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By: Cai Ordinario

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[New 'Aquanomics' research from GHD says climate change is accelerating annual losses in PHL brought about by water-related disasters](#)

By: BMPLUS

Data from Aquanomics: The economics of water risk and future resilience, a report published by global professional services company GHD reveals that floods and tropical storms are predicted to amount to over 90% of direct losses (around USD89 billion) between 2022 and 2050.

BUSINESS WORLD ONLINE

[Storms, floods to cost PHL \\$124 billion by 2050.](#)

By Luisa Maria Jacinta C. Jocson, Reporter

STRONG STORMS, heavy flooding and prolonged droughts may result in around \$124 billion in losses to the Philippine economy between 2022 and 2050, according to research firm GHD.

CEBU DAILY NEWS

[Rama appoints Cimatú as Cebu City environment adviser](#)

By: Wenilyn B. Sabalo

Cebu City, Philippines — Cebu City Mayor Michael Rama has appointed former Department of Environment and Natural Resources (DENR) Secretary Roy Cimatú as a member of the City Advisory Board that oversees environmental concerns.

MANILA NEWS

[Healthy mangroves build a resilient community in the Philippines' Palawan](#)

By Aquilino Managbanag

PALAWAN, Philippines — In the middle of the brackish water of Malampaya Sound in the Philippines' Palawan province, Panchito Calamare stands on an outrigger fishing boat one drizzling May morning, slowly pulling in his crab line and removing one by one the day's haul.

THE MANILA TIMES

[Asean committed to tackle marine pollution – official](#)

By: Bernadette Tamayo

The Association of Southeast Asian Nations (Asean) is committed to address marine pollution, among the fastest-growing threat to human health and economic development not just in the region but globally.

[China drought to hike price of rice](#)

By: Bella Cariaso

An official of the Department of Agriculture (DA) on Tuesday warned that a drought being experienced in China could jack up the prices of imported rice.

THE PHILIPPINE STAR

[African nations call out climate injustice ahead of COP27](#)

By: Agence France-Presse

Libreville, Gabon — African countries on Monday called for an end to a "climate injustice" saying the continent causes less than four percent of global CO2 emissions but pays one of the highest prices for global warming.

[Philippines emphasizes addressing plastic pollution on maritime cooperation workshop](#)

By: Kaycee Valmonte

Manila, Philippines (Updated 4:03 p.m.) — The Philippines highlighted plastic pollution as one of the key issues to be addressed at the East Asia Summit (EAS) workshop as member states tackle marine pollution.

THE WASHINGTON POST

[Greenland ice sheet set to raise sea levels by nearly a foot, study finds](#)

(New research suggests the massive ice sheet is already set to lose more than 3 percent of its mass, even if the world stopped emitting greenhouse gases today)

By Chris Mooney

Human-driven climate change has set in motion massive ice losses in Greenland that couldn't be halted even if the world stopped emitting greenhouse gases today, according to a study published Monday.

CCC IN THE NEWS:

BUSINESS WORLD

[Storms, floods to cost PHL \\$124 billion by 2050](#)

By: Luisa Maria JAcinta Joson

Strong storms, heavy flooding and prolonged droughts may result in around \$124 billion in losses to the Philippine economy between 2022 and 2050, according to research firm GHD.

Information and Knowledge Management Division

BUSINESS MIRROR

[ADB: cover climate change impact in social protection](#)

By: Cai Ordinario

Social protection measures must be expanded across Asian countries to include the impact of climate change, according to an expert from the Asian Development Bank (ADB).

In an Asian Development Blog, ADB Southeast Asia Department Social Sector Specialist Amir Jilani said this is crucial for the region since six of the 10 countries in the world that are most affected by climate change are in Asia.

On average, over 40,000 people in the region are killed annually by storms, floods, and other natural disasters. Women and girls are also 14 times more likely to die in climate-related disasters than men.

“Social protection measures are a necessary tool to build resilience and protect the most vulnerable following climate, health, and socio-economic shocks,” Jilani said.

“They can also play an important climate mitigation role, including through skills training and public works that promote sustainable use of natural resources,” he added.

Turning to “climate-smart” social protection systems will improve the resilience of countries. These social protection measures include shock and weather-indexed insurance schemes.

Further, environmentally-friendly public works programs that provide payments to communities for ecosystem services would also help. These services include reforestation which could also be a good environmental conservation, climate mitigation, and poverty-reduction tool.

“In the Philippines, an ADB-supported pilot of the graduation approach strengthened household resilience to the pandemic across a range of dimensions including financial security, food security, and mental health,” according to Jilani.

Strengthening social protection, Jilani said, must include efforts to protect those hardest hit by shocks, including climate change. This means covering children, women, older persons, disabled people, and those in the informal sector.

Jilani, however, conceded that this expansion in the coverage of social protection programs entailed some trade-offs and fiscal considerations. But, he said, there was “sufficient evidence” that this will lead to multiplier effects that can benefit the economy.

One such impact would be to enable the poor to recover from shocks quickly as well as prevent them from turning to “adverse coping behaviors.”

“Social protection programs recently demonstrated their critical importance during one of history’s most unprecedented crises. It is time to expand their use to address the impact of climate change on society’s most vulnerable,” Jilani said.

Other efforts to strengthen social protection include the use of digital ID systems and social registries to deliver social protection as well as efforts to undertake poverty, risk, and vulnerability assessments needed in targeting the assistance.

Jilani also underscored the need to strengthen policy coherence, coordination, and collaboration among social protection, climate change, disaster risk management, and humanitarian response actors.

[New 'Aquanomics' research from GHD says climate change is accelerating annual losses in PHL brought about by water-related disasters](#)

By: BMPLUS

Data from Aquanomics: The economics of water risk and future resilience, a report published by global professional services company GHD reveals that floods and tropical storms are predicted to amount to over 90% of direct losses (around USD89 billion) between 2022 and 2050.

The study highlights the potential impact of extreme weather events on five critical sectors within the global economy: agriculture, banking and insurance, energy and utilities, FMCG and retail, and manufacturing and distribution. While these sectors are diverse, with very different types and levels of water risk, they are all expected to face significant output losses in the years up to 2050.

Additionally, the research shows that the Philippines will suffer an average annual gross domestic product (GDP) loss of 0.7% due to water risks such as droughts, floods, and storms. It also points out that the country's agricultural and retail sectors could be hit hardest, and that these rising threats need to be tackled now with greater focus on water recycling, desalination, and smarter irrigation.

Aquanomics reveals that the Philippines's agricultural sector is particularly vulnerable, with projected annual output losses of over 5% by 2030 and 8% by 2050**. In 2020, the sector generated a gross value added (GVA) of about Php1.78 trillion, equivalent to a 10.2% share of the country's GDP.

Storms are expected to have the greatest direct impact on the Philippine economy (USD47 billion), followed by floods (USD42 billion), and droughts (USD3 billion). This is the first time that the economic impact of these three types of events have been calculated at a GDP and sector level.

With three million Filipino citizens currently relying on unsafe water sources, and seven million lacking access to improved sanitation, water supply and sanitation services are a key focus.

Rod Naylor, Global Water Lead of GHD shares, "The Philippine Water Supply and Sanitation Master Plan calls for a total investment of around Php1.1 trillion to achieve universal access to water and sanitation for all Filipinos by 2030. GHD partners with the country's major water utility providers to achieve universal access to safe, sufficient, and sustainable water supply."

No matter what size or sector, all businesses are dependent on water as they require it to function. This makes water a connector between sectors, crucial to enabling circular economies and global supply chains. It also means no sector is protected against operational disruption in the face of water-related disasters.

“By focusing on economic impacts, as we have done with this study, we aim to help identify and unlock the social and environmental benefits of tackling water risk head-on. As well as highlighting risk, this study explores some of the ways in which our focus countries can adapt to change and build resilience in their water systems. With water risk on the rise, we need to adopt a proactive, holistic, and inclusive approach in understanding and addressing fast-developing challenges,” adds Naylor.

When it comes to flood management, the study indicates that investment needs to be targeted to building infrastructure in the right areas and working with nature to channel water away. This means carrying out flood studies and building infrastructure out of flood zones where possible—a challenge when retrofitting solutions in densely populated urban areas.

“At GHD, we are focused on working with stakeholders to develop and implement integrated solutions to this challenge. This means understanding and optimizing the infrastructure already in place and collaborating with our clients and industry peers to consider different kinds of assets that work in harmony with communities and nature,” explains Naylor.

The Philippines is a tropical archipelago with more than 7,000 islands. Its extraordinary biodiversity is still preserved on many of the smaller islands, however, over 70% of its forest cover was lost over the last century. Levels of water pollution are very high in many places due to a lack of wastewater treatment, affecting the health of communities and ecosystems. Major infrastructure and population centers are located on the coastal plains, exposing them to flooding and storm events.

In 2013, Typhoon Haiyan (known locally as Yolanda) killed 6,300 people and left 28,689 injured, 1.6 million homeless, and more than six million displaced. Typhoon Rai in 2021 displaced 10.6 million people, with a death toll of 457 people, showing the value of early warning systems and other disaster risk reduction measures put in place.

Although a minority have many options for avoiding these risks, adaptation options are limited for the majority, due to their lack of resources. Despite the devastation brought about by frequent natural disasters, inadequate and intermittent water supply remains a challenge across the country. Around one in 10 Filipinos do not have access to improved water sources, with poorer communities being disproportionately affected.

With approximately 20 typhoons entering the country every year often bringing torrential rain and extreme flooding, The Philippines is ranked the fourth most affected country in the world when it comes to water-related disasters, and as global warming intensifies, extreme weather events are expected to increase, resulting in greater water risk to the country.

BUSINESS WORLD ONLINE

Storms, floods to cost PHL \$124 billion by 2050.

By Luisa Maria Jacinta C. Jocson, Reporter

STRONG STORMS, heavy flooding and prolonged droughts may result in around \$124 billion in losses to the Philippine economy between 2022 and 2050, according to research firm GHD.

This translates to an average annual gross domestic product (GDP) loss of 0.7% for the Philippines, GHD said in a statement following the release of its report “Aquanomics: The economics of water risk and future resilience.”

The report covered seven countries, including the United States, China and the Philippines, which GHD said will see a combined \$5.6 trillion in losses due to storms, floods and drought through 2050.

The United States and China will face cumulative losses of around \$3.71 trillion, and \$1.1 trillion, respectively by 2050.

The Philippines’ total GDP loss of \$124 billion is the fifth-highest among the seven countries, with United Arab Emirates having the smallest GDP loss at \$27 billion.

The Philippines is one of the countries most affected by water-related disasters, with an average of 20 typhoons that bring heavy flooding every year.

“Our data show that floods and tropical storms are predicted to amount to over 90% of direct losses (around \$89 billion) between 2022 and 2050,” GHD said.

Broken down, storms have the biggest direct impact on the Philippine economy at \$47 billion, followed by floods at \$42 billion, and droughts at \$3 billion.

GHD said the agriculture sector will likely bear the brunt of the water-related disasters, with estimated annual output losses of over 5% by 2030, and 8% by 2050. The average annual output loss for agriculture is expected to be 0.9% or equivalent \$23 billion between 2022 and 2050.

In 2020, the agriculture sector generated a gross value added (GVA) of about P1.78 trillion, equivalent to a 10.2% share of the country’s GDP.

The banking and insurance sector is projected to post an average annual output loss of 0.6%, equivalent to \$14 billion, between 2022 and 2050. This is followed by manufacturing (0.3% or \$39 billion), fast-moving consumer goods and retail (0.2% or \$19 billion), and energy and utilities (0.2% or \$3 billion).

“The country’s agricultural and retail sectors could be hit hardest, and that these rising threats need to be tackled now with greater focus on water recycling, desalination, and smarter irrigation,” GHD said.

GHD also noted the country faces high levels of water pollution, lack of wastewater treatment and inadequate water supply. Many Filipinos also live on coastal plains which make them vulnerable to storms and floods.

“The Philippine water supply and sanitation master plan calls for a total investment of around P1.1 trillion to achieve universal access to water and sanitation for all Filipinos by 2030,” Rod Naylor, GHD global market leader for water, said in a statement.

CLIMATE EMERGENCY

Meanwhile, the Philippine government is being urged to declare a “climate emergency” as rising global temperatures are leading to extreme weather events such as floods, storms, droughts and heatwaves.

“This means that all the institutions of government, national and local, and all civil society and community and people’s organizations must come up with a collective response,” Antonio Gabriel M. La Viña, a lawyer and environmental expert, said in a text message.

Institute for Climate and Sustainable Cities associate for policy advocacy Denise M. Fontanilla said that the government should plan for at least the next 18 years.

“Medium-term six-year plans make us blind to the constraints that climate chaos has already imposed. The V20 Group of Finance Ministers, which includes the Philippines, released a report last June stating that the most vulnerable economies in the world have lost 20% of their wealth over the last 20 years due to loss and damages brought by climate change,” she said in an e-mail.

“If there’s anything the pandemic has taught us, it’s that as long as we measure progress only with GDP and productivity, and each month we fail to fully integrate resilience into the country’s macroeconomic fundamentals, our vulnerabilities will worsen, threatening nothing less than the long-term viability of our economy,” she added.

The Climate Reality Project Philippines manager Nazrin Camille D. Castro said the government needs to act fast and immediately deploy climate change adaptation measures.

“Science is unequivocally telling us that the climate crisis is speeding up and moving faster than we are. The recent report by GHD is yet another testament that we need faster and bolder responses to the climate crisis to at least have a chance to fight for the survival and security of the Filipino people,” she said in a Viber message.

Ms. Fontanilla said that prioritizing resilience will spur both economic development and decarbonization in the country.

“Transitioning faster to renewable energy will create more jobs and make power services more affordable and reliable. Inclusive mobility would not only reduce emissions but move more people instead of cars. Moreover, prioritizing resilience in long-term plans will protect communities from loss and damage to be brought by climate change in the near future, helping people survive and thrive amidst multiple crises,” she said.

Ms. Castro urged the Climate Change Commission (CCC) to fast-track the update of the National Climate Change Action Plan (NCCAP). She said the climate action plan should prioritize interventions in waterless communities that are more vulnerable to drought and other climate-vulnerable sectors such as indigenous peoples.

“Moreover, it must recognize and put into consideration that the climate crisis is also affecting another important aspect of the economy — public health. Our people are our greatest asset and their mental and physical well-being, which is often affected by the impacts of the climate crisis, must be prioritized over the interests of certain groups,” she added.

At the local level, Ms. Castro said that the CCC and the Department of Interior and Local Government should put in place a mechanism to help local government units ensure the quality of their respective local climate change action plans.

“Local governments should also be capacitated by the National Government in conducting climate and disaster risk assessments and incorporating the results of these assessments into their comprehensive development plans,” she said.

CEBU DAILY NEWS

Rama appoints Cimatu as Cebu City environment adviser

By: Wenilyn B. Sabalo

Cebu City, Philippines — Cebu City Mayor Michael Rama has appointed former Department of Environment and Natural Resources (DENR) Secretary Roy Cimatu as a member of the City Advisory Board that oversees environmental concerns.

Cerwin Eviota, Cebu City information officer, said Cimatu will serve as an adviser for the City's various environmental programs, such as the "Gubat sa Baha" which seeks to address the City's flooding problem and reclaim the encroached three-meter easement of the City's waterways.

"Oo. DENR Secretary-like in the public-private corporate-like governance that Mayor MLR has been putting in place, same as Loreche and Sinas," he said.

Eviota said the Task Force "Gubat sa Baha" created by the Mayor's executive order number 2 has voted for Cimatu to be their chairman.

READ: 'Task Force Gubat sa Baha' starts issuing notices to owners of encroaching houses, establishments

Last July 2022, Rama introduced Sinas to City Hall employees and department heads after the latter accepted the Mayor's offer to act as an adviser for the City's safety, peace, and order.

Rama has also asked Dr. Mary Jean Loreche, former chief pathologist of the Department of Health-Central Visayas Center for Health and Development, to lead as head chief of the Cebu City Medical Center after recognizing her role during the height of the COVID-19 pandemic in the City.

MANILA NEWS

[Healthy mangroves build a resilient community in the Philippines' Palawan](#)

By Aquilino Managbanag

- According to historical accounts, the fisheries of Malampaya Sound in the Philippines' Palawan province were once so rich it was difficult to wade to shore without stepping on crabs.
- This bounty fueled migration to the area from across the Philippines, and by the turn of the 20th century, much of the areas' mangroves had been cleared or degraded, leading to a decline in fish catches.
- From 2011-2013, mangrove restoration efforts were initiated as part of the Philippines' National Greening Program, but, as elsewhere in the country, the initiative performed far below target.
- Today, however, thanks to ongoing outreach initiatives, community partnerships and Indigenous belief systems, the importance of preserving mangroves is widely recognized and the area's coastal forests and fisheries are seeing a recovery.

PALAWAN, Philippines — In the middle of the brackish water of Malampaya Sound in the Philippines' Palawan province, Panchito Calamare stands on an outrigger fishing boat one drizzling May morning, slowly pulling in his crab line and removing one by one the day's haul.

When he returns home, he hands over the crabs to his wife, Gloria, to weigh. Other fishermen also come to sell their catch to the couple. Within an hour, their regular buyer arrives to collect the catch, which will eventually land in restaurants and hotels across the province.

The couple recognize that their bountiful catch is tied to the thick mangroves blanketing the sound's coast. "We take care of our mangroves. We don't cut them down, because it's where the crabs and fishes spawn," says Panchito, 53, from the Indigenous Cuyunon group. "That's also why we make sure other people won't destroy them."

Sitting in the shade of a nipa hut, 44-year-old Gloria faces a mangrove forest while weaving a fishing net. "The mangroves are really a big help to us," she says. She observes that the crabs inhabit the mangroves until they mature, move to the sea, and are caught by fishers like them.

"When we fish, we also manage to capture those crabs. It's a great help to us because we're able to sell a few kilos a day, and save up so we can support the schooling of our children," she says, noting proudly that her two oldest children have finished university thanks to Malampaya Sound's bounty.

Speaking to people like Gloria gives the impression that Malampaya Sound is a place where mangroves and coastal communities coexist harmoniously. But getting here took a long, tough journey. For decades, people showed little regard for this rich ecosystem, until the damage reached a point where it was clear that catches were declining in step with the mangroves. Only in the past 10 years has a broad shift in attitudes taken place, as local communities and environmental authorities work together to save this so-called blue forest.

Migration-driven deforestation

The Tagbanua Indigenous people, the sound's early inhabitants, collectively named the 200,115-hectare (494,495-acre) land- and seascape Malampaya, meaning "rich in fish." Experts say it's rightly named, thanks to its mangroves, which are among the Philippines' finest.

"Historical accounts noted that you need to part the waters before you could set foot on the coast, so you won't step on crabs," says Benjamin Gonzales, a coastal and fisheries management scientist at the Western Philippines University. "Mangrove is the lifeline of the marine fishes found in the sound, because it serves as the spawning and nursery grounds of so [much] marine life in the coastal areas."

Malampaya's highly productive fisheries made the area the "fish bowl" of the Philippines, especially from the 1960s to the early 1980s, Gonzales says.

In 1985, Malampaya was found to have 2,500 hectares (about 6,200 acres) of mangrove forests, and more than 150 fish species, including at least 60 commercially important species sold not just in Palawan, but as far away as the Philippines' capital, Manila, and even Hong Kong, Taiwan and Japan.

This bounty lured waves of migrants from nearby towns and provinces, including Gloria's family. Born in Romblon province in the heart of the Philippines, she was 13 when her father decided to make the move for good. "We heard from returning fishers that life in Malampaya is peaceful and you don't have to worry about food because it's brimming with fish, so our entire family relocated here," she says.

The in-migration resulted in the degradation of Malampaya's coastal resources, with some settlers cutting down mangroves for timber, fuelwood and charcoal. By 1998, the area's mangrove cover was reduced to less than 1,500 hectares (3,700 acres).

In an attempt to reverse this, Malampaya Sound was officially designated as a protected landscape and seascape in July 2000. Covering 22 villages within the towns of Taytay and San Vicente, the protected area was home to around 68,000 people as of the 2020 census, 70% of whom rely on fishing for their economic and food security.

"Without the mangrove, you can just imagine what will happen to the area," Gonzales says. "And this will further affect the number or the integrity of the population of fishes, crustaceans, shells and other animals and plants within the area ... The lesser the

mangrove, the lesser the fish, so the people would have lesser food and source of livelihood.”

Reforestation initiatives

In 2015, the most recent year for which official data are available, the Philippines had 7 million hectares (17.33 million acres) of forest cover, of which 303,373 hectares (749,651 acres) or 4.3% were mangrove forests. Mangroves were estimated to cover 450,000 hectares (1.1 million acres) in 1918.

Recognizing the importance of mangrove forests as carbon sinks and bulwarks against storms, the government has made efforts to restore the degraded mangroves, primarily via the National Greening Program (NGP), the first round of which ran from 2011 to 2019.

Nationwide, the NGP didn't perform well, a 2019 report by the Philippines' Commission on Audit concluded. The program reached only 11.82% of its 1.50-million-hectare reforestation target, the report notes. Issues cited in the report include a lack of surveying, mapping and planning, and soil analysis prior to starting.

The program in Malampaya Sound, likewise, hasn't always been a shining success story. From 2011-2013, local communities' help was enlisted to plant 271 hectares (670 acres) with 542,000 mangrove propagules. Only half of the plantings survived, far below the 85% survival target, the local office of the Department of Environment and Natural Resources (DENR) reported.

“As part of the project's maintenance and protection component, we replaced dead mangroves but nothing happened,” says Josephine Dela Cruz, president of the Malampaya Multipurpose Cooperative, a civil society organization. Dela Cruz says she suspects the site wasn't fit for planting as it gets submerged at high tide, drowning the propagules.

Malampaya Sound mangroves.

Dominic Wodehouse is the executive director of nonprofit Mangrove Action Project and a member of the IUCN's Mangrove Specialist Group. He says DENR field offices faced additional challenges due to the very large area targets set by the program. “Finding large expanses of uncontested space suitable for planting was challenging, forcing the attempted afforestation of mudflats,” says Wodehouse, who studied Malampaya as part of his dissertation research. Mudflats, he notes, spend too much time saturated by water to be suitable for mangrove establishment, particularly when planted with the mangrove species used by the program.

“We've learned so many lessons [from the agency's past mistakes] that should not be applied at present,” says local NGP coordinator Nikkie Edep, as the government extends the program implementation until 2028, covering 7.1 million hectares (17.5 million acres) of degraded forestlands.

Other factors for the low survival rate, Edep adds, include the lack of a massive community consultation and information drive prior to the project start. “Those who were unaware of the NGP plantations, they crossed through, hitting our planted propagules.” She says the occurrence of strong winds and waves associated with typhoons and monsoons also affected the survival of planted propagules.

While the NGP reforestation initiative fell short of its target, the 135.5 hectares (335 acres) successfully planted as part of the program did play a role in a broader increase in mangrove cover. By 2016, data from the National Mapping and Resource Information Authority’s (NAMRIA) show mangrove cover in Malampaya Sound had reached 3,064 hectares (7571 acres), well above the 2,513 hectares (6,210 acres) recorded in 2005. Though not yet ground-validated due to the COVID-19 pandemic, satellite data indicate that the figure held steady in 2020.

According to Malampaya Sound superintendent Clarissa Pador, village government-led mangrove reforestation initiatives that began in 2017 also contributed to the increase in mangrove cover. As threats to mangroves are reduced, the area also gets a boost from natural regeneration.

Community involvement

Pador, whose office falls under the Department of Environment and National Resources, credits ongoing outreach and information sessions, done alongside their biweekly seaborne patrols, for contributing to people’s increasing awareness of environmental laws. “If they hadn’t been aware, the villages with vast mangrove areas would have been gone,” she says.

As threats to the mangroves recede and communities see improvements in fish catches, Pador says they’ve started to actively participate in coastal law enforcement and advocacy — a much-needed boost for a strained workforce. “Our staff can’t perform our role of safeguarding the entire Malampaya Sound against illegal activities because of its vast area coverage,” says Pador, who leads 13 people.

“Even in the mangrove forest, we can’t monitor it 24/7, so we collaborate with barangay [village] officials, and purok [hamlet] and Indigenous people leaders to disseminate why mangroves should not be cut down,” she adds.

For fishers like Panchito, partaking in mangrove protection initiatives as a bantay dagat, or sea patrol volunteer, isn’t only a social responsibility, but also a matter of survival. “If we chance upon [people acting illegally], we are duty bound to report them to law enforcers, so no one dares to violate environmental laws here,” he says. “It will be difficult for us if we lose our livelihood source, because it’s where we get money to buy rice.”

Some villages have started initiating monthly mangrove-planting activities, as they start to see the link between a healthy mangrove forest ecosystem and their livelihoods.

“At low tide, we pick mangrove propagules and plant them in areas with gaps to help increase the mangrove forest cover, so as to also improve the number of fishes and not scare them away,” Gloria says.

Fisher in a boat in the Malampaya Sound mangroves.

Indigenous cultural belief, meanwhile, helps keep Malampaya’s mangrove forest intact. Indigenous Tagbanua fisher Edgar Valderama, 48, says they believe in pahadlok or mangrove-dwelling spirits. “People rarely go to that area because the mangroves are enormous and believed to be hosting evil spirits,” he says.

Out of fear, the Tagbanua people don’t linger in the mangrove forest, staying just long enough to gather food and sparing this ecosystem from destruction and unsustainable resource extraction. “Many of us got lost there, not just me,” Valderama says. “When you go there to glean for shellfish, you should go home right away. If you hear someone shouting, don’t try to follow that voice because it will lead you astray deep in the forest until you’re hungry.”

Eric Zerrudo, director of the Center for Conservation of Cultural Property and Environment in the Tropics at University of Santo Tomas in Manila, says this belief exemplifies Indigenous people’s deep spiritual relationship with their natural environment, which gives them their “own set of protection and management with regards to their landscape.”

This traditional system exists alongside legislation protecting Palawan’s mangroves, Zerrudo says. “This Tagbanua belief system creates another level of protection for the mangroves.”

As threats to the mangroves recede and communities see improvements in fish catches
As threats to the mangroves recede and communities see improvements in fish catches.
Image by Keith Fabro for Mongabay.

A woman sorts the fish caught in Malampaya Sound. Image by Keith Fabro for Mongabay.

Fishers in a boat.

As threats to the mangroves recede and communities see improvements in fish catches, Pador says they’ve started to actively participate in coastal law enforcement and advocacy — a much-needed boost for a strained workforce. Image by Keith Fabro for Mongabay.

Migration into Malampaya resulted in the degradation of the coastal resources, with some settlers cutting down mangroves for timber, fuelwood and charcoal.

Malampaya's highly productive fisheries made the area the "fish bowl" of the Philippines, which lured waves of migrants from nearby towns and provinces. Image by Rex Remo for Mongabay.

Migration into Malampaya resulted in the degradation of the coastal resources, with some settlers cutting down mangroves for timber, fuelwood and charcoal.

Migration into Malampaya resulted in the degradation of the coastal resources, with some settlers cutting down mangroves for timber, fuelwood and charcoal. Image by Rex Remo for Mongabay.

Fisher with a net.

For many fishers, partaking in mangrove protection initiatives as a bantay dagat, or sea patrol volunteer, isn't only a social responsibility, but also a matter of survival. Image by Keith Fabro for Mongabay.

Coastal resilience

Mangroves aren't just important for fish.

Restored and protected mangroves, as an ecosystem-based adaptation approach, can dissipate powerful tropical storms' energy, reducing storm surge, flood and erosion risks for coastal communities. This is especially important in the Philippines, where the occurrence of six super typhoons a year is now the "new normal" due to the changing climate.

Research shows that 100 meters (330 feet) of mangroves can reduce wave energy by up to 66%. In the Philippines, a World Bank study estimates that mangroves can "reduce flooding to 613,000 people annually, of whom more than 23% live below poverty, and avert more than US \$1 billion in damages to residential and industrial property."

When Typhoon Rai hit northern Palawan in December 2021, Malampaya Sound's mangroves' protective role was affirmed. They saved not just coastal-dwelling households, but also local fisheries. "After the typhoon, our catch declined. But it didn't last long because it started improving a few weeks later," Panchito says.

While Malampaya's terrestrial forest was affected, the naturally growing mangroves were able to withstand the storm's wrath and left no significant property destruction within the protected area. "I can say that the mangroves here are very resilient because in our [visual] inspection no [significant] mangrove forest damage was recorded," Pador says.

Malampaya Sound mangroves.

Recognizing mangroves' role in addressing climate change and protecting against storms, the Philippines is developing a road map to increase mangrove cover by at least 20% by 2030.

"To effectively do that, we need to do science-based, community-managed mangrove restoration to ensure we avoid the mangrove planting in unsuitable areas," says Jocel Pangilinan, climate resilience program director at Conservation International Philippines, which initiated the creation of the road map with the government.

Dela Cruz, who represents the civil society organizations in Malampaya's protected area management board, says they've seen the value of mangroves to their lives and will keep supporting initiatives to conserve it amid the changing climate.

"Because our mangroves are thriving, even if our community was hit by a typhoon, we still have a source of livelihood," Dela Cruz says. "As our mangroves are resilient, we as a community are also resilient."

Editor's note: This story was produced with the support of Internews' Earth Journalism Network grant on Coastal Resilience.

THE MANILA TIMES

[Asean committed to tackle marine pollution – official](#)

By: Bernadette Tamayo

The Association of Southeast Asian Nations (Asean) is committed to address marine pollution, among the fastest-growing threat to human health and economic development not just in the region but globally.

"Marine debris is in fact among the fastest-growing threats to human health and economic development. This growing threat is recognized globally," Asean Deputy Secretary General Ekkaphab Phanthavong said on Tuesday in a video address to the 2022 East Asia summit on marine cooperation.

The three-day Manila workshop on maritime and scientific cooperation was geared toward creating healthy and sustainable oceans.

Phanthavong noted that the reduction of marine pollution is a United Nations Sustainable Development Goal by 2025, including marine debris.

"The Asean is committed to strengthening collective action to address this pressing issue," he said.

The Philippines, through the Department of Foreign Affairs, has urged the international community and concerned experts to address marine pollution since it is an issue that "transcends boundaries and nationalities."

"Picture this, by the year 2050 there will be more plastics than fishes in the sea. The oceans will be overheated and acidified and 90 percent of coral reefs will be wiped out of existence," DFA Acting Undersecretary Ma. Theresa Lazaro said.

"There will be waves of mass marine life extinction, causing enormous disruption in the ecosystem of coastal cities such as Manila, Bangkok, Jakarta, Seoul, Tokyo. Non-coastal states will not be spared from this environmental tragedy," she added.

"All of us gathered around in this forum would bear the same consequences of our wanton neglect of our maritime resources and ecosystems," according to Lazaro, also DFA acting undersecretary for bilateral relations and Asean affairs.

"This is such a bleak illustration of a doomsday scenario if we do not do anything about the environment. This goes without saying that the dire state of our oceans is something that requires immediate action," she said.

Aside from the 10-member Asean, the summit participants included Australia, China, India, Japan, New Zealand, South Korea, Russia and the United States.

"We may be individually different from each other in terms of government, or culture or beliefs. But marine pollution is an issue that transcends boundaries and nationalities," Lazaro said.

DFA Assistant Secretary Daniel Espiritu, Asean Philippines national secretariat director general, said the Philippines has a maritime economy and maritime culture.

"Maritime cooperation will therefore always be a key priority. It's only natural for us to protect the oceans, which provide for the majority of our subsistence," Espiritu also said.

Environment Secretary Ma. Antonia Yulo-Loyzaga could not attend the summit, but she sent a message to the participants.

She said climate change plays a vital role in "accelerating the deterioration" of oceans, "which threatens our food and water security."

Yulo-Loyzaga noted that the Philippines has passed the Producers Responsibility Act of 2022 which institutionalized producers' responsibility for plastic packaging waste.

"I hope that this workshop can become a vehicle for all of us to discuss the realities of our maritime situation, explore avenues for cooperation and strengthen our commitment to protect and preserve our oceans," Lazaro said.

China drought to hike price of rice

By: Bella Cariaso

An official of the Department of Agriculture (DA) on Tuesday warned that a drought being experienced in China could jack up the prices of imported rice.

During a hearing of the House Committee on Agriculture and Food, DA Assistant Secretary Arnel de Mesa, however, assured that the country will have enough rice supply until the end of 2022.

"As of the moment, we expect 90 percent rice sufficiency for the third quarter of the year, and we have at least 72 million metric tons of rice good for 46 days. So, we don't expect a shortage in the supply," de Mesa told lawmakers.

During the hearing, Quezon Rep. Wilfrido Mark Enverga, committee chairman, asked officials of the DA about the possibility of a rice shortage after Albay Rep. Jose Ma. Clemente "Joey" Salceda said the drought in China could result in a possible global rice supply downturn.

"Our worry is not in supply but since China is the biggest consumer of rice, they will be getting their rice from Vietnam [and] India. If that happens, it will result in an increase in the prices of imported rice," de Mesa said.

He said the government under the leadership of President Ferdinand "Bongbong" Marcos Jr. is now focused on improving the country's rice production.

"We also want to boost our local production. That is why our President, also our DA secretary, wants to make sure that the Masagana programs will continue to improve our local production when it comes to rice," de Mesa added.

Based on the data that he presented to the House panel, the country's rice demand for the fourth quarter is pegged at 4.02 million metric tons while the ending stock is at 1.72 million MT.

For the third quarter, the country's total rice supply totaled 4.62 million MT, including 2.23 million MT of locally produced rice and 640,000 MT of imported rice.

The Philippines imported at least 930,000 MT of rice in the first quarter and 950,000 MT in the second quarter of the year.

THE PHILIPPINE STAR

[African nations call out climate injustice ahead of COP27](#)

By: Agence France-Presse

Libreville, Gabon — African countries on Monday called for an end to a "climate injustice" saying the continent causes less than four percent of global CO2 emissions but pays one of the highest prices for global warming.

Government officials, international organizations, NGOs and the private sector from more than 60 African nations attended Monday's opening of Africa Climate Week in Gabon's capital to prepare for the COP27 UN climate conference in Egypt in November.

Host President Ali Bongo Ondimba told the gathering the continent has to speak with one voice and offer "concrete" proposals for COP27.

"The time has come for Africans to take our destiny into our own hands," he said, deploring the global failure to meet climate targets.

"Our continent is blessed with all the necessary assets for sustainable prosperity, abundant natural resources... and the world's youngest and largest working population," he said.

"But Africa and the rest of the world must address climate change," when the UN's intergovernmental climate panel IPCC "describes Africa as the most vulnerable continent.

"Droughts are causing extreme famines and displacing millions of people across the continent," Bongo said.

"Today, 22 millions of people in the Horn of Africa face starvation because of the drought and famine, countries in the south of the continent are regularly hit by cyclones, rising sea levels threaten cities such as Dakar, Lagos, Capetown and Libreville."

Egyptian Foreign Minister Sameh Shoukry, head of COP27, which will be held in the Red Sea resort of Sharm El-Sheikh, said: "Despite contributing less than four percent of global emissions", Africa was "one of the most devastated by the impacts of climate change.

"Also, Africa is obliged, with limited financial means and scant levels of support, to spend about two to three per cent of its GDP per annum to adapt to these impacts," Shoukry said, calling it a "climate injustice".

Denouncing the failure of developed countries to deliver on their climate commitments, he warned: "There is no extra time, no plan B and there should also be no backsliding or backtracking on commitments and pledges."

[Philippines emphasizes addressing plastic pollution on maritime cooperation workshop](#)

By: Kaycee Valmonte

Manila, Philippines (Updated 4:03 p.m.) — The Philippines highlighted plastic pollution as one of the key issues to be addressed at the East Asia Summit (EAS) workshop as member states tackle marine pollution.

Foreign Affairs Undersecretary for Bilateral Relations and ASEAN Affairs Ma. Theresa Lazaro, who delivered the keynote message on behalf of Foreign Affairs Secretary Enrique Manalo, pointed out that in less than three decades, “there will be more plastics than fish in the sea.”

The DFA also noted that the further spread of microplastics will also have an impact on the health of individuals later on, if these continue to pollute waters where communities get their resources.

The 2021 study of the Coastal Resources and Ecotourism Research, Development, and Extension Center of the environment department found microplastics in at least 20 marine study sites in the Philippines, with the highest concentration found in the biggest marine protected area in the country — the Tañon Strait Protected Seascape.

“Marine pollution is an issue that transcends boundaries and nationalities,” Lazaro said during the workshop’s opening ceremony at the Sofitel Philippine Plaza Manila on Tuesday.

“I hope that this workshop can become a vehicle for us to discuss the realities of our maritime situation, explore venues for cooperation in tangible projects and activities, and strengthen our commitment to protect and preserve marine life and our oceans.”

Republic Act 11898 or the Extended Producers' Responsibility Act of 2022 that recently lapsed into law require big companies to create programs that would reduce their use of plastics.

The three-day workshop kicked off on Tuesday with 16 present out of the 18 EAS-member countries, which include ASEAN nations, Australia, China, India, Japan, New Zealand, the Republic of Korea, the Russian Federation, and the United States — most of which are considered coastal states.

Over 50 delegates composed of experts, scientists, and other representatives from international bodies such as the United Nations are participating in the workshop.

Delegates can pitch ideas for technical cooperation, which may involve creating training programs to address marine pollution or through providing educational programs for local scientists, or through scientific cooperation when it comes to making scientific solutions “more transparent and accessible.”

The Philippines has also committed to work with other nations to ensure the sustainability of the oceans.

Korea commits to help Philippines keep oceans clean
Meanwhile, Korea said that it is committed to supporting Manila in promoting regional cooperation to create a healthy maritime environment.

Seoul is working with the Department of Environment and Natural Resources and the Philippine Coast Guard to implement a \$7.7-million project to improve marine litter management. The project aims to create a marine litter monitoring system and enhance the training of DENR and PCG officials.

It will also put a clean-up vessel to collect marine litter in Manila Bay.

Another project to promote safety in the waters is underway as the Korea Export Import Bank has pledged to fund a \$105-million maritime safety enhancement project in Romblon and Cebu.

Together with the Department of Transportation, Korea aims to build two buoy bases in the waters of the provinces and to establish capacity-building programs for aids to navigation services that will be provided.

"Ultimately, this project aims at reducing risks of marine accidents and by doing so, contributing to protecting marine environment," the Korean Embassy in Manila said in a statement.

The DENR said it hopes that the workshop will "significantly increase our collective and scientific knowledge of our oceans and use this knowledge to craft laws and policies that can make our oceans sustainably cleaner and healthier."

"The Philippines is a maritime state... maritime cooperation will therefore always be a key priority of the Philippines," DFA Assistant Secretary for ASEAN Affairs Daniel Espiritu said in his speech.

However, Espiritu also pointed out that most of what would be borne out of the workshops will remain "exploratory" as it will take a while for the global community to come up with a binding document, adding that "harmonizing the response around the world is another [activity]" that will take time.

THE WASHINGTON POST

[Greenland ice sheet set to raise sea levels by nearly a foot, study finds](#)

(New research suggests the massive ice sheet is already set to lose more than 3 percent of its mass, even if the world stopped emitting greenhouse gases today)

By Chris Mooney

Human-driven climate change has set in motion massive ice losses in Greenland that couldn't be halted even if the world stopped emitting greenhouse gases today, according to a study published Monday.

The findings in the journal *Nature Climate Change* project that it is now inevitable that 3.3 percent of the Greenland ice sheet will melt — equal to 110 trillion tons of ice, the researchers said. That will trigger nearly a foot of global sea-level rise.

10 steps you can take to lower your carbon footprint

The predictions are more dire than other forecasts, though they use different assumptions. While the study did not specify a time frame for the melting and sea-level rise, the authors suggested much of it can play out between now and the year 2100.

“The point is, we need to plan for that ice as if it weren't on the ice sheet in the near future, within a century or so,” William Colgan, a study co-author who studies the ice sheet from its surface with his colleagues at the Geological Survey of Denmark and Greenland, said in a video interview.

“Every study has bigger numbers than the last. It's always faster than forecast,” Colgan said.

One reason that new research appears worse than other findings may just be that it is simpler. It tries to calculate how much ice Greenland must lose as it recalibrates to a warmer climate. In contrast, sophisticated computer simulations of how the ice sheet will behave under future scenarios for global emissions have produced less alarming predictions.

A one-foot rise in global sea levels would have severe consequences. If the sea level along the U.S. coasts rose by an average of 10 to 12 inches by 2050, a recent report from the National Oceanic and Atmospheric Administration found, the most destructive floods would take place five times as often, and moderate floods would become 10 times as frequent.

Other countries — low-lying island nations and developing ones, like Bangladesh — are even more vulnerable. These nations, which have done little to fuel the higher temperatures that are now thawing the Greenland ice sheet, lack the billions of dollars it will take to adapt to rising seas.

The paper's lead author, Geological Survey of Denmark and Greenland scientist Jason Box, collaborated with scientists based at institutions in Belgium, Denmark, Finland, Norway, the Netherlands, Switzerland and the United States to assess the extent of ice loss already locked in by human activity.

Just last year, the U.N. Intergovernmental Panel on Climate Change — which generally forecasts lower figures for total ice loss from Greenland by the end of the century — projected around half a foot of sea-level rise from Greenland by the year 2100 at the high end. That scenario assumed humans would emit a large amount of greenhouse gases for another 80 years.

The current study, in contrast, does not factor in any additional greenhouse gas emissions or specify when the melting would take place, making the comparison with the U.N. report imperfect.

The finding that 3.3 percent of Greenland is, in effect, already lost represents “a minimum, a lower bound,” Box said. It could be much worse than that, the study suggests, especially if the world continues to burn fossil fuels and if 2012, which set a record for Greenland ice loss, becomes more like the norm.

But that aspect of the study offers hope: Even if more sea-level rise is locked in than previously believed, cutting emissions fast to limit warming close to 1.5 degrees Celsius (2.7 Fahrenheit) would prevent things from getting much worse.

Greenland is the world's largest island and is covered with a sheet of ice that, if it melted entirely, could raise sea levels by more than 20 feet. That is not in doubt — nor is the fact that in past warm periods in Earth's history, the ice sheet has been much smaller than it is today. The question has always been how much ice will thaw as temperatures rise — and how fast.

Melt rates have been increasing in the past two decades, and Greenland is the largest single ice-based contributor to the rate of global sea-level rise, surpassing contributions from both the larger Antarctic ice sheet and from mountain glaciers around the world. Greenland lies in the Arctic, which is warming much faster than the rest of the world.

Higher Arctic temperatures cause large amounts of ice on Greenland's surface to thaw. While the island's oceanfront glaciers are also shedding enormous icebergs at an accelerating pace, it is this surface melt — which translates into gushing ice rivers, disappearing lakes and giant waterfalls vanishing into crevasses — that causes the biggest ice losses.

Greenland, a simulation

In the past, scientists have tried to determine what Greenland's ongoing melting means for the global sea level through complex computer simulations. They model the ice itself, the ocean around it, and the future climate based on different trajectories of emissions.

In general, the models have produced modest figures. For instance, according to the latest IPCC assessment, the most “likely” loss from Greenland by 2100 under a very high emissions scenario equates to about 5 inches of sea-level rise. This represents the disappearance of about 1.8 percent of Greenland’s total mass.

Most models and scenarios produce something much lower. In a low-emissions scenario, which the world is trying to achieve right now, the IPCC report suggests Greenland would contribute only a few inches to sea-level rise by the century’s end.

The new research “obtains numbers that are high compared to other studies,” said Sophie Nowicki, an expert on Greenland at the University at Buffalo who contributed to the IPCC report. Nowicki observed, however, that one reason the number is so high is that the study considers only the last 20 years — which have seen strong warming — as the current climate to which the ice sheet is now adjusting. Taking a 40-year period would yield a lower result, Nowicki said.

“This committed number is not well-known and actually quite hard to estimate, because of the long response time scale of the ice sheet,” Nowicki said.

Box, for his part, argues that the models upon which the IPCC report is based are “like a facsimile of reality,” without enough detail to reflect how Greenland is really changing. Those computer models have sparked considerable controversy recently, with one research group charging they do not adequately track Greenland’s current, high levels of ice loss.

In Greenland, the processes triggering ice loss from large glaciers often occur hundreds of meters below the sea surface in narrow fjords, where warm water can flick at the submerged ice in complex motions. In some cases, these processes may simply be playing out at too small a scale for the models to capture.

Meanwhile, while it is clear that hotter air melts the ice sheet from the surface, the consequences of all that water running off the ice sheet — and sometimes, through and under it — raises additional questions. Much of the water vanishes into crevasses, called moulins, and travels through unseen pathways through the ice to the sea. How much this causes the ice itself to slick and lurch forward remains under debate and might be happening at a finer scale than what the models capture.

“Individual moulins, they are not in the models,” Colgan said.

The new research assesses Greenland’s future through a simpler method. It tries to calculate how much ice loss from Greenland is already dictated by physics, given the current Arctic climate.

An ice sheet — like an ice cube, but at a vastly larger scale — is always in the process of melting, or growing, in response to the temperature surrounding it. But with an ice body as large as Greenland — picture the entire state of Alaska covered with ice that is one to two miles thick — adjustment takes a long time. This means that a loss can be almost inevitable, even if it has not actually happened yet.

Still, the ice sheet will leave clues as it shrinks. As it thaws, scientists think the change will manifest itself at a location called the snow line. This is the dividing line between the high altitude, bright white parts of the ice sheet that accumulate snow and mass even during the summer, and the darker, lower elevation parts that melt and contribute water to the sea. This line moves every year, depending on how warm or cool the summer is, tracking how much of Greenland melts in a given period.

The new research contends that in the current climate, the average location of the snow line must move inward and upward, leaving a smaller area in which ice would be able to accumulate. That would yield a smaller ice sheet.

“What they’re saying is that the climate we already have is in the process of burning away the edges of the ice,” said Ted Scambos, an ice sheet expert at the University of Colorado at Boulder who did not work on the paper.

Scambos, however, said it could take much longer than 80 years for 3.3 percent of the ice sheet to melt: the study says “most” of the change can happen by 2100.

“A lot of the change they forecast would happen in this century, but to get [that level of retreat] would require several centuries, more perhaps,” he said.

Future ice losses will be greater than that amount if global warming continues to advance — which it will. If the massive melt year of 2012 became the norm, for instance, that would be likely to yield about 2½ feet of committed sea-level rise, the study says.

Pennsylvania State University professor Richard Alley, an ice sheet expert, said the fact that researchers remain uncertain about how the planet’s ice sheets will change and raise global sea levels shows the need for more research.

“The problems are deeply challenging, will not be solved by wishful thinking, and have not yet been solved by business-as-usual,” he said.

But Alley added that it is clear that the more we let the planet warm, the more the seas will rise.

“[The] rise can be a little less than usual projections, or a little more, or a lot more, but not a lot less,” Alley said.

CCC IN THE NEWS:

BUSINESS WORLD

[Storms, floods to cost PHL \\$124 billion by 2050](#)

By: Luisa Maria JAcinta Joson

Strong storms, heavy flooding and prolonged droughts may result in around \$124 billion in losses to the Philippine economy between 2022 and 2050, according to research firm GHD.

This translates to an average annual gross domestic product (GDP) loss of 0.7% for the Philippines, GHD said in a statement following the release of its report “Aquanomics: The economics of water risk and future resilience.”

The report covered seven countries, including the United States, China and the Philippines, which GHD said will see a combined \$5.6 trillion in losses due to storms, floods and drought through 2050.

The United States and China will face cumulative losses of around \$3.71 trillion, and \$1.1 trillion, respectively by 2050.

The Philippines’ total GDP loss of \$124 billion is the fifth-highest among the seven countries, with United Arab Emirates having the smallest GDP loss at \$27 billion.

The Philippines is one of the countries most affected by water-related disasters, with an average of 20 typhoons that bring heavy flooding every year.

“Our data show that floods and tropical storms are predicted to amount to over 90% of direct losses (around \$89 billion) between 2022 and 2050,” GHD said.

Broken down, storms have the biggest direct impact on the Philippine economy at \$47 billion, followed by floods at \$42 billion, and droughts at \$3 billion.

GHD said the agriculture sector will likely bear the brunt of the water-related disasters, with estimated annual output losses of over 5% by 2030, and 8% by 2050. The average annual output loss for agriculture is expected to be 0.9% or equivalent \$23 billion between 2022 and 2050.

In 2020, the agriculture sector generated a gross value added (GVA) of about P1.78 trillion, equivalent to a 10.2% share of the country’s GDP.

The banking and insurance sector is projected to post an average annual output loss of 0.6%, equivalent to \$14 billion, between 2022 and 2050. This is followed by manufacturing (0.3% or \$39 billion), fast-moving consumer goods and retail (0.2% or \$19 billion), and energy and utilities (0.2% or \$3 billion).

“The country’s agricultural and retail sectors could be hit hardest, and that these rising threats need to be tackled now with greater focus on water recycling, desalination, and smarter irrigation,” GHD said.

GHD also noted the country faces high levels of water pollution, lack of wastewater treatment and inadequate water supply. Many Filipinos also live on coastal plains which make them vulnerable to storms and floods.

“The Philippine water supply and sanitation master plan calls for a total investment of around P1.1 trillion to achieve universal access to water and sanitation for all Filipinos by 2030,” Rod Naylor, GHD global market leader for water, said in a statement.

CLIMATE EMERGENCY

Meanwhile, the Philippine government is being urged to declare a “climate emergency” as rising global temperatures are leading to extreme weather events such as floods, storms, droughts and heatwaves.

“This means that all the institutions of government, national and local, and all civil society and community and people’s organizations must come up with a collective response,” Antonio Gabriel M. La Viña, a lawyer and environmental expert, said in a text message.

Institute for Climate and Sustainable Cities associate for policy advocacy Denise M. Fontanilla said that the government should plan for at least the next 18 years.

“Medium-term six-year plans make us blind to the constraints that climate chaos has already imposed. The V20 Group of Finance Ministers, which includes the Philippines, released a report last June stating that the most vulnerable economies in the world have lost 20% of their wealth over the last 20 years due to loss and damages brought by climate change,” she said in an e-mail.

“If there’s anything the pandemic has taught us, it’s that as long as we measure progress only with GDP and productivity, and each month we fail to fully integrate resilience into the country’s macroeconomic fundamentals, our vulnerabilities will worsen, threatening nothing less than the long-term viability of our economy,” she added.

The Climate Reality Project Philippines manager Nazrin Camille D. Castro said the government needs to act fast and immediately deploy climate change adaptation measures.

“Science is unequivocally telling us that the climate crisis is speeding up and moving faster than we are. The recent report by GHD is yet another testament that we need faster and bolder responses to the climate crisis to at least have a chance to fight for the survival and security of the Filipino people,” she said in a Viber message.

Ms. Fontanilla said that prioritizing resilience will spur both economic development and decarbonization in the country.

“Transitioning faster to renewable energy will create more jobs and make power services more affordable and reliable. Inclusive mobility would not only reduce emissions but move more people instead of cars. Moreover, prioritizing resilience in long-term plans will protect communities from loss and damage to be brought by climate change in the near future, helping people survive and thrive amidst multiple crises,” she said.

Ms. Castro urged the Climate Change Commission (CCC) to fast-track the update of the National Climate Change Action Plan (NCCAP). She said the climate action plan should prioritize interventions in waterless communities that are more vulnerable to drought and other climate-vulnerable sectors such as indigenous peoples.

“Moreover, it must recognize and put into consideration that the climate crisis is also affecting another important aspect of the economy — public health. Our people are our greatest asset and their mental and physical well-being, which is often affected by the impacts of the climate crisis, must be prioritized over the interests of certain groups,” she added.

At the local level, Ms. Castro said that the CCC and the Department of Interior and Local Government should put in place a mechanism to help local government units ensure the quality of their respective local climate change action plans.

“Local governments should also be capacitated by the National Government in conducting climate and disaster risk assessments and incorporating the results of these assessments into their comprehensive development plans,” she said.

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