The fact that steel raw materials have escaped the image problem suffered by thermal coal isn't so much that they're cleaner, as that they appear to be harder to replace. As we've argued, the plummeting costs of renewables and gas mean that you don't even need a price on emissions to undermine thermal coal on a purely financial basis—something even Glencore is start-



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ing to recognize.

The same hasn't been true with steel. Despite the rise of electric arc furnaces—which recycle steel scrap and generate a fifth or less of the carbon emissions associated with blast furnaces—traditional technology remains dominant because the metal it produces tends to have fewer impurities, and the world simply lacks sufficient scrap to supply a demand boom like the one China experienced over the past two decades. Profit margins tend to be better, too, although the high capital outlays involved in building blast furnaces reduce that advantage.

The future could look very different. China's steel consumption peaked last year, according to the Australian government. Other emerging countries might be expected to make up for that decline, but there's no guarantee they'll industrialize at the same extraordinarily steel-intensive pace. Should consumers switch to more frugal habits, current demand levels of around 1.7 billion tons a year may already have hit a long-run plateau, according to one 2017 study for the Organization for Economic Co-operation and Development:

That might seem at least to guarantee big miners a steady-state continuation of current profitable conditions, but the growing wave of worn-out material may change that calculus. Scrap supply will grow to 1 billion tons by 2030 from

about 750 million tons at present, according to the World Steel Association, and climb further to 1.3 billion tons in 2050. If all of that is used in mini-mills and total demand peaks at current levels, production via the blast-furnace route could fall by around two-thirds.

As with thermal coal producers 10 years ago, the continuing business model of steel raw material suppliers depends upon the world deciding that tackling the pollution from the products they sell is simply too hard. It's ultimately a bet that the relatively slight economic advantages of conventional technology over greener alternatives won't be eaten away by better technology, regulation, or a price on carbon emissions.

A shift toward the pattern that now exists in North America or India—where blast furnaces are used mostly for specialty high-quality steel, with direct reduced iron playing a bigger role to dilute out scrap impurities in mini-mills—would be devastating for all those long-life assets that big miners like to boast about.

Still, with steel and iron accounting for about 8 percent of global emissions, it's what's needed if the world is to avoid disastrous climate change. Miners currently touting their environmental credentials should watch out. That shiny green image could turn rusty surprisingly quickly.

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# DENR to reactivate deep wells to help water crisis

By **CORY MARTINEZ**

**THE National Water Resource Board (NWRB) will be reactivating at least 91 deep wells in Metro Manila to help the worsening water crisis in the metropolis and the adjacent province of Rizal being served by private water concessionaire, Manila Water.**

In yesterday's press conference, Department of Environment and Natural Resources (DENR) Undersecretary Benny Antiporda said that the decision to reactivate the deep wells was reached during the recent

emergency meeting attended by the representatives of Metropolitan Waterworks and Sewerage System (MWSS), Manila Water, Maynilad and the NWRB.

"Napagkasunduan na nga na kailangan nang tulong ang Manila Water dito sa kakulangan ng tubig. So nagkaroon ng across border nga na sinasabi na tulong ng Maynilad at Manila Water na as of this month, nag-assure sila ng 20 million liters per day and magiging 50 million liters ito per day sa April," Antiporda said.

Antiporda assured that the people have nothing to worry since the present situation will not be worsened

since all concerned agencies are now working to address the water shortage problem.

He added that the Cardona Treatment Plant will also be utilized and it can supply at least 22 million liters per day until end of this month and an additional of 28 million liters per day this coming April.

"Ang target natin ay 150 million liters per day, yan ang shortage natin, so since 100 na yan, yung NWRB naman ay kumilos na rin para mai-activate naman ang mga sinara nating deep wells na makakapagbigay sa atin ng at 30 million liters per day this month. At sa April naman, we're looking at an-



Antiporda

other 50 million liters per day," Antiporda added.

Antiporda, however, said that the reactivated deep wells will be regulated and managed by the MWSS and will be used until October only.



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## DEEP WELL GAGAMITIN SA WATER CRISIS

**BILANG** solusyon sa nararanasang krisis sa tubig sa Metro Manila pinayagan na ng Department of Environment and Natural Resources (DENR) ang Metropolitan Waterworks and Sewerage System (MWSS) na gumamit ng deep well.

Sinabi ni DENR Undersecretary Benny Antiporda na pinahintulutan ng ahensiya ang MWSS na gamitin ang deep well upang makakuha ng tubig na maaari nitong isuplay sa kanyang mga water concessionaire na Maynila at Manila Water.

May 30 milyong litro ng tubig ang maaring gamitin ng MWSS sa araw araw sa sandaling buksan

ang mga deep well na pinayagan ng DENR.

Ipinaliwanag pa ni Antiporda na sa katapusan ng Abril 2019 ay may karagdagang 50 milyong litrong tubig mula sa deep well ang maaaring gamitin ng MWSS kada araw na tatagal hanggang Oktubre ng kasalukuyan taon.

“Pagkatapos ng Abril may karagdagang 50 milyong liters ng tubig ang maaaring gamitin ng MWSS sa deep well kada araw upang mapunan ang krisis sa tubig,” dagdag pa ni Antiporda.

Nauna rito, ipinag-utos na ni Pangulong Rodrigo Duterte sa MWSS na pakilusin ang Manila Water at Maynilad upang maibsan ang nararanasang water

shortage sa Metro Manila at mga bayan sa Rizal.

Sinabi pa ni Antiporda na ang MWSS lamang ang binigyan ng DENR ng permit para gumamit ng deep well at walang ibang pribadong kompanya ang maaaring gumamit nito.

Pinaalalahanan nito ang publiko na sa sandaling magsimula ang paggamit ng deep well, hindi ito maaaring inumin at maaari lamang gamiting panlaba, pampaligo at pagdidilig ng mga halaman. **BEN-EDICT ABAYGAR, JR.**



## DEEP WELL VS KRISIS SA TUBIG OKS NA SA DENR

UPANG masolusyunan ang nararansang krisis sa tubig sa Metro Manila, pinayagan ng Department of Environment and Natural Resources ang Manila Water Sewerage System na gumamit ng deep well para maibsan ang shortage sa tubig sa Kamaynilaan.

Ayon kay DENR Usec. Benny Antiporda, pinahintulutan ng ahensya ang MWSS na gamitin ang deep well upang makakuha ng tubig na maaari nitong isuplay sa kanyang mga water concessioner na Maynilad at Manila Water.

Sa press conference kahapon sa tanggapan ng DENR, sinabi ni Antiporda na 30 milyon litro ng tubig ang maaaring gamitin ng MWSS sa araw-araw sa sandaling buksan ang mga deep well na pinayagan ng DENR.

"Gagamitin ng MWSS ang mga deep well para maibsan ang krisis sa tubig" ani pa ni Antiporda.

Ayon pa kay Antiporda, sa katapusan ng Abril 2019, may karagdagang 50 milyon liters ng tubig mula sa deep well ang maaaring gamitin ng MWSS kada araw na tatagal hanggang Oktubre ng kasalukuyan taon.

Nauna rito ipinag-utos na ni Pangulong Rodrigo Duterte sa Metropolitan Waterworks and Sewerage System na pakilusin ang Manila Water at Maynilad upang maibsan ang nararansang water shortage sa Metro Manila at mga bayan sa Rizal.

Idinagdag pa ni Antiporda na ang MWSS lang ang binigyan ng DENR ng permit para gumamit ng deep well at walang ibang pribadong kompanya ang maaaring gumamit nito.

Idinagdag pa ng opisyal na kailangan umaksyon ng pamahalaan sa nararansang kakulangan ng tubig sa maraming lugar sa bansa at ito ang paggamit ng deep well ang isa sa naisip na solusyon ng DENR.

Nagbabala naman si Antiporda na sa sandaling magsimula ang paggamit ng deep well hindi ito maaaring inumin at maaari lang gamitin na panlaba, panghugas at pampaligo. **S CELARIO**



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## Problema sa tubig, nasasabayan ng dagdag-basura

**N**AKABABAHALA ang patuloy na kakulangan sa supply ng tubig dahil nagsasanga ito ng iba pang problema at isyu.

Tulad sa kalikasan, nababahala ang environmental watch group na EcoWaste Coalition sa patuloy na nararanasang water shortage, partikular na sa Metro Manila.

Nagdudulot ang nasabing krisis sa pagdami ng mga gumagamit ng disposable products.

Mas pinipili ng mga nasa bahay at business establishments na gumamit ng mga plastik na plato, kutsara, tinidor at baso para makaiwas sa paggamit ng tubig.

Nangangahulugan ito ng dagdag-basura kada araw na kung hindi agad masosolusyunan ay panibagong suliranin na naman ang kahaharapin, lalo na kapag panahon na naman ng tag-ulan na sinusundan ng baha.

Kaya umaasa tayo na kasunod ng utos ni Pangulong Rodrigo Duterte sa Metropolitan Waterworks and Sewerage System (MWSS) na pakilusin ang Manila Water at Maynilad ay maiibsan na ang kakapusan sa tubig.

Kung saan inoobliga na ang mga ito at iba pang responsableng ahensiya na mag-release ng tubig mula sa Angat Dam epektibo kahapon ng tanghali.

Ang nasabing ire-release na tubig ay dapat umanong tumagal ng 150 araw upang masuplayan ang mga apektadong lugar sa Metro Manila at Rizal.

Dapat ding matiyak na maipamamahagi ito ng patas at tama sa mga apektadong residente.

Kasabay nito ang banta na ang sinumang mabigo na tumugon sa utos ay si Pangulong Duterte umano ang mismong hahabol at titiyak na sila ay mananagot.



## Water shortage increases use of disposable plastics

THE demand for disposable products and packaging may increase with the ongoing water service interruption affecting customers of Manila Water in Metro Manila that will result to more garbage.

This is the concern aired by the environment-advocate group EcoWaste Coalition as the World Consumer Rights Day is observed today. The group said the water supply in Manila Water-served areas remains difficult with the water concessionaire announcing six to 20 hours of daily service interruption until the start of the rainy season.

The group's national coordinator, Aileen Lucero said that due to the continuing water shortage affecting six million people in the East Zone of



Metro Manila, some eateries have turned to disposable plates, spoons, forks and cups, mostly plastic-based, to avoid the use of water. Some sellers even wrapped plates with thin film plastic bags to avoid washing them.

"The increased demand for disposable items during this time of water scarcity will surely add to the volume of residual garbage that gen-

erators from households to business establishments churn out every day," Lucero said.

"With taps running dry, we fear that more people and businesses will be encouraged to buy and use more single-use plastic disposables during the waterless period," she added.

The group reminded Manila Water and the country's water authorities that access to clean water is a fundamental consumer and human right.

"It's sad that many Filipinos will mark the World Consumer Rights Day in long queues for water rationed by Manila Water," Lucero said.

The group had earlier joined the call for water conservation amidst the water shortage.

**Cory Martinez**





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# Balita

ANG NANGUNGUNANG PAHAYAGANG TAGALOG SA BANGSA



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## 7 illegal loggers, timbog sa Apayao

LA TRINIDAD, Benguet - Huli sa akto ang pitong illegal loggers habang iligal na namumutol ng puno sa Sitio Carallan, Barangay Luyon, Luna, Apayao, kamakailan.

Sa report natanggap ng Police Regional Office-Cordillera, hindi nakapalag nang datnan ng mga operatiba ng Luna Municipal Police Station at bgy.

officials, ang mga suspek na nakilalang sina Lorenzo Tenorio Espiritu, 48; Roger Guerrero Cotillon, 38; Rey Orus Mina, 26; June-June Orus Mina, 19; Robert Curitug Atabay; Michael Maluom Atabay, 28, at Ryan Pedronan Paligat, 20, na pawang taga-Pamplona, Cagayan.

Nakumpiska ang total volume na 1,126.63 board feet na nagkakahalaga

P22,532.6 at dalawang unit na unregistered chainsaw.

Ang mga dinakip na suspek ay kinasuhan ng paglabag sa Presidential Decree 705 (Revised Forestry Code of the Philippines) at Republic Act 9175 (Chainsaw Act of 2002).

**Rizaldy Comanda**



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## SMC to build PH's first recycled plastic roads

Magtatayo ang San Miguel Corporation (SMC) ng mga kalsada mula sa recycled plastics para mabawasan ang paglala ng plastic waste sa kalikasan.

"This initiative is part of our push towards greater sustainability. Two years ago, we announced our major water sustainability project: to cut SMC water use by 50% by 2025. Recently, we reported that we beat our 2020 intermediate deadline of 20% reduction, by two years. Last year, we announced another initiative, and that is to address solid waste pollution. This project is part of that goal," sabi ni SMC president and COO Ramon S. Ang.

Makakatuwang ng SMC ang nangungunang materials science company na Dow Chemical para sa nasabing proyekto na gagamit ng hard-to-recycle plastics bilang isang

alternative raw material input sa aspalto sa paggawa ng kalsada.

"Developing roads using plastics that would have otherwise ended up in landfills or our bodies of water is an environment-friendly method of disposing of scrap plastics," he continued. "We can help our environment and at the same time improve the quality of our infrastructure projects. We are eager to begin this initiative," dagdag pa ni Ang.

Ilan sa mga benepisyo ng paggamit ng recycled plastics para sa road surfacing ay ang stability at durability ng mga kalsada; pagtaas ng skid resistance para sa road safety; mas mahabang buhay ng mga kalsada; pagbaba ng gastusin sa aspalto at mas kakaunting basura para sa mga landfills.

Nakagawa na ang Dow ng mga proyekto na

gumagamit ng plastics para sa pag-modify ng bitumen, ginagamit sa paggawa ng aspalto, na sinubukan sa India, Indonesia at Thailand.

Susubukan ng SMC ang nasabing technology sa mga maliliit na municipal roads pati na sa mga sidewalks at parking lots.

Kung ito ay magiging epektibo at papasa sa lahat ng safety at quality requirements, itutuloy ito ng kumpanya sa mas malalaking infrastructure projects.

"While we are proud to be the first-mover in this area, we are very hopeful that we won't be the last or the only ones. The research is there and available to everyone, and we'll be glad to share our own processes and experience. At the end of the day, this kind of innovation will benefit the same environment we all share," dagdag ng SMC president at COO.



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## Dry spell-affected fishers cry for help

BY EIREENE JAIREE GOMEZ

**A**N alliance of fisherfolk on Friday cried for government help following sudden drops in fish catch and farmgate prices due to the El Niño phenomenon.

In a statement, the Pambansang Lakas ng Kilusang Mamatlakaya ng Pilipinas (Pamalalakaya) reported that the fish catch of small fishers in Manila Bay had declined to about 3 kilos from the usual 7 to 10 kilos per fishing trip.

"Small fishers are now enduring the diminishing fish catch due to El Niño. Oftentimes, there's only an empty net to bring home," Fernando Hicap, Pamalakaya na-

tional chairperson said.

"Fishing during El Niño is more difficult than usual because fish and other marine species migrate and move to deeper waters to find cooler temperature. Drought also triggers ecological disturbances such as massive fish kills and red tide phenomenon which effectively disrupt our fishing activity," Hicap added.

In Laguna de Bay, farmgate price of aquatic fish species has

dropped to an all time low due to the intense heat, Palamakaya said.

Farmgate price of tilapia was quoted at P20 per kilo compared to the pre-drought price of P50 per kilo or a 40-percent drop, while farmgate price of *bangus* or milkfish was P50 per kilo, a 71-percent drop from the pre-drought price of P70 per kilo, the group added.

"During dry spell, fish in Laguna de Bay acquires earthy-taste and smell because they go deep down the lake, making its farmgate price to drop because consumer demand for any kind of fish harvested during this season is very low. This reduces further whatever income small fishers can bring home to their families," Ronnel Arambulo, coordinator of Pamal-

akaya in Laguna de Bay explained.

Pamalalakaya urged the Department of Agriculture (DA) and the Bureau of Fisheries and Aquatic Resources (BFAR) to provide immediate relief in the form of economic assistance and subsidy to the fisherfolk whose livelihood are affected by the dry spell.

"Without delay, BFAR should address this devastating phenomenon by mobilizing its calamity fund to the drought-stricken fishing and rural communities for them to continue their production and sustain their families' daily needs," Hicap said.

In response, the DA-BFAR on Friday assured the public it was closely monitoring aquaculture areas and coastal communities in

Western seaboard areas, which are particularly prone to the effects of El Niño. The agency, however, maintains that impacts to aquaculture vary per species and farming systems.

BFAR National Director Eduardo Gongona told *The Manila Times* the agency has readied mitigating measures for the fisheries sector.

"While farmgate prices has dropped which cut our fishermen's earnings, we should also look at the brighter side that at least we still have production and food to eat. We will look at how to help our fishers sell their produce at a higher prices at the farmgate [level] while maintaining fair prices at the retail markets," Gongona said in a

phone interview.

Affected fisherfolk and their communities could also avail livelihood support and input assistance like seaweed seedlings, tilapia fingerlings, oyster rafts from the DA-BFAR, Gongona added.

Furthermore, the agency encouraged fisheries stakeholders to employ El Niño mitigating measures, especially in aquaculture, including the recommended stocking rate and feeding in fish farms to lower the risk of fish kill, reinforcement of dike peripheral for increased water holding, deeper fishpond to 1.0 to 1.5 meters by tidal intrusion, use of water re-circulating system, and use of species tolerant to changes in salinity.



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# SMC pledges P1 B for major river cleanup

**S**AN Miguel Corp. (SMC) and the Department of Environment and Natural Resources (DENR) has formalized their commitment to undertake an extensive cleanup of the Tullahan-Tinajeros river system — a crucial step to rehabilitating the Manila Bay.

Ramon Ang, SMC president and chief operating officer, and Environment Secretary Roy Cimatu signed a landmark memorandum of agreement (MoA) to implement a comprehensive dredging and cleanup of the 59.24-kilometer Tullahan-Tinajeros river system that starts from the La Mesa Reservoir and traverses the cities of Valenzuela and Malabon, before reaching the mouth of Manila Bay through Navotas.

Ang said SMC would provide DENR with P1 billion to fund the massive cleanup effort.

"The cleanup of the Tullahan River, like other river systems going out to Manila Bay, is crucial to bringing back the glory of the Manila Bay," Ang said.

"We are proud to partner with the DENR on this project. In the last couple of months, we have seen what can be done when our government has both political will and a clear understanding of what can be done to make a difference," he added.

And said the project is the perfect example of environmental progress that the public and pri-

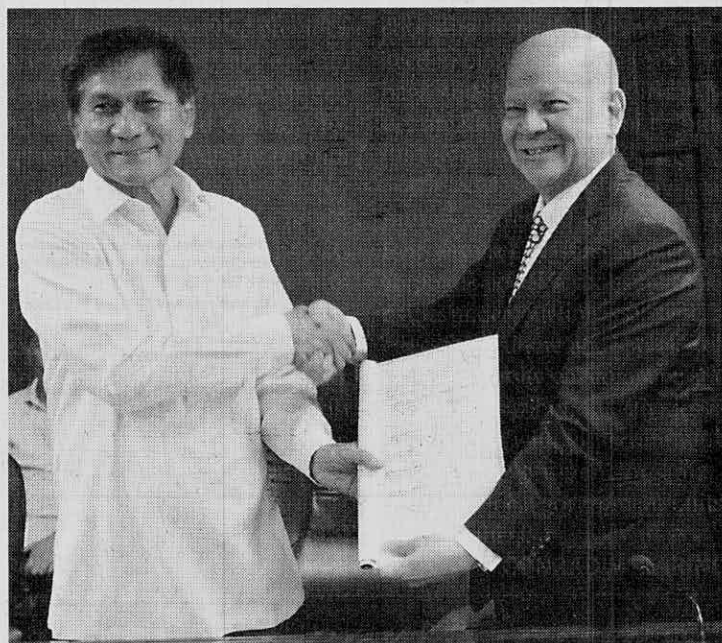
ivate sector can achieve together.

SMC's responsibility under the five-year agreement include: implementing a dredging and cleanup plan provided by the DENR to reduce solid wastes and floating debris; lending equipment, manpower and funding for equipment operations such as fuel and logistics costs; assisting in the community mobilization activities of the DENR; installing a trash trap and transferring dredged materials; and installing signages in related to the rehabilitation program.

SMC, which operates the country's oldest brewery in Polo, Valenzuela, has for many decades been dredging the Tullahan River.

In the past, it also donated backhoes and a barge to local government units, among many other efforts. The wastewater facilities in its plant also help ensure clean water makes it back to the river.

"Despite our best efforts to make the Tullahan a living, vital waterway, and even as we have managed to lessen the flooding during the rainy season by removing silt and garbage, the problem is too big," Ang said.



■ San Miguel Corp. President and Chief Operating Officer Ramon Ang (right) and Environment Secretary Roy Cimatu recently signed a landmark five-year agreement for the rehabilitation and massive cleanup of the Tullahan-Tinajeros River System. CONTRIBUTED PHOTO

"When you think of the Tullahan, you think of a dead river, an eyesore and a health hazard. But with the leadership and resolve of DENR Secretary Roy Cimatu and President Rodrigo Duterte, we know all this will change, just like in Boracay and the Manila Bay," he added.

Ang is confident that with the support of the DENR, local government units and local residents, the project will be a success.

During the six-month closure of Boracay, SMC provided government support by making its employee-volunteers at the Bora-

cay airport in Caticlan available for the cleanup effort.

It also adopted two of nine wetlands that filter inland wastewater before it moves to the sea.

Recently, the company announced that it had saved 7.7 billion liters of water under its "Water For All" program, which aims to reduce the company's water footprint by 50 percent by 2025.

The results mean San Miguel and its subsidiaries cut their water use by 23 percent in 2018, beating by two years its 2020 interim target of 20-percent reduction. **THE TIMES**



## Cebu starts campaign vs single-use plastics

By **MINERVA BC NEWMAN**

**CEBU CITY** – Provincial tourism and environment officials joined city executives and civil society leaders in signing a declaration for a plastic-free Cebu.

The signing was made aboard the Rainbow Warrior, the flagship of the environmental crusading organization Greenpeace.

The Rainbow Warrior docked at Cebu Port last Wednesday for a global campaign against plastic pollution. It sails for Europe today, Saturday.

Greenpeace Southeast Asia-Philippines Campaigner Avigail Aguilar told Manila Bulletin Cebu is the second leg in the group's advocacy tour.

It is calling on multi-national corporations to reduce the use of plastic packaging and to find an alternative packaging system to eliminate plastics.

"We are cruising seas and oceans to clean our planet from plastics. Some scientists say in less than 20 years there will be more plastics than fish in the oceans and that 90 percent of

plastic thrown in waters turn microscopic," said Greenpeace Captain Pete Wilcox in a press conference Wednesday.

Aguilar said Cebu university students who toured the Rainbow Warrior interacted with global environmental warriors on how they can help in the "No Plastic Campaign."

The Declaration for a Cebu Free of Single-Use Plastic is a welcome initiative from the Cebuanos, hopefully to lead other regions in the Visayas to break free from single-use plastics, Aguilar added.

"Cebu will adopt measures that aim to reduce the use of recyclable materials, replace disposable materials and products with reusable ones, reduce packaging and increase the efficiency in the use of paper, cardboard, glass, metal and other materials," a portion of the Cebu Declaration read.

Beau Bacongus of Break Free from Plastic movement said most of the branded single-use plastics are produced by global corporations in Europe and America.



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Volunteers from NEC Philippines did more than their share in preserving the environment when they conducted a coastal cleanup on February 16 at the Las Piñas-Parañaque Critical Habitat and Ecotourism Area. CONTRIBUTED PHOTO

## NecPh does part vs solid waste pollution

NEC Philippines (Necph) conducted a coastal cleanup on February 16 at the Las Piñas-Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) situated south of Manila Bay along the coastal road or Cavitex.

LPPCHEA, a nature reserve, consists of two islands — the Freedom Island and Long Island. These two islands teem with mangroves, ponds and lagoons, mudflats, salt marshes, and mixed beach forest all over. It hosts as many as 41 species of migratory birds coming from China, Japan and Siberia.

Coastal cleanup is a periodic program of the Philippine Coast Guard Auxiliary (PCCA) Community Relations Service, Special Support Squadron to help create awareness of the problems from ocean and coastal garbage accumulation. By cooperating with PCCA, NecPh was able to contribute to addressing the solid waste issue within the

coast of Manila Bay. The PCCA is a uniformed volunteer organization established by the Philippine Coast Guard (PCG) in 1972.

NecPh held the activity at the Freedom Island Trail, with more than 50 employees, including top management volunteering with their family members. With net bags, gloves, masks and tongs, the NECPH volunteers sorted the garbage and were asked to document every trash they collected using the Ocean Trash Data form. The data gathered helps PCCA research the types of solid wastes thrown at Baywalk along Roxas Boulevard.

As dawn broke, the volunteers harvested more than 20 sacks of trash.

NecPh Deputy President George Yamamoto also joined the activity along with his son, the 9-year old Lio, who was arguably the best volunteer of the day.

According to Yamamoto, it was the first time the company

organized a coastal cleanup for its environmental sustainability initiative. It surely won't be the last.

"It was a great honor to help the Philippine environment," Yamamoto said after all the sacks were filled with trash.

Marivic Segismundo, NecPh sales director for service provider, utilities and broadcast and an active PCCA officer-volunteer, headed the coastal cleanup together with other officers of both the PCCA and PCG.

"Refuse what you don't need," she said, adding that the three Rs — reduce, reuse, recycle — is of the olden days. Segismundo said that people should think of 8Rs now: refuse reduce, reuse, repair, regift, recover, recycle and most importantly, rethink your own consumption and how it impacts the earth.

According to Jeremiah Ching of PCCA, the organization holds en-

vironmental activities every month as marine and environmental protection is one of its mandates. PCCA also undertakes reef building and mangrove planting.

The PCCA volunteer said that people should refuse disposable plastic such as straw. She added choosing items that are not packaged in plastic, carrying your own bags, and refusing single-use plastics are just some ways of helping the environment.

The NEC group globally promotes awareness over mid- to long-term social issues through its corporate social responsibility activities under four universal themes: education, culture and sports; welfare and diversity; environment; and regional contribution activities in cooperation with local communities, nongovernment organizations and local government units, among others.

CONRAD M. CARIÑO



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ON THE RIGHT TRACK

By Kathleen de Villa  
Inquirer Research

The City of Ormoc in Leyte province is on track to becoming a sustainable city as it continues to be a leader in clean energy and climate change mitigation.

Vulnerable to flooding and disasters, Ormoc City, in its vision and mission, aims to become the renewable energy capital of the Philippines and the agro-commercial and industrial gateway in Eastern Visayas in a resilient environment.

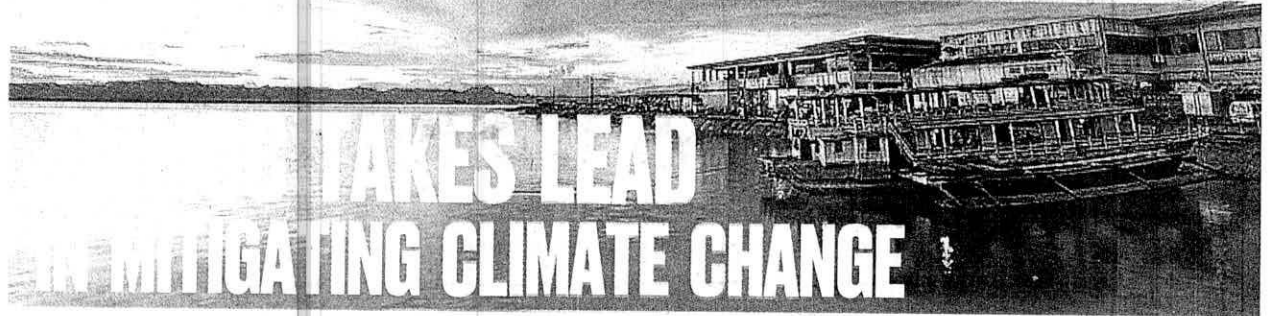
The city government of Ormoc has a Local Climate Change Action Plan 2016-2025, which is meant to serve an initial 10-year action plan that outlines the city's specific programs and strategies to mitigate climate change.

In an executive order signed by Ormoc City Mayor Richard Gomez, a technical working group and a core team were created to conduct community hazard and vulnerability reports, surveys and workshops and data generation for the creation of the action plan.

**Urban planning**

The city has also partnered with the United Nations Human Settlements Program (UN-Habitat) and the Housing and Land Use Regulatory Board (HLURB) in a German government-funded project called, "Building Climate Resiliency Through Urban Plans and Designs."

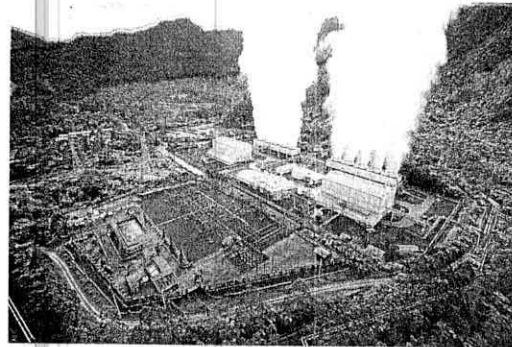
To be implemented from 2017 to 2020, the project aims to



support five local government units namely, the cities of Ormoc, Angeles, Cagayan de Oro, Legazpi and Tagum, in improving policies and regulations in climate change adaptation through sustainable urban development plans and designs.

In November 2018, a resilient, eight-classroom school building in Margen National High School in Ormoc City was built, in response to Super typhoon "Yolanda" (international name: Haiyan), which wreaked havoc in the city back in 2013.

Sponsored by geothermal company Energy Development Corp. (EDC) and its partners from the Lopez Group of companies, the two-storey building can withstand a wind velocity of 250 kilometers per hour and magnitude 7.2 earthquakes. Such features are pursuant to the standard of Department of Public Works and Highways and the minimum performance standards and specification for typhoon-resilient structures of



Ormoc City aims to become the renewable energy capital of the Philippines.  
[HTTP://CLIMATEREALITY.PH](http://climateresilience.ph)

the Department of Education.

Apart from these features, the school building can also be turned into an evacuation site as it has a kitchen and a shower area.

**Initiatives**

The city also boasts of a geographic information system, which was used as early as 1998,

in its disaster preparedness to typhoons. Another project of the city to reduce carbon emissions and improve the lives of people is the 1.8-ha sanitary landfill opened in 2012.

The P55.5-million landfill, located in Barangay Green Valley, replaced the open dump in Barangay Macabug that had

been used since 1960. This landfill does not only reduce the release of greenhouse gases and generate employment, but it can also recycle excess waste.

Ormoc is likewise known for hosting geothermal power plants, which are some of the largest in Asia. In 1983, the Philippines became the second largest producer of geothermal power in the world after the 112.5-megawatt Tongonan power plant, which is located in Ormoc, was commissioned.

All these sustainable initiatives of Ormoc have been recognized since the 1990s.

In 2016, EDC's Tongonan geothermal plant was the only recipient of the Philippine Environment Partnership Program (PEPP) Seal of Approval given annually by the Department of Environment and Natural Resources. PEPP seeks to promote the use of nonpolluting business processes.

In November 2018, the city received the Allen S. Quimpo Cli-

mate Leadership for Governance Memorial Award at the Reality Leadership Awards "advancing climate action promoting renewable energy."

Ormoc City was also the "Cleanest and Greenest" three consecutive years from 1997 to 1999, for which it received a trophy and P1 million.

A Commission on Alternative Dispute Resolution (ADR) report however showed that 37 percent or P60.3 million of the total P161.7 million disaster risk reduction management (CDRRM) funds were used in 2017. Much remains to be done to ensure disbursement of funds at track the implementation of projects for disaster preparedness and response as well as climate change adaptation.

Sources: Inquirer Arch  
[ormoc.gov.ph](http://ormoc.gov.ph), [denr.gov.ph](http://denr.gov.ph), [pia.gov.ph](http://pia.gov.ph), [designingresilience.ph/ormoc](http://designingresilience.ph/ormoc)

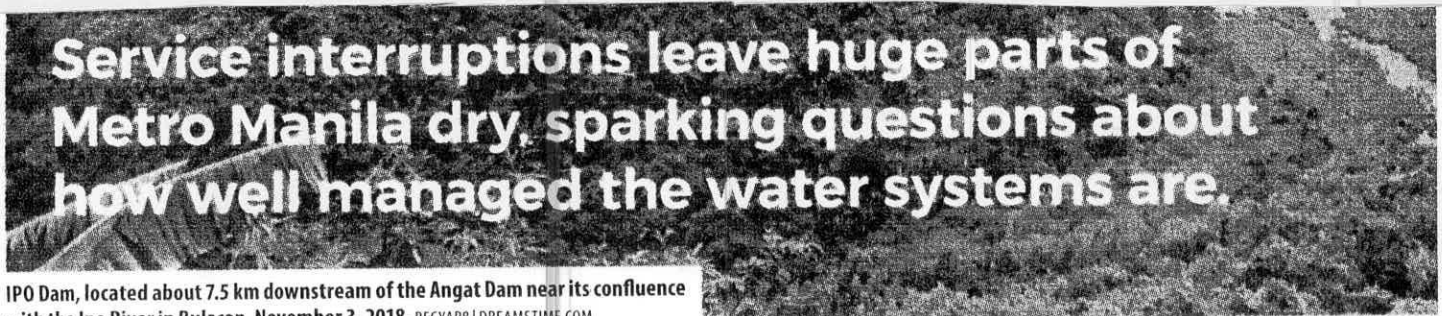


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# The Summer of Water Discontent



Service interruptions leave huge parts of Metro Manila dry, sparking questions about how well managed the water systems are.

IPO Dam, located about 7.5 km downstream of the Angat Dam near its confluence with the Ipo River in Bulacan, November 3, 2018. RECYAP8 | DREAMSTIME.COM

By JONATHAN L. MAYUGA

**M**ETROPOLITAN Waterworks and Sewerage System (MWSS) Administrator Reynaldo V. Velasco is pitching calls for the crafting of a 50-year Water Security and Used Water Master Plan for Metro Manila and its service areas in light of the current water supply shortage affecting the so-called East Zone of Metro Manila.



RESIDENTS of Barangay Barangka in Mandaluyong City line up for their water ration on March 13, 2019. NONIE REYES



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Velasco said that by August, in time for the 22nd anniversary of the public-private partnership (PPP) tie-up between the MWSS and its private water concessionaires—the Ayala-led Manila Water Company Inc. and the MVP-led Maynilad Water Services Inc.—he will call for a summit among various stakeholders to pursue the crafting of the master plan as the main agenda.

“An executive committee and technical working group will be created shortly to put on track all the short-term and long-term solutions to water security, sewerage and other related issues,” he told reporters at a news conference on Wednesday, a day ahead of the

kick-off of the two-day Asian Water Council 8th Board of Council Meeting, 3rd General Assembly and Elections happening on March 14 and 15 at Makati Diamond Residences in Makati City.

Maynilad President Ramoncito Fernandez and Manila Water President Ferdinand dela Cruz, during the same news conference, expressed support for the country’s hosting of the international conference, as well as the proposal to craft a water security and used water master plan for Metro Manila. Incidentally, it all came on the heels of a water crisis in Metro Manila—blamed on a combination of population

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growth and the corresponding uptick in the number of water consumers, the unusually huge demand brought about by a "mild" El Niño and limited water allocation for the East Zone.

About 52,000 households of Manila Water customers are currently without water. And this does not include areas with decreased or low pressure, which intermittently experience water service interruptions.

Business establishments, government offices, including schools in about 35 barangays in the East Zone, the concession area of Manila Water, are still experiencing severe water shortage. Dela Cruz

said the situation could improve, albeit "not immediately."

### Three months

"WE just don't want to give false expectation as the situation will not improve immediately. This will continue throughout the summer period," he told the BUSINESSMIRROR.

On Thursday, Manila Water announced that it is employing a revised water interruption scheme with more definite schedules effective immediately. Under such a scheme, customers may experience from six to 20 hours of service interruption daily.

"However, when water is available in their taps, pressure may be lower than usual. This scheme, which covers the entire East Zone,

may last for the next three months or until the rainy season sets in," the company's public advisory sent to the media via e-mail stated.

Manila Water has deployed 20 water trucks to distribute water to affected areas on a daily basis, while waiting for an additional supply that will come from the soon-to-be-completed Cardona Water Treatment Plant in Cardona, Rizal.

### Tap Laguna de Bay

BY the end of the month, the Cardona plant, which will draw water from Laguna de Bay, will be able to produce about 50 million liters per day (MLD) and another 50 MLD by August as work progresses.

Velasco said he had also requested Maynilad to provide an

additional 50 MLD from its water allocation to Manila Water, which Maynilad granted, adding that such "generosity" will not affect their operation.

Of the 4,000 MLD allocation approved by the National Water Resources Board (NWRB) for MWSS, 2,400 MLD goes to Maynilad, while the remaining 1,600 MLD goes to Manila Water. The demand of Manila Water customers had peaked to 1,740 MLD in February, but dela Cruz said the company has been augmenting supply from the La Mesa Dam, a water reservoir, since its number of customers had grown over the years, resulting in increased demand.

### Deep well option

TO address the present water shortage being experienced by Manila Water, Velasco said he has requested the NWRB, through Executive Director Virgilio David, to allow Manila Water to activate deep wells, which can supply an additional 100 MLD to its consumers.

A memorandum of agreement

will be signed between the NWRB and Manila Water for the activation of the deep wells, Velasco said.

The MWSS, he added, will also look into the proposal to construct a new treatment plan so as to preserve La Mesa Dam as a water reserve area in the future, including the much-needed repairs of conveyance pipes, some of which were installed in the 1930s, 1950s, and 1970s.

According to Velasco, with such measures, it is now up to Manila Water how best to operate the promised additional water supply to ease the burden of its customers.

Earlier, Manila Water COO Geodino V. Carpio, explaining over CNN Philippines the current predicament of Manila Water's customers, said the company has had to experience a "supply shortage" by an average of 140 MLD per day since 2016.

The installed aqueduct from Angat to Ipo Dam, and Ipo Dam to La Mesa Dam, also has limitations, which means there's a need to enlarge its capacity, because even if the NWRB were to allow Manila Water to draw down a higher water allocation, the limited capacity of the aqueduct will constrict the flow of supply.

Despite the current situation, Velasco assured the public that there will be enough water to supply the future needs of the 20 million residents in Metro Manila and nearby provinces serviced by Manila Water, Maynilad and Bulacan Bulk Water in the next 10 to 15 years.

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## Playing catch-up

ADMITTEDLY, he said, the MWSS and its private sector partners are on a catch-up mode as far as the water supply source is concerned.

"Our main source, which is the Angat Dam that supplies 96 percent of water to Metro Manila and the provinces of Bulacan, Cavite and Rizal, was built in 1967, and no water source has been built since then except for some water supply projects from Laguna de Bay by both Maynilad and Manila Water," he said.

## Solutions

ACCORDING to Velasco, the Duterte administration is vigorously pushing for other major water supply projects that will ensure water security for Metro Manila

and the serviced provinces.

The MWSS chief reiterated his call to the Department of Environment and Natural Resources DENR for the approval of the environmental compliance certificate (ECC) of the much-delayed 600-MLD Kaliwa Dam Project which is targeted for completion in 2023.

According to Velasco, the initial agreement on the water allocation once the Kaliwa Dam is completed is for 350 MLD to go to Manila Water and 250 to Maynilad.

The long-stalled project, which was started during the time of former President Ferdinand Marcos, was only revived under the Duterte administration.

Aside from the Kaliwa Dam Project, Velasco said the MWSS is also pinning its hopes on the Wawa Dam Project. He said he had been encouraging Manila Water and the proponent of the Wawa Water Source Development, Prime Infra, to sit down and find ways to jointly work for the immediate production of additional 500 MLD and the implementation of Manila Water's 80-MLD supply of water for consumers in the East Zone.

Meanwhile, the so-called ABC Projects that will produce an additional 1,200 MLD, Velasco said, cover the completion of the feasibility study for the Angat-Norzagaray Optimization Plan or the "A" component by ITP-JV Co., and is expected this May for approval.

The project will hopefully produce some initial 250 MLD by 2021 and an additional 550 MLD by 2024. Both Manila Water and Maynilad will receive water allocation from the A Project.

The B component, or the Bayabas Dam in Doña Remedios Trinidad in Bulacan, with a 350-MLD capacity, is intended for the Bulacan Bulk Water.

The C component of the ABC Project is the Candaba Multi-Purpose Impounding Dam Project.

"MWSS would like to see the day when all the three concessionaires have independent and sufficient water supply sources to better serve the consuming public," Velasco said.

From the looks of it, that day is long in coming. Meantime, the people seethe in a summer of utter discontent.



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## Pangangalaga sa mga lugar ng pawikan

**I**SINUSULONG ngayon ng Department of Environment and Natural Resources (DENR) sa Region 12 (Soccsksargen) ang deklarasyon ng baybaying komunidad ng bayan ng Glan, Sarangani bilang nesting site para sa mga pawikan o marine turtles.

Ibinahagi ni Nilo Tamoria, DENR-12 regional executive director, nitong Huwebes na nagsumite na sila ng resolusyon nitong nakaraang buwan mula sa konseho ng barangay Burias sa Glan para sa konserbasyon at proteksiyon ng mga pinagpupugaran na lugar ng mga pawikan.

Aniya, hinihintay na lamang ang pagsang-ayon at pag-apruba ng munisipal na pamahalaan at Protected Area Management Board ng Sarangani Bay Protected Seascape.

Para sa kanya, mahalaga na maideklara ang lugar bilang nesting site upang maipatupad ang implementasyon ng tamang proteksiyon na hakbang.

Bilang bahagi ng hakbang, nagtatag na ang ahensiya ng enclosure para sa mga pugad ng mga pawikan sa kahabaan ng baybayin.

Ayon kay Tamoria, nakipag-ugnayan na sila sa mga residente ng komunidad upang matulungan sila na mabantayan ang mga nesting sites at mga pawikan sa lugar.

"We advised them to report to the nearest DENR office any sightings of sea turtles in their areas and turn them over if caught or trapped in fish nets or cages," saad niya.

Ang baybayin ng Barangay Burias ay regular nang ginagamit na nesting site ng mga pawikan sa nakalipas na mga taon.

Kabilang ang uri ng sea turtle o pawikan sa lugar sa listahan ng International Union for Conservation of Nature and Natural Resources (IUCN) bilang endangered at mabilis na mauubos dahil sa panghuhuli at eksploytasyon ng mga tao.

Sinabi naman ni Burias Councilor Ali Gampal na hindi na lingid sa kaalaman ng mga residente ang kalagayan ng mga hayop at tumutulong na ang mga ito sa pagprotekta sa mga pawikan. Noong una kalimitan, aniya, sa mga residente ay hindi naiintindihan ang kahalagahan ng pawikan ngunit ngayon ay naiintindihan na ng mga ito ang halaga ng laman-dagat.

Patuloy rin ang pakikipag-ugnayan ng Community Environment and Natural Resources Office ng Glan sa mga residente upang maibahagi ang kahalagahan ng mga pawikan at ang konserbasyon dito.

Tinuturuan umano nito ang mga residente sa lugar ng tamang solid waste management, lalo na sa mga apektado ng polusyon sa plastic, na nagiging panganib sa buhay ng mga marine wildlife.

Ayon pa sa opisyal, tumutulong ang RD Foundation para sa komunidad sa pangangalaga sa mga pawikan at plano rin nila na magtayo ng turtle hatchery sa lugar.

Bilang inisyal na pagbabahagi, nagkaloob ang foundation ng mga 'wire mesh enclosures' para sa mga pugad ng pawikan sa lugar.



# Water resilience

**T**oday's water situation in Metro Manila reminds me of a similar situation we had 30 years ago. Back then, the metro also faced a critical shortage of power, facing up to 8 to 10 hours of power outages or "brownouts" daily. The situations are not exactly identical, but there are enough similarities from which to draw some lessons.

From 1989 to the early 1990s, Metro Manila suffered from rotating 8-10 hour power outages in the summer. This meant that some portions of the city faced a brownout sometime during the day. The main culprit then was the lack of supply of electricity for distribution to customers. The problem was not limited to Metro Manila; similar problems were experienced across Mindanao, again on account of lack of supply.

Working our way out of that power problem required close public-private sector coordination, a change in consumer behavior, demand-side management, better designs for energy efficiency, and long-term policy and legislation to address the problem of supply. A similar approach will be needed to address this water situation.

Angat Dam has, for many years, been the major source of water for the city; it supplies 97 percent of Metro Manila's supply. The volume of water drawn down by the two water utilities—Manila Water and Maynilad—has been fixed since 1997. Three factors alone should have driven policy decisions to establish other sources of water for the city.

The first is population. In 1997, Metro

## BUSINESS MATTERS

GUILLERMO M. LUZ

Manila's population was approximately 9 million people. By 2015, the population was 12.8 million (nighttime) and an estimated 16 million by day. By 2020, the population is expected to grow to 19.4 million. Today, the Mega Manila population (which includes areas just north, south and east of the metropolitan area) is 21.3 million. With no adjustments made in the volume of raw water drawn from Angat or from new sources, the only way to increase actual potable water supply is for the water companies to raise their efficiencies by cutting nonrevenue water (which includes all water not fit to serve, as well as leaks). Both companies have done that, and Manila Water has cut nonrevenue water to 12 percent, well within global standards. There is little more supply for it to add, without a new source of water.

The second factor is El Niño. Rainfall patterns have long been established and tracked, so periods of high and low rainfall have been known for years. Those patterns will likely shift over time due to climate change. The shift will be toward the extremes—either abnormally high rainfall that will lead to flooding in some places, or abnormally low rainfall and droughts that will contribute to water shortages (and curb agricultural production).

The third factor is the West Valley

Fault. The Philippine Institute of Volcanology and Seismology estimates that the fault runs just 200 meters east of the Main Dyke. For this reason, the government, as far back as 2012, has embarked on a series of projects to strengthen the Angat Dam and Dyke. Can you imagine the impact of a 7.2-magnitude earthquake (the Big One) on a dam that supplies 97 percent of Metro Manila's water?

Warnings have been issued on the catastrophic effects of overdependence on a single source of water supply, considering these and other factors. But, as is usually the case with warnings, people pay no heed or little attention to them so long as supply is still there (as was the case with the power situation in the 1990s). Communication and coordination are absolutely important here.

Ultimately, policy and legislation need to be put in place to address the core issue of lack of supply. There are at least 11 bills pending in Congress for a Department of Water Resources or Water Regulatory Commission. Let's hope they simplify the current structure of water management in the country, where as many as 30 agencies play a role. Hopefully, we can then move toward greater water resilience.

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