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NEWS ALERTS

STRATEGIC COMMUNICATION AND INITIATIVES SERVICE



Cimatu: Household healthcare wastes ending up in PH oceans alarming

By DENR Published on March 16, 2021

QUEZON CITY, Mar. 16 -- Following the recent discovery of single-use face masks entangled in the coral reefs of Anilao, Batangas, Environment Secretary Roy A. Cimatu said the increasing amount of improperly discarded household healthcare wastes during the pandemic has become a serious cause for concern.

Cimatu said "the recent discovery of disposable face masks, plastic face shields, and other household healthcare wastes in our reefs is alarming. These wastes will harm both marine life and divers."

He stressed that while it is vital to follow minimum public health protocols to curb the spread of coronavirus, it is as important to be aware of each person's responsibilities to the environment.

As remedial measures, Environment Undersecretary for Solid Waste Management and Local Government Units (LGUs) Concerns Benny D. Antiporda said, "We have coordinated with the Philippine Coast Guard to ensure that all international and inter-island vessels, and even fishing vessels, have placed yellow bins for the proper disposal and storage of generated COVID-19 related healthcare waste such as, used face masks, gloves, cottons, tissue papers, and testing kits".

In this way, Antiporda added that solid waste ending up in our waterways especially the oceans will be avoided.

The Department of Environment and Natural Resources (DENR) is also working closely with the Department of the Interior and Local Government that has a directive to LGUs on handling household healthcare wastes, cleaning of esteros, and reminding those living near waterways to not throw wastes directly in the bodies of water.

Antiporda expressed that the DENR, together with its partner-agencies, will further discuss effective solutions to address the "global problem" of household healthcare wastes ending up in oceans and other water bodies.

He acknowledged that handling of used face masks and gloves from households is more difficult than those collected from hospitals and quarantine facilities.

"These (quarantine and medical) facilities are required to put up a treatment facility and get a hauling permit, so monitoring medical wastes comes easy with these sectors," he said.

However, he emphasized that strict compliance with waste segregation at source is still the best way to manage solid waste.

"Since the start of the pandemic in March 2020, we already expected that more household healthcare wastes will be generated. Hence, the DENR through the National Solid Waste Management Commission (NSWMC), has issued reminders on the proper disposal of these wastes," said Antiporda who is also the alternate chair of the NSWMC.



He echoed Cimatu's reminder to the LGUs to prioritize the handling of pandemic-related wastes by imposing strict segregation of wastes in households, implementing effective collection system, and providing yellow bins for potentially infectious wastes or personal protective equipment.

The DENR has already distributed yellow bins to the city government of Manila in November 2020, and is set to distribute in other LGUs in the coming months. (DENR)



Manila Bay task force ready to strike vs. polluters on March 22, World Water Day

Published March 16, 2021, 6:06 PM

by [Ellson Quismorio](#)

The Manila Bay Anti-Pollution Task Force (MBAPTF) of the Department of Environment and Natural Resources (DENR) is set to make examples out of four business establishments that pollute the Manila Bay on Monday, March 22.



(JANSEN ROMERO / FILE PHOTO / MANILA BULLETIN)

This was announced Tuesday, March 16 by MBAPTF Chief, Usec. Benny D. Antiporda during a virtual press conference.

“On Monday we will come up with four establishments (first), tinitignan natin yung mga legalities ng gagawin natin. Kapag nag umpisa po tayo sa Monday tuloy-tuloy na po yan (we’re looking at the legalities of what we’re going to do. Once we start on Monday, it will be continuous),” Antiporda said.

The Monday operation, which will coincide with the country’s celebration of World Water Day, will be jointly carried out by the MBAPTF, the Laguna Lake Development Authority (LLDA), the DENR-EMB (Environment Management Bureau), and the local government units (LGUs) involved.

Although the Antiporda didn’t identify the four establishments, he said that they were “businesses that continue to violate the law even before the pandemic”.

“We need to show the people around the work that we really mean business in protecting our water sources. We will address those violators (of the Clean Water Act) who really kill our water bodies,” stressed the DENR official.

“We gave them ample time already. Sad to say, walang clear action na ginawa, kaya (they gave no clear action that’s why) we need to act on it,” he added of the erring establishments.

Antiporda said that over 200 Manila Bay polluters have been reported to his office. The MBAPTF was created via DENR Special Order (SO) No.2021-17 issued on January 26, 2021.

In a related development, the DENR is poised to get P1.56 billion in fresh funding this year for the rehabilitation of Manila Bay, says Anakalusugan Party-List Rep. Michael Defensor.

“The amount is 16 percent greater than the P1.35 billion budget that the DENR obtained last year for the development, updating and implementation of its Operational Plan for the Manila Bay Coastal Management Strategy,” Defensor said.

Source: <https://mb.com.ph/2021/03/16/manila-bay-task-force-ready-to-strike-vs-polluters-on-march-22-world-water-day/>



DENR cautions vs. open dumps' improper closure

By Catherine Teves March 16, 2021, 3:32 pm



MANILA – The Department of Environment and Natural Resources (DENR) on Tuesday warned local government units against the improper closure of open dumps in their respective areas of jurisdiction.

In an online presser, Environment Undersecretary Benny Antiporda said the LGUs' responsibility regarding open dumps does not end with simply closing down these facilities.

"They need to conduct safe closure and (rehabilitation) to make sure the dumps won't produce methane gas that may eventually explode," he said.

He said merely covering the dumps with soil is prohibited.

"The LGUs might think if they just close the dumps, they won't be charged anymore and inspected by DENR - they're wrong," he said.

Antiporda, however, said the DENR will give LGUs concerned "ample time" to prepare for and undertake proper closure of their respective open dumps.

Republic Act 9003 or the Ecological Solid Waste Management Act of 2000 defines an open dump as a "disposal area wherein the solid wastes are indiscriminately thrown or disposed of without due planning and consideration for environmental and health standards".

"No open dumps shall be established and operated, nor any practice or disposal of solid waste by any person, including LGUs, which constitutes the use of open dumps for solid wastes, be allowed after the effectivity of this Act," the law further said.

RA 9003 mandates that within three years after its effectivity, LGUs nationwide must convert respective open dumps into controlled dumps in accordance with guidelines under this law.

A controlled dump is a "disposal site at which solid waste is deposited in accordance with the minimum prescribed standards of site operation".

However, the law also said "no controlled dumps shall be allowed" five years after its effectivity.

In January, DENR Secretary Roy Cimatu ordered the closure of all open dumps in the country by end of March this year.

He also ordered all regional directors of DENR's Environmental Management Bureau (EMB) to step up respective efforts for achieving such target.

"We (will) shut down open dumps in the country," Antiporda said.

The EMB reported closure of open dumps in various areas of Luzon, the Visayas, and Mindanao.

Among those due for closure are 125 remaining open dumps across the country, it added.



Upon assuming DENR's top post, Cimatu prioritized solid waste management as he observed RA 9003 was neither promptly nor fully implemented despite the country's increasing waste generation.

He also noted that the strict implementation of RA 9003 already resulted in increased closure of open dumps, the establishment of more materials recovery facilities and sanitary landfills, and further development of LGUs' respective 10-year solid waste management plans. *(PNA)*



May 2022 polls a factor in DENR drive vs. open dumpsites; Antiporda explains why

Published March 16, 2021, 2:25 PM

by [Ellson Quismorio](#)

Department of Environment and Natural Resources (DENR) Usec. Benny D. Antiporda believes that the nearness of the May 2022 elections will work in favor of the agency in the race to shut down all open dumpsites by the end of the month.



(Pexels)

In a virtual press conference, Antiporda reckoned that it would be a “huge setback” for the sitting official of the local government unit (LGU) to be charged by the DENR for failure to heed their call against open dumpsites.

“We are optimistic that we can shut down all of them (before the end of March),” said Antiporda, the Solid Waste Management and Local Government Units Concerns chief.

“Alam naman natin na malapit na ang election, sakali pong makasuhan po sila eh napakalaking dagok sa kanila nito. Kung kaya inaaksyunan din natin ito para once and for all eh matapos na itong problemang to (We all know that the elections are near, in case they get charged then this would be a huge setback for them. That’s why we’re acting on it to finish this problem once and for all),” he said.

Environment Secretary Roy Cimatu at the start of the year ordered that all open dumpsites must be closed by March 31, 2021.

“We will not wait for the next administration to act on this. Ngayon pa lang po kikilos na tayo (We will act now),” added Antiporda, with just two weeks to go before the lapse of the agency’s self-imposed deadline.

He said Region IV-B and Region IV have the most remaining open dumpsites, with 28 and 19 respectively.

“Based on the information that we got a while ago, they are acting on it (already), trying to see to it na before the end of this month ay masara lahat yan (they would all get closed down).” Antiporda said he expects small, “pocket open dump(sites)” to mushroom in areas or LGUs that have closed their larger open dumpsites.

“We will run after you...I will personally go to your municipalities and cities to see to it that we will abide by the rule of RA (Republic Act) 9003 (Ecological Solid Waste Management Act of 2000),” he said.

The DENR says that so far, a total of 169 open dumpsites have been closed all over the country. Of the figure, 107 voluntarily closed, while 62 were issued cease and desist orders.

Source: <https://mb.com.ph/2021/03/16/may-2022-polls-a-factor-in-denr-drive-vs-open-dumpsites-antiporda-explains-why/>



DENR to close 125 open dumpsites nationwide by March's end

ABS-CBN News

Posted at Mar 16 2021 09:53 PM



Photo from DENR Calabarzon

MANILA - The Department of Environment and Natural Resources (DENR) will shut down open dumpsites in the country by the end of March, following the order of Environment Secretary Roy Cimatu.

Open dumpsites are not allowed under Republic Act 9003, or the Ecological Solid Waste Management Act of 2000.

The agency reported that out of 233 operating open dumpsites as of January 2021, 169 have been closed as of March 14. Some 107 of them were closed by the local government units, while 62 were issued cease and desist orders.

Environment Undersecretary Benny Antiporda said there are still 125 open dumpsites to be closed by the end of the month in Mimaropa, Western and Central Visayas, Bicol, and Northern Mindanao. Mimaropa has the most number of open dumpsites with 28, followed by Western Visayas with 19.

There were no reported open dumpsites in Cagayan Valley, Soccsksargen, Cordillera Administrative Region, and the capital region.

Antiporda said almost all sanitary landfill operators have been accepting mixed waste, or waste that includes residual, biodegradable and recyclable wastes, so he urged them to only accept residual waste.

“Mula sa bahay magkaroon tayo ng tinatawag na honest to goodness waste segregation. Ihiwalay yung recyclable, which is more than 10 percent of the waste minsan inaabot ng 20 percent ‘yung biodegradable na 52 to 58 percent, yung matitira na another 20 percent eh napakaliit na pong basura niyan para problemahin,” he said.

(Let us start honest to goodness waste segregation in our homes. Segregate recyclables, which take up 10 percent of the waste sometimes, and biodegradables, which is about 58 percent. The other 20 percent is a small part to be even concerning.)

He said that segregating and composting biodegradable waste, which make up 52 to 58 percent of waste, would save up space in the sanitary landfill.

He also reminded local government units which closed open dumpsites to conduct safe closure and rehabilitation.

“They need to conduct safe closure and rehabilitation to make sure na hindi po mag-produce ng methane ‘yan at dumating ang araw na bigla na lang sumabog yan at magliyab,” he said.

(This will prevent producing methane that can be a cause of explosion or fire.)

Source: https://news.abs-cbn.com/news/03/16/21/denr-to-close-125-open-dumpsites-nationwide-by-marchs-end?fbclid=IwAR3C_ow_b6McEP4fKKOOpZufMEaF-GgwULIA6LyWFZnyzb13k9n-sab4tw



Dgte's dumpsite set to close

By Jennifer TilosPublished on March 16, 2021

DUMAGUETE CITY, March 15 (PIA) -- Dumaguete City is eyeing to finally close its major dumpsite and biodegradable trash will be converted into fertilizers.

The city's Committee on Environment and Agriculture convened with zero waste advocates to plan for the implementation of solid waste management in the city.

Based on the reports of the City Environment and Natural Resources, it will just be a matter of time that the city's dumpsite will be closed for good.

Part of the safe closure of the city's dumpsite, the old site will be enclosed with a perimeter fence; the scavengers at the dumpsite will not lose their livelihood as they will be employed in the City Materials Recovery Facility (MRF).

The MRF will house the pyrolysis machine and equipment capable of converting trash to useful by-products while all biodegradable wastes will be utilized as organic fertilizer by the City Agriculture Office.

It has been the priority of Mayor Felipe Antonio Remollo to responsibly close the dumpsite, make the MRF fully operational, and establish a sanitary landfill inside the ongoing eight-hectare Ecological Park.

It is said that consistent enforcement, massive information drive on solid waste segregation, adoption of zero waste process, and the establishment of the sanitary landfill are necessary for the long-term success in managing the waste of a thriving city with a growing population.

Among those who participated in the discussion include Liga ng mga Barangay President Dionie Amores, Sangguniang Kabataan President Renz Macion, Dwight Arnaiz of the City Agriculture Office, Engr. Leticia Duran, Engr. Chilvier Patrimonio of CENRO, and Esther Windler and Leo Mamicpic of Friends of Environment in Negros Oriental. (jct/PIA7 Negros Oriental)



NAVOTAS 'MOST COMPLIANT' SA MANILA BAY CLEAN UP

7 hours ago jake



KINILALA ang pamahalaang lungsod ng Navotas dahil sa patuloy na pagpapatupad ng Manila Bay Clean up, Rehabilitation and Preservation Program (MBCRPP).

Umiskor ng 96.7% ang lungsod at tinanghal na 2020 Most Compliant Local Government Unit sa pagpapatupad ng continuing mandamus ng Korte Suprema sa pagpapanatili ng kalinisan sa nasabing baybayin.

“In the past years, Navotas scored low in the MBCRPP. We strived to rework our priorities, strengthen our partnership with environmental organizations and agencies, and establish institutional changes to ensure that we will not just be compliant but committed in the rehabilitation of Manila Bay,” ani Mayor Toby Tiangco.

Nakakuha ang Navotas ng 100% iskor sa informal settler families cluster at information, education and communication campaign; at 97% sa solid waste management cluster, habang 92% sa liquid waste management cluster.

Kabilang sa mga priyoridad sa pag-unlad ng lungsod ang pagbibigay ng disentang pabahay para sa mga nasasakupan nito, lalo na ang informal settler families na naninirahan sa danger zones.

Bukod sa off-city resettlements ng National Housing Authority, ang Navotas ay may anim na housing projects na may 2,595 units.

Nakipagtulungan din ang lungsod sa Mother Earth Foundation, na tumulong sa pagtaguyod nito ng isang phased, low-cost at community-centered zero waste program. (ALAIN AJERO)

Source: http://saksingayon.com/nasyunal/navotas-most-compliant-sa-manila-bay-clean-up/?utm_source=ReviveOldPost&utm_medium=social&utm_campaign=ReviveOldPost&fbclid=IwAR0xTzM3F82p-SeS5yfnndE4LyzSB-KaBx3cNr-m4hnZn7iJXmARQuzF7Pc



Video ng BBC na nagpapakita ng pagkalat ng face mask sa karagatan, ikinabahala ng isang senador

By [RadyoMaN Manila](#) -Mar. 16, 2021 at 3:25pm



Nabahala si three-term Senator at ngayon ay Antique Congresswoman Loren Legarda kaugnay sa lumabas na maiksing video mula sa BBC News.

Nakapaloob kasi sa video ang talamak na pagkalat ng face mask na nagpapatay sa karagatan sa bansa.

Sa interview ng RMN Manila, sinabi ni Legarda na batay sa World Economic Forum at pag-aaral ng United Kingdom, kung ang bawat tao ay gumagamit ng isang face mask kada araw, posibleng sa loob ng isang taon ay lilikha ito ng karagdagang 66,000 tonelada ng kontaminadong basura at 57,000 tonelada ng plastic packaging.

Wala pa ito sa dami ng taong gumagamit ng face mask kaya nakakabahala na mas marami pang basura ang makukuha sa karagatan kaysa sa isda.

Kung pag-uusapan naman kung gaano katagal bago matunaw ang face mask, sinabi ni Legarda na batay sa mga eksperto aabot sa 450 years ang kailangang gugulin para tuluyang ma-decompose ito.

Sa ngayon, nakikipag-usap na siya sa Climate Change Commission, kung saan may binuo nang programang tinatawag na 'Plastic are choking the life from our ocean' na pinamumunuan ni Department of Finance (DOF) Secretary Carlos Dominguez.

Source: <https://rmn.ph/video-ng-bbc-na-nagpapakita-ng-pagkalat-ng-face-mask-sa-karagatan-ikinabahala-ng-isang-senador1/?fbclid=IwAR2a0N3Dc81nmwLMuCTYNgFP2VCfQg3FraP0b5D6jVqhfVrRqhMkQMtdWo>



What a clean ocean means

By [BUSINESSMIRROR](#)

MARCH 17, 2021



The country's coral reefs, where fish and other marine life find shelter and reproduce, are currently littered with face masks and plastic waste, according to a report released by the BBC News on March 9. The report included a video that showed professional divers collecting face masks among the garbage they found underwater. The divers' garbage haul also included plastic face shields.

Environmental groups have expressed concern that the polymers in the single-use face masks and plastic shields are already being consumed by fish and other marine life that seek shelter in coral reefs. How these medical waste reached our coral reefs was not discussed in the BBC report. What is clear, however, is that these face masks and face shields were improperly disposed.

Citing the Asian Development Bank, the BBC report noted that Metro Manila alone generates about 280 tons of medical waste a day. That's 280,000 kilograms of face masks, face shields and other personal protective equipment that are dumped by both individuals and health-care facilities daily. Health-care centers send their medical waste to facilities that know how to handle these PPEs; the problem lies in individual users who are not aware of the proper management of medical waste.

Since the pandemic started, environmental organizations have already warned about the tons of medical waste that will be generated by cities (*See, "Amid Covid, proper disposal of medical waste flagged," in the [BusinessMirror](#), July 22, 2020*). The Department of Health had also warned hospitals that they face sanctions if they will not follow the regulations of the Department of Environment and Natural Resources (DENR) related to the disposal of hazardous and non-hazardous waste. In July last year, the Kalikasan Peoples Network for the Environment also called on authorities to educate the public on how to properly dispose face masks, face shields and other personal protective equipment.

The DENR and local government units must work together to raise awareness about the importance of the proper disposal of face masks and face shields to prevent medical waste from reaching our coral reefs.

The DENR has called on local government units anew to ramp up efforts in handling and disposal of medical waste to ensure health and environmental safety amid the coronavirus pandemic. In particular, LGUs must do their part in educating their constituents about the importance of the proper disposal of medical waste so that individual users will not have to throw single-use face masks in esteros and street canals. Government must act with urgency considering the fact that medical waste will continue to pile up due to rising Covid-19 cases.

These single-use facemasks and face shields are silent killers of our seas and marine life (*See, "The Plastic Pandemic," in the [BusinessMirror](#), October 11, 2018*). Government must do everything it can to see to it that these medical waste do not reach our coral reefs. That's because they transport chemical pollutants that threaten aquatic life. Let's help keep our coral reefs clean. Let's avoid polluting our ocean, which will endanger marine life. A clean ocean means clean seafood. Nobody wants to eat fish fed with medical waste.

Source: <https://businessmirror.com.ph/2021/03/17/what-a-clean-ocean-means/>



More sightings of pilot whales reported in Sarangani Bay

Published March 16, 2021, 7:41 AM

by [Dennis Principe](#)

More and more marine mammals continue to thrive in the area of Sarangani Bay in Mindanao.



Photo from DENR Region 12/ MANILA BULLETIN

Monitoring done by the Department of Environment and Natural Resources (DENR) in Region 12 for the period March 8-12 reveals fresh sightings of at least 30 pilot whales in the seas off the municipalities of Maasim, Kiamba, and Maitum in Sarangani.

“The whales were frequently sighted in the bay hunting for food and nursing their calves,” said Joy Ologuin, superintendent of the Sarangani Bay Protected Seascape (SBPS).

Last month, the agency reported sightings around 300 whales and dolphins in a series of monitoring in the coastal waters of Glan and Malapatan towns, the biggest in the Sarangani Bay.

The team specifically spotted 20 to 30 short-finned pilot whales, eight Risso’s dolphins, 80 to 100 Spinner dolphins, and 150 to 200 Fraser’s dolphins.

In August 2019, its monitoring team spotted around 270 marine mammals in different sites of the bay.

Source: <https://mb.com.ph/2021/03/16/more-sightings-of-pilot-whales-reported-in-sarangani-bay/>



Biodiverse Mt. Balatukan also home to PH Eagle

March 15, 2021 2 min read

CAGAYAN DE ORO CITY — The Department of Environment and Natural Resources in Region 10 (DENR-10) on Monday confirmed that Misamis Oriental province's Mount Balatukan range remains the home of at least eight wildlife species, including the Philippine Eagle.

DENR-10 Executive Director Arleigh J. Adorable said the 228,680 hectares Mount Balatukan Range is now identified as one of the key biodiversity areas in the country with a "very high conservation category".

Adorable said the Philippine Eagle can be seen in the area with eight wildlife species such as the Philippine civet cat, "apo muna", coletto, Philippine warty pig, sunbird, mountain white eye, Mindanao lorikeet, and the Philippine long-tailed macaque.

The mountain range is also home to various flora species such as white and red lauan, nato, tangile, narig, kalingag, apitong, mayapis, malatibig, almon, bagtikan, dao, he said, adding more are going to be identified soon.

Now that the mountain range is part of the Convergence Area Development Plan (CADP), Adorable said stricter environmental rules would be observed.

He noted that despite the peace and order situation in the area owing to the presence of communist rebels, Mount Balatukan's biodiversity remains intact.

However, Adorable said wildlife hunting and rattan gathering activities "were also observed, and it's a major concern."

Meanwhile, Misamis Oriental Gov. Yevgeny Vincente Emano said the CADP seeks to improve, conserve, protect, and rehabilitate natural resources through environment-friendly enterprises and livelihood opportunities.

Launched in 2011, Emano said the initiative aims to "take bold and transformative steps urgently needed to shift economies relying on natural resources into a sustainable and resilient path." (PNA)

Source: <https://maharlika.tv/2021/03/15/biodiverse-mt-balatukan-also-home-to-ph-eagle/?fbclid=IwAR3gV0chZj5ifpkctcgBHMx3iVua0cempUvMNfrxn3Gja0bBCxrZTZCpNzpz8>



Sen. Villar reminds DENR to establish buffer zone to provide better protection to Las Piñas-Paranaque Wetland Park

By **BMPLUS** MARCH 15, 2021



Sen. Cynthia Villar

Sen. Cynthia Villar is reminding DENR Secretary Roy Cimatu of the urgent need to set the buffer zone to provide better protection to the Las Piñas – Paranaque Critical Habitat and Ecotourism Area (LPPHEA), also more popularly known as the Las Piñas – Paranaque Wetland Park. She issued this reminder on the observance of the 8th year anniversary of the wetland’s designation as the 6th Philippine Wetland of International Importance under the Ramsar Convention on March 15.

The Ramsar Convention or the Convention on Wetlands is an intergovernmental treaty that recognizes the fundamental ecological value of wetlands and seeks, among others, to curb encroachment on and loss of wetlands now and in the future. The Philippine government, being as a signatory to the Convention, is obligated to conserve and protect the Ramsar-listed Philippine wetlands and their resources.

“To fulfill the government’s obligations under the Ramsar Convention and maintain the protected area status of the wetland, DENR should be proactive to repel the impending threats confronting Las Piñas – Paranaque Wetland Park, including the reclamation projects in proximity to the wetland. As an initial necessary measure, a buffer zone surrounding the wetland should be established immediately and such buffer zone should be large enough to ensure that the wetland’s ecological attributes and functions will be maintained and not be disrupted,” Villar said.

The Las Piñas – Paranaque Wetland Park is a 182-hectare coastal wetland on the south of Manila Bay, encompassing two-interconnected islands that include lush mangrove forest, lagoons, mudflats, ponds and marine habitat. It serves as a sanctuary to around 82 bird species, including migratory birds using the East Asian-Australasian Flyway, with some coming from as far as Siberia. The wetland likewise functions as a significant spawning habitat of the fishes of Manila Bay.

First proclaimed as a critical habitat in 2007, the Las Piñas- Paranaque Wetland Park was included in the Ramsar list on March 15, 2013 as it has significantly supported vulnerable and endangered species, as well as threatened ecological communities in the area. It has joined the ranks of the other PH wetlands on the list, namely: the Olango Island Wildlife Sanctuary in Cebu; the Tubbataha Reefs Natural Park in Sulu; the Agusan Marsh Wildlife Sanctuary in Agusan del Sur; the Naujan Lake National Park in Oriental Mindoro; the Puerto Princesa Subterranean River National Park in Palawan; the Negros Occidental Coastal Wetlands Conservation Area; and the recent addition – the Sasmuan Pampanga Coastal Wetland. There are now a total of eight (8) Ramsar-listed wetlands in the Philippines.

Source: <https://businessmirror.com.ph/2021/03/15/sen-villar-reminds-denr-to-establish-buffer-zone-to-provide-better-protection-to-las-pinas-paranaque-wetland-park/>



Overlapping regulation seen dampening growth in water sector

March 16, 2021 | 7:56 pm



PHILIPPINE STAR

THE Philippine Institute for Development Studies (PIDS) said overlapping and sometimes conflicting regulation of the water sector is holding back the industry's growth.

In a policy note, "Regulatory and investment coordination issues in the Philippine water sector," PIDS said the Philippines' water agencies often fail to coordinate policy planning, data monitoring data, and infrastructure programs.

"There are inconsistencies in the technical operating standards that regulatory agencies require, resulting in nonuniform levels of service across the country," PIDS said.

It cited conflicting technical and economic regulations of the two main regulators for water service providers: the Local Water Utilities Administration (LWUA) and the National Water Resources Board (NWRB).

Adopting the NWRB's regulatory practices will harmonize tariffs across water service providers, PIDS said, but it also noted that local government units (LGUs) and water districts are concerned about their ability to comply with the NWRB's technical regulations.

It said the LWUA also holds legal authority to regulate its part of the water sector and ceding such authority may constitute a violation of the law.

It said the LWUA lacks specific guidelines for technical and tariff regulations that apply to Rural Water Supply Associations, PIDS said.

"There are varied technical standards across regulators with some missing critical standards like water pressure, customer feedback, and efficiency measures. There are also non-aligned standards like non-revenue water targets and water availability," it said.

"These inconsistencies affect the quality and delivery of the water service," it added.

The lack of a clear and consistent technical benchmark for operating costs can result in inefficient delivery and wasted resources, with consumers burdened by the extra charges through high water rates.

PIDS said the government has no single office overseeing water service delivery nationwide since the Department of Environment and Natural Resources and NWRB are only concerned with resource management and development, while LGUs and private entities provide water for household consumption.



“This calls for a more coordinated local and regional planning on water supply infrastructure to improve water service,” it said.

“The fragmented structure results in multiple water supply utilities operating in the same areas, making some water supply investments redundant,” it added.

Roughly 88% of the population had access to water in 2015, PIDS said, citing official estimates, leaving 12.4 million persons without access.

Around 44% have piped household connections, 11% relied on communal faucets and 45.2% were dependent on point sources like shallow wells. Only 27% of 21,972 water service providers across the country maintain a Level III water supply facility, which include a piped distribution network, a treatment system and household taps.

To address these issues, PIDS said regulatory mandates and varying rules should be clarified and regulations streamlined to make water rate-setting formulas balanced. Legislation can consolidate these various regimes.

There should also be unified technical regulations and operating standards, it said.

A single coordinating body monitoring performance, investment and funding needs of water supply service providers will also be needed to prevent investment redundancy in any given area, it said. — **Beatrice M. Laforga**



Research puts premium on green forest products

By **Paul Icamina** - March 17, 2021

The Forest Products Research and Development Institute (FPRDI) recommends the use of substitute raw materials for the housing, pulp and paper, handicrafts, furniture and wood-related industries to reverse dwindling wood supply, cut down by reckless logging.

These include coconut wood from senile trees; wood from industrial tree species, rubber wood and agricultural residues such as coconut coir, tobacco stalks, tea leaves, corn stalk and rice straw.

FPRDI foresters and scientists have studied fiber plants, dye plants, forest woody vines, as well as tree gums, resins, oils and exudates, among others, to help forest-based industries.

“Because of our name, our work has sometimes been misunderstood by the public, and even by policy makers,” said Dr. Romulo Aggangan, FPRDI director. “During legislative budget hearings, some lawmakers would ask about the relevance of what we do, considering that the country has very little forest cover left, and these have been made off-limits to all kinds of logging. We then have to explain what we do and what we have done so far.”

A lot and some. Over the years, FPRDI wood anatomists, chemists and forest products engineers have studied the properties and uses of 15 kinds of industrial tree plantation species such as falcata and gmelina.

Fast-cycle trees grown in plantations are good substitutes to forest timber for construction and many other industrial uses, Aggangan said.

Many managers in the wood-based industries now understand how to saw, machine, dry, finish and treat these non-forest raw materials, he added.

Another FPRDI research is the furnace-type lumber dryer.

“This is like a big oven which can dry natural raw materials fast and right, resulting in quality wooden furniture which don’t shrink or crack, and handicrafts which are not attacked by molds,” Aggangan said.

In 2018, Connor Group, one of the world’s top merchandise-sourcing firms, cited the FPRDI for the furnace-type lumber dryer’s role in raising the quality of Philippine handicraft exports.

“Another helpful technology is the low-cost wood moisture meter which helps our clients know how much water a piece wood contains,” said Aggangan. “This is important to ensure the quality of the finished product.”

In recent years, the FPRDI has trained entrepreneurs on handmade papermaking, innovated wine barrels from tree plantation species, and developed machines for making engineered bamboo, one of the promising housing materials in the country today.

It has set up a state-of-the-art processing plant for converting old and unproductive rubberwood into quality furniture – a big help to rubber farmers in Zamboanga Sibugay.



The FPRDI, a part of the Department of Science and Technology, is studying how to optimize the abaca fiber for making high-end industrial products.

It is also looking at how to upgrade local bamboo musical instruments, how to make the most of forest woody vines as handicraft raw materials and how to develop fragrances and flavors from forest products.

The FPRDI runs world-class testing laboratories for furniture, plywood, pulp and paper, Aggangan said.

The laboratories conduct wood identification, physical and mechanical properties, and biomass energy tests on forest-based and related products.

“We do so much more than study forest products,” said Aggangan. “We look for ways to wisely use many native plants and related natural materials. Much of what we do shows our aim to help protect the planet.”

For example, some of FPRDI’s research supports the bamboo-based industry and promotes bamboo farming at the same time.

Putting up more bamboo plantations can help stabilize the earth’s climate by limiting the effects of global warming. More than any other plant, bamboo can absorb massive amounts of carbon dioxide from the atmosphere, decreasing the amount of major cause of global warming, Aggangan said.

“The same is true with tree plantation species,” he added. “As we do more studies on them, we promote the setting up of more tree farms and the use of products harvested from them, which are known to be effective absorbers of carbon dioxide.”

FPRDI researchers are looking for more earth-friendly ways of doing things – for example, more energy-efficient sawmilling, drying and machining methods, and less toxic methods of preserving wood.

“We will continue to work towards the competitiveness of industries while promoting sustainability. They should always go together. No matter how fantastic, scientific innovations will mean nothing if they damage the environment.”



Republic Cement Partnership With Colgate-Palmolive To Tackle PH Plastic Waste Problem



By [Featuresdesk \(MD\)](#) March 16, 2021

Leading construction solutions provider Republic Cement and Colgate-Palmolive Philippines, makers of leading oral and personal care health and hygiene products, have joined together to address the plastic waste problem in the Philippines.

In a memorandum of agreement signed last December 18, 2020 at Republic Cement's plant in Teresa, Rizal, both companies committed to utilizing the cement manufacturer's co-processing initiative to reduce the amount of plastic ending up in landfills and waterways.



"Republic Cement is proud to be working with Colgate to support their plastic waste reduction goals through ecolooop, our resource recovery arm. We are excited to be a part of their journey and we are confident that through our shared commitment towards sustainability, we will be able to help support Colgate achieve their goals in the Philippines," said Republic Cement president and chief executive officer Nabil Francis.

Co-processing is the reuse or recovery of thermal and mineral properties of qualified waste materials while manufacturing cement in a single combined operation. Through ecolooop's co-processing and the use of plastic waste as alternative fuels, Republic can manufacture cement with reduced dependence on fossil fuels such as coal. Residual wastes are effectively diverted from landfills and waterways, thereby addressing the plastic pollution crisis by capturing pre- and post-consumer waste in direct partnership with fast-moving consumer goods (FMCG) companies.

"At Colgate-Palmolive Philippines, we can and will create a healthier and more sustainable future for all. This means preserving our environment and integrating sustainability in all that we do, by developing sustainable products that are recyclable, reusable or compostable, helping to change behavior through waste management education, and by collecting and recycling plastic to help eliminate plastic waste. Through our partnership with Republic Cement, we look forward to achieving our shared vision of eliminating plastic waste and creating a sustainable world we can all smile about," said Arvind Sachdev, Colgate-Palmolive Philippines president and general manager.

"Colgate-Palmolive is doing its part by helping to provide Filipino homes with sustainable products. In 2020, Colgate-Palmolive launched its first eco-friendly toothbrush made with a natural biodegradable bamboo handle and packaged in plastic-free recycled cardboard. We also moved into recycle-ready packaging with our Palmolive sachets. Palmolive Sachets are now made of a mono-material—a packaging type with only one form of plastic that makes it ready for recycling. Our Palmolive Soap cartons use paper with high-recycled content. These recycle-ready cartons are non-laminated, making it possible to re-process. This way, we are increasing the acceptability of our products' packaging in the recycling stream," added Sachdev.



Republic Cement is licensed by the Department of Environment and Natural Resources (DENR) to utilize and dispose of qualified waste streams through cement kiln co-processing, which is considered a superior waste management method where waste materials are processed at a very high temperature. This breaks down complex materials into simpler compounds and the energy or mineral content of wastes are completely recovered and utilized in the process of producing cement. Emissions from the process are filtered and monitored in compliance with DENR standards.



While co-processing involves the application of heat to destroy waste, it is distinct from the traditional waste management practice of incineration. “ecoloop utilizes the cement kiln co-processing method, where emissions are contained and managed within the kiln and any ash produced fully integrated into the stable microstructure of clinker, a key ingredient of cement,” shared ecoloop director Angela Edralin-Valencia. “On the other hand, some forms of incineration are purely for waste disposal without any energy or material recovery aspects. There is also a higher chance of noxious gases being released into the atmosphere and the ash byproduct from incineration usually still ending up in landfills.”

For close to two decades, Republic Cement has mastered the art of alternative fuels at its five integrated cement plants across the country. Backed by its 60 years manufacturing expertise, Republic Cement aims to establish co-processing through ecoloop as a viable and sustainable waste management solution, especially for plastics and other residual waste.

“Our partnership with Colgate paves the way in setting a great example in our two companies working together to provide clear solutions towards managing the Philippine plastic waste problem and together, building a greener, stronger Republic” said Francis.



Shredded plastic on canvas

March 17, 2021 | 12:08 am



GILBERT ANGELES' exhibit "Of Art and Wine: New Earth, New Life, New Hope" can be viewed at the Conrad Manila's Gallery C.

SOME artists use discarded pieces of wood, metal, or steel to create their art. Gilbert Calderon Angeles uses single-use plastic to create his abstract paintings.

Mr. Angeles' exhibit, "Of Art and Wine: New Earth, New Life, New Hope," opened on Mar. 4 at the Conrad Manila's Gallery C. The exhibit consists of 28 pieces created in his studio in Bulacan. The canvases range from autumn-like, to iridescent, to bursts of rainbow colors.

Mr. Angeles graduated with a degree in Fine Arts from the University of Santo Tomas. He then merged his passion for the arts with his advocacy of environmental sustainability — he is the founder of Green Artz, an organization which promotes awareness on sustainability through art.

In collaboration with Green Artz, Mr. Angeles recovers old paint, construction demolition waste such as wooden partitions and plyboards. The wooden boards are his canvases. He paints with shredded single-use sachets and left-over acrylic which he calls "eco-paint."

During the exhibit opening, a short class was conducted at the venue and via Zoom. Mr. Angeles told participants that the shredded plastics "add texture to your work." Working on his own piece, he first spread white paste on the board before scattering the shredded plastic on top. Then, acrylic paint was added. He noted that it is best to not overthink which color to use and just go with the color of one's current mood.

Mr. Angeles referred to his method as a way of upcycling, and said that this was different from found art which uses ordinary objects such as wood, shells, fabric, and metal. "Found art is dependent on the shape and structure of the waste product," he said, while the plastic waste he uses is not limited to a specific shape and size as it can be shredded.

"By creating these art pieces, we are creating a conversation that we are so dependent on single use plastics. [The] linear economy is a thing of the past. So by using these materials, we are promoting the circular economy — from waste it becomes a solution." Mr. Angeles said in a video. "The amount put in these art pieces is insignificant but the impact is great."

"Of Art and Wine: New Earth, New Life, New Hope" is open to the public until May 9. For inquiries on the artworks, call 8833-9999 or e-mail conradmanila@conradhotels.com. — **Michelle Anne P. Soliman**

Source: <https://www.bworldonline.com/shredded-plastic-on-canvas/>



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BusinessWorld ✓

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With the constantly rising issue of climate change, coupled by the impact of COVID-19, organizations and individuals intensify the call to engage in sustainable practices such as recycling.

This March 18 at 11 a.m., in celebration of Global Recycling Day, join Atty. Joseph Fabul, country manager for corporate and government affairs of Mondelez Philippines; Crispian Lao, co-convenor and founding president of Philippine Alliance for Recycling and Materials Sustainability (PARMS); and Sam Marcelo, multimedia editor of BusinessWorld, in a special session of BusinessWorld Insights themed "Recycling and Proper Waste Management for a Sustainable Future."

Watch its public stream on BusinessWorld and The Philippine STAR's Facebook pages!

This session of [#BUSINESSWORLDINSIGHTS](#) is presented by Mondelez Philippines.



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Duterte: Use all government assets to vaccinate poor communities

By [Alexis Romero](#)(Philstar.com) - March 17, 2021 - 12:00am



In a public address on Monday, President Rodrigo Duterte floated the idea of coming up with mobile vaccination teams that would serve people in slum areas.

STAR/ File

MANILA, Philippines — President Duterte has ordered agencies to use all government assets to ensure that the vaccines would reach poor communities.

In a public address on Monday, Duterte floated the idea of coming up with mobile vaccination teams that would serve people in slum areas.

“We are thinking of going mobile, you go there, or if you are near the barangay, you just wait because my order is for the team to give you the vaccine while traveling,” Duterte said.

“We will use all government assets. We will use all the vehicles of the government. Not necessarily from the DILG (Department of the Interior and Local Government). We must contribute and the other departments must take note of this. You have to contribute, I reiterate that this is a fight not only against COVID but against despair and hopelessness,” he added.

Duterte said poor families have to be vaccinated because many of them stay in one room, making it difficult for them to observe physical distancing.

Health Secretary Franciso Duque III, however, said bringing vaccination to the slums would pose challenges such as lack of manpower to monitor the vaccine’s side effects on recipients.

Duque noted that a person who receives a vaccine should be observed for about 30 minutes to one hour.

He said the vaccination would require 100 people a day for one inoculation site.

“So if there are 4,500 vaccination sites, you will be expecting to vaccinate 450,000 people a day, Mr. President. And because we are targeting 70 million people to be vaccinated to reach herd immunity, Mr. President, it will take about five to six months to complete the first dose of vaccinating 70 million Filipinos,” Duque explained.

Presidential spokesman Harry Roque noted that indigents are among the priorities in the vaccination program.

Roque clarified that the vaccination teams would not conduct house-to-house inoculation in slum areas.



He said local governments would establish vaccination centers in areas that are accessible to informal settlers.

“If there are adverse effects, an ambulance is on standby. There will also be vaccination centers near hospitals,” Roque said.

Vaccine czar Carlito Galvez said the general public vaccination to be handled by local governments may start in late April or early May.

Distribute face masks

Duterte wants the government to distribute free face masks as the Philippines grapples with fresh spikes in COVID-19 infections.

In his public address on Monday, Duterte said some people could not afford to buy new face masks and are forced to continue wearing worn out ones.

He said a face mask may not serve its purpose of protecting the user if it is already worn out.

“Others are using old face masks. They have been using it for a month because, you know, they do not have money to buy. We have to provide the mask for everybody,” the President said. “If the person does not have the money to buy masks, how do you expect compliance from him?”

Duterte said the interior department and barangays can help in distributing face masks and ensuring that health and safety measures are followed.

“During this time, the government must provide to the people. When they get sick...you cannot flog a dead horse,” he said.

Standby cash aid

There is a need for standby cash aid for emergency release to the people as the number of COVID-19 cases continues to rise, Sen. Risa Hontiveros said.

Hontiveros said the proposal should be done even if the administration’s economic managers refused to support Bayanihan 3.

“Four million Filipinos and their families have no source of income on a daily basis because they are unemployed. Those who are employed have reduced working hours. We need to help them tide over these localized lockdowns,” she said.

“The daily increase in COVID cases is alarming. We must prepare for all possible scenarios, including mobility restrictions, especially after Metro Manila mayors have reimposed longer curfew hours,” she added.

Hontiveros urged the economic managers to consider giving another round of cash grants to families affected by COVID-19. – **Cecille Suerte Felipe**



Gov't says general vaccination to begin as early as April, no door-to-door vaccinations

By [CNN Philippines Staff](#)

Published Mar 16, 2021 8:59:00 PM



Metro Manila (CNN Philippines, March 16) — With more vaccines slated to arrive in the weeks ahead, a government official says ordinary Filipinos may soon be rolling up their sleeves for COVID-19 shots.

Vaccine czar Carlito Galvez Jr. said in a virtual briefing Tuesday that general public vaccinations led by local government units may already be held by late April or early May.

Over a million doses of Chinese firm Sinovac's CoronaVac are expected to arrive this month, while some 900,000 doses from the country's second COVAX tranche might reach the Philippines by late March or early April, Galvez added.

Meanwhile, Presidential Spokesperson Harry Roque clarified there will be no door-to-door vaccinations, which President Rodrigo Duterte wanted particularly to be done to informal settlers so they can get inoculated ahead.

"As explained to him by [Health] Secretary [Francisco] Duque, *meron pong mga iba't ibang vaccination centers na itatayo ang mga lokal na pamahalaan. At itong mga vaccination centers naman, hindi malalayo sa mga lugar o mga tahanan na tinitirhan ng mga informal settlers kasi importante rin na ma-monitor sila matapos mabakunahan,*" Roque said.

[Translation: As explained to him by Secretary Duque, there will be various vaccination centers to be set up by local governments. And these vaccination centers won't be situated far from where informal settlers live, because it's important they also get monitored after getting vaccinated.]

Apart from an ambulance always being on standby in case a vaccinee experiences adverse effects, Roque said vaccination centers will also be located near hospitals for this purpose.

He also reiterated that the poor has always been among the priority sectors for the country's vaccine drive, with indigent senior citizens coming after health workers and the remaining indigent population after uniformed personnel.

Source: <https://cnnphilippines.com/news/2021/3/16/Gov-t-says-general-vaccination-to-begin-as-early-as-April--no-door-to-door-vaccinations--.html>



DOH: Philippine COVID-19 cases lumobo sa lagpas 631,000, patay nasa 12,848

(Philstar.com) - March 16, 2021 - 4:15pm



Naglalakad ang mga gurong ito malapit sa isang eskinita sa Maynila, ika-11 ng Pebrero, 2021, para bisitahin ang kanilang mga estudyante sa gitna ng COVID-19 pandemic.

AFP/Ted Aljibe, File

MANILA, Philippines — Nakapagtala ang Department of Health ng 4,437 bagong infection ng coronavirus disease ngayong Martes, dahilan para tumalon sa kabuuang 631,320.

Batay sa mga bagong nakalap na datos ng Kagawaran ng Kalusugan, narito ang bagong mga pasok na datos para araw na ito:

lahat ng kaso: 631,320

nagpapagaling pa: 57,736, o 9.1% ng total infections

bagong recovery: 166, dahilan para maging 560,736 na lahat ng gumagaling

kamamatay lang: 11, na siyang nag-aakyat sa local death toll sa 12,848

Anong bago ngayong araw?

Ngayong araw ang pinakamataas na bilang ng active cases (57,736), o hindi pa gumagaling, simula ika-3 ng Oktubre, 2020. Nasa 165 araw na ang nakalipas simula noong huling mas mataas ang datos diyan.

Kanina lang nang ianunsyo ng Metropolitan Manila Development Authority na [babawalan na uling lumabas ang lahat ng menor de edad sa Kamaynilaan simula Miyerkules](#). Ito'y kahit pinapayagan noon sa lahat ng bahay ang 15-17 taong gulang. Ito daw ang napagdesisyunan ng Metro Manila mayors dahil na rin sa mga bagong pagsipa ng kaso nitong mga nagdaang araw.

Papalo na sa 215,997 doses na COVID-19 vaccines na ang naiturok ng Pilipinas mula sa 1.12 milyong stock nito sa kasalukuyan, ayon sa datos na inilabas ng DOH ngayong araw. 38% pa lang ito ng kabuuang first dose at wala pang naituturok na first dose para sa healthcare workers, senior citizens at kasundaluhan.



[Dumepensa naman si presidential spokesperson Harry Roque sa mga bumabanat kay Pangulong Rodrigo Duterte](#), matapos sabihin ng huli na "maliit na bagay" lang ang COVID-19 sa buhay ng mga Pilipino: "Ang sinasabi lang po ng presidente, temporary lang po 'yan. Hindi po 'yan forever. Lilipas din po 'yan at kapag pagdating po ng bakuna, magkakaroon po tayo ng solusyon sa ating problema," aniya.

Ayon kay vaccine czar Carlito Galvez Jr. kanina, aabot sa 2.3 milyong doses ang darating pang COVID-19 vaccines bago magtapos ang buwan ng Marso. Bubuuin ito ng 979,200 doses ng AstraZeneca at 400,000 dagdag na donasyon ng Sinovac na posibleng dumating sa pagitan ng ika-22 hanggang ika-26 ng Marso.

Dagdag pa ni Galvez, napinal na nila ang kasunduan sa pagitan ng Pilipinas at Serum Institute para sa [30 milyong doses ng Novavax anti-COVID-19 drug](#). Tanya ng gobyerno, darating ito sa third o fourth quarter ng 2021.

Umaabot na sa 119.6 milyon ang tinatamaan ng COVID-19 sa buong mundo, ayon sa huling ulat ng World Health Organization. Sa bilang na 'yan, 2.64 milyon na ang patay.

— James Relativo at may mga ulat mula kay Xave Gregorio



Pandemic led to higher air quality in 2020: report

March 16, 2021, 7:40 pm



ANKARA – Air quality improved in most regions of the world last year due to global measures to slow the spread of the coronavirus disease 2019 (Covid-19), according to a report released Tuesday.

In its 2020 World Air Quality Report, Swiss air quality technology company IQAir said 84 percent of all monitored countries observed air quality improvements in 2020.

"Many parts of the world experienced unprecedented but short-lived, improvements in air quality in 2020, as restrictions related to the Covid-19 pandemic caused a steep drop in fossil fuel consumption," Lauri Myllyvirta, lead analyst at the Centre for Research on Energy and Clean Air (CREA), who also contributed to the report, said.

Some major cities that saw significant improvement in air quality included Beijing, Chicago, Delhi, London, Paris, and Seoul.

China and India, known for poor air quality, have seen major improvements; 86 percent of Chinese cities experienced cleaner air in 2020 than the previous year, while 63 percent of Indian cities saw improvements in air quality.

In the US, on the other hand, average pollution levels rose by 6.7 percent in 2020 due to record-breaking wildfires in the states of California, Oregon, and Washington.

American cities comprised 77 of the world's top 100 most polluted cities in September 2020, while 38 percent of US cities did not meet the World Health Organization's (WHO) air quality standards.

Despite the lockdowns and pandemic measures, air pollution was still found in Eastern and Southern Europe with Bosnia Herzegovina, North Macedonia, and Bulgaria taking the lead.

"Many countries in Southeast Asia, the Middle East, Africa, South Asia, and South America continue to lack the equipment and expertise to monitor and report air pollution," IQAir said.

"South Asia is the most polluted region of the world with Bangladesh, India, and Pakistan sharing 42 of the 50 most polluted cities worldwide," it added.

Dhaka, Delhi, and Krakow are cities with the highest air pollution in the world, according to IQAir's live city ranking.

"In 2021, we will likely see an increase in air pollution due to human activity, again," IQAir's CEO Frank Hammes said. (*Anadolu*)



Is climate change threatening our rice consumption?

ETX Daily Up / 07:55 PM March 16, 2021



Image: vm2002/Istock.com via ETX Daily Up

Will we still be able to eat rice whenever we want in 30 years? That's the question asked by a team of American researchers from the University of Illinois, who conducted a field study in India, one of the world's largest rice-growing areas. They found that investing in soil conservation technology and limiting waste at harvest time are the main ways to reduce the risk of rice shortages over the next 30 years.

The research focused on rice plantations at the farm of the Borlaug Institute for South Asia in Bihar, northeast India. The objective was to estimate rice yield and water demand by 2050, and to assess how rice farmers can adapt to the effects of climate change.

"As the weather changes, it affects temperature, rainfall, and carbon dioxide concentration. These are essential ingredients for crop growth, especially for rice," explains Prasanta Kalita, professor in the Department of Agricultural and Biological Engineering at the University of Illinois and lead author of the study.

"Overall, about 4,000 liters of water go into production and processing per kilogram of rice," he adds.

Kalita's team assessed the amount of water needed to grow rice, yield rates and climatic conditions. The researchers then ran computer simulation models to identify strategies that can be implemented now to sustain rice production.

Reducing water requirements and waste

If rice farmers continue with current practices, the yield of their plants could decline significantly by 2050 (and our rice consumption along with it), the study estimates.

"Our modeling results show the crop growth stage is shrinking. The time for total maturity from the day you plant to the day you harvest is getting shorter. The crops are maturing faster, and as a result, you don't get the full potential of the yield," outlines Prof. Kalita.

One of the strategies selected in this study was the use of direct-seeded rice instead of transplants. This method is environmentally friendly and sustainable, and would allow rice to be grown with considerably less water, and with similar yields. Keeping crop residue on the ground, a form of soil conservation, is also mentioned as a strategy to preserve water in the process.



The researchers also draw attention to food waste during and after harvest, which, according to the Food and Agriculture Organization, amounts to about 30% of crops. Efforts to reduce these losses can therefore boost crop availability and food security, the researchers note.

According to their findings, the best strategy to achieve a 60% increase in rice production, while minimizing additional water requirements, would therefore be to combine these two farming techniques. ***JB***

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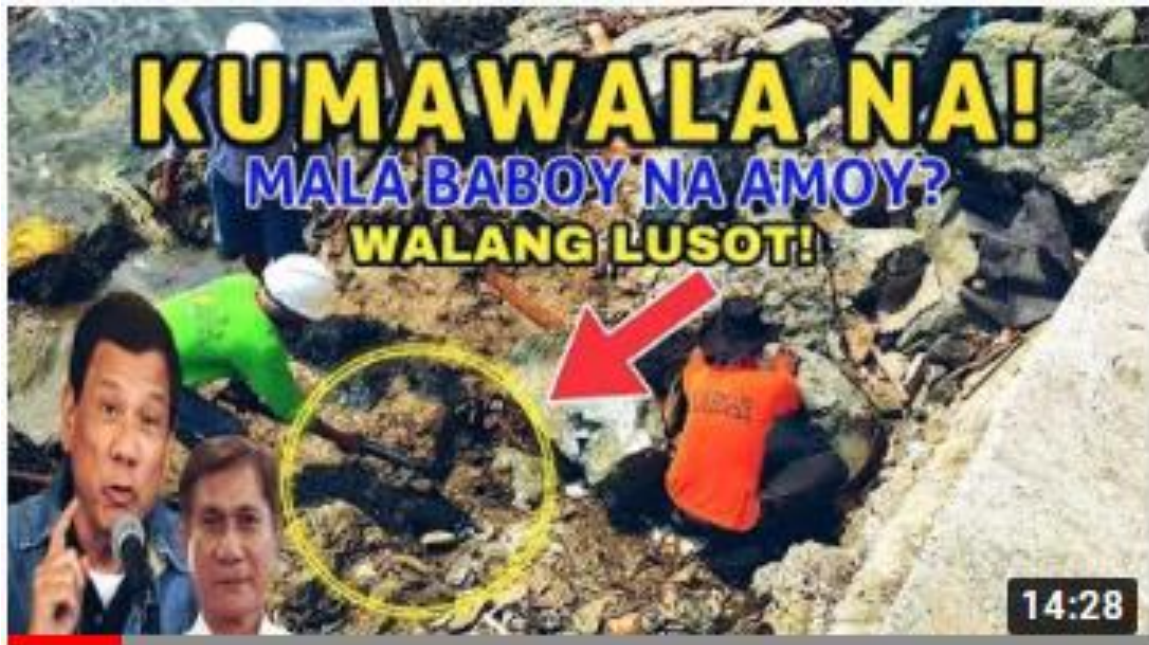
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