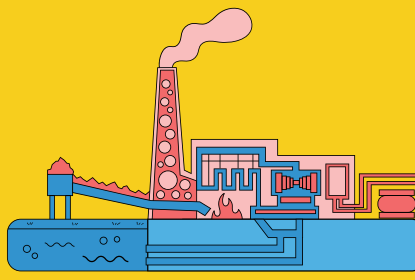
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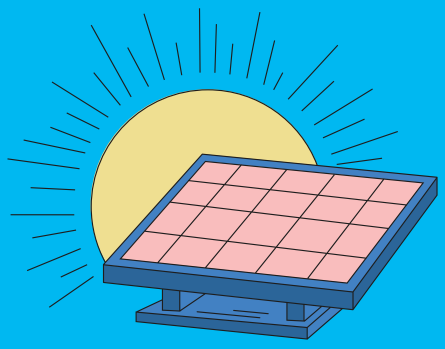
THE GREENBOOK[3]

GNLU Centre for Environment, Sustainability & Climate Justice

Edition III

February '24 - February '25

A Green Glimpse: COP29 and Gujarat's Environmental Crossroads



India's Solar Surge

India has made significant strides in its renewable energy journey, surpassing 150 GW of capacity with solar power leading the charge. But experts warn that challenges remain to be addressed for long-term success.



ICCJSE'25 : A Call For Action

Join us at ICCJSE'25 (25 - 27 July 2025) as we come together to rethink environmental law and policy, calling for action and accountability in challenging times.

This year's conference promises to be a big step in shaping the future of climate justice and sustainable environment.

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THE GREENBOOK[3]

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By **Kanak Mogha**

Environmental Crisis In Gujarat
a call for urgent action

Opinion Editorial

Introduction

Gujarat is one of India's most industrially vibrant states, sitting at the crossroads of economic growth and environmental sustainability. Although the state has received worldwide recognition for its robust industrialization, agriculture, and renewable energy initiatives, it still faces severe environmental challenges. Among them, the state faces a highly deteriorated degradation of its natural resources, such as water bodies and air quality, which is detrimental to its citizens' health and the sustainability of its growth.



Ground Water Crisis

Perhaps one of Gujarat's most vital environmental concerns is the disturbing level of deterioration and pollution in ground water. Indiscriminate and accelerated ground water abstraction for purposes of industrial and agricultural intensification have become unsustainable. As the Central Ground Water Board reveals, more than 80% of ground water abstraction wells in the state show a decreasing trend in their water levels. Water stress levels are extremely alarming in areas like Kutch, Saurashtra, and Northern Gujarat.
Groundwater contamination, particularly by fluoride, nitrate, and salinity, adds to the woes. Industrial effluents and untreated sewage are the major culprits, and cities like Ahmedabad and Vadodara have seen a deterioration in groundwater quality. The Sabarmati River, once a symbol of prosperity for Gujarat, now suffers from pollution caused by untreated industrial discharge, making its water undrinkable and unsuitable for agriculture.

Air Pollution in Urban Centers

The cities of Gujarat, and particularly Ahmedabad and Surat, are facing increasingly poor air quality. Ahmedabad has often ranked among India's most polluted cities, with PM2.5 levels often far exceeding the limits considered safe by the World Health Organization. Emissions from vehicles, industrial pollution, and construction dust form the principal source.
At the same time, the state's thriving industrial sector, which forms the backbone of the economy, is its biggest pollutant in terms of air. While emissions from Ankleshwar-Vapi belt industries are poisonous VOCs and particulate matter, these emissions have been responsible for surging respiratory problems and other health problems in the people living here.

By **Kanak Mogha**

Environmental Crisis In Gujarat
a call for urgent action

Climate Change: An Impending Threat

Gujarat is highly susceptible to climate change impacts, including rising temperatures, erratic rainfall, and frequent extreme weather events. The agricultural sector of the state, which employs a significant portion of the population, faces severe challenges due to unpredictable monsoon patterns. Crop failures in drought-prone regions like Kutch and Saurashtra are increasingly becoming a problem for farmers, leading to economic distress and migration.

The other threat is rising sea levels. The coastal regions-the cities of Bhavnagar and Jamnagar, in particular-are at the risk of submersion, with this likely to result in the large-scale displacement of communities and loss of infrastructure.



Efforts and Opportunities

The Gujarat government has also initiated several schemes to address such environmental issues. The most important of these initiatives is the Sujalam Sufalam Jal Abhiyan that focuses on the conservation of water and rejuvenation of water bodies. The renewable energy focus on solar and wind power in the state also supports international efforts to prevent climate change. Gujarat's own solar parks, such as Charanka Solar Park, are model examples of developing clean energy resources.

However, these initiatives need to be scaled up and integrated into a broader environmental strategy. Industrial compliance with environmental regulations must be strictly enforced, and penalties for polluters should be significant enough to deter violations. Public-private partnerships can play a crucial role in promoting green technology and sustainable practices.

In addition, more community engagement is required. Local communities, especially in the rural areas, should be equipped with knowledge and means to adopt sustainable water and agricultural practices. Such programs as rainwater harvesting, organic farming, and afforestation can help restore ecological balance.

Way Forward

It's a challenge, but also an opportunity. On the one hand, the state must continue to lead India's economic growth. On the other hand, it cannot afford to do so at the cost of its environment. There is a lesson for Gujarat from global industrial hubs, which is clear: economic growth must align with ecological sustainability in order to enjoy long-term prosperity.

A concerted effort from the state government, industries, and citizens will help to overcome these environmental concerns. It will require a multi-faceted approach including more stringent regulation, investment in clean technologies, and community engagement to lead the way toward a sustainable future.

By **Malika Aziz**

The Land That Spoke In Silence

Climate Reality

"People have become so detached from nature."

Mr. Lobzang Vishuda, a wildlife conservationist, told me.

"They drive over wetlands, destroying the nests of black-necked cranes. They don't even realize the harm they're causing."

During my 12th-grade batch trip I went to Hanle, Changthang, near the China border in Ladakh, where the Indian Astronomical Observatory is located, one of the highest observatories in the world. The place was breathtaking — a sky so wide and clear, with stars filling the night. The people lived simply, with electricity arriving only at 7 pm and vanishing by morning. It felt like freedom, far from the busy world. However, in just the past year, things started changing. Festivals in Hanle brought tourists, but with them came litter — plastic bottles and wrappers scattered across the land. The place I once visited, full of untouched beauty, was no longer the same. It made me think of my own life — how little I had noticed these changes until I saw them with my own eyes. The stillness wasn't just peaceful; it was a loss. The land I once thought would remain pure was now being harmed. It's a reminder that we cannot just enjoy nature; we must protect it, before it's too late.











By **Keerthana Rakesh** & **Jay Wardhan**

Thirsting for Heritage
The Water Crisis in Sarkhej

Opinion Editorial

Ahmedabad's rapid growth has seen its population double from 2.9 million in 1991 to 5.6 million in 2011, placing immense pressure on its water bodies. Sarkhej Lake—a 15th-century man-made heritage lake—has suffered due to neglect amid this urbanization. Although recognized by the Archaeological Survey of India as a site of national importance, preservation efforts have primarily focused on aesthetic conservation rather than ecological health.



The urbanization of Sarkhej's catchment area over the past two decades has led to hydrological changes and severe degradation affecting both Sarkhej Lake and Makarba Lake. Following its incorporation into urban Ahmedabad in 2006, New-West lacked basic infrastructure like municipal water supply or sewage connections until plans were made under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) around 2008–2009. Unfortunately, Makarba Lake has become a dumping ground for wastewater from surrounding households—approximately 70% illegally discharge sewage into it—exacerbating pollution levels that pose significant public health risks due to waterborne diseases.

A 2014 study revealed both lakes exceed permissible standards for coliforms and suspended solids set by regulatory bodies like the Central Pollution Control Board (CPCB) and WHO. The lake's high alkalinity—caused by detergent runoff—and increased evaporation during summer worsen pollution conditions. Once revered as sacred sites for ablutions, Sarkhej Lake now suffers from polluted wastewater that deters local residents and tourists alike.



Management challenges stem from overlapping responsibilities among stakeholders; unclear jurisdiction leads to a "nobody's responsibility" scenario regarding lake maintenance. As both Makarba and Sarkhej lakes transition from valued heritage sites to sewage dumps, little attention has been given to preserving their natural heritage alongside built structures.

By **Keerthana Rakesh** & **Jay Wardhan**

Thirsting for Heritage
The Water Crisis in Sarkhej

To address these issues effectively:

- Align Stakeholder Roles: Clarifying responsibilities among various stakeholders is essential.
- Community Education: Raising awareness about preserving natural heritage can empower local communities.
- Monitoring Illegal Activities: Enhanced oversight can help curb illegal discharges into lakes.
- Youth Empowerment: Educating young people about sustainable water management can foster long-term positive impacts.

Ultimately, preserving these lakes requires collective efforts prioritizing long-term sustainability over short-term fixes—potentially recognizing them as World Heritage Sites if managed effectively (Gargi M., Prasenjit S., Mona Iyer).







2024-2025
curated by
Aadhya Rajesh

NEWS UPDATES

India Expresses Disappointment Over COP29 Climate Finance Agreement

At COP29 in Baku, India criticized the climate finance commitment of $300 billion annually under the New Collective Quantified Goal (NCQG), citing it as inadequate compared to the Global South's demand of $1.3 trillion per year. India emphasized the failure of the Global North to uphold equity and the principle of common but differentiated responsibilities, as outlined in the Paris Agreement





Tensions Rise as NGOs Push for Stronger Climate Action at COP29

Environmental NGOs took an aggressive stance during COP29, with protests highlighting dissatisfaction over weak climate finance commitments. US climate envoy John Podesta was heckled by campaigners, and the final plenary saw cheers from nations rejecting the $300 billion annual funding as insufficient. NGOs remain critical allies for developing nations navigating the complexities of global climate negotiations.

COP29 Ends Contentiously as Developing Nations Slam $300 Billion Climate Fund

COP29 concluded with a divisive agreement to provide $300 billion annually for climate financing, far below the $1 trillion demanded by developing countries. Delegates also set a target to reach $1.3 trillion by 2035, but developing nations called the pledge "insulting," highlighting its inadequacy in addressing the global climate crisis.



Carbon Credit Market Initiated Following COP29 Agreement

At COP29, countries finalized rules for carbon trading markets, enabling nations and companies to trade credits to offset carbon emissions. This mechanism, initially proposed in the 2015 Paris Agreement, aims to allow polluters to compensate for emissions by funding carbon reduction projects elsewhere. The agreement includes provisions to prevent emission double-counting, though concerns about potential greenwashing and insufficient regulations persist. Experts caution that some credits may lead to increased CO_2 emissions and reduced motivation for emitters to lower their own emissions.

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NEWS UPDATES

Breakthrough Agreement on Methane Emissions Reduction

Over 150 countries at COP29 signed the Global Methane Pledge 2.0, committing to reduce methane emissions by 40% by 2030. Methane, a potent greenhouse gas, is a significant contributor to short-term global warming. The agreement also includes funding mechanisms for better methane monitoring and leak reduction in the oil, gas, and agricultural sectors. Environmentalists hailed this as a vital step toward addressing a neglected aspect of climate change mitigation.



Indigenous Groups Recognized in Historic COP29 Accord

For the first time in COP history, Indigenous peoples' rights and knowledge systems were formally recognized in a climate action agreement. The document emphasizes the inclusion of Indigenous-led solutions in adaptation strategies, with funding allocated for traditional conservation practices. Indigenous representatives called this a win for biodiversity protection and community resilience, underscoring the role of local knowledge in tackling climate change.

Supreme Court of India Declares Right Against Climate Change a Fundamental Right

In the landmark judgment of MK Ranjitsinh v. UoI, the Supreme Court recognized the right against climate change as integral to the constitutional rights to life and equality under Articles 21 and 14. Chief Justice D.Y. Chandrachud emphasized that environmental stability is essential for realizing these fundamental rights, marking a significant step in climate justice jurisprudence.



Gujarat AAR Grants GST Exemption for Mangrove Afforestation Project

In a ground breaking ruling, the Gujarat Authority for Advance Ruling (AAR) granted GST exemption to a local NGO, Vikas Centre for Development (VCD), for its mangrove afforestation project along Gujarat's coast. The AAR recognized the initiative as a "charitable activity," marking a significant step for environmental conservation. Rajesh Shah, VCD's managing trustee, hailed the decision as a milestone in acknowledging forest and watershed conservation efforts as essential charitable endeavors.

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NEWS UPDATES

Waste-to-Energy Plant Inaugurated in Ahmedabad



Gujarat's largest waste-to-energy plant was inaugurated in Ahmedabad's Piplaj area. The ₹375 crore facility can process 1,000 metric tons of waste daily, generating 15 MW of electricity. Built under a Public-Private Partnership (PPP) model, the plant enhances waste management and supports clean energy goals.



India Achieves Solar Power Milestone, Crosses 150 GW Renewable Capacity

India has surpassed 150 GW of renewable energy capacity, with solar power leading the charge at over 70 GW. This milestone marks significant progress toward the country's goal of 500 GW of non-fossil fuel energy capacity by 2030, as pledged in its updated climate commitments. Supported by large-scale solar parks, rooftop installations, and government schemes like the PLI program for solar panel manufacturing, states such as Gujarat and Rajasthan have emerged as key players in this green transition. However, experts warn that challenges like financing, grid stability, and land acquisition must be addressed to sustain momentum and achieve long-term goals

2024 on Track to Be Warmest Year in History

The World Meteorological Organization (WMO) has reported that 2024 is set to become the hottest year ever recorded. Global temperatures from January to September were 1.54°C above pre-industrial levels, driven by elevated greenhouse gas emissions and an ongoing El Niño event. Key climate indicators, such as glacier loss, sea-level rise, and ocean heating, continue to accelerate, putting the Paris Agreement's 1.5°C target in jeopardy.





Global Carbon Emissions Hit Record Highs in 2024

Despite progress in renewable energy and electric vehicles, global carbon emissions are projected to reach 41 billion tonnes in 2024, marking a new record. While fossil fuel emissions have decreased in some developed nations, land-use changes and climate events such as Amazon wildfires and Canadian forest fires have exacerbated emissions.

2024-2025
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NEWS UPDATES

Colombia Achieves Historic Drop in Deforestation

Colombia has reported a 36% reduction in deforestation, marking the lowest rates ever recorded in the country. This significant achievement has directly benefited the Amazon rainforest, preserving biodiversity and combating climate change. The progress has been attributed to Indigenous-led campaigns and stricter enforcement of environmental protections, emphasizing the importance of grassroots activism in driving conservation effort

Cyprus Turtle Nests Surge by 25%

Green and loggerhead turtles are thriving on the beaches of Cyprus, with the number of nests increasing by 25% compared to last year. This comeback is credited to robust conservation measures, including daily patrols and fines of up to €17,000 for violations. These efforts have successfully safeguarded key nesting sites, highlighting the role of proactive legislation in wildlife recovery



2024

CENTRE UPDATES

The most significant part of 2024 was definitely the IUCN-AEL Colloqium that was hosted by the Centre in July 2024. With both offline and online presentations by hundreds of delegates from around the world, organizing this event was both extremely challenging and fulfilling for GCESCJ. This event was the first of its kind to happen in India since its inception in 2003. We are incredibly grateful to Prof. (Dr.) S. Shanthakumar, Faculty Convenor, for paving the way and granting us the opportunity to host such a prestigious event in GNLU.



The Eco-club also undertook new activities in the past year in addition to regular bouts of plogging. One of these events was the plantation drive, conducted in collaboration with NSS and BSW Students, which involved the participation of several students who planted saplings around the campus and also in Bhaijipura. The plantation drive in the campus saw enthusiastic participation of students and their efforts shall soon bear fruits. The Club was instrumental in the procurement of new dustbins for the campus which are now fixed campus wide. Further, Litter-ary Genius competition was conducted which saw enthusiastic and witty participation of students. The Eco club is looking forward to hosting several events in 2025 that will help us connect more with the nature that surrounds us and emphasise the harmony that exists between law and a sustainable environment.





The Research wing has also been active, working tirelessly at both the front and backends. In the odd semester, a team comprising of Dirshi Shah (team lead), Aradhana Barpanda, Deepika Reddy Y, Shaula Bhushan, Shaumya Tiberwala, Suha K and Vidita Govindachari submitted inputs to the Special Rapporteur on the topic of 'Climate Finance, Debt and Human Rights'. This document was cited in the report of the Independent Expert on the Effects of Foreign Debt to be presented in the 58th session of the Human Rights Council in February 2025. It has also been published on the UN OHCHR website. This is the second such input which the Centre has submitted. Earlier, the research team had submitted inputs to the Special Rapporteur on Human Rights and Environment on the topic 'Promoting Environmental Democracy: Procedural Elements of the Human Right to a Clean, Healthy and Sustainable Environment'. This team comprised of Salew P Kadena (team lead), Abhishek Tiwari, Tanisha Kachhawa, Anoushka Jain, Aparna Vats, Dharshan Govinth and Durlabhya Singh. This contribution was presented in an online consultation with the UN Special Rapporteur for Right to Development.



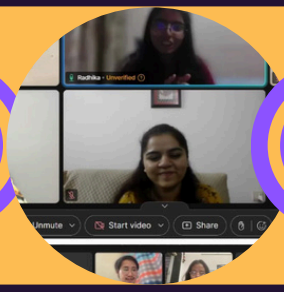


2024

NEWS UPDATES







The Centre also launched the pan-Indian Hackathon in 2024 which started with the introductory webinar on Digital Health x Climate Change in correspondence with the Transform Health Coalition. The resource persons for this session included speakers from diverse backgrounds. The webinar was graced by Ms. Mrunmayee , Dr. Dhanya S. , and Dr. Adrianna. The Climate Change Hackathon has proven to be a huge success for our Centre and is hopefully the first of many milestones to come this year. The judges for the hackathon were Ms. Palak Chakraborty, Ms. Sharon Matthew, and Ms. Aishwarya Tiwari.

In March 2025, we will be hosting the second edition of the International Conference on Climate Justice and Sustainable Environment (ICCJSE). The first edition of the ICCJSE took place in 2023 and has been instrumental in shaping GCSESCJ into what it is today. We encourage all of you to participate and look forward to this event. The theme of ICCJSE'25 is " Rethinking Environmental Law and Policy: A Call for Action and Accountability in Challenging Times".

GNLU Students Shine

Our student, Yashweer from the batch of 2022-27, filed several RTIs regarding widespread use and intentional release of two highly Invasive Alien Species of fish, namely Gambusia Affinis (Mosquitofish) and Poecilia Reticulata (Guppy), which are being released in millions across thousands of locations in India by the state governments. These species are being used as biological control agents for mosquito control throughout the country.

He presented a paper on this subject at the 21st IUCN Colloqium and then sent a letter to the Hon'ble National Green Tribunal, Principal Bench, New Delhi, urging the tribunal to take cognizance of the grave ecological and environmental concerns. The matter was taken up by the Tribunal and registered as an original application, and he filed my written submissions in January 2025.

The matter was listed for admission on 24 January 2025 before Court I of the NGT, Principal Bench [Yashweer Singh v Ministry of Health and Family Welfare & Ors., O.A. 25/2025]. The outcome of the case will reveal India's policy stance toward using and releasing Invasive Alien Species despite documented harmful impacts and an apparent lack of research into alternatives.

By **Priyal Mantri**

VINTAGE ARCADE • CROSSWORD (HINTS)

ACROSS

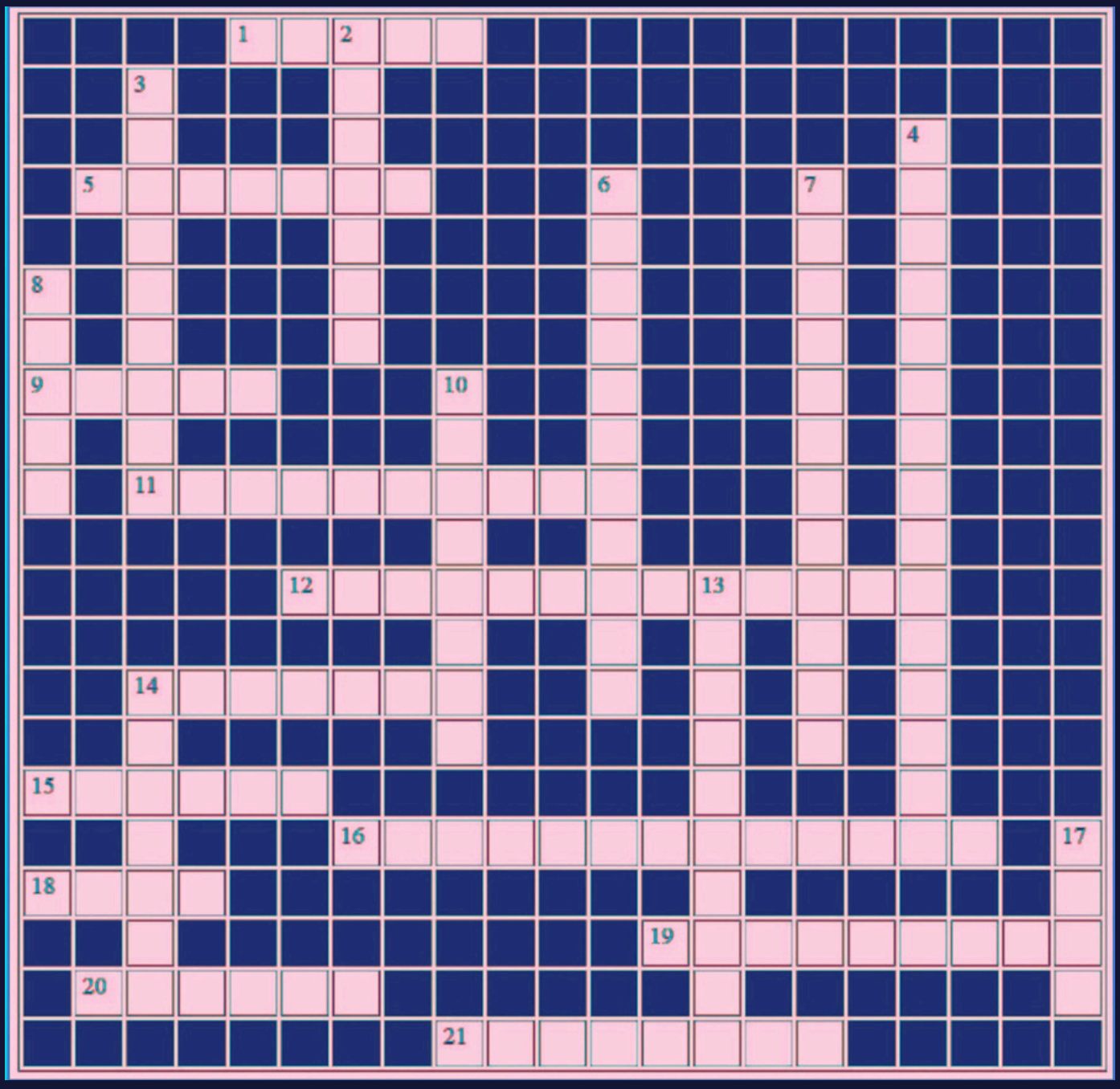
1. Upcoming host city for the 2025 United Nations Climate Change Conference (COP30) (5 letters)
5. The phenomenon where rising temperatures lead to increased frequency of droughts and heatwaves affecting agriculture in India. (7 letters)
9. The tribunal that recently recognized greenhouse gas emissions as a form of marine pollution (5 letters)
11. New environmental regulations introduced by the European Commission target these industrial processes (11 letters)
12. A term for the practice of reducing carbon emissions by implementing carbon capture and storage technologies. (13 letters)
14. First name of a young climate activist from Uganda, prominent in advocating for climate action in Africa (7 letters)
15. This country set a groundbreaking biodiversity target in 2023, aiming to conserve 30% of its land by 2030 (6 letters)
16. A scientific term for the gradual increase in carbon dioxide levels in the atmosphere due to human activities. (15 letters)
18. Action plan mandated by the Supreme Court to address air quality in the National Capital Region (4 letters)
19. The concept of integrating ecological principles into urban planning to create sustainable and livablecities. (8 letters)
20. This island nation declared a state of climate emergency in 2023 as rising sea levels threaten its very existence (6 letters)
21. Executive Director of UNEP who emphasized the need for more time in plastic treaty negotiations (5 letters)

DOWN

2. Invasive plant species harming native ecosystems in several parts of India (7 letters)
3. Extended Producer Responsibility Framework: Regulatory paradigm requiring manufacturers to manage the lifecycle of their products, particularly concerning waste (8 letters)
4. Joint Secretary, Ministry of External Affairs, who represented India during the ICJ Advisory Opinion hearings on state obligations regarding climate change (14 letters)
6. The Indian state that recently gained attention for its plan to plant one billion mangroves by 2030, especially vital for coastal resilience (11 letters)
7. Indian Supreme Court judge celebrated for his significant contributions to environmental law, often referred to as the "Green Judge" (6 letters)
8. State authorities mandated by the Supreme Court to assess environmental impacts where absent (6 letters).
10. Largest Marine Protected Area network in Europe established by this country (8 letters)
13. Innovative farming method used by urban farmers in Delhi to improve air quality (9 letters)
14. Country leading the push for an ICJ advisory opinion on climate obligations (7 letters)
17. UN body that provides scientific reports on climate change, supporting global policy-making (4 letters)

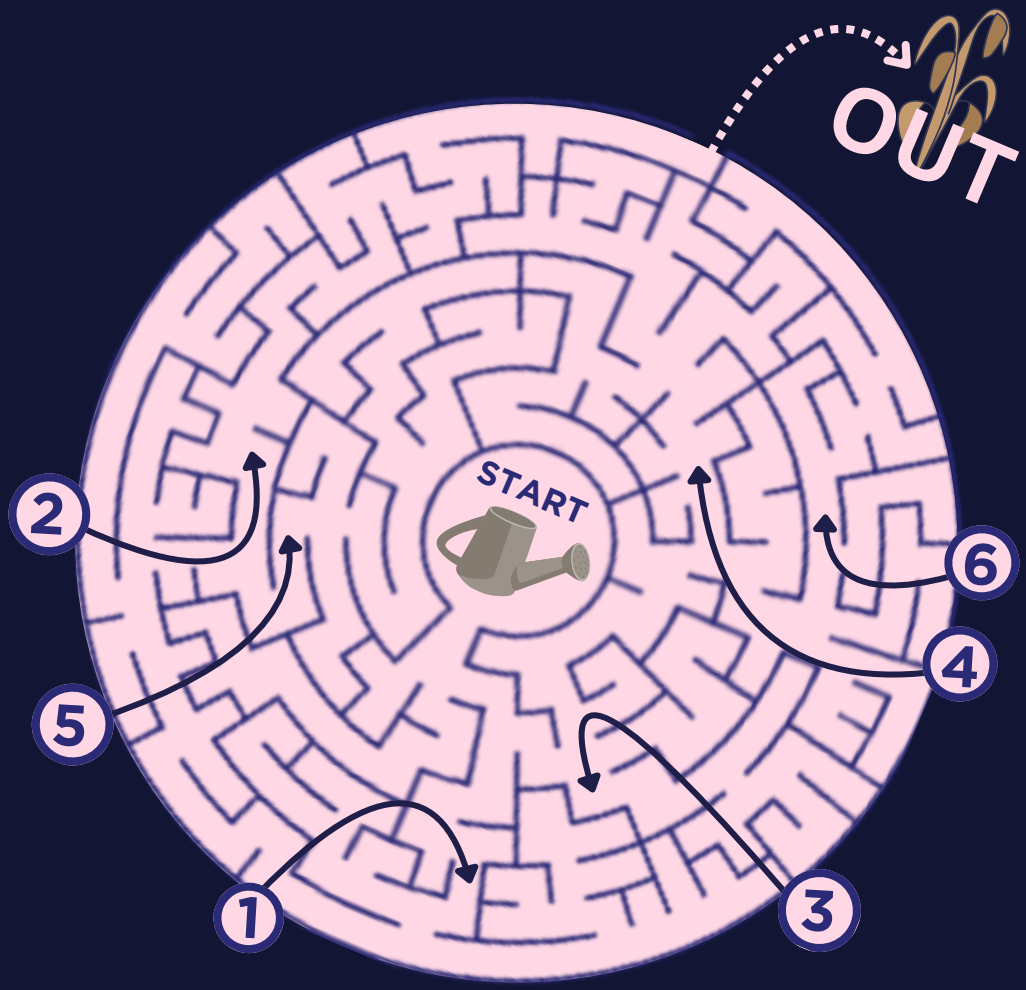
By **Priyal Mantri**

VINTAGE ARCADE • CROSSWORD



By **Aalok Pandey**

VINTAGE ARCADE • SAVE THE PLANT MAZE



HINTS • If your answer to any of these questions is "YES" then follow the arrow with the same number as the question. If your answer is "NO" to a question then the arrow with the same number as the question is pointing in the wrong direction.

2: Can human-induced habitat fragmentation cause evolutionary changes in species?

6: Have carbon capture technologies become widely adopted and effective in reversing climate change?

4: Have all developed nations achieved their climate commitments under the Paris Agreement?

1: Are floating solar farms being used to generate renewable energy on water bodies?

5: Has global shift to plant-based diets significantly reduced methane emissions yet?

3: Has genetic modification of crops completely eliminated the need for pesticides?









OUR Memories ARE all OVER & the PLACE

WE ARE GOING TO MAKE 100S MORE

