

TWO-THIRDS OF GLOBAL WARMING SINCE 1990 CAUSED BY WORLD'S WEALTHIEST 10 PER CENT

The "wealthiest 10 per cent" of people on the planet are "responsible" for 65 per cent of the 0.61°C increase in global average temperatures over 1990-2020, according to new research

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Climate change fuels sharp rise in extreme heat risk for pregnant people worldwide



Rajesh Tiwari Publisher rt@iccsr.org

Extreme heat is now one of the most pressing threats to pregnant people worldwide, pushing more pregnancies into high-risk territory, especially in places already struggling with limited healthcare access. xtreme heat, driven by climate change, is posing an escalating threat to maternal health and birth outcomes around the world, according to a new analysis from Climate Central, a research-based consulting and capacity building initiative that aims to bring greater focus on issues of climate change and sustainable development.

This causes serious concern - and a call for Indian companies to chip in with CSR.

During the last five years, climate change has at least doubled the average annual number of days that are dangerously hot for pregnant people in nearly 90% of countries and territories, and 63% of cities, compared to a world without climate change.

"Even a single day of extreme heat can raise the risk of serious pregnancy complications. Climate change is increasing extreme heat and stacking the odds against healthy pregnancies worldwide, especially in places where care is already hard to access. The impacts on maternal and infant health are likely to worsen if we don't stop burning fossil fuels and urgently tackle climate change," said Dr Kristina Dahl, Vice President for Science at Climate Central.

Climate Central analyzed daily temperatures from 2020 to 2024 across 247 countries and territories and 940 cities to measure the rise in "pregnancy heat-risk days," or days when maximum temperatures exceed 95% of historic local temperatures, a threshold associated with increased risks of preterm birth.

Preterm birth can have lasting health effects on the baby and increase the risk of maternal health problems after birth.

"Extreme heat is now one of the most pressing threats to pregnant people worldwide, pushing more pregnancies into high-risk territory, especially in places already struggling with limited healthcare access. Cutting fossil fuel emissions isn't just good for the planet – it's a crucial step toward protecting pregnant people and newborns around the world," said Dr Bruce Bekkar, a women's health physician and authority on climate change's dangers to human health.

Extreme heat is one of the most dangerous climate risks for maternal and infant health.

Research links high temperatures during pregnancy to increased risks of complications such as hypertension, gestational diabetes, hospitalization, severe maternal morbidity, stillbirth, and preterm birth, which can lead to lifelong health impacts for children.

In most countries and territories (222 out of 247), climate change at least doubled the annual number of pregnancy heat-risk days during the last five years, across all continents, compared to a world without climate change.

In nearly one-third of countries and territories (78 out of 247), climate change added at least an extra month's worth of pregnancy heat-risk days each year, from 2020 to 2024.

Every country analyzed experienced an increase in pregnancy heat-risk days due to climate change, caused primarily by burning fossil fuels like coal, oil, and gas.

"For some countries and cities, all of the pregnancy heat-risk days experienced over the last five years were caused by climate change. In other words, in a world without climatechange, these places would not have seen temperatures at or above the 95th temperature percentile during the past five years," the press statement said.

Climate change added the highest number of pregnancy heat-risk days in developing countries that often have limited access to healthcare, including in the Caribbean, Central and South America, the Pacific Islands, Southeast Asia, and sub-Saharan Africa. These regions are among the most vulnerable to the impacts of climate change, despite contributing the least to greenhouse gas emissions.

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CSR TODAY JUNE 2025 | VOL. 12 | ISSUE 11

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Printed, Published and Edited by Rajesh Tiwari on behalf of Indian Centre For Corporate Social Responsibility. 106, Nirman Kendra, Dr. E Moses Road, Mahalaxmi Estate, Mumai-400 001

Editor: Rajesh Tiwari

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CSR NEWS

To accelerate electric vehicle adoption, Maruti Suzuki brings High Voltage training at 130 Industrial Training Institutes

aruti Suzuki India Limited has launched a comprehensive training capsule to handle High Voltage systems required for electric (EVs) and hybrid vehicles (HEVs). The customised training program has been introduced across 130 Industrial Training Institutes (ITIs) in 24 States number of such vehicles increases in the overall car parc.

As part of Company's Corporate Social Responsibility initiative, Maruti Suzuki aims to develop skilled workforce for the overall automobile industry. The Company has invested approximately INR 3.9 crore towards this initiative. in after-sales support. Incidentally, this is an area of strength for Maruti Suzuki. While 90%[1] of EV sales happen in 100 cities, we will go 10x and cover 1,000 cities with more than 1.500 workshops equipped to provide service support to BEVs. The fundamental to good service is a trained technician. Our High Voltage training CSR program in about 130 ITIs of India will train more than 4,100 students every year. At the end of the course, these trained technicians are free to join Maruti Suzuki service network or any other OEM. Hence, this upskilling of students is strategic to BEV adoption in India. The high voltage training will be useful for Strong Hybrid cars also, and so there is a synergy between both technologies."



Key highlights of the high voltage training program:

The High Voltage training program is introduced for secondyear ITI students and covers topics like the fundamentals of EVs and HEVs, safety procedures for handling high voltage systems, usage of special tools and equipment, and best practices for system

maintenance. In addition, Maruti Suzuki also conducts specialized skill enhancement for the faculty of the ITIs with train-the-trainer programs and provides training equipment and tools to conduct a pioneering training program. These efforts will go a long way in instilling confidence among customers for adoption of newer technologies.

and 4 Union Territories in India. Supporting the Government of India's carbon net zero objective, the training will serve as one of the critical key enablers in faster adoption of EVs in the country. This training program prepares future automotive technicians to safely and efficiently handle high-voltage electric systems, addressing industry needs as the Announcing this initiative, Rahul Bharti, Senior Executive Officer, Corporate Affairs, Maruti Suzuki India Limited said, "We want to maximize adoption of Battery Electric Vehicles (BEVs) in the country. When we researched the reasons for low adoption of EVs, one of the major hurdles in the minds of the customers was confidence

Nagaland University develop nature-inspired technology to recover valuable resources from wastewater



Adoption of these soft technologies can reduce environmental pollution and improve water quality, Enable sustainable agriculture via nutrient recovery and advance India's circular economy and climate resilience goals

agaland University have developed nature-inspired technology to recover valuable resources like nutrients, biofuels, biogas, and clean water from wastewater.

They have advanced the concept of bio-based soft technologies — a class of nature-inspired, energyefficient systems that utilise plants, algae, microbes, and ecological interactions - to simultaneously treat wastewater and recover valuable resources.

This research creates a roadmap for future applied research, pilot implementations, and technology integration with national sanitation and water reuse programs of the Nation. Resource recovery from wastewater in bio-based production processes offers significant economic and environmental benefits. Industries can improve sustainability and profitability by considering established separation technologies and focusing on high-value compounds (biofuel, biogas, nutrients, energy, water, etc).

Bio-based soft technologies for resource recovery from wastewater are operated by emphasizing natural processes such as microbial action, plant uptake, and ecological interactions to break down pollutants and extract nutrients. The transition from concept to implementation, supported by advancements in process systems engineering, requires careful techno-economic evaluation and process optimisation.

The Research was led by Prof. Prabhakar Sharma, Head, Department of Agricultural Engineering and Technology, Nagaland University. The study synthesises innovations like algae-based systems, microbial fuel cells, and constructed wetlands that facilitate circular economy integration.

The Researchers have published their findings in the reputed, peer-reviewed journal Current Opinion in Environmental Science & Health (https://doi.org/10.1016/j. coesh.2024.100587)

Highlighting the need for such research, Prof. Jagadish K. Patnaik, Vice Chancellor, Nagaland University, said, "The global wastewater burden from domestic, agricultural, and industrial sources poses severe environmental threats due to pollutant discharge. Conventional treatment methods focus on pollutant removal but neglect



the potential for extracting valuable resources, leading to sustainability challenges and resource depletion. It creates opportunities for resource recovery. Hence, there is a need for such research."

Highlighting the advantages of this technology, Prof. Prabhakar Sharma, Head, Department

of Agricultural Engineering and Technology, Nagaland University, said, "The research underlines a transformative shift in wastewater treatment by presenting it as a resource hub rather than waste disposal. Adoption of these soft technologies can reduce environmental pollution and improve water quality, enable sustainable agriculture via nutrient recovery and support decentralised, low-cost treatment options in rural and peri-urban settings.

Such technologies can also advance India's circular economy and climate resilience goals."

Elaborating on the current status of this Research and next steps, Prof. Prabhakar Sharma added, "The technical feasibility of bio-based soft technologies is mostly confined to controlled laboratory settings. To



assess the effectiveness and applicability of this technology in a practical setting, a pilot-scale implementation is required. Developing decentralized treatment units in collaboration with local communities and industry partners, carrying out long-term research on system stability and resource recovery effectiveness, and pursuing standardization and cost optimization are the next steps."

The unique aspects of this research include

- Holistic integration of resource recovery with pollutant removal, addressing both sustainability and environmental health.
- Emphasis on hybrid bio-based systems combining technologies (e.g., microbial fuel cells + algae systems) for synergy and efficiency.
- Consideration of emerging contaminants like microplastics by highlighting mechanisms for their capture and potential degradation.
- Focus on scalability, technoeconomic evaluation, and future research directions to address practical deployment barriers.



Over 50 Delhi judges undergo first-ever training on emergency response to aid road crash victims

n a first-of-its-kind initiative aligned with the 8th UN Global Road Safety Week, over 50 judges from South and South-East District Courts in Delhi underwent Basic Trauma Life Support (BTLS) training to enhance emergency response capabilities at road crash scenes.

Organised by SaveLIFE Foundation under its 'Jeevan Rakshak' program, and in collaboration with the South District Legal Services Authority (DLSA) and the World Health Organization (WHO), this training is aimed at bridging the critical gap in trauma response by non-medical first responders. It was held at the Saket District Court Complex in Delhi on Saturday (17 May).

The training was also attended by Ms Shail Jain, Honorable District and Sessions Judge, South District; Ms Nivedita Anil Sharma, Honorable District and Sessions Judge, South District; Mr Vivek Kumar Agarwal, Secretary, South DLSA; Mr Abhinav Singh, Secretary, South East DLSA, Dr B Mohammed Asheel, National Professional Officer (Injuries, Disabilities, Assistive Technology and Rehabilitation), WHO; and Founder and CEO of SaveLIFE Foundation Piyush Tewari.

India sees around 1.72 lakh road crash deaths every year. In most road crashes, bystanders and police personnel are often the first ones to arrive at the scene. From calling emergency services to providing basic care, active bystander intervention can markedly reduce fatalities or bring down the chances of a victim's condition to worsen. Research has shown that timely and appropriate first response during the critical "Golden Hour" can reduce mortality by as much as 30%.

While PCR units are often the first on the scene, judicial officers also play a key role in the legal outcomes of such incidents. Yet, formal training in trauma response has remained limited for both groups.

Shail Jain, Honorable District and Sessions Judge, South District said, "This training marks a meaningful step toward enhancing the responsiveness and empathy of the justice system. By learning life-saving trauma response skills, judicial officers are better equipped to understand the realities on the ground and support the broader goal of saving lives."

As part of the training, judicial officers were equipped with essential life-saving skills, including cardiopulmonary resuscitation (CPR), bleeding control, and cervical spine (C-spine) immobilisation. The session also covered a range of critical first response techniques, such as rapid recognition of medical emergencies, initial victim assessment and interaction, scene safety management, and airway management.

"Strengthening first response capacity across all sectors is essential to reducing preventable deaths and disabilities caused by road traffic injuries. By including judicial officers in this training, we are promoting a multi-sectoral approach to emergency care — one that integrates legal awareness, public health, and life-saving action. WHO is pleased to support SaveLIFE Foundation in this important initiative in line with the objectives of the UN Global Road Safety Week and our broader commitment to safer roads and stronger health systems," said Dr B Mohammed Asheel.

Participants were also trained in responding to high-risk incidents like choking, while also gaining a clear understanding of the importance of the "Golden Hour" in improving survival outcomes for road crash victims. Additionally, they were briefed on the Good Samaritan Law, its implementation protocols, judicial interpretations and case studies.

Vivek Kumar Agarwal, Secretary, South DLSA, said, "Judicial officers are not just custodians of the law but often find themselves in positions where a basic understanding of emergency response can save lives. We are thankful to SaveLIFE Foundation and WHO for this training that will empower judicial officers with practical skills that complement their legal responsibilities, especially in the context of road safety and the Good Samaritan framework. We are proud to collaborate on this vital initiative and hope it serves as a model for other districts as well."

Piyush Tewari, Founder and CEO of SaveLIFE Foundation, added, saying, "Every life lost on the road is a tragedy we can often prevent. By joining hands with the judiciary to build trauma response skills, we are uniting two pillars of society—justice and humanity—for a common cause: saving lives."

So far, SaveLIFE Foundation has trained over 26,000 police personnel and citizen volunteers from states across India. The program has helped the Delhi Police, among others, to improve the quality of emergency response to victims of road crashes and contributed to a 30% reduction in road crash deaths between 2012 and 2017

Capgemini and Nasscom Foundation equip 700+ youths with AI skills

apgemini in collaboration with the Nasscom Foundation has successfully skilled and certified more than 700 disadvantaged youths through their AI for Skilling program. As India moves swiftly towards an AI-driven future, the demand for a workforce proficient in AI competencies continues to grow. Capgemini and the Nasscom Foundation partnership plays a key role in helping to meet this demand by equipping the youth with advanced skills in generative AI, robotics, fintech, and more. Implemented in Delhi NCR and Bengaluru, the program is designed to provide a comprehensive 200-hour training, comprising over 140 hours of technical training and more than 60 hours of soft skills development. The initiative builds on Capgemini Digital Academy program, which trains thousands of youths across India in high-demand digital skills, creating opportunities for careers in technology. The Academies focus on skilling, upskilling, and future-ready employability, aims to prepare learners with both the knowledge and competencies needed for securing work. As a result of this extensive training, learners have gained valuable skills and employment opportunities at various organizations.

Ashwin Yardi, CEO – India, Capgemini said, "AI is shaping a bold new era of work—one where innovation, inclusion, and human potential thrive together. Through Capgemini's Digital Academy, in partnership with Nasscom Foundation, we are bridging the digital divide - equipping the youth with industry-relevant AI and technology skills for meaningful careers. This initiative is also fuelled by the passion of our employee volunteers, who mentor and guide learners, reinforcing our commitment to inclusive growth. Congratulations to our first cohort of graduates - the future is yours to lead and transform!" Commenting on the success of the initiative, Jyoti Sharma, CEO, Nasscom Foundation said,

"Al is not just reshaping industries, it's redefining the future of work. Our collaboration with Capgemini, under the Al for Skilling initiative, reflects our shared vision of an inclusive digital economy, where marginalized youth have the opportunity to participate and break barriers to Al access. By enabling future-ready skills and focusing on foundational, core-work skills, we are investing in the potential of India's youth to fully embrace evolving digital opportunities."

To ensure holistic development, the initiative extended beyond technical training and included expert sessions conducted by industry professionals, as well as aptitude-building modules, and awareness programs. Real-world exposure was also facilitated through corporate volunteer engagement and industry visits, helping learners gain insights into workplace expectations and the professional culture of the technology sector. Building on the success of its first phase, the next wave of the initiative, will focus on advanced and DeepTech domains. The clear long-term vision of the program is to create tech-driven career pathways for underserved youth, paving the way for a more inclusive, empowered, and future- ready workforce.



SOCOMEC India and IFCCI continue their CSR initiative with the launch of Project EMPOWERPATH

S ocomec India in collaboration with Indo-French Chamber of Commerce & Industry (IFCCI) has launched a game-changing CSR initiative – Project EMPOWERPATH – to uplift unserved communities. This innovative project will focus on Digital Literacy Training, Technical Skills Development,

Health & Management Awareness for High-Risk Groups (FSW/HRG) and After-School Academic Support for Children of HRG & Female Sex Workers (FSW).

As part of the three-year collaboration with IFCCI, Socomec has pledged to refurbish and renovate school buildings in Noida and Gurugram. These efforts created physical infrastructures that foster a positive and conducive learning atmosphere.

On its latest CSR initiative, Meenu Singhal, Regional Managing Director of Socomec Greater India, said, "We are happy to collaborate with IFCCI for project EMPOWERPATH - an initiative that aligns with our mission of manufacturing of UPS and energy management solutions while ensuring that our skill development programs create a workforce that meets industry demands. By providing access to these initiatives, we are not just creating job opportunities—we are transforming lives and empowering individuals to take charge of their future. Together with IFCCI, we are helping marginalized communities unlock their potential and thrive in tomorrow's workforce."

This project will empower 120 individuals with essential digital skills and 120 others with industry relevant technical skills to enhance employability and financial independence. EMPOWERPATH will promote well-being through behaviour change sessions, counselling, hygiene education and mental health support to 500 individuals belonging to High-Risk Groups. After school academic support will be given to 80 children of High-Risk Groups and Female Sex Workers, strengthening their educational foundations.

"At Socomec, we are deeply committed to building stronger, more inclusive communities," said Nida Khanam, Head of Human Resources at Socomec Greater India.

"Through our partnership with IFCCI, the EMPOWERPATH initiative focuses on equipping individuals with the tools they need to thrive whether it's through digital literacy, technical skill development, or academic support for children from high-risk groups. We're also prioritizing the health and well-being of High-Risk Groups by addressing

CSR < NEWS



mental health, hygiene, and behavior change. With over 800 individuals set to be impacted in Dwarka and Najafgarh, this is a meaningful step towards sustainable, community-led progress—and we look forward to expanding this initiative to other regions in the near future," Payal S. Kanwar, Director General, Indo-French Chamber of Commerce & Industry (IFCCI), said:

"We are delighted to partner with Socomec on the EMPOWERPATH project, supporting education for children of High-Risk Groups, promoting health awareness, and fostering youth skill development with our NGO partner, Indian Society for Applied Research & Development (ISARD). Aligned with key UN SDGs, this initiative empowers underserved communities, creating opportunities for a brighter future."

Together, Socomec and IFCCI are equipping individuals with essential skills, health awareness, and educational support, bridging critical gaps and preparing them for sustainable careers in an evolving job market.

Ambuja Cements promotes sports and education through 'Khel Mahotsav' in Gujarat

mbuja Cements, the cement and building material company of the diversified Adani Group, as part of its CSR commitment, organised the 'Khel Mahotsav' in Kodinar, Gujarat, to promote sports and education.

The event saw participation from 250 students and teachers across nine primary schools, including Rampara, Kukras, and Sugala. Through this vibrant sports mela, students showcased teamwork and sportsmanship while gaining valuable physical activity, which is crucial for their holistic development.

In addition to organising the sports event, Ambuja Cements' CSR team ensures ongoing support by upgrading sports equipment, improving playgrounds, and offering Ambuja Cements' CSR team organises 'Khel Mahotsav' in Kodinar, Gujarat, engaging 250 students and teachers from nine schools in a vibrant sports event.

- The programme also supports students with upgraded sports equipment, playground improvements, and training, enabling participation at local and state levels.
- Ambuja Cements also focuses on enhancing education through selfdefence classes for girls, improved reading and science facilities, and efforts to reduce dropout rates.

training opportunities. This empowers students to compete at local, district, and state levels, fostering a culture of inclusivity and sportsmanship within schools.

Through its broader education initiatives, the CSR team remains committed to improving learning outcomes and reducing dropout rates. By introducing self-defence classes for girls and enhancing school infrastructure such as reading corners and science labs, Ambuja Cements is fostering a brighter future for children across Kodinar, Veraval, and Sutrapada.

This holistic approach underscores the company's dedication to empowering communities through education and skill development.



Cricketer Ajinkya Rahane Joins the Rainforest Alliance Ambassador Program

The first ever professional athlete to join the Rainforest Alliance as an ambassador

ndian cricketer Ajinkya Rahane, captain of the Kolkata Knight Riders has joined the Rainforest Alliance's global Ambassador Program. This program is designed to bring together and foster relationships with talented individuals from various industries and backgrounds who actively support the Rainforest Alliance's mission to create a more sustainable world

by using social and market forces to protect nature and improve the lives of farmers and forest communities.

Presently the ambassador program comprises about 20 unique individuals across the globe and Rahane is the first professional athlete to join the program.

Rahane who cares deeply about sustainable agriculture as seen in

his work at the ground level with farmers in Maharashtra, was on board as an ambassador to raise awareness about sustainability, environmental conservation, and the importance of responsible consumer choices. He understands the threats to the environment and the communities on the frontlines of the climate crisis. His involvement marks a significant step in connecting sports and sustainability in India, inspiring fans and citizens alike to become more conscious of their environmental impact.

He knows that through sustainability programs and other interventions, the Rainforest Alliance and its allies all over the world are protecting forests and partnering with local communities to create a more sustainable and equitable world for generations to come.

Rainforest Alliance CEO Santiago Gowland says, "Ajinkya is a stellar example of someone who is passionate about building a better world for his children, and for generations to come. His dedication to our alliance shows how individual passion can kickstart the urgent, transformative work needed to protect our planet's precious resources. Happy to have him on board."

On his appointment, Ajinkya Rahane says "I am very happy to have been onboarded as an ambassador with the Rainforest Alliance. Agriculture is my passion and through my partnership with Rainforest Alliance, I am hoping to contribute my bit to promote sustainability and help the farming community."

The Rainforest Alliance's Ambassador Program brings together influential voices from around the world who are passionate about making a difference. Rahane's involvement is expected to elevate conversations around sustainability in India and encourage positive action across communities.

Kia India and IIT-Tirupati enter into a strategic MoU to advance Engineering Excellence and Drive Technological Innovation

ia India, a leading mass premium carmaker of the country, has signed a Memorandum of Understanding (MoU) with the Indian Institute of Technology, Tirupati (IIT-Tirupati), with the objective of fostering engineering excellence, promoting research-led innovation, and nurturing future-ready talent in the fields of automotive and industrial engineering.

As a part of this significant partnership, Kia India has committed an investment of ₹35 crores over a five-year period (2025–2029) to support academic infrastructure, collaborative research programs, and student development initiatives at IIT-Tirupati. This collaboration aims to establish the institution as a prominent centre of excellence in advanced manufacturing, electric mobility, and sustainable automotive technologies.

The MoU outlines a comprehensive framework for cooperation, including the introduction of an internship program with Pre-Placement Offers (PPOs) for students, thereby facilitating seamless industry-academia integration and providing students with meaningful opportunities for professional growth within Kia India. Additionally, scholarships and financial assistance will be awarded to deserving M.Tech students, based on both academic merit and financial need, ensuring equitable access to advanced education and resources.

A highlight of the partnership includes the creation of a dedicated 'Makers Laboratory', a state-of-the-art collaborative space at IIT-Tirupati designed to foster cross-disciplinary innovation. This facility will enable students to conceptualize, design, and develop functional prototypes, further enhancing the institute's reputation as a hub for cutting-edge research and applied technological development.

On the occasion, Gwanggu Lee, Managing Director and CEO, Kia India, commented: "This partnership is not merely the signing of an MoU academic partnerships between IIT-Tirupati and reputed Korean universities, facilitating student and faculty exchange programs and joint research initiatives in emerging technologies.

Expressing his views, Prof. K. N. Satyanarayana, Director, IIT-Tirupati, said, "We are delighted



L To R - Mr. Gwanggu Lee, MD, Kia India with Mr. Prof. K. N. Satyanarayana, Director, IIT-Tirupati

— it is the coming together of shared values and a unified vision for the future of mobility and engineering in India. At Kia, we firmly believe in the transformative power of education, research, and collaborative innovation. By joining forces with IIT-Tirupati, we aim to nurture highly skilled engineers and technologists, equipped to lead advancements in sustainable mobility and industrial manufacturing. Together, we are building more than infrastructure we are building opportunities, capabilities, and a foundation for meaningful societal impact."

Further strengthening the scope of this collaboration, the MoU also paves the way for international

Kia India in this forward-looking collaboration, which resonates deeply with our commitment to research excellence and nation-building. This initiative will provide our students with exposure to global industry practices, global learning opportunities, and advanced infrastructure. Bevond

to partner with

academic benefits, this partnership signifies our joint resolve to contribute to India's aspirations in sustainable industrial development and technological leadership. We look forward to creating impactful innovations and empowering our students to shape the future of mobility."

This strategic partnership outlines a bold and collaborative roadmap for innovation, learning and talent development. At its heart, this partnership is about bridging the gap between academia and industry by fostering research in sustainable mobility, nurturing future ready talent through internships and scholarships.



Volvo-SaveLIFE Alliance Targets Zero Fatalities on Roads in Nagpur

s part of the UN Global Road Safety Week 2025, SaveLIFE Foundation recognises the support of the Volvo For Life Fund a global philanthropic initiative by Volvo Cars, one of the world's safest car makers — to reduce road crash fatalities in Nagpur district, India. Nagpur is one of the highest fatality districts in the country.

This partnership continues to reflect a sustained commitment for protecting vulnerable road users and reducing preventable road crash fatalities.

With 436 fatalities and 408 fatal crashes recorded in Nagpur (Rural) in 2024 alone, the district has emerged as a critical point of concern in India's road safety landscape. Two of the major causes of crashes here have been overspeeding (18.5%) and dangerous pedestrian behaviour (7.96%), underscoring the urgent need for targeted interventions.

This initiative is part of SaveLIFE Foundation's Zero Fatality District (ZFD) programme, which is currently being implemented in 20 other districts across India. The ZFD



model is a replicable and scalable framework designed to reduce road crash fatalities through a multi-faceted, and evidence-based approach grounded in the 4Es of road safety: Engineering, Emergency Care, Enforcement, and Education.

The ZFD model aims to seamlessly integrate comprehensive road safety interventions into existing local government systems, ensuring longterm impact and sustainability.

Through the Volvo For Life Fund, this partnership continues to implement a range of evidence-based, life-saving interventions to improve road safety in Nagpur (Rural).

These interventions include:

 Implementation of speed enforcement measures to reduce speeding-related crash deaths

- Treatment of highway medians and access points to reduce collision risks. These include the deployment of retro-reflective road safety measures and delineators for better visibility
- Installation of traffic calming measures and road signage.
 Traffic calming measures aim to lower vehicle speeds and improve overall road safety, with a focus on protecting vulnerable users like pedestrians and cyclists.
- Enhancement of pedestrian safety measures for safer crossings and walkways

"Volvo Cars is committed to protecting lives, both inside and outside the vehicle. Our partnership with SaveLIFE Foundation aims to demonstrate how collaborative, scalable interventions can turn high-risk corridors into safe, walkable streets," said Louise Thompson, Head, Volvo Cars For Life Fund.

"India loses over 1.7 lakh lives to road crashes every year — a silent epidemic that demands urgent, systemic solutions. Our partnership with Volvo Cars brings together world-class engineering and grassroots impact to demonstrate how data-driven, proven interventions can dramatically reduce fatalities," said Piyush Tewari, Founder and CEO, SaveLIFE Foundation.

By combining Volvo Cars' legacy of safety innovation with SaveLIFE Foundation's on-ground expertise, this partnership sets a new benchmark for collaborative road safety efforts in India. The initiative in Nagpur (Rural) not only aims to save lives but also serve as a scalable model for other high-risk districts across the country.

The ZFD model's evidence-based and system-integrated approach presents a practical, scalable solution to one of India's most urgent public health challenges. It holds the potential to significantly transform the country's road safety landscape and save countless lives.



IIT Madras launches course to tackle workplace accidents in factories

he Indian Institute of Technology Madras (IIT Madras) is launching a new program to reduce accidents in manufacturing, mining, energy and related sectors. A first-of-its-kind program, this Postgraduate Diploma program in Process Safety will seek to enhance employees' capabilities in managing process safety challenges. The course is targeted towards working professionals with BE/B.Tech degree in Chemical, Civil Engineering, Mechanical, Electrical, Instrumentation Engineering, Petroleum and allied branches (or) MSc Chemistry with two years of work experience. The program will be offered in Online Mode through Centre for Outreach and Digital Education (CODE), which coordinates all non-campus academic and outreach activities of IIT Madras.

Highlighting the need for such courses, Prof. Rajagopalan Srinivasan, Course Coordinator, Postgraduate Diploma (Process Safety), IIT Madras, said, "According to a report published by IndustriALL Global Union, in 2024, at least 240 workplace accidents occurred across the manufacturing, mining, and energy sectors in India, resulting in over 400 fatalities and more than 850 serious injuries. The chemical and pharmaceutical sectors see the most severe accidents. These accidents are predominantly attributed to lapses in safety procedures within the industry, often resulting from insufficient knowledge of essential safety practices and protocols."

Prof. Rajagopalan Srinivasan added, "This program is specifically designed for working professionals within the industry who seek to enhance and expand their knowledge of safety practices. It would serve as an opportunity for individuals to upskill, deepen their understanding of safety protocols, and stay at par with contemporary safety standards, thereby contributing to a safer and more resilient workplace environment."

The Postgraduate Diploma (Process Safety) is designed to provide the necessary flexibility for working professionals while upholding the academic rigour of a degree program from IITM. The trimester model, with terms from September to December, January to April, and May to August, will allow the students to take a maximum of three courses per term. This enables completion of the whole program in 1-2 years.



Nagarro expands neurodiversity training program 'TestingPro' to Sri Lanka

agarro, a global leader in digital engineering, recently announced the expansion of its neurodiversity initiative 'TestingPro' to Sri Lanka, in collaboration with the Shiranee Joseph de Saram Foundation (SJDSF). TestingPro trains people with autism and similar challenges and empowers neurodiverse individuals by equipping them with

software testing skills, preparing them for successful careers in the IT industry.

The journey began in 2016 in Austria and scaled to India in 2023. The program has won awards such as the 'Constantinus Award,' Austria's consulting and IT prize, and the 'eAward' for IT and business and the Sozial Marie award for social innovation. TestingPro has also been recognized in the prestigious World Economic Forum's DEI Lighthouse 2024 report for its innovative neuro-inclusion program.

The Shiranee Joseph de Saram Foundation will play a key role in identifying and supporting the candidates—handling first-level screening, providing individualized support throughout the training period, and offering job coaching during the interview and placement process. Nagarro will be delivering hands-on training and certification support in software testing.

"We are proud to partner with Nagarro Sri Lanka to launch TestingPro, a groundbreaking initiative that opens doors for neurodiverse individuals to thrive in the IT sector. At SJDSF, we believe in the meaningful contributions people with neurodiversity can make to the economy. Their genuine inclusion in this highly valued sector goes a long way towards dispelling social stigmas attached to conditions such as Autism. This programme is a step forward in redefining talent and creating a workforce where diversity is truly celebrated," said Praveena Joseph De Saram, Managing Director, Shiranee Joseph de Saram Foundation.

"At Nagarro, we have always believed that true innovation stems from diversity-in thought, experience, and perspective. TestingPro is a testament to that belief, and expanding this initiative to Sri Lanka marks a deeply meaningful step for us. We have witnessed firsthand the remarkable skills and unique perspectives neurodiverse individuals bring to software testing - their meticulous attention to detail, their ability to identify patterns, it's truly invaluable. We are excited to collaborate with SIDSF to support their journey into the IT sector, help them build meaningful careers, and enable them to thrive in professional environments that value every individual's unique strength. This is how we create workplaces that are not only inclusive but truly empowering," said Shruti Tandon, Managing Director - People Enablement and Custodian of DE&I, Nagarro.

TestingPro has already trained over 100 neurodiverse candidates globally. In India, more than 50% of participants have successfully secured employment, with many earning ISTQB certifications. These candidates now serve roles as Manual Testers—identifying bugs, ensuring software quality, and contributing meaningfully to the development lifecycle.

The cohort in Sri Lanka began in late April and will run through August, concluding with a final assignment submission. A formal convocation ceremony is scheduled for October 2025.

Ambuja Cements empowers rural youth with EV assembly training at SEDI Bhatapara



mbuja Cements, the cement and building material company of the diversified Adani Portfolio, has launched a new Electric Vehicle (EV) Assembly Operator Trade at its Skill and Entrepreneurship Development Institute (SEDI) in Bhatapara, Chhattisgarh. The initiative, driven by Ambuja Cements' CSR arm aims to prepare rural youth for the fastevolving electric mobility sector—equipping them with future-ready skills that align with the growing demand for green transportation across the nation.

A state-of-the-art EV lab has been set up at SEDI Bhatapara, offering hands-on training on electric rickshaws, scooters, cars, battery systems, and motor controls. Building on earlier skilling efforts in the region—such as training over 700+ local youth in trades like welding and tailoring—this new-age program reflects the company's ongoing commitment to empowering communities with livelihood opportunities that are both relevant and sustainable.

The initiative not only opens up promising employment avenues for trainees but also inspires them to be part of the country's clean energy transition. By introducing this green technology skilling programme, Ambuja Cements continues to foster inclusive growth while helping young individuals from underserved backgrounds drive positive change—for themselves, and towards a greener future.



DNA traces of predators at livestock kill sites can facilitate evidence-based conflict management

n a recent study published in Biological Conservation, researchers from Prof. Uma Ramakrishnan's group at the National Centre for Biological Sciences (NCBS), Bengaluru, have shown that trace DNA left by large carnivores at livestock kill sites can be used to reliably identify individual predators. This approach offers a powerful tool to effectively manage human-wildlife conflict and understand predator behaviour and ecology.

"In communities that live in proximity to large carnivores, livestock depredation might cause conservation challenges. Systematic understanding of individuals involved in conflict is a critical first step towards a solution", said Ramakrishnan, senior author of the study.

Around the world, managing human-wildlife conflict often involves relocating or removing the suspected predator. Typically, forest departments rely on field signs like pugmarks, scat, or claw marks to identify the animal involved. However, these signs can be ambiguous, and removing the non-target individual may disturb carnivore populations and sometimes further intensify conflict situations. More reliable and robust genetic identification of predators could be an effective strategy for conflict resolution.

Researchers at NCBS in collaboration with Panthera and the Madhya Pradesh Forest Department, investigated 198 kill sites across two of Central India's key tiger habitats: Kanha and Bandhavgarh Tiger Reserves. At each site, researchers collected non-invasive genetic samples- saliva, scat, and shed hair as a potential source of predator DNA.

Using genetic tools based on Single Nucleotide Polymorphisms (SNPs), they identified individual tigers present at these kill sites. Shed hair samples were the most effective for individual identification, followed closely by saliva and scat. Overall, tigers were successfully identified at 85% of the kill sites, with species-level identification exceeding 95% across all sample types.

To assess each tiger's likely involvement in a kill, the team developed a classification framework based on the type and location of genetic evidence. Each case was categorised as a "true predator" (high confidence),"circumstantial predator" (medium confidence), or "predator uncertain" (low confidence). Out of the 198 cases studied, 72 were classified with high confidence, 34 with medium confidence, and 49 with low confidence.

"Genetic samples are often the only true evidence of a predation event and are therefore vital. While identification is possible, there remains some possibility of misidentification especially when multiple individuals are present at the kill site. That's why it's important to assign confidence levels in identification. We hope that such a classification scheme will help better represent the level of confidence provided by the genetic tools and further evidence-based conflict management", said Himanshu Chhattani, lead author of the study.

For wildlife managers and conservationists, this method adds a reliable, evidence-based tool to help address predator-livestock conflict while contributing to long-term predator monitoring, benefiting both local communities and wildlife conservation efforts.

"As we celebrate the success of tiger recovery, the growing challenge of human-tiger conflict demands urgent attention. To address this effectively, interventions must be grounded in scientific evidence and rigorous methodologies. The genetic approaches outlined in this paper offer a reliable means of identifying individuals involved in conflicts, paving the way for more informed and strategic resolutions", said Sanjay Shukla, former Principal ChiefConservator of Forests, Madhya Pradesh.



Signify's Khel Jyoti CSR initiative bags the top honor at Global CSR & ESG Awards 2025

ignify has been awarded the prestigious Global CSR & ESG Award for the Best Aid for Sports Initiative category for its flagship sports development program, Khel Jyoti. The recognition highlights Signify's commitment to its global mission of creating a #BrighterLivesBetterWorld and promoting social inclusion and promotion of sports through the power of light. As part of its commitment to supporting grassroots sports development in India, Signify has successfully illuminated over 187 sports centers across the country in the past five years with high-quality energyefficient LED sports lighting. This initiative has enabled more than 50,000 aspiring athletes to continue training and playing safely after sunset. Also, the initiative has provided a safe, inclusive, and empowering space for girls to pursue their athletic dreams and build confidence through sport.

Well-illuminated sports grounds significantly extend usable hours, allowing athletes to maximize their practice time. Enhanced lighting also improves safety, visibility, and performance, while encouraging greater participation from youth, women, and local communities. By creating safer and more inclusive spaces for sports, Signify continues to champion accessibility, talent development, and community well-being through the power of light.

This recognition celebrates the impact of the Khel Jyoti initiative and reinforces the important role that businesses play in driving inclusive growth. Being the leader in the lighting space, Signify is constantly committed to community development programs that reflect its vision for sustainability, innovation, and longterm social impact.

In Assam, under the partnership with the Brahmaputra Volleyball League (BVL) the company has lit up 120 rural courts, allowing young athletes to extend their practice time by 3-4 hours daily. More than 900 matches were played in BVL's fifth season, with over half conducted under floodlights provided by Signify. The lighting not only accelerated the tournament schedule but brought national attention to rural talent, thanks to the presence of dignitaries such as FIVB President Fabio Azevedo and Olympic champion Vladimir Grbić at the finals.

In Bellary, Karnataka the illumination of the Athletic Track at IIS supported by Inspire Institute of Sport, trained 300+ athletes for national and international events. A premier institute has produced three Olympic medallists, including India's golden boy Neeraj Chopra.

In Mundgod, Karnataka, the intervention at the SIDDI tribal community's training ground supported by Bridges of Sports (BOS), brought to light the extraordinary journey of Nayana Kokare- a bronze medalist at the U20 Athletics Championships, now training under an international coach in the UK.

With a strong foundation in place, Signify is committed to expanding the reach and scale of Khel Jyoti, enabling more communities to benefit from improved lighting and sports opportunities.

NEWS YOU CAN USE

BorderPlus Commits ₹10 Crore in Scholarships over the next 2 years to Equip Indian Nurses for Global Careers

'Launches First Regional Training & Support Center for Nurses in Kochi'

his International Nurses Day, BorderPlus, a leading workforce mobility platform, reaffirmed its unwavering commitment to the nation's healthcare champions. Recognizing the importance of nurses and the world's urgent need for their expertise and skills, BorderPlus today announced a significant investment in their future, committing INR 10 crore in scholarships over the next 2 years. The initiative will support deserving and aspiring nurses, enabling them to build successful international careers.

Marking a key milestone in this mission, BorderPlus also unveiled its first regional Training & Support Center in Kochi, a hub aimed at nurturing nursing talent from the southern region through personalized guidance and resources. The center currently supports over 120 candidates, with plans to expand this capacity to more than 500. It offers in-person exam preparation, personalized counseling, and comprehensive documentation support. Through this center, BorderPlus will also provide digital offerings, directly supporting nurses across Kerala and neighbouring regions. The Kochi center will be operated by a trusted local franchisee partner and enrollments have already started.

Mayank Kumar and Ayush Mathur, Co-founders of BorderPlus



Inauguration of Kochi Centre by Ashish Labroo, Business Head, India at BorderPlus

said, "The global healthcare sector faces a significant nursing shortage, presenting a unique opportunity for India's vast pool of skilled and dedicated nurses. At BorderPlus, our mission is to empower these professionals by providing structured, ethical, and transparent pathways to international careers. This scholarship initiative is a powerful testament to our commitment to supporting Indian nurses in realizing their global aspirations, ensuring they are equipped to make meaningful and valued contributions to healthcare systems worldwide."

Despite India's rich nursing talent, candidates exploring global career pathways often face hurdles such as end-mile skilling gap, prohibitive exam costs, complex documentation requirements, and a lack of reliable guidance. The scholarship, open to Indian nurses, aims to address these fundamental barriers by offering crucial financial support and structured guidance enabling Indian nurses to pursue overseas careers with greater confidence and clarity. Empowering Indian nurses to pursue global careers not only enhances their professional growth but also contributes to India's remittance economy, as they continue to support their families back home.

Candidates will be carefully selected based on their merit, clear intent, and long-term career alignment. Each applicant will undergo a thorough screening and interview process, ensuring that the support reaches those with both strong potential and a well-defined vision for their global journey.

Kotak Education Foundation Unveils Kotak Junior Scholarship "Future Ka Golden Ticket" – 1,000 Scholarships for Class 10+ Students in Mumbai

hat if we told you, your ticket to a brighter, bolder future is just one application away? This is your opportunity. Your moment. Your Future ka Ticket.

Say hello to the Kotak Junior Scholarship – your "Future ka Ticket" – by Kotak Education Foundation (KEF), the CSR implementing agency of the Kotak Mahindra Group. Designed to empower 1,000 highachieving students from economically disadvantaged communities across the Mumbai Metropolitan Region (MMR). This scholarship goes beyond financial aid to offer meaningful academic and personal development support—helping young talent rise, thrive, and build a brighter future.

The scholarship provides financial assistance of ₹73,500 over a period of 21 months, covering both Class 11 and Class 12. In addition to monetary support, the programme offers holistic development through a robust support system designed to empower the next generation. With this scholarship, Kotak Education Foundation is not only funding education but also fostering the next generation of professionals, entrepreneurs, and community leaders. Over the past 18+ years, KEF's scholarship wing has positively impacted the lives of more than 6,000 scholars, with over 1,800 having successfully graduated as accomplished alumni.

"At KEF, we believe every student deserves the chance to dream big and achieve even bigger. 'Future Ka Ticket' is more than a scholarship—it's a commitment to walking beside young changemakers on their journey," says Ms. Arati Kaulgud, Executive Committee Member and Scholarship Program Head at Kotak Education Foundation.



The Kotak Junior Scholarship programme supports students from SSC, CBSE, and ICSE boards and includes:

- ₹3,500 per month during Class 11 and 12 (₹73,500 total over 21 months)
- One-on-one mentorship and academic assistance
- Career guidance and exposure visits for holistic development
- Entrance exam preparation support
- Exposure visits
- Regular home visits

Eligibility Criteria:

- Scored more than 85% in SSC/ CBSE/ICSE Class 10 board examinations
- Secured admission into Class 11 at a college within Mumbai
- Annual family income of less than ₹3,20,000
- Resident of the Mumbai Metropolitan Region (MMR)

Kotak Karma is the Corporate Social Responsibility (CSR) identity of the Kotak Mahindra Group, reflecting its commitment to sustainable and inclusive community development.

Kotak Education Foundation

It has been a rewarding sixteen years since we embarked on our mission to equip economically disadvantaged children and youth with education and foundational skills, galvanizing them towards a better future. Our 'Inch Wide Mile Deep' approach, home-grown projects focused on quality education for the low-income segment have been instrumental in shaping the success of our projects across India. KEF's approach is primarily three-pronged –

- a) holistic interventions with children and educators in school,
- b) equitable scholarships for higher studies, and
- c) vocational education and skills training for livelihood.

IIT Madras develops and deploys new technology to treat Wastewater from Textile Industry

he Indian Institute of Technology Madras (IIT Madras) has developed and deployed an advanced new technology for efficiently processing wastewater from the textile industry.

The discharge from these industries not only affects the aesthetic value and water clarity but also reduces photosynthetic activity and poses toxic risks to humans, aquatic organisms, and other life forms.

This project focuses on improving the techno-economic feasibility of Zero Liquid Discharge (ZLD) plants by developing an innovative electrochemical-based methodology.

To mitigate the environmental impacts, textile industries in India are mandated to implement ZLD systems, which aim to recover and reuse wastewater and salts. However, the conventional ZLD process is associated with high capital and operating costs, significant energy consumption, and a large carbon and area footprint.

The technology development was undertaken through comprehensive lab-scale studies using synthetic wastewater ranging from small volumes of 500 ml to larger volumes of 50 Litres for the Electrochemical Ozone oxidation system (ECOOP) for the removal of organic dyes.

Led by Prof. Indumathi M. Nambi of IIT Madras, this pilot project was implemented at Kunnakalpalayam Common Effluent Treatment Plant (CETP) in Tirupur district of Tamil Nadu during 2023. It showed a significant reduction in harmful compounds in ECOOP-treated samples compared to chlorinated samples from the CETP. The pilot system has successfully achieved 96% colour removal and 60% COD removal for dyebath effluent. Based on the results



The Electrochemical Ozone oxidation system (ECOOP) developed by IIT Madras for for the removal of organic dyes

obtained from the initial deployment, the research team scaled up the system to process 400 litres per day. These trials aim to optimise the system for real-world application.

The Advantages of this technology in comparison to existing technologies include

- Segregation of dyebath effluent for colour removal which reduces 75% load on RO system
- Reduction in capital infrastructure cost for RO and reject
 Evaporators and hence lower carbon foot print.
- Chlorine free colour removal process which avoids formation of carcinogenic chlorinated compounds

Elaborating on this innovative and high-impact project, Prof. Indumathi M. Nambi, Environmental and Water Resources Engineering (EWRE) Division, Department of Civil Engineering, IIT Madras, said, "This innovative approach reduces the number of RO units required in the treatment plant, ultimately lowering the total treatment cost by 25% and cuts down the RO infrastructure cost by 75%. It efficiently removes colour and organic pollutants without the use of Chlorine which is reported to produce harmful byproducts. Our treatment system promotes cleaner water resources and supports healthier ecosystems, aligning with UN Sustainable Development Goals (SDGs) 6,12,13,14, 15 and 17 and advancing environmental responsibility in the textile industry."

Prof. Indumathi M. Nambi added, "This approach combines an advanced oxidation process, known as the Electrochemical Ozone Oxidation process (ECOOP), with Capacitive Deionization (CDI) for efficient organic and salt removal. The ECOOP process effectively degrades dyes and other organic pollutants in textile wastewater, achieving organic mineralisation without producing sludge. CDI technology is used for salt removal, offering a lower energy expenditure compared to reverse osmosis (RO), particularly for effluents with lower TDS levels."

Envisioning upcoming plans, Prof. Indumathi M. Nambi said, "Looking ahead, the future directions include optimising the pilot plant to enhance

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its efficiency, versatility, and adaptability to treat different wastewaters from multiple units. Additionally, we are working towards propagating the adoption of the Electrochemical Ozone Oxidation System by smaller dyeing industries which do not have RO systems."

T Christuraj, District Collector of Tirupur, inaugurated the Pilot Project at Kunnankalpalayam CETP on 1st December 2023 and it has been successfully running since then. More R&D efforts are undertaken by IITMadras team to reduce the costs and improve efficiency.

In India, the textile industry contributes significantly to the Nation's economy, accounting for 5% of the GDP, 7% of industrial output by value, and 12% of export earnings. However, this revenue comes with a steep environmental cost, as the industry is responsible for 20% of global clean water pollution, particularly from dyeing and finishing processes. The wastewater from textile industries contains a variety of harmful chemicals, both biodegradable and non-biodegradable, including dyes, dispersants, heavy metals, acids, and alkalis.

Recognising that only 10% of effluent in a dyeing unit constitutes a dye bath with high TDS, while the remaining 90% consists of wash water with lower TDS levels, this IIT Madras project developed a tailored treatment strategy. The Researchers suggested treating dye bath effluent using the ECOOP system, followed by Reverse Osmosis (RO), while directing wash water to a conventional Biological Oxidation system, followed by CDI. This collaborative project, supported by Indo-German Science and Technology Centre (IGSTC), has achieved significant milestones in advancing wastewater treatment technology. As part of the project, a two-day Ecotoxicology workshop was organized by IIT Madras during November 2023, in collaboration with SRM Institute. The workshop



The Experimental Set up of IIT Madras Researchers





Before and After photographs after treating effluent wastewater through the process developed by IIT Madras Researchers

included lectures by leading experts such as Prof. Henner Hollert (Goethe University) and Dr. S. R. Marigoudar (NCCR, Chennai), among others, and provided hands-on training in ecotoxicology using zebrafish as specimens.

The active participation of researchers from IIT Madras, Germany, and industry scientists greatly contributed to the workshop's success. The in-person consortium meeting on November 30th, 2023, brought together researchers from IIT Madras, Goethe University, RWTH from Germany, and industry partners Eurofins and Tamilnadu Water Investment Company (TWIC) to discuss the project's progress, challenges, and future directions. This collaboration has fostered innovation and knowledge exchange, leading to the successful inauguration of the pilot plant.

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Runaya Deepens Commitment to Rural Education with Completion of School Renovations in Jharsuguda, Western Odisha





unaya, a prominent manufacturing venture with a strong emphasis on sustainability and innovation, has successfully concluded its education infrastructure project in Jharsuguda, Odisha. Focused on transforming rural education and strengthening community development, the initiative has delivered revitalised school infrastructure that included improved learning spaces, upgraded sanitation, kitchen facilities, and a fully equipped library, aimed at fostering a safe, hygienic, inclusive, and future-ready environment for students.

As part of its commitment to empowering underserved communities, Runaya's flagship grassroots initiative, Project Laadli, marked a major milestone with the completion of the Education Infrastructure Transformation Program across multiple schools in Jharsuguda, from primary to upper primary and high schools. By promoting access, equity, and empowerment, the initiative has directly benefitted more than 351 students and staff, positively impacting over 3,560 lives across western Odisha.

The newly renovated school facilities were inaugurated by senior district officials, community leaders, school faculty, and Runaya leadership. To ensure the longevity and sustainability of these upgrades, a School Students Committee has been established under the guidance of the Headmaster and Sarpanch

According to Jagannath Prasad Routray, CEO of Recycling Business, Runaya "The completion of this project marks a significant milestone in our dedication to communityoriented education. Every Project Laadli refurbishment has sought to build inclusive environments where children, particularly girls, feel safe, inspired, and encouraged to attend school often. Every kid deserves good infrastructure; we don't think access to it is a privilege but rather a need. Building a future-ready generation

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will be aided by such small yet significant efforts."

Anil Kumar Patel, Block Education Officer, Jharsuguda, remarked, "The initiatives of Runaya reach to strengthen school infrastructure in Dalki Primary School, Banjari UP School, Kurebaga UP School and Purna High School under Jharsuguda Block are a powerful example of how corporate responsibility can drive meaningful change on the grassroots level. These efforts definitely help in improving overall



facilities at grass root level, to build brighter futures. This initiative is enriching the lives of families and children, accelerating grassroots development, and reinforcing the district's commitment to education and hygiene. Such private sector leadership plays a vital role in shaping inclusive and empowered communities. I wish them continued success and strongly encourage more enterprises to join hands in driving forward the shared goal of Odisha's development."

HDFC Bank Parivartan inaugurates STEM

HDFC Bank Parivartan inaugurates STEM Science Labs in 10 Maharashtra schools, to benefit 885 children with hearing challenges

DFC Bank, under its CSR initiative Parivartan, inaugurated Accessible STEM Science Centres in Mumbai and Pune as part of the 'STEM Without Barriers' programme. This initiative, aimed at fostering inclusive education, establishes mini science labs in special schools for children who are deaf and hard of hearing. The initiative has been implemented across 35 special schools in India, with 10 of these located in Maharashtra.

Through this project, 885 students from Classes 5 to 10 in Pune and Mumbai will gain access to specially curated STEM content translated into Indian Sign Language, enabling them to explore and understand scientific concepts in an accessible, engaging format. The project also includes teacher training, ongoing mentoring, and the further development of accessible content.

Inauguration ceremonies were held at Aadhar Mookbadhir Vidyalaya in Pune and Bombay Institution for Deaf & Mutes in Mumbai. These events marked the formal handover of fully equipped STEM labs to the schools, supporting a broader vision of inclusive, technology-enabled education.

Funded by HDFC Bank for a period of three years, this industry-first initiative represents a collaborative approach to fostering innovation, accessibility, and modern education in special schools. The project builds on a successful pilot in Karnataka and will continue until March 2027, with similar inauguration events planned across all participating schools.

Speaking about the initiative, Mr. Kaizad Bharucha, DMD, HDFC Bank, said, "We believe that access to education should be equitable and inclusive. Through this initiative, we aim to co-create learning environments that are sensitive to the needs of all children, including those with hearing challenges. It is our privilege to partner with schools and educators who are doing inspiring work in this space, and we remain committed to supporting their efforts."

The project was first piloted successfully in Karnataka, covering 13 schools, and has now expanded across five states.

The inauguration events were attended by senior representatives from HDFC Bank including Mr Santosh Ingale, Ms Smeeta Jaybhaye, and Mr Pankaj Seth, alongside key partners from the implementation agency--Mr Narendra Pandey (CSR Manager), Mr Gururaghavendra (Education Head), and Mr Lokesh (Project Manager).

This initiative is a part of a broader strategy under HDFC Bank Parivartan's Promotion of Education pillar. It reaffirms HDFC Bank Parivartan's mission to support inclusive growth and create long-term impact by enabling communities and helping them to become self-reliant.

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AmruthSwasthBharath powered by QuickVitals Partners with Niloufer Hospital in Historic Government Collaboration

Telangana Set to Pioneer Digital Healthcare Innovation with First-Ever Public Hospital Rollout

iloufer Hospital has etched its name in history with the launch of "AmruthSwasthBharath" the first AI-based diagnostic tool in India designed for non-invasive blood testing that delivers results in under a minute. This landmark event was held at Niloufer Hospital, located at Red Hills, Lakdikapul, and was graced by esteemed guests including Prof. Dr. Ravi Kumar, Superintendent of Niloufer Hospital, Prof. Dr. Santhosh Kumar Kraleti, Sushena Health Foundation, Member of National Medical Commission, Karuna Gopal, President, Foundation for Futuristic Cities, BJP National In-charge, Women Policies & Research, Dr.

Santosh Kraleti, National Medical Commission and Harish Bisam, Founder of Quick Vitals, along with various other healthcare luminaries.

AmruthSwasthBharath, powered by Quick Vitals, signifies a monumental step forward in healthcare technology, particularly within government hospitals. This innovative tool incorporates advanced AI and deep learning technologies through Photoplethysmography (PPG) to provide rapid health assessments tailored to the specific needs of the Indian population.

During the launch, Prof. Dr. Ravi Kumar shared his enthusiasm, stating, "AmruthSwasthBharath will revolutionize health diagnostics in India. It is particularly beneficial for children and pregnant women, facilitating regular and accessible health assessments. We take pride in being the first hospital in India to implement this transformative initiative." During the event, Dr. Santhosh Kraleti emphasized the critical role of innovation in public health, stating, "Technology goes hand in hand to eliminate anaemia. With tools like AmruthSwasthBharath, we can identify at-risk populations swiftly and deliver targeted interventions, ensuring better health outcomes for vulnerable groups like women and children."

The launch ceremony showcased live demonstrations of the AmruthSwasthBharath tool, allowing medical professionals present to experience its efficiency and accuracy firsthand. Harish Bisam remarked, "With AmruthSwasthBharath, health monitoring has become as simple as taking a selfie. Our mobile face scanning technology offers rapid access to crucial health information, effectively addressing existing barriers to healthcare access."

The AmruthSwasthBharath tool employs Remote Photoplethysmography (PPG), an advanced method that evaluates





changes in light absorption resulting from variations in blood volume. It allows users to conveniently retrieve critical health parameters using only their smartphones or tablets, including but not limited to:

- Blood Pressure
- Oxygen Saturation (SpO2)
- Heart Rate
- **Respiration Rate**
- Heart Rate Variability (HRV)
- Stress Levels
- Hemoglobin A1c
- Pulse Respiratory Quotient (PRQ)
- Sympathetic and Parasympathetic Activity

Tests are designed to be completed in just 20 to 60 seconds, marking a significant improvement in the efficiency and accessibility of healthcare services.

AmruthSwasthBharath supports contactless spot checks through camera-based devices, such as smartphones and tablets, ensuring quick health assessments. Additionally, it facilitates continuous monitoring with contact-based PPG sensors for prolonged health evaluation.

Quick Vitals places a strong emphasis on the security of user data and privacy. The implementation of stringent measures safeguards patient information while allowing for multi-user registration. Data is shared securely with authorized healthcare providers to enhance treatment protocols, ensuring confidentiality and compliance with regulatory standards.

Mr. Harish Bisam further revealed future expansion plans,

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announcing that the testing method would soon be rolled out in Maharashtra following its successful introduction at Niloufer Hospital. "Our goal is to make these vital health assessments universally accessible and to improve the overall healthcare delivery system in India," he stated. The launch of AmruthSwasthBharath marks a significant advancement in diagnostics and empowers individuals to take control of their health in a more efficient manner. For more details about AmruthSwasthBharath and Quick Vitals, please visit www. guickvitals.ai

AmruthSwasthBharath supports:

- Contactless Spot Checks: Use camera-based devices like smartphones and tablets for quick health checks.
- Continuous Monitoring: Utilize contact-based PPG sensors for ongoing health assessments. In just 20 to 60 seconds, Quick Vitals provides detailed insights into a wide array of health parameters, which include:
 - Blood Pressure
 - Hemoglobin A1c
 - Pulse Respiratory Quotient (PRO)
 - Respiration Rate
 - Sympathetic Stress •
 - Heart Rate
 - Cholesterol •
 - Oxygen Saturation (SpO2) •
 - Hemoglobin
 - Parasympathetic Activity
 - Heart Rate Variability (HRV)

We prioritize the security and privacy of your health data and enable registration of multiple user types while adhering to strict data protection measures. Patient information is shared securely with authorized healthcare providers to enhance treatment protocols, ensuring confidentiality and compliance with regulatory standards.

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'Cycles of Hope' in Sonbhadra: Avaada Foundation Empowers 150 Tribal Students

n a step toward making education more accessible for children in remote tribal areas, Avaada Foundation distributed bicycles to 150 students from the remote tribal villages of Chichlik, Basuhari, Adgud and Channi in Uttar Pradesh's Sonbhadra district. This initiative. titled 'Cycles of Hope', is aimed at supporting children who have to walk long and difficult routes to reach school. Speaking at the event, Ritu Patwari, Director of Avaada Foundation, said: "We believe education is key to a society's holistic development. These bicycles will

not only make it easier for children to attend school, but also boost their confidence and self-reliance. Our goal is to ensure that every child can reach their dreams without obstacles."

Avaada Foundation has been consistently working for over a year in these underserved villages of Sonbhadra, focusing on education, empowerment and health. Key initiatives include: Installation of solar-powered

lights



- Provision of drinking water facilities
- Organizing cricket matches and cultural programs
- Supplying inverters and libraries to government schools
- Development of playgrounds
- Distribution of uniforms, school bags, and shoes to children
- Providing clothing to village residents
- Appointment of teachers in local schools
- Facilitating educational trips for students

Additionally, the Foundation has distributed nutritious ration kits to provide children and their families with balanced diets. Women have been trained in kitchen gardening and provided with seeds and saplings, enabling them to grow



fresh, healthy vegetables for household use.

The bicycle distribution program was attended by the District Basic Education Officer, Avaada Foundation Directors Mr. Jay Shankar Shukla and Mr. Mahesh Mathur, Block Education Officers (Kon and Nagwa), Gram Pradhan from Basuhari village, local police station officials and other distinguished guests. The event also saw enthusiastic participation from local residents and parents.

Avaada Foundation strongly believes that education and nutrition are both essential to the holistic development of every child. No social or geographical barrier should ever stand in the way of these fundamental rights.

Bisleri International Marks World Earth Day 2025 by Collecting More than 4.40 Metric Tonnes of Plastic Waste

n its continued efforts to promote environmental stewardship, Bisleri International Pvt Ltd, through its flagship initiative, Bottles for Change' marked World Earth Day 2025 bringing together communities, students, volunteers, and local champions in a united call for sustainability.

The celebration spanned over 36 cities across 16 states including Delhi, Maharashtra, Uttar Pradesh, Rajasthan, Gujarat, Haryana, Punjab, Himachal Pradesh, Ladakh, Kerala, Uttarakhand, Tamil Nadu, Pondicherry, Karnataka, United Andhra Pradesh and the Andaman & Nicobar Islands.

Bisleri collaborated with 13 public and private organizations and institutions to engage citizens. The celebrations included activities such as tree plantation drives. used plastic collection campaigns, awareness rallies, poster-making competitions, street plays & cultural performances, human chains, and expert-led symposiums on the theme of environmental preservation. One of the key highlights of the campaign was the enthusiastic participation of the Indian Army's 137 CETF BN (TA) 39 Gorkha Regiment, showcasing their unwavering dedication to the cause of environmental protection and reinforcing the spirit of collective responsibility.

From Leh to Andaman & Nicobar Islands, the campaign witnessed widespread engagement. Over 6,000 interns and volunteers participated in the campaigns, directly engaging more than 1,14,000 individuals. A total of 234 events were conducted, including 177cleaning drives, 49 awareness sessions, and 8 creative



Bisleri International Marks World Earth Day 2025 by Collecting More than 4.40 Metric Tonnes of Plastic Waste

competitions like poster making. The collective efforts of the participants led to the planting of 510 trees and the collection of more than 4.40 Metric Tonnes of plastic waste, showcasing the impact of citizendriven sustainability efforts.

Speaking about the initiative, K. Ganesh, Director – Sustainability & Corporate Affairs, Bisleri International Pvt. Ltd., said, "World



Beach clean-up on World Earth Day

Earth Day serves as a powerful reminder of our collective responsibility to protect our planet. At Bisleri, we translate our commitment to sustainability into tangible actions. Through our 'Bottles for Change' initiative we have engaged with the government, community academic and private institutions and taken decisive steps towards creating a cleaner, greener future. These initiatives prove that every action matters and collective efforts by citizens can shape a world that is cleaner and greener."

This significant celebration was a part of Bisleri's Greener Promise, a commitment to build a circular economy through sustained efforts in recycling, plastic neutrality, and environmental education. Bottles for Change continues to be a platform that educates citizens on the value of plastic as a resource and the need for responsible disposal.

CSR > INDIA UNITED



Mars Wrigley & Smile Foundation Empower 6,000+ Lives with Anganwadi Transformation in Pune

'n a significant step toward nurturing wellbeing in communities, the Mars Wrigley Foundation, in partnership with Smile Foundation. inaugurated transformed Anganwadi Centers (AWCs) in Rajguru Nagar and Moshi, Pune on March 25, 2025. Launched in May 2024, the initiative focuses on improving health, nutrition, and education services for women and young children in underserved communities. The completion of these upgraded centers marks a milestone in Mars Wrigley Foundation's ongoing efforts to improve lives by strengthening social connections through social infrastructures that create healthier. more resilient communities.

The Anganwadi Transformation Project has revitalized 10 AWCs, impacting 13 centers overall. To date, the initiative has benefited 1,562 individuals, including children, lactating mothers, pregnant women, and adolescent girls, while indirectly supporting 4,660 community



members. Key highlights of the project include the establishment of 202 kitchen gardens to enhance nutrition, 30 health and hemoglobin screening camps, and two specialized training programs for frontline workers to strengthen community health support. Additionally, 165 awareness sessions have been conducted to educate and empower the community, alongside the distribution of essential resources and the creation of 11 instructional materials for Anganwadi workers and local families. "At Mars Wrigley, we are committed to creating lasting

change in the communities where we live and work. Our collaboration with Smile Foundation goes beyond infrastructure improvements-it's about fostering environments that drive better health, education, social connection and overall wellbeing. The transformed Anganwadi Centers stand as beacons of hope, opportunity, and progress for children and families. The positive response from beneficiaries has been inspiring, reinforcing our belief that collective action leads to sustainable impact. We remain dedicated to initiatives that uplift and empower communities," said Rohit

Sharma, Interim Supply Director, Mars Wrigley India. "Children are the future of the nation. Hence, child development is an important, comprehensive and collective mission wherein the civil society and the corporate can play a complementary role in strengthening the government's endeavours. We thank Mars Wrigley and the Mars Wrigley Foundation for their trust and the association for their trust and the association for this beautiful initiative," said Mr. Santanu Mishra, Co-founder & Executive Trustee of Smile Foundation.

The Mars Wrigley Foundation's Community Connection Grant Program continues to support underserved communities by creating, restoring or improving shared community spaces. Projects aim to address specific local needs, ultimately improving the quality of life for residents. By partnering with local organizations, the Foundation aims to strengthen community ties and improve overall well-being. The inauguration event witnessed participation from the Pune Plant Team, Smile Foundation representatives, government officials, and beneficiaries, highlighting the collective effort to create sustainable community impact.

Adani Foundation at ACC Sindri enables clean drinking water access through solar power in 4 Dhanbad villages

CC, the cement and building material company of the diversified Adani Portfolio, along with the Adani Foundation is enhancing rural health and well-being by easing clean drinking water accessibility. Through solar-powered drinking water systems across four villages under Chhatatand Gram Panchayat in Dhanbad, the Company and Adani Foundation have enabled consistent access to safe drinking water for over 100 families. The initiative addresses water scarcity, promotes renewable energy use, and improves the guality of life—especially for women and children—through low-cost, sustainable infrastructure.

Each village now has a 2 HP solar pump system with water storage tanks, ensuring uninterrupted access to safe drinking water. This initiative drastically reduces waterborne illnesses and the burden of water





collection, especially on women and children, while also lowering operational costs due to solar power.

This initiative reflects ACC's deep commitment to strengthening rural infrastructure through innovative and sustainable solutions. Beyond just providing clean water, it has restored dignity and ease to daily life—especially for women, who no longer need to walk long distances to fetch water. By integrating solar power into essential public utilities, ACC is helping build healthier, more resilient communities, one village at a time.

LSR > COVER STORY

TWO-THIRDS OF GLOBAL WARMING SINCE 1990 CAUSED BY WORLD'S WEALTHIEST 10 PER CENT

The "wealthiest 10 per cent" of people on the planet are "responsible" for 65 per cent of the 0.61°C increase in global average temperatures over 1990-2020, according to new research, writes **Ayesha Tandon**, Carbon Brief

> A landmark study quantifies the disproportionate role of the world's wealthiest in driving global warming and intensifying extreme weather, raising implications for policy and

> > climate justice. Image: Chris Leipelt, CC BY-SA 3.0, via Unsplash.

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For example, the study finds the wealthiest 10 per cent of people – defined as those who earn at least €42,980 (£36,605) per year – contributed seven times more to the rise in monthly heat extremes around the world than the global average.

In another finding, the Amazon rainforest faced a threefold increase in the likelihood of droughts over the period studied, most of which was driven by the wealthiest 10 per cent of the world's population.

The authors also explore countrylevel emissions, finding that the wealthiest 10 per cent in the US produced the emissions that caused a doubling in heat extremes across "vulnerable regions" globally.

One scientist not involved in the study tells Carbon Brief that efforts to attribute global warming to individual income groups is an "important step towards targeted policies" and could support climate litigation.

EMISSIONS INEQUALITY

Humans emit more than 40bn tonnes of CO2 into the atmosphere every year. Developed countries The study, published in Nature Climate Change, uses a field of climate science called "attribution" to determine the contribution of the world's "wealthiest population groups" to climate change through the greenhouse gases they emit.

The authors also calculate the contribution of these high-income groups to the increasing frequency of heatwaves and droughts.

are responsible for the majority of global emissions, as a result of the typically more carbon-intensive lifestyles of their residents.

Meanwhile, the most severe impacts of climate change are disproportionately felt by the poorest and most vulnerable people.



Quantifying the contribution of individual income groups to global warming and changes in climate extremes is an important step towards targeted policies and further supports climate litigation.

- PROF JAKOB ZSCHEISCHLER Scientist, Helmholtz Centre for Environmental Research The new study uses an income and wealth inequality dataset from the World Inequality Database to track inequality over 1990-2019, showing how much the world's wealthiest 10 per cent, 1 per cent and 0.1 per cent of society have contributed to warming over 1990-2020. (For details on the method, see the modelling inequalities section below.)

The world's wealthiest 10 per cent all earn more than €42,980 (£36,605) per year, according to the database. Meanwhile, the world's wealthiest 0.1 per cent earn more than €537,770 (£458,011) per year.

Of the 0.61°C increase in global average temperatures over 1990-2020, the authors estimate that 65 per cent was due to the emissions of the wealthiest 10 per cent of people on the planet. For the wealthiest 0.1 per cent, the estimate is 8 per cent.

The graph below shows how much global temperatures would have risen over 1990-2020 if everyone in the world emitted as much as the world's poorest 50 per cent (purple), middle 40 per cent (green), richest 10 per cent (orange), rich-



How global temperatures would have risen if everyone in the world emitted the world produced the same amount of emissions, on average, as individuals in the bottom 50% (purple), middle 40% (green), top 10% (orange), top 1% (blue) and top 0.1% (pink) of the world's emitters. Source: Schöngart et al (2025).

est 1 per cent (blue) and richest 0.1 per cent (pink) people. The grey bar shows how much global temperatures actually rose. The authors find that if the whole world had emitted as much as the wealthiest 10 per cent of people over 1990-2020, global average temperatures would have risen by 2.9°C, instead of 0.61°C. If the global population had emissions as large as the wealthiest 0.1 per cent, temperatures would have risen by 12.2°C.

Meanwhile, the study calculates that if the whole world had emissions as low as the poorest 50 per cent, global temperatures would have remained close to 1990 levels.

HOT AND DRY EXTREMES

As greenhouse gas emissions cause the climate to warm, extreme weather events such as heatwaves

and droughts are becoming more intense, frequent and long-lasting.

The authors use attribution – a field of climate science that aims

to identify the "fingerprint" of global warming on these events – to determine the contribution of the emissions of the world's wealthiest people to the increasing frequency of heatwaves and droughts.

The authors assess "extremely hot" and "extremely dry" months, defined as the most extreme 1 per cent of months in a pre-industrial climate during the hottest month of the year regionally. (In a preindustrial climate, only one of each extreme would be expected every 100 years on average.)

The graphs below show the number of additional heatwaves (left) and droughts (right) that have occurred since 1990 due to climate change in different regions of the world.

The full bar shows the total number of additional heatwaves due to human-cased climate change in each region. The green bar shows additional occurrences due to the wealthiest 1 per cent. The green and orange bars combined show the wealthiest 10 per cent.

The numbers in green and orange show how much the wealthiest 1 per cent and 10 per cent of the planet contributed to the extreme, compared to the global average. (For example, an orange number of 7.0 means that the wealthiest 10 per



The number of additional heatwaves (left) and droughts (right) that have occurred since 1990 in different regions of the world, caused by the wealthiest 10% (orange) and 1% (green) of the world's population. The numbers in green and orange show how much more the wealthiest 1% and 10% of the planet contributed to the extreme, compared to the global average. Source: Schöngart et al (2025).

CSR < COVER STORY



The increase in frequency of one-in-100 year peak summer heat extremes in selected regions that is attributable to the wealthiest 10% of people (left) and 1% of people (right) in China (red), the US (pink), the EU (peach) and India (blue). Source: Schöngart et al (2025).

cent of people contributed seven times more to the extreme event than the global average.)

The study finds that an average of 11.5 additional heat events observed in August – the month where the rise in heat extremes is, on average, most pronounced – are attributable to the wealthiest 10 per cent.

It also calculates that emissions from this group resulted in, on average, an additional 2.3 droughts in the Amazon in October – the month with the strongest attributable drying trend in the region.

HIGHEST EMITTERS

The authors also assess the contributions of the wealthiest people to climate extremes on a country level, identifying the US, the EU, China and India as the world's four highest emitting regions.

The graphic below shows the increase in frequency of one-in-100 year peak summer heat extremes in selected regions attributable to the wealthiest 10 per cent of people (left) and 1 per cent of people (right) in China (red), the US (pink), the EU (peach) and India (blue).

Emissions from the wealthiest 10 per cent in the US resulted in an average of 1.3 extra heat events globally, the authors find. However, this increase is distributed unevenly across the globe.

For example, the authors find this income group was responsible for the emissions that contributed to 2.7 additional heat events in "heataffected areas" such as the Amazon and south-east Africa.

Emissions from the wealthiest 10 per cent of people in the EU resulted in an additional 1.5 heatwaves in both the Amazon and south-east Africa.

Meanwhile, the Amazon faces 2.1 more heat extremes in 2020 than in 1990 due to the emissions of the richest 1 per cent in the US, China, EU and India.

While inequalities between one country or region and another are well documented, it should also be noted that "inequalities within developing countries are increasing", Dr Carl Schleussner, study author and leader of the integrated climate impacts research group at the International Institute for Applied Systems Analysis (IIASA), tells Carbon Brief.

For example, he notes that the paper shows "very high levels" of

emissions from "the Chinese middle and upper classes".

However, he says that many existing global frameworks to address climate change "treat countries as a whole" and fail to "differentiate" between income groups within countries.

Schleussner argues that the study highlights the need for "progressive policies" for climate action, which involve "tackling particularly high emitters" in all countries.

Dr Sarah Schöngart, a researcher at ETH Zurich and lead author of the study, tells Carbon Brief that studies such as this could provide important evidence in loss and damage litigation. Prof Jakob Zscheischler, an Earth system scientist at the Helmholtz Centre for Environmental Research who was not involved in the study, also highlights the ways the findings could be used in climate-change lawsuits. He tells Carbon Brief:

"Quantifying the contribution of individual income groups to global warming and changes in climate extremes is an important step towards targeted policies and further supports climate litigation. Supporting climate injustice with concrete numbers will hopefully help the most vulnerable and least responsible strengthen their case."

MODELLING INEQUALITIES

The study uses a range of methods to attribute changes in heat and drought to the emissions of particular wealth groups. To model global greenhouse gas emissions by wealth group, the paper uses a "wealthbased carbon inequality assessment" from a 2022 study.

The study uses income and wealth inequality dataset from the World Inequality Database to track inequality over 1990-2019. It combines economic data with information on per-capita carbon footprints – calculated using "input-output" methodologies combined with data from the "distributional national accounts" project."

The model considers three factors. The first is private consumption – made up of emissions from the direct use of fossil fuels and emissions embedded into goods and services. The second includes emissions from government spending in that person's country – such as government administration, public roads or defence. The final component of a person's carbon footprint is from their investments.

The authors then created a series of "counterfactual" emissions pathways, which imagine the world without the emissions of the wealthiest 10 per cent, 1 per cent and 0.1 per cent of society, respectively. The emissions pathways include CO2, methane and nitrous oxide emissions, expressed as CO2-equivalent.

Lead author Schöngart tells Carbon Brief that including methane in the models is important, because it has "really high potency and near-term warming". However, she notes that the team needed to make some assumptions about methane emissions – for example, assuming that each income group emits the same relative amount of methane compared to other greenhouse gas emissions.

Using a "simple" climate model called MAGICC, the authors model global average temperatures under these counterfactual emissions pathways. This allows them to calculate how much the planet would have warmed over 1990-2020 without the emissions of the 10 per cent, 1 per cent and 0.1 per cent of society, respectively.

The authors use the global average temperature trends to produce temperature and rainfall data for every land-based grid square on Earth via a climate model emulator called MESMER.

Schöngart tells Carbon Brief that an emulator is "an approximation of an Earth system model" which "allows us to generate incredible amounts of data", while using less computing power and taking less time to run. The study authors then use attribution methods to identify how the emissions from the world's wealthiest members of society have affected the frequency of heatwaves and droughts, by comparing the world as it is to a "counterfactual" world without human-caused climate change.

The graphic below shows these steps.

Earth system scientist Zscheischler praises the methods in the study. He tells Carbon Brief that "the main innovation of work lies in its novel combination of relatively simple emulators that capture the most important relationships between emissions and global warming and changes in extremes".

He adds that emulators have been evaluated in other studies and are "trustworthy for this type of delicate analysis".

Prof Wim Thiery – an associate professor at Vrije Universiteit Brussel, who was not involved in the study – also commends the use of emulators. He tells Carbon Brief that "producing the information presented in this study with a suite of full-blown Earth system models is impossible from a computational cost and human effort perspective".

This story was published with permission from Carbon Brief.

(Source: https://www.eco-business.com/ news/two-thirds-of-global-warming-since-1990-caused-by-worlds-wealthiest-10-percent/)







ASIA SHOULD LOOK TO CLEAN ENERGY SECTOR TO WEATHER TARIFF WARS: EXPERTS

As the United States sets unprecedented new import duties, pressure mounts on Asia to buy American natural gas to address trade imbalances. Experts urge tapping into solar and wind potential to counter economic uncertainty in the region, writes **Hannah Alcoseba Fernandez** hile United States president Donald Trump's sweeping tariffs have unsettled global markets and mounted pressure on Asian countries to buy liquefied natural gas (LNG) to address trade imbalances, energy experts warn that the fossil fuel will not address the region's energy security woes.

Asian governments from Thailand to Japan have been rushing to sign up for LNG purchases from the US, hoping to reduce trade surpluses with the world's largest economy.

But instead Asia should look to its largely untapped renewables potential, said Laurie van der Burg, global public finance campaign manager at nonprofit Oil Change International.

Van der Burg cited a 2023 report by United Kingdom-based energy think tank Ember which showed how the Southeast Asian region alone has 27 gigawatts (GW) of solar and 6.8GW of wind installed capacity as of 2022, representing only less than 1 per cent of approximately 30,523 GW of solar and 1,383 By doubling down on renewables and energy efficiency, Asian countries can dramatically cut import costs and avoid increased dependency on unstable regimes like the US.

GW of wind potential estimated by the National Renewable Energy Laboratory (NREL).

This was validated by a new Ember study that found that some Asian countries like Indonesia have about 80 times greater renewable potential than its energy demand; India has 26 times as much, while China has about 20 times as much. "Instead of bowing to Trump's bullying, Asian countries should listen to their communities who have seen firsthand the damage caused by increased LNG import dependency," van der Burg said, noting how gas dependency has resulted in blackouts like the one that occurred in an LNG plant in Malaysia, rising debt in Pakistan, and devastating climate and health impacts in the Philippines.

"By doubling down on renewables and energy efficiency, Asian countries can dramatically cut import costs and avoid increased dependency on unstable regimes like the US. The only guarantee for Asia's energy security, independence and affordability for all is a just transition to renewables," she added.

Christina Ng, managing director and co-founder of Australia-based think tank Energy Shift Institute, said the region can stabilise its clean tech sector by building up its own domestic deployment.

Countries such as Indonesia, Vietnam, and the Philippines have massive untapped solar and wind



Indonesia has 80 times greater renewable potential than energy demand, and therefore could achieve energy dependence. Source: Ember



Asian countries Thailand, Korea, and Pakistan are some of the most exposed to fossil import risk. Source: Ember

capacity, which could become a buffer against export volatility, she said, referring to research from the International Energy Agency that estimates that Southeast Asia has over 20 terawatts (TW) of combined technical potential for utility-scale solar PV, onshore and offshore wind.

"This is a chance for Southeast Asia to move up the value chain – from being seen as mainly a low-cost assembler to becoming a leader in designing and building more advanced clean energy technologies," said Ng. "If the region takes this moment seriously and diversifies, it won't just weather the disruption; it will emerge more resilient and competitive."

Locking into long-term US LNG: a 'costly mistake'

Long-term contracts with US suppliers would expose South and Southeast Asian markets to higher LNG costs and uncertainty in both US gas markets and trade policy, said Sam Reynolds, research lead, Institute for Energy Economics and Financial Analysis (IEEFA), an energy think tank. Signing long-term commitments to buy US LNG would be a "costly mistake," said Reynolds as liquefaction costs for new US export projects are rising due to the country's tariffs on steel, aluminium, and other inputs, while Henry Hub gas prices are also expected to increase in the coming years.

This view was echoed by Ember's new analysis which found that Asia is most exposed to fossil import risk, as a quarter of the world, led by Thailand, Korea, and Pakistan, spends over 5 per cent of GDP on annual fossil imports.

Thailand announced plans this month to import more than 1 million tonnes of LNG from the US over the next five years, as part of efforts to ease the trade imbalance that led Washington to impose a high tariff on Thai exports.

Indonesia will propose increasing its imports of crude oil and liquefied petroleum gas from the US by around US\$10 billion as part of its tariff negotiations.

Japan, South Korea, and Taiwan are considering investments in a long-delayed US\$44 billion LNG export project in Alaska backed by Trump. The Philippines is also exploring options with the same project, while Vietnam signed a memorandum of understanding in March with Texas-based gas firms ConocoPhillips and Excelerate Energy. Bangladesh signed a major agreement with Louisiana-based Argent LNG in January as India's GAIL revived long-term LNG contracts in February.

Asian countries should instead seize renewable energy opportunities by diversifying their energy mix and maximising the deployment of clean technologies like wind and solar, he said.

Reynolds added: "Not only would this help support domestic renewable manufacturing industries, but it would also present a hedge against volatile commodity prices and currency exchange rates. In contrast to the prolonged instability of global fossil fuel markets, renewable energy presents a critical, cost-effective pathway for sustainable growth in Asia and globally."

(SOURCE: https://www.eco-business.com/ news/asia-should-look-to-clean-energysector-to-weather-tariff-wars-experts/)

IIT Madras' Centre of Excellence for Road Safety launches Data-Driven Hyper-Local Interventions in 100 Districts across 17 States

The approach, launched in Delhi, will be tailored to the local needs of each district and aligned with the CoERS's 5E model of road safety – Engineering, Enforcement, Education, Emergency Care, and Empathy



Prof Venkatesh Balasubramanian (2nd L), Head, Centre of Excellence for Road Safety, IIT Madras, addresses DDHI launch in Delhi (20 May)

(L_R) Shri Vishal Chauhan, Prof Venkatesh Balasubramanian, Shri V Umashankar & Shri Mahmood Ahmed at DDHI alignment session-cum-launch event

he Indian Institute of Technology Madras' (IIT Madras) Centre of Excellence for Road Safety (CoERS) has launched a landmark 'Data Driven Hyperlocal Intervention' (DDHI) programme to address road crashes across India.

Taken up under the aegis of the Ministry of Road Transport and Highways (MoRTH), this initiative prioritises 100 districts identified as high accident-burden zones through comprehensive analysis of national crash data.

The DDHI alignment sessioncum-launch event was organized at Vigyan Bhawan amid the presence of leaders and officials from Central and State Governments besides districts. According to the MoRTH's "Road Accidents in India 2022" report, there were 4,61,312 reported accidents, resulting in 1,68,491 fatalities and 4,43,366 injuries. While many of these accidents were attributed to human error, a significant proportion are due to localised challenges.

To address these challenges, the top 100 districts have been prioritised for intervention. The approach will be tailored to the local needs of each district and aligned with the CoERS's 5E model of road safety – Engineering, Enforcement, Education, Emergency Care, and Empathy.

This initiative will adopt a bottom-up approach, empow-

ering District Road Safety Councils (DRSCs), led by the respective chairperson, to lead decision-making and implementation. The DDHI framework empowers councils to design targeted interventions tailored to district-specific road conditions, behavioural patterns, and geographical constraints.

Lauding this initiative, Nitin Gadkari, Minister for Road Transport and Highways, said, "Road safety needs a whole of system approach with support from stakeholders across all levels of government. Real change happens when data empowers the district authorities to act upon accident spots. I congratulate the CoERS at IIT Madras for

CSR < INITIATIVE



Shri Mahmood Ahmed (C), IAS, Additional Secretary, MoRTH, addresses DDHI alignment session-cum-launch event at Delhi today (20th May 2025)

Shri V. Umashankar, IAS, Secretary, MoRTH, addresses DDHI alignment session-cum-launch event at Delhi today (20th May 2025)

developing a scientific framework, technological tools for ready consumption of law enforcement agencies across the country"

Speaking at the occasion, V. Umashankar, IAS, Secretary, MoRTH, said, "There are multiple factors contributing to every accident. Each accident has a story behind it and unravelling that story is best done by the local level. This initiative marks a paradigm shift in how we address road safety — by empowering districts with actionable insights and decentralised tools. With the right data, leadership and community engagement, we can reduce preventable fatalities and make our roads significantly safer for every citizen."

Further, Prof. V. Kamakoti, Director, IIT Madras, said, "At IIT Madras, we are committed to leveraging technology and data science to solve real-world problems. The CoERS initiative is one such example that attempts to look at accident data to come out with scientifically backed recommendations that can enhance road safety."

CoERS has collaborated closely with MoRTH and State Governments to develop a scalable, evidencebased strategy, underpinned by data from the electronic Detailed Accident Report (eDAR), formerly known as the Integrated Road Accident Database (iRAD), and powered by Sanjaya, a location intelligence platform launched by Shri Nitin Gadkari., Hon'ble Minister for Road Transport and Highways.

Mahmood Ahmed, IAS, Additional Secretary, MoRTH, said, "Periodic Road Audits are necessary at all stages, i.e. Design, Construction & Maintenance of Roads. The criticality of ensuring data quality in eDAR may be stressed to all concerned. This will help plan targeted interventions. It is not only road engineering but also vehicle engineering which is equally important. Ensuring structural integrity of vehicles is a key focus area by MoRTH."

Elaborating on the need for such initiative, Prof. Venkatesh Balasubramanian, Head, Centre of Excellence for Road Safety (CoERS), IIT Madras, said, "India's road safety challenge requires contextual, grassrootslevel solutions backed by robust data and scientific insight. Through this initiative, we aim to empower district leadership with practical tools and capacity-building support that integrate human factors and data driven interventions to deliver measurable improvements in road safety outcomes."

Key Objectives of the DDHI Programme include:

 Build capacity and capability within selected districts.

- Empower district leadership to identify and implement critical road safety interventions.
- Enable sustainable, low-cost, highimpact solutions that are community-informed and data-backed.
- Establish scientific impact assessment and review mechanism for the interventions taken up.
- Create a repository of best practices and learnings resulting from DDHI for other districts to learn and replicate.

Some of the tools and frameworks that CoERS will provide to DRSCs include:

- Sanjaya Dashboard a comprehensive crash visualization and planning tool to perform interventions.
- Field Perception Survey (FPS) a grassroots data collection app to identify perceived road safety hotspots.
- Trauma Care Preparedness Level (TPL) – an assessment app to evaluate and plan for emergency care infrastructure and readiness. Additionally, a district-level opera-

tions taskforce will be constituted to ensure efficient data collection, identify intervention opportunities and implement engineering, enforcement, and emergency care solutions. Periodic impact assessments will track the effectiveness of the interventions.

CSR > FUTURE



INVEST IN CAPACITY BUILDING TO PLUG ASIA'S GREEN JOBS GAP: EXPERTS

With one in five green jobs expected to go unfilled by 2030, LinkedIn's Pei Ying Chua and Microsoft Singapore's Joey Tan warn of a growing skills gap. They urge businesses to see green investments as strategic, not as a cost. he green transition is at risk of stalling, as demand for green talent is outpacing supply – leaving one in five green jobs unfilled by 2030, according to experts during Eco-Business' recent 'Building a resilient workforce: Navigating Hong Kong's green job evolution' virtual forum.

LinkedIn's head economist for Asia Pacific, Pei Ying Chua, sees a widening gap between the demand for green talent and the available workforce as a major obstacle to achieving global sustainability goals.

"Our models show that one in five green jobs will lack the talent to fill it by 2030," said Chua, citing

CSR < FUTURE

LinkedIn's latest Global Green Skills report. The survey found that the gap between the demand and supply of green talent is projected to reach almost 19 per cent by 2030. If current trends continue, there will only be enough qualified workers to fill about half of the world's green jobs by 2050.

To close this gap, industries would need to at least double the current projected green talent supply by 2050, said Chua. This would require greater global investment in green skills and education.

The global demand for green talent has grown by at least 5.9 per cent annually between 2021 and 2024, while the growth of the green talent pool lags at 3.2 per cent. In 2024, 7.5 per cent of openings listed on LinkedIn were green jobs or positions needing green skills.

"[Fostering] more green talent is how we're going to get to a green economy and a more climatefriendly future," explained Chua, adding that job seekers with green skills are hired at a rate that's over 50 per cent higher than the average. "[However] our biggest challenge now is that there are still not enough green workers. There are not enough people with green skills."

The World Economic Forum's Future of Jobs 2025 report projects that climate adaptation will be the third-largest contributor to the growth in global jobs by 2030. Adaptation is expected to contribute an additional five million jobs and drive demand for roles such as sustainability specialists.

In Asia, Singapore leads as the country where demand for green jobs has risen the fastest at 27 per cent – the city-state is just behind Portugal, the United Kingdom and Costa Rica when it comes to demand growth globally in 2024. However, the growth in the world's green talent pool is still largely concentrated in European countries, There is still a [prevailing] view that green is a cost. There needs to be a shift in mindset. It is not a cost. It is of benefit to [companies] to adopt greener strategies, whether it's to adhere to regulations or to mitigate longer-term business risk.

-PEI YING CHUA Head Economist for Asia Pacific, LinkedIn

topped by Switzerland, Austria and Germany.

Indonesia and Malaysia show promise, with 5.75 per cent and 5.71 per cent growth, respectively, in green talent concentration between 2021 and 2024.

"[In Asia,] there is still a [prevailing] view that green is a cost. There needs to be a shift in mindset," said Chua. "It is not a cost. It is of benefit to [companies] to adopt greener strategies, whether it's to adhere to regulations or to be more appealing to clients or to mitigate longer-term business risk."

Between 2023 and 2024, the technology, information and media industries saw the sharpest green talent demand spike as the share of jobs requiring green skills surged 60 per cent.

The demand for green workers is projected to grow, despite expected disruption from artificial intelligence (AI) to all kinds of work. The World Economic Forum's 2025 Future of Jobs survey highlights that 86 per cent of respondents expect AI to have the biggest impact on their industry.

Dr Joey Tan, head of strategic initiatives and business development at Microsoft Singapore, believes that AI will not reduce the need for green jobs. On the contrary, Tan expects demand to grow exponentially as Southeast Asian countries implement mandatory sustainability disclosures for listed companies.

"[There's going] to be an increase in competition for talent," said Tan. "This is the first year Singapore activated [mandatory] sustainability reporting for listed companies and we've seen it's huge [boost] in demand. Thailand and Indonesia [will soon] also adopt the same approach. That is one huge demand signal."

A LinkedIn survey shows that Singapore has a 19 per cent gap in green talent demand and supply growth between 2023 and 2024. With Southeast Asian neighbours Indonesia, Malaysia, the Philippines and Thailand also rolling out mandatory climate-related disclosures for listed companies, this gap in the region is expected to widen.

An Economic Graph report also highlights a noticeable gender gap in the world's talent pool for green workers. Nine in ten women in the workplace lack a single green skill, while one in six men qualify as green talent.

"[I believe] this is just a teething problem," said LinkedIn's Chua. "Sustainability is still fairly new [to our industries]. It takes time to set up training programmes. It takes time to develop the right curriculum with the right instructors and figure out how to scale up these courses so that you can you can teach a larger pool of people quickly. Hopefully, it will get better over time."

(Source: https://www.eco-business.com/ news/invest-in-capacity-building-to-plugasias-green-jobs-gap-experts/)

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REDESIGN, REUSE, REFILL EXPERTS CALL FOR UPSTREAM SOLUTIONS TO BE PRIORITISED TO END PLASTIC POLLUTION

Upstream interventions for waste reduction are currently underfunded compared to downstream solutions like recycling and recovery, which developing countries may lack capacity for. Financing must support a just transition for informal waste workers, NGOs urge.

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euse and refill systems, which are severely underfunded compared to downstream solutions like recycling and recovery, need to be prioritised to end plastic pollution, say experts at a United Nations summit.

Currently, only 4 per cent of global financing to tackle plastic pollution focuses on refill and reuse that are designed to reduce such pollution from source.

With plastic production growing at a faster rate than the recycling industry's ability to keep up both in terms of technology and capacity, most plastic end up either in the landfill or oceans, said Apoorva Arya, chief executive officer at Danish think tank Circular Innovation Lab, at the Sea of Solutions (SoS) event held in Bangkok in September 2024.

"By not designing plastics [in a way that they] end up in landfills or incinerators, we solve a lot of problems," said Arya, adding that many countries now still struggle with legacy waste management problems, as collected solid waste piles up in landfills for years with no way for safe and efficient disposal and often gets leaked into the surrounding environment.

Even when plastic packaging is collected from the oceans, it is often of "questionable" quality and mixed with other materials due to the lack of regulatory standards that restrict the industry's use of specific polymers to those that either maintain or increase the value of plastics when recycled, said Arya. This leads to waste management firms bearing the cost of recycling these plastics, instead of producers, she added.

SoS 2024 is organised by SEA circular, an initiative by the UN Environment Programme (UNEP) and the Coordinating Body on the Seas of East Asia (COBSEA), a regional intergovernmental platform of nine countries, including China, South Korea, Indonesia, Malaysia, the Philippines, Thailand, Cambodia, Vietnam and Singapore. It aims to inspire actions towards ending plastic pollution in Asia and the Pacific.

According to OECD's Global Plastics Outlook, 22 per cent of plastic waste evades waste management systems and is destined to end up in uncontrolled dumpsites or is burnt in open pits, or end up in terrestrial or aquatic environments. Beyond this, Arya highlights that there is still an "effective case for reuse" which would present a potential investment opportunity. tive in UNEP, said that in order to incentivise reuse models, Extended Producer Responsibility (EPR) laws – which countries in Asia have begun mandating – must be thought of as a "life-cycle approach" and "not just a market mechanism to get the private sector to contribute to the cost of recycling".

Financing end-of-life plastic recycling is important, acknowledged Milà i Canals, but EPR is also a way to incentivise producers to bring in the right upstream design solutions. "For instance, this can be done by modulating the EPR fees so that the



Apoorva Arya, chief executive officer of Circular Innovation Lab (right), speaking at a plenary session on transforming plastic value chains to a closed-loop system. *Image: Sea of Solutions 2024*

For example, new models for reuse have emerged in the cleaning and personal care market, where refillable dispensers for soap and detergent have replaced single use packaging. In Indonesia, a local enterprise has been pioneering dissolvable packaging made from seaweed to replace single-use sachets, among other attempts to tackle the problem, shared Arya.

Making upstream solutions financially viable

Llorenç Milà i Canals, who heads the Secretariat of the Life Cycle Initiaproducts that are reusable and easy to recycle cost less, while hard-torecycle products are more expensive," he said.

EPR, which is considered an upstream solution, requires producers to pay for the management and recycling of packaging waste created from the entire life cycle of their products. In 2022, Vietnam became the first Southeast Asian nation to adopt EPR-related laws, followed by the Philippines and Indonesia. Elsewhere in the region, EPR schemes remain voluntary, though Malaysia and Thailand have plans

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to introduce them on a mandatory basis by 2026 and 2027 respectively.

Regula Schegg, founding partner and chief financial and operating officer, Circulate Capital, said that raising private financing for upstream solutions will require harmonised global rules on tackling plastic pollution.

"A challenge we see is obviously the regulatory framework. The Global Plastic Treaty can help in harmonising the environment we are operating in, as plastic doesn't stop at the borders of a country," said Schegg. "It can also help to create predictability, which is ultimately what institutional investors need." constrained by the technological readiness of the region. In such an instance, certain circular plastic innovations mooted might not be applicable. Arya cited the example of a project in Bangkok being scrapped for that reason.

In a 2023 report on circular economy strategies, UNEP highlighted that waste management and the recycling market need to become more viable ventures. Recycling is seen as a complement to other solutions, and it argues that it is important to ensure that where plastics are produced, they are designed to be recyclable in the market where they are sold.

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To date, 180 financial institutions representing over US\$17.2 trillion in combined assets have endorsed a statement calling for the treaty, aimed to be legally binding, to include harmonised targets across the plastics value chain and to ensure that companies disclose plastic-related risks and opportunities.

Asia's technological readiness

In her speech at SoS 2024, Circular Innovation Lab's Arya highlighted how waste management becomes even more challenging when downstream solutions like recycling are At the event, representatives from non-governmental organisations who spoke agreed with the need for upstream design to focus on the reduction of plastic production through refill and reuse systems before incorporating material changes such as using bioplastics as an alternative to petroleum-based plastics or recycling.

Mayang Guerrero Azurin, deputy director for campaigns at environmental coalition Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific, responding to discussions on circular business models by panellists, cautioned against solutions that place too much emphasis on recycling, citing how communities living alongside chemical recycling plants have expressed concerns about adverse environmental and health effects from toxic byproducts that could enter the water and air.

Jet Chang, vice president, public affairs, TOMRA China also cautioned that for its artificial intelligence (AI)-powered machines or other advanced technological solutions – which seek to improve the accuracy and efficiency of waste sorting – to be affordable, countries "need to find a proper use" for them.

"For example, the sorting machine is best used when you have volume, and the input material is very complicated. With the speed, the volume and the accuracy, the automation or AI then plays an important role."

The need for just transition plans

As Southeast Asia ventures into solutions like refill and reuse, just transition plans that ensure that informal waste pickers – who are often women, elderly or disabled – are still not in place, cautioned experts at the SoS 2024 conference. Speakers highlighted how financing towards ending plastic pollution often excludes the integration of waste pickers, with most business models displacing these communities.

In Asia, the informal sector plays a huge role in ensuring plastics are recovered for recycling. Waste pickers tend to be paid below market rate and work under hazardous conditions as the sector operates without formal regulatory frameworks.

One major barrier towards financing to ensure that the transition to a circular economy does not neglect marginalised communities is the lack of impact metrics, said Christina Jäger, who co-founded the global business network Yunus Environment Hub with Nobel Peace Prize Laureate Muhammad Yunus.

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Christina Jäger (second from the right), co-founder and managing director, Yunus Environmental Hub, said that the lack of impact metrics is a major barrier in financing the just transition of waste pickers and other marginalised communities to a circular economy. Image: Sea of Solutions 2024

Jäger, who said that the group has plans to work on such metrics, stressed that reskilling needs to be part of the investments for upstream innovations so that informal waste workers can access alternative employment opportunities.

Her organisation encourages younger informal waste workers to become entrepreneurs or to move into another job through access to microfinancing schemes, so they can tap into low-cost financing to start their own businesses or get quality education.

Such programmes could be applied to the informal waste sector, by looking at where the gaps for high demand jobs of a specific country are, she said.

In Vietnam, the government has plans to create an association for women waste pickers to help them gain access to financing, said Le Ngoc Tuan, director general of the international cooperation department at the country's ministry of natural resources and environment.

In response to a question from a Vietnamese NGO on whether the government plans to recognise them in its EPR law, Tuan responded that he is looking to negotiations on the legally binding instrument on plastic pollution as an opportunity for the ministry to propose that.

TOMRA's Chang is of the view that EPR will improve the livelihoods of informal waste workers. "Right now, we see most of our sorters are in the PET (polyethylene terephthalate) and rigid plastic recycling sectors. That's because without legislation in many regions, the economics for building infrastructure can't work, " he said, adding that EPR will ensure that responsible polluters pay to manage the end-of-life of their products.

Jäger emphasised that a formalised waste management system could cut off waste pickers' access to landfills and dumpsites where they have typically collected materials to sell. EPR laws will need to include and consider informal waste workers, she said.

"We can't just talk about redesigning specific products. We need to redesign the way the economy works," said Milà i Canals. "We cannot do it product by product or by making some changes here and there. We really need to transform the way we use plastics in the economy."

Source: https://www.eco-business.com/ news/redesign-reuse-refill-experts-call-forupstream-solutions-to-be-prioritised-to-endplastic-pollution/



INDIA'S FORESTS ARE DISAPPEARING, BUT NOT ON PAPER

The country's biodiversity-rich forests are failing to appear in official records due to nonclassification and legal loopholes, leading to fears over their protection, **Shalinee Kumari,** Dialogue Earth n the afternoon of March 30, bulldozers rolled into Kancha Gachibowli, a lush, 400acre tract of forested land in Hyderabad, a city in India's southern Telangana state. Trees were felled throughout the night. Videos taken at the site showed the razing taking place, with sounds of distressed animals echoing in the background. The land was set to be auctioned off by the Telangana government to make way for an IT park. The urban forest, home to over 730 species of

plants, 220 species of birds, and several mammals

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and reptiles, is also close to the campus of the University of Hyderabad, whose students have been at the forefront of resistance since the felling began. On April 3, the Supreme Court ordered a halt to the "alarming deforestation".

Like many dense and biodiversityrich natural forests in India, Kancha Gachibowli does not enjoy legal protection. This is because it is not legally classified as a forest, meaning it does not show up in government records.

This reflects a worrying trend. Across India, forest land is quietly disappearing, often without official acknowledgement of the fact. All this is happening whilst India's official forest survey, the annual India State of Forests Report (ISFR), claims the country's forest and tree cover has been increasing.

How are forests defined in India?

In India, the administrative definition of forests differs from the ecological and social, notes Kanchi Kohli, an independent researcher on forest governance. The ISFR considers as "forest cover" all land over one hectare with a canopy density above 10 per cent, regardless of legal status or ecological value. This means it counts plantations, orchards, bamboo, and palm as forests.

In 2023, it reported an increase of 1,446 sq km in total forest and tree cover that year compared to 2021. Figures from NGOs paint a different picture, however.

According to data from Global Forest Watch, from 2021 to 2023, India lost 4,380 sq km of total tree cover with canopy density above 10 per cent, which includes forest. During this period, 94 per cent of tree loss happened in natural forests.

A similar discrepancy was seen for data from 2019-2021, where the ISFR claimed a 2,261 sq km rise in combined forest and tree cover.

Meanwhile, Global Forest Watch recorded a 4,270 sq km loss in total People are concerned because the Forest Conservation Act 1980 [the original law] was one of the few tools communities had to regulate how forested land is used.

> -KANCHI KOHLI Researcher, Centre for Policy Research

tree cover canopy density above 10 per cent for the same period. A Ministry of Environment, Forest and Climate Change press release attributed these "contradictions" to differing definitions of forest and tree cover between the reports.

As of March 2024, over 13,000 sq km of land is under encroachment in the country, according to data from the Union Environment Ministry.

"Any land with tree cover on it is considered forest [by the ISFR] to show there is an optimum state of forest in the country, which responds to both national policies and international negotiations," says Kohli. Since 1952, India has had a policy of maintaining 33 per cent of its geographical area as forest cover.

Such surveys fail to address the quality of the forest or take into account the social and cultural practices around it, Kohli notes, such as the importance of the forests to the way of life of the Van Gujjars, a pastoralist community. Their traditional practices, such as lopping – or pruning of trees for agricultural and conservation purposes – play a crucial role in forest regeneration. But the Van Gujjars' contributions and practices are not recognised under the law, nor in official forest surveys.

Although deforestation is acknowledged in the surveys, "it's often balanced [out] by ambiguous inclusions like trees [planted] outside forest areas, or plantations, and land diverted for other uses legally remains forests", she says.

"There is no hiding that deforestation is taking place, and some of it is legally admissible," Kohli adds. "The question [is,] what are you including as forest in lieu of that? It's land-forland compensation."

Deforestation is not the only reason India's forests are disappearing. The challenge also lies in whether the forests exist on paper. And while monoculture plantations and degraded lands are often recorded as forest gain, dense forests like Kancha Gachibowli are absent from government records.

The Supreme Court raised this issue in a hearing in March, noting that many forests have been left out of official records and instructing states to set up expert committees to identify "forest-like areas", unclassified forest lands or community forest lands within six months.

Kohli says India's forested land is not classified as such largely because of political interests or differences in how states record land.

The Telangana government, which was granted full ownership of Kancha Gachibowli by the Supreme Court in 2024, said the forest had never been classified as such in its records. A 1996 Supreme Court ruling, known as the Godavarman judgment, defined forested land by its characteristics rather than its official designation.

Under this ruling, Kancha Gachibowli is considered a "deemed

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forest" – a tract of land with ecological characteristics of a forest that is not officially classified as such by the government. But the Forest Conservation (Amendment) Act of 2023 removed protections for deemed forests, instead restricting conservation to "legally notified forests". This has left them vulnerable to clearance.

Kohli acknowledges that there are communities that stand to benefit from this amendment. This includes those that have been disincentivised to plant trees or engage in agroforestry because of the prior permissions required for legally notified forests. However, broadly, "what this amendment has ended up doing is trying to unlock those lands which can be put to [use for] other purposes", she says.

"People are concerned because the Forest Conservation Act 1980 [the original law] was one of the few tools communities had to regulate how forested land is used." The amendment is currently being challenged in the Supreme Court by a group of petitioners that includes several former senior officers from the Indian Forest Service.

A nationwide pattern of diminishing forests

Similar situations have unfolded elsewhere in India. In September 2024, the Supreme Court halted the felling of nearly 25,000 trees in the Shahabad Mohammadpur deemed forest in Delhi's Dwarka neighbourhood for the expansion of a railway facility. Prior to the ruling, the construction activity had sparked protests and legal appeals.

In Haryana state's Mangar Bani, a known biodiversity hotspot, only 1,132 of its 4,262 acres are officially protected under the Punjab Land Preservation Act of 1900.

Despite past Supreme Court rulings in 2002 and 2004 affirming its forest status, much of the land remains unprotected in official records. Environmental activists allege that the region also faced illegal tree felling in 2022. In December 2023, the Supreme Court directed the Haryana government to prevent any further damage to the area, the region's sole primary forest.

It was one of many rulings by the Supreme Court in recent years regarding conservation. In 2024, it directed the government to comply with the "dictionary" definition of forests as upheld in the judgment.

In February 2025, while hearing petitions challenging amendments to the Forest Conservation Act, it ordered the central and state governments to avoid any actions that would lead to the "reduction" of forest land.

Even notified forests are not guaranteed protection

But forests being officially classified as such does not in itself guarantee their safety. Kohli says that even classified forests can still be acquired or diverted for non-forest use. Under Section 2 the Forest Conservation Act, forest land can be used for other purposes, such as infrastructure projects or mining, if prior approval is secured from central government.

An example of this is the mining currently taking place in central India's largest unfragmented forest, the Hasdeo Arand. In 2009, the environment ministry categorised Hasdeo Arand as a "no-go zone" for mining because of its rich forest cover.

But just two years later, the Parsa East and Kanta Basan (PEKB) coal mine received initial forest clearance permission, and in March 2012, it was granted stage two clearance permission, allowing the use of 1,898 hectares of forest land for the mine. So far, 94,460 trees have been felled, Bhupender Yadav, minister of environment, forest and climate change, told Parliament in December.

A 2021 Indian Council of Forestry Research and Education (ICFRE) report, cited in an affidavit submitted in response to concerns raised by a member of the Nature Conservation Society, identified a number of rare, endangered and threatened species of flora and fauna whose habitat was in the PEKB coal mine.

The Wildlife Institute of India, which was consulted by the ICFRE for its report, recommended that no mining be permitted in the region, except in the part of the PEKB mine in Hasdeo Arand where it is already ongoing, due to the area's "irreplaceable, rich biodiversity and socio-cultural values". But in March 2022, the Chhattisgarh state government approved the second phase of mining for the PEKB coal mine, granting final forest clearance despite resistance from the region's Indigenous communities.

On April 16, the Supreme Court asked the Telangana government to come up with a plan to restore the 100 acres of trees in Kancha Gachibowli that had been felled, and take immediate steps to protect the affected wildlife. On May 15, the Supreme Court will hear what is being done to protect the animals that lost their habitat following the tree felling.

From Hasdeo Arand to Dwarka and Mangar Bani, each ecologically rich region faces a different challenge: absence of classification, diversion for development despite legal protection and ignorance towards community voices. This reveals a disconnect between the ecological and social value of the forested land and legal recognition.

"It's not just the law on paper, but the rationality and process, and whether these laws stay true to their original intent, that really matters," says Kohli.

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(Source: https://www.eco-business.com/ news/indias-forests-are-disappearing-butnot-on-paper/)



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