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## ECO BUSINESS

### 1 billion people left dangerously exposed to heat stress by gaps in climate monitoring

By: Emma Ramsay

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## FINANCIAL TIMES

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By: Susannah Savage

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**GMA NEWS**

**Here's how Coldplay lower their CO2 emissions with 'Music of the Spheres' World Tour**
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Coldplay is doing their part to protect the environment through the group's sustainability project with “Music of the Spheres” World Tour. In 2023, the Intergovernmental Panel on Climate Change (IPCC) released an eight-year worth of research on climate change and its effect on the human race as a “final push” for climate efforts to reduce carbon emissions.

**MANILA BULLETIN**

**Post-COP28 reflection from a Filipino youth climate leader**
By: Climate Reality Project Philippines

It’s eight o’clock in the morning of Dec. 13, 2023. I’m on my way to Expo City in Dubai and just received a notification in my email that the new Global Stocktake (GST) draft decision text has just been released. As I was skimming through the document, I already anticipated that the closing plenary would have an extended debate regarding this text because there’s no way this watered-down text would be adopted. But I was wrong.

**This young environmental advocate champions marine conservation one initiative at a time**
By: Mat Richter

The Philippines, located amid the Coral Triangle — a marine region housing over 2,000 reef fish species, has long been renowned for its thriving fisheries sector.

**PANAY NEWS**

**[Opinion] A bright example for a sustainable future**

In an era increasingly defined by the urgent need to address climate change and reduce reliance on non-renewable energy sources, Iloilo City Hall’s shift to solar power is a commendable and inspiring example. The installation of 134 solar panels, capable of generating 60 kilowatts a day and meeting a significant portion of city hall’s energy needs, is not just a step towards sustainability; it is a leap towards a greener and more resilient future.

**THE PHILIPPINE STAR**

**[Opinion] Weathering the festivities**
By: Ian Manticajon

There's a reason why large outdoor religious and cultural events in the country are held in January. These events include the Sinulog Grand Parade in Cebu City, the Traslacion of the Black Nazarene in Manila, and the Dinagyang Festival in Iloilo. The primary reason is weather-related; during this time of the year, the Amihan brings cooler winds from the northeast, resulting in relatively pleasant temperatures on most days.

**Information and Knowledge Management Division**

**ECO BUSINESS**

## 1 billion people left dangerously exposed to heat stress by gaps in climate monitoring

By: Emma Ramsay

2023 was the hottest year on record. Humidity is rising too. Heat and humidity are a dangerous combination, threatening all aspects of our lives and livelihoods.

Climate change is pushing humid heat dangerously close to the upper limits of what people can survive. Parts of the world are on track for conditions beyond the limits of human tolerance.

Yet our new research shows poor weather station coverage across the tropics leads to underestimates of heat stress in cities. This means global climate change assessments probably overlook the local impacts on people.

Concentrated across tropical Asia and Africa, informal settlements, commonly known as “slums”, are on the front line of climate exposure. The shortfalls in climate monitoring leave these communities dangerously vulnerable to rising humid heat. With few options to adapt, millions could be forced to seek refuge away from the hottest parts of the tropics.

Why is heat such a threat in these places?
Rapid urbanisation that outpaces planned, formal development is driving the growth of informal settlements. Their residents usually lack infrastructure and services, such as electricity and water supply, that many city dwellers take for granted.

More than 1 billion people live in informal settlements. The United Nations expects this number to grow to 3 billion over the next 30 years. In countries such as Kenya or Bangladesh, nearly half the urban populations lives in informal settlements.

Most informal settlements are located in the tropics. Here it is hot and humid year-round, but their residents have few options to adapt to heat stress.

Most households in these settlements are on low incomes. Many residents must work outdoors for their livelihoods, which exposes them to heat and humidity.

On top of this, because informal settlements fall outside official systems and regulations, we often lack data about the threats they face.

What’s missing from climate data?

Most of the world's population lives more than 25km from a weather station. This means weather stations rarely capture the full range of temperature and humidity in cities, which are usually hotter than non-urban surrounds – the urban heat island effect. These gaps in monitoring are largest across the tropics where most informal settlements are located.

As individuals we experience heat on a local scale, which isn't captured by sparse weather station networks or meteorological models. If your home is too hot, a weather report telling you otherwise offers little respite.

Our research compiled local climate monitoring data from informal settlements in seven tropical countries. We compared these data to temperature and humidity measurements at the nearest weather station.

We found weather stations severely underestimate the heat stress that people experience in their homes and local communities. This means global climate assessments and projections also likely underestimate local-scale impacts.

Although these data come from a relatively small number of studies, they highlight a major hurdle for climate adaptation. Without accurate heat stress data, how can we ensure the most vulnerable communities are not left behind?

Even if they get a heat warning, options are limited
During a heatwave in Australia we are usually told to stay inside and drink lots of water. For residents of an informal settlement, this advice might actually increase their risk of health impacts.

Heat can be even worse indoors in informal housing with poor ventilation and insulation. Very few households have air conditioning (or could afford to run it if they did). Residents might not have access to safe drinking water, adding to the health risks of heat stress.

What's more, advice and alerts are unlikely even to reach informal settlements. A 2023 World Meteorological Organisation report found only half of the world's countries have early-warning systems.

These systems are activated if forecast heat is above certain trigger levels. Health advice and alerts to the public can be backed by extra public health measures. Regional climate centres currently issue broad-scale alerts, but forecasts and responses need to operate at smaller scales to be effective.

And, as we have shown, forecasts are based on weather station data that underestimate heat in informal settlements. This means early-warning systems could fail to activate even though residents of these settlements will experience dangerous heat stress.

What can be done to protect people?

Current climate monitoring efforts have left millions of vulnerable people at risk of heat stress. This has direct impacts on individual health and wellbeing, with broader knock-on effects for societies and national economies.

Meteorological institutes in developing countries need urgent support to strengthen climate monitoring and improve early-warning systems. The new head of the World Meteorological Organisation has promised to do just that. We need to ensure governments and agencies, such as development banks and NGOs, capitalise on this opportunity and include informal settlements in new monitoring networks.

Inequalities in resources and adaptive capacities must also be overcome. Community-based initiatives such as urban greening and improved housing show promise to reduce urban heat. Investing in these solutions must be a priority of adaptation efforts.

The alternative to adapting is to move. Climate-related migration is already happening due to sea-level rise and heat, including here in Australia.

People don’t leave their homes and uproot their lives without good reason. Finding solutions that help them adapt to climate change should be the priority.

## New coal mines add question mark to India's climate commitments

By: Rejimon Kuttappan

At COP28, on 9 December, India's environment and climate change minister Bhupender Yadav affirmed the country's "trust and confidence" in the Paris Agreement, whilst highlighting the country's achievements in emissions reduction.

But this announcement was seemingly at odds with another made just three days earlier, when coal minister Pralhad Joshi confirmed that India intends to increase production for the fossil fuel.

Two weeks later, Joshi told the consultative committee meeting of the coal ministry that seven rounds of coal mine auctions had been completed and another two were ongoing. Within these rounds, 91 mines have been successfully auctioned, representing a maximum annual production capacity of approximately 221 million tonnes.

In the accompanying document, Joshi states: "Overall, large numbers of mines are under development to meet the domestic coal demand."

In its Nationally Determined Contributions (NDCs), updated in 2022, India has made three major promises: a 45 per cent reduction in its carbon emissions intensity (CO2 emissions per unit of electricity) based on 2005 levels, by 2030; 50 per cent of installed electricity coming from non-fossil-fuel sources by 2030; and national carbon neutrality by 2070.

On the same day at COP28, the Indian government submitted its third "National Communication" to the UN Framework Convention on Climate Change (UNFCCC). In its executive summary, there is a curious formulation: "India's emissions are likely to increase in line with growing energy demand and overall development, eventually reaching the envisioned goal of net-zero emissions in 2070."

But, as of 2022, 65 per cent of India's CO2 emissions are from coal, and India's rapid expansion of coal mines and plants might complicate the road to India achieving its ambitious climate goals.

Enhanced coal production

Despite the landmark 2015 Paris Agreement, which committed the countries of the world to lower carbon emissions, India has seen no need to reduce coal use. This is despite the fact that emissions for coal – largely by China and India – have been the biggest driver of recent carbon emissions, accounting for 40 per cent of the total in 2021. As the mainstay of its energy supply – thermal power plants (coal, oil and gas) supply

56 per cent (239 GW) of the country's total installed electricity – coal remains crucial for Indian energy security. To boost domestic supply rather than be reliant on coal, India has aggressively expanded its coal mines.

In a written reply to parliament in August 2023, the coal minister stated that a "major leap in coal production over the years has been witnessed". From 2013 to 2014, Indian coal production was 565 million tonnes; from 2022 to 2023, that had increased by 58 per cent to 893 million.

According to India's 2023 National Electricity Plan, the country's 2026-2027 domestic coal requirement will be an estimated 866.4 million tonnes, rising to 1.025 billion tonnes by 2031-2032. On 18 December, the coal minister told parliament that domestic coal production is expected to grow by 6-7 per cent annually and reach approximately 1.5 billion tonnes by 2029-2030.

Is forest cover the panacea?

The Third Pole asked Sanjay Kumar, chief policy advisor for the international legislator network Climate Parliament, whether India's large increases in coal production and consumption are at odds with its NDCs.

Kumar, a former director general of forests for India, sees no contradiction between the two pursuits. He believes India has not wavered in its commitment to meeting the 2030 and 2070 climate goals, and that it is more accurate to view India's approach as strategic adaptation to the complex balance between energy needs and climate change.

"This [trade-off] demonstrates a proactive approach, as the nation actively pursues renewable energy sources [and] energy efficiency measures over a wide range of sectors and cleaner energy technologies," says Kumar. India has "[balanced] its economic needs with its environmental responsibility" by continuously increasing its forest and tree cover over the past few decades – one of the few countries where this has been seen, he adds.

The country has tried to tout its credentials in other climate-friendly areas throughout the years. Expansion of forest cover for carbon sequestration is one of the key net-zero strategies that India's third National Communication to the UNFCCC identifies. The communication cites a 2021 report from the Forest Survey of India which claims the country's forest cover has expanded.

However, a closer look at how India measures its forests has revealed a host of issues. For example, plantations are classified as forests, which researchers have criticised as

a loophole created to achieve compliance with climate goals. Furthermore, in July 2023, India passed a new law that has made it easier to clear forests, including for coal mines.

On-the-ground research in states like West Bengal suggests that weak regulation and enforcement mechanisms allow deforestation to continue apace – in contrast to the rosy picture painted by the government.

The necessity of fossil fuels

In Yadav's COP28 statement, the climate change minister says India has successfully reduced its greenhouse gas emissions intensity "vis-à-vis its GDP 33 per cent between 2005 and 2019", and "achieved 40 per cent of installed electricity generation capacity through non-fossil-fuel sources". These updates mean India is well on its way to fulfilling its NDCs.

But they do not necessarily mean that India is on track to meet its 2070 goals of carbon neutrality. According to a report by the environmental think-tank Ember, India is one of six G20 countries (the world's 20 largest economies) in which per capita coal power emissions increased between 2015 and 2022, experiencing a 29 per cent increase in seven years. Additionally, the report states that like China, India "is experiencing rapid electricity demand growth, which is outpacing even the massive renewables expansion in recent years."

It is, though, worth noting that despite this increase, India had the lowest per capita emissions among G20 countries according to the Climate Tracker 2022 report, and less than a third of the average of all G20 countries.

"There will be complexities along the way [to net-zero], but the Indian government and the private sector are actively adopting new technologies and policies to drive down emissions," Bharath Jairaj, who directs the World Resources Institute India's energy programme, told The Third Pole.

Highlighting the Indian steel industry's recent emissions-reduction success, Jairaj emphasises the effectiveness of such initiatives: "Since announcing the 2070 goals, the steel industry has been encouraged to not only produce more steel, but also to integrate emissions-reduction strategies into their operations."

However, a September 2023 analysis by the Institute for Energy Economics and Financial Analysis (IEEFA) indicates that steelmaking in India, which accounts for 12 per cent of the country's total CO2 emissions, has a carbon intensity of 2.55 tonnes of CO2 per tonne of crude steel (tCO2/tcs) – significantly higher than the global average of 1.85 tCO2/tcs.

IEEFA also predicts that Indian steel's CO2 emissions will "double at an exponential rate by 2030". And while green hydrogen technology is currently considered a credible way to reduce the carbon intensity of steelmaking, its cost means this option is inaccessible to India before 2050, the analysis notes.

"Fossil fuels remain necessary", Jairaj says. "Transitioning to a renewable energy-based economy will not happen overnight."

Time for longer-term thinking

Trupti Mishra is a professor at the Indian Institute of Technology Bombay who specialises in the economics of pollution and climate change. She believes India is on track to meet its 2030 NDCs, even as its per capita coal power emissions rise. Mishra told The Third Pole that India has progressed well in expanding its renewable energy capacity, and that lowering the carbon intensity of its overall emissions is not the challenge.

But India must be serious about moving beyond coal if the country is to achieve net zero by 2070, she says, stressing that the plan for the phase-out of coal – and its details – are important. "It should not be at [an] aggregate level; rather, some regional-level planning is required to identify the scope for phasing out [coal plants] and the timelines," she adds.

India's "ambitious" updated NDCs are a successful "balancing act [of mitigation] and economic growth requirements", Mishra says. But she notes that there is "great scope" for improvements, recommending the restricting of finance for fossil fuel projects, greater infrastructure support for clean energy, better implementation of policies, and sector-specific approaches that sufficiently deal with on-the-ground realities.

Banks fall in line to finance coal

It seems that banks have also been drawn into India's push for coal production expansion. In July 2022, the Reserve Bank of India, the country's central bank, issued a discussion paper on banks' exposure to climate risks. A year later, a Reuters report claimed banks were growing reluctant to fund coal mine operations, and that only one bank – the Kerala-based Federal Bank – was funding coal mines at the time. This could become an important market mechanism for steering India away from coal investment.

Yet a note issued by India's coal ministry in October 2023 demonstrated it was seeking to reverse this trend, revealing it held a "Funding of Commercial Coal Mines in India" stakeholder consultation, which included mine owners and bank officials.

In the note, the ministry says banks are willing to finance coal mines and are setting up branches dedicated to that endeavour. “The State Bank of India has extended financial assistance for the development of one commercial coal mine, and others are [in] the process of doing the same,” it stated.

**FINANCIAL TIMES**

## The dubious climate gains of turning soil into a carbon sink

By: Susannah Savage

“There’s more known about space travel than there is about soil health,” says Tom Gregory, gulping down a cup of tea and glancing out from his farmhouse kitchen at a valley of green fields.

Ten years ago, he and his wife Sophie set up their organic dairy farm in Chard, Somerset. Five years ago, they realised it was not working. The proof was in the earth; by most indicators the farm’s soil had got worse since they began their organic endeavours.

Like many others around the world, Gregory has responded by turning to so-called regenerative agriculture: improving soil quality by better stewardship such as reduced tilling and planting more diverse temporary pasture.

Big food companies are taking an interest in such practices, and not just for ecological reasons. As well as boosting crop yields and potentially cutting fertiliser usage, regenerative agriculture can help increase carbon sequestration — storing carbon in the soil and keeping it out of the atmosphere.

The Gregorys’ farm is part of a regenerative agriculture pilot project run by Arla, a Denmark-based dairy co-operative that is their main customer.

For now, it is voluntary. But soon, says Sophie, all farmers will need to measure their soil carbon stock as regulations begin requiring companies to report the greenhouse gases emitted throughout their supply chains and in the use of their products, known as “scope 3” emissions. As of this month companies incorporated in the EU are required to report this indirect footprint. The US is also working on similar disclosure rules.

Farming and forestry account for almost a quarter of global greenhouse gas emissions and a hefty chunk of the scope 3 emissions of food manufacturers and retailers originate on farms. As they race to curb their on-farm footprints, some of the world’s biggest food suppliers are pouring cash into regenerative agriculture.

At COP28 in Dubai in December, 25 food and agribusiness giants, including Danone, PepsiCo, Nestlé and Cargill, pledged to convert 160mn hectares of land to regenerative practices and committed $2.2bn in funds — on top of an existing $2bn already invested.

But whatever its wider benefits, sceptics warn that regenerative agriculture will not solve the agri-food sector's emissions problem. There is lively debate over how much carbon can actually be stored in soils, how long for and how effectively it can be measured. Some scientists warn that if sequestration seems too good to be true, it probably is.

Few food and agriculture companies state how much their net zero goals depend on using land as a carbon sink. In many cases, the numbers "simply won't stack up," says Pete Smith, professor of soils and global change at the University of Aberdeen. He dismisses the notion that soils are "perpetually soaking up" carbon. Instead, soils have a finite capacity, he argues. Like a bucket of water, "you can only fill it up until the bucket is full."

Environmentalists warn that the idea of using carbon stored in soil to offset emissions smacks of the existing nature-based carbon offset market, under which multinationals seeking to reduce their net emissions buy up carbon offsets generated by tree-planting projects.

Many of these were found to make unsubstantiated claims about their carbon reduction benefits and the concept has been derided by some campaigners as a vehicle for corporate greenwashing. But that has not stopped start-up companies pledging to help farmers make money from selling soil-based carbon credits on the voluntary markets.

Smith says regenerative agriculture "makes a lot of sense" and will deliver a host of benefits for the environment, farmers and food production

"But the carbon angle has been oversold."

Regenerative agriculture "is basically about regenerating soil," says Gareth Morgan, head of farming policy at the Soil Association, a food and farming charity that champions organic and nature-friendly practices.

In practice, it means using fewer pesticides and synthetic fertilisers and planting cover crops — non-commercial species that protect and improve soil. It also entails not tilling the fields, as doing so damages their soil structure as well as releasing carbon stored in the soil into the air. The overall aim is to improve degraded soils and replenish the organic matter contained within them, which enables the earth to store more water — and draw more carbon out of the atmosphere.

US food manufacturer General Mills was one of the first to make a big push towards regenerative agriculture practices, announcing in 2019 a target to extend these to 1mn acres of farmland by 2030.

Since then, its competitors have got in on the action. Last year Nestlé announced that it was putting $1.3bn into a plan to ensure that a fifth of its key ingredients are sourced through regenerative farming methods by 2025 and half by 2030, while PepsiCo partnered with trader Archer Daniels Midland to extend regenerative agriculture across their shared supply chain in North America. This could reach 2mn acres of farmland by 2030, they say.

Cargill, one of ADM's biggest rivals, also has a goal of transitioning 10mn acres in North America to regenerative agriculture by 2030, and Brazilian meat-producer JBS has ringfenced $100mn for research projects promoting regenerative agriculture that will sequester carbon within the same period.

Arla has a goal to reduce $CO_2$ emissions from farms by 30 per cent per kilo of milk by 2030, says Paul Savage, agriculture director for the co-operative's UK branch. It has identified five key areas which have the greatest impact on carbon footprint and used these to develop "a points-based model" for farmers "which aims to reward past and motivate future actions," he adds.

The drive has created an opportunity for organisations promising to help food businesses achieve their regenerative goals. Earthworm Foundation started 25 years ago helping companies reduce their potential exposure to deforestation. But increased investor interest in climate change in recent years has forced companies to calculate their emissions. Bastien Sachet, Earthworm's chief executive, says they quickly deduced that agriculture was the biggest contributor "and then they realised that soil was one of the big levers to address this issue."

Earthworm now works with 30 major suppliers in Europe that provide agricultural products like grains, oil seeds, potatoes and sugar beet to different food brands. The non-profit organisation recently started a project aimed at helping 1,000 farmers in the supply chain of French agricultural giant Vivescia to transition to regenerative farming over the next few years. A consortium of brands that source from Vivescia are paying for the transition, says Sachet. "At the end, the farmer gets a package in his hands that is very worthwhile."

The benefits of regenerative agriculture are not in doubt. On farms in PepsiCo's supply chain in India, yields have increased 3 per cent while greenhouse gas emissions have fallen 20 per cent, and in Thailand yields have increased 18 per cent with a 36 per cent drop in water use, says Margaret Henry, the food giant's Global VP for Sustainable Agriculture.

Henry adds that better soil health as a result of regenerative practices, also make crops more resilient to extreme weather events. Cover crops and increased organic matter

create deeper, more extensive root systems. These help water drain when there is too much and allow it to be stored when there is too little.

“When the flood, or the drought, or the early frost, or the hurricane come through, that farm is more likely than its neighbour that has not been investing in regenerative agriculture to still have its crop,” she says.

Another big upshot is soil carbon sequestration, which Henry describes as “one of the best-kept secrets in the world of climate.” It is “win win,” she adds, “the more you sequester carbon in the soil, the healthier the soil, the better the crop . . . and fewer emissions go up into the atmosphere.”

Many others agree: of the 79 major agrifood companies surveyed by investor network Fairr recently, 50 said they were doing regenerative agriculture initiatives, including 36 that were seeking carbon-related outcomes.

But the wide-ranging benefits of regenerative agriculture are undermined by the industry’s lack of a set definition and clear targets, according to Fairr, which argues that this makes claims hard to substantiate, creates risks for investors and delays progress.

Only 18 of the 50 projects implementing regenerative agriculture had quantitative targets and just four — including PepsiCo, Nestlé and JBS — were offering to pay farmers to change their practices. In 2021, Cargill also launched RegenConnect, a marketplace that pays farmers for improved soil health and for each tonne of carbon sequestered.

There are more serious flaws with soil sequestration than the lack of a clear definition. One is its capacity; research by Smith, working with other academics at Wageningen University in the Netherlands, recently looked at carbon captured in grassland soils and calculated that some 135 gigatonnes of carbon would be required to offset emissions of methane and nitrous oxide from the grazing livestock sector. That is almost twice the carbon currently contained in managed grasslands. In some regions, carbon stocks would need to increase by 2,000 per cent to offset emissions from livestock farming.

Carbon capture in soils has been promoted by the livestock industry as “a get out of jail free card”, says Smith. “‘Yes, we’re producing methane emissions . . . but no need to worry about it, the soils will offset all the emissions’. This [study] is the nail in the coffin of that argument.”

Grasslands already hold a lot of carbon, so increasing this is especially challenging. Arable land has more potential, because it is depleted by intensive cultivation, but even this has limitations, according to scientists.

It is also tricky to accurately measure the carbon captured in soil. The technology to do so exists, but it is very expensive, says Smith. For farmers and the food companies they supply, he adds, “the cost of doing it can outstrip the value of the carbon.”

As a result, most companies and non-profits specialising in regenerative agriculture and soil carbon removal rely on computer models instead. These use farmers’ self-reported practices to estimate how much carbon is being stored.

Agriculture is one of the world’s top emitters

According to Sachet, in rare cases some companies want to switch to different calculation tools in order to maximise the amount of carbon they can report as removed.

Earthworm uses computer models “as a proxy”, he says, because that’s what companies are being asked to use by the Science-Based Targets initiative (SBTi, an arbiter of corporate net zero plans) and investors. But he acknowledges that “there is bit of a caveat on the accuracy of those methodologies” and that Earthworm also uses satellite imaging to verify the farmers’ claims.

Ron Hovsepian, the outgoing chief executive of US-based Indigo, disagrees. He argues the computer models, augmented with random soil sampling, are scientifically robust. Indigo is one of several companies that have sprung up to help farmers make money selling soil carbon credits on the voluntary markets. The company has “given birth to over 133,000 tonnes of carbon sequestration”, says Hovsepian, and is now helping food and drink giants such as Nestlé and Anheuser-Busch InBev reduce their scope 3 emissions through soil carbon sequestration.

A more fundamental challenge than measuring carbon is the finite capacity of soil to store it, according to scientists and environmentalists.

Keith Paustian, a soil scientist at Colorado State University, says switching from conventional to regenerative farming can increase the amount of carbon stored in soils, provided the farmer does not revert to industrial practices like using synthetic fertilisers and intensive ploughing.

During this time, a food company can use the negative emissions from the soil sequestration to offset their positive ones, he explains. But after a while, usually around 20 years, the soils reach their capacity and once that happens the net emissions rise again.

Carbon stored in the land is also “not very reliable when it comes to the climate benefits”, says Sam van den Plas, policy director at Carbon Market Watch, which

scrutinises carbon pricing schemes. “The carbon may be released at a later date and within a timeframe that it still contributes to global warming.”

Paustian adds that it is not like sequestering carbon deep underground, “where if you don’t have cracks in the rock, it’s going to stay there”. Carbon stored in soil remains biologically active. Paustian says the technology to measure carbon is good enough; the real issue is that without set standards it is easy for those involved in soil carbon credits to “cut corners”.

For van den Plas this is “comparable to what you have in the more classic voluntary carbon market offsetting schemes”, where the monitoring and verification of emission reductions is “fraught with difficulties”.

Smith, the University of Aberdeen professor, says carbon sequestration can buy food suppliers “time to decarbonise the rest of their supply chains” but it does not eliminate their emissions permanently.

“There’s an over-focus on carbon,” agrees Sachet. “Because financial actors are the ones behind it, they have managed to translate the environmental crisis into one metric, which is carbon.” The limitations in measuring carbon stored in soil mean companies “need to stay humble in their claims”, he adds.

For many farmers, regenerative agriculture is more to do with the health of their land than of their bank balances. In Somerset, Tom Gregory scoffs at the idea of selling carbon from his farm on the voluntary markets. “I could not be less interested,” he says. His wife Sophie adds that “the whole carbon scene is quite cowboy-ish.”

The Gregorys are dubious about payments linked directly to the amount of carbon sequestered in general, whether those payments come from within the supply chain or from selling on carbon markets. They believe farmers should be paid for their stewardship of the land. “We’re doing it for the soil,” says Sophie, “not so much the carbon.”

**GMA NEWS**

## Here's how Coldplay lower their CO2 emissions with 'Music of the Spheres' World Tour

By: Hazel Jane Cruz

Coldplay is doing their part to protect the environment through the group's sustainability project with “Music of the Spheres” World Tour. In 2023, the Intergovernmental Panel on Climate Change (IPCC) released an eight-year worth of research on climate change and its effect on the human race as a “final push” for climate efforts to reduce carbon emissions.

They also found that more than 3 billion people are in “highly vulnerable” areas prone to climate breakdown, while half of the global population now experiences severe water scarcity for at least part of 2023.

Researchers at IPCC warned that the effects of climate change and continuous global warming would be irreversible and there is no better time to act on it than now.

While the reports pushed some government agencies to give their share in lessening carbon emissions, British rock band Coldplay is also doing their part in saving the environment all while serving entertainment and music all around the world.

In October 2021, the band announced their eighth-tour “Music of the Spheres” together with their ninth studio album with the same name.

The tour kicked off in 2022 with the intent to reduce its carbon emissions to 50 percent less than its prior tour, A Head Full of Dreams, in 2016-2017.

To make their best efforts, Coldplay is taking measures like minimizing emissions from logistics and transportation by partnering with DHL. It is reported that they use advanced biofuels when traveling in the air and electric vehicles when on land.

The band also supports projects based on reforestation, rewilding, conservation, soil regeneration, carbon capture and storage, and renewable energy. On top of these, they are also planting a tree for every ticket sold. As of today, Coldplay has recorded a whopping 7 million attendees combined.

Coldplay also makes use of fans' kinetic energy through kinetic floors on concert stadiums that convert energies that power the show. They also install electricity-generating power bikes that fans can use to charge the show's batteries.

One of the highlights of the show is the use of LED wristbands that light up every stadium that Coldplay performs in. They are made from 100 percent compostable, plant-based materials that are returned at the end of the concert to be sterilized and recharged for the next show.

On their recent visit to the Philippines last January 19-20 at the Philippine Arena, the country was ranked last for wristband return rate 87 percent.

Other top performing countries were Tokyo, Japan with a 97 percent return rate, Copenhagen, Denmark at 96 percent, and Kuala Lumpur in Malaysia had a percentage of 90 percent.

Aside from the abovementioned, Coldplay also uses low-energy LED screens, and 100 percent biodegradable confetti, and serves meat-free and plant-based food in their catering.

They are set to perform in Singapore for the remainder of January starting on the 23rd.

**MANILA BULLETIN**

## Post-COP28 reflection from a Filipino youth climate leader

By: Climate Reality Project Philippines

It's eight o'clock in the morning of Dec. 13, 2023. I'm on my way to Expo City in Dubai and just received a notification in my email that the new Global Stocktake (GST) draft decision text has just been released. As I was skimming through the document, I already anticipated that the closing plenary would have an extended debate regarding this text because there's no way this watered-down text would be adopted. But I was wrong.

Four hours later, while sitting in the overflow room with other observers, watching the live stream of the closing plenary, that exact text was gaveled down. The room was silent, which is a stark contrast to the roaring applause in the plenary hall. In his speech, the COP president said that the world has reached a consensus on transitioning away from fossil fuels. But there seems to be no consensus outside that plenary hall, outside Expo City, outside Dubai.

That was over a month ago—a month since the largest and one of the most consequential COP has concluded. Being there in person was an overwhelming experience, both good and bad. I was fortunate enough to witness the dynamics of the different moving parts of the COP process, meet inspiring people who are catalyzing climate actions, and contribute to the process in various capacities. However, it's disheartening to see how the climate talks devolve into a discussion of semantics and distractions, forgetting that human lives are at stake when climate action is further delayed.

In COP28, I followed the negotiations on GST, the outcome of which will guide how countries will update their climate targets, or their Nationally Determined Contributions (NDCs), in time for the next round of submissions in 2025. I've witnessed in real time the efforts to put doubts on the reports released by the Intergovernmental Panel on Climate Change, soften the reference to the principle of common but differentiated responsibility and respective capacities, insert false solutions, and lessen the responsibility of developed countries.

While these things were happening, I wondered how some countries could parade their "climate ambitions" in front of the media and simultaneously undermine climate justice inside negotiation rooms. Maybe that's why, after three decades of climate negotiations, we're still far from reaching our goal of addressing the climate crisis.

Using the GST outcome text as an example, the adopted decision failed to highlight the responsibility of developed countries in leading climate mitigation efforts and providing the means of implementation, such as climate finance, needed by developing countries to implement their climate action strategies.

Paragraph 28 of the adopted decision, which outlined the different mitigation strategies countries must take, mentioned false solutions such as transition fuels and nuclear energy. If countries are indeed true to their word about climate justice, they should have left these provisions out of the adopted text.

Instead, the text should have a solid reference to the need of developed countries as historical emitters to fast-track decarbonization efforts using science-based solutions and pay up for the impacts their activities have caused through the provision of adequate and accessible climate finance. Additionally, the text shouldn't have mentioned ambiguous terms such as "phase down of unabated coal" and "inefficient fossil fuel subsidies" but instead called for a global phaseout of all forms of fossil fuel in a just and equitable manner.

Being inside the negotiation rooms, caught up with everything happening, made me forget that COPs are not the end-all-be-all of climate action. Thinking that COPs are epicenters of climate action is a disservice to the countless climate actors implementing climate actions on the ground, helping those on the frontline of the climate crisis. Stepping out of the negotiation rooms reminded me that vital actions happen outside COPs.

This is not to discount the efforts of negotiators of climate-vulnerable countries fiercely fighting to hold the line and keep 1.5 within reach. Rather, it is to highlight that the most important thing to do is to implement genuine climate solutions at the grassroots level, which are being done everywhere with or without COP decisions. This means that we need to go above and beyond the watered-down climate package adopted in Dubai if we want to have a fighting chance against the impacts of climate change.

Many individuals and grassroots organizations have already been implementing climate measures that have had more impact than the decisions happening inside negotiation rooms and plenary halls during COPs. In the two weeks of COP28, I've talked with different individuals leading climate solutions in their communities—doing not just whatever they can, but whatever the community needs them to do.

We need to amplify the initiatives these amazing people are taking and follow suit. We also need to ensure that government officials and other decision-makers translate the commitments they made in Dubai. Let's continue holding the people in power to account. And let us demand justice from the top polluters, urge them to pay up for the impacts

that they have caused, and force them to put a stop to practices rooted in the exploitation of people and the planet.

**This young environmental advocate champions marine conservation one initiative at a time**

By: Mat Richter

The Philippines, located amid the Coral Triangle — a marine region housing over 2,000 reef fish species, has long been renowned for its thriving fisheries sector.

Despite being the center of marine biodiversity in the world, the country remains plagued by plastic pollution and cases of illegal, unreported, and unregulated fishing, posing grave threats to coastal livelihoods and the environment's delicate balance.

In pursuit of marine conservation, oceanographic researcher Carmela Ellaga inspires the youth to uphold their ecological responsibility, demonstrating a passionate commitment to sustainable fisheries that transcend fisherfolk communities.

Coastal advocacy

Rising from a small coastal community in South Negros, Ellaga started her environmental advocacy at the ripe age of 15. She witnessed firsthand how climate change and plastic pollution harm coastal areas dependent on fishing as their primary livelihood source.

"I started my advocacy as a camper at Danjugan Island Environmental Education Program, where I was a scholar, eco-guide, and later on became a camp facilitator who learns and teaches about conservation and sustainability," Ellaga said.

Armed with a fisheries degree, she champions marine conservation and fisheries resource management, working with coastal communities to help sustain livelihoods harmoniously with the ocean.

Eco-initiatives for the planet

As an oceanographic researcher onboard MV DA-BFAR, a multi-mission and research vessel of the Bureau of Fisheries and Aquatic Resources, Ellaga aspires to contribute more to the fisheries sector through research work and bureau involvement.

"As part of my passion for sustainable fisheries and environmental conservation, I want to dive more into their scientific and research aspect while continuing to be a voice to protect the interests of small-scale, artisanal, municipal, and sustenance fishers who are mostly marginalized, poor, and most affected by climate change," she stated.

Ellaga, as a community facilitator for USAID’s Municipal Waste Recycling Program, also helped local convenience stores cut single-use plastic by allowing customers to fill reusable containers from large dispensers, which reduced single-use waste by 45,000 pieces in seven months.

She also served as the project officer of the Philippine Reef and Rainforest Conservation Foundation, where she facilitated three coastal LGUs in South Negros to establish mangrove eco-parks and strengthen marine protected areas for conservation.

Youth power for marine conservation

As future heirs of the planet, the youth should take charge of tomorrow by tending to today's environment, starting by replacing single-use plastic with reusable ones and fostering environmental discourses among peers.

“I believe that my fellow youth can do so much more in the fight for environmental conservation and protection,” Ellaga said, “and we need more youth from diverse backgrounds doing different initiatives addressing various environmental issues in their communities.”

In essence, Ellaga's journey, from coastal advocate to oceanographic researcher, stands as a testament to the ever-impactful youth-driven environmental conservation initiatives for the planet's well-being.

It's a stark reminder that we only have one planet to care for. If not yesterday, immediately is the best time to champion marine sustainability and be part of environmental initiatives fueled by collective action and a shared purpose.

**PANAY NEWS**

## [Opinion] A bright example for a sustainable future

In an era increasingly defined by the urgent need to address climate change and reduce reliance on non-renewable energy sources, Iloilo City Hall's shift to solar power is a commendable and inspiring example. The installation of 134 solar panels, capable of generating 60 kilowatts a day and meeting a significant portion of city hall's energy needs, is not just a step towards sustainability; it is a leap towards a greener and more resilient future.

This initiative manifests a forward-thinking mindset that recognizes the dual benefits of renewable energy: reducing operational costs and minimizing environmental impact. The potential savings of around P96,000 per month are notable, but the real value lies in the reduced carbon footprint and the promotion of a sustainable environment.

The city hall's move to solar power is a shining example of how local governments can lead the way in environmental stewardship. By embracing renewable energy, Iloilo City Hall is not only securing financial savings but also contributing to the fight against climate change. This is particularly significant in a country like the Philippines, which is highly vulnerable to the effects of global warming.

Moreover, the city's plan to participate in the net metering program with MORE Electric and Power Corporation is a strategic approach to maximize the benefits of solar power. This program allows the city to sell back excess power generated, especially during weekends, further optimizing the use of renewable energy resources.

Iloilo City's commitment doesn't stop at the city hall. The expansion of solar energy to public schools and other city-run facilities like dialysis centers and the Esplanade underscores a holistic approach to sustainability. This vision sets a standard for other cities and municipalities in the Philippines and beyond, demonstrating that transitioning to renewable energy is not only feasible but also beneficial in multiple ways.

The message is clear: renewable energy is not just the future; it's the present. As Mayor Treñas aptly put it, embracing sustainability and harnessing the power of the sun is a major step towards a greener future. It is a step that other cities should be inspired to follow, illuminating the path towards a more sustainable and environmentally responsible world.

**THE PHILIPPINE STAR**

## [Opinion] Weathering the festivities

By: Ian Manticajon

There's a reason why large outdoor religious and cultural events in the country are held in January. These events include the Sinulog Grand Parade in Cebu City, the Traslacion of the Black Nazarene in Manila, and the Dinagyang Festival in Iloilo. The primary reason is weather-related; during this time of the year, the Amihan brings cooler winds from the northeast, resulting in relatively pleasant temperatures on most days.

Climate change has somewhat changed the situation. Although we still enjoy cooler weather at this time of the year, there are days when humidity levels cause discomfort. People often complain about the heat, especially during peak times from 10 a.m. to 3 p.m. This explains why there were many empty seats at the staging area of the Sinulog Grand Parade in the morning, and why large crowds only began to fill the venue by late afternoon.

Undoubtedly, the turnout at the South Road Properties (SRP) was significantly higher this year compared to last year. Photographs from above and images at street level don’t lie. But I'm skeptical about how the police came up with the figure of three million for the number of people attending the Sinulog. Considering that the entire population of Cebu island is estimated at around 4.6 million (with Cebu City accounting for over a million and Cebu Province just over three million), the figure seems implausibly high. It’s like saying that nearly two-thirds of the island's population, along with some tourists and balikbayans, were present in the streets for the event.

While I chose not to join the crowd at the SRP, the TV at home was on all day, showing images and blaring with the sounds of Sinulog, thanks to the online coverage from media outlets like MyTV. Barring any major untoward incident, one can never really go wrong with the Sinulog. Cebuanos and visitors are always in good spirits because the religious-cultural fiesta is ingrained in the Filipino DNA. No amount of missteps or shortcomings by the organizers can diminish the joyous celebration or the respectful reverence that characterize events like this.

Fresh from the success of the Sinulog, Cebu City Mayor Michael Rama announced that the SRP will likely remain the venue for next year's grand parade. It seems also that people have slowly and grudgingly accepted the SRP as the venue. Besides, the drone photos of the celebration at the SRP were awesome, showing the stage and the crowd against the backdrop of the Cebu mountains and the beautiful coastline, which included a view of the magnificent CCLEX. However, it's probably an open secret, perhaps only

spoken in whispers, that two large airconditioned establishments in the SRP are immensely benefitting from the event being held there.

I may have a game plan in case my family and I decide to attend the Sinulog Grand Parade at the SRP next year. We can stay at a large shopping mall in the SRP during the peak sun hours of the day, and then come out in the late afternoon to join the crowd and witness the rest of the celebration in the streets, including the drone show and fireworks.

Hopefully, the hotels and malls in the area will consider setting up a large screen indoors to show live coverage of the celebration outside. By the way, Mayor Rama mentioned the many tents installed around the venue to provide shade to the spectators. While helpful, these tents are obviously not enough to fully mitigate the heat and humidity. This situation should serve as an impetus for planting more canopy or shade trees at the SRP for a more child- and senior-friendly Sinulog.

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