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DENR

IN THE NEWS

Strategic Communication and Initiative Service



TITLE:

PAGE 1/

Rehab ng Manila Bay, magtatagumpay

NANINIWALA si Environment Sec. Roy A. Cimatu na magtatagumpay ang pagsisikap ng pamahalaan para sa rehabilitasyon ng Manila Bay upang muling ibalik ang malinis at ganda ng baybayin.

Ayon kay Cimatu, kinakailangan ng pamahalaan ang tulong hindi lamang ng mga ahensya ng pamahalaan gayon din ang mamamayan at mga barangay official upang maging matagumpay ang rehabilitasyon ng Manila Bay.

Sa inilunsad ang proyektong 'Toka Toka Para sa Malinis na Taguig River' na pinangunahan ng DENR, Taguig City government, Manila Water, Ayala Corp. inilunsad ang proyekto sa Taguig Football gym kahapon ng umaga para sa rehabilitasyon ng mga ilog sa Taguig City na dumadaloy patungo sa Manila Bay.

Ayon kay Cimatu ang paglilinis sa Taguig river, bilang bahagi ng hakbang para sa rehabilitasyon ng Manila Bay at kinakailangan ang lahat ng mga establisyemento, sumunod sa clean water facilities.

Dumalo rin ang outgoing CEO ng Ayala Corp. na si Ferdinand M. Dela Cruz na pinalitan ni dating secretary Rene D. Almendras na nakiisa sa clean up.

Sinabi pa ni Cimatu na ang tinawag na "Battle for Manila Bay", maaaring abutin ng ilang taon subali't handang harapin ng DENR ang naturang hamon.

(Boy Celario)



DENR KATUWANG ANG MUNISIPYO NG GENERAL TINIO NA NAGSAGAWA NG TREE PLANTING SA SIERRA MADRE

ISINAGAWA ng Department of Environment and Natural Resources (DENR), katuwang ang munisipyo ng General Tinio sa probinsya ng Nueva Ecija at mga stakeholder, ang tree planting activity sa Sierra Madre na may layuning pag-yabungin muli ang kagubatan nito.

Ang pagtatanim sa Upper Tabuating Small Reservoir Irrigation Project noong Agosto 16 ay ang pang-apat na kaugnay ng Sierra Madre Greening Program. Naganap ang naunang tatlo noong Hulyo 14 at 26 at Agosto 3 alinsunod sa "Adopt-A-Mountain" Program" na nakasaad sa DENR Administrative Order (DAO) No. 98-62.

Maliban sa lokal na pamahalaan ng General Tinio, katuwang din ng DENR ang National Irrigation Administration, Armed Forces of the Philippines, Philippine National Police at ang Rotary Club ng Makati Rockwell, Makati EDSA at San Francisco del Monte, Quezon City.

Ang mga tree planting ac-

tivities ay tumutugon din sa certification ng DENR ISO 14001:2015 kung saan kailangan ang patuloy na pagpapayabong ng mga degraded forest areas.

Noong 2015, ang DENR ang kauna-unahang ahensya ng pamahalaan na nakatanggap ng ISO 14001:2015 mula sa ISO, isang international standard-setting body na binubuo ng mga kinatawan mula sa national standard organizations ng higit sa 140 member-countries.

Mula noon, ibinibigay ang sertipikasyon sa DENR batay sa rekomendasyon ng opisina ng Standard Global Services (SGS) sa Pilipinas. Ang SGS ang nangungunang inspection, verification, testing and certification firm sa buong mundo.

Ang ISO 14001 ay isang napagkasunduang pang-daigdigang pamantayan na nagsasaad ng requirements para sa isang environmental management system. Tinutulungan nito ang mga organisasyon na isaayos ang ka-



DR. HILDA C. ONG

nilang environmental performance sa pamamagitan ng mas maayos na gamit ng resources at pagbabawas ng basura upang magkaroon ng competitive advantage at makuha ang tiwala ng stakeholders.

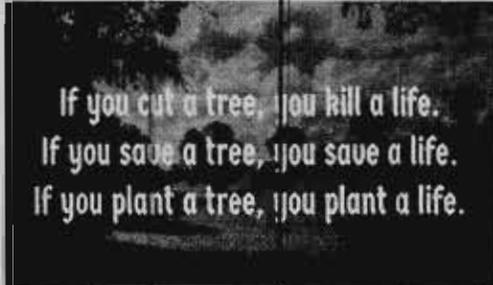
Ang tree planting activity, na pinamunuan ni DENR Internal Audit Service Director Rolando Castro, ay makatutulong na i-reforest ang Sierra Madre na nagbibigay ng tubig sa Angat Dam, ang pangunahing pinagmumulan ng tubig sa Metro Manila.

Sa kabilang dako, nagpasalamat ang alkalde ng

General Tinio na si Isidro T. Pajarillaga sa DENR at sa lahat ng nakilahok sa tree planting activities.

"Itinuturing kong bayani ang bawat isa sa inyong nagtanim ng puno sa araw na ito," ay Pajarillaga. "Ito po ang simula ng napakagandang hanapin para sa ating kalikasan."

Nakibahagi din sa tree planting activities ang mga kinatawan ng Guardians-Nueva Ecija Chapter, mga mag-aaral at residente ng Barangay Nazareth, at mga lokal na opisyal mula sa iba't ibang munisipalidad at lungsod sa Nueva Ecija.



(Photo credit to Facebook Van Der WEI Ltd)



Taguig River cleanup gets major lift

By Rochelle M. Acse

The Department of Environment and Natural Resources (DENR) revealed on Saturday that the Taguig River has found a new benefactor in Ayala Corporation – which included the river as one of the bodies of water it intends to rehabilitate.

The DENR aims to fulfill its promise of cleaning waterways in the metro leading to the Manila Bay.

In a statement on the sidelines of the Taguig River cleanup drive yesterday, Cimatu said that the Ayala Corporation as officially “adopted” the river and will be one of the prioritized body of water to be restored.

“It has been adopted. We have a memorandum of agreement on it. It is officially adopted,” Cimatu said.

The Environment secretary also noted that water concessionaire Manila Water – which is part of the Ayala conglomerate – will take charge of the clean-up operations. The water concessionaire earlier launched the

“Toka-toka para sa Taguig River,” a program where Manila Water and local government officials conduct a river cleanup and an information drive.

“The only way for us to clean Taguig river is for us to clean it ourselves. We, the national government will be able to clean it,” Cimatu said. “That is I think the intention of Manila Water, to dredge the river, remove all the garbage that are embedded on the river floor. That’s the memorandum of agreement we have between Manila Water and Ayala.”

Cimatu also highlighted the importance of restoring Taguig River and other areas, including Laguna Lake and Manila Bay, saying that plans for the bay’s bay walk construction will be submitted in a few weeks.

The DENR chief also revealed that the three estuaries in Manila which are being used to dump wastewater into Manila Bay will be connected. This will then place wastewater, although treated, to a portion of the bay far from the swimming area.



01 SEP 2019

DATE

TITLE: _____

PAGE 1/ _____

'No Plastic Day' tuwing Biyernes sa Cebu

Nagkasundo ang mga opisyal ng Cebu City na gawing 'No Plastic Day' ang mga araw ng Biyernes upang mabawasan ang plastic waste sa siyudad.

Ito ang nakasaad sa Section 15 ng City Ordinance (CO) 2343 na nag-uutos na bawasan ang paggamit ng mga

plastic.

Sa pamamagitan ng 'No Plastic Day' tuwing Biyernes, mababawasan ang isa sa sanhi ng pagbabara ng mga kanal at pagbabaha dahil na rin sa napabalitang 70% na mga drainage ay puno ng mga plastic waste. (Vick Aquino)



STRATEGIC
COMMUNICATION
INITIATIVES
SERVICE

01 SEP 2019

DATE

TITLE:

PAGE 1/



Jeepney drivers avail themselves of free smoke emission test provided by the Baguio City government in partnership with the DENR along Harrison Road on Thursday.

ANDY ZAPATA JR.



AIRBORNE RESEARCH TARGETS WEATHER, CLIMATE SCIENCE

Nasa investigates impact of PHL smoke on clouds

THE P-3B science aircraft of National Aeronautics Space Administration (Nasa) soared into the skies over the Philippines last weekend to begin a nearly two-month-long investigation on the impact that smoke from fires and pollution have on clouds, a key factor in improving weather and climate forecasts.

The Cloud, Aerosol and Monsoon Processes Philippines Experiment (CAMP2Ex) is the most comprehensive field campaign to date in Maritime Southeast Asia to study the relationship between aerosol particles as they interact with surrounding monsoon meteorology, cloud microphysics and the sun's radiation, the US Embassy in the Philippines Information Office said in a press release.

Led by Nasa, the US Naval Research Laboratory (NRL) and the Manila Observatory, in conjunction with the Philippine Atmospheric, Geophysical and Astronomical Services Administration and the Philippine Department of Science and Technology, CAMP2Ex comprises an interdisciplinary, international team of field researchers, modelers and remote sensing developers.

The study seeks to tackle some of the most difficult weather and climate phenomena to understand, monitor and forecast.

The Maritime Continent—comprising Sumatra, Malay Peninsula, Borneo, Sulawesi, the Philippines and numerous other islands and surrounding seas—has been long sought out as an area of scientific inquiry.

Aerosol particles influence major weather processes

AGRICULTURAL and deforestation fires from the region, along with air pollution from cities, provide a ready supply of aerosol particles that influence major weather processes.

Besides the torrential monsoons over the Asian archipelago, the region also produces moisture that provides rainfall over the Pacific Ocean and can even influence weather in the continental United States.

"We know aerosol particles can affect clouds and precipitation, but we don't yet have a quantitative understanding of those processes," said Hal Maring, Radiation Sciences Program manager at Nasa Headquarters in Washington.

"Our goal is to improve satellite products and numerical models to help scientists better predict weather and climate."

"Numerous studies have linked the presence of pollution and smoke from agricultural fires and fires from deforestation to changes in cloud and storm properties, but we lack the observations of the actual mechanisms taking place," said NRL research meteorologist Jeffrey Reid.

"CAMP2Ex provides a much-needed crucible for satellite observing systems and model predictions to monitor and understand how atmospheric composition and weather interact," Reid was quoted in the US Embassy press release.

Aerosol-cloud dynamics have a profound impact on weather and climate, yet there are large uncertainties on how those dynamics affect climate.

Aerosol particles include sea salt, dust, air pollutants and biomass-burning smoke particles, and nearly all can act as cloud condensation nuclei (also known as cloud seeds).

Depending on the size and composition of these aerosol particles, water vapor can coalesce around them to form water droplets that may later become rain.

But if there is a high concentration of aerosol particles, the clouds may be populated with a larger number of smaller drops, which are less likely to coalesce into rain in smaller clouds.

"Yet, recent research shows that these smaller drops may strengthen and increase the longevity of severe storms," Reid said. "It's an intricate science."

"Complex, nonlinear feedbacks between those processes that form cloud droplets and rainfall and those that drive the upward and downward motions within storms are challenging to accurately represent in numerical models," said Colorado State University professor and P-3B flight scientist Susan van den Heever.

"These feedbacks are important to determine storm severity and the formation of new storms. CAMP2Ex will provide us with unprecedented observations that will allow us to better represent these feedbacks in current research and weather forecasting models," she said.



NASA investigates impact of Phil. smoke on clouds

Smoke and pollution

SMOKE and pollution also affect how much incoming sunlight is reflected back into the atmosphere. Particles that are darker in color, such as black carbon from wildfires, absorb sunlight and contribute to global warming, the US Embassy press release said.

Depending on the type and altitude of the cloud, black carbon may either support or suppress cloud formation; it also affects how much sunlight clouds reflect back into the atmosphere.

Quantifying these mechanisms is crucial for improving global climate forecast models.

Aerosol-cloud interactions are notoriously difficult to observe in the field, Maring said. "Some clouds have very short lifetimes while others have very long ones, and they're all located in radically different parts of the skies. Getting a quantitative look at these processes is always a tall order."

To be able to observe cloud and aerosol interactions, along with the associated weather systems, CAMP2Ex is leveraging instruments on multiple airborne and ground platforms to record wide-scale meteorology, composition, cloud microphysics, and solar and longwave radiation.

Nasa's P-3B science aircraft is fitted with remote-sensing instruments to measure a number of variables within and near clouds, including those related to precipitation and cloud droplets, as well as aerosol size and composition.

Verifying the data

TO verify those data, a Stratton Park Engineering Co. (SPEC) Inc. Learjet, fitted with in-situ instrumentation, will fly in and around the same clouds at nearly the same time as the P-3B aircraft.

The Learjet will also survey the atmospheric conditions above the clouds.

CAMP2Ex and Piston

OUT in the Pacific Ocean, the research vessel Sally Ride, funded by the Office of Naval Research Propagation of InterSeasonal Tropical Oscillations (Piston) project and operated by the Scripps Institution of Oceanography, University of California, San Diego, is providing nearly continuous radar and lidar observations as well as measurements of energy fluxes from the ocean surface and profiles of temperature, moisture and pressure from radiosondes.

CAMP2Ex and Piston are complementary in their goals. CAMP2Ex focuses on fundamental aerosol and cloud physics and remote sensing, while Piston focuses on air-sea interaction and the way in which weather develops on continental and intercontinental scales.

"The synergy between air and shipborne observations is key," said research scientist Derek Posselt from Nasa's Jet Propulsion Laboratory in Pasadena, California. "The ship's radars will tell us how clouds are evolving in time, while the aircraft will give us detailed measurements of the cloud interior and environment."

SEA has most complex atmospheric phenomena; Yolanda

IN addition to the intricate aerosol and cloud processes, the Southeast Asian monsoon environment hosts some of the most complex atmospheric phenomena on the planet.

The monsoon environment brings severe thunderstorms and organized convection storm systems, and it is also the birthplace of tropical cyclones in the western Pacific.

The world's most intense super typhoons form just east of the Philippines and are an integral part of the regional weather and climate.

"CAMP2Ex is being conducted in the lion's den of tropical meteorology," Reid said, while noting that the Philippines is still recovering from Super typhoon Yolanda (international code name Haiyan) in 2013, which reached a world record

one minute of sustained 195 miles per hour (315 kilometers per hour) maximum wind speed before making landfall.

SEA of particular interest to weather, climate researchers

THE region is of particular interest to weather and climate researchers because many studies have shown it to be highly vulnerable to climate change.

For Philippine collaborators, the data from CAMP2Ex will help to inform some of the biggest weather and climate questions in the Southeast Asia region.

"Rainfall is the most difficult variable to understand in our models, and it has an enormous impact on people here," said Gemma Narisma, climate scientist and executive director of the Manila Observatory, a nonprofit Jesuit research institution focused on atmospheric and Earth science in Southeast Asia.

"Results from our Coordinated Regional Downscaling Experiment over Southeast Asia, for example, show that regional climate models do not do a good job simulating observed rainfall climatology," she said as quoted by the US Embassy press release.

Narisma, who is also an associate professor at the Ateneo de Manila University, noted that recent monsoonal activity in Metro Manila led to canceled classes; before that, the region had been suffering from water shortage due to drought.

Improving models for climate projections

"OUR research is showing that more of these weather extremes, alternating dryness and heavy rainfall are expected in the future," she said. "Improving our models for climate projections would allow us to better prepare for these swings in water availability and flooding."



P-3

NASA investigates impact of PHL smog on clouds

Increased understanding of the mechanisms influencing these climactic changes is another important and hoped for offshoot of the campaign, said James Simpas, an atmospheric scientist and professor of physics at the Ateneo de Manila University.

"The Southeast Asia region is experiencing significant industrial growth," he said. "We're emitting more and more particulates into the atmosphere, which means that a lot of the aerosol interactions we're studying now will be most likely further enhanced in the region in the future."

He said the wealth of data from CAMP2Ex "will be analyzed for years to come and will shine more light on how our ways of life affect not only us but also the rest of the planet."



Tap indigenous folk in water projects, UN expert urges

STOCKHOLM—Indigenous peoples from the Amazon to the Arctic were being left out of the global conversation on water property rights, a UN indigenous rights expert warned this week.

Speaking on the sidelines of an international conference on water in Stockholm, UN Special Rapporteur Victoria Tauli-Corpuz said that indigenous people needed to be better “consulted and involved” with water projects to help stem the impacts of climate change.

Tribesfolk rarely consulted

Indigenous groups, for instance, had been affected by dams along the Mekong River in Cambodia, which had caused water shortages downstream, and by water pollution in the western Huehuetenango region of Guatemala, she said, but rarely consulted about projects.

“Indigenous peoples are the ones who are left behind,” Corpuz, who became the United Nations’ special rapporteur on the rights of indigenous peoples in 2014, told the Thomson Reuters Foundation during an interview.

Such groups often had ancient knowledge about water systems



UN Special Rapporteur Victoria Tauli-Corpuz from Baguio City

that could help improve decision-making, she said at the annual World Water Week in Stockholm, which ended on Friday.

“The way indigenous peoples deal with water is something that has been developed through thousands of years so they have very, very sustainable systems of managing water,” she said.

“If indigenous peoples are not included then the contributions and their knowledge will also not be taken into account, and that is a loss for society.”

Herself an indigenous lead-

er from the Kankanaey Igorot tribe in the Philippines, Corpuz said that she had successfully fought the instillation of hydroelectric dams and water infrastructure projects that could have diverted irrigation from native lands.

The planned Chico River hydroelectric dam, for instance, which would have displaced some 200,000 people and destroyed burial grounds and rice fields, was canceled in the 1980s after protests, she said.

Water, she added, “is not just an economic resource it’s also a

cultural and spiritual resource.”

Each year her indigenous group performs rituals on Lake Lanao in the northern Philippines, seeking protection from deities for the ancient water source, she said—but they also ensure sanctions were in place for any damage to the lake.

Guardians of resources

The World Bank estimates that there are about 370 million indigenous peoples worldwide, who make up just 5 percent of the global population but safeguard 80 percent of the world’s remaining biodiversity, with the land they live on often inextricably linked to their identity.

“The issue of water is very central for indigenous peoples because of course it’s related very much to their claims to their lands, territories and resources,” Corpuz said.

The UN rapporteur said that customary laws and indigenous governance systems should be part of international systems to deal with climate, land and water crises and conflicts, of which she expected an increased number in the coming years.

—REUTERS



MWSS assures lawmakers Kaliwa Dam to push through

NEWLY appointed Metropolitan Waterworks and Sewerage System (MWSS) administrator Emmanuel Salamat assured lawmakers the government is pushing through with the Kaliwa Dam project.

"We will implement this project as approved by our board of trustees. We are currently complying with the requirements for the project. Right now, we're waiting for the ECC," Salamat said during the briefing on the

water situation in the metropolis.

The retired military general also told lawmakers concerns raised against the project would be properly addressed.

Citing for instance the issue involving the IP community in Infanta, Quezon, Salamat said public hearings with affected communities are being conducted and their concerns are being addressed.

"We want to make sure there will be sustain-

able plans for communities to ensure their support," Salamat added.

The Commission on Audit representatives in the hearing also clarified the project underwent public bidding—contrary to media reports—and that what they found were only possible irregularities in the compliance to bidding requirements.

Of the P12.2-billion construction cost, 85 percent would be funded from official development assistance from China

amounting to P10.2 billion, while 15 percent or P2 billion would be shouldered by MWSS.

After 34 years, Kaliwa Dam is set to fully take off following the formal signing of the contract between President Duterte and Chinese President Xi Jinping last November.

The project, which aims to supply additional 600 million liters of water per day to Metro Manila, will be undertaken by China Energy Engineering Corp.



Konstruksyon ng Kaliwa Dam itutuloy

Inanunsyo ng Metropolitan Waterworks Sewerage System (MWSS) na itutuloy pa rin ng gobyerno ang konstruksyon ng Kaliwa Dam project.

Sa ginanap na briefing kamakailan kaugnay sa kasalukuyang sitwasyon ng tubig sa bansa ay sinabi ni MWSS administrator Emmanuel Salamat na sisimulan na agad ang proyekto sakaling makakuha ng environmental compliance certificate mula sa Department of Environment and Natural Resources (DENR).

"We will implement this project as approved by our board of trustees. We are currently complying with the requirements

for the project. Right now, we're waiting for the ECC," saad ni Salamat.

Kasunod nito ay tiniyak pa ng bagong talagang administrator na nagsasagawa sila ng public hearings para sa mga maaapektuhang komunidad at rinutugunan ang kanilang mga hinaing.

Idinagdag pa ni Salamat sa House Resources na ang pagtatayo ng multibillion peso water project ay inaprubahan ng NEDA noon pang 2014.

Target ng proyekto na mag-supply ng 600 million liters ng tubig kada araw sa Metro Manila.

Pagkatapos ng 34 na taon, ang Kaliwa Dam ay matutuloy na rin matapos ang pormal na pagpirmahan nina Pangulong Rodrigo Duterte at Chinese President Xi Jinping noong Nobyembre.

Itatayo ang proyekto ng China Energy Engineering Corp. sa halagang P12.2 bilyon kung saan ang 85% o P10.5 bilyon ay popondohan ng China habang ang 15% o nasa dalawang bilyong piso ay sasagutin ng MWSS.

Tatawagin itong New Centennial Water Supply, sa oras na makukuha ang environmental compliance certificate mula sa DENR.



Ways of harvesting our EEZ resources

As expected, Chinese President Xi Jinping rejected the arbitral award during his meeting with President Duterte in Beijing on Aug. 29. However, the two leaders agreed to resolve the controversy peacefully and diplomatically.

In continuing the negotiations, I believe that, as pointed out in my column on Aug. 18, we should refer to the Chinese "Note," dated April 13, 2009, addressed to the Secretary General of the United Nations impliedly recognizing our entitlements in our exclusive economic zone (EEZ), and to the Memorandum of Agreement (MoA) reached in November last year, in which China consented to a 60-40 sharing in our favor in the exploration, development and utilization (EDU) of the natural resources buried in our EEZ.

A constitutional way to implement this 60-40 sharing was made two decades ago (way before the arbitral award was issued) when the Philippines entered into a joint venture with a foreign consortium led by Shell to extract natural gas from the Malampaya area some 50-80 kilometers northwest of Palawan, well within our EEZ which measures 200 nautical miles (370 kilometers) from our western baselines.

Under this joint venture, the foreign consortium advanced all expenses needed and undertook all the risks of failure, but shared the fruits of success with 60 percent of the net revenues going to us and the balance of 40 percent to the consortium.

The venture has produced enough natural gas to fuel about 30 percent of our country's electric power needs plus cash of nearly \$800 million yearly, or a total of about \$10 billion since it started operations in 2001, aside from the 10-percent share the Philippine National Oil Company (PNOC) gets as



WITH DUE RESPECT

ARTEMIO V. PANGANIBAN

the only Filipino member of the consortium. This project could be replicated by a new consortium to be led by a Chinese company.

Other than this Shell model, Chinese companies may invest in other ways allowed by the relevant provisions of our Constitution which, for easy understanding, were stratified by La Bugal-B'laan v. Ramos (Dec. 1, 2004), as follows:

1) All the natural resources in our country are owned by the Philippine state. Except for agricultural land, natural resources cannot be alienated.

2) At all times, the EDU of our natural resources shall be under the full control and supervision of the state.

3) Nonetheless, the state may undertake these EDU activities, either (a) directly and solely by itself, or by (i) co-production, (ii) joint venture, or (iii) production-sharing agreements with Filipino citizens or corporations in which at least 60 percent of the capital is owned by such citizens.

4) Small-scale utilization of our natural resources may be allowed by law in favor

of Filipino citizens only.

5) For the large-scale EDU of "minerals, petroleum and other mineral oils," the President may "enter into agreements with **foreign-owned** corporations involving either technical or financial assistance" (FTAAs).

To sum up, the EDU of our natural resources may be undertaken by the state itself or in tandem with Filipinos or Filipino corporations, except in two instances; first, small-scale utilization may be allowed by law only to Filipinos; and second, the large-scale EDU of "minerals, petroleum and other mineral oils" may be undertaken via FTAAs with foreign-owned corporations.

The La Bugal-B'laan decision, which I had the honor of writing for the Court, interpreted liberally, not literally, the constitutional provisions on FTAAs, and gave the President wide discretion to attract foreign investments and expertise in extracting our country's hidden wealth to help save our people from sheer hunger, deadly disease and grinding poverty.

This liberality is justified "given the nature and complexity of such agreements, the humongous amounts of capital and financing required for large-scale mining operations, the complicated technology needed, and the intricacies of international trade, coupled with the State's need to maintain flexibility in its dealings, in order to preserve and enhance the country's competitiveness in world markets."

To stress and to repeat, all these EDU activities are subject to the overarching constitutional caveat that "full control and supervision" must always remain with the Philippines.

Comments to chiefjusticepanganiban@hotmail.com



Editorial

Aquatic resources merit more attention

FOR people living in an island nation, our orientation seems overly focused on land rather than on water. We do not pay enough attention or give enough importance to our oceans, rivers and other bodies of water. Until we fully appreciate all our natural resources, we will miss out on economic and development opportunities. We are limiting ourselves when we overlook or take for granted half our country's area, which is water.

This oversight, or perhaps neglect, is evident in the scope of our anti-poverty policies and programs. The poorest of the poor Filipinos are farmers and fisherfolk, with the latter group slightly worse off. Poverty incidence among farmers is 38.3 percent in 2012, for fisherfolk 39.2 percent, according to government statistics. Sadly, we do not have major programs and policies that address the specific needs of our fisherfolk.

Meanwhile, farmers have been the target beneficiaries of several poverty alleviation and many other government programs ever since this country became independent. We have yet to see a similar commitment to alleviate poverty among fisherfolk. Granted, many of the government's programs for farmers have yet to deliver relief from poverty, but at least there has been an effort. Naturally, farmers deserve our help. Our point here is that our fisherfolk need special attention, too.

Another evidence of our bias for land over water can be observed in our public institutions. There are departments for agriculture and agrarian reform. For water, however, there are smaller institutions like bureaus. The Bureau of Fisheries and Aquatic Resources is one. There are also other smaller offices, like Marina or the Maritime Industry Authority and the PPA or Philippine Ports Authority. Recently, some politicians have called for the creation of new government departments. Regretfully, we have yet to hear of an initiative to create a full-fledged government department for our oceans, rivers and lakes.

Even many of our government buildings have literally turned their backs to water. For instance, the Bureau of Immigration office and many other buildings along the Pasig River prefer their entrances to face inland. And why shouldn't they? Despite all the initiatives to rehabilitate Pasig River, it still stinks as Metro Manila's toilet.

Our neglected riches

Besides the Pasig, many other rivers across the country need rehabilitation and protection. Cleanups are ineffective unless the source of pollution is plugged first. We all know that one of the solutions is to build sewerage-treatment infrastructure, but there seems to be no urgency to do so. Why?

Sewerage infrastructure systems will also benefit our coastal areas. The Philippines has world-class beaches, which is to be expected for a country that has the sixth-longest coastline in the world. Just ahead of us in that category is Russia, the biggest country in the world in terms of land area. Also, our country's coastal territory is nearly as large as our land area, around 266,000 square kilometers. Those numbers underscore the fact that the Philippines is a maritime nation. But we hardly behave like maritime people, except with regard to supplying the world's shipping lines with manpower. Filipino seafarers are some of the best in the world, and yet our domestic shipping industry is underdeveloped. Ironic, isn't it?

We need to adjust our orientation and pay more attention to our waterfronts and waterways. Imagine, we could be using rivers and other waterways for transport and logistics. Our waterways complement our roads and help ease traffic congestion. So why don't we? That question deserves deep thinking and honest reflection.

Given our geography, Filipinos should be masters of the ocean, rivers and lakes. But the sad reality is that the Philippines has one of the worst maritime safety records in the world. Many of our rivers, lakes and coastlines are polluted. And the people who live around them are among the poorest of the poor.

The Philippines is blessed with natural resources. But we curse ourselves when we waste them away.

'Probe dredging of sand by local, foreign firms'

BY JAVIER JOE ISMAEL

AN APPROPRIATE committee or committees of the Senate should inquire into the dredging of sand and other aggregates from various bodies of water in the Philippines toward strengthening government mechanisms to enforce Philippine mining laws, Senate President pro tempore Ralph Recto said in Senate Resolution 118.

In the resolution, Recto over the weekend noted that Executive Order 292, or the "Administrative Code of 1987," stipulates that the State shall ensure, for the benefit of Filipinos, the full exploration and development as well as the judicious disposition, utilization, management, renewal and conservation of the country's forest, mineral, land, waters, fisheries, wildlife, off-shore areas and other natural resources, consistent with the necessity of maintaining a sound ecological balance and protecting and enhancing the quality of the environment and the objective of making the exploration, development and utilization of such natural resources equitably accessible to the different segments of the present as well as future generations.

Also, pursuant to Republic Act 7942, or the "Philippine Mining Act of 1995," the State shall promote the rational exploration, development, utilization and conservation of all mineral resources in order to enhance national growth in a way that effectively safeguards the environment and protect the

rights of affected communities.

Despite the noble intents of the law, Recto said unscrupulous individuals and companies had been circumventing the Philippine mining laws at the expense of the Filipinos, particularly those in proximity to the country's mineral resources.

He added that some local and foreign individuals and companies reportedly conduct mining operations in the Philippines with incomplete licenses and permits, particularly on mining sand and other aggregates.

A former Justice secretary also noted the proliferation of illicit black sand mining, where black sand is "mined illegally in the Philippines, and exported, likewise illegally, to smelters in foreign countries, particularly and foremost of which appears to be China."

Recto said Chinese individuals and firms, at times in cahoots with Filipino individuals and companies, had been accosted for illegal black sand mining in provinces such as Cagayan, Ilocos Sur, Camarines Norte, Akian and Zambales.

He added that the sand min-

ing operations in Akian River were allegedly masqueraded as "zero-cost" flood control projects, where a local company contracted a foreign vessel to dredge the river in exchange for the right to purchase the aggregates that would be collected.

The senator also mentioned that dredging projects in other bodies of water appear to follow a similar scheme, where a company would offer "free" dredging services in exchange for the materials extracted or the preferential right to purchase the collected aggregates from the government.

A botched dredging project in Lobo River by Seagate Engineering and Buildsystems in April 2019, according to Recto, would have dredged 2 million cubic meters of aggregates from the river and other nearby estuaries, which the company would reportedly sell for \$2 per metric ton to Synergy Plus Holdings Ltd.

The provincial government of Cagayan entered into an agreement with Pacific Offshore Exploration Inc. in June 2019 to dredge Cagayan River in exchange for the aggregates to be collected there.

There are other public sector projects in the pipeline incorporating similar activities that would be funded by the private sector and the government through general appropriations or by foreign entities through official development assistance.

Recto said two of the 75 infrastructure flagship projects of the Duterte administration incorporate dredging, desiltation and

extraction of more than 11 million cubic meters of materials from the rivers of Ambal-Simuay, Rio 4 Grande de Mindanao and Pulangi.

Spartan Mining and Development Corp. is scheduled to undertake dredging and construction works along Maloma River in Zambales at no cost to the government, in exchange for extracting an estimated 12.12 million cubic meters of lahar from the silted river that would be sold to local and international buyers.

Recto said indiscriminate and unmitigated mining and extraction of materials from coastal and riparian areas had been linked to gradual and sudden land subsidence, reduction of groundwater supply, inland saltwater intrusion, depletion of fisheries and other aquatic resources and severe flooding.

He noted that sand, gravel and other aggregates were in great local demand for both government projects and private sector activities, given the housing backlog of more than 6.8 million housing units, classroom backlog of 114,000 rooms, farm-to-market road backlog of about 13,000 kilometers, and national road paving backlog of more than 1,300 kilometers, among others.

Recto said there was a need to ensure that the disposition and utilization of the country's natural resources and the implementation of projects that are public in nature are made in pursuit of Philippine national interests and for the economic and ecological benefit of the people.