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MUNICIPALITY PERMIT NOT SOUGHT BEFORE ILL-FATED BRIDGE WAS REOPENED: OFFICIALS

Relevant for: Environment | Topic: Disaster and disaster management

Scouring for life:Rescue personnel conducting search operations after the suspension bridge collapsed in Morbi town of Gujarat on Sunday.AFP

Municipal officials of Morbi in Gujarat have alleged that no permission was sought from the civic body for reopening the suspension bridge that collapsed on Sunday.

It has emerged that after the renovation by private contractor Oreva Group, no safety audit was conducted.

With the reopening marked by a gala ceremony, it is unlikely that the event did not come to the notice of the administration which, according to Opposition party leaders, should have put a stop to any use of the bridge without requisite permissions.

“The Chief Minister is also the Urban Development Minister of the State and this is under his jurisdiction, so he must be sacked immediately,” Congress leader Pawan Khera told presspersons in Ahmedabad.

No clarity

It is unclear how the Oreva Group managed to get the contract to maintain a historic bridge that required special expertise and attention given its age and the extensive damage it had suffered in an earthquake of 2001.

The Gujarat government has made no statement on the issue and no statement was forthcoming from the Oreva Group from Morbi or from their corporate office in Ahmedabad. Its main promoter Jaisukh Patel was not reachable. The police have arrested two senior managers of the firm.

Meanwhile, the tragedy remained the focal point of political developments on Monday with Prime Minister Narendra Modi expressing condolences in a choked speech in three political events in various parts of the State. The Prime Minister is scheduled to visit the site and will likely meet the families of victims on Tuesday afternoon.

Roadshow cancelled

On Monday, he first attended the celebrations of National Ekta Diwas at the Statue of Unity in Kevadia, then launched some development projects at Tharad and also inaugurated projects of the Railways in Ahmedabad.

The Prime Minister's roadshow in Ahmedabad was cancelled in the wake of the tragedy in Morbi.

Mr. Modi also held a review meeting at the Raj Bhavan in Gandhinagar and directed officials that all possible assistance be provided to families affected by the tragedy. The meeting was attended by Chief Minister Bhupendra Patel, Minister of State for Home Harsh Sanghavi, Chief Secretary Pankaj Kumar and Gujarat Director General of Police Ashish Bhatia, along with other

top officials.

Top Congress leaders, including Rajasthan Chief Minister Ashok Gehlot, visited Morbi to meet the families of the victims and demanded strong action against those who had been negligent.

(With PTI inputs)

Neither the Gujarat government nor the Oreva Group has made a statement on the maintenance of the bridge

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THE BURDEN OF TRAGEDY: ON THE MORBI BRIDGE TRAGEDY IN GUJARAT

Relevant for: Environment | Topic: Disaster and disaster management

[At least 140 people were killed after a suspension bridge](#), a tourist attraction in Gujarat's Morbi town, collapsed, sending hundreds of revellers into the Machchhu river below. At least 47 of the dead were children, making it one of India's most horrendous tragedies. [Inaugurated in 1879, the bridge was renovated and opened on October 26](#), four days before the tragedy. This raises several concerns. A company that seems to have had no apparent expertise or track record in the field was awarded the contract. There are questions about the fitness of the bridge; in any case, it was not intended to carry more than 150 people at a time, according to reports. Hundreds were on the bridge when it snapped as there was no crowd control. People were allowed to walk into a death trap. All these point to a major failure of governance at various levels. Gujarat is among the richer States of India, but it has often faced governance challenges — its poor management of the pandemic is a case in point. Human acts of omission and commission often cause tragedies, and significantly change the impact of natural disasters. The police have arrested nine people, including two officials of the company that is now under a cloud, and the government has announced compensation to the kin of the victims. A thorough inquiry and the fixing of accountability must follow quickly. The findings should be made public as soon as possible, and the guilty must face exemplary punishment.

Coming out of the long restrictions on travel necessitated by the COVID-19 pandemic, people all over the world appear to be binging on travel and outings. A stampede in Seoul in South Korea killed 154 people last week. In India also, record numbers of people are thronging tourism and pilgrimage spots. While tourism and travel are powerful engines of the economy, there must be more attention paid to ensure that they are safe and sustainable. Tourist and pilgrimage centres around the country should carry out safety and environmental audits to ensure that crowd management and safety protocols are in place to avoid tragedies such as this. Development of new centres where large numbers of people are expected should account for such contingencies. The rapid pace of road and infrastructure development in ecologically sensitive areas such as the Himalayas should be in accordance with topographic limitations. More must be done to regulate the flow of travellers according to the infrastructure capacity of particular destinations. Tourism promotion campaigns must include creating safety awareness among visitors and local officials.

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IN A U-TURN, RISHI SUNAK SAYS HE WILL ATTEND COP27 IN EGYPT

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Under pressure to rethink his decision not to attend the UN climate meet, 'COP27', in Egypt next week, British Prime Minister Rishi Sunak did a U-turn on Wednesday, saying he would go to Sharm-el-Sheik for the meeting.

"There is no long-term prosperity without action on climate change. There is no energy security without investing in renewables. That is why I will attend @COP27P next week: to deliver on Glasgow's legacy of building a secure and sustainable future," Mr. Sunak tweeted on Wednesday morning, before Prime Ministers' Questions in the House of Commons. Downing Street had said last Thursday that Mr. Sunak was focussed on a November 17 autumn Budgetary statement and was not expected to travel to Egypt.

Plea to join meeting

A group of parliamentarians from various parties had written to Mr. Sunak on Monday asking him to attend the meeting, which was hosted by the U.K. in Glasgow last year, when Boris Johnson was Prime Minister. Mr. Johnson had also confirmed that he would be attending the gathering in Sharm-El-Sheikh, which begins on Sunday. Over the last few days, Downing Street appeared to have begun the process of walking back Mr. Sunak's decision not to attend.

U.S. President Joe Biden and French President Emmanuel Macron are among the attendees of COP27, adding pressure on Mr. Sunak to attend. King Charles III, who has a long history of climate and environmental advocacy, was reportedly advised not to attend the conference by former Prime Minister Liz Truss. Buckingham Palace will instead hold a climate related event on Friday, whose guests will include Mr. Sunak and U.S. Presidential Climate Envoy John Kerry.

'Political management'

"Yet again we see a Prime Minister who only makes decisions for reasons of political management, not the national interest," shadow climate secretary Ed Miliband tweeted, accusing Mr. Sunak of going to Egypt to "avoid embarrassment".

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ARMY REGISTERS IPR OF DESIGN FOR NEW COMBAT UNIFORM

Relevant for: Science & Technology | Topic: Defence related developments

The Army has obtained the Intellectual Property Rights (IPR) for its new combat uniform and is also training civil and military tailors for stitching as per the specified design. The process for registration of the new camouflage pattern and design to establish ownership has been completed by the Controller General of Patents, Designs and Trademark, Kolkata, the Army said on Thursday. "The exclusive IPR of the Design and Camouflage Pattern now rests solely with the Indian Army, and therefore manufacturing by any vendor who is not authorised to do so will be illegal and is liable to face legal repercussions," the Army said in a statement. The registration has been published in the official journal of the Patent Office vide Issue No on No 42/2022 dated October 21, 2022, the Army said in a statement.

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WEALTHY NATIONS FAILED TO PROVIDE PLEDGED \$100 BN IN CLIMATE FUNDS

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Climate changes battering vulnerable countries threaten to outstrip efforts to adapt to global warming, the UN warned on Thursday. Wealthy nations have failed to provide a pledged \$100 billion a year to developing nations, reaching just \$83 billion in 2020. Only a part of that — \$29 billion — was for adaptation. REUTERS

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GOING BEYOND AMUR FALCONS: NAGALAND TO CELEBRATE AVIAN DIVERSITY, UNDERTAKE CENSUS

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

High spirits: The four-day exercise coincides with Tokhü Emong festival. RITU RAJ KONWARRITU RAJ KONWAR

Nagaland is undertaking the first avian documentation exercise going beyond the Amur falcons, the migratory raptor that put the State on the world birding map.

The four-day Tokhü Emong Bird Count (TEBC) from Friday has been timed with the post-harvest Tokhü Emong festival of the Lothas, the Naga community that dominates Wokha district, arguably the most preferred stopover of the Amur falcons while travelling from east Asia to southern Africa.

The event is a collaboration among the Wokha Forest Division, the Divisional Management Unit of the Nagaland Forest Management Project (NFMP) and Bird Count India.

“Amur falcons put Nagaland on the world birding map. However, the communities here can do more than just Amur falcon conservation. This event is organised to make each one of us feel proud of the birdlife and nature that we have,” Chenibemo Odyuo of NFMP’s Foundation for Ecological Security, based in Phek, said.

“Nagaland is a State with diverse festivals and diverse birdlife. The TEBC is the first of initiatives where the community is encouraged to celebrate the festival with birds,” Lansothung Lotha, Range Forest Officer of the Wokha Forest Division said.

“We expect more such festivals in the future where people connect with nature and also help in documenting the rich avifauna in a landscape that still remains to be explored and documented,” he added.

Pia Sethi of the Centre for Ecology, Development and Research said initiatives such as the TEBC are particularly important for the northeast, where rich bird diversity is threatened by habitat loss and hunting.

The exercise entails watching and counting birds on any or all days from November 4-7 from anywhere in Nagaland for at least 15 minutes and uploading the avian names on eBird (www.ebird.org/india), the bird recording platform.

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CAQM HOLDS EMERGENCY MEETING TO ADDRESS DETERIORATING AIR QUALITY IN NCR

Relevant for: Environment | Topic: Environmental Pollution - Air, Water, Soil & E-waste

In wake of unfavourable meteorological conditions anticipated to deteriorate the air quality of the National Capital Region in the coming days, the Sub-Committee for invoking actions under the Graded Response Action Plan (GRAP) of the Commission for Air Quality Management in NCR & Adjoining Areas (CAQM) held a meeting today to take the call for further intensified actions required to be implemented by all concerned in the Delhi-NCR. As per the dynamic model and weather/ meteorological forecast, the overall air quality over Delhi is likely to remain in 'Severe'/ 'Severe+' category from 03.11.2022 to 05.11.2022.

The Commission while comprehensively reviewing the overall air quality parameters during the meeting noted that due to unfavorable meteorological conditions with slower wind speed and rising farm fire incidents, it is considered necessary to implement Stage IV of GRAP – 'Severe+' Air Quality (DELHI AQI > 450) with immediate effect as a precautionary step to avoid further deterioration of overall air quality in the NCR.

This is in addition to the restrictive actions mentioned in Stage I, Stage II and Stage III of GRAP. Stage IV – 'Severe+' Air Quality to primarily focus on vehicle restrictions including entry of commercial trucks into Delhi, diesel commercial vehicles for intra-Delhi movements and non—BS VI passenger vans, LMVs in Delhi. Various agencies responsible for implementing measures under GRAP and Pollution Control Boards (PCBs) of NCR and DPCC have also been advised to ensure strict implementation of actions of Stage IV under GRAP during this period.

Further, the CAQM appeals to the citizens of NCR to cooperate in implementing GRAP and follow the steps mentioned in the Citizen Charter under GRAP. Citizens are advised to:

Apart from that, 8-point action plan as per Stage IV of GRAP is applicable with immediate effect from today in the entire NCR in addition to steps mentioned in Stage I, II and III. This 8-point action plan includes steps to be implemented/ ensured by different agencies and Pollution Control Boards of NCR and DPCC. These steps are:

Note: Industries like milk & dairy units and those involved in manufacturing of life saving medical equipment/ devices, drugs and medicines shall however be exempted from the above restrictions.

Next comprehensive review to be held on 06.11.2022, and further appropriate decision on GRAP measures to be taken based on the air quality forecast and other meteorological parameters.

The revised schedule of GRAP is available on the Commission's website and can be accessed via caqm.nic.in

HS/SSV

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THE REAL ISSUE AT COP27 IS ENERGY EQUITY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

A coal-fired plant in the United States | Photo Credit: AP

In a starkly unequal world, what does the urgency of climate action imply? This has been a central question in the climate change negotiations since the Rio Earth Summit (1992) and will also be at the root of contestations at the upcoming [27th Conference of Parties \(COP27, beginning November 6, in Egypt\)](#) of the United Nations Framework Convention on Climate Change (UNFCCC).

In the run-up to COP26, last year in Glasgow, several developed countries had declared their intention to reach net-zero emissions by 2050. These declarations did not square with the requirements of “keeping 1.5 deg. C alive”. Four-fifths of the global carbon budget to limit warming to 1.5°C (with 50% probability) has already been exhausted. Developed countries are responsible for more than half of these historical CO₂ emissions. Nevertheless, there was much celebration of these targets. There was also high drama at COP26, with moral grandstanding by many developed country negotiators who invoked the future of their children, because India and other countries understandably balked at the singling out of any one fossil fuel for immediate action.

It is important to recall some of these shenanigans at COP26, as in the last year, it has become clear that developed countries may be unlikely to meet even the inadequate targets they have set, keeping to the trend of the last three decades. The rhetoric of COP26 appears unconscionably hypocritical if we consider the reality of global energy inequalities.

Global energy poverty is concentrated in the developing countries. In 2021, 733 million people had no access to electricity and almost 2.6 billion people lacked access to clean fuels and technologies. The average per capita energy use of the richest 20 countries is 85 times higher than that of the 20 poorest countries.

Addressing this stark energy poverty in developing countries is important because there is a strong correlation between energy supply and human development. The average annual per capita electricity consumption of sub-Saharan Africa is 487 kilowatt-hours (kWh), alongside an infant mortality rate of 73 per 1,000 live births; maternal mortality ratio of 534 per 1,00,000 live births, and per capita GDP of \$1,645. On the other hand, the OECD group of countries have a per capita electricity consumption of 7,750 kWh, corresponding to an infant mortality rate of seven, maternal mortality ratio of 18, and per capita GDP of \$42,098.

The reality of global inequality was acutely evident during the COVID-19 pandemic. Several countries in Africa, Asia and Latin America are facing severe agricultural and industrial slowdowns in the post-pandemic period. The lack of reliable energy infrastructure has compounded the difficulties and has multi-dimensional impacts across developmental indicators.

In 2022, these inequalities have been aggravated by soaring energy and food prices. Several countries face a severe rise in the cost of living and nearly 70 million additional people are estimated to fall below the poverty line of \$3.20 per person per day. Poor and vulnerable communities in the energy-importing countries of the global South suffer the most. Almost 90 million people in Asia and Africa, who gained access to electricity recently, cannot afford to pay their energy bills. In this background, COP27 affords a critical moment to acknowledge and address the concerns surrounding energy access and security in developing countries.

Unfortunately, these long-standing problems of the global South have been ignored by developed country governments, academia, and civil society. At a time when the language of energy poverty and security is re-entering the northern vocabulary, it is time to call out the hypocrisy of the advice on fossil fuel use given by the north to some of the world's poorest regions since the Paris Agreement was signed.

In the United States, 81% of primary energy is from fossil fuels. In Europe, fossil fuels constitute 76% of the energy consumption (coal, oil, and natural gas contribute 11%, 31%, and 34% respectively). Thirty years after acknowledging the problem of anthropogenic global warming and committing in the UNFCCC, to take the lead in climate change mitigation, the level of decarbonisation in the global North has been minuscule. In July 2022, the European Union (EU) voted to classify the use of natural gas for some uses as "green and sustainable". Natural gas was responsible for 7.5 billion tonnes of CO₂ (i.e., 23% of the total CO₂ by the major fossil fuels), in 2020. Additionally, in 2022, even coal consumption in the U.S. and the EU is estimated to increase by 3% and 7%, respectively.

These same developed countries argue that green energy constitutes a great business opportunity for developing countries as it has become cheaper. They have used this dubious argument to dismiss differentiation between developed and developing countries and are lobbying for banning the financing of any fossil fuel projects in some of the poorest countries.

Bridging the energy deficits in the global South using renewable energy alone is a much bigger challenge compared to what developed countries will face this winter. Spokespersons for urgent climate action across the world must acknowledge this stark reality that the global South has to deal with, whether in times of war or peace.

Comment | [We need a forest-led COP27](#)

At COP27, the global South must put the question of its energy poverty and the severe global inequalities in energy access squarely at the centre of all discussions. We need to achieve zero hunger, zero malnutrition, zero poverty, and universal well-being even as we collectively contribute to ensuring effective climate action. As the strapline for COP27 ("Together for Implementation") suggests, we must work together to ensure that these developmental goals are not side-lined, as they were at COP26, in the pursuit of hollow declarations of net-zero targets three decades into the future. A developing country leadership at COP27 can ensure effective discussions, based on equity and common but differentiated responsibilities and respective capabilities, on the relative responsibilities and sharing of mitigation and adaptation burdens while coping with loss and damage.

Tejal Kanitkar is Associate Professor, National Institute of Advanced Studies, Bengaluru. Ankita Ranjan is a research scholar, National Institute of Advanced Studies, Bengaluru

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HUNDREDS OF ELEPHANTS, ZEBRAS DIE AS KENYA WEATHERS DROUGHT

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

Parts of Kenya have experienced four consecutive seasons with inadequate rain in the past two years, with dire effects for people and animals, including livestock. File | Photo Credit: Reuters

Hundreds of animals, including elephants and endangered Grevy's zebras, have died in Kenyan wildlife preserves during East Africa's worst drought in decades, according to a report released Friday.

The Kenya Wildlife Service and other bodies counted the deaths of 205 elephants, 512 wildebeests, 381 common zebras, 51 buffalos, 49 Grevy's zebras and 12 giraffes in the past nine months, the report states.

Parts of Kenya have experienced four consecutive seasons with inadequate rain in the past two years, with dire effects for people and animals, including livestock.

The worst-affected areas include some of Kenya's most visited, including the Amboseli, Tsavo and Laikipia-Samburu ecosystems, according to the report's authors. They called for an urgent aerial census of wildlife in Amboseli to get a broader view of the drought's impact on wild animals there.

Other experts have recommended the immediate provision of water and salt licks in impacted regions. Elephants, for example, drink 240 liters (63.40 gallons) of water per day, according to Jim Justus Nyamu, executive director of the Elephant Neighbors Center.

For Grevy's zebras, experts urge enhancing provisions of hay.

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UNION AGRICULTURE MINISTER SHRI NARENDRA SINGH TOMAR SAYS, MANAGEMENT OF STUBBLE IS THE COLLECTIVE RESPONSIBILITY OF EVERYONE

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Under the guidance of the Union Ministry of Agriculture and Farmers Welfare, the Pusa Decomposer developed by the Indian Agricultural Research Institute (IARI) for efficient management of paddy stubble with the aim of better and optimum utilization by the farmers was held in Pusa, Delhi today. The workshop was organized under the leadership of Union Minister of Agriculture and Farmers Welfare Shri Narendra Singh Tomar, in which hundreds of farmers were present and thousands of farmers also joined virtually through 60 Krishi Vigyan Kendras (KVKs).



The technology of decomposer has been transferred by Pusa Institute to other companies including UPL, through which it is being produced and made available to the farmers. Through these, the use and demonstration of Pusa Decomposer in the last 3 years have been done in Uttar Pradesh in 26 lakh acres, 5 lakh acres in Punjab, 3.5 lakh acres in Haryana and 10 thousand acres in Delhi, which have yielded very good results. This decomposer is cheap and easily available across the country.

In the workshop, Union Minister Shri Tomar said that proper management of paddy stubble is the collective responsibility of all to prevent pollution. He said, concerned State Governments- Punjab, Haryana, U.P. and Delhi were provided more than Rs 3 thousand crore for stubble management by the Centre. Punjab was allocated the maximum fund of about Rs 1450 crores, while Haryana got Rs 900 crores, UP Rs 713 crores and 6 Crore rupees to Delhi. Out of this, about one thousand crore rupees are left with the states including Rs 491 crore with Punjab alone.

Shri Tomar said, a comprehensive solution to this problem is possible with optimum utilization of 2.07 lakh machines made available to the states for stubble management with the assistance provided by the Centre. Also, if the Pusa Decomposer developed by the Pusa Institute is used, the fertility of the cultivable land will also increase along with the solving the problem.

Shri Tomar said that more important than political discussion on paddy straw is to discuss its management and how to get rid of it. He said, the problem of stubble burning is serious and on this issue levelling allegations and counter allegations are not justified. Be it the Central or State governments or farmers, everyone has the same objective that agriculture should flourish in the country and there is prosperity for farmers. The Minister added that burning of stubble causes harm to the environment as well as the people and therefore a way should be found to deal with it and follow that path. With this, the soil will not only be safe, pollution will also be reduced and the farmers will be benefitted a lot, Shri Tomar added.



In the workshop, some farmers from these states, who used Pusa Decomposer, shared their positive experiences, while the licensee also shared the benefits of Pusa Decomposer with the farmers. Union Agriculture Secretary Shri Manoj Ahuja, DDG (NRM) of Indian Council of Agricultural Research, Dr. S.K. Chaudhary, Director, Indian Agricultural Research Institute, Dr. Ashok Kumar Singh also addressed the workshop. Shri Tomar and the farmers who came to Pusa, while visiting the field, saw the live performance of the Pusa decomposer and inquired about the stalls.

The Central Government is serious about stubble management and several meetings have been held with all the stakeholders in this regard. On 19th October, in the presence of Union Minister Shri Tomar, Environment, Forest and Climate Change Minister Shri Bhupendra Yadav and Animal Husbandry, Fisheries and Dairy Minister Shri Parshottam Rupala, discussions were held with the concerned state governments and necessary guidelines were issued in this regard. Earlier on September 21, a meeting was held with the states under the chairmanship of Shri Tomar. Several meetings were held at the level of Agriculture Secretary and Joint Secretary also and suitable advice and instructions had been given to the states. Today's workshop is a part of this series, in which Shri Tomar called upon the state governments, farmers, agricultural scientists to work together for stubble management.



SNC/MS

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Shri Tomar said, a comprehensive solution to this problem is possible with optimum utilization of 2.07 lakh machines made available to the states for stubble management with the assistance provided by the Centre. Also, if the Pusa Decomposer developed by the Pusa Institute is used, the fertility of the cultivable land will also increase along with the solving the problem.

Shri Tomar said that more important than political discussion on paddy straw is to discuss its management and how to get rid of it. He said, the problem of stubble burning is serious and on this issue levelling allegations and counter allegations are not justified. Be it the Central or State governments or farmers, everyone has the same objective that agriculture should flourish in the country and there is prosperity for farmers. The Minister added that burning of stubble causes harm to the environment as well as the people and therefore a way should be found to deal with it and follow that path. With this, the soil will not only be safe, pollution will also be reduced and the farmers will be benefitted a lot, Shri Tomar added.



In the workshop, some farmers from these states, who used Pusa Decomposer, shared their positive experiences, while the licensee also shared the benefits of Pusa Decomposer with the farmers. Union Agriculture Secretary Shri Manoj Ahuja, DDG (NRM) of Indian Council of Agricultural Research, Dr. S.K. Chaudhary, Director, Indian Agricultural Research Institute, Dr. Ashok Kumar Singh also addressed the workshop. Shri Tomar and the farmers who came to Pusa, while visiting the field, saw the live performance of the Pusa decomposer and inquired about the stalls.

The Central Government is serious about stubble management and several meetings have been held with all the stakeholders in this regard. On 19th October, in the presence of Union Minister Shri Tomar, Environment, Forest and Climate Change Minister Shri Bhupendra Yadav and Animal Husbandry, Fisheries and Dairy Minister Shri Parshottam Rupala, discussions were held with the concerned state governments and necessary guidelines were issued in this regard. Earlier on September 21, a meeting was held with the states under the chairmanship of Shri

Tomar. Several meetings were held at the level of Agriculture Secretary and Joint Secretary also and suitable advice and instructions had been given to the states. Today's workshop is a part of this series, in which Shri Tomar called upon the state governments, farmers, agricultural scientists to work together for stubble management.



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CLIMATE NETWORKING

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Guests enter the convention center hosting the COP27 U.N. Climate Summit, Friday, Nov. 4, 2022, prior to the start of the summit on Nov. 6, which is scheduled to end on Nov. 18, in Sharm el-Sheikh, Egypt. (AP Photo/Peter Dejong)

From Monday, the sea-side, port city of Sharm El-Sheikh, Egypt, will host over 45,000 registered participants as part of the 27th edition of the UN-Conference of Parties (UN-COP). The participants include representatives of the 195 member-countries of the UN-COP, business persons, scientists, and members of indigenous and local communities and activists.

The UN-COPs, over the decades, have burgeoned into a colossal networking event where, under the umbrella of a simmering climate crisis, various interest-groups come away after protracted negotiations with little more than a promise to meet the following year at a new venue. The two-week long jamboree has multiple sub-events, protests and theme-pavilions that begin with a bang, such as with a World Leader's summit.

The event sees several heads of state deliver statements on the need to ensure that carbon emissions don't heat the globe beyond its sustainable limits. Last year, Prime Minister Narendra Modi, at the 26th edition of the COP in Glasgow, Scotland, committed to India becoming net-zero, or in effect carbon neutral, by 2070. It is unclear if he will be at Sharm-El-Sheikh but U.S. President Joe Biden and U.K. Prime Minister Rishi Sunak are expected to be present.

From here on, the summit — on the surface — is muted but is buzzing with activity underneath when various negotiating teams, representing countries, business groups and think tanks congregate into smaller groups, lay out draft text agreements and wage semantic wars. The main founding document is the 2015 Paris Agreement that commits countries to keep temperatures from rising over 2°C by the end of the century and as far as possible below 1.5°C.

This guiding principle results in an annual agreement, the latest being the Glasgow Climate Pact — an assemblage of various Articles and sub-articles — that outlines the responsibilities of every country and how they propose to take action on doing their bit to curtail carbon emissions. As has now become a pattern in most COPs, the negotiations build to a crescendo where concerns are aired about an impasse and then, the President of the COP — this time, Sameh Shoukry, Egypt's Minister of Foreign Affairs — will push the deadline by a few hours and then a document, flush with incremental gains, is conjured up when the gavel comes down.

'Implementation COP'

The latest COP, Mr. Shoukry has said, will be an 'Implementation COP'. "This means the full and faithful implementation of all the provisions of the Paris Agreement, along with pursuing even more ambitious NDCs if we are to keep the temperature goal within reach and avert further negative impacts," he said in a press statement. NDCs, or Nationally Determined Contributions, are a country's intent — but not binding or mandatory — towards achieving the goals of the Paris Agreement.

India has updated its NDC of 2015 by committing to reduce the emissions intensity of its GDP by 45% by 2030, from the 2005 level, achieving 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources and creating an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ by adding forest and tree cover by 2030. However, unlike in the 2015

version, the latest NDC also underlines India's commitment to “..mobilise domestic and new & additional funds from developed countries..” to, primarily, access and implement clean energy technology.

Environment Minister Bhupendra Yadav, who will be leading the Indian delegation to COP-27, has said India will continue to press developed countries into making good their unfulfilled commitment to deliver \$100 billion a year of climate finance by 2020 and every year thereafter till 2025. There is yet no definition on what constitutes 'climate finance' and whether it includes both loans and grants and India, he said, would press for more transparency as well as institutional mechanisms to make these funds available to developing countries as well as those most vulnerable to the impacts of climate change.

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A THIRD OF WORLD HERITAGE GLACIERS UNDER THREAT, WARNS UNESCO STUDY

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

A UNESCO World Heritage sign of The Dolomites, near the Marmolada mountain and glacier.
File | Photo Credit: AFP

A third of the glaciers on the UNESCO World Heritage list are under threat, regardless of efforts to limit temperature increases, a study conducted by the UN body has found.

However, the study said, it was still possible to save the other two-thirds, if the rise in global temperatures did not exceed 1.5 degrees Celsius compared to the pre-industrial era. UNESCO said this would be a major challenge facing delegates at the upcoming COP27.

The 2022 United Nations Climate Change Conference, more commonly referred to as Conference of the Parties of the UNFCCC, or COP27, will be the 27th United Nations Climate Change conference. It will be held from November 6-18, 2022 in Egypt's Sharm El Sheikh.

"This report is a call to action. Only a rapid reduction in our CO2 emission levels can save glaciers and the exceptional biodiversity that depends on them.

"COP27 will have a crucial role to help find solutions to this issue. UNESCO is determined to support states in pursuing this goal," UNESCO Director-General Audrey Azoulay said.

In addition to drastically reduced carbon emissions, the United Nations Educational, Scientific and Cultural Organization (UNESCO) is advocating for the creation of a new international fund for glacier monitoring and preservation.

Such a fund would support comprehensive research, promote exchange networks between all stakeholders and implement early warning and disaster risk reduction measures, the study said.

Half of humanity depends directly or indirectly on glaciers as their water source for domestic use, agriculture, and power. Glaciers are also pillars of biodiversity, feeding many ecosystems, it said.

"When glaciers melt rapidly, millions of people face water scarcity and the increased risk of natural disasters such as flooding, and millions more may be displaced by the resulting rise in sea levels," IUCN Director General Dr Bruno Oberle said.

"This study highlights the urgent need to cut greenhouse gas emissions and invest in nature-based solutions, which can help mitigate climate change and allow people to better adapt to its impacts," he added.

Fifty UNESCO World Heritage sites are home to glaciers, representing almost 10% of the Earth's total glacierised area. They include the highest (next to Mt Everest), the longest (in Alaska), and the last remaining glaciers in Africa.

The UNESCO study, in partnership with the International Union for Conservation of Nature (IUCN), showed that these glaciers have been retreating at an accelerated rate since 2000 due to CO2 emissions, which are warming temperatures.

They are currently losing 58 billion tons of ice every year – equivalent to the combined annual water use of France and Spain – and are responsible for nearly 5% of observed global sea-level rise. The glaciers under threat are in Africa, Asia, Europe, Latin America, North America and Oceania, the study said.

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A YEAR FROM THE GLASGOW CLIMATE PACT, MORE FOSSIL FUELS IS BEING BURNT

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Smoke billows from the chimneys of Belchatow Power Station, Europe's biggest coal-fired power plant. Image for Representation. | Photo Credit: Reuters

The burning of fossil fuels caused 86% of all CO emissions during the past ten years. Despite being the primary culprits of global heating, coal, oil and gas were barely mentioned in the official texts of previous UN climate change summits.

That all changed at COP26 in November 2021, where the Glasgow climate pact was signed. The agreement contained the first ever acknowledgement of the role of fossil fuels in causing climate change. It also urged nations to phase out measures which subsidise the extraction or consumption of fossil fuels and to "phase-down" coal power.

With COP27 beginning in Sharm El Sheikh in Egypt, it's time for a progress update. Unfortunately, it's not good news. The ongoing energy crisis – and the short-term responses to it by governments around the world – have made it more difficult to meet the pact's goals of ending the dominance of fossil fuels.

The current predicament is probably the first of its kind in which prices for all fossil fuels have soared simultaneously. This has hiked electricity prices in turn.

Europe has had to rapidly adjust to Russia using its gas exports as a weapon since its invasion of Ukraine. As the Kremlin cut pipeline gas supplies, European countries rushed onto the global market for liquified natural gas (LNG) and increased imports from traditional partners such as Norway and Algeria.

Also Read | [At COP27, move the needle on climate action](#)

This has raised natural gas prices to dizzying heights and created a global scramble for gas in which Europe can outbid developing economies for essential LNG shipments, pushing countries like Pakistan and Bangladesh deeper into crisis.

To keep the lights on, some of these developing economies are resorting to the most polluting of all fossil fuels: coal. The International Energy Agency (IEA) expects that in 2022, global coal consumption will match its all-time high of 2013.

In the EU, demand for coal (primarily from the electricity sector) is expected to rise by 6.5%. If current demand trends continue, global coal consumption will only be 8.7% lower in 2030 than what it was in 2021. To reach net zero emissions by 2050, this should be 32% lower.

The Organisation of Petroleum Exporting Countries and its allies (OPEC+), most notably Russia, recently decided to slash oil production by 2 million barrels a day in a bid to hike oil prices. Although OPEC+ justifies its decision by saying that it is anticipating a global recession that could herald a replay of the oil price crashes of 2008, 2014 and 2020, the EU and US have slammed the move as politically-motivated.

To bring down high fossil fuel prices, governments globally are resorting to the very subsidies

they agreed to phase out. These subsidies cut fuel costs for consumers by fixing the price at petrol pumps, for example.

After a noticeable dip in 2020, fossil fuel subsidies expanded in 2021. The energy crisis has prompted another sharp increase according to IEA estimate for 2022. In the past, developing economies were criticised for using these fiscal tools, not least for subsidising fossil fuel burning. Any such criticism rings particularly hollow now as rich countries race to do the same thing.

US and European allies pressured developing countries at COP26 to commit to bolder action to eliminate coal power, often touting natural gas as a useful transition fuel. Now, Europe is limiting their access to alternatives by outbidding Asian and Latin American developing countries on the global LNG market while firing up their own mothballed coal-fired power stations, or extending the lifetime of operating ones.

Western leaders have also criticised China and India for buying more Russian oil and gas, financing Putin's invasion in the process. But since the start of the war, Russia has earned €108 billion (£94 billion) in fossil fuel sales to the EU alone, accounting for over half of the country's income from oil and gas exports.

While pipeline flows from Russia to the EU are down substantially, Russian LNG exports have actually gone up. Depressed demand for gas in China (due to ongoing COVID-19 restrictions) is the saving grace that allowed Europe to fill its storage tanks ahead of winter.

Also Read | [A third of world heritage glaciers under threat, warns UNESCO study](#)

One year on from the Glasgow climate pact, emissions pledges and promises have yielded to immediate security concerns. A short-term dash for gas and coal might make sense given the shock of Russia's invasion, but ideally sky-high fossil fuel prices would speed up the transition to renewables.

Simply swapping fossil fuel dependence from one exporter to another is bad for the climate and certainly does not make energy supply more secure and affordable. Rather than an energy price crisis, the world is grappling with a fossil fuel price crisis.

The IEA expects that demand for fossil fuels will peak within five years thanks to programmes like the EU's RePowerEU plan, the US Inflation Reduction Act and Japan's green transformation plan, which incentivise renewables. But despite these interventions, current emission pathways predict 2.6°C of warming by 2100 – well above the objectives of the Paris agreement.

Negotiations at COP27 should be held with the full understanding that fossil fuels are not exiting the global energy mix. Developed countries must take a leading role in phasing them out to allowing developing countries to adapt a slower pace. This is the key to a fair transition away from the fuels driving climate breakdown.

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CAMERA TRAPS GIVE HOPE FOR SNOW LEOPARD IN KASHMIR

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

The estimated population of the snow leopard is 50 in Jammu and Kashmir.

The first-ever recording of the snow leopard from the Baltal-Zojila region has renewed hopes for the elusive predator in the higher altitudes of Jammu and Kashmir and Ladakh.

Camera trapping exercises by researchers from Nature Conservation Foundation (India), partnering with J&K's Department of Wildlife Protection, also raised hopes for other important and rare species such as the Asiatic ibex, brown bear and Kashmir musk deer in the upper reaches of the northernmost part of India.

"It is the first record of snow leopard from the Baltal-Zojila area. In fact, we have very limited records of the presence of snow leopards across J&K," Munib Khanyari, programme manager at NCF (India), told *The Hindu* on November 6.

But not much is known about the number of snow leopards in J&K and Ladakh.

"The Snow Leopard Population Assessment of India (SPAI) has been concluded so far in Himachal Pradesh and Uttarakhand. The estimated population of the great cat is 50 and 100, respectively, in these two States," he said.

Various teams have been conducting surveys across the nearly 12,000 sq. km potential snow leopard territory of J&K for a few years now covering Gurez, Thajwas, Baltal-Zojila, Warwan, and Kishtwar. The surveys have often focused on the neighbouring areas of Ladakh, Himachal Pradesh and Uttarakhand.

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FAVOURABLE WIND CONDITIONS IMPROVE DELHI'S AIR QUALITY

Relevant for: Environment | Topic: Environmental Pollution - Air, Water, Soil & E-waste

Lung space: The air quality improved to the lower end of the “very poor” category on Sunday. SHIV KUMAR PUSHPAKAR SHIV KUMAR PUSHPAKAR

The Commission for Air Quality Management (CAQM) on Sunday revoked its November 3 order, which called for emergency measures such as a ban on the entry of trucks into the Capital and plying of non-BS VI diesel-run light motor vehicles imposed under Stage IV of the Graded Response Action Plan (GRAP).

This was done as the air quality improved with favourable meteorological conditions.

The decision to shut primary schools was a measure taken at the discretion of the Delhi government as an emergency measure till Tuesday.

According to the forecast in a bulletin by the Union government-run monitoring agency SAFAR (System of Air Quality and Weather Forecasting and Research) on Sunday, the air quality in the capital improved due to the change in wind flow from stubble-burning areas leading to prevention of inflow of pollutants.

After two days of “severe” air pollution, the air quality of the national capital improved slightly to the upper end “very poor” category on Saturday, and improved further to the lower end of the “very poor” category on Sunday, as per data by the Central Pollution Control Board.

The forecast reads “air quality is likely to improve further but remain within ‘very poor’ or ‘upper end of poor’ till November 8. Stubble emissions from neighbouring States with a fire count of 3,100 contributed to 18% to PM2.5 level — a chief pollutant — in Delhi on Sunday.

No steep degradation

“As the present Air Quality Index (AQI) level of Delhi is around 339, which is about 111 AQI points below the threshold for invoking the GRAP Stage-IV actions (Delhi AQI > 450) and preventive/ mitigative/ restrictive actions under all stages up to Stage-IV are under way, there is a likelihood of sustaining the improvement in AQI. The forecast also does not indicate any steep degradation further,” an order from the Commission for Air Quality Management read.

A higher value of AQI means an increase in air pollution.

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2015 TO 2022 LIKELY TO BE 8 WARMEST YEARS ON RECORD: WMO REPORT

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

The WMO Secretary-General Prof Petteri Taalas said that we have such high levels of carbon dioxide in the atmosphere now that the lower 1.5 degree Celsius of the Paris Agreement is barely within reach. File | Photo Credit: AP

The global mean temperature in 2022 is estimated to be 1.15 degree Celsius above the pre-industrial (1850-1900) average, likely making the eight years from 2015 the warmest on record, the World Meteorological Organisation said in a report on Sunday.

The report titled 'WMO Provisional State of the Global Climate 2022' released at the 27th Conference of Parties to the UNFCCC on Sunday stated that the rate of sea level rise has doubled since 1993 and has risen by nearly 10 mm since January 2020 to a new record high this year.

The past two-and-a-half years account for 10% of the overall rise in sea level since satellite measurements started nearly 30 years ago, the report stated.

The figures used in the provisional 2022 report are till the end of September this year. The final version will be issued next April.

"The global mean temperature so far in 2022 has been 1.15 degree Celsius above the 1850-1900 average. If the current anomaly continues to the end of the year, the analysis would place 2022 as either the fifth or sixth warmest year on record (from 1850), and in each case marginally warmer than 2021. The eight years — 2015 to 2022 — are likely to be the eight warmest years on record," the report read.

Despite La Niña conditions keeping the global temperature low for the second consecutive year, 2022 is still most likely to be the fifth or sixth warmest year on record, the WMO said. The 10-year average for the period 2013-2022 is estimated to be 1.14 degrees Celsius above the pre-industrial baseline. This compares with 1.09 degrees Celsius from 2011 to 2020, as estimated by the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment report.

The pre-monsoon period was exceptionally hot in India and Pakistan. Pakistan had its hottest March and April on record. The heat caused a decline in crop yields. This combined with the banning of wheat exports and restrictions on rice exports in India are threatening the international food markets and posing risks to countries already affected by shortages of staple foods.

Record-breaking rain in July and August led to extensive flooding in Pakistan. There were at least 1,700 deaths and 33 million people affected while 7.9 million people were displaced.

India also reported significant flooding at various stages during the monsoon season, particularly in the northeast in June. Around 700 people died due to floods and landslides, and another 900 from lightning. Floods also triggered 6,63,000 displacements in Assam, the WMO observed.

"The greater the warming, the worse the impacts. We have such high levels of carbon dioxide in the atmosphere now that the lower 1.5 degree Celsius of the Paris Agreement is barely within

reach," said WMO Secretary-General Prof Petteri Taalas.

"It's already too late for many glaciers and the melting will continue for hundreds if not thousands of years, with major implications for water security. The rate of sea level rise has doubled in the past 30 years. Although we still measure this in terms of millimetres per year, it adds up to half to one meter per century and that is a long-term and a major threat to millions of coastal dwellers and low-lying states," he said.

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MONARCH BUTTERFLIES RETURN TO MEXICO ON ANNUAL MIGRATION

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

The butterflies were seen around their three largest traditional wintering grounds. Image for Representation. | Photo Credit: AP

The first monarch butterflies have appeared in the mountaintop forests of central Mexico where they spend the winter, Mexico's Environment Department said Saturday.

The first butterflies have been seen exploring the mountaintop reserves in the states of Mexico and Michoacan, apparently trying to decide where to settle this year.

The monarchs have shown up a few days late this year. Normally they arrive for the Day of the Dead observances on November 1 and November 2. Mountainside communities long associated the orange-and-black butterflies with the returning souls of the dead.

The department said the butterflies were seen around their three largest traditional wintering grounds — Sierra Chincua, El Rosario and Cerro Pelón in Michoacan state.

The main group of butterflies is expected to arrive in the coming weeks, depending on weather conditions, the department said in a statement.

[Also Read | Peregrine falcons win the numbers game](#)

It is too early to say how big this year's annual migration from the United States and Canada will be. Those counts are usually made in January, when the butterflies have settled into clumps on the boughs of fir and pine trees.

The annual butterfly count doesn't calculate the individual number of butterflies, but rather the number of acres they cover when they clump together.

Last year, 35% more monarch butterflies arrived compared to the previous season. The rise may reflect the butterflies' ability to adapt to more extreme bouts of heat or drought by varying the date when they leave Mexico.

Each year, generally in March, the monarchs migrate back to the United States and Canada.

Drought, severe weather and loss of habitat north of the border — especially of the milkweed where the monarchs lay their eggs — as well as pesticide and herbicide use and climate change all pose threats to the species' migration. Illegal logging and loss of tree cover due to disease, drought and storms plague the reserves in Mexico.

This year, the International Union for the Conservation of Nature added the migrating monarch butterfly to its "red list" of threatened species and categorized it as "endangered" — two steps from extinct.

The group estimates the population of monarch butterflies in North America has declined between 22% and 72% over 10 years, depending on the measurement method.

The monarchs' migration is the longest of any insect species known to science.

After wintering in Mexico, the butterflies fly north, breeding multiple generations along the way for thousands of miles. The offspring that reach southern Canada begin the trip back to Mexico at the end of summer.

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HIGH DENSITY OF LEOPARDS AT KUNO MATTER OF CONCERN FOR CHEETAHS: EXPERT

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

A cheetah after being released inside a special enclosure of the Kuno National Park in Madhya Pradesh, September 17, 2022. | Photo Credit: PTI

As eight Namibia-born cheetahs complete more than 50 days in their new home Kuno National Park in Madhya Pradesh, a South Africa-based animal conservationist has expressed concern over the high density of leopards in the sanctuary, but said the two carnivores have a history of co-existence as well.

[The cheetahs were flown from the African country and released in the Kuno National Park \(KNP\)](#) in Sheopur district with much fanfare on September 17 at a function by Prime Minister Narendra Modi as part of a project to revive their population in India, seven decades after they were declared extinct.

Since their arrival at KNP, the big cats have been kept inside quarantine enclosures, where they completed 51 days on November 6.

According to animal conservationist Vincent van der Merwe, who manages the cheetah metapopulation in South Africa, the high density of leopards in KNP is a matter of concern for the new guests.

Experts in the past have expressed apprehension about a possible conflict between leopards and cheetahs in the national park.

“The high density of leopards is a matter of concern for cheetahs in KNP. But, two spotted animals have a history of co-existence in South Africa, Namibia and India since centuries,” Merwe, who has been given the responsibility to get 12 cheetahs from his home country to India, said.

In Africa, home to most of the cheetahs in the world, leopards are known to attack the fastest land animal.

“Leopards account for 9 per cent of cheetah mortality in South Africa,” the 40-year-old conservationist, who flew with the eight spotted cats from Namibia to KNP in September, told PTI over the phone from South Africa.

His statement has come at a time when presence of 70 to 80 leopards have been noticed in KNP's core and buffer area spread over 1,200 sq km.

“I form part of a combined Namibian and South African team providing founder animals for reintroduction and giving technical advice to India. As part of this team, I was invited to accompany the founder cheetahs,” he said about his September visit to KNP.

Merwe, who oversaw 31 cheetah translocation projects in South Africa, said the adult fastest mammal on the earth avoids leopards and even chases them away.

“But cheetah cubs and sub-adults do fall prey to leopards,” he added.

Cheetahs have been reintroduced in 64 protected areas within South Africa. These reserves are all small and isolated, and only support cheetah populations that vary from 3 to 30, Merwe said.

Speaking about the Metapopulation Initiative, the expert said it is a private group that coordinates cheetah relocations between the network of metapopulation reserves to prevent inbreeding, cheetah overpopulation or local extinction.

“It offers service to metapopulation reserves by identifying cheetahs for swapping or surplus cheetahs for relocations to reserves where their population needs to be augmented,” said Merwe, who is managing population of the spotted cats in South Africa for the last 11 years.

[Also Read | Two of the 8 cheetahs in Kuno National Park released into acclimatisation enclosure](#)

A metapopulation programme works by nurturing several populations of the big cat in mostly private game reserves, and swapping cheetahs between these sites to boost the gene pool.

The wildlife expert, who has an MSc in conservation biology and a BSc (Hons) in conservation genetics, said he is hoping to obtain permission from the South African government to return to India with an additional 12 cheetahs for KNP.

“A large founder population will be required to establish cheetahs at Kuno,” added Merwe.

He manages the Cheetah Metapopulation Project in South Africa on behalf of the Cheetah Metapopulation Initiative.

The Indian government has urged its South African counterpart to make cheetahs available for its reintroduction efforts, he said.

“As manager of the Cheetah Metapopulation in South Africa, I am in a position to source suitable cheetahs from South Africa. The decision to send cheetahs to India for reintroduction lies with the South Africa government,” Merwe said.

He said the eight cheetahs at KNP were in good health.

KNP Director Uttam Sharma has admitted there were 70 to 80 leopards in the park. An adult cheetah weighs 40 to 50 kg and a leopard between 50 and 60 kg.

Madhya Pradesh is home to 3,421 leopards, the highest in the country, followed by 1,783 in Karnataka, as per the Union Environment Ministry's 'Status of Leopards in India 2018' report.

Merwe said the spotted animals' metapopulation (cheetah count in small and medium parks) has risen to 504 from 217 in South Africa since 2011.

According to Sharma, who also keeps a watch on the Namibian cheetahs at KNP, the large animal can eat as much as 6 to 8 kg meat at one sitting if not chased away.

A cheetah does not return to eat its leftover kill like a leopard or tiger. Suppose a cheetah kills a chital (deer) weighing around 30 kg, it will automatically leave behind around 22 kg meat of the kill for leopards and hyenas, the KNP director explained.

Asked how many days a cheetah eats, Sharma said the world's fastest animal cannot keep its kills safe. Bigger carnivores like leopard and also hyena can snatch kills from cheetahs.

“Even a pack of jackals is believed to be able to snatch a prey from cheetahs,” he said.

A tiger hides its prey in a bush for another day to eat, but this is not the case with a cheetah as its kill gets snatched, the forest officer added.

A full-grown tiger weighing 200 kg eats 18 to 20 kg of its kill at the first go, Sharma said.

In other words, tigers scavenge, while cheetahs are fresh meat eaters, he said.

The eight cheetahs at KNP – five females and three males – are in the 30-66 month age group and named Freddy, Alton, Savannah, Sasha, Obaan, Asha, Cibili and Saisa.

They are currently housed in 6 quarantine 'bomas' (enclosures) and being reared on a diet of buffalo meat, forest department officials have said.

The cheetahs are expected to be put in a bigger enclosure, spread over 5 square kilometers, shortly for acclimatization for two or three months before being released in the wild of KNP, they added.

The acclimatisation zone has been cleared of leopards with the help of elephants. But there was no guarantee leopards will not re-enter the zone as they have the ability to scale and break big fences, said an MP forest department official who did not wish to be identified.

The last cheetah died in India in Koriya district of present-day Chhattisgarh in 1947 and the species was declared extinct in 1952.

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REVISED GRAP TO DEAL WITH ADVERSE AIR QUALITY SCENARIO

Relevant for: Environment | Topic: Environmental Pollution - Air, Water, Soil & E-waste

In a move to mitigate dust arising out of Construction and Demolition (C&D) activities sites and intensify actions to further ameliorate the overall air quality of the National Capital Region (NCR), the Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) has mandated all C&D projects in the NCR to deploy adequate numbers of anti-smog guns, in proportion to the total area of construction for the project. The State Pollution Control Boards (SPCBs) of NCR and Delhi Pollution Control Committee (DPCC) have also been directed to ensure continuous and effective use of the anti-smog guns installed at different C&D sites in their respective districts.

As per the recent Statutory Direction of the Commission, all C&D sites must deploy adequate numbers of anti-smog guns, as per following yardstick based on construction area:

Dust from the C&D activities is a major and consistent source of air pollution and contributes adversely to the spike in PM_{2.5} and PM₁₀ levels in the NCR. Use of treated water to mitigate large quantities of dust generated at C&D sites through use of anti-smog guns, sprinklers etc. with prescribed wet suppression, wind breakers, dust barrier screens, covering of construction material and C&D debris, proper disposal of C&D wastes including transportation in covered vehicles etc. are some of the steps that are essentially to be followed by C&D projects in the NCR.

The comprehensive Policy to Curb Air Pollution in the NCR formulated by the Commission in July, 2022, towards management of C&D activities to reduce dust, also stipulated deployment of adequate number of anti-smog guns in C&D project sites. Apart from that, the revised Graded Response Action Plan (GRAP) to deal with adverse air quality scenario that generally prevails in the winter season in the entire NCR, also calls for enforcing guidelines for use of anti-smog guns at construction sites.

HS/SSV

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ZERO DEFORESTATION IN THE AMAZON IS NOW POSSIBLE

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

An aerial view shows a deforested plot of the Amazon rainforest in Manaus, Amazonas State, Brazil July 8, 2022. | Photo Credit: Reuters

Jair Bolsonaro has been defeated in the Brazilian election against Luiz Inácio Lula da Silva (“Lula”) to the rejoicing of scientists, environmentalists, and human rights activists in Brazil and beyond. What happens in South America’s largest country is globally significant since, among other reasons, the country contains most of the world’s largest tropical forest.

Under Lula, Brazil was able to reduce deforestation in the Amazon by 84% between 2004 to 2013 and expand indigenous rights and protection. Lula promised in his acceptance speech to work toward zero deforestation in the Amazon and to protect indigenous areas from the encroachment of mining companies and other interests. Great news.

Dozens of countries and hundreds of companies and financial actors have already made bold commitments to halt deforestation. For example, Unilever aims to achieve zero conversion of native ecosystems for palm oil, paper and board, tea, soy and cocoa by the end of 2023.

But, to date, such pledges have lacked any teeth in most at-risk areas. Famously, in 2014 the New York Declaration on Forests, a coalition of committed companies, countries, civil society and indigenous groups, pledged to eliminate commodity-driven deforestation by 2020. But in 2021 the group pushed back its deadline until 2030, and many deforestation activists are sceptical that this deadline will be achieved.

Thus far, even the most ambitious and well-implemented commitments have made little progress. Research colleagues and I published in October looked at the impact of the soy moratorium, a commitment by global traders and the Brazilian industry to stop purchasing soy produced on Amazonian forest lands cleared after 2006. Brazil’s huge soy industry is the second largest driver of deforestation after beef.

[Can Lula da Silva unite a divided Brazil? | In Focus podcast](#)

We found that deforestation directly for soy in the Amazon was reduced by 55% between 2006 and 2015. For many companies, this was a very useful achievement as it helped them meet their goals of not sourcing deforestation-linked soy.

Yet it did little to protect the Amazon overall since there are other drivers of deforestation and many forest areas with the potential to produce soy were not covered by the commitments. The total avoided deforestation amounted to only 1.6% of the deforestation in the Amazon and less than 1% of all of the deforestation in Brazil during the same period.

In fact, our other research published in September has shown that half of the avoided deforestation in the Amazon was offset by deforestation “leakage” into the Cerrado (a huge savanna region to the south and east of the Amazon) and other forest regions in Brazil.

Colleagues and I have also published research on similar commitments made by cattle companies, which are even less effective than those for soy. However, given the magnitude of

cattle-driven deforestation in the Amazon, such policies at least helped to avoid another 3% of Brazilian deforestation.

These deforestation reductions are meaningful. But they still leave us far from the goal of zero deforestation, which is needed to avoid potentially catastrophic tipping points in the Amazon.

There are three crucial reasons why these existing pledges have failed to do more to protect the world's tropical forests. First, existing commitments cover less than 50% of forests at risk in Brazil and likely an even smaller proportion of forests in other countries.

More companies that source deforestation-risk products, especially small and medium-sized enterprises, need to adopt zero-deforestation policies. Otherwise, farmers still have ample opportunities to sell their products grown on deforested lands and avoid committed companies.

Second, many of the companies that have made bold global commitments have yet to implement these policies outside of the Amazon and parts of Indonesia and face many implementation challenges to trace and monitor their products. This leaves a major portion of the world's tropical forests still at risk from agricultural expansion.

[Also Read | Giant, sustainable rainforest fish is now fashion in America](#)

Third, deforestation can leak across areas and actors within a region. For instance, when companies crack down on deforestation in only one ecosystem for only one commodity, deforestation for that commodity may simply increase in the area next door or shift to farms growing products not covered by the policy.

This is the case for the soy moratorium in the Amazon, which led to additional deforestation in the Cerrado. It is also the case for oil palm sustainability certification programs, which reduced deforestation in targeted areas in Kalimantan, Indonesia, but caused additional clearing of rainforest elsewhere in Borneo.

Lula's election is pivotal to filling these gaps, at least in Brazil. For instance, the new president plans to improve deforestation governance, which will make it much easier both politically and financially for companies to comply with or implement their zero-deforestation commitments. Supportive public policy may encourage more companies to commit in more regions of Brazil.

Lula also plans to significantly reduce the power of the Brazilian agricultural lobby, even if it will continue to control a large part of congress. The lobby has fought virulently against an expansion of zero deforestation efforts.

The new president can also help to implement Brazil's new payment for environmental services policy framework and channel resources towards jurisdictions that work with companies to help monitor and enforce zero deforestation. Finally, Lula will be able to attract more international finance to end deforestation in Brazil, which is a necessary complement to individual companies' supply chain policies.

With this momentum, zero deforestation in the Amazon may become a reality and inspire hope for other at-risk ecosystems throughout the world.

By Rachael Garrett Moran Professor of Conservation and Development, University of Cambridge (The Conversation)

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CSIR-NGRI TO INSTALL EARLY WARNING SYSTEM AGAINST FLOODS, ROCKSLIDES, AND AVALANCHES IN HIMALAYAN STATES

Relevant for: Environment | Topic: Disaster and disaster management

Water gushing down from the Chuflagad river after a cloudburst in Chamoli in 2019.-

The National Geophysical Research Institute (NGRI) of the Council of Scientific and Industrial Research has begun field studies to put in place an early-warning system in the Himalayan States against major and sudden floods, rockslides, landslips, glacier lake bursts and avalanches and to prevent Chamoli kind of disasters in future.

“Right now, we are able to detect the major events through geophysical and seismological observations, but are yet to demonstrate the minimum threshold or the maximum distance from which we can give an early warning of natural disasters, which are 10 times less intense than what happened at Chamoli, with the help of various instruments. Our scientists are working on those systems,” NGRI Director V.M. Tiwari said.

The scientists in the institute have identified a few locations in the higher reaches of Uttarakhand for “densification” of seismometers and river gauges to take the total number to 100 from 60. The objective is to closely monitor the river flows in specific areas along the catchment to detect any sudden rise in water levels or flooding threshold that can lead to a hazard. “A 5 cm of rainfall or a glacier melt may not be hazardous, but if there is a heavy rockfall or sudden lake burst, there could be massive flooding. What is the minimal level of time required and distance from which an early warning can be given will be assessed after discussions with the various stakeholders,” Mr. Tiwari said in an exclusive interaction.

Scientists have decided to take cognisance of the vibrations or “noise” recorded by the seismometers, which need not be due to earthquakes but can also be because of vehicular traffic, animal movement, rain, river flows and so on.

These instruments are crucial for the safety of large infrastructure projects and hydroelectric power plants in this region. Currently, scientists are able to detect and assess a sudden flow 30-40 km away since the seismic wave is faster than the flow, and hence, the advance warning comes at least half an hour before.

The NGRI has started utilising Machine Learning to detect these observations faster than the normal approach because time becomes crucial during a warning, he said.

“We are working on cost-effective measures. Although our instruments can withstand minus-20 degrees Celsius, they need fuel cells when there is no sunlight. We are going to start in a modest manner in Uttarakhand and parts of Arunachal Pradesh,” Mr. Tiwari said.

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UNION FINANCE MINISTER SMT. NIRMALA SITHARAMAN APPROVES INDIA'S FIRST SOVEREIGN GREEN BONDS FRAMEWORK

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman approves the final Sovereign Green Bonds framework of India. This approval will further strengthen India's commitment towards its Nationally Determined Contribution (NDCs) targets, adopted under the Paris Agreement, and help in attracting global and domestic investments in eligible green projects. The proceeds generated from issuance of such bonds will be deployed in Public Sector projects which help in reducing carbon intensity of the economy.

The Framework comes close on the footsteps of India's commitments under "*Panchamrit*" as elucidated by the Prime Minister, Shri Narendra Modi, at COP26 at Glasgow in November, 2021. The approval is fulfillment of the announcement in the Union Budget FY 2022-23 by the Union Finance Minister that Sovereign Green Bonds will be issued for mobilising resources for green projects.

Green bonds are financial instruments that generate proceeds for investment in environmentally sustainable and climate-suitable projects. By virtue of their indication towards environmental sustainability, green bonds command a relatively lower cost of capital vis-à-vis regular bonds and necessitates credibility and commitments associated with the process of raising bonds.

In the above context, India's first Sovereign Green Bonds framework was formulated and as per the provisions of the framework, Green Finance Working Committee (GFWC) was constituted to validate key decisions on issuance of Sovereign Green Bonds.

Further, CICERO, an independent and globally renowned Norway-based Second Party Opinion (SPO) provider, was appointed to evaluate India's green bonds framework and certify alignment of the framework with ICMA's Green Bond Principles and international best practices. After due deliberation and consideration, CICERO has rated India's Green Bonds Framework as 'Medium Green' with a "Good" governance score.

The report can be downloaded from the following link:

<https://dea.gov.in/sites/default/files/Framework%20for%20Sovereign%20Green%20Bonds.pdf>

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INDIA INSISTS ON HIGHER GLOBAL CLIMATE FINANCE TARGET BY 2024

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Developing countries require “substantive enhancement” in climate finance beyond the floor commitment of \$100 billion a year to meet their ambitious goals and rich countries need to lead the mobilisation of resources, India has stressed at the ongoing UN climate summit COP-27 at Sharm el-Sheikh in Egypt.

At the COP-15 held in Copenhagen in 2009, developed countries had committed to jointly mobilise \$100 billion a year by 2020 to help developing countries tackle the effects of climate change.

Rich countries, however, failed to deliver this finance.

Developing countries, including India, are pushing rich countries to agree to a new global climate finance target — also known as the new collective quantified goal on climate finance (NCQG) — which they say should be in the trillions of dollars, given that the costs of addressing and adapting to climate change have grown substantially.

“The commitment of \$100 billion made in 2009 by developed countries was not only minuscule given the scale of needs but has also not been achieved yet,” said the Indian delegation at a high-level ministerial dialogue on NCQG at COP-27 on Wednesday.

India said that climate actions to meet the nationally determined contributions (NDC) targets require financial, technological, and capacity-building support from developed countries, people aware of the developments said.

Citing the work of the Intergovernmental Panel on Climate Change (IPCC), India said rich countries are the major contributors to the carbon stock in the atmosphere. This fact underlies the importance of the core principles of the UN's Framework Convention on Climate Change (UNFCCC) and its Paris Agreement — equity and ‘common but differentiated responsibilities and respective capabilities’.

Estimated requirements

According to data from the Organisation for Economic Co-operation and Development (OECD), developed countries mobilised \$52.5 billion in 2013. After dropping to \$44.6 billion in 2015, the finance flow has steadily increased. In 2020, developed countries raised \$83.3 billion, a jump from the \$80.4 billion raised in 2019, according to a fact sheet published by the Centre for Science and Environment.

The Standing Committee on Finance has estimated that resources in the range of \$6 trillion to \$11 trillion are required till 2030 to meet the targets set by developing countries in their NDCs and other communications including the Needs Determination Reports.

The NDCs are national plans to limit global temperature rise to well below two degrees Celsius, preferably to 1.5 degrees Celsius.

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INDIA AT 75: MELTING GLACIERS, HEATWAVES AND CLIMATE CRISIS

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

The Ganga flows for around 2,500 kilometres (1,550 miles) across India. Image for Representation. | Photo Credit: PTI

From prime ministers and millionaires to labourers and ascetics, Hindu faithful dream of trekking at least once in their lives to Gaumukh, where the waters of India's holiest river, the Ganges, emerge from a Himalayan glacier.

But the ice at the end of the arduous journey is receding rapidly and portends an increasingly dry future for a country of 1.4 billion people facing existential challenges from climate change.

"It is quite astonishing, so quick and it is happening every day and every second," said Sheethal Vepur Ramamurthy, a researcher with Friedrich Schiller University in Jena, Germany.

"We can even see the glacier dripping," she told AFP at the site. "So, it is a harsh reality."

"Climate change definitely plays a role. Although people may deny it is happening in front of our eyes, we just have to witness it."

The Ganges flows for around 2,500 kilometres (1,550 miles) across India and is central to both Hindu identity -- believers revere it as "mother Ganga" -- and the survival of 500 million people who depend on its water for their daily farming, domestic and industrial needs.

Seventy-five years after independence, India has overtaken former coloniser Britain to become the world's fifth-largest economy.

It is also the world's third-biggest carbon emitter and second-biggest coal user.

Now, it is experiencing increasingly frequent droughts, floods and water shortages.

"The Ganges is our culture, heritage, identity, and if it disappears, so will our life and existence," said Sanjeev Semwal, 53, a Hindu priest in Gangotri, the town below the glacier.

Anything that impacts the river "should be a cause of worry for everyone", he told AFP.

His family have served for generations at the town's temple to Ganga, the goddess who personifies the river, on the banks of the meltwater stream.

With increasing prosperity and investment in infrastructure, hundreds of thousands of devotees now visit annually -- a far cry from the few hundred in his father's time.

[Also Read | Level of groundwater extraction lowest in 18 years, finds study](#)

"The human presence and the region's weather patterns have both changed in my lifetime," he said.

The area is a microcosm of India's wider changes: Gangotri town has been transformed by

construction in recent years, and is now packed with shops, tourist facilities, and traffic.

At the same time, the glacier of the same name has shrunk by 1.7 kilometres in 90 years, according to the Wadia Institute of Himalayan Geology.

Deadly natural disasters are becoming more frequent: at least 26 people died in an avalanche on the route to Gangotri in October.

A glacial burst in the region killed at least 72 people last year, and around 5,000 others died in 2013 when heavy rains led to flooding near another Hindu pilgrimage site.

India is one of the world's most water-stressed countries.

It has 17% of the world's population but only four per cent of its water resources, and the government's NITI Aayog public policy centre says about 600 million people already face "high to extreme water stress".

The UN Intergovernmental Panel on Climate Change said in February that food security and agriculture-dependent economies such as India were the "most vulnerable" to the impacts of global warming.

The country's rice production could fall by 10 to 30%, it projected, with maize dropping 25 to 70 percent in the face of rising temperatures, increasing groundwater scarcity and extreme weather patterns.

India saw its warmest March on record this year when a heatwave made life unbearable for hundreds of millions of people, with some poor districts of even the capital New Delhi only receiving tanker deliveries twice a week.

Poverty remains widespread in India and nearly 45% of households do not have piped water connections.

The country's outdated agricultural sector remains its biggest employer and water consumer, depleting groundwater resources through wells and pumps, and the environmental challenges have already forced farmers in some areas off their land.

The climate crisis "is not something we are going to face sometime in the future", said Manshi Asher of campaign group Himdhara.

"It is something that is already happening. The reason it is not evident is because people who bear the cost of the crisis are the most vulnerable and don't get heard in the media or by the planners."

If action was not taken, she added, "those who can -- privileged people -- will continue to live in their safe spaces while most others bear the brunt of water shortages and other impacts of climate crisis".

Coal-dependent India consumed about a billion tonnes of the dirty fuel in 2021. Three-quarters of it went to electricity generation in a new all-time high for the country, according to an International Energy Agency report in July.

New Delhi also plans to increase production by more than 50% in the next two years and relaxed environmental compliance rules for mines in May.

[Also Read | CSIR-NGRI working on early warning systems in Himalayan States](#)

Prime Minister Narendra Modi said India will cut its emissions to net-zero only by 2070 -- missing a key goal of last year's COP26 summit for countries to commit to doing so by 2050.

India and China were blamed for blocking a commitment to "phase out" coal at that gathering.

Modi is not attending the COP27 summit under way in Egypt, where India is demanding rich countries offer more financing to help developing nations deal with the impact of climate change and to adapt their economies.

Indian policymakers say fossil fuels power its economy that helps lift millions out of abject poverty, and that the country's per capita emissions are far lower than those of rich countries, as are its historical carbon contributions.

But environmentalists like Manoj Misra accuse policymakers of "not looking beyond the next election".

"They are not looking at the future and this shortsightedness is the problem," he said.

"Everyone wants to consume like the United States but where are the resources?" he asked. "We need to return to the Gandhian heart of small is beautiful and less is more."

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BEHIND THE SMOKE SCREEN AROUND PRIVATE CLIMATE FINANCE

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 14, 2022 12:16 am | Updated 02:04 am IST

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At the COP27 U.N. Climate Summit, in Sharm el-Sheikh, Egypt | Photo Credit: AP

Over the last few years, developed countries have insisted upon two points on the issue of climate finance. First, they maintain that their commitment to reaching the target of [\\$100 billion in climate finance a year](#) for developing countries, first promised in 2009, is close to being met. Second, they view the mobilisation of private finance as the critical component of climate finance henceforth. [John Kerry, the U.S. Special Presidential Envoy for Climate Change](#), and Mark Carney, the current UN Special Envoy on Climate Action and Finance and former Governor of the Bank of England, are the leading proponents of this view.

On several occasions, Mr. Kerry has said that the private sector can find solutions to climate change by funding the trillions needed for a global transition to clean energy. Mr. Carney has called for turning billions in public capital into trillions in private capital by scaling blended finance, catalysing stand-alone private capital flows, and building new markets. For developing countries to shape their policies based on these optimistic views is clearly challenging. How should developing countries respond to this?

Shortly before the ongoing [27th Conference of the Parties \(COP\)](#) of the UN Framework Convention on Climate Change (UNFCCC) began in Egypt on November 6, 2022, the UNFCCC Standing Committee on Finance (SCF) released a report on the progress made by developed countries towards achieving the goal of mobilising \$100 billion per year. The report makes two things clear — while estimates vary, it is widely accepted that the \$100 billion goal has not been achieved in 2020, and an earlier effort to mobilise private finance by the developed countries has met with comprehensive failure. The SCF report relied mainly on the Organisation for Economic Co-operation and Development (OECD) and Oxfam reports for aggregate climate finance trends. The OECD report claims that developed countries have mobilised \$83.3 billion in climate finance in 2020 (\$68.3 billion in public finance, \$13.1 billion in mobilised private finance and \$1.9 billion in export credits). The latest Oxfam report challenges this figure with the claim that the actual value of the OECD-claimed climate assistance of \$83.3 billion is only around \$21–\$24.5 billion. The Oxfam values are much lower as it discounts for the climate relevance of reported funds (that is funds actually targeting climate action) and grant equivalence (rather than cash face value). The OECD reports have also been criticised for the lack of transparency of information on mobilised private finance.

In 2016, based on OECD analysis, the developed countries issued a “Roadmap to USD100 billion”, with forward-looking projections of climate finance in 2020. The road map indicated that developed countries were on track to meet the goal by 2020, projecting that public finance would reach \$67 billion while the remaining \$33 billion would be provided by private finance under the assumption that mobilisation rates increased. The OECD 2020 data, however, shows that the mobilisation of private climate finance has underperformed against the expectations of developed countries falling short by 60 percentage points, \$13.1 billion in 2020 against \$33 billion in the road map. The SCF report notes that it is unclear to what extent this was due to a lower-than-expected potential to mobilise private finance or to the relatively lower proportion of projects with mobilisation potential in the overall climate finance portfolio.

Developing countries have for a long time insisted that a significant portion of climate finance should come from public funds as private finance will not address their needs and priorities especially related to adaptation. Climate finance already remains skewed towards mitigation and flows towards bankable projects with clear revenue streams. Adaptation is unlikely to offer commercially profitable opportunities for private financiers. Vulnerable, debt-ridden and low-income countries with poor credit ratings needing adaptation finance the most, find it challenging to access private finance.

Following the dismal failure to meet the \$100 billion goal, developed countries pushed the target year for achieving it to 2025 from 2020. Last year, at COP26 (Glasgow), developed countries came up with a [Climate Finance Delivery Plan \(CFDP\)](#) to meet the goal, again using the OECD report accounting framework and the 2016 road map, claiming this time that the goal would be met in 2023. The SCF report notes that when comparing the OECD-reported data for 2020 to the scenarios in the CFDP, while the aggregate total \$83.3 billion matches the low-end scenario for 2021, the mobilised private finance had fallen short by 6% compared to the scenario estimate. Further, in this scenario, both public and private finance segments would need to grow a further 21%-22% to meet the 2023 low-end estimate of \$101 billion. Whether this is possible is doubtful. Between 2019-20, mobilised private finance, as reported by the OECD, had in reality fallen by 9%.

Despite the attention-grabbing headlines in the media pushing private finance, the CFDP Progress Report released two weeks ago has a very different story to tell. It notes that “mobilizing private climate finance has proven to be challenging, and particularly limited for adaptation”. Further, although many developed countries and multilateral development banks have emphasised the importance of private finance mobilised in their climate finance strategies, including by de-risking and creating enabling environments, “these efforts have not yielded results at the scale required to tap into the significant potential for investments by the private sector and deliver on developed countries climate ambition”.

There are further assumptions in the CFDP scenarios that need to be laid bare. It assumes a private-public finance mobilisation ratio starting from 0.21 (0.21 unit of mobilised private finance per unit of public climate finance) in 2021 and ending with 0.177 in 2025, with the share of activities with low mobilisation potential rising from 30% in 2021 to 50% in 2025. This implies that the composition of public climate finance portfolios will progressively change towards a larger share of activities with low to no private finance mobilisation potential; this includes finance for adaptation, and capacity building, as grants, for least developed and small island developing countries. Thus, in these scenarios, financing the urgent adaptation needs of developing countries is pushed further into the future.

Therefore, addressing the urgent climate finance needs of developing countries cannot be left to the mercy of false promises of trillions of U.S. dollars in mobilised private climate finance. Many activities needing financing may have little or perhaps even no direct mobilisation potential. The

SCF report has rightly concluded that the mobilisation of private finance as a means of achieving the \$100 billion goal, should not come at the expense of, or involve a trade-off in addressing the needs of developing countries. Grant-based and concessional international public climate finance will continue to play the key role in addressing the needs and the priorities of developing countries, especially in the face of growing challenges due to extreme weather, food and energy crises.

Sreeja Jaiswal is a Humboldt International Climate Protection Fellow at the University of Heidelberg, Germany and a Consultant at the M.S. Swaminathan Research Foundation, Chennai

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SOME COUNTRIES HAVE RESISTED 1.5°C GOAL IN COP-27 TEXT, SAYS U.S.

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 13, 2022 12:00 am | Updated 05:43 am IST - SHARM EL-SHEIKH

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A few countries have resisted mentioning a global goal of limiting warming to 1.5°C in the official text of the COP-27 summit in Egypt, U.S. Special Climate Envoy John Kerry said at the conference on Saturday.

“You’re absolutely correct. There are very few countries, but a few, that have raised the issue of not mentioning this word or that word,” Mr. Kerry said when asked about opposition by some governments to mentioning the 1.5C target.

World governments agreed in 2015 during a UN summit in France to try to limit the average global temperature increase to 1.5°C, a deal dubbed the Paris Agreement that was seen as a breakthrough in international climate ambition.

Greenhouse gas emissions have been rising ever since, however, and scientists say the world risks missing the target without swift and deep cuts. Breaching the 1.5°C threshold risks unleashing the worst consequences of global warming.

Already, the world has warmed more than 1.1°C from the preindustrial average temperature — fueling extreme weather that is already delivering steep economic losses.

Many developing countries have demanded the establishment of a “loss and damage” fund that could disperse cash to countries struggling to recover from disasters.

Mr. Kerry said the United States would not support establishing such a fund, and instead believed existing platforms should be used. “It’s a well known fact that the U.S. and many other countries will not establish ... some sort of legal structure that is tied to compensation or liability. That’s just not happening,” he said.

Meanwhile, Mexico said it will strengthen its emissions-cutting efforts as part of a \$48 billion renewable energy investment scheme with the United States.

Separately, chants of “free them all” and “no climate justice without human rights” rang out between the halls of COP27 Saturday, in the largest protest since the UN climate summit began.

Jailed Egyptian dissident Alaa Abdel Fattah’s sister, Sanaa Seif, who is at the summit

campaigning for her brother's release, marched in the front line with hundreds behind her.

Seven months into a hunger strike, Abdel Fattah began refusing water last Sunday, as world leaders arrived in the Egyptian resort of Sharm el-Sheikh for COP-27.

(with AFP inputs)

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EXPLAINED

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 12, 2022 05:45 pm | Updated 07:43 pm IST

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Mangroves in Sunderbans. (File photo) | Photo Credit: AFP/Deshkalyan Chowdhury

The story so far: India joined the Mangrove Alliance for Climate on Monday, launched on the sidelines of the ongoing United Nations [Climate Summit](#) in Egypt. The alliance was launched by the U.A.E. and Indonesia, and India, Australia, Japan, Spain and Sri Lanka have joined it as partners.

“The integration of mangroves into the national programmes for reducing emissions from deforestation and forest degradation is the need of the hour. India can contribute to the global knowledge base due to its extensive experience in mangrove restoration, studies on ecosystem valuation and carbon sequestration,” Union Environment Minister Bhupender Yadav said.

Mangrove is a tropical tree, essentially adapted to thrive near the coastline, in brackish water and loose and wet soil. These trees cannot survive in colder temperatures.

A characteristic feature of mangroves is their tangled prop roots. These roots allow the trees to survive the daily tides and also capture sediments while slowing waterflow.

Estimated global mangrove extent for 2020 (in sq km) | Photo Credit: The State of the World's Mangroves 2022

Mangroves serve a multitude of purposes in their ecosystem, including coastal protection, filtration of water, and disaster risk reduction.

Mangrove forests stabilise coastlines, reduce erosion, encourage biodiversity growth, and shield coastal communities from sea-level rise, and natural disasters like hurricanes and cyclones.

The 2022 State of World's Mangroves Report, prepared by the Global Mangrove Alliance, finds that mangroves prevent more than \$65 billion in property damages and reduce flood risk to some 15 million people every year.

Carbon sinks: Mangroves are one of the most carbon-rich forests of the tropics, storing carbon from the atmosphere at up to four times the rate of terrestrial forests. This makes mangrove forests an indispensable tool in achieving the goal of net zero carbon emissions by 2050.

Part of this carbon is stored in living biomass, while part of it is sequestered in the soil. Dead

mangroves decompose very slowly due to waterlogging in the soil, making the accumulation of carbon in the soil last hundreds of years. The waterlogged soil is also a reason why mangroves hold more carbon than other forests, such as temperate or boreal ones.

According to *The State of the World's Mangroves Report*, mangrove forests store around 6.23 gigatonnes of carbon (with an error margin of +/- 2.3). This is equivalent to 22.86 gigatonnes of carbon dioxide, with 87% of that being soil carbon. The loss of even 1% of the remaining mangroves will equate to over 520 million barrels of oil or the annual emissions of 49 million cars in the U.S.

Mangrove carbon by country and continent with areas scaled to total carbon | Photo Credit: The State of the World's Mangroves 2022

Indonesia, Brazil, Nigeria, Australia, and Mexico hold 50% of the total world mangrove carbon, mainly due to their large mangrove areas. Variations in carbon concentrations are also affected by environmental conditions. This is the reason why Nigeria is placed third in global rankings, primarily due to its rich soil carbon, even though Australia and Mexico have more mangroves by area.

Ecosystems: Mangroves usually do not exist in isolation but support interconnected terrestrial, freshwater, and marine habitats (think Royal Bengal Tigers, river dolphins, and crocodiles, all within each other's vicinity in Sunderbans).

The roots of mangrove trees capture sediments, resulting in the formation of new, fertile lands. This process also ensures that offshore water is clearer, allowing marine life to thrive.

While mangrove creeks provide safe grounds for young fish, providing them food and protecting them from predators, they simultaneously provide rich feeding areas for predatory fish.

Disaster risk reduction: Not only do mangroves stabilise coastlines by holding sediments together but they also act as safety nets against storms and surges.

In tropical coastal areas, mangroves are the first line of defence against natural disasters like cyclones and hurricanes that originate in seas and oceans and impact land. Mangrove trees act as a buffer zone and arrest winds, slowing them down and hence minimising impact on land.

Mangrove ecosystems are home to a variety of fish. According to estimates, 4.1 million of the 52 million marine small-scale fishers worldwide fish in mangrove areas. This activity provides a critical source of jobs and protein to local, coastal communities. In Indonesia alone, mangroves are critical to an estimated 893,000 small-scale fishers. In Bangladesh and Nigeria, an estimated 82% and 89% of fishers respectively fish predominantly in and around mangroves.

Mangroves are also important resources for timber and fuelwood, when collected sustainably.

In India, mangroves are found in the Sunderbans, which are extremely rich in biodiversity. The area, transformed into a national park, is also home to threatened or endangered species like the Royal Bengal Tiger, fishing cats, macaques, leopard cats, wild boar, flying fox, pangolin, and Indian grey mongoose. The biodiversity hotspot attracts thousands of visitors every year, generating valuable revenue.

Agriculture, overfishing, and rapid urbanisation are some of the glaring threats to mangrove forests around the world. Indirect threats to mangroves include change in sedimentation rates and patterns, rising sea levels, and increase in pollutants, and these are often exacerbated by

human actions.

In Kenya, overreliance on mangroves for fuel because of a lack of affordable alternatives, pollution from land-based sources, and conversion of mangrove areas to other land uses such as salt mining or settlements pose serious threats to mangroves. Similarly, deforestation for fuel is the biggest threat to mangroves in Madagascar too.

Mozambique lost more than 6% of its mangrove cover in the last 20 years, mainly due to the extraction of wood resources and deforestation to create land for salt pans and urban settlements. Solar salt production, which involves clearing and selective logging, altering microhabitats and microclimates, is also a threat to mangroves.

In India's Sunderbans, salinisation, population pressure, and overexploitation are the primary threats to mangroves and the area's biodiversity. The Sunderbans are sandwiched between a densely populated, poor rural area and a rising sea. These climatic and demographic challenges contribute to the degradation of the immensely fertile land and the biodiversity hotspot.

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DROUGHTS, RISING SEA LEVELS, CUBA'S AGRICULTURE UNDER THREAT

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

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November 12, 2022 03:23 pm | Updated 10:29 pm IST - BATABANO, CUBA

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A man applies chemical products to crops to eliminate pests in Batabano, Cuba | File photo | Photo Credit: AP

Yordán Díaz Gonzales pulled weeds from his fields with a tractor until Cuba's summer rainy season turned them into foot-deep red mud.

Now, it takes five farmhands to tend to Mr. Díaz's crop that shrinks the Mr. Diaz's profit margin and lowers Cuba's agricultural productivity, already burdened by a U.S. embargo and an unproductive state-controlled economy.

Like the rest of the Caribbean, Cuba is suffering from longer droughts, warmer waters, more intense storms, and higher sea levels because of climate change. The rainy season, already an obstacle, has gotten longer and wetter.

"We're producing a lot less because of the weather," said Mr. Diaz, a 38-year-old father of two. "We're going to have to adapt to eating less because with every crop, we harvest less."

Mr. Diaz used to produce black beans, a staple of the Cuban diet and his most profitable crop. His black-bean production has dropped 70%, which he attributes to climate change. A month after Hurricane Ian hit Cuba, Mr. Diaz was farming malanga root, a Cuban staple that is more resilient to climate change, but less profitable than beans.

Agricultural workers clear weeds from a Malanga plantation in Batabano, Cuba | File photo | Photo Credit: AP

"We're just living in the present," Mr. Diaz said. "My future doesn't look very good."

Mr. Diaz used to buy supplies a year or two ahead of needing them but his earnings are so unpredictable now that he buys his supplies right before the harvest.

Agriculture has long been a relative bright spot in Cuba's struggling economy. The socialist government has had a relatively liberal hand with food producers, allowing them to pursue their economic interests more openly than others in Cuba.

Cuba has ample sun, water and soil, the basic ingredients needed to grow plants and feed animals. By changing the way nature functions in the Caribbean, however, climate change is tinkering with the raw elements of productivity.

When Hurricane Ian hit Batabanó, about an hour south of Havana, it flooded fisherman Orbelis Silega's home and destroyed his fridge and TV. He was already struggling due to reduced fish stocks.

"The house was halfway full of water," said Mr. Silega, 54. "Everything was underwater."

Cubans are leaving the island in the highest numbers in decades.

American authorities encountered nearly 221,000 Cubans on the U.S.-Mexico border in fiscal year 2022. It was a 471% increase from the year before, according to U.S. Customs and Border Protection.

As with everything in Cuba, the outflow is being driven by a complex mix of domestic management of politics and the economy, and relations with the U.S. and other countries.

A part of what's driving the flow is climate change, which cost Cuba \$65.85 billion in gross domestic product between 1990 and 2014 alone, 9% of its total GDP, according to Dartmouth College.

"Caribbean economies, tourism, agriculture and fishing, are at the forefront" of climate change, said Donovan Campbell, a climate-change expert at Jamaica's University of the West Indies.

The \$2 to \$3 that farm hand Romelio Acosta earns for 10 hours of work isn't enough to pay his expenses.

"Right now there's no money and there's no food," said Mr. Acosta, 77. "Everything is more expensive than people's salaries can pay for."

A Category 3 hurricane, Ian ravaged western Cuba at the end of September, killing three people, destroying 14,000 homes, damaging the power network and destroying Cuba's most-valued tobacco fields.

A man attempts to recover material damaged during Hurricane Ian from a tobacco house in Pinar del Rio province, Cuba, on October 13, 2022. | Photo Credit: AFP

Cuba was already in one of its worst economic, political and energy crises in decades, thanks to the coronavirus pandemic and the Russian war with Ukraine, among other factors.

Cuba had said that it would get nearly a quarter of its energy from renewable sources by 2030. But so far the country gets little more than 5% of its energy from renewables and still depends on oil from allies Venezuela and Russia.

The U.S. trade embargo "impedes us from accessing the resources we could have that would make it possible for us to recover from these events as quickly as possible," said Adianez Taboada, vice minister of Cuba's Science, Technology and Environmental Ministry.

Around Batabanó, the coastal town hit by Ian, mattresses soaked by the storm still hang on the wobbly wooden houses.

“You try to salvage what you can,” Mr. Silega, the fisherman, said.

Life was already hard for him due largely to climate change, he said. Rising global temperatures ravage coral reefs, key marine ecosystems.

“This town without fish is nothing. The best fish, the ones that still appear, you have to go much further to find them,” said Mr. Silega.

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IN DRY, UNRELIABLE WEATHER, INDIAN FARMERS RESTORE ARID LAND

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 12, 2022 02:46 pm | Updated 02:48 pm IST - ANANTAPUR, (A.P.)

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Farmer Ramesh Hanumaiya displays soil with earthworms in it in Anantapur district in the southern Indian state of Andhra Pradesh, India. | Photo Credit: AP

Ramesh Hanumaiya digs a few inches into his field with his hand and examines the soil. There is movement in the thick, brown earth: Tiny earthworms being disturbed from their homestead.

A handful of dirt filled with earthworms might not seem like much, but it's the result of seven years' work. "This soil used to be as hard as a brick," said 37-year-old Mr. Ramesh. "It's now like a sponge. The soil is rich with the nutrients and life that's needed for my crops to grow on time and in a healthy way."

Like Mr. Ramesh thousands of other farmers in Anantapur, a district in the southern Indian state of Andhra Pradesh, have taken to what's known as regenerative agricultural practices. Techniques like using natural fertilisers and planting crops alongside trees and other plants have been successful at combating desertification, the process of once-fertile ground turning into dust. Climate change is exacerbating the loss of arable land as temperatures rise and rainfall becomes more irregular.

Ramesh Hanumaiya, a farmer, cuts grass at his farm in Thammaiyya Doddi village in Anantapur district in the southern Indian state of Andhra Pradesh, India | Photo Credit: AP

Described by the United Nations' desertification agency as one of the greatest threats to human society, it's estimated that over 40% of the world's land is already degraded. Around 1.9 billion hectares of land, more than twice the size of the United States, and roughly 1.5 billion people globally are affected in some way by desertification, according to U.N. estimates.

"It was always a dry region but we knew when it will rain and people used to farm accordingly," said 69-year-old Malla Reddy, who runs a non-profit that encourages natural farming practices in the region. "Now what's happening is that the rainfall can happen at any season, farmers are unable to predict this and many a time lose their crops," he said.

Hotter temperatures also mean water is evaporating quicker, leaving less in the ground for thirsty crops.

Mr. Reddy's non-profit works with over 60,000 farmers across 300,000 acres of land in the district, supporting individual farmers to restore unproductive land across the entire region.

Most Indian farmers rely on rain-fed agriculture, with about 70 million hectares — about half of all farmed land in India — dependent on downpours. These lands are also the ones most subject to poor agricultural methods, such as excessive use of chemical fertilisers, over tilling and mono-cropping, the practice of planting just a single crop each year, experts say.

Mr. Reddy, the director of Accion Fraterna Ecology Centre, and the farmers his organisation supports use methods known as natural farming and agroforestry to avoid spoiling the land. Natural farming replaces all chemical fertilisers and pesticides with organic matter such as cow dung, cow urine and jaggery, a type of solid dark sugar made from sugarcane, to boost soil nutrient levels. Agroforestry involves planting woody perennials, trees, shrubs and palms alongside agricultural crops.

And while most other farmers in the region either grow groundnuts or paddy using chemical fertilisers, natural farmers grow a variety of crops. Multi-cropping ensures that soil nutrients are periodically restored, as opposed to distinct seeding in harvesting seasons, Mr. Reddy said.

For other farmers in the area, much of the land is becoming unusable for cultivation because of the extensive use of chemical fertilisers, pesticides, and weedicides.

"Every week there are many trucks with speakers cruising through our villages, asking farmers to buy this pesticide or that weicide. Their marketing is incredible and farmers get fooled," says E.B. Manohar, a 26-year-old natural farmer in the village of Khairevu, also in Anantapur district.

E. B. Manohar farmer sprays natural fertilizer on his crop at his farm in Khairevu village in Anantapur district in the southern Indian state of Andhra Pradesh, India | Photo Credit: AP

Mr. Manohar quit his job as a mechanical engineer in Bengaluru, sometimes called "India's Silicon Valley," to take up natural farming in his home town. On his farm he grows tomatoes, chilies and cabbage, among other crops and vegetables.

"I have also started supplying natural fertiliser and weicide to other farmers in my village," Mr. Manohar said. "Since they have seen that my investment is low and my returns are good, more and more people are getting interested in trying this out," he added.

But for efforts like Mr. Manohar's and Mr. Reddy's to make a national impact, experts say these initiatives need to be rolled out on a wider scale.

"Desertification is among the biggest challenges facing India," said N.H. Ravindranath, who helped author several U.N. climate reports and has researched desertification in the country for the last two decades. He said that although the land restoration work in Anantapur is commendable, scaling up is the real challenge.

E. B. Manohar farmer applies cow dung, a natural fertilizer on his crop at his farm in Khairevu village in Anantapur district in the southern Indian state of Andhra Pradesh, India | Photo Credit: AP

"We need serious financing for climate adaptation and government policies that encourage restoration. These are the only things that will make this impact on scale," he added. Money for adapting to harsher weather conditions has long been discussed at U.N. climate conferences

like COP27, as the effects of climate change make it harder for many to sustain their livelihoods. Some funding for vulnerable nations has been promised but much of it hasn't been fulfilled.

Around 70% of all land in the world is already converted by humans from its natural state for food production and other purposes and around one in five of those converted hectares are already degraded, said Barron Joseph Orr, lead scientist at United Nations Convention to Combat Desertification.

"We've lost productivity in those lands, so we're undercutting what we've converted. So we've got a big problem here," Mr. Orr said. "We need to incentivise sustainable land management for small farmers and herders. In our conventional form of farming, we're dependent on chemical fertilisers, which works, but it basically short circuits the natural processes in the soil which stops it from regenerating, making it unusable in the long run," he added.

Mr. Orr also added that land restoration can prevent planet-warming gases from escaping degraded ground and going into the atmosphere.

Back in Anantapur, Ajantha Reddy, a 28-year-old natural farmer tends to his sweet lime crops. Sweet limes require farmers to wait for many years before they can see any return on their labor and investment. Reddy is not worried, though.

"The trees have grown in 17 months as much as I would have expected them to grow in four years," he said as he trimmed his fruit crops. Mr. Reddy quit his job as a software engineer in Bengaluru during the COVID-19 pandemic and returned to his village in Anantapur to farm.

For Mr. Reddy, the satisfaction of seeing his crops and his home town thrive are a big enough incentive to continue natural farming practices for the foreseeable future.

"I have no intention of going back to Bangalore. When I came home during the pandemic, I thought, 'why should I go and work for someone else? I have land to cultivate and I could give livelihood to a few people,'" he said. "That thought made up my mind."

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"IN OUR LIFETIME" CAMPAIGN LAUNCHED BY INDIA AT COP 27, SHARM EL-SHEIKH

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

National Museum of Natural History (NMNH), under the Ministry of Environment Forest and Climate Change and United Nations Development Programme (UNDP), jointly launched "In Our LiFEtime" campaign to encourage youth between the ages of 18 to 23 years to become message bearers of sustainable lifestyles. This campaign envisions to recognize youth from around the world taking climate action initiatives that resonate with the concept of LiFE. This was launched in a side event at the India Pavilion at COP 27, Sharm El-Sheikh.



Addressing the gathering at the India Pavilion at COP 27, Shri Bhupender Yadav, Union Minister for Environment Forest and Climate Change said, "One of the key stakeholders are the youth of today. Developing an understanding of the LiFE among the younger generations is essential for fostering responsible consumption patterns and influencing the lifestyle choices of the generations to come to make them Pro-Planet-People."

The campaign gives a global call for ideas from youth across the world who are passionate about living environment conscious lives. The youth will be encouraged to submit their climate actions that contribute to lifestyles for the environment within their capacity, which are sustainable and scalable, and serve as good practices that can be shared globally. For detailed information on the campaign click [here](#).

Speaking on this occasion, Shri Bhupender Yadav further said-

“Across several regions in India, there are many examples where our youth have demonstrated a strong will to carry forward the centuries old traditions where their daily lifestyles have been respecting, preserving and nurturing environment.

The young people are adept at popularising new habits; embracing technologies and are best placed to contribute to the fight against climate change. The youth need to make low- carbon career choices and adopt such lifestyles as a part of their everyday life.

I strongly feel that youth should be encouraged to take an active part in the decision-making at local, national and global levels. They can actively support initiatives that will lead to the passage of far-reaching legislation.

In Our LiFEtime campaign is a great way to encourage youth to become the ambassadors of sustainable lifestyle practices and grow into leaders that lead the way in biodiversity conservation and natural resource management.

The campaign will involve more youth in the conversation about climate change, adaptation and mitigation, and provide them a platform to share their concerns, issues and solutions with the leaders of the world.

It will amplify the voices of the youth who are increasingly climate conscious and provide recognition to young climate champions.

I look forward to hearing about the climate action journey and stories of change brought about by young people from around the world, and I hope that they inspire their families, communities, and citizens across the globe to become active participants in our journey towards net zero.”

For full text of the Minister's speech click [here](#)

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UNION MINISTER FOR ENVIRONMENT FOREST AND CLIMATE CHANGE PARTICIPATES IN BASIC MINISTERIAL MEET AT COP 27

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Ministers of Brazil, South Africa, India and China representing the BASIC Group met today at the 27th Conference of Parties to the United Nations Framework Convention on Climate Change (COP 27) in Sharm el-Sheikh, Egypt. Ministers pledged their full support to the Egyptian COP27 Presidency for a successful conference, which should deliver an ambitious, equitable and balanced outcome, including substantial progress towards the establishment of a finance mechanism for Loss and Damage. The principle of common but different responsibilities and respective capabilities, in light of national circumstances was emphasised.

Ministers highlighted that despite the enormous developmental challenges and pressures of poverty eradication at a time of global economic downturn and economic recovery, the BASIC countries continue to lead from the front on climate change actions, in the context of their overarching sustainable development imperatives.

Speaking on this occasion Union Minister Shri Bhupender Yadav said:

“Colleagues,

It gives me immense pleasure to meet with you at COP27 at a crucial juncture for this conference. Our host and the COP President, the Arab Republic of Egypt, have worked tirelessly to make this COP a success.

This COP has been rightly named the COP of Implementation. As BASIC countries, we have always been for action. Unfortunately, promises, either for 2030 or 2050, have been the dominant narrative that developed countries have sought to establish. At this COP, we have been active in promoting action in key areas of relevance particularly to the majority of the vulnerable populations of the world. Adaptation and loss and damage have been of particular importance to us in this regard.

But the focus is always on mitigation, in one way or the other. So, I wish to elaborate on issues related to mitigation briefly. First of all, I am happy to inform you that India is submitting its Long-Term Low-Carbon Development Strategy to the UNFCCC, which I released yesterday at our India Pavilion here at COP27.

Our low-carbon development strategy details, across seven sectors, all the actions that we are currently pursuing, in order to enable us to achieve our NDC goals by 2030. We have not focused on targets. We recognize that various factors may shift targets, including the development of technology, global economic and geopolitical trends and the extent of international cooperation. There are of course inevitable risks in the long journey to net zero. But focusing on a range of immediate actions enables us to be confident that our way forward will evolve suitably, while taking into account changing circumstances.

Our initiatives include the continued expansion of renewables and the strengthening of the grid, rational utilization of our fossil fuel resources, promoting e-vehicles through major initiatives, steady increase of bio-fuel blending in petrol and diesel, and expansion of our energy efficiency across sectors and drawing in more industrial units. We have a visionary initiative in green

hydrogen as the fuel of the future.

Colleagues, we have already brought many of these initiatives to the stage of implementation. Our annual financial budget this year, for 2022-23 provides a number of examples of the efforts we are making, using our own resources in the absence of climate finance. Recognizing the critical role of solar power, the budget has sharply increased the production linked incentive for domestic integrated solar manufacturing facilities from last year's allocation of Rs4500 crores to Rs, 19,500 crores. In a forward-looking initiative, energy storage systems, including grid-scale battery systems are to be given infrastructure status.

Our rational utilization of our fossil fuel resources can also be seen in the initiatives in our budget. The first is the introduction of co-firing in all thermal power plants with biomass pellets as fuel, taking forward the current initiatives that are already under way in this respect. The use of biomass pellets in thermal power plants will not only reduce carbon emissions but also provide additional earnings for farmers, animal keeper and help reduce the incidents of stubble burning. The second is the renewed attention to coal, through four pilot plants for coal gasification and the conversion of coal into chemicals for industry that will establish technical and financial viability.

To drive the wide range of the proposed initiatives across the range of environment, sustainability and climate action, the budget announced that government would issue sovereign Green Bonds, as a part of government's overall market borrowings in 2022-23, for mobilizing resources for green infrastructure. The proceeds are to flow to public sector projects which help in reducing the carbon intensity of the economy. For encouraging important sunrise activity such as climate action, the government is to promote thematic funds for blended finance with the government share being limited to 20 per cent and the funds being managed by private fund managers.

While making such determined efforts, well beyond our share of responsibility, in undertaking climate action, India would like to reiterate its position on two key issues. The first is equity and climate justice. India holds that all countries are entitled to their fair share of the global carbon budget and must stay within this in their cumulative emission. Physical access to the remaining carbon budget must be provided by developed countries reaching net zero much earlier than their current target dates. Also access to the fair share of the full budget must be provided. This can be done through extensive negative emissions and monetizing the carbon debt of the developed countries.

Second, we must clarify our view of Just Transition. Just transition cannot mean de-carbonization for all countries. For India, just transition means transition to a low-carbon development strategy over a time scale that ensures food and energy security, growth and employment, leaving no one behind in the process. Any partnership with developed countries, in our view, must be based on these considerations.

At COP27, we must once again impress on our developed country partners that actions are the key and not mere promises. One pledge after another, with several such pledges per COP, are not necessarily fruitful. Measuring progress through actions that then lead to direct emissions reduction – this is what the developed countries ought to demonstrate to the world. In climate action, no sector, no fuel source and no gas should be singled out for action. In the spirit of the Paris Agreement, countries will do what is suitable as per their national circumstances.

With these words, I once again convey my greetings to all of you on the occasion of our meeting here at COP27.”

For BASIC Ministerial Joint Statement [click here](#).

HS/SSV

Ministers of Brazil, South Africa, India and China representing the BASIC Group met today at the 27th Conference of Parties to the United Nations Framework Convention on Climate Change (COP 27) in Sharm el-Sheikh, Egypt. Ministers pledged their full support to the Egyptian COP27 Presidency for a successful conference, which should deliver an ambitious, equitable and balanced outcome, including substantial progress towards the establishment of a finance mechanism for Loss and Damage. The principle of common but different responsibilities and respective capabilities, in light of national circumstances was emphasised.

Ministers highlighted that despite the enormous developmental challenges and pressures of poverty eradication at a time of global economic downturn and economic recovery, the BASIC countries continue to lead from the front on climate change actions, in the context of their overarching sustainable development imperatives.

Speaking on this occasion Union Minister Shri Bhupender Yadav said:

“Colleagues,

It gives me immense pleasure to meet with you at COP27 at a crucial juncture for this conference. Our host and the COP President, the Arab Republic of Egypt, have worked tirelessly to make this COP a success.

This COP has been rightly named the COP of Implementation. As BASIC countries, we have always been for action. Unfortunately, promises, either for 2030 or 2050, have been the dominant narrative that developed countries have sought to establish. At this COP, we have been active in promoting action in key areas of relevance particularly to the majority of the vulnerable populations of the world. Adaptation and loss and damage have been of particular importance to us in this regard.

But the focus is always on mitigation, in one way or the other. So, I wish to elaborate on issues related to mitigation briefly. First of all, I am happy to inform you that India is submitting its Long-Term Low-Carbon Development Strategy to the UNFCCC, which I released yesterday at our India Pavilion here at COP27.

Our low-carbon development strategy details, across seven sectors, all the actions that we are currently pursuing, in order to enable us to achieve our NDC goals by 2030. We have not focused on targets. We recognize that various factors may shift targets, including the development of technology, global economic and geopolitical trends and the extent of international cooperation. There are of course inevitable risks in the long journey to net zero. But focusing on a range of immediate actions enables us to be confident that our way forward will evolve suitably, while taking into account changing circumstances.

Our initiatives include the continued expansion of renewables and the strengthening of the grid, rational utilization of our fossil fuel resources, promoting e-vehicles through major initiatives, steady increase of bio-fuel blending in petrol and diesel, and expansion of our energy efficiency across sectors and drawing in more industrial units. We have a visionary initiative in green hydrogen as the fuel of the future.

Colleagues, we have already brought many of these initiatives to the stage of implementation. Our annual financial budget this year, for 2022-23 provides a number of examples of the efforts we are making, using our own resources in the absence of climate finance. Recognizing the critical role of solar power, the budget has sharply increased the production linked incentive for domestic integrated solar manufacturing facilities from last year's allocation of Rs4500 crores to Rs, 19,500 crores. In a forward-looking initiative, energy storage systems, including grid-scale battery systems are to be given infrastructure status.

Our rational utilization of our fossil fuel resources can also be seen in the initiatives in our budget. The first is the introduction of co-firing in all thermal power plants with biomass pellets as fuel, taking forward the current initiatives that are already under way in this respect. The use of biomass pellets in thermal power plants will not only reduce carbon emissions but also provide additional earnings for farmers, animal keeper and help reduce the incidents of stubble burning. The second is the renewed attention to coal, through four pilot plants for coal gasification and the conversion of coal into chemicals for industry that will establish technical and financial viability.

To drive the wide range of the proposed initiatives across the range of environment, sustainability and climate action, the budget announced that government would issue sovereign Green Bonds, as a part of government's overall market borrowings in 2022-23, for mobilizing resources for green infrastructure. The proceeds are to flow to public sector projects which help in reducing the carbon intensity of the economy. For encouraging important sunrise activity such as climate action, the government is to promote thematic funds for blended finance with the government share being limited to 20 per cent and the funds being managed by private fund managers.

While making such determined efforts, well beyond our share of responsibility, in undertaking climate action, India would like to reiterate its position on two key issues. The first is equity and climate justice. India holds that all countries are entitled to their fair share of the global carbon budget and must stay within this in their cumulative emission. Physical access to the remaining carbon budget must be provided by developed countries reaching net zero much earlier than their current target dates. Also access to the fair share of the full budget must be provided. This can be done through extensive negative emissions and monetizing the carbon debt of the developed countries.

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For BASIC Ministerial Joint Statement [click here](#).

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LEADIT SUMMIT 2022 HOSTED BY INDIA AND SWEDEN AT COP27, SHARM EL SHEIKH, EGYPT

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Highlights:

India and Sweden hosted the LeadIT Summit, today, on the side-lines of COP27. The LeadIT (Leadership for Industry Transition) initiative focuses on low carbon transition of the hard to abate industrial sector. Minister of Environment, Forest and Climate Change, India, Shri Bhupender Yadav, Minister for Climate and the Environment, Sweden, Ms. Romina Pourmokhtari and the Minister for International Cooperation, Egypt, Ms. Raina Al-Mashat participated in the event.



Union Minister Shri Bhupender Yadav at the LeadIT Summit 2022 at COP 27

During the opening address Minister, Shri. Bhupender Yadav talked about the activities of LeadIT with a special focus on the road mapping exercise that was undertaken for the cement and steel sector in India. He mentioned that going forward, similar exercises are expected to be taken up in other member countries of LeadIT. He also emphasised that co-development is the only option to meet the targets that the world has taken for itself and without it, low carbon transition could be delayed by decades.

“The low carbon transition of the industrial sector will not only contribute towards the reduction in required greenhouse gas emissions. It has several co-benefits that include increasing resilience to changes in climate, enhanced energy security, innovation, socio-economic development and job creation”, Shri

Bhupender Yadav.

He also highlighted that the current phase of LeadIT is set to conclude in 2023 and the next year is the time to reflect on the performance and achievements so far. Also, the post-2023 process needs to be deliberated on to identify the priorities in a consultative manner.

The event included roundtable discussions that focussed on finance and other cross-sectoral issues. The LeadIT members that include countries and companies, shared their initiatives in the industry sector and views on the requirements for successful low-carbon transitions.

The summit concluded with the adoption of the summit statement by the members of LeadIT which re-emphasized the commitment to continue pursuing the low-carbon transition of the industry. The members also committed to providing technical assistance to new members and emerging economies. The importance of de-risking investments in the transition of heavy industries in emerging and developing countries was also highlighted.

The summit was followed by the public launch of the LeadIT Summit Statement 2022 in the India Pavilion at COP27. The public launch witnessed a wide participation including from government representatives, industry, media and civil society.

About LeadIT:

The Leadership Group for Industry Transition (LeadIT) gathers countries and companies that are committed to action to achieve the Paris Agreement. It was launched by the governments of Sweden and India at the UN Climate Action Summit in September 2019 and is supported by the World Economic Forum. LeadIT members subscribe to the notion that energy-intensive industry can and must progress on low-carbon pathways, aiming to achieve net-zero carbon emissions.

For full text of the Minister's speech click [here](#).

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For full text of the Minister's speech click [here](#).

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WHO SHOULD PAY FOR CLIMATE DAMAGE?

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 16, 2022 10:06 pm | Updated 10:06 pm IST

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Emissions rise from the Jeffrey Energy Center coal power plant in Kansas, United States in 2021. | Photo Credit: AP

The story so far: At the G-20 summit in Bali, rich nations including the U.S., Japan and Canada have pledged \$20 billion to wean Indonesia off coal. The U.S. and Japan have led the International Partners Group to mobilise funds from the public and private sector to support Indonesia's efforts to reach carbon neutrality by 2050. But a lot more needs to be done, and in that context it is significant that at the ongoing Climate Change Conference (COP27) in Egypt, compensation against loss and damage due to climate change is finally on the main agenda, unlike previous years.

Between 1900 and now, developed countries have benefitted from industrial development, which also led to greenhouse gas (GHG) emissions. Developing countries were relatively late in starting out on economic development. They may be contributing to emissions now, but that is a weak reason to ask them to stop economic development. A farmer in rural Africa can claim that his country has not added to emissions historically, but because of the U.S. or Russia's industrialisation, his agriculture yields are declining. Or an urban worker in South America has to work, without choice, in unforgiving heat wave conditions caused by the developed world's emissions of the past. Therefore, options like financing the developing or underdeveloped countries by the developed world have been discussed.

But as a popular newsletter *Finshots* asked, who decides who should pay whom and how much? Ourworldindata.org cites data from the Global Carbon Project to show that between 1751 and 2017, 47% of the CO2 emissions came from the U.S. and the EU-28. In total, just 29 countries.

A paper published by *Springer Link* under the Climate Change umbrella earlier this year shows that emissions attributable to the U.S. over 1990-2014 caused losses that are concentrated around 1–2% of per capita GDP across nations in South America, Africa, and South and Southeast Asia, where temperature changes have likely impacted labour productivity and agricultural yields.

But emissions may have also helped a few countries, such as those in Northern Europe and Canada. Moody's Analytics estimates that by the middle of the century, Canada would see a rise in GDP of 0.3% (about \$9 billion a year) as warmer climates spur agriculture and labour productivity. The Canadian Climate Institute cautioned that such a claim was not wholly true and

that other factors must be considered. For example, climate change-spurred floods could cost Canada \$17 billion annually by 2050.

In these war of words, the only certainty is the fast-approaching calamity. The UN Environment Programme's annual emissions gap report for 2022 released late last month said the "international community is falling far short of the Paris goals, with no credible pathway to 1.5°C in place. Only an urgent system-wide transformation can avoid climate disaster.... The world must cut emissions by 45% to avoid global catastrophe."

The report says that India is among the top seven emitters (others being China, the EU-27, Indonesia, Brazil, the Russian Federation and the U.S.). These seven, plus international transport, accounted for 55% of global GHG emissions in 2020. Collectively, G-20 members are responsible for 75% of global GHG emissions.

If we seek economic development, some GHG emissions are unavoidable. But, put in the context of India's population, its emissions are far lesser per head, than for others. World average per capita GHG emissions were 6.3 tonnes of CO₂ equivalent (tCO₂e) in 2020. The U.S. is way above this level at 14, followed by 13 in the Russian Federation and 9.7 in China. India remains far below the world average at 2.4.

In addition to last year's pledge of net-zero emissions by 2070, India has also committed to generate 500 GW of renewable energy capacity by 2030, bringing down emission intensity of GDP, as also raising forest cover. Last year, India was responsible for the wording of the agreement on coal. It was changed from "phase-out" to "phase-down" of coal — which reflects the country's ground realities of large energy requirements, met predominantly by thermal power, to spur economic development.

In sum, the headlines that dominated the first week of the COP27 summit showed that there has been little sign of a concerted effort the world over to keep emissions low so as to retain global warming within the 1.5°C range.

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LULA OFFERS TO HOST 2025 U.N. CLIMATE TALKS IN BRAZIL'S AMAZON RAINFOREST

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 16, 2022 09:43 pm | Updated 10:09 pm IST - Egypt

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Brazil's Luiz Inacio Lula da Silva

Brazil's Luiz Inacio Lula da Silva received a warm welcome at the COP27 summit in Egypt on Wednesday, where he pledged to recommit the rainforest nation to tackling the climate crisis and offered to hold future U.N. climate talks.

"I am here to say to all of you here that Brazil is back in the world," he said, speaking at an event alongside governors of Brazilian Amazon states.

A leftist who won his third term in office last month, Lula said he would seek to make Brazil the host of COP30 in 2025 and would aim to put the venue in the Amazon rainforest, rather than the more populous coastal region.

The country had been set to host the annual U.N. summit in 2019, until Lula's predecessor — right-wing President Jair Bolsonaro — refused to go ahead with it.

"It's important for it to be in the Amazon. It's important for the people who defend the Amazon, the people who defend the climate, to closely get to know what the region is," said Lula, who is due to take office in January.

Brazil's 1992 Earth Summit in Rio de Janeiro set the stage for all major international environmental agreements since, with the signing of U.N. Framework Convention on Climate Change, which is aimed at preventing extreme climate change and was the foundation of the COP meetings.

Lula's choice to make the COP27 summit the focus of his first international visit since being elected to the presidency last month has helped to energize this year's talks in the Red Sea resort town of Sharm el-Sheikh.

Hundreds of people crowded into the exhibition hall, chanting "Lula! Lula!" before the event began.

Arriving with a light security detail, Lula walked to the edge of the crowd, reaching out to shake outstretched hands. He was guided by governor Helder Barbalho of Para, the Brazilian state

with the highest rate of deforestation.

"It's very positive that he's coming here as president-elect because the current president never came to COPs," said Carlos Nobre, a climate scientist at the University of São Paulo.

He said Lula would turn around Brazil's environmental policies "180 degrees" from those of Bolsonaro.

Lula won office last month over Bolsonaro, who appointed climate skeptics as ministers and saw deforestation in Brazil's Amazon rainforest spike to a 15-year high.

Lula reduced deforestation to near record lows in his first presidency from 2003 to 2010. For his new administration, he has promised a sweeping plan to restore environmental law enforcement that eroded under Bolsonaro and create green jobs.

On Tuesday, Lula met U.S. Climate Envoy John Kerry and China's chief climate negotiator Xie Zhenhua. He was expected to meet EU climate policy chief Frans Timmermans on Wednesday.

On Thursday, Lula will meet with civil society and indigenous groups, as well as United Nations Secretary-General Antonio Guterres. He departs on Friday for Portugal to meet government authorities there.

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COP27

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 16, 2022 09:16 pm | Updated November 17, 2022 09:21 am IST - NEW DELHI

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Environment Minister Bhupender Yadav during the BASIC (Brazil, South Africa, India and China) Ministerial meeting on the sidelines of COP27 climate conference in Egypt. Photo: Twitter/@byadavbjp

With the [27th edition of the Conference of Parties \(COP\) in Sharm El Sheikh](#) nearing its final stages and efforts being ramped up to arrive at a conclusive agreement, a consortium of countries that includes India has jointly stated that carbon border taxes, that could result in market distortion and aggravate the trust deficit amongst parties, must be avoided.

The European Union has proposed a policy — called the [Carbon Border Adjustment Mechanism](#) — to tax products such as cement and steel, that are extremely carbon intensive, with effect from 2026.

BASIC, a group constituting Brazil, India, South Africa and China, and therefore large economies that are significantly dependent on coal, has for several years voiced common concerns and reiterated their right to use fossil fuel in the interim during their countries' eventual transformation to clean energy sources.

“Unilateral measures and discriminatory practices, such as carbon border taxes, that could result in market distortion and aggravate the trust deficit amongst Parties [signatory countries to the United Nations climate agreements], must be avoided. BASIC countries call for a united solidarity response by developing countries to any unfair shifting of responsibilities from developed to developing countries.”

Their joint statement on Wednesday expressed “grave concern” that developed countries were still not showing leadership or responding with a matching progression of effort. Developed countries had “backtracked on finance and mitigation commitments and pledges” and there was a “significant increase” in the consumption and production of fossil fuels in the past year by developed countries, their statement underlined, even as they continue to press developing countries to move away from the same resources. “Such double standards are incompatible with climate equity and justice.”

COP27 | [India thwarts attempt to club it with historical polluters](#)

They said that adaptation was still not being accorded the balanced and substantive attention they deserved in the U.N. climate framework process, despite the opportunities and linkages

with “loss and damage.” The latter refers to a demand by developing countries to have an institutional system to finance countries affected by climate change for the environmental damage that has already occurred.

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THE LEOPARDS OF NORTH BENGAL TEA GARDENS

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

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November 18, 2022 09:00 am | Updated 09:00 am IST

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Were leopards coming from the forests into the estates to have their young, as the tea companies and forest department believed? | Photo Credit: Getty Images/iStock

More people are injured by leopards in the tea gardens of north Bengal than anywhere else in the world. Until 2016, the average stood at over 50 a year. As a conservation biologist, Aritra Kshetry felt duty-bound to help people tackle the crisis. But first, he had to understand the circumstances.

Since wild herbivorous mammals find tea leaves distasteful, they can't survive in the vast acreages of tea plantations. They do, however, make their way through them as they go from one patch of forest to another. If a predator were to rely on these occasional ungulates, it would starve. Were leopards coming from the forests into the estates to have their young, as the tea companies and forest department believed? What was it about the caffeine-rich plants that made them ideal leopard crèches?

North Bengal is a patchwork of national parks and wildlife sanctuaries, degraded chunks of forest, and tea estates. In this landscape, researchers and forest authorities considered the reserves to be the best habitat for leopards and tea acreage, the worst. The researcher set out 30 camera traps in 15 locations at a time, collected leopard scats, and collared two cats. But one collar fell off the very next day. Since the collar on Babulal, the hefty handsome leopard, held fast, he became the Rosetta Stone to unravel the ecological mystery of the spotted cats of the area.

Although leopards are nocturnal cats, people encountered them during the day. | Photo Credit: Getty Images/iStock

Just as leopards live in sugarcane fields in Maharashtra and other parts of India (See *Ajoba, a Leopard in Mumbai*, Sept 7, 2018), Babulal and his kind aren't strictly animals of the jungle. The densely planted three-foot-high tea bushes may seem like a jungle of bonsai trees, but they offer adequate cover. After all, as animals of the night, the cats lie asleep during the day when humans are about. They also have ready meat on the hoof close at hand, as livestock graze on weeds along the edges of the plantations and their rickety night enclosures are easy to breach. The living is clearly easy in the vast plantations. By identifying individual leopards from their unique arrangement of rosettes, Kshetry estimated about 13 animals resided in every 100 sq km of tea garden, not all that different from nearby Gorumara National Park, where 11 lived per 100 sq km.

The tea companies and forest authorities must have found these findings disquieting at first. But then a new question emerged. If leopards were full-time residents, stashing their cubs and hunting livestock amongst the tea bushes, what should be done to keep workers safe?

Unlike sugarcane fields which need little tending during the growing period, tea gardens require maintenance all the time, from picking leaves and pruning the bushes to spraying pesticides and weedicides. Although these are nocturnal cats, people encountered them during the day.

One garden reduced confrontations between its labour force and the cats by resorting to the colonial British-era exercise of beating drums before workers entered the garden. The loud racket alerted any slumbering cats of human presence, giving them ample time to exit. Without such warning, they reacted violently when suddenly woken from their sleep. Kshetry saw the effectiveness of drumming in real time. The slow, regular pulse of radio signals indicated Babulal was fast asleep when the beaters started raising a racket. Within a few minutes, the faster, receding signals implied he had slunk away from the area. Leopards were also keen to avoid confrontations.

“Coexistence is hard-wired into their nature,” says the researcher. He promoted the practice of drum beating in other gardens. Tea companies that made rousing leopards a part of their routine reported zero encounters.

Leopards also observe humans and draw their own conclusions. Workers get either Tuesdays or Thursdays as their weekly day off. On these days, the cats start prowling in the afternoon instead of waiting for nightfall. Siren blasts regulate work in tea gardens, announcing the start of work, lunch break, and the end of the day. Perhaps the silence on the off-days signals the absence of humans, and the animals make use of the opportunity.

In the minds of the workers, leopards went from being animals of the jungle to cats of the garden.

Janaki Lenin is not a conservationista but many creatures share her home for reasons she is yet to discover.

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COP27

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 18, 2022 02:00 am | Updated 07:43 am IST - New Delhi

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India said developed countries are blocking a pro-poor and pro-farmer decision by insisting on expanding the scope for mitigation to agriculture. File | Photo Credit: AP

India has opposed the developed world's efforts to extend the scope of mitigation to agriculture at the ongoing U.N. climate summit in Egypt, saying rich nations do not want to change their lifestyles to reduce emissions and are "searching for cheaper solutions abroad", sources said on Thursday.

Expressing concern over the draft decision text on the Koronivia Joint Work on Agriculture, India said developed countries are blocking a pro-poor and pro-farmer decision by insisting on expanding the scope for mitigation to agriculture, thereby compromising the very foundation of food security in the world, a source in the Indian delegation said.

India made it clear that the world is facing a climate crisis today because of the excessive historic cumulative emissions by the developed nations. "These nations are unable to reduce their emissions domestically by any worthwhile change in their lifestyles. Rather, they are searching for cheaper solutions abroad," it said.

In most developing countries across the world, agriculture is done by small and marginal farmers who toil hard and brave the vagaries of extreme weather and climate variability as well as the additional stress of climate change.

"By seeking to extend the scope of mitigation to agriculture, the developed countries are wanting the world agriculture, lands and seascapes to become a site of mitigation for their profligate and excessive emissions," India said.

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SMUGGLERS TRAFFICKING RHINO HORNS WITH IMPUNITY: REPORT

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 17, 2022 11:23 pm | Updated 11:25 pm IST - GUWAHATI

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Seized rhino horns are burnt by the Assam forest department on the occasion of World Rhino Day at Bokakhat near the Kaziranga National Park on September 22, 2021. | Photo Credit: The Hindu

GUWAHATI

The seizure of rhino horns by weight has increased after 2017 despite a reduction in poaching, a global threat assessment report presented at a convention of the conservation agencies in Panama City, said.

The investigation has also led to the “prolific” Vietnamese and Chinese criminal networks driving the trafficking of the horns throughout the supply chain.

But what has alarmed the wildlife crime fighters is the audacity with which the smugglers transport the rhino horns unconcealed, indicating that the “corrupt elements” help the traffickers move the horn shipments without bothering to disguise the products.

A [comprehensive analysis](#) titled ‘Executive Summary of the Rhino Horn Trafficking as a Form of Transnational Organised Crime (2012-2021): 2022 Global Threat Assessment’, was presented at the meeting of the [Conference of Parties](#) organised by the [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#). The 12-day meeting will end on November 25.

Supported by the World Wide Fund for Nature, the Wildlife Justice Commission (WJC) prepared the document on the rhino horn trafficking during the decade from January 1, 2012, to December 31, 2021.

The threat assessment was compiled from the analysis of 674 rhino horn seizure incidents that had occurred globally during this decade, in addition to seven years of criminal intelligence and findings from the WJC investigations into the rhino horn trafficking, conducted since 2015.

The report said six countries and territories have dominated the rhino horn trafficking routes from the source to the destination locations although more than 50 countries and territories were implicated in the transnational crime. These countries were South Africa, Mozambique,

Malaysia, Hong Kong Special Administrative Region, Vietnam, and China.

“Prolific Vietnamese and Chinese criminal networks are driving the trafficking throughout the supply chain. Although Vietnam is known to be a primary destination for rhino horn, investigations indicate a substantial proportion of the horn entering Vietnam is sold to Chinese buyers and smuggled overland into China,” the report said.

This suggests that Vietnam is a highly significant transit and distribution area for products ultimately bound for China, it said.

“More than 7.5 tonnes of rhino horns were seized globally during the decade. The average shipment weight increased markedly after 2017, despite a reduction in rhino poaching across Africa and the COVID-19 pandemic. This could indicate a greater involvement of organised crime groups as larger volumes of product are moved to increase profit margins per shipment,” the report said.

Smuggled unconcealed

The analysis indicated that at least 974 kg and potentially up to one-third of all the seized rhino horns, globally originated from the theft or illegal sale of both privately-owned and government-owned legally held stockpiles. This avenue of supply may have increased since the moratorium on domestic rhino horn trade in South Africa was lifted in 2017.

“Rhino horns are most frequently smuggled on commercial airlines. However, the modus operandi is shifting from small shipments in passenger luggage to larger shipments by air cargo. This trend began prior to the pandemic and coincided with the use of more direct smuggling routes,” the report said.

“Rhino horn shipments are most often smuggled with no concealment at all, which is a notable difference from the other wildlife products and illicit commodities generally. It could suggest traffickers are more reliant on corrupt elements to move rhino horn shipments through the supply chain, making it unnecessary to disguise the products,” it added.

The investigation also led to the online trade in closed networks.

“The use of online trade, social media platforms, and instant messaging apps has increased substantially to become the most important channel through which rhino horn is distributed in the illegal trade. The use of WeChat has notably declined due to fear of law enforcement detection, with many traders switching to WhatsApp, Telegram and Signal, which are perceived to be safer,” the report said.

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WITH NO CONSENSUS YET, COP27 EXTENDED BY A DAY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 18, 2022 11:13 pm | Updated November 19, 2022 08:31 am IST - NEW DELHI

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Attendees listen to a plenary session at the COP27 U.N. Climate Summit on November 18, 2022, in Sharm el-Sheikh, Egypt. | Photo Credit: AP

With countries unable to arrive at a consensus, the 27th edition of the United Nations Conference of Parties (COP) in Sharm el-Sheikh, which was scheduled to end on Friday, has been extended by a day.

“The COP was supposed to wrap up its work today but has been extended by a day to attempt to take the ongoing negotiations to a logical end. Consensus is key on several issues and the extension is an attempt towards achieving it,” Union Environment Minister Bhupender Yadav said in a blog late Friday. It isn’t unusual for COP meetings to be extended by a day or more.

As of Friday evening India time, three and a half hours ahead of Sharm el-Sheikh, Egypt, members were still deliberating on a draft agreement that was uploaded to the official COP27 website on Friday afternoon (IST).

The 10-page document reaffirmed a commitment to the Paris Agreement of 2015, to ensure that the rise in temperatures does not exceed 2 degree Celsius, and as far as possible, stayed within a 1.5 degree Celsius increase. Achieving this, the document said, required “immediate, deep and sustained reductions in global greenhouse gas emissions” as well as “accelerated financial support for developing countries from developed countries.”

Also Read | [COP27 | No climate crisis would exist if world’s per capita emissions were at India’s level: Bhupender Yadav](#)

The draft text calls on countries to accelerate clean energy transitions, phase down “unabated” coal use, and phase out “inefficient fuel subsidies.” In 2021, India fought to ensure that the text adopted at the last COP in Glasgow altered ‘phase out’ to ‘phase down’ with regard to the use of coal.

At the beginning of the conference earlier this month, the President of COP27, Sameh Shoukry, had said that this COP would be an “implementation COP”, striving to put into action a host of previous commitments, such as getting developed countries to finalise a pathway to deliver on climate finance as well as set up a facility to pay for ‘loss and damage’.

The draft “welcomes” a loss & damage fund that was added as an agenda item but doesn’t mention a deal. This facility would involve paying reparations to small island states as well as developing countries for natural disasters already underway due to climate change from historical emissions. The European Union on Friday morning had reportedly agreed to such a fund, but in return, demanded deeper emission cuts and donors to contribute to such a fund, including the world’s second-largest emitter. China has objected to this on the grounds that it is still classified as a developing country under the United Nations climate charter and therefore should actually be a recipient of such funds.

The draft also calls for a “roadmap” to double adaptation finance by 2025 to \$40 billion. This refers to money made available to developing countries and those most vulnerable to climate vagaries to build defences against future climate threats.

Also Read | [India’s long-term strategy to transition to a ‘low emissions’ pathway involves more nuclear power, more ethanol](#)

A major ask from India and other developing countries is for the developed countries to make good on a 2009 commitment to allot \$100 billion in climate finance every year from 2020. Costs have now increased and so developed countries must come up with a “New Collective Quantified Goal” by 2025, Indian officials have stated.

“A lot of issues including mitigation work program, the global goal on adaptation, loss and damage and climate finance are being negotiated as they remain contentious,” said Mr. Yadav.

Oxfam, a British charity organisation, has estimated that climate assistance provided to developing countries (\$21-24.5 billion) so far was only one-third of the estimates provided by the intergovernmental finance group Organisation for Economic Co-operation and Development (OECD) on the money contributed by rich countries. The discrepancy is due to a lack of clarity on the definition of climate finance, which currently includes commercial loans. COP27 was expected to clear this sticking point.

The draft documents also expressed “serious concern” that despite all the nationally determined contributions by countries – that lays out steps to curb emissions in the years ahead – net emissions are expected to be only 0.3% below the 2019 levels, which was “not in line” with the need to keeping global temperature rise within 1.5 to 2°C.

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CLIMATE, POLITICS DOUBLE THREAT AS TIGRIS-EUPHRATES SHRIVELS

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

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November 18, 2022 05:40 pm | Updated 05:40 pm IST

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Ilisu Dam reservoir is seen in Mardin province, Turkey, Tuesday, October 18, 2022. Before Turkey began operating the dam in May 2020, all the waters of Tigris River flowed into Iraq. Now how much water comes down depends on Ankara's consideration of Iraq's month-to-month requests for a minimum flow, weighed against Turkey's own needs. | Photo Credit: AP

Next year, the water will come. The pipes have been laid to Ata Yigit's sprawling farm in Turkey's southeast connecting it to a dam on the Euphrates River. A dream, soon to become a reality, he says.

Over 1,000 kilometers (625 miles) downstream in southern Iraq, nothing grows anymore in Obeid Hafez's wheat farm. The water stopped coming a year ago, the 95-year-old said.

The starkly different realities are playing out along the length of the Tigris-Euphrates river basin, one of the world's most vulnerable. River flows have fallen by 40% in the past four decades as countries along its length — Turkey, Syria, Iran and Iraq — pursue rapid, unilateral development of the waters' use.

The drop is projected to worsen as temperatures rise from climate change. Both Turkey and Iraq, the two biggest consumers, acknowledge they must cooperate to preserve the river system. But a combination of political failures, mistrust and intransigence are conspiring to prevent a deal on sharing the rivers.

Turkey has been harnessing the river basin with a massive project to boost agriculture and generate hydroelectricity, the Southeast Anatolia Project, or GAP by its Turkish acronym. | Photo Credit: AP

The Associated Press conducted more than a dozen interviews in both countries, from top water envoys and senior officials to local farmers, and gained exclusive visits to controversial dam projects. Internal reports and revealed data illustrate the calculations driving disputes behind closed doors, from Iraq's fears of a potential 20% drop in food production to Turkey's struggles to balance Iraq's and its own needs.

"I don't see a solution," said former Iraqi Prime Minister Haidar al-Abadi.

“Would Turkey sacrifice its own interests? Especially if that means that by giving more (water) to us, their farmers and people will suffer?”

Turkey has been harnessing the river basin with a massive project to boost agriculture and generate hydroelectricity, the Southeast Anatolia Project, or GAP by its Turkish acronym. It has built at least 19 dams on the Euphrates and Tigris, with several more planned for a total of 22. The aim is to develop Turkey’s southeast, long an economic backwater.

For the farmer, Yigit, the project will be transformative.

Until now, his reliance on well water only permitted half his lands to be irrigated.

But now that the irrigation pipes have reached his farm in Mardin province, his entire 4,500 acres will be watered next year via the Ataturk Dam on the Euphrates.

In contrast, Iraq — which relies on outside sources for nearly all its water — grows more worried with every drop diverted upstream.

In 2014, its Water Ministry prepared a confidential report warning that in two years, Iraq’s water supply would no longer meet demand, and the gap would keep widening. The report, seen by the AP, said that by 2035, the water deficit would cause a 20% reduction in food production.

The report shows Iraqi officials knew how bleak the future would be without the recommended \$180 billion in investment in water infrastructure and an agreement with its neighbors. Neither has happened.

Decades of talks have still not found common ground on water-sharing.

Turkey approaches the water issue as if it were the river basin’s benevolent owner, assessing needs and deciding how much to let flow downstream. Iraq considers ownership shared and wants a more permanent arrangement with defined portions.

In a rare interview, Turkey’s envoy on water issues with Iraq, Veysel Eroglu, told the AP that Turkey cannot accept to release a fixed amount of water because of the unpredictability of river flows in the age of climate change.

Hamza Noor stores collected fresh water in an unused boat to feed water buffalos in the marshes, in Dhi Qar province, Iraq, Friday, September 2, 2022. The Tigris-Euphrates river flows have fallen by 40% the past four decades as the states along its length - Turkey, Syria, Iran and Iraq - pursue rapid, unilateral development of the waters’ use. | Photo Credit: AP

Eroglu said Turkey could agree to setting a ratio to release — but only if Syria and Iraq provide detailed data on their water consumption.

“That is the only way to share water in an optimal and fair manner,” Eroglu said.

Iraq refuses to provide its consumption data. That’s in part because it would show the widespread water waste in Iraq and the government weakness that makes managing water nearly impossible.

Government attempts at rationing the waning water causes outrage in southern Iraq. In August in southern Dhi Qar province, for example, tribal leader Sheikh Thamer Saeedi and dozens of protesters tried to divert water from a Tigris tributary to feed his barren lands after authorities

failed to respond to his pleas for water.

The attempted diversion nearly sparked violence between local tribes before security forces intervened.

Iraq blames one Turkish infrastructure project in particular for these woes: the Ilusu Dam, on the Tigris.

Before Turkey began operating the dam in 2020, all the waters of Tigris flowed into Iraq. Now how much water comes down depends on Ankara's consideration of Iraq's month-to-month requests for a minimum flow, weighed against Turkey's own hydropower needs.

[Also Read | No proposal on loss and damage funding in draft COP 27 climate deal document](#)

Turkey contends it is unfairly scapegoated. The AP was given an exclusive tour of the dam facility in October by Turkey's State Hydraulics Works, known by the Turkish acronym DSI, and given figures for the first time detailing flow rates and electricity production over two years.

A decade ago, Iraq received an average flow of 625 cubic meters of water per second from the Tigris. Today, the rate averages only 36% of that, Iraqi water ministry officials say.

Data provided by DSI shows that Turkey respected a request made by Iraq that it release at least 300 cubic meters per second down the Tigris during summer months when shortages are common.

But Iraqi officials say depending on such ad hoc arrangements make planning difficult.

"They can cut water, they can release water. We urgently need a water agreement just to satisfy Iraq's minimum requirements," said Hatem Hamid, head of the National Centre for Water Resources Management.

For example, with dire shortages anticipated in 2022, Hamid cut the state agriculture water plan in half and reduced fresh water flows to Iraq's marshlands, to minimize salinity. But water-stressed Iran also diverted flows from tributaries feeding the marshes. The result was an environmental emergency and hundreds of dead livestock.

Back in Obeid Hafez's farm, the land is barren.

Portraits of Hafez's forefathers hang in his spartan living room. With his sons gone to seek work in the cities, there will be no one to till the land after him.

"Life has ended here," he said.

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BATTLE TO SAVE GHOSTLY BALKAN LYNX FROM EXTINCTION

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

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November 18, 2022 05:32 pm | Updated 05:32 pm IST

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In the three Balkan countries, there are less than 40 of these cats left, according to a regional survey in 2021. | Photo Credit: AFP

In mountains overlooking an azure lake in southeast Albania, wildlife experts are tracking the Balkan lynx as part of last-gasp efforts to save the species from extinction.

The "forest ghost" which lives in tree-covered mountains straddling Albania, Kosovo and North Macedonia, is now among the world's most endangered mammals, scientists warn.

The victim of deforestation and poaching, there are less than 40 of these solitary wild cats in the three Balkan countries, analysis last year showed.

Albania is home to fewer than 10, down sharply from more than 200 in the 1980s.

"We are very much concerned that if we do not manage to raise its numbers and distribution very soon, we will lose it forever," said Manuela von Arx of the Swiss foundation Kora, which is a part of the Balkan lynx recovery programme.

For the past 15 years, the NGO Protection and Preservation of Natural Environment in Albania (PPNEA) has been trying to save the animal also known locally as the "Balkans tiger".

On the Mali i Thate mountain overlooking Lake Prespa, two experts taking part in the Balkan lynx recovery programme carefully install automated cameras at lynx height on oak trees.

They hope to capture the images of the timid and elusive carnivore that sleeps during the day and hunts at night for deer, hare, chamois and rabbit.

"It is difficult to get a good image," forest engineer Ilir Shyti said as he and colleague Melitjan Nezaj checked the cameras' positions.

The International Union for Conservation of Nature (IUCN) has considered the animal critically endangered since 2015, the last stage in its classification before extinction in the wild. | Photo Credit: AFP

The camera must be positioned well to cover the path used by the lynx.

In November 2021, cameras in the area caught a lynx arriving from North Macedonia, which experts hailed as a good sign for the resilience of the species.

"We are hoping that it will pass through again this year and, if we are lucky, we will be able to take a photo of another lynx," said Nezaj, a biologist.

Subtle differences on the animal's spotted coat and tufts of hair on the tips of its ears enable experts to identify them individually.

The meticulous tracking of the lynx is a key part of its protection, said Blendi Hoxha, a coordinator of the PPNEA lynx project.

"You have to observe it and understand its movements," he told AFP.

"Any documented evidence of the presence of the lynx is watched for since it gives hope for (its) survival."

The almond-eyed animal is threatened by the degradation of its habitat and significant deforestation, which are depleting the game they feed on and fragmenting its population.

Although it is strictly protected, the lynx has been the victim of poaching despite a hunting ban in Albania since 2014.

At least 14 lynx have been killed in Albania since 2006, according to the PPNEA.

The last one, shot in 2020, was stuffed and mounted in a bar in Elbasan, south of the capital Tirana, displayed alongside the stuffed skins of other wild animals.

Trade in poached animals is punishable by up to seven years in jail, but the justice system is completely uninterested in the problem, said PPNEA lawyer Gentian Rumano.

The NGO filed a complaint against the bar but the case was dropped due to "lack of evidence" despite what it said was a report proving that it was the same Balkan lynx killed in 2020.

But the PPNEA has carried on with the fight, filing a complaint against the prosecutors in a bid to have the investigation relaunched.

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Albania, Kosovo and North Macedonia have joined forces within the Balkan lynx recovery programme, funded by foreign foundations like Kora, Euronatur and Mava.

The three countries created "new zones of protection where the lynx is present and where it can breed," PPNEA chief Aleksander Trajce said.

They also try to educate hunters and the general population about the threat of extinction.

An information centre, which serves as a summer school for the region, was opened in 2020 in Gorica.

But the battle is far from being won, especially since the animal's low population has left it with

an impoverished genetic pool.

Their shrinking numbers and isolation undermine genetic diversity which leads to health and breeding problems, warned Hoxha from the PPNEA lynx project.

"Small population equals inbreeding," echoed Dime Melovski, of the Macedonian Ecological Society.

One way to ease the problem, he said, could be to bring males from other lynx populations to breed in the Balkans.

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CLIMATE CHANGE 'MAIN THREAT' FOR WORLD HERITAGE SITES

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November 18, 2022 05:08 pm | Updated 05:45 pm IST

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Visitors walk through the UNESCO World Heritage archeological site of Mohenjo Daro some 425 kms north of the Pakistani city of Karachi. | Photo Credit: AFP

One of the world's first cities came close to being wiped off the map during tragic floods this summer in Pakistan. Though Mohenjo Daro survived, it has become a symbol of the threat global warming poses to humanity's cultural heritage.

Built in around 3000 BC by the Indus civilisation in modern-day South Asia, Mohenjo Daro was not swept away by the floods, most likely thanks to the genius of its designers.

Perched high above the Indus river, the city was equipped with a primitive drainage system and sewers, meaning much of the floodwaters could be evacuated.

[Nearly 1,600 Pakistanis died in the floods](#) and 33 million others were affected in a disaster "probably" made worse by global warming, according to World Weather Attribution, a network of researchers.

The ancient metropolis "could have disappeared with all the archaeological traces" it contains, said Lazare Eloundou Assamo, the director of the World Heritage programme at UN agency UNESCO.

The Pakistani site was "a victim" of climate change and was "very lucky" to still be around, exactly 100 years since it was first discovered in 1922, Assamo said.

Fortunately, "the situation is not catastrophic" in Mohenjo Daro, said Thierry Joffroy, a specialist in brick architecture who visited the site on behalf of UNESCO.

Despite ground sinking in some areas and water damage to some structures, the site "can be repaired," Joffroy said.

For 50 years, Paris-based UNESCO has compiled a list of World Heritage sites, significant places that are deemed worthy of protection, and is marking the milestone this week in Greece.

"To protect this heritage ourselves... is to confront the consequences of climate disruption and

the loss of biodiversity. It's the main threat... that we assess in a tangible way," UNESCO director Audrey Azoulay told the conference in Delphi on Thursday.

Of its 1,154 World Heritage sites, "one site in five, and more than a third of natural sites, already see this threat as a reality," she said.

Also Read | [No proposal on loss and damage funding in draft COP 27 climate deal document](#)

"We are experiencing many more incidents of floods, hurricanes, cyclones, typhoons," said Rohit Jigyasu of the International Center for the Study of the Conservation and Restoration of Cultural Property (ICCROM).

"We have these climate-related disasters, which are having a huge impact on sites, for example Mohenjo Daro," he said.

Huge forest fires have scorched the Rocky Mountains in Canada, which are a world heritage site, and this year flames came within 15 kilometres (nine miles) of Delphi as heatwave intensify the severity of wildfires across the Mediterranean basin.

In Peru, meanwhile, landslides occurred this year at the foot of Machu Picchu in the Andes mountains.

Other less noticeable changes can also have serious consequences.

In Australia, the protected Great Barrier Reef is experiencing bleaching episodes due to rising water temperatures.

In Ghana, erosion has washed away part of Fort Prinzenstein, which is conserved as a notable slave trading post.

"Slow factors" that do not have an immediate impact pose "new kinds of risks in many of these sites," Jigyasu said.

These include invasions of wood-eating termites in areas that were previously either too dry or too cold for the insects to thrive.

In other countries, the drying out of soil due to declining rainfall can have a "destabilising" effect on some heritage sites, said Aline Magnien, director of the French state-funded Laboratory for Research on Historical Monuments.

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Under drought conditions, "the soils contract and... make the foundations move", then "swell suddenly when it rains", which causes cracking, she said.

When parched and hard, they absorb less water, which promotes flooding.

"We may have certain heritage sites that we will not be able to save, that we will not be able to transmit, which will perhaps be doomed to disappear", said Ann Bourges, a researcher from the French culture ministry.

"It's not just the heritage that is affected when you lose part of it, but all the social system around

it," added Bourges, who is also secretary general of the International Council of Monuments and Sites (Icomos), an NGO.

In Mongolia, archaeological sites have been abandoned then looted because "the population no longer had access to water", Jigyasu added.

Expected water shortages in the future could also lead to an increase of conflicts in which important heritage sites might be lost.

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COP27

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 19, 2022 06:38 pm | Updated November 20, 2022 12:11 am IST - SHARM EL-SHEIKH

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Environment Ministers speak during a news briefing at the COP27 climate summit in Sharm el-Sheikh, Egypt on November 19, 2022. | Photo Credit: Reuters

Delegates at the U. N. climate conference in Sharm El-Sheikh [continue to negotiate a final agreement](#), with the latest draft suggesting the creation of a fund to compensate a section of developing countries for the damage already done by disasters linked to climate change.

Country representatives at the 27th Conference of Parties (COP27) of the U. N. Framework Convention on Climate Change are expected to convene again at a closing plenary session in the Egyptian resort town that is to commence late Saturday night by Indian time.

Loss and Damage (L&D) compensation has been part of COP deliberations for over a decade, with calls by island nations and developing countries to establish a dedicated fund and a clear financing scheme to compensate countries that are bearing the brunt of climate-linked calamities.

This was the first COP to formally include L&D as an agenda item. With little agreement among countries on other issues such as a call to eliminate all forms of fossil fuel or deliver on climate finance to developing countries, clarity on an L&D fund was widely perceived as a successful, tangible outcome from COP27.

The United States is reportedly working to find a way it can agree to proposals put forward, a source told *Reuters*. Another U. S. source familiar with the negotiations said the U. S. had been “deeply involved” in the negotiations on the ‘loss and damage’ deal.

Maldives Environment Minister Aminath Shauna said that an agreement had been reached. “There is an agreement on loss and damage,” which is what negotiators call the concept, Mr. Shauna told the *AP* on Saturday. “That means for countries like ours we will have the mosaic of solutions that we have been advocating for.”

“We proposed a text and this actually just has just been accepted, so we now have a fund,” Norway Climate and Environment Minister Espen Barth Eide told the *AP*.

New Zealand Climate Minister James Shaw said both the poor countries that would get the money and the rich ones that would give it are on board with the proposed deal.

“This is how a 30-year-old journey of ours has finally, we hope, found fruition today,” said Pakistan Climate Minister Sherry Rehman, who often took the lead for the world’s poorest nations. One-third of her nation was submerged this summer by a devastating flood and she and other officials used the motto: “What went on in Pakistan will not stay in Pakistan.”

“The Conference of Parties welcomes the consideration, for the first time, of matters relating to funding arrangements responding to loss and damage associated with the adverse effects of climate change... establishing the institutional arrangements... for averting, minimizing and addressing loss and damage associated with the adverse effects of climate change... including supporting its mandated role in catalysing technical assistance for the implementation of the relevant approaches at the local, national and regional level in developing countries that are particularly vulnerable to the adverse effects of climate change,” said a version of the draft agreement made available on Saturday at 4:30 p.m. by Indian time.

Earlier, European Commission Vice President Frans Timmermans said that the European Union (EU) would “rather have no result than a bad result”, and was willing to walk out of the negotiations altogether. The EU wants COP 27 to have strong language on cutting emissions and to reaffirm the aspirational goal of limiting global warming to 1.5 degrees Celsius from pre-industrial levels.

The G-77 and China had called for the immediate creation of an L&D fund at COP 27, with operational details to be agreed later. A counter proposal from the EU called to prioritise the most climate-vulnerable countries as recipients. They also said the money should come from a “broad funder base”, which is code language for countries, including China and Saudi Arabia, that have become wealthier since they were listed as developing nations in 1992.

Participants at the COP aren’t enthused. “The only solace that the latest text offers to developing countries is a semblance of an institutional structure. This consists of a secretariat, an advisory board, and a network of members. This is too little and too late in the process. There is no funding in sight for loss and damage. The developed world has used its usual tactics to delay and divert the discussion on finance for mitigation, adaptation, and loss and damage,” said Vaibhav Chaturvedi, Fellow, Council on Energy Environment and Water (CEEW), a think tank closely engaged with climate policy.

(With inputs from AP and Reuters)

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WHAT IS LAKE-EFFECT SNOW? A CLIMATE SCIENTIST EXPLAINS

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

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November 19, 2022 12:15 pm | Updated 04:21 pm IST

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Dark clouds hover over water shining under a shaft of sunlight at Erie Basin Marina at about 11:30 a.m., in Buffalo, November 18, 2022. | Photo Credit: AP

It's hard for most people to imagine more than 4 feet of snow in one storm, like the Buffalo area was forecast to get this weekend, but these extreme snowfall events happen periodically along the eastern edges of the Great Lakes.

The phenomenon is called "lake-effect snow," and the lakes play a crucial role.

It starts with cold, dry air from Canada. As the bitter cold air sweeps across the relatively warmer Great Lakes, it sucks up more and more moisture that falls as snow.

I'm a climate scientist at UMass Amherst. In the Climate Dynamics course I teach, students often ask how cold, dry air can lead to heavy snowfall. Here's how that happens.

Also Read | [Climate change 'main threat' for world heritage sites](#)

Lake-effect snow is strongly influenced by the differences between the amount of heat and moisture at the lake surface and in the air a few thousand feet above it.

A big contrast creates conditions that help to suck water up from the lake, and thus more snowfall. A difference of 25 degrees Fahrenheit (14 Celsius) or more creates an environment that can fuel heavy snows. This often happens in late fall, when lake water is still warm from summer and cold air starts sweeping down from Canada. More moderate lake-effect snows occur every fall under less extreme thermal contrasts.

The wind's path over the lakes is important too. The farther cold air travels over the lake surface, the more moisture is evaporated from the lake. A long "fetch" – the distance over water – often results in more lake-effect snow than a shorter one.

Imagine a wind out of the west that is perfectly aligned so it blows over the entire 241-mile length of Lake Erie. That's close to what Buffalo was experiencing the weekend of Nov. 18, 2022.

Once the snow reaches land, elevation contributes an additional effect. Land that slopes up from the lake increases lift in the atmosphere, enhancing snowfall rates. This mechanism is termed “orographic effect.” The Tug Hill plateau, located between the lake and the Adirondacks in western New York, is well known for its impressive snowfall totals.

Also Read | [Climate, politics double threat as Tigris-Euphrates shrivels](#)

In a typical year, annual snowfall in the “lee,” or downwind, of the Great Lakes approaches 200 inches in some places.

Residents in places like Buffalo are keenly aware of the phenomenon. In 2014, some parts of the region received upwards of 6 feet of snowfall during an epic lake-effect event Nov. 17-19. The weight of the snow collapsed hundreds of roofs and led to over a dozen deaths.

Lake-effect snowfall in the Buffalo area is typically confined to a narrow region where the wind is coming straight off the lake. Drivers on Interstate 90 often go from sunny skies to a blizzard and back to sunny skies over a distance of 30 to 40 miles.

Is climate change playing a role in the lake-effect snow machine? To an extent.

Fall has warmed across the upper Midwest. Ice prevents lake water from evaporating into the air, and it is forming later than in the past. Warmer summer air has led to warmer lake temperature into fall.

Models predict that with additional warming, more lake-effect snow will occur. But over time, the warming will lead to more of the precipitation falling as lake-effect rain, which already occurs in early fall, rather than snow.

Michael A. Rawlins, UMass Amherst (The Conservation)

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GREAT KNOT SIGHTING UNTANGLES A MIGRATION MYSTERY

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

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November 20, 2022 07:51 pm | Updated November 21, 2022 02:12 am IST - THIRUVANANTHAPURAM

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Great knot *Calidris tenuirostris*. Photo: Special Arrangement

Unveiling yet another mystery of avian migrations, a great knot from Russia, belonging to the endangered *Calidris tenuirostris* (Horsfield, 1821), has found its way to Kerala's coast, flying over 9,000 km for a winter sojourn.

The migratory bird that traversed the Central Asian Flyway (CAF) is only one of the two — the other has been sighted at Jamnagar in Gujarat — great knots to be re-sighted in India among the nearly thousand ones tagged with MOSKVA rings in the Kamchatka peninsula in eastern Russia.

The bird was sighted by birdwatchers P.P. Sreenivasan, Kalesh Sadasivan and Samkumar P.B. while on a coastal migrant bird watching expedition on the Chavakkad beach in Thrissur district on November 15. It came calling in a flock of 14 great knots and about 150 migratory waders, including a rare straggler Caspian plover, grey plover, whimbrel, sanderling, lesser sand plover and about a hundred seagulls.

According to Mr. Sreenivasan, a veteran birder who has been monitoring the Thrissur coasts for over two decades, the engraving on the bird's ring that read TC 32469 MOSKVA provided a vital clue on its Russian connection.

The ring that established the Russian connection of the migratory bird. Photo: Special Arrangement

Mr. Samkumar and Dr. Sadasivan, who represent the Birders Sans Borders and the Travancore Natural History Society, nature conservation groups based in Thrissur and Thiruvananthapuram respectively, then managed to establish contact with Dmitry Dorofeev, whose team has been counting and ringing shorebirds in the estuary of the Khairusova-Belogolovaya River in Kamchatka.

The migratory path of the Great Knot

The Russian scientists confirmed the juvenile great knot had been tagged in the estuary with a

marked ring on its leg on August 12. These long-distance migrants stay at the Yellow Sea region and Thailand in southeast Asia before proceeding to their southerly winter grounds ,including Peninsular India along the CAF, one of the nine most important flyways of migratory birds. The migratory route suggested the bird that flew to Thrissur travelled over 9,000 km. Another bird that was tagged 6Z has been sighted at Jamnagar for the past three consecutive years.

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INCREMENTAL WIN: THE HINDU EDITORIAL ON 'LOSS AND DAMAGE' FUND COMMITMENT AT COP27

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

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November 21, 2022 12:20 am | Updated 08:28 am IST

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The [two-week long climate conference in Egypt](#) has drawn to a close with a symbolic victory in the form of [a fund that will compensate some of the countries](#) bearing the brunt of climate change-linked natural disasters. However, progress on action to keep temperatures from rising beyond 1.5°C of pre-industrial levels was limited. The [27th edition of the United Nations Conference of the Parties](#) was projected to be [an 'implementation' COP](#) that would have decisively resolved questions on how developed countries, responsible for the bulk of historical emissions, would make good on an old promise to provide developing countries \$100 billion annually by 2020. And whether the world would commit to end all categories of fossil fuel, and not just coal. Despite hours of negotiations, these deadlocks remain. COP27 will certainly be remembered as the COP of [Loss and Damages](#) (L&D). A nearly three-decade old movement, first initiated by the island nation of [Vanuatu](#) and the [Alliance of Small Island States](#), has come to partial fruition. There will now be a dedicated fund to compensate the most vulnerable developing countries that are already bearing the brunt of climate change-linked natural disasters. L&D refers to impacts of climate change that cannot be avoided either by mitigation (cutting greenhouse gas emissions) or adaptation (modifying practices to buffer against climate change impacts). They also include not only economic damage to property but also loss of livelihoods, and the destruction of biodiversity and sites that have cultural importance. This broadens the scope for affected nations to claim compensation.

The text approved at Sharm el-Sheikh only commits to a fund being created and leaves discussions for how it is to be set up and, most importantly, who will pay how much to it, for future COP negotiations. While there have been nominal commitments by Scotland and Wallonia (Belgium) to donate to such a fund, the estimated L&D is already over \$500 billion. During negotiations this year, the European Union pressed hard for China, the Arab states and "large, developing countries" — and this could include India — to contribute on the grounds that they were large emitters. This already opens up fresh occasion for acrimony in future COPs and given that barely a third of committed climate finance has made its way to developing countries, the L&D fund too might take years before it can meaningfully operate. While the gain is incremental, countries ought not to lose momentum and must work harder to ensure that COPs remain credible catalysts and are not occasions for pyrrhic victories.

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Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 20, 2022 04:20 am | Updated 10:33 am IST

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Youth activists hold signs encouraging world leaders to maintain policies that limit warming to 1.5 degree Celsius and provide reparations for loss and damage at the COP-27 UN Climate Summit on November 19. | Photo Credit: AP

The story so far: The [Climate Change Conference \(COP27\) at Sharm el-Sheikh](#) was to end on Friday but the [deadline was extended](#) to the weekend because there were divisions among member countries on the final text of the agreement. While [India unveiled its much-awaited Long-Term Low Emission Development Strategy](#) during COP27, several outstanding issues remain.

The [Paris Agreement of 2015](#) required countries to submit a plan demonstrating how they would switch their economies from being reliant on fossil fuel to clean energy sources. This was to include measures to be taken [to keep temperatures from rising beyond 2°C, and preferably keep it at 1.5°C](#) by the end of the century and becoming carbon neutral or achieving net zero. India has [committed to being net zero by 2070](#). The deadline to make a commitment was 2020 but the pandemic meant deadlines were extended. India is now in a group of about 60 countries — the Paris Agreement has over 190 signatories — to have submitted a strategy document to the UN.

The 100-page document that lays out India's strategy underlines the use of nuclear power and hydrogen as critical to transition India into a carbon-neutral economy.

Environment minister Bhupender Yadav said the Long-Term Low-Carbon Development Strategy, as India refers to it, underlines India's right to an equitable and fair share of the global carbon budget. The remaining budget for a 50% likelihood to limit global warming to 1.5°C, 1.7°C and 2°C is 380 GtCO₂ (nine years at 2022 emissions levels), 730 GtCO₂ (18 years) and 1,230 GtCO₂ (30 years), according to an analysis by the Global Carbon Project. One gigatonne (Gt) CO₂ is a billion tonnes of carbon dioxide. "The journey to net zero is a five decade long one and India's vision is therefore evolutionary and flexible, accommodating new technological developments and developments in the global economy and international cooperation."

India's plan is to maximise the use of electric vehicles; ensure that by 2025 the percentage of ethanol blended with petrol increases to 20% from the existing 10% and making a 'strong shift' of passenger and freight vehicles to public transport. India will also focus on improving energy efficiency by the Perform, Achieve and Trade (PAT) scheme, expand the National Hydrogen Mission, increase electrification, and enhance material efficiency and recycling. The PAT scheme refers to an emissions trading scheme where industries such as aluminium, fertilizer,

iron and steel, that are extremely carbon intensive, have to reduce their emissions by a fixed amount or buy energy saving certificates from firms that have exceeded reduction targets. This scheme has been on since 2012 and, according to the Ministry of Power, has so far prevented 60 million tonnes of CO₂ from being emitted.

The NDCs, which India must periodically update, are voluntary commitments by countries to reduce emissions by a fixed number relative to a date in the past to achieve the long-term goal of climate agreements of preventing global temperature rising beyond 1.5°C or 2°C by the end of the century. Thus, India's most updated NDC commits to ensuring that half its electricity is derived from non-fossil fuel sources by 2030 and reducing the emissions intensity by 45% below 2005 levels by 2030. They are concrete targets unlike the low-carbon strategy which is qualitative and describes a pathway.

During [COP26 in Glasgow](#) last year, India and several other countries announced a net zero timeline. [COP27 was labelled as an "implementation" conference](#), in the sense that countries were determined to solve outstanding questions on climate finance. This refers to money that developed countries had committed to developing countries to help them turn their economies away from fossil fuels, build infrastructure resilient to climate shocks and access technologies to enable widespread use of renewable energy. Of nearly [\\$100 billion annually committed in 2009](#), which was to have been arranged for by 2020, less than a third has come in. Much of this, and this has been pointed out by several countries including India, is in the form of loans or come with conditions that increase the economic burden on developing countries. Now there is a demand that developed countries must come up with a new target, described in negotiations as a [New Collective Quantified Goal](#), with a clear path of delivery and a higher amount, to the tune of "trillions of dollars" to account for increased costs of energy transition. Another major issue is on the question of [Loss and Damage](#) (L&D). This is a proposal to compensate the most vulnerable countries and developing countries who are facing the brunt of climate change for the damage that has already incurred. Again a topic that has been discussed for years, this year triggered hope that a dedicated fund for L&D would come into being. The European Union was resistant to announcing a fund this year, on the grounds that it would take years to materialise and there were other options to get money flowing where it was most needed. However, there were indications that they were amenable provided that contributors to the fund include large developing economies which are significant emitters — a pointer to China.

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JAPAN'S IVORY MARKET IS NO LONGER A THREAT TO ELEPHANT POPULATIONS

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

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November 21, 2022 12:04 pm | Updated 12:04 pm IST

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The international ivory trade was banned under the Convention on International Trade in Endangered Species (Cites) in 1989. Image for Representation. | Photo Credit: AP

Elephants feature heavily in mythology, religion and popular culture. Yet they are hunted for their ivory tusks. Ivory poaching has led to a 70% decline in African elephant numbers over the past 40 years.

Ivory has always been a prized commodity. It has served a variety of purposes, from use in traditional medicines to musical instruments. More recently, ivory is carved into jewellery and ornaments and used primarily for decoration.

But the international ivory trade was banned under the Convention on International Trade in Endangered Species (Cites) in 1989. One hundred and eighty-four countries are now bound by this agreement. However, some legal domestic markets persist, undermining efforts to stop the ivory trade. Over 42 tonnes of illegal ivory were seized worldwide in 2019, the fourth highest annual tally in the past 30 years.

Yet Japan, which between 1979 and 1989 was responsible for roughly one-third of the global ivory trade and still possesses a legal domestic market, has seen a dramatic reduction in ivory demand. By 2014, the annual value of the Japanese ivory industry was just 13% of what it was in 1989.

Various factors have been heralded for reducing Japanese ivory demand, but a lack of data on ivory purchases and consumer motivations has limited research into the cause of this change. We conducted a study to determine which factors were influential in reducing Japanese ivory demand.

For this, we carried out an impact evaluation. We compiled a list of 35 potentially important factors that could have led to a fall in Japanese demand for ivory. These included the Cites international ivory trade ban, pressure from leading conservationists, Japan's economic recession, and targeted demand reduction campaigns.

We then interviewed 35 people with expertise in the Japanese ivory trade, including academics, NGO workers, members of the Japanese government and ivory traders and carvers. We asked

them, based on their expert knowledge, whether they thought each of the factors may have affected ivory demand, and how.

After eliminating less plausible explanations, we looked for supporting evidence. Our analysis indicated that the Cites international trade ban and a domestic economic recession, that started in 1992 and led to a period of economic stagnation, were the main reasons for the reduction in Japanese demand.

[Also Read | Great knot sighting untangles a migration mystery](#)

Both factors were cited by all of the interviewees as having the largest impact. They reduced both the amount of ivory that was available to purchase and people's ability to afford it.

These factors provided the initial stimulus. But other cultural factors, including the societal shift away from flaunting expensive goods following the recession, accelerated the reduction in demand.

Interviewees also indicated that demand for ivory in Japan was relatively passive. If ivory was available for sale, people would buy it, but if it were scarce they would not seek it out. This contrasts with countries such as China, which have seen thriving informal markets develop to satisfy demand following the international trade ban.

Conservationists often point to targeted demand reduction campaigns as key in reducing Japanese ivory demand. Our analysis instead suggests that they played a secondary role in bringing about change.

There was little evidence to suggest that these campaigns influenced consumers directly. But they were effective in placing indirect pressure on retailers to stop supplying ivory. This further reduced the availability of ivory products in shops.

Given the long-term reduction in Japanese ivory demand, our analysis concluded that Japan's ivory market no longer represents a threat to elephant populations. Yet it remains important to prevent illegal exports to countries where ivory is still highly valued. It would also be useful to track consumer data over time to see how demand fluctuates with Japan's economic cycle.

Our study supports the view that conservation outcomes are context-specific and often determined by changes unrelated to the natural environment. The introduction of the Cites international trade ban coincided with Japan's economic recession and accelerated Japan's cultural shift away from conspicuous ivory consumption. Without this, a flourishing informal market may have been established.

By exploiting passive demand, environmental campaigns to pressure retailers into stocking fewer ivory products also proved effective. This offers an insight into why the international trade ban has proved less successful in reducing ivory demand in other countries.

Conservationists need to better understand local conditions and listen to local voices when designing policies. Researchers and practitioners must also track wider market changes, such as recessions or shifts away from conspicuous consumption, to anticipate any potential impact on specific trades.

The lessons of this study may also apply to other wildlife trades with similar motivational drivers in Japan. These include ornamental bekko (turtle shell) or luxury timber.

By Laura Thomas-Walters: Postdoctoral Scholar at University of Stirling, Bob Smith (The Conversation)

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THINK LOCAL CLIMATE ACTION, THINK MEENANGADI

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November 23, 2022 12:08 am | Updated 02:14 am IST

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A climate literacy campaign being undertaken by volunteers going door to door in Meenangadi panchayat, Kerala. File photo: Special Arrangement

If India has to achieve the set of goals enunciated in the [‘Panchamrit’ resolution of the COP26 climate summit](#) in Glasgow 2021, it is necessary that panchayati raj institutions, the third tier of government which are closest to the people are involved. Although international and national policies have been formulated with large-scale investments, it is necessary to have a suitable local action plan for implementation and enforcement, initiated and coordinated by local governments. In the context of greater devolution that has taken place, panchayats, as local governments, can play a pivotal role in tackling many of the causes and effects of climate change.

Over the past few decades, there has been a manyfold increase in the number of climate-related national disasters. Much of India's population still lives in the rural areas and is involved in agriculture and other agri-based activities. The greater variability in rainfall and temperatures, etc. experienced of late has directly affected the livelihood and well-being of millions of rural households. India's National Action Plan on Climate Change 2008 identifies a range of priority areas for coordinated intervention at the national and State levels. However, there would have been better results had panchayati raj institutions been given a greater role. Through the ongoing decentralisation process which ensures people's participation, panchayats can play a crucial and frontline role in coordinating effective responses to climate risks, enabling adaptation and building climate-change resilient communities.

The climate change discussion also focuses on the emerging and widely accepted concept of 'carbon neutrality' which puts forth the notion of zero carbon developments, nature conservation, food, energy and seeds sufficiency, and economic development. As human activities are the cause of the current climate crisis, mitigating greenhouse gas emissions and adapting to growing and extreme weather events are critical. Zero carbon development which promotes sustainable living is the effective solution to reducing anthropogenic emissions and improving climate resilience.

In recent years, many panchayats have come forward with the concept of carbon neutrality, a prominent example being Meenangadi gram panchayat in Kerala's Wayanad district, which serves as a model to emulate. In 2016, the panchayat envisaged a project called 'Carbon

neutral Meenangadi', the aim being to transform Meenangadi into a state of carbon neutrality. There were campaigns, classes and studies to begin with. An awareness programme was conducted initially. A greenhouse gases emission inventory was also prepared. The panchayat was found to be carbon positive. An action plan was prepared by organising gram sabha meetings. Socio-economic surveys and energy-use mapping were also carried out. Several multi sector schemes were implemented to reduce emissions, increase carbon sequestration, and preserve the ecology and bio-diversity. 'Tree banking' was one of landmark schemes introduced to aid carbon neutral activities which encouraged the planting of more trees by extending interest-free loans. Interestingly 1,58,816 trees were planted which have also been geo-tagged to monitor their growth. The entire community was involved in the process, with school students, youth, and technical and academic institutions given different assignments. Five years have passed and the changes are visible. Local economic development was another thrust area where LED bulb manufacturing and related micro-enterprises were initiated.

There is also the example of Palli gram panchayat in Jammu and Kashmir that has followed the same people-centric model, with specific local activities. The panchayat has prepared a climate-resilient plan where villagers have been made aware of climate change Mitigation factors such as reducing energy consumption, cutting down on the use of fossil fuels, the use of solar energy, abandoning plastics and promoting plantation and water conservation measures were given prominence. Bio-gas plants and solar panels were also introduced. A solar plant (500KW) has been installed to power 340 households. A Gram Panchayat Development Plan for 2022-23 is being prepared by integrating a climate-resilient plan.

There are many other panchayats that have also initiated carbon neutral programmes. In Seechewal gram panchayat, the Kali Bein river was rejuvenated with people's involvement. Odanthurai panchayat in Tamil Nadu has its own windmill (350 KW). Tikekarwadi gram panchayat in Maharashtra is well known for its extensive use of biogas plants and green energy production. Chapparapadavu gram panchayat in Kerala has several green islands that have been nurtured by the community. Many more panchayats are coming forward in this regard.

The Ministry of Panchayati Raj has focused its attention on localising the Sustainable Development Goals (SDGs) on a thematic basis. 'Clean and Green Village' has been identified as the fifth theme where panchayats can take up activities on natural resource management, biodiversity protection, waste management and afforestation activities. According to the latest data, 1,09,135 gram panchayats have prioritised 'Clean & Green Village' as one of their focus areas for 2022-23. The Ministry has highlighted the need for the documentation of best practices and for wider dissemination. The net result is that many panchayats are coming forward with their eco plans. The integrated Panchayat Development Plan prepared by all panchayats is a stepping stone towards addressing many of the environmental concerns of villages.

In today's age of rapid technological advancements and digital transformation, India's rural local bodies are silently contributing their strength to ensuring the global target of carbon neutrality, as envisaged in the UN conference on climate change.

Rekha Yadav who was Joint Secretary, Ministry of Panchayati Raj, Government of India till recently, is now Divisional Railway Manager, North Eastern Railway

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IN ARITTAPATTI, TAMIL NADU GETS ITS FIRST BIODIVERSITY HERITAGE SITE

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November 22, 2022 04:35 pm | Updated 10:04 pm IST - MADURAI

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Arrippatti village is rich in ecological and historical significance. | Photo Credit: The Hindu

The Tamil Nadu Government on Tuesday, issued a notification declaring Arrippatti in Melur block, Madurai district, a biodiversity heritage site. The site spans a total area of 193.21 hectares

Arrippatti village, rich in ecological and historical significance, houses around 250 species of birds including three important raptors -- birds of prey, namely the Laggar Falcon, the Shaheen Falcon and Bonelli's Eagle. It is also home to wildlife such as the Indian Pangolin, Slender Loris and pythons. The biodiversity-rich area is surrounded by a chain of seven hillocks or inselbergs that serve as a watershed, charging '72 lakes, 200 natural springs and three check dams.' The Anaikondan tank, built during the reign of Pandiyan kings in the 16th century is one among them, the government notification said.

Several megalithic structures, rock-cut temples, Tamil Brahmi inscriptions and Jain beds add to the historical significance of the region.

To prevent the loss of biodiversity and to preserve the cultural and architectural heritage of bygone times, the State government, upon the recommendation of the Tamil Nadu Biodiversity Board has declared Arrippatti a biodiversity heritage site.

An order issued by Supriya Sahu, Additional Chief Secretary, Environment, Forests and Climate Change said, the declaration of the site, has been made under the Section 37 of the Biological Diversity Act, 2002.

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INDIA JUMPS 2 SPOTS HIGHER, AND NOW RANKS 8TH AS PER CLIMATE CHANGE PERFORMANCE INDEX (CCPI, 2023)

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

India has been ranked amongst top 5 countries in the world, and the best among the G20 countries, based on its Climate Change performance. India jumps 2 spots higher, and is now ranked 8th as per Climate Change Performance Index (CCPI, 2023) published by German Watch, New Climate Institute and Climate Action Network International based in Germany. The latest report of CCPI, released at COP 27 in November 2022, shows Denmark, Sweden, Chile and Morocco as the only four small countries that were ranked above India as 4th, 5th, 6th and 7th respectively. The first, second and third ranks were not awarded to any country. In effect therefore, India's rank is the best amongst all large economies.

The CCPI aims to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries. Published annually since 2005, the Climate Change Performance Index (CCPI) is an independent monitoring tool for tracking the climate protection performance of 59 countries and the EU. Every year, the CCPI sets off important public and political debates within the countries assessed. The climate protection performance of these 59 countries, which together account for 92% of global greenhouse gas (GHG) emissions, is assessed in four categories: **GHG Emissions** (40% of overall score), **Renewable Energy** (20% of overall score), **Energy Use** (20% of overall score) and **Climate Policy** (20% of overall score).

India earned a high rating in the GHG Emissions and Energy Use categories, while a medium for Climate Policy and Renewable Energy. The aggressive policies of India towards rapid deployment of renewables and robust framework for energy efficiency programs have shown considerable impact. As per the CCPI report, India is on track to meet its 2030 emissions targets (compatible with a well-below-2°C scenario).

The ranking given by CCPI places India as the only G-20 country in the top 10 rank. It may be mentioned here that India will now be assuming G-20 Presidency and it will be an opportune time to show the World, about its climate mitigation policies such as deployment of renewable sources of energy and other energy transition programmes.

Union Minister for Power and New and Renewable Energy, Shri R. K. Singh highlighted that India's CCPI ranking is testimony to the leadership shown by the Prime Minister Shri Narendra Modi towards addressing the global climate change despite pandemic and tough economic times. The top 5 rank globally reflects that India is implementing Energy transition programmes such as renewable capacity installation at much faster rate than anywhere in the world. He also highlighted various demand side flagship programs such as UJALA, PAT Scheme and Standards and Labelling Programme that have contributed significantly to this notable achievement.

SS/IG

India has been ranked amongst top 5 countries in the world, and the best among the G20 countries, based on its Climate Change performance. India jumps 2 spots higher, and is now

ranked 8th as per Climate Change Performance Index (CCPI, 2023) published by German Watch, New Climate Institute and Climate Action Network International based in Germany. The latest report of CCPI, released at COP 27 in November 2022, shows Denmark, Sweden, Chile and Morocco as the only four small countries that were ranked above India as 4th, 5th, 6th and 7th respectively. The first, second and third ranks were not awarded to any country. In effect therefore, India's rank is the best amongst all large economies.

The CCPI aims to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries. Published annually since 2005, the Climate Change Performance Index (CCPI) is an independent monitoring tool for tracking the climate protection performance of 59 countries and the EU. Every year, the CCPI sets off important public and political debates within the countries assessed. The climate protection performance of these 59 countries, which together account for 92% of global greenhouse gas (GHG) emissions, is assessed in four categories: **GHG Emissions** (40% of overall score), **Renewable Energy** (20% of overall score), **Energy Use** (20% of overall score) and **Climate Policy** (20% of overall score).

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CAN POOR COUNTRIES AFFORD TO GO GREEN?

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 25, 2022 12:15 am | Updated 01:57 am IST

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A crude oil refinery in Kochi. | Photo Credit: AP

The [27th United Nations Climate Change Conference \(COP27\)](#) concluded on November 20 in Sharm el-Sheikh Egypt. Nearly 200 countries [pledged to set up a 'loss and damage fund'](#) to help vulnerable countries affected by climate change. Developing countries have welcomed this development, which has been a long-time demand. Developed nations, however, are not satisfied with the level of commitment that poor countries have shown towards cutting down [greenhouse gas emissions](#) and phasing out fossil fuels. In a discussion moderated by **Prashanth Perumal J.**, **Navroz Dubash** and **Tejal Kanitkar** discuss issues surrounding the cost of going green. Edited excerpts:

Q / What is the likely economic cost of climate change? How can poor countries weigh the cost of climate change against the economic cost of cutting down on fossil fuel use?

A / Navroz K. Dubash: It is well established that the cost of climate change impact is considerable to economies. As temperatures rise, the cost of not addressing climate change is likely to rise. There's enough science to suggest that this cost is high. The question of weighing the relative costs of trying to mitigate climate change against the cost of climate change impact is more complex. We must not think about mitigation as a distinct thing, but instead think about the kinds of transitions that are required to bring about mitigation. For example, there is a shift towards lower emission energy systems around the world; that's a technological shift and the cost of those technologies has decreased to the point where they are now more or less cost competitive with coal-fired power plants. It makes economic sense to invest in these technologies. But the transition is difficult and is going to be costly. I think that's how we should frame this, not whether but how we have to get there, and also how those costs are borne.

A / COP27 | [India hails compensation fund approved at U.N. climate summit](#)

A / Tejal Kanitkar: First, are the costs of the fight against climate change high? Yes. The fight is long and includes not just mitigation costs. Often the focus is solely on estimates for the cost of mitigation. Many of these estimates are speculative, and we can err on either side. For example, even 15 years ago, we could not have anticipated the sharp drop in solar prices that we're seeing today. However, what makes the fight against climate change much harder is that for developing countries, much of our infrastructure is yet to be built. How possible is it to build this with just renewable energy technologies? There is a discourse around the opportunity offered by renewable energy that downplays the serious trade-offs that exist in moving away from known

technology too soon.

Q / Is it fair to expect developing countries to reach the per capita income levels of developed countries with the use of renewable energy?

A / Tejal Kanitkar: Even the basic minimum, in terms of universal well-being, would require much higher levels of energy. Much of our infrastructure is yet to be built. We need roads, housing, hospitals, schools, industries, etc. Is this all possible with renewable energy? No, it is difficult. We need other sources of energy, which are equally fraught with other concerns. The developing world does not have the luxury of using fossil fuels in an unconstrained manner, which the developed world has had. Climate change is real; we are going to face the impact. So, we have to pursue more deliberate, purposeful and optimal utilisation of fossil fuels that will allow us to bootstrap ourselves to a low carbon future. This is not going to be easy, but it is necessary; the developing world is much more vulnerable to the impacts of climate change. We need to utilise our fair share of carbon to build resilience and create the means to transition to a non-fossil fuel future. It is important, however, that our efforts are not utilised by developed countries to free ride on us, and that the benefits of our efforts must accrue back to us.

A / Navroz K. Dubash: We don't have the luxury of unconstrained fossil fuel use or high carbon energy trajectories. If we all chose a high carbon path to development, the impacts of climate change would make development itself much less tenable and would undermine the benefits we seek from development. Does this mean that we are obligated to a maximally low carbon path? No. This is where your belief regarding the renewable energy opportunities available becomes very relevant. If you think there aren't many opportunities, you won't deviate much from a high-carbon path. If you think there are opportunities, you might deviate quite a lot. The solution really lies in focusing on finding common ground between economic development and climate mitigation efforts.

A / Editorial | [Incremental win: On 'Loss and Damage' fund commitment at COP27](#)

A / We need to search for opportunities in the renewable energy space and sustainable urbanisation. Let me give examples. We have to build our cities around public transport and to some extent around walking and biking, to achieve lower emissions. Studies have shown that if you internalise the health costs of coal-fired power plants, about half of coal-fired power plants today are not economically viable. There are lots of reasons aside from climate change to accelerate this transition.

A / Tejal Kanitkar: These are developmental objectives that we must meet and there are likely to be some overlaps. Public transportation is a given. But if we frame the entire economy-wide transition in this way, we might end up in a situation where we only look for developmental options that have mitigation co-benefits also. That would be dangerous because we have examples of serious trade-offs in agriculture, for example. Recommending restrictions on providing irrigation to farmers because it would mean more energy, more emissions, etc. is a problem because irrigation leads to increased productivity, which improves the resilience of farmers. So, we must be careful that the idea of mitigation does not overshadow development.

A / Explained | [What is India's future strategy on emissions?](#)

A / Navroz K. Dubash: I don't think anybody is claiming that mitigation should be the dominant objective of development policy. The question is, can you approach this as a multiple objective problem where you are looking at development as encompassing many things including growth, distribution, air pollution, local environment benefits and a low carbon future? Is it legitimate to include mitigation outcomes or a lower carbon objective as one among several things that you

seek to manage your policy around? I argue that it is. I agree we need to look at both opportunities and trade-offs. Look at those opportunities in a clear and objective way, with mitigation being one among a slew of different objectives. It can be weighted less, but we should have our eye open to it.

Q / Given the carbon footprint of many green technologies, can they actually help cut down greenhouse gas emissions? And are there solutions to the climate crisis that address the root of the climate issue, which is that it is a global commons problem?

A / Tejal Kanitkar: Analysis of the life cycle emissions of renewable energy sources has shown that they are less compared to fossil fuels. But there are other factors such as battery materials, raw materials mining, etc. whose impact we will know only later as the use of green energy increases. This is the nature of technology, and we will have to innovate to address these issues. There are arguments that favour restricting demand, going back to traditional ways of doing things, etc. I think while sustainable consumption must inform our choices, glorification of the traditional ways of doing things ignores the hardship this means for large sections, particularly women.

A / Explained | [Who should pay for climate damage?](#)

A / Yes, the carbon space must be thought of as an example of the global commons. Its fair distribution must be the starting point of the way in which we think about the utilisation of these commons. Policies for imposing caps on emissions must be designed with this understanding. But no high-income or even upper middle-income countries have been able to achieve high levels of human development without overshooting their fair share of the carbon space. So, just being within our carbon space is going to be a challenge for India.

A / Navroz K. Dubash: Fossil fuel use should go to where it has the greatest welfare gains. A tonne of fossil fuel use gives you much greater welfare gains in poor countries where the use is lower. Poorer countries should also try to limit emissions not just for global reasons, but because they will have all these other associated development benefits. Let's not forget that limiting emissions is likely to be convergent with the goal of India becoming a more competitive economy in the future. India in the past made the mistake of focusing on deployment, and not manufacturing, of renewable energy. We now think more in terms of becoming competitive producers in these new low carbon technology spaces, which is good. It is a good approach to claim a large carbon space if we need it, but try as hard as possible not to utilise that claim.

Q / COP27 | [India hails compensation fund approved at U.N. climate summit](#)

A / Regarding the global commons, the climate crisis is a global collective action problem. As a political problem, it requires countries to agree to cap their emissions many decades into the future. Political systems work on three, five or seven-year cycles. So, we have a gap between the scientific and political understanding of the problem. At the end of the day, this is going to be dominated by the political understanding. I don't think we will have a political agreement on the allocation of carbon budgets. What we will have is political agreement on the means of support to accelerate the transition to a low-carbon future. That's what India needs to focus on.

A / Navroz K. Dubash is a professor at the Center for Policy Research, New Delhi; Tejal Kanitkar is an associate professor at the National Institute of Advanced Studies, Bangalore

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FIFA WORLD CUP QATAR 2022 GREEN HUMOUR BY ROHAN CHAKRAVARTY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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November 24, 2022 03:40 pm | Updated 03:40 pm IST

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Green Humour | Photo Credit: Rohan Chakravarty

Rohan Chakravarty is a cartoonist and illustrator from Nagpur. His series, 'Green Humour', consists of cartoons and comics on wildlife, nature conservation, environmental issues, sustainability and all things green.

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GOOGLE TESTING FULL EMOJI REACTIONS IN MESSAGES, REPORT

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November 24, 2022 01:33 pm | Updated 03:01 pm IST

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The full emoji reactions panel replaces the seven default emojis that users could react with earlier | Photo Credit: Reuters

Google is testing a full emoji picker panel for some users, according to a report from The Verge. The panel appears when users tap the “plus” icon that brings up the full emoji picker organised by category.

(For insights on emerging themes at the intersection of technology, business and policy, [subscribe](#) to our tech newsletter Today's Cache.)

Recently used reactions appear at the top.

The full emoji reactions panel replaces the seven default emojis that users could react with earlier.

The expanded emoji reactions appear to be limited at the time, with only some users having access to it.

The extra reactions are messy right now, depending on the communication standards supported by users' smartphones.

Emoji reactions appear to be working fine if both parties are using the RCS standard that Google has been pushing for some time. However, on Samsung devices, the app shows reactions as a separate message, the same is also the case for iPhone users.

Google had earlier tested new delivered/read indicators and photo picker redesign in Google Messages.

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UN WILDLIFE CONFERENCE ENDS WITH PROTECTION FOR 500 SPECIES

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November 26, 2022 08:45 am | Updated 08:45 am IST - Panama City

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Fans of hippos, found in more than three dozen African countries and regulars in nature documentaries, had hoped the convention would ban commercial trade, but that proposal was not approved. File | Photo Credit: AP

An international conference on trade in endangered species ended Friday in Panama, with protections established for over 500 species.

The measures were approved by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, known by its initials as CITES.

The conference agreed to tighten trade regulations on sharks targeted by the fin trade and tiny frogs with translucent skin.

Global shark populations are declining, with annual deaths due to fisheries reaching about 100 million. The sharks are sought mostly for their fins, which are used in shark fin soup, a popular delicacy in China and elsewhere in Asia.

Over two weeks, the 184-nation gathering sought to combat trade in species facing extinction.

The international wildlife trade treaty, which was adopted 49 years ago in Washington, D.C., has been praised for helping stem the illegal and unsustainable trade in ivory and rhino horns as well as in whales and sea turtles.

The translucent or glass' frogs have been hit hard by habitat loss, diseases and their popularity in the pet trade, said Joaquín de la Torre, the international director for the International Fund for Animal Welfare, IFAW.

"We have been waiting for this for three years," De la Torre said of the protections. "They are very charismatic species." The conference also voted to restrict trade in South American freshwater turtles known as Matamata, whose spikey, pre-historic appearance has made them popular among collectors.

CITES approved 46 of the 52 proposals presented, including restrictions on dozens of tree species.

Fans of hippos, found in more than three dozen African countries and regulars in nature documentaries, had hoped the convention would ban commercial trade, but that proposal was not approved.

The proposal to ban the hippo trade was opposed by the European Union, some African countries and several conservation groups, who argue many countries have healthy hippo populations and that trade isn't a factor in their decline.

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WORK ON INDIA'S FIRST-EVER NIGHT SKY SANCTUARY IN LADAKH'S HANLE GOING ON IN FULL SWING AND SHALL BE COMPLETE IN OVER A MONTH'S TIME

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

The work on India's first-ever Night Sky Sanctuary, being set up by CSIR under Union Ministry of Science & Technology, in Ladakh's Hanle is going on in full swing and shall be complete in over a month's time. The Night Sky Sanctuary will attract tourists from across the world over to picturesque Ladakh and also boost astro-tourism in the region.

This was stated here today by Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh, when Lieutenant Governor of Ladakh, R K Mathur called on him at North Block today.



This was a follow-up to the meeting held between the two in the month of September this year, when the Union Minister had announced that the setting up of India's first-ever "Night Sky Sanctuary" in Ladakh, the Dark Sky Reserve will be completed within 3 months. The two leaders also discussed a wide range of development related issues pertaining to the Union Territory.

RK Mathur apprised the Union Minister Dr. Jitendra Singh about the Rozgar Mela held on 31st October in Ladakh where the UT Administration gave away appointment letters to around one thousand local youth, furthering the call of Prime Minister Narendra Modi to give jobs to the deserving youth of the country.

While discussing the various projects, Dr Jitendra Singh said, Prime Minister Narendra Modi has always accorded highest priority to Ladakh and other peripheral regions.



Dr. Jitendra Singh appreciated the efforts of RK Mathur-led Ladakh administration in carrying out development work in various spheres in Ladakh. The Union Minister assured all possible assistance of the Centre in completion of developmental projects in the UT. Mathur informed the Union Minister Dr. Jitendra Singh about the status of several public welfare and developmental projects in Ladakh.



In a unique and first-of-its-kind initiative, the Department of Science & Technology (DST), Govt of India, has undertaken to set up India's first-ever "Night Sky Sanctuary" in Ladakh. The

proposed Dark Sky Reserve will be located at Hanle in Ladakh as a part of Changthang Wildlife Sanctuary. It will boost Astro tourism in India and will be one of the world's highest-located sites for optical, infra-red, and gamma-ray telescopes.

SNC / RR

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MIGRATORY BIRDS ARRIVE AT HARIKE WETLAND IN PUNJAB

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November 27, 2022 11:43 am | Updated 11:43 am IST

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More than 90,000 migratory birds of over 90 different species from different countries, including Siberia, Mongolia, Kazakhstan, Uzbekistan, Russia and other parts of the world arrive at the Harike wetland every year. Image for Representation. | Photo Credit: Kumar Akhilesh

Migratory birds from different countries have started arriving at Punjab's Harike wetland, with around 40,000 winged visitors reaching the northern India's largest wetland so far.

More than 90,000 migratory birds of over 90 different species from different countries, including Siberia, Mongolia, Kazakhstan, Uzbekistan, Russia and other parts of the world arrive at the Harike wetland every year after water bodies get frozen in their native places in winter.

Harike wetland, spread over 86 square kilometers in Tarn Taran, Ferozepur, and Kapurthala districts, serves as a home to rare species of migratory water birds during the winter season.

The wetland is situated on the confluence of Sutlej and Beas rivers.

According to an official of Punjab's wildlife preservation department, around 40,000 migratory birds have so far arrived at Harike wetland, which is also known as 'Hari Ke Pattan'.

The number of migratory birds is expected to rise in the coming weeks, said the official.

Winged guests like spoonbills, painted storks, coots, common pochard, ruddy shelduck, gadwall, bar headed geese, greylag geese and common teal have arrived, said Gitanjali Kanwar, coordinator, World Wild Fund for Nature (WWF) India.

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"Shoreline birds like gulls, terns, sandpipers and plovers are the first ones to arrive," she further said.

"The migration of birds this time is a bit late but more birds will be arriving in the coming days," she added.

"We are waiting for flocks of greylag geese and red-crested pochard. They have come but in

small groups," said Kanwar.

The exact numbers of their arrival could be known only in January when the census of water birds will be conducted, said Kanwar.

Migratory birds which arrive at Harike wetland stay till March.

Last year, a total of 74,869 migratory birds of 88 different species had arrived while in 2020, the number of the winged visitors was 91,025 belonging to 90 species.

A total of 94,771 birds of 94 species had arrived at the wetland in 2018 and while in 2019, 1,23,128 winged visitors of 83 different species had flown in.

Kanwar said awareness camps were also organised for riparian communities which are living near the wetland for their involvement in preserving the area of avian guests.

The official of the wildlife preservation department said patrolling teams have been deputed at Harike to check poaching of migratory birds.

"Round-the-clock patrolling is undertaken. Patrolling is also done through motorboats," said the official.

The department has also deputed guides to facilitate tourists.

Apart from the Harike wetland, migratory water birds also arrive at Keshopur Miani wetland, Nangal wetland, Ropar wetland, Kanjli wetland and Beas river wetland in the state.

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EASTERN MARSH HARRIER 'DINES OUT' AT ORAGADAM LAKE NEAR INDUSTRIAL HUB

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November 27, 2022 12:28 am | Updated 05:19 pm IST

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An immature Eastern marsh harrier in flight over Oragadam lake. | Photo Credit: Syed Ibrahim

With massive wingspans and streamlined bodies, birds of prey come closest to being a flesh-and-blood representation of the aeroplane. And just like aeroplanes, they need an expansive space — to be parked in jaw-dropping majesty; and for take-off and landing.

The Oragadam lake and its precincts tick all the big boxes (hangout space; dine-in facility; and reasonable quiet) for an immature female Eurasian marsh harrier, and the bird has made this space its hunting ground. On November 15, Syed Ibrahim, a resident of Padappai and a member of Madras Naturalists' Society, spotted the immature female Eastern marsh harrier, a relatively uncommon visitor in these parts. The record shows up on eBird, having been confirmed as an immature female Eastern marsh harrier by eBird reviewer Gnanaskandan Kesavabharathi.

"eBird records of the Eastern marsh harrier for the Tamil Nadu region are thin; and the first sighting of the species in the Kancheepuram district occurred around Sriperumbudur lake in February 2016, when Gnanaskandan Kesavabharathi saw it," says Syed.

Gnanaskandan weighs in: "Subsequently, there were two more sightings of the Eastern marsh harrier — in the 2017-2018 season — in Kaliveli lake, and on both occasions, a male bird came into view. There was another sighting of the Eastern marsh harrier — an adult female — around Trichy region. This season, in October, a juvenile was sighted at Maduranthakam lake." This patch at Oragadam is marked by the Oragadam lake girdled by grassland on one side; and a stretch of paddy fields on the other. "With many of the paddy fields lying fallow, there is extended "landing" space now for this Eastern marsh harrier," says Syed, who believes this bird is using this sweep of water and land as an occasional hunting ground. "After the November 15 sighting, I put in an appearance at the lake on the days immediately following it, and the bird was not to be found. It could be roosting somewhere else, but have this patch as one of its feeding options," Syed observes. The Eastern marsh harrier does not vary noticeably from the Western marsh harrier and other harriers in its "gastronomic" choices.

The immature Eastern marsh harrier creating a flutter among a flock of Eurasian wigeons at Oragadam lake | Photo Credit: Syed Ibrahim

It remains steadfast to the diet-plan of the harrier family: Frogs, birds and small mammals. “Right now, in winter, the Oragadam lake hosts Eurasian wigeons and garganeys,” explains Syed. And paddy fields are a reliable hunting ground for frogs. The MNS member remarks that though Oragadam is an industrial hub, the lake is tucked away, located behind the factory of Daimler India Commercial Vehicle, and there is sufficient quiet, particularly in the morning hours — a factor probably recommending the waterbody as a breakfast joint for this Eastern marsh harrier.

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SCIENTISTS DISCOVER NEW SPECIES OF BLACK CORALS NEAR THE GREAT BARRIER REEF

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November 26, 2022 07:50 pm | Updated 07:50 pm IST

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Using a remote-controlled submarine, researchers at Smithsonian Institution, Washington, discovered five new species of black corals living as deep as 2,500 feet (760 metres) below the surface in the Great Barrier Reef and Coral Sea off the coast of Australia.

Black corals can be found growing both in shallow waters and down to depths of over 26,000 feet (8,000 metres), and some individual corals can live for over 4,000 years.

Many of these corals are branched and look like feathers, fans or bushes, while others are straight like a whip. Unlike their colourful, shallow-water cousins that rely on the sun and photosynthesis for energy, black corals are filter feeders and eat tiny zooplankton that are abundant in deep waters.

In the past, corals from the deep parts of this region were collected using dredging and trawling methods that would often destroy the corals.

The researchers first sent a robot down to these particular deep-water ecosystems, allowing the team to actually see and safely collect deep sea corals in their natural habitats. Over the course of 31 dives, the researchers collected 60 black coral specimens.

They then removed the corals from the sandy floor or coral wall using the rover's robotic claws, placed the corals in a pressurised, temperature-controlled storage box and then brought them up to the surface.

The researchers then examined the physical features of the corals and sequenced their DNA.

Among the many interesting specimens were five new species – including one that was found growing on the shell of a nautilus more than 2,500 feet (760 metres) below the ocean's surface.

Similarly to shallow-water corals that build colourful reefs full of fish, black corals act as important habitats where fish and invertebrates feed and hide from predators in what is otherwise a mostly barren sea floor.

For example, a single black coral colony researchers collected in 2005 off the coast of California, United States, was home to 2,554 individual invertebrates.

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COSTA RICA CROCODILES SURVIVE IN 'MOST POLLUTED' RIVER

Relevant for: Environment | Topic: Environmental Pollution - Air, Water, Soil & E-waste

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November 26, 2022 03:04 pm | Updated 03:04 pm IST

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A crocodile in the Tarcoles River—the most polluted river in Central America—97 km southwest of San Jose, Costa Rica, on November 21, 2022. | Photo Credit: AFP

In one of the most polluted rivers in Central America, a vulnerable crocodile species is thriving despite living in waters that have become a sewer for Costa Rica's capital, experts say.

Every day, trash and wastewater from San Jose households and factories flood into the Tarcoles River, which vomits tires and plastic into the surrounding mangroves.

Nevertheless, some 2,000 American Crocodiles have adapted to life in the toxic river that bears witness to the country's decades-long battle with waste management.

"It is a super-contaminated area, but this has not affected the crocodile population," said Ivan Sandoval, a biologist with the National University of Costa Rica.

"The Tarcoles River is the most polluted river in Costa Rica, and one of the most contaminated in Central America. Heavy metals, nitrites, nitrates, and a large amount of human waste can be found," added the crocodile expert.

According to the International Union for Conservation of Nature (IUCN), there are only about 5,000 of the crocodile species -- found in 18 countries -- left in the world after decades of hunting and habitat loss.

The organization lists the *Crocodylus acutus* as "vulnerable," but says its numbers have increased in recent years. The Costa Rica population is "healthy and robust."

Some 2,000 American crocodiles (*Crocodylus acutus*) inhabit the Tarcoles River, which rises in the Central Cordillera, near San Jose, and into which sewage and garbage have been dumped for decades, which are already part of the ecosystem in the area where it empties into the ocean, in the Gulf of Nicoya. | Photo Credit: AFP

Indeed, the large reptiles -- basking in the sun and occasionally feeding on fish that come up the channel from the sea -- appear unphased by some 150 types of bacteria that Sandoval says have been detected in the river.

He describes the carnivores as "living fossils" with the capacity to survive very tough conditions.

"They haven't had to change anything in millions of years, they are perfectly designed."

Sandoval said that since 1980, Costa Rica's population of the crocodiles "are recovering," and warns of the threat of tourist activities.

The river's crocodiles are a major draw for foreign visitors, who take boat tours to see the creatures up close.

Some feed the animals, which is prohibited, and Sandoval worries about them getting too used to being close to people.

Juan Carlos Buitrago, 48, who captains one of the tour boats, says he and other locals regularly pull hundreds of tires and plastic waste from the water.

He delights in the fauna of the river, with macaws flying over ahead at sunset, but wishes his countrymen would stop polluting his "office."

"We cannot hide the pollution," he tells AFP.

Costa Rica has impressive environmental credentials, with a third of its territory marked for protection, 98% renewable energy, and 53% forest cover, according to the UN's environmental agency.

However, the law is not always strictly applied, as in the case of the Tarcoles River.

Lawyer and environmentalist Walter Brenes, 34, said that all of Costa Rica's rules and regulations "do not solve the problem."

He said the country needs "real public policy that is completely aimed at protecting wildlife."

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LOSS AND DAMAGE DECISIONS, PITFALLS AND PROMISES

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

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Qatar World Cup 2022 Brazil 1-0 Switzerland, FIFA World Cup 2022: Casemiro sends Brazil to last 16

November 29, 2022 12:08 am | Updated 12:08 am IST

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At COP27, in Egypt | Photo Credit: AP

A major takeaway from COP27 in Egypt, as far as loss and damage (L and D) is concerned, is the decision relating to new funding arrangements focusing on L and D — those particularly vulnerable to the adverse effects of climate change.

The decision includes a transitional committee to prepare elements relating to the operationalisation of the new funding arrangements to be adopted at COP28. The decision restores the faith of countries, especially those vulnerable, in the process of multilateralism. The committee will aim to identify and expand sources of funding, which demonstrates a lack of clarity on the source of funding (adequate and predictable) accruing to the new fund only. There is a question mark over the new L and D fund with non-compliance by developed countries as far as climate finance commitment (mobilising \$100 billion per year by 2020) is concerned. The new funding arrangements will complement the existing arrangements and include sources, funds, processes and initiatives under and outside the Convention and the Paris Agreement, which would assist in mobilising new and additional resources. This dilutes the consistent demand raised at COP27, and outside of it by the Alliance of Small Island States (AOSIS) to set up a dedicated loss and damage response fund, which would be on top of existing climate finance commitments.

The decision again recognises the mitigation-centric nature of the history of climate change negotiations to be suiting the agenda of developed countries. It says restricting the global average temperature rise to below 1.5° Celsius is essential to limiting future loss and damage.

The mitigation-centric nature of the negotiation can be traced to Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC) 1992. Adaptation as the second pillar of the climate change regime is possible once 'stabilisation of greenhouse gas concentrations is achieved at a level that prevents dangerous human-induced interference with the climate system and allows ecosystems to adapt naturally to climate change'. L and D could gain traction after two decades of climate change negotiations at Paris 2015. Article 8(1) only makes the party recognise the importance of averting, minimising, and addressing L and D associated with the

adverse effects of climate change, including extreme weather events and slow onset events.

In the entire climate change negotiations, the developed countries have consistently opposed being made liable for climate-change related adverse effects. The basis for their contribution to various funds so far is the principle of common but differentiated responsibilities and respective capabilities (CBDR). For global environmental degradation, they only acknowledge their responsibility in view of the pressures their societies place on the environment and of the technologies and financial resources they command, according to research papers.

The compensation aspect involves a serious legal hurdle of establishing causal relations between the injurer and the victim since the adverse effects of climate change occur substantially later than the greenhouse gas emissions that cause them. During the negotiation process for the UNFCCC in 1991, AOSIS, which is at the forefront for the cause of loss and damage, “unsuccessfully” tried to include the establishment of an international insurance pool as a ‘collective loss-sharing scheme to compensate the most vulnerable small island and low-lying coastal developing countries for loss and damage arising from sea level rise’. Funding was to come from assessed contributions according to a ‘formula modelled on the 1963 Brussels Convention Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy, with 50% based on parties’ relative contributions to emissions in the year prior to a contribution year, and 50% based on parties’ relative shares of gross national product in the year prior to the contribution year’.

The realisation of the 1991 proposal would have addressed at least who pays for the L and D. But the concept of an international insurance pool requires more research and deliberation amongst major emitters in developed and developing countries. In Egypt, AOSIS, instead of insisting on an international insurance pool, demanded a dedicated L and D Response Fund. It wanted funding from governments on a grant basis, which would be on top of existing climate finance commitments. The fund would also draw upon other potential sources, which include, as UN Chief Antonio Guterres advocates, a windfall tax on oil and gas companies’ profits. The idea of taxing fossil fuel oil and gas companies needs more research as it indicates an alternative to the nation-state approach of climate change negotiations. The idea highlights that ‘substantial emissions have come from fossil fuels sourced from non-Annex I countries such as China, India, Saudi Arabia, South Africa, Iran, Brazil, and Mexico, and from nations that are not large-scale emitters, such as Nigeria, Venezuela, Kuwait, Angola, Malaysia, and Libya’.

The German-backed “Global Shield Scheme against climate risks”, is a part of COP27’s decision. The Shield is aimed at increasing pre-arranged finance to be disbursed before or just after disasters happen. The AOSIS favours a dedicated L and D response fund which would help disburse funding from different propositions, including the Global Shield, and avoid a piecemeal approach. The other probable avenues to address L and D are litigation, but the issues of causation, attribution and standing appear to be potential obstacles, at the domestic and international levels.

Anwar Sadat is Senior Assistant Professor, International Law, specialising in Environmental Law, at the Indian Society of International Law, New Delhi

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