

01 January 2023, Sunday



DENR

NEWS ALERTS

NEWS CLIPPINGS

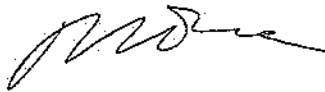
STRATEGIC COMMUNICATION AND INITIATIVES SERVICE

Strategic Communication and Initiatives Service
SUMMARY OF DENR NEWS ALERTS
 01 January 2023

NEWSPAPER	TITLE	SPECIFIC ISSUES
Top stories		
<p>Phil. Daily Inquirer; p. 2 by Mariejo S. Ramos</p>	<p>Reclamation Projects, Nuclear Plant Revival “Top Threats to PH Environment: Nuclear Power ‘Wrong for the Philippines’</p>	<ul style="list-style-type: none"> • “Gawad Bayani ng Kalikasan” (GBK) awardee Kelvin Rodolfo cites the “unacceptably high risk of serious damage” to earthquakes and/or volcanic activity to which an operating Bataan Nuclear Power Plant (BNPP) would be exposed to, including the dangers of nuclear wastes (uranium) from the facility; • Protecting human rights is directly correlated to environmental protection such that environmental defenders should be afforded the same measure of protection given by the state to human right defenders, according to another GBK awardee, environmental activist Vertudex “Daisy” Macapanpan
<p>EDITORIALS:</p> <p>The Manila Times; p. A4 column, “Abante Ayuda” by Lray Villafuerte</p>	<p>Extreme poverty, climate change, worthy resolutions</p>	<ul style="list-style-type: none"> • Government policy makers and leaders are asked to take “audacious” moves this 2023 towards planting more trees as a tool to address poverty besides change; • While trees enable communities to better fight off the impacts of climate change, reforestation activities/program likewise creates job generation thereby addressing the poverty concerns.
<p>The Phil. Star ; p. 9</p>	<p>New Year Challenges</p>	<ul style="list-style-type: none"> • Government is called upon to “rump up” the country’s climate change programs this 2023; • With the P13.52 trillion debt, government funds should be spent with “utmost judiciousness” and that climate change measure should be placed alongside public health and education as priorities for allocation of public funds

Tempo; p. 2	Facing 2023 with hope	Greater public interests and awareness in climate change as "a grave threat" to one's way of life is one of the wishes commonly articulated by staffers, columnists, reporters of Tempo when asked what they hope to see changes in the public's attitude this 2023.
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Submitted by:



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Noted by:

KHALIL S. BAYAM
Director
Strategic Communication and Initiatives Service



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NUCLEAR POWER 'WRONG FOR THE PHILIPPINES'

RECLAMATION PROJECTS, NUCLEAR PLANT REVIVAL

'TOP THREATS TO PH ENVIRONMENT'

By Mariejo S. Ramos
@MariejoRamosINQ

Big-ticket reclamation projects at Manila Bay and other parts of the country and the revival of the mothballed Bataan Nuclear Power Plant (BNPP) are the "two biggest human-made threats to the environment" today, according to a geologist who was recognized last week for his role as a nature hero.

Kelvin Rodolfo, who received the Gawad Bayani ng Kalikasan on Wednesday, has written extensively about the environmental impact of the reclamation of Manila Bay and geologic hazards in the plan to revive the nuclear plant in Bataan province, which was built during the time of President Marcos' father and mothballed since.

Rodolfo's research has shown that certain areas are experiencing land subsidence due to excessive extraction of groundwater, such as the cities of Caloocan, Malabon and Navotas.

These cities may become more vulnerable to storm surges

if reclamation projects continue, he said.

Because of his findings, Rodolfo has supported fisherfolk communities in calling attention to the harm caused by some 187 reclamation projects across the country, including huge developments at Manila Bay.

'High risk'

Rodolfo has also taken a strong position against the Bataan Nuclear Power Plant (BNPP), which started construction in Morong town in 1976.

What would have been the country's first nuclear power plant was never fueled, as it was saddled with corruption issues, including a fraudulent deal with US firm Westinghouse.

In a 2009 article, Rodolfo wrote that there were "very strong reasons why nuclear power is wrong for the Philippines," noting that the BNPP "has an unacceptably high risk of serious damage from earthquakes, volcanism, or both."

Because the Philippines has no uranium ore reserves to har-

ness nuclear power, reviving nuclear power here, in addition to putting many Filipinos in harm's way, means that "we would expend a huge amount of money to put ourselves at the mercies of countries that have uranium," he said.

Under the present Marcos administration, a House special committee on nuclear energy has started discussions on a bill that calls for the development of nuclear power and the possible revival of the BNPP, amid rising global coal prices.

The move has been opposed by many environmental advocates, including Rodolfo.

'Only an old scientist'

In accepting the award presented online, Rodolfo said he was "no hero, but only an old scientist who is studying geology, the ocean and environmental hazards."

"As long as I'm living, I will join you all in opposing these two major threats to our environment," he said.

Among the other awardees of



Kelvin Rodolfo

the Gawad Bayani ng Kalikasan were young forest conservationist Daniel Jason Maches and longtime environmental activist Vertudez "Daisy" Macapanan.

Maches was recognized for his "active opposition to the suspension of a road project that would have opened up the Barlig forests [in the Mountain Province] to reckless exploitation."

Macapanan, 69, currently leads the campaign to protect the rich mountains of Southern Tagalog from environmentally destructive projects.

In the 1980s, she taught at the University of the Philippines Baguio, where she joined the campaign to oppose the construction of the Chico River Dam Projects.

"We call on government officials to ensure that the laws protecting our human rights and environmental defenders have teeth," she said during her acceptance speech.

"The challenge of our time is for us to collectively knock on their hearts and minds, so that our leaders would become propeople and proenvironment," Macapanan added.

'Deadliest country'

The late Chad Booc, who was killed by military forces last year, was named as the most distinguished awardee for his work as a mathematics teacher and environmental advocate in "lumad" (indigenous peoples)

Since 2009, the Gawad Bayani ng Kalikasan has been given by the Center for Environmental Concerns Philippines "to highlight and reinforce the efforts" of Filipino environmental defenders.

The biennial awards event and lecture series honors "Filipino heroes and heroines" who have "defended, and continue to defend, the environment and people's rights."

"According to the Institute for Economics and Peace, the Philippines is the country most at risk from the climate crisis.

International rights group Global Witness has also labeled the Philippines as "the deadliest country in Asia for land and environmental defenders," with 270 of them killed in the last decade.

Of this number, more than 40 percent, or 114, were indigenous peoples campaigning to



Editorial

Extreme poverty, climate change, worthy resolutions

THE start of every year is traditionally an occasion for making resolutions. Policy-makers and other national leaders should pledge to do something audacious in 2023, like eradicating extreme poverty and fighting climate change.

Those issues are somewhat related. That is, climate change has a poverty dimension to it. Climate change affects everyone, but the poor tend to be the most vulnerable to the consequences of rising global temperatures. Unlike the impoverished, for instance, people with means can find shelter during intense storms or have access to food during droughts.

To be realistic, society is unlikely to eradicate all types of poverty. Relative poverty, for instance, will persist, because resources are not equally distributed. That is not necessarily bad.

In some developed countries, a select few have more than others while everyone else has enough to live comfortably well. In the Philippines, even some taipans are poorer relative to the wealthiest individual.

The kind of poverty that should be eradicated is defined as living on the equivalent of \$1 or \$2 a day. That is worse than the official poverty rate in many countries, including the Philippines. To be extremely poor means being deprived of basic needs, like food and shelter. They lack proper health care services, resulting in shorter lifespans. They have no access to quality education, which limits their potential to earn income. And with that, their children grow up poor, repeating the cycle for the next generation.

The Duterte administration did well to reduce the poverty incidence. Unfortunately, many families who earned enough to be officially above the poverty line probably slid back below it because of Covid-19's economic impact.

The Marcos government can do something about extreme poverty, and not merely with dole-out or populist measures either. Generating jobs would be far better as that gives the poor some dignity, which enables them to overcome other challenges in life.

Green opportunities

Programs that mitigate climate change can create employment, particularly by planting trees and mangroves and caring for them. This makes sense given that poverty incidence is higher in rural areas and coastal communities in the provinces compared to urban centers, where there are more placement opportunities.

Planting trees helps capture harmful emissions that are blamed for global warming. But as mentioned previously in this space, people should plant the right kind of trees, the ones that are indigenous or native to the Philippines. Planting foreign tree species can do more harm by crowding out other plants, making the soil acidic and failing to support native wildlife.

Also, people should avoid planting monocultures. They should instead try to recreate forests that support ecosystems.

Mangroves are interesting because they can capture 10 times more carbon per hectare than terrestrial trees, according to several sources including Conservation International.

They are also superior to concrete seawalls in protecting coastal communities from deadly storm surges.

The government, as well as private firms and various civic organizations, already plants trees and mangroves. But the suggestion here is to ramp up those programs and create more jobs.

The beneficiaries will be those living in remote and coastal areas. This program might also be good for indigenous Filipinos, many of whom lack access to economic opportunities. And while this idea might be not enough to entice the urban poor to relocate to the provinces, the program could slow down urban migration. At the least, more opportunities will become available in the countryside.

To be clear, planting trees and mangroves is not a one-off activity. Seedlings will need to be cultivated. Saplings will require some care, particularly during the dry season, and even grown forests will have to be protected from illegal logging and land grabbers. In other words, a program to rebuild forests in mountains and coastal areas could generate plenty of jobs. Plus, even unskilled workers can do the work, perhaps with only minimal training.

Experts will need to fill in other details needed for effective execution. But the general idea can be a worthwhile and meaningful New Year's resolution for the country.



EDITORIAL

New Year challenges

After the holiday celebrations and revelry comes the hard work. The country, buried in debt that has ballooned to P13.52 trillion, must continue its post-pandemic recovery with economic analysts warning of a looming global recession this 2023. This calls for utmost judiciousness in the utilization of precious public funds.

Vladimir Putin doesn't look ready to withdraw Russian troops from Ukraine anytime soon, thereby guaranteeing the sustained disruption of global supply chains and consequent high prices of many basic commodities.

COVID-19 isn't done with its work, as the World Health Organization keeps warning. SARS-CoV-2 is still mutating, continuing to cause debilitation and death especially among the elderly and other vulnerable sectors. The new year is starting with the coronavirus bringing illness and death in its country of origin, China.

Philippine officials said the 14-year-high inflation at the end of 2022 was mostly imported. But soaring food prices, the key driver of the high inflation rate, were not just due to forces abroad beyond the government's control. The high prices of items as basic as onions and sugar illustrated the weaknesses of the agricultural sector that need urgent attention to reduce the risks to the country's food security.

As the year drew to a close, incessant downpours and cataclysmic floods surprised people in several parts of the Visayas and Mindanao, highlighting the extreme weather conditions that experts are attributing to

global warming. The Philippines, classified as one of the countries most vulnerable to climate change, must ramp up measures to confront this long-term existential threat.

Education was further set back by two years of mostly remote learning. Even before the pandemic, comparative tests already showed that the quality of Philippine education is in dire need of an upgrade, with 10-year-old pupils lagging behind their foreign peers in terms of reading comprehension and mathematics.

There are so many things that need fixing: inadequate infrastructure; the criminal justice system, and the impunity that springs from the weakness of the rule of law; endemic corruption and the persistent roadblocks to ease of doing business; a compromised political system sustained by patronage. This is a society where the cream often cannot rise to the top, where the right surname and connections rather than merit determine advancement in life.

Over 10 million Filipinos have found it necessary to find decent employment overseas. While their remittances keep the economy afloat even during downturns and make them modern-day heroes, most of them are abroad because of the lack of opportunities in their own land.

So much work to do, and so little time. The start of the year gives hope that the energy, commitment and capability are there to confront the toughest challenges.

A prosperous, joyful New Year to all!



EDITORIAL

Facing 2023 with hope

Today, the start of a new year, we are unified by hope and willing to work toward the same goal - a better economy and a better life for all.

Despite the significant increases in the prices of fuel, food, and services, 92 percent of Filipinos said they will face the new year with hope, according to a recent survey conducted by Pulse Asia.

What do ordinary people hope for in 2023? Jobs, education, shelter, food, the end to Covid, lower prices - are what many people are saying in casual conversations, media interviews, official statements, and even in prayer petitions.

Here are a few of the situations many hope for that were articulated by our columnists, editors, and readers:

"We look forward that more people will see climate change as a grave threat to our way of life, to life as we know it." So much about climate change has been discussed in many international forums like the recent Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), that took place in Sharm el-Sheikh, Egypt. Many people have experienced climate change through stronger typhoons, higher floodwaters, thicker snowstorms, hotter summers, colder winters.

A former senator hopes "that Filipino children born in 2023 and beyond will grow up well nourished, especially during their first 1,000 days of life. Healthy children are the foundation of a strong nation." Malnourishment and stunted growth are a problem among children and that has become more serious because many heads of families lost their jobs during the lockdowns at the height of the pandemic

solution to hunger.

"For a more efficient agriculture sector that can allow farmers and fishers to earn enough to be considered at least middle class" is a hope that can bring a solution to three problems. One, it will add to the number of farmers whose numbers are decreasing because farmers tell their children to pursue other occupations to earn more and have better lives. Two, more farmers will mean more land tilled to produce food to give the proper nourishment to our children. And three, earning more will push the farmers out of poverty.

Another hope directed at solving poverty is for "greater financial inclusion, for microfinance and microinsurance to be made available to more poor and marginalized Filipinos." Microfinancing has funded the growth of microentrepreneurs, many of them now having bigger businesses, better lives, and funding the education of their children.

As peace has become significant to more people because the effects of the Russia-Ukraine war has affected everyone's lives through increased prices of fuel and food, a reader simply wrote his hope for 2023 as: "That the Ukraine-Russia war is resolved so the rest of the world can get back to normal life."

Many readers said hope for the return of "normal" starting with the end to Covid: "That 2023 will be the year we could bounce back from the pandemic." We ended the year with the easing of restrictions, the opening of businesses, the optional use of masks in open spaces, the start of face-to-face classes, and church services as Covid infections continues to go down around the Philip-



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THE ridges of Mounts Iglit-Baco National Park where majority of tamaraws on Mindoro are found.

Tamaraw protectors mulling to revive captive-breeding program

By JONATHAN L. MAYUGA
Photos by Gregg Tan, Best Alternatives

THE protectors of the Philippine tamaraw are eyeing to implement anew the ambitious captive-breeding program in order to boost the efforts in saving the critically endangered species from extinction. At the same time, they are looking into an ideal location to relocate a viable population outside their habitat within the Island of Mindoro.

Over the years, human encroachment into the tamaraw's known sanctuary on the island continues to put pressure on the world's rarest and most elusive buffalo.

Scientifically known as *Bubalus mindorensis*, the tamaraw is a type of water buffalo that can only be found on Mindoro.

It is estimated that around 400 of the 600 tamaraws are concentrated on top of Mounts Iglit-Baco National Park (MIBNP).

Critically endangered

ALSO known as Mindoro's dwarf buffalo, the Philippine tamaraw's population remains critically endangered, a conservation status that means the species is only a step away from extinction.

Although in the last decade, due to conservation efforts including strict management regime at MIBNP, the population of the largest land mammal in the Philippines remains

highly vulnerable to various threats, said Neil Anthony del Mundo, assistant protected area superintendent of the MIBNP and concurrent OIC of the Tamaraw Conservation Program (TCP) said.

This is based on the number of buffaloes showing up in different sites in recent years as part of the annual survey conducted by the Department of Environment and Natural Resources (DENR) and its conservation partners.

"That is why we are looking at implementing a captive-breeding program for the tamaraw," del Mundo told the *BUSINESSMIRROR* in an interview at the sideline of a recent United Nations Development Programme (UNDP) Biodiversity Finance Initiative (Biofin) Europe, Asia, and the Pacific Dialogue at a hotel in Pasay City.

Asean Heritage Park

ITS designation as an Asean Heritage Park (AHP) is anchored on the fact that the MIBNP is the only refuge of the tamaraw. It is the only known place in the world where the biggest remaining population of the tamaraw can be found.

According to the Asean Centre for Biodiversity (ACB), which implements the AHP, the declining population of the tamaraw warranted the area to be established as a game refuge and bird sanctuary.

Initially, it covers a total area of 8,956 hectares. On November 9, 1970, the area was increased to

75,445 hectares upon its declaration as a National Park by virtue of Republic Act 6148.

Shrinking territory

HOWEVER, despite its vast area, the territory of the tamaraw has been shrinking due to human encroachment, del Mundo said.

He said the increasing presence of humans and their destructive activities, such as farming at the periphery of the MIBNP, as well as hunting of wild animals for food and trophy, disturb the elusive wild buffaloes, prompting them to move farther to the hills.

Some of the tamaraws are seen near residential communities nowadays. Their protectors suspect they got lost or were forced to move out of the range of a territorial bull that does not tolerate competition in time for the mating season.

"Because of the shrinking territory, bullfighting happens. They are highly territorial," del Mundo explained.

Last year alone, he said at least six young bulls were killed in what they believe were due to injuries from deadly horns in a bullfight.

Hunting for food, trophy

FAUSTO NOVELOZO, the chieftain of the Taw'buid, one of the seven known tribes of Mangyans on the island, blamed the outsiders, or "dayo," who go up the mountains of Mindoro to track down and kill the tamaraw for food and trophy.



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Critics Tamaraw protectors mulling to revive captive-breeding prog.

"If it were only us [Mangyans], the tamaraws would still be roaming the island by now. We don't hunt and eat that much. If [hunting of tamaraws] started when outsiders began coming to Mindoro. We have been living on the island for as long as I can remember and the tamaraws were plenty. But when the lowlanders came, they were here just like yesterday, and just like that, the tamaraws are gone," Novelozo said in Filipino.

According to Novelozo, Mangyans seldom hunt tamaraws.

"We don't do it very often. Once a year, perhaps, but that's it. Unlike the lowlanders, they kill them at every opportunity they get," he said.

The visibly sad "Punong Tribo [chief-tain]" of the Taw'buid said hunters from the lowlands use more sophisticated weapons that easily kill the elusive tamaraw, unlike Mangyans who rely on their traditional hunting practice.

Saving the species

IMPLEMENTING a captive-breeding program for the tamaraw is one way of saving it from extinction, del Mundo said. He noted that it can be done on the site or off site, but they prefer it on the island of Mindoro.

He said this is the reason why he has been recommending relocating a viable population of the tamaraw to other areas outside the MIBNP. However, he said the area should be set aside for conservation—either a national park, a game refuge or a wildlife

sanctuary, where the tamaraws can roam without human intervention—and more importantly, free of threats.

Mount Calavite Wildlife Sanctuary is one of the candidates for the plan, he said.

Pre-pandemic plan

"WE actually started this plan before the pandemic. But because of the lockdowns, the plan was set aside. We are now reviving," he said. Del Mundo said the DENR's TCP is in close coordination with experts and some institutional partners to make the plan work.

He said reviving the captive-breeding program means capturing young, ready-to-breed bull and female tamaraws, probably in the same gene pool where "Kalibasib" was born—the Mindoro Biodiversity Conservation, Research and Educational Center in Barangay Manoot, Rizal town, in Occidental Mindoro province.

Born on June 24, 1990, Kalibasib, short for Kalikasan Bagong Sibol, died on October 10, 2020, due to multiple organ failure as a result of old age. He was the only product of the first captive-breeding program.

Lessons learned

ACCORDING to del Mundo, they have a lot of lessons learned from the failed captive-breeding program of the Tamaraw Conservation Program.

During the first implementation in the 1990s, he noted that the tamaraws were not carefully selected.

"Some may be old or in their reproductive stage," he said in a mix of English and Filipino.

He added that learning by natural selection in the wild, they prefer letting the tamaraws roam in the enclosure and let them take place naturally.

The enclosure where Kabisib was allowed to roam freely, is big enough for a bull and female tamaraws to mate and reproduce.

"Of course, we need the scientists who implement the captive-breeding program."

Funding

LIKE other government agencies, the TCP's captive-breeding program is faced with funding challenges.

Maintaining the TCP's activities alone is a huge cost, Del Mundo said, let alone protecting the MIBNP.

Del Mundo said they are seeking appropriation from the annual Appropriations Act and are looking for support to implement activities of the TCP, including proposed captive-breeding program.

"That is why we are working with UNDP Biofin. We are looking for support for all our activities," he said.

Del Mundo, nevertheless, is confident that funds to save the Philippine tamaraw will flow from this ambitious program.



Mobilizing political parties to govern green

We see our shared task as that of spreading awareness on the threat of climate change and of generating preventive action against global warming. The battle against climate change - and its cause by human activity - is certainly growing worldwide. But it is not growing fast enough to get people to demand immediate and decisive action from those who lead them.

We believe governments and political parties must deal with the threat of climate change and global warming with a greater - and more sustained - sense of urgency than they have done so far, because the stakes are higher than in any political or economic crisis of the moment.

We need to match with our efforts the dimensions and the gravity of the danger humankind faces. We must respond creatively and decisively to the challenge of climate change.

But organizational work that wins elections cannot take place without our so-called anonymous political party workers. And there is no substitute for the party organization in launching any national effort and getting it done.

Party organizations are also crucial in passing down policy decisions and passing up policy feedback from the constituencies.

Most important of all, parties are crucial to the all-important work of institutionalizing public policy so that it outlasts the time in power of the charismatic leader who may have begun it.

Since deforestation - no less than the burning of fossil fuels - is a root cause of global warming, we should also begin to bind Nature's wounds from generations of wanton logging.

Reforestation and tree farming - on the scale and intensity the planet needs - can become and

must become an economic stimulus for all states, in crisis or not, that the World Bank, the IMF, and regional banks should champion.

Yes, we ask that economic stimulus programs in Asia, the U.S., Europe, Latin America, Africa, and the Australian continent should include financial provisions for fighting climate change and planting trillions of trees worldwide.

Political parties must mobilize massive tree planting to reforest our bald denuded mountains, to plant trillions of trees because trees will help solve our drinking water

We must work together to sustain our common dream to protect and nurture our planet Earth and to try to prolong for always the lives of all the peoples of the world.

problem, our industrial water and large-scale irrigation water needs, and help solve as well our serious flood-control problems.

What is more, the massive worldwide planting of trees will employ tens of millions of our young men and young women who will plant the trees, take care of the trees, harvest the trees, process the trees into plywood and timber for mass housing, pulp, and paper, etc., replanting of the trees all over again in a continuing cycle, as they do with the evergreen tree plantations of New Zealand, Canada, Finland, and the

Scandinavian countries with great commercial profits.

Yes, massive commercial tree planting can be a most profitable enterprise. It should be one of the principal objectives of economic or financial stimulus launched by governments: to help save the economy and help save our planet and humankind.

We agree that environmental degradation is the clear and present danger that threatens our planet Earth.

We agree we have no more time to lose; and we agree every one of us has a job to do in the common effort we must undertake to preserve the beauty of the land and the purity of the surrounding air in cities.

Political parties must deliberate and enact public policy that mitigates, deters, and stop climate change.

We must encourage political parties to govern green - to ensure the interests of the environment are represented in public policy decisions.

Political parties must work cooperatively with the United Nations system and the global community on the issues of climate change.

We must help political decision-makers translate people's needs, wants, and hopes about climate change and protection of the environment into effective public policy.

Our goal is to establish measures against environmental degradation as norms in the political culture.

We must work together to sustain our common dream to protect and nurture our planet Earth and to try to prolong for always the lives of all the peoples of the world.



PEACE-MAKER

JOSE DE VENECIA JR.
FORMER SPEAKER
OF THE HOUSE



Climate, nuclear crises stoke fears of worst

Doomsday seems to be over the horizon.

WASHINGTON, United States (AFP)—For thousands of years, predictions of apocalypse have come and gone. But with dangers rising from nuclear war and climate change, does the planet need to at least begin contemplating the worst?

The Global Challenges Foundation, a Swedish group that assesses catastrophic risks, warned in an annual report that the threat of nuclear weapons use was the greatest since 1945 when the United States destroyed Hiroshima and Nagasaki in history's only atomic attacks.

The report warned that an all-out exchange of nuclear weapons, besides causing an enormous loss of life, would trigger clouds of dust that would obscure the sun, reducing the capacity to grow food and ushering in "a period of chaos and violence, during which most of the surviving world population would die from hunger."

Kennette Benedict, a lecturer at the University of Chicago who led the report's nuclear section, said risks were even greater than during the Cuban

Missile Crisis as Russian President Vladimir Putin appeared less restrained by advisors and experts fear a quick escalation if the US responds.

Benedict is a senior advisor to the Bulletin of the Atomic Scientists which will unveil this month its latest assessment of the "doomsday clock" set since 2021 at 100 seconds to midnight.

Amid the focus on Ukraine, US intelligence believes North Korea is ready for a seventh nuclear test, Biden has effectively declared dead a deal on Iran's contested nuclear work and tensions between nuclear-armed India and Pakistan have remained at a low boil.

Uncharted territory

On the year that humanity welcomed its eighth billion member, United Nations Secretary-General Antonio Guterres warned that the planet was on a "highway to climate hell."

In extremes widely attributed to climate change, floods submerged one-third of Pakistan, China sweat under an

unprecedented 70-day heatwave, and crops failed in the Horn of Africa — all while the world lagged behind on the UN-blessed goal of checking warming at 1.5 degrees Celsius above pre-industrial levels.

UN experts estimated ahead of November talks in Egypt that the world was on track to warming of 2.1 to 2.9C — but some outside analysts put the figure well higher, with greenhouse gas emissions in 2021 again hitting a record despite pushes to renewable energy.

Climate change could cause ripple effects on food, with multiple breadbasket regions failing, fueling hunger and eventually political unrest and conflict.

A research paper that Luke Kemp, a Cambridge University expert on existential risks, co-authored noted that even a two-degree temperature rise would put the Earth in territory uncharted since the Ice Age.

Using a medium-high scenario on emissions and population growth, it found that two billion people by 2070 could live in areas with a mean temperature of 29 C, straining water resources.



Six climate breakthroughs that made '22

BY LESLIE KAUFMAN & LAURA MILLAN LOMBRANA
Bloomberg News

a step toward net zero

THE damage caused by climate change over this past year was at times so immense it was hard to comprehend. In Pakistan alone, extreme summer flooding killed thousands, displaced millions and caused over \$40 billion in losses. Fall floods in Nigeria killed hundreds and displaced over 1 million people. Droughts in Europe, China and the US dried out once-unstoppable rivers and slowed the flows of commerce on major arteries like the Mississippi and the Rhine.

In the face of these extremes, the human response was uneven at best. Consumption of coal, the dirtiest fossil fuel, rebounded in 2022. Countries like the UK and China seemed to back away from major climate pledges. But all or this gloom came with more than

a silver lining. In fact, it's all too easy to overlook the steps toward a lower-carbon world that came about in between more attention-getting catastrophes.

As 2022 unfolded, a clear pathway of climate hope emerged. New policy breakthroughs have

the potential to unlock enormous progress in the effort to slow and reverse warming temperatures. Below is a list of six encouraging developments from a very momentous year, as a nation after nation elected more climate-oriented governments and enacted new efforts to curb greenhouse gas.

1. President Biden's big win changes everything

Just when it seemed that Washington was hopelessly gridlocked, in August the Biden administration and a narrow Democratic majority in Congress managed to pass the Inflation Reduction Act. This new US law, backed by some \$374 billion in climate spending, is the country's most aggressive piece of climate legislation ever. Its provisions ensure that for decades to come billions of dollars will roll toward the energy transition, making it easier to deploy renewable energy, build out green technologies and subsidize consumer adoption of everything from electric cars to heat pumps. Experts on energy modeling predict the law will eliminate 4 billion tons of greenhouse gas emissions.

2. The EU taxes carbon dioxide at its border

The European Union started to make good on its pledge to cut emissions by 55 percent in 2030 (from 1990 levels). The bloc's

27 members reached a historic deal to set up the Carbon Border Adjustment Mechanism, an emissions-levy on some imports that's meant to protect Europe's carbon-intensive industries that are forced to comply with the region's increasingly strict rules. Once it takes effect, there will be additional costs imposed on imported goods from countries without the EU's restrictions on planet-warming pollution.

A separate milestone from 2022 saw the biggest overhaul of the EU carbon market that will extend it to road transport, shipping and heating. This expansion of the policy will also accelerate the pace at which companies—from energy producers to steel-makers—are required to reduce pollution. The accord provided certainty to companies and investors, sending European carbon prices to a record high for the year.

3. Birds, bees and biodiversity get a big break

Just two weeks before 2022 ended, negotiators at the COP15 United Nations Biodiversity Conference in Montreal delivered a surprise win in the form of a pledge by 195 nations to protect and restore at least 30 percent of the Earth's land and water by 2030. Rich nations also committed to pay an estimated \$30 billion per year by 2030 to poorer

nations in part through a new biodiversity fund.

4. Rich nations agree to fund loss and damage, energy transition

The biodiversity breakthrough came one month after another historic moment at a UN-backed conference. Delegates at COP27 in Egypt's Sharm El-Sheikh reached a last-minute agreement to create a loss-and-damage fund to help developing countries impacted by climate change, a decades-long demand by nations that have contributed the least to warming of the planet.

Another form of climate funding, Just Energy Transition Partnerships, also went into wider use in 2022. The mechanism is meant to help emerging economies heavily dependent on coal move away from the most polluting fossil fuel in a way that doesn't leave workers and communities behind. South Africa's \$8.5 billion JETP, announced in 2021, became a blueprint for other nations.

deforestation of the Amazon. Pro-climate parties also won big in Australia's elections.

In November, meanwhile, President Joe Biden set with Chinese leader Xi Jinping and reset the relationship that had been suspended by a diplomatic standoff over Taiwan. Cooperation between the top two economies (and emitters of greenhouse gas) has been essential in cementing previous climate breakthroughs like the 2015 Paris Agreement. China's Ministry of Foreign Affairs said it was in both nations' interest to tackle climate change in a cooperative manner.

6. Taking methane matters more seriously

The world has been slow to understand the dangers of methane, a particularly powerful heat-trapping gas. But ever since last year's COP26 in Glasgow, nations have been signing up to a global pledge to cut those emissions, which can



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Fight to curb food waste increasingly turns to science

By DEE ANN DEWIS
AP Business Writer

HATE messy apples and soggy french fries? Science can help.

Restaurants, grocers, farmers and food companies are increasingly turning to chemistry and physics to tackle the problem of food waste.

Some are testing spray-on peels or chemically enhanced sachets that can slow the ripening process of fruit. Others are developing digital sensors that can tell—more precisely than a label—when meat is safe to consume. And packets fused to the top of a takeout container use thermodynamics to keep fries crispy.

Experts say growing awareness of food waste and its incredible cost—both in dollars and in environmental impact—has led to a uptick in efforts to mitigate US food waste. Startups raised \$8 billion in 2021, 30 percent more than they raised in 2020, according to ReFed, a group that fights food waste.

"This has suddenly become a hot interest," said Elizabeth Milam, director of the Postharvest Technology Center at the University of California, Davis, who has worked in the field for three decades. "Even companies that have been around for a while are now talking about what they do to reduce food waste."

In 2021, around 25 percent of

the 229 million tons of food available in the US—worth around \$418 billion—went unsold or uneaten, according to ReFed. Food waste is the largest category of material placed in municipal landfills, according to the US Environmental Protection Agency, which notes that rotting food releases methane, a problematic greenhouse gas.

ReFed estimates 500,000 pounds (225,000 kilograms) of food could be diverted from landfills annually with high-tech packaging.

Among the products in development are a sensor by Stockholm-based Innoscenia that can determine whether meat is safe depending on the buildup of microbes in its packaging. And Ryp Labs, based in the US and Belgium, is working on a produce sticker that would release a vapor to slow ripening.

SavrPak was founded in 2020 by Bill Birgen, an aerospace engineer who was tired of the soggy food in his lunchbox. He developed a plant-based packet—made with food-safe materials approved by the US Food and Drug Administration—that can fit inside a takeout container and absorb condensation, helping keep the food inside hotter and crispier.

Nashville, Tennessee-based hot-chicken chain Hattie B's was skeptical. But after testing SavrPaks using humidity sensors, it now uses the packs when it's catering fried foods and is working with SavrPak to integrate the packs into

regular takeout containers.

Brian Morris, Hattie B's vice president of culinary learning and development, said each SavrPak costs the company less than \$1 but ensures a better meal.

"When it comes to fried chicken, we kind of lose control from the point when it leaves our place," Morris said. "We don't want the experience to go down the drain."

But cost can still be a barrier for some companies and consumers. Kroger, the nation's largest grocery chain, ended its multiyear partnership with Goleta, California-based Apeel Sciences this year because it found consumers weren't willing to pay more for produce brushed or sprayed with Apeel's edible coating to keep moisture in and oxygen out, thus extending the time that

produce stays fresh.

Apeel says treated avocados can last a few extra days, while citrus fruit lasts for several weeks. The coating is made of purified mono- and diglycerides, emulsifiers that are common food additives.

Kroger wouldn't say how much more Apeel products cost. Apeel also wouldn't reveal the average price premium for produce treated with its coating since it varies by food distributor and grocer. But Apeel says its research shows customers are willing to pay more for produce that lasts longer. Apeel also says it continues to talk to Kroger about other future technology.

There is another big hurdle to coming up with innovations to preserve food: Every food product

has its own biological makeup and handling requirements.

"There is no one major change that can improve the situation," said Randy Beaudry, a professor in the horticulture department at Michigan State University's school of agriculture.

Beaudry said the complexity has caused some projects to fail. He remembers working with one large packaging company on a container designed to prevent fungus in tomatoes. For the science to work, the tomatoes had to be screened for size and then oriented stem-up in each container. Eventually the project was scrapped.

Beaudry said it's also hard to

outside researchers.

Some companies find it better to rely on proven technology—but in new ways. Chicago-based Hazel Technologies, which was founded in 2015, sells 1-methylcyclopropene, or 1-MCP, gas that has been used for decades to delay the ripening process in fruit. The compound—considered non-toxic by the EPA—is typically pumped into sealed storage rooms to inhibit the production of ethylene, a plant hormone.

But Hazel's real breakthrough is a sachet the size of a sugar packet that can slowly release 1-MCP into



TRAIN Law windfall: Half-month salary 'bonus' — Salceda

By ELLSON A. QUISMORIO

Here's some good news to start the year 2023. Albay 2nd district Rep. Joey Salceda reminded Filipinos on Saturday, Dec. 31 that half a month's worth of salary awaits them as part of the windfall from the Tax

Reform for Acceleration and Inclusion (TRAIN) law.

"A 13.5th month bonus" was how Salceda described this additional income, which will stem from the cuts to personal income tax (PIT) rates in 2023 via TRAIN.

"The TRAIN Law PIT cut will be equivalent to around five percent in gross income in added take home pay.

That's around half a month's worth of additional disposable income," said the solon, who chairs the House Committee on Ways and Means.

Salceda principally authored and sponsored the law — RA 10963. It took effect on Jan. 1, 2018.

The new annual income tax rates

will reduce taxes by around five percent for those earning between over ₱250,000 and ₱2 million.

Individuals with taxable income above ₱2 million but not greater than ₱8 million will see a two percent decrease in personal income tax. Income below ₱250,000 will still be exempt from PIT.

"It will increase disposable income for Filipino families by around ₱32 billion by our emerging estimates. That will boost consumer spending and also leave some room for savings for homeownership," noted Salceda.

Salceda says the cut will also cushion workers from the impact of the one percentage point increase in SSS contributions and the 0.5 percentage point increase in PhilHealth premiums.

"Take home is still up 3.5 percentage points more or less," the Bicolano