

# CSR TODAY

RNI NO. MAHENG/2013/48866 ■ VOLUME 11 ■ ISSUE 02 ■ SEPTEMBER 2023 ■ PRICE ₹100 ■ TOTAL PAGES: 52

## IT IS NOT JUST HEAT WAVES CLIMATE CHANGE IS ALSO A CRISIS OF DISCONNECTION

Human life has changed so fast in our modern age that our biology, ecology and psychology has not kept up. We need to treat social and environmental health on par with physical and mental health to fend off the ills of global warming

### CSR EXAMPLE

Indian fishermen use smartphones to map a vanishing way of life

### CSR TARGET

IMO settles for 'by or around 2050' net-zero target for shipping

### CSR INITIATIVE

India's green credit scheme needs strong regulation to work





# CSR TODAY

## RATE CARD

ADVERTISEMENT SIZE	DIMENSIONS		1X RATE
	Non-Bleed	Bleed	
Inside Front Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹2,00,000
Inside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,50,000
Outside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹3,00,000
Full Page (Colour)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,00,000
Half Page - Vertical (Colour)	85 mm (w) x 250 mm(h)	-	₹50,000
Half Page - Horizontal (Colour)	180 mm (w) x 120 mm(h)	-	₹50,000
Quarter Page (Colour)	85 mm(w) x 120 mm(h)	-	₹35,000
Full Page (B/W)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹60,000
Half Page - Vertical (B/W)	85 mm (w) x 250 mm(h)	-	
Half Page - Horizontal (B/W)	180 mm (w) x 120 mm(h)	-	₹30,000
Quarter Page (B/W)	85 mm(w) x 120 mm(h)	-	₹20,000

**Bleed Advertisement charges:** 20% extra for all sizes.



**INDIAN CENTRE  
FOR CSR**

**For More Information:**

**INDIAN CENTRE FOR CSR**

106, Nirman Kendra, Dr. E Moses Road,  
Mahalaxmi Estate, Mumbai-400 011  
Ph: 9930139352

# SolB shows the mirror



**Rajesh Tiwari**  
Publisher  
[rt@iccsr.org](mailto:rt@iccsr.org)

**Birds are the basic indicators of the environment – and the SolB report assesses the status of 942 bird species largely using data uploaded by birdwatchers to the online platform eBird.**

**T**he much-awaited State of India's Birds (SolB 2023), a comprehensive report on the status of birds shows a mirror and offers an opportunity for Corporate Social Responsibility (CSR) activities.

Birds are the basic indicators of the environment - and the SolB report assesses the status of 942 bird species largely using data uploaded by bird-watchers to the online platform eBird.

The SolB report is a periodic assessment of the distribution range, trends in abundance, and conservation status for most of the bird species that regularly occur in India. With their ubiquity and ecological importance, birds are excellent indicators of the state of our natural world and are potent cultural symbols of nature. As a comprehensive, national-level assessment, the report points the way towards conservation needs of India's birds.

Two are indices of change in abundance: Long-term Trend (i.e., change over c. 30 years) and Current Annual Trend (i.e., annual change over the past eight years); the third is a measure of Distribution Range Size within India.

Of the total of 942 species, 523 had sufficient data for estimating Long-term Trends (the remaining 419 had insufficient data for this purpose). Among the 523, Long-term Trends could be determined for 338 species (the remaining 185 had trends categorised as inconclusive trends). Of these 338 species, 204 have declined in the long term, 98 show a trend that is indistinguishable from stable, and 36 have increased.

"Conserving birds is both a key part of nature conservation and also important for the human soul. We at Wildlife Trust of India work on bird conservation issues and are delighted to partner in this state-of-the-art report. This report tells us what we must do so that our grandchildren can enjoy birds, as we do," said Vivek Menon, Executive Director, Wildlife Trust of India.

"Though the report is based on the citizen science data, it has shown us the mirror about the status of the Indian birds and hence we need to act together without any delay," said Kishor Rithe, Interim Director of BNHS.

Similarly, from the 942 species, 643 had sufficient data for estimating Current Annual Trends (the remaining 299 had insufficient data). Among the 643, Current Annual Trends could be determined for 359 species (284 were Trend Inconclusive), of which 142 are declining (64 in Rapid Decline), 189 are stable, and 28 are increasing.

Using these three indices together with the IUCN global Red List of Threatened Species 2022 (hereinafter 'IUCN Red List'), species were classified into categories of Conservation Priority for India: 178 as High Priority, 323 as Moderate Priority and 441 as Low Priority. Species of High Priority include those whose abundance indices have declined considerably in the long term and continue to decline today. Species were also categorised as High Priority species for India, if their current range is Very Restricted, or if their abundance trend could not be assessed but they are classified as Globally Threatened in the IUCN Red List. 

# Contents



## 22 | Cover Story

**It is not just heat waves – climate change is also a crisis of disconnection**

### CSR OPINION

**20** Treaty to protect high seas too late to stop mining

### CSR EXPLAINER

**25** How trees benefit nature, people and the climate !

### CSR EXAMPLE

**28** Indian fishermen use smartphones to map a vanishing way of life

### CSR ISSUE

**30** Why we won't have a super El Niño this year

**32** Reducing eco-anxiety is a critical step in achieving any climate action

### CSR INITIATIVE

**34** Lost in translation? Climate experts aim to break language barrier

**37** India's green credit scheme needs strong regulation to work

### CSR POSITIVE STORY

**40** Trees like women best: Nepal's forests thrive with female bosses

### CSR TARGET

**42** IMO settles for 'by or around 2050' net-zero target for shipping

### CSR INNOVATION

**45** As Indian cities heat up, climate-resilient traditional buildings are coming into fashion

### CSR FUTURE

**48** Can new tech make carbon offsets trustworthy?

### REGULARS:

**03** Publisher's note

**05** CSR News

**12** CSR India United

**18** News You Can Use

## CSR TODAY

SEPTEMBER 2023 | VOL. 11 | ISSUE 02

**PRINTER AND PUBLISHER:** Rajesh Tiwari

### EDITORIAL

**Chief Consulting Editor:** Kingshuk Nag

**Consulting Editor:** M Bose

**Executive Editor:** Devasia P. Devasia

### INDIAN CENTRE FOR CSR

#### ADVISORY BOARD

Pankaj Pachauri, Ted McFarland, Mag. Martin Neureiter, Chandir Gidwani, Lou Altman, Kingshuk Nag, Toby Webb, Anil Bajpai, Rajesh Tiwari, Satish Jha, Jitendra Bhargava, Kapil Dev, Dr. Kamal Kant Dwivedi, Suhel Seth, Pradip Shetty, Sagar Adhikari

### PRODUCTION, CIRCULATION AND LOGISTICS

Harish Rathod

### HEAD OFFICE

#### CSR Today

106, Nirman Kendra, Dr. E Moses Road, Mahalaxmi Estate, Mumbai - 400 011

E mail: support @ iccsr.org,

Website: www.iccsr.org

### REGIONAL OFFICES

#### NEW DELHI

**Regional Directors:** V. Chopra, Pratap Bhanu Singh

#### MUMBAI

**Executive Vice President:** Sangita Jha

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

### Disclaimer

The publisher, authors and contributors reserve their rights in regards to copyright of their work. No part of this work covered by the copyright may be reproduced or copied in any form or by any means without the written consent. The publisher, contributors, editors and related parties are not responsible in any way for the actions or results taken by any person, organisation or any party on basis of reading information, stories or contributions in this publication, website or related product. Reasonable care is taken to ensure that CSR Today articles and other information on the web site are up-to-date and accurate as possible, as of the time of publication, but no responsibility can be taken by CSR Today for any errors or omissions contained herein.





## Hon'ble Lieutenant Governor of J&K Shri Manoj and Shri Ashishkumar Chauhan, MD & CEO, NSE inaugurate CT Scan Centre for the Indian Army 92 Base Hospital in Srinagar

**N**SE Foundation, the implementation arm of CSR activities of the National Stock Exchange of India Limited (NSEIL), has created a state-of-the-art CT scan wing in the Indian Army's prestigious 92 Base Hospital in Srinagar (J&K).

The CT scan wing was inaugurated by Lieutenant Governor Manoj Sinha, in the presence of Lieutenant General Rajiv Ghai, the 15 Corps Commander and Ashishkumar Chauhan, MD & CEO, NSEIL.

The 92 Base Hospital in Srinagar (J&K) is a 598 bedded multispecialty hospital where many trauma

patients are admitted for the treatment of gunshot wounds, splinter and shrapnel injuries as well as other critical injuries which require prompt diagnosis. It is imperative for such a medical facility to be equipped with an efficient and reliable CT scan machine to ensure proper treatment.

The equipment supplied is the latest model by GE (Revolution Maxima) which is a powerful, high-performing, and reliable CT scanner. It features a number of innovative technologies, including AI-based technology that automatically

centres the patient in the bore of the scanner. As a result, patients can be scanned more quickly and accurately, leading to a shorter wait time and effective diagnosis.

Sinha said: "The new wing with the CT equipment is a much-needed addition for the health and well-being of the community. It will make a real difference in the treatment protocols and outcomes of the patients in this hospital. We are happy that NSE Foundation has taken up this cause to upgrade the hospital facilities, and we look forward to working with NSE Foundation on opportunities to provide quality healthcare and enhanced medical facilities in the valley."

Lieutenant General Ghai said: "This initiative by NSE Foundation will be a key milestone for the 92 Base Hospital and provide much needed technologically superior infrastructure for critical health services delivery. On behalf of the Indian Army, I would like to express our appreciation to NSE Foundation for taking up this cause. This advanced version of the machine will allow us to provide better diagnosis and treatment to patients in this region, many of whom come to us with life threatening injuries and require expedient and targeted treatment."

Chauhan said: "NSE is committed to serve the cause of armed forces who play a pivotal role in selflessly protecting our country. We are honored to have this opportunity to contribute to the well-being of our soldiers, who risk their lives every day to secure our national borders. We hope that this initiative will support the healthcare requirements of both the army personnel as well as the civilians in Jammu and Kashmir."

# Cricketer Ajinkya Rahane Mentors Students from Salaam Bombay Foundation's Fitness Program

Salaam Bombay Foundation's (SBF) Sports Academy organised a mentoring session with Indian cricketer Ajinkya Rahane for its 'Fitness Monitors' adolescent students studying in municipal or government aided schools, who are trained under the Academy's Fitness Program and handpicked for their long term interest in fitness.

The goal of the event was to inspire adolescents to adopt a lifestyle of fitness while becoming change agents within their communities. As part of the session, the students had the opportunity to interact with Mr. Rahane where they learned about his journey of fitness on his way to becoming one of India's top cricketers. SBF also organised for Mr. Rahane and the students to engage in fun fitness activities which combined aspects of cricket, fitness and motor skill development.

SBF's 100 hour-2 year Fitness Program has been designed to help underprivileged adolescents maintain fitness levels while increasing their participation in various sports. The program also provides a platform for adolescents to explore career opportunities in fitness and other areas within the sports industry. SBF has gone one step ahead with the "Fitizens Initiative" where enthusiastic students showcasing a motivation to make an impact on their communities with a potential to pursue a career in sports and fitness are selected as 'Fitness Monitors'. These Fitness Monitors then advocate the importance of fitness by mobilising and conducting sessions in the community while also digitally tracking each community member's fitness levels throughout the sessions. SBF



provides students tablets for the digital tracking of fitness levels where Fitness Monitors review and guide community members on their fitness levels. This also ensures that the adolescents are being updated with technological skills relevant to the sports industry.

With the hope of contributing to the Indian Government's 'Fit India Movement' launched in August 2019 by Prime Minister Shri

Narendra Modi, SBF expanded the 'Fitizens Initiative' from slum lanes to Ganpati Pandals, Community Gardens, MCGM Bus Depots, Old Age Homes and Corporate Offices. SBF and the adolescent Fitness Monitors work together to identify target groups and also customise fitness sessions based on age and fitness levels of the target group. Every community member enrolled is taken through a cycle of 5 fitness



sessions including ‘Strengthen Your Everyday Movement’, ‘Fitness Anywhere and Anytime’, and ‘Change Your Mindset to Change Your Lifestyle’ among others.

Rahane said, “Salaam Bombay Foundation’s “Fitness Program” as well as the “Fitizens Initiative” is a great way to promote fitness amongst underprivileged adolescents and their communities. This unique format of appointing these adolescents as ambassadors of good health will definitely have a catalytic impact on their lives. I believe that every child studying in a municipal or government school must have access to fitness programs like the one conducted by SBF, while encouraging them to spread the spirit of good health, both for mind and body amongst their communities. I am happy to have shared my principles of fitness and inspire these bright and motivated students. They have promised to hold up the torch of good health for their communities. I look forward to mentoring more young minds at Salaam Bombay Foundation.”

Padmini Sekhsaria, Founder, Salaam Bombay Foundation said, “We are honoured to have a youth icon such as Ajinkya Rahane mentor our students and inspire them to reach for the stars. We work with underprivileged adolescents from difficult



backgrounds, who have little or no access to physical activity and sports. At Salaam Bombay Foundation, we believe that the playground can be an effective tool to achieve a Healthy Body and Healthy Mind. Our vision is to bring about an attitudinal change amongst these adolescents through Sports and Fitness, motivating them towards staying in school and completing their education. His presence on the ground will help galvanise this section of the society, where lack of resources invariably leads to disinterest in health and fitness. We hope Ajinkya will continue to conduct more such inspiring sessions for our students. We commend his efforts and his commitment towards creating a Fit India for future generations.”

Till date, the Salaam Bombay Sports Academy has trained 2,200 students (1,050 or approximately 48% are girls) through the “Fitness Program” out of which 100 have been selected as ‘Fitness Monitors’. In the last one year, more than 4,400 community members across India have been trained by our adolescent ‘Fitness Monitors’ through the “Fitizens Program”.

## BBC Media Action ropes in Shraddha Jain (Aiiyo Shraddha) to spread awareness on proper waste disposal among Bengalureans

**S**hraddha Jain aka Aiiyo Shraddha, one of the most versatile social media influencers in the country known for her humorous takes across themes and issues, has perhaps just delivered her best yet, with a 90 second video on Insta, titled “Eh Whattya!”. In the video, Shraddha introduces viewers to Savithri, an informal waste picker in the city of Bengaluru, and takes them through the city’s acts of crime which lead to poor work conditions of Savithri and thousands like her. With humour laced with satire, Shraddha educates people about proper waste disposal, that could make picking and recycling waste a lot simpler and safer for people like Savithri. Created in collaboration with the #Invaluables initiative of BBC Media Action, the video was an instant hit, transcending boundaries within hours and becoming viral across the country within the first few days.



With a whopping 8.4 million views and counting, so far on Instagram, it is set to be Shraddha’s most viewed videos of all time. It has already attracted over 4,500 comments including those by other influencers, corporate leaders, celebrities, and personalities. It has been shared over 1,45,000 times on Instagram and has received more than 2 million views on other platforms like FB, X and LinkedIn, and has been extensively forwarded through WhatsApp groups organically.

# Indus Towers in association with NIIT Foundation felicitates 40 beneficiaries under CSR Saksham Flagship Program

*The Solar powered, mobile digital classroom has already benefitted more than 1.6 lakh lives across Delhi, Dehradun, and Bhopal*

Indus Towers Limited, as part of its Corporate Social Responsibility (CSR) Flagship Program Saksham, felicitates 40 beneficiaries for completion of Digital Education course under Digital Transformation Van (DTV) Program in New Delhi. This program aims to enhance digital education, digital skills, and internet accessibility for rural and semi-urban communities in the region. Notably, this time, we have witnessed active participation from all women in Delhi. The event was held at Jyoti Nagar Police Station, North East Delhi. The inaugural was graced by the Chief Guest Dr Joy Tirkey, Deputy Commissioner of Police (DCP), North East Delhi who shared his valuable insights and appreciated the efforts of Indus Towers and NIIT Foundation.

The DTV is a 20-seater solar-powered Digital Transformation Van that serves as a mobile digital classroom, equipped with cutting-edge computing and printing technology, software, and e-learning tools. It is designed to empower underprivileged communities, both urban and rural, with essential technology skills. The program has five key components, including digital literacy, IT



DTV beneficiaries and the Van

education, Cyber Security/IoT development, video conferencing consultation, and mass literacy program.

The DTV program, launched in 2018, aligns with the National Digital



Left to right - Dr Joy Tirkey, Deputy Commissioner of Police (DCP), North East Delhi, Manoj Kumar Singh, Chief of Regulatory & CSR, Indus Tower with beneficiary of the DTV program

Literacy Mission and has made significant impact in promoting digital literacy, education, and access to online services. With its successful reach for communities in Delhi, Dehradun, and Bhopal, the initiative has benefitted over 1.6 lakhs individuals through its video-based educational program.

Dr Joy Tirkey, DCP, North East Delhi said, "I extend my heartfelt congratulations to Indus Towers for their commendable initiative in empowering digital skill development through DTV. Their dedication to providing access to rural and semi-urban communities in Delhi is truly inspiring and is bridging the digital divide and empowering individuals especially women".

Speaking about the success of the DTV, Manoj Kumar Singh, Chief of Regulatory & CSR, Indus Towers said, "Indus Towers Digital Transformation Van (DTV) CSR



program is a powerful testament to our dedication to making education accessible to all. In today's digital age, learning happens beyond classrooms and isn't restricted by age or background. The DTV embodies our core belief that education is a lifelong journey. It is a mobile classroom that brings in-demand skills right to the doorsteps of individuals from all walks of life. By doing so, we are actively contributing to the transformation of our communities. The DTV isn't just a vehicle; it's

a symbol of our commitment to a brighter future for everyone, one skill at a time".

Charu Kapoor, COO, NIIT Foundation said, "Digital literacy is crucial for helping people improve their lives, and our collaboration with Indus Towers shows our strong commitment to this goal. The DTV program brings education and opportunities directly to communities that need them the most. It ensures that everyone, especially those who have fewer advantages, can benefit

from the digital age. We strongly believe that this program serves as an exemplary model for creating a brighter future for everyone".

The DTV program has imparted digital literacy to individuals in the age range of 14 to 60 years, and who come from diverse backgrounds. The beneficiaries include school going children, women, Self Help Groups, homemakers, entry-level employees working in firms, farmers, and adults who want to enhance their skills in digital literacy.

## Government of Haryana signs MoU with Magic Bus

**H**aryana School Shiksha Pariyojna Parishad, the implementing agency for Samagra Shiksha under the Government of Haryana, has partnered with Magic Bus India Foundation, a leading non-profit organization in the education and skilling space. This collaboration aims to empower government school teachers to deliver life skills education, fostering the holistic development of adolescents in government schools across Panchkula, Gurugram, and Yamuna Nagar.

Through its teacher-led program, Magic Bus India Foundation will train approximately 1400 teachers to benefit 80,000 adolescents across 700 government schools. These teachers will then effectively impart 21st century life skills including self-awareness, self-management, collaboration, empathy, decision-making, problem-solving, communication, negotiation, assertiveness, and adaptability to adolescents from 6th to 10th grade.

Notably, the Government of Haryana has placed a strong emphasis on providing skill-based education, multi-disciplinary learning, and holistic development of adolescents

which is in line with the National Education Policy (NEP) 2020. With most of the schools in the state being government-run and catering to a majority of the adolescent population, this partnership marks a significant milestone.



Sanjay Kumar, Consultant, Haryana School Shiksha Pariyojna Parishad said, "Haryana is strongly aligned with the implementation of National Education Policy (NEP) 2020 and we believe that empowering young minds with the right skills is the key to unlocking their potential and creating a brighter future. The partnership with Magic

Bus India Foundation is a significant step towards providing life skills education to our adolescents, enabling them to become self-reliant and contributing members of the society. We are committed to working closely with Magic Bus India Foundation to drive positive change in the lives of our young people."

Jayant Rastogi, Global CEO, Magic Bus India Foundation said, "Through our partnership with the Government of Haryana, we look forward to taking Magic Bus India Foundation's rich experience in life skills education to the teachers and adolescents of Haryana.

Education is the most powerful tool that can help young people break the cycle of poverty, and we aim to equip adolescents with necessary 21st Century life skills to help them navigate life and its challenges. Together, we are laying the foundation for a more equitable and prosperous society, where every young person has the opportunity to realize their full potential."



## RBL Bank Marks 80th Foundation Day with 'Project Khwaish' – An Initiative to Support Underprivileged Girls Fighting Cancer

On its 80th Foundation Day, RBL Bank, one of India's leading private sector banks – proudly unveiled 'Project Khwaish,' an earnest social initiative dedicated to providing cancer treatment and care for underprivileged girl-children. In partnership with Tata Memorial Hospital, this noble project is aiming to benefit 80 girl-children with comprehensive cancer care support valued at a total cost of Rs. 3.20 crore.

With the first phase inaugurated at Tata Memorial Hospital located in Mumbai and Varanasi, girl-children from all states of the northern, western and eastern regions can avail of this treatment. Subsequent phases are scheduled to be launched in association with Adyar Cancer Institute in Chennai, where it will support girl-children from all southern states of India and Narayana Hrudayalaya Charitable Trust located in Bengaluru, Delhi and Kolkata,

which will provide treatment to Jammu & Kashmir, Delhi, southern and eastern India.

According to a study conducted by the National Cancer Institute in July 2021, out of 50,000 children diagnosed with cancer, only 15,000 opt for treatment. From the remainder, the number of girl-children being denied treatment is on the

higher side, indicating a traditional bias against the girl-child. If childhood cancer is detected early, the recovery rate can be as high as 85%. Project Khwaish aims to bring about a positive and transformative impact with a primary focus on providing essential medical care and support throughout their cancer treatment journey.

R Subramaniakumar, MD & CEO, RBL Bank, said, "The 80th Foundation Day is a momentous occasion and we are incredibly proud to launch 'Project Khwaish', a heartfelt initiative dedicated to delivering cancer treatment and care to underprivileged girl-children. At the heart of this endeavour lies our firm belief that every child deserves access to top-notch healthcare. Through this small step, we reaffirm our commitment to fulfilling this noble cause. With 'Project Khwaish,' we aim nurture a promising and healthier future for the children"





# OPPO India signs MOU with TSSC to upskill and reskill India's youth

OPPO India signed an MoU with the Telecom Sector Skill Council (TSSC) at its factory in Greater Noida to drive diverse skill development among the youth while promising employment opportunities at its facilities. OPPO India also joined forces with CSC Academy to launch the next phase of the Cyber Sangini Programme. Both initiatives gear towards strengthening the innovation ecosystem through training and upskilling the potential workforce in India.

Nand Gopal Gupta, Minister for Industrial Development, Export Promotion, NRI, Investment Promotion in the Government of Uttar Pradesh, Arvind Bali, CEO, TSSC, Rishikesh Patankar, CEO, CSC Academy, Alfa Wang, President OPPO India, and Vivek Vasishtha, Vice-President, Public Affairs, OPPO India were present at the event.

Commenting on the programme, Gupta, stated, "The state of Uttar Pradesh, with the Government of India, actively works towards empowering the youth through skill development initiatives. OPPO India's collaboration with the TSSC and the CSC Academy showcases a strong commitment to inclusive growth and digital transformation. This collaborative approach will significantly contribute to India's progress and development in the digital age."

The MoU—signed for three years—provides a new workforce for OPPO India and supports its existing workforce through TSSC's reskilling and upskilling programmes. The primary objectives of this collaboration are to invigorate OPPO India's workforce with fresh talent and bolster the skills of its existing employees through the comprehensive reskilling and upskilling programmes offered by TSSC.



(Left to Right: Alfa Wang, President OPPO India; Vivek Vasishtha Vice President Public Affairs OPPO India; Nand Gopal Gupta 'Nandi ji' Minister for Industrial development, Export Promotion, NRI, Investment Promotion in Government of Uttar Pradesh; Praveen Sarohi, Assistant Vice President Telecom Sector Skills Council; Dr. Rishikesh Patankar, CEO CSC Academy)

Bali said, "We are thrilled to announce our partnership with OPPO India to enhance the telecom sector's workforce capabilities. TSSC will upskill workers under the Recognition of Prior Learning (RPL) Programme under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY). Through this programme, we will certify informally skilled workers within the framework of India's government guidelines. This collaboration aligns with our mission to provide top-notch training and skill development to the Indian telecom and ESDM workforce." The second announcement at this event was the launch of the third phase of the Cyber Sangini Programme, an initiative that is currently being implemented in Andhra Pradesh and Jharkhand. Till date, 5,000 women have been trained under this initiative.

Building on this success, the programme's new phase targets

the training of 2500 women in Uttar Pradesh. The Cyber Sangini Programme, endorsed by the Ministry of Electronics & IT, was launched earlier in the year to train 10,000 women nationwide in cybersecurity and cyber wellness, ultimately certifying them as Cyber Security Ambassadors.

Patankar highlighted the importance of this programme, "The Cyber Sangini programme empowers women to be at the forefront of cybersecurity awareness and support in their communities. Our collaboration with OPPO India in this programme marks a pivotal stride in fortifying the cyber safety of citizens of India. We are excited to embark on this journey with OPPO India to elevate the capabilities of the Indian telecom workforce and contribute to the nation's progress with quality training and skill-development opportunities."

## AquaKraft in association with Hyundai Motor India Foundation unveils Safe Drinking Water for Students

Clean Drinking Water is the fundamental right of every child and AquaKraft is committed to enabling the same. AquaKraft Projects Pvt. Ltd. received a mandate from Lok Shikshashan Sanchanalay, Madhya Pradesh for the installation of Clean Drinking Water Systems at 50 identified Schools to be funded under CSR. Based on this mandate AquaKraft conducted a detailed baseline study of the requirement and successfully solicited CSR from Hyundai Motor India Foundation. Accordingly, AquaKraft's School Drinking Water Purifiers were installed across 50 government schools in 7 districts of Madhya Pradesh State benefitting over 30000 children along with over 3000 teaching and non-teaching staff. This has been termed a milestone project leading to a direct impact on the health, attendance, and well-being of children at this scale. This program was implemented under Hyundai's CSV philosophy of 'CONTINUE' and 'Safe Drinking Water for a Better Future' initiative by the Hyundai Motor India Foundation (HMIF), the philanthropic arm of Hyundai Motor India Ltd. (HMIL)

The program was unveiled by Malti Rai, Mayor of Bhopal at the CM Rise Narela Shankari Government School, Bhopal in the presence of C. Sridhar- Governor, AquaKraft Group Ventures, Tarun Jain – Regional Manager, Hyundai Motor Corporation, Ashwin Dubey

- Managing Director, Linkson LED, District Education Officer Anjani Kumar Tripathi, School Principal Nandita Srivastava, and senior journalist Anita Choubey.

Commenting on the 'Safe Drinking Water for a Better Future' initiative, Puneet Anand, AVP & Vertical Head – Corporate Affairs, Hyundai Motor India Ltd. said, "In line with Hyundai's global CSV (Creating Shared Values) philosophy of 'CONTINUE', HMIF has been giving back to society through initiatives under the CSV core pillars of 'Earth', 'Mobility' and 'Hope'. The 'Safe Drinking Water for a Better Future' initiative is an important step towards a healthier future. It is our goal to ensure that the basic requirement of safe & clean drinking water for school-going students is met across the state of Madhya Pradesh. By providing safe & clean drinking water the initiative is working towards alleviating waterborne illness in students & staff thus helping to ensure higher attendance in the schools. Through this initiative, we aim to nourish dreams and foster a brighter & healthier generation."

The 'Safe Water' Initiative was implemented basis of a survey that revealed that the majority of schools in the region had TDS levels ranging from 400-700 mg, against the permissible limit of 500 mg, in the drinking water available to them. The water purification systems, installed and

maintained by AquaKraft utilize modular filtration technology designed to address the contamination present in raw water. The water purifier systems have a capacity of purifying up to 500 litres of purified water per hour. School administrations at each of the 50 locations were sensitized to the overall benefit of installing water purification systems within the premises and with their active cooperation the initiative is being successfully implemented in the following 7 districts of Madhya Pradesh.

Thanking Hyundai Motor India Foundation for their focused approach in CSR activities, C. Sridhar, Governor, AquaKraft Group Ventures praised the authorities at the Department of School Education, Govt of Madhya Pradesh, and the school management for their wholehearted support in the implementation of the program. The program covered 50 government schools across 7 districts in the state, benefiting over 33000 students and staff at these schools. The students and the staff present at the school were made to take a pledge to save water and minimize wastage. The students and the teachers present wholeheartedly took the pledge. One of the students spoke about the importance of water in our lives and how to ensure that the future is secured through proper means of water conservation.

Further commenting C.Sridhar said "AquaKraft has successfully executed mandates given from several authorities by aggregating the "Need with the Deed". While providing cutting-edge technologies and solutions, understanding the need, curating a customised solution, and aligning it with the corporate donor's strategy within the governmental framework has made us a trusted & preferred partner for both the governments and corporates. It will be our endeavour to take our Flagship School Drinking Water program across India and invite corporates to join us in building the future of our country."





## WIK A To Build Primary School In Kesnand Village, Pune

**W**IK A India, the global instrumentation major, as part of its long-standing commitment to CSR activities, laid the foundation stone for the construction of a school building on the premises of the Zilla Parishad Primary School, Kesnand village in Pune on July 19, 2023.

The foundation stone for the school building was laid by Mr. Alexander Wiegand, Chairman and CEO of WIK A Group of Companies, in the presence of Mr. Andreas Keiger, Executive Vice President - EMEA/India, WIK A Group and Mr. Gaurav Bawa, Senior Vice President – WIK A India Group.

Recognizing the challenges faced by the school due to lack of space, WIK A took the initiative to build five fully equipped classrooms to facilitate uninterrupted education for the students in the village. The initiative will increase the school's seating capacity by 200 students, giving an

opportunity to more students to avail education. This will particularly benefit students from lower financial backgrounds and promote primary education in the area.

During the ceremony, Alexander Wiegand expressed his gratitude for WIK A's presence in Kesnand village over the past 25 years. "Education is the right of every child and quality education determines the future of not just the children but also the community and the country as a whole. We are glad that WIK A has played a small role in providing education to every child in this village," he said.

Andreas Keiger during his interaction with the community, said, "It is a commendable example of how businesses can contribute to the well-being and development of the society through CSR activities. We hope that WIK A's role in enabling education to children will build many lives." Gaurav Bawa shared his experiences

and the unwavering support received from the village community over the years. "WIK A began its India journey in Kesnand and hence, this community and its people are very important to WIK A's growth. The perpetual support of the community is integral to us and thus, we are glad to do our bit for the people. It is heartening to know that the Zilla Parishad Primary School has contributed to the success of Kesnand village by nurturing generations of well-rounded and civic-minded individuals, many of whom have become prominent leaders in the community. We hope that the school will be able to encompass each and every child in the village and nurture their future," he said.

The construction of the school building is expected to be completed by February 2024. With this initiative, WIK A believes that the school will have a positive and lasting impact on the students, teachers, and the community as a whole.

# Lotus Petal Foundation's career-readiness program Jeevika Skill Development Program Honors 100+ Accomplished Graduates at Convocation, 50 urban youth bag jobs

Gurgaon-based Lotus Petal Foundation has an unwavering focus on equipping young individuals with essential skills for their professional journeys. Through its specialized programs, the foundation imparts career-ready abilities that leave a meaningful imprint on people's lives. Recently, a noteworthy event marked the recognition and accomplishment of 100+ urban youth hailing from Delhi, Gurgaon, and neighbouring areas. These individuals successfully completed the inaugural session of the foundation's flagship career-preparedness initiative known as the Jeevika Skill Development Program. Notably, the Gurgaon campus's Jeevika section is thoughtfully designed to accommodate training for a concurrent cohort of up to 4000 students. The courses are certified by the National Skill Development Corporation (NSDC) and are available at subsidized costs for students from low-income families with free transportation facilities also available to and from the Dhunela campus via bus.

The students who completed different vocational training courses in Hardware & Networking, Hospitality, Retail, and Digital Marketing were awarded certificates at the event held at their campus in Dhunela (Gurgaon). The highlight of the event was the announcement of placements for almost 50+ graduate youth in leading corporates like McDonald's India, Megamax Heloise Tech Solution, Dmart, FNS Solution etc. This achievement reflects the quality of training provided by Jeevika and the relevance of the

skills imparted to the demands of the job market.

National Curriculum Framework draft of 2023 which has recognised the importance of early career guidance. The NCERT has integrated career guidance and readiness into the high school system. With nearly 65 percent of youth of the country in the working age group, Government of India is committed to equipping the workforce with employable skills and knowledge in mission mode. In a bid to improve and streamline the skilling ecosystem of the country, Lotus Petal Foundation at its Dhunela campus is welcoming the country's youth for their multiple 6-month courses & efficiently placing them on a path of skilling & making them employable in numerous industry roles.

The convocation ceremony brought together students, their families, staff, local dignitaries, and industry partners. The event featured inspiring speeches, a presentation of certificates, and heartwarming success stories that showcased the transformation of students from learners to professionals.

The event marked a significant milestone in the student's lives as they were recognized for their hard work, dedication, and the valuable skills they acquired during their training. Chief guest Amitav Virmani, graced the occasion by lighting the lamp along with Founder Kushal Chakravorty, Co-Founder Saloni Bhardwaj and Jeevika Skill Development Program Manager, Ravinder Kumar. "We are immensely proud of our graduates

who have successfully completed their vocational courses. This convocation marks the culmination of their journey with us and the beginning of their promising careers. Our mission at Jeevika has always been to empower individuals through education and training. What had started from 22 students, has grown to 250 students, within a few months. With a focus on holistic growth, our students receive extensive theoretical and practical training that has led them in finding employment as well as opening the doors for higher education. The success of our graduating batch has filled our hearts with a sense of pride and confidence that now our students are ready to take on the world and live a life with dignity and equal opportunities without any fear or inhibitions", shared Kushal Chakravorty, Founder, Lotus Petal Foundation.

22-year-old Rahul Saini from Gurgaon completed the Hardware and Networking course at Jeevika and received placement at Megamax. He shared, "Getting placed at MegaMax has provided a significant boost to the beginning of my career journey. I am filled with enthusiasm and joy as I embark on this new chapter". Another alumni Mamta who got placed as Cashier at McDonald's after completing the Retail Sales & Management course at Jeevika shared, "Attaining employment at McDonald's at this stage of my life has bestowed upon me a sense of financial freedom. As a result, I am now capable of contributing to my family's finances".



# Airtel Payments Bank, Frontier Markets and Mastercard Partner to Support 100,000 Women-owned Small Businesses in India

**A**irtel Payments Bank, Frontier Markets and the Mastercard Center for Inclusive Growth has announced the launch of She Leads Bharat:Udyam, an initiative to elevate 100,000 women-owned small businesses with resources, tools and opportunities to grow and diversify their incomes. The announcement was made at the Asia Inclusive Growth Forum, an event convening over 100 cross-sector leaders for candid, impact-driven dialogues on advancing inclusive growth in India and across the global south. In this first phase, this initiative will enable 100,000 women-owned small businesses in Rajasthan and Uttar Pradesh to learn and earn via Frontier Markets' proprietary, flexible Meri-Saheli platform. 10,000 of these women small business owners will be further enabled to grow their business by becoming Airtel Payments Bank Business Correspondents (BCs) and unlock additional revenue streams. This is aligned with the Bank's vision of 'Empowering India with Accessible and Inclusive Banking.'

"Taking our commitment forward to empower women in rural India to embark on their entrepreneurial endeavours, we are collaborating with Frontier Markets and Mastercard on She Leads Bharat:Udyam," said Anubrata Biswas, MD&CEO, Airtel Payments Bank. "We take pride to welcome them on board as Business Correspondents, joining hands with our existing network of 50,000 women BCs who play a vital role in taking banking and financial services to underserved rural pockets of the country. We look forward to our journey in building a financially inclusive economy."

The partners envision She Leads Bharat:Udyam helping to expand access to financial services, delivering a new blueprint for serving rural markets and extending women-owned small

## **New initiative aims to unlock opportunities for women-owned small businesses by enabling access to tools, resources and networks**

businesses with support tailored to their needs. "More women entrepreneurs are coming into India's workforce and adding energy to the economy. When these business owners can access credit and digital tools, they can keep expanding and become more resilient. That's good for their families, employees and communities. That's what inclusive growth is all about," said Ari Sarker, President Asia Pacific, Mastercard.

Women-owned small businesses face challenges that can often prevent them from achieving their full potential. In India, women-owned micro, small and medium enterprises (MSMEs) constitute 20% of all MSMEs yet receive only 5% of the total financing provided by public-sector banks.[1] They are often less digitized[2] and receive less training to build their businesses[3]. However, when properly supported, women entrepreneurs are more likely to hire women, more likely to repay credit and more likely to share increased income with their families and communities, serving as core drivers of inclusive economic growth. She Leads Bharat:Udyam is a first-of-its-kind initiative that brings together the private sector, social enterprise, and philanthropy in the banking, financial services, and insurance sector to demonstrate a digital-first model designed to unlock ways for women-owned small businesses to increase their incomes. Frontier Markets will implement the program and leverage

its cadre of Saral Jeevan Sahelis—women entrepreneurs—to identify and onboard women-owned small businesses onto their Meri-Saheli platform. In partnership with Airtel Payments Bank, Frontier Markets will onboard eligible women-owned small businesses as business correspondents and leverage its Saheli network and platform to increase product and brand awareness and generate leads to maximize their earning opportunities. In addition, these women-owned small businesses will get access to a suite of tools, resources, and market services available in the Meri-Saheli ecosystem, offering them ways to learn how to run a successful business and earn more revenue.

"Frontier Markets has built a technology platform investing in the power of women as driving forces for commerce in rural India. Thanks to the leadership of Airtel Payments Bank and support from Mastercard, we can leverage our 10 years of efforts to reach a new level of scale, truly combining the best of global leaders' expertise and resources to support our efforts to deepen the impact that rural women have in building thriving rural markets in India," said Ajaita Shah, Founder & CEO, Frontier Markets. "This partnership strengthens and enables social enterprises like us to thrive and implement our goals at scale."

She Leads Bharat:Udyam will be funded by the Mastercard Impact Fund, and Mastercard will bring the catalytic capital and global expertise of its Center for Inclusive Growth to unlock tools, resources, and networks for the women-owned small businesses.

Airtel Payments Bank's ground force and Frontier Markets' Sahelis are already working in the field to bring this partnership to life and identify the first tranche of women-owned small businesses eligible for the program.

# Herbalife empowers 9300+ farmers under its Seed-to-Mouth initiative

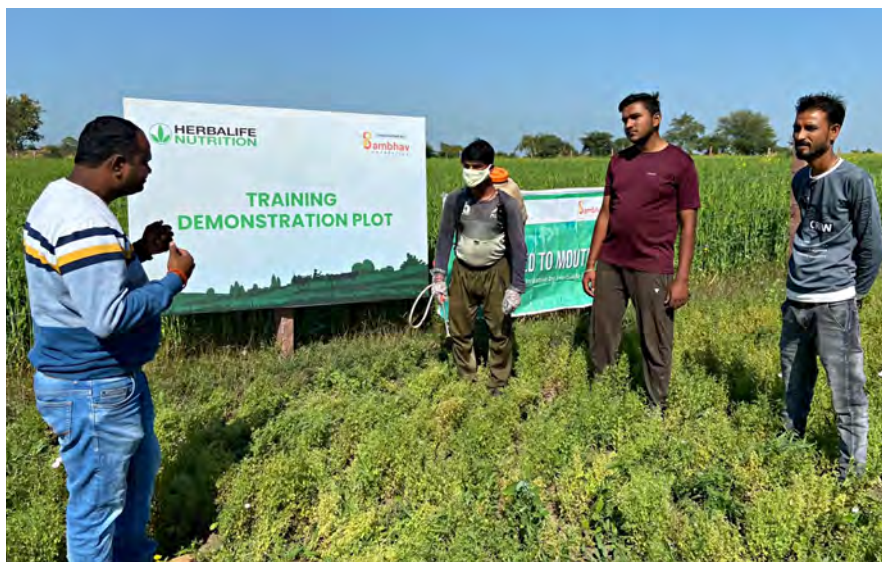
*The holistic training program with Sambhav Foundation has provided economic stability to over 25,000 households across 84 villages in Karnataka, Rajasthan, and Madhya Pradesh*

**H**erbalife India, a global health and wellness company, partnered with Sambhav Foundation, a non-profit organization, to train and empower farmers in India as part of its CSR initiative.

Through Herbalife's Seed-to-Mouth initiative, the organization has strengthened the farming capabilities of over 9,300 farmers across India. In line with Herbalife's commitment to the United Nations' Sustainable Development Goals (SDGs), the comprehensive training program has transformed over 25,000 households across 84 villages in Karnataka, Rajasthan, and Madhya Pradesh.

The project was implemented across major districts such as Ajmer (Rajasthan), Vijayapura (Karnataka), and Vidisha (Madhya Pradesh), equipping the farming community with cutting-edge agricultural learning resources, reducing operating costs, and enabling market reach to enhance their income generation. Since its launch in July 2022, the Seed-to-Mouth initiative has enhanced sector access for farmers by connecting them with major industry players, enabling them to reach a wider customer base and expand their market reach.

Ajay Khanna, Senior Vice President and Managing Director



of Herbalife India said, "We believe that community empowerment and upliftment is a powerful tool for creating an equitable society. This initiative aimed at addressing the challenges faced by small-scale farmers. The collaboration aimed at providing farmers with adequate training and resources to improve their farming methods."

The NGO conducted a diagnostic study in consultation with over 50 agri-experts across the states to identify and address existing gaps in

agricultural practices by providing farmers with essential resources such as seeds, equipment, fertilizers, and loans. Farmers also gained practical knowledge on essential topics such as advanced farming technology, crop diversification, safe use of chemicals, land management, credit support, and market access through collaboration with Krishi Vigyan Kendras and university incubators. Expert-led awareness sessions on farming and irrigation supported farmers throughout the farming process.



The initiative not only aimed at strengthening the agricultural ecosystem in India but also enhanced the farmer's agricultural practices enabling them to increase their economic status. The transformative impact of this initiative has been felt in the lives of farmers in Indian villages, leading to improved livelihoods and overall well-being." said Mr. Khanna.

Gayathri Vasudevan, CEO of Sambhav Foundation, added,

"Sambhav's inclusive approach towards the 'Annadata' (Food Giver) will support in generating the sustainable income by empowering them with cutting edge knowledge of the farming, reducing input cost and facilitating with market access. With a focus on addressing the significant challenges faced by the Indian farming community, the Seed-to-Mouth project was envisioned to strengthen the agricultural ecosystem in India." The program aligns with larger

Government of India initiatives such as the National Food Security Mission (NFSM), the Pradhan Mantri Fasal Bima Yojana (PMFBY), and the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). By aligning with these government initiatives, the Seed-to-Mouth project ensures that its efforts complement and contribute to the larger goals of the government in improving the agricultural sector and the livelihoods of farmers in the country.

## NetApp and Ammada Trust to Provide Clean Water Solutions for Schools



**N**etApp, a global, cloud-led, data-centric software company, today announced its partnership with Ammada Trust, an NGO that works to address the needs of those living in extreme squalor, poverty, hunger, and deprivation. The partnership will support the noble cause of providing clean water solutions for 15 government schools in Bengaluru.

NetApp's collaboration with Ammada Trust will establish sustainable water solutions in, low-income schools, where the need for clean water is most critical. "Access to clean drinking water is one of the most basic requirements for human beings but still not available to many. It is said that the lack of clean water is one of the challenges that will become more pronounced with time and needs to be

dealt with on an urgent basis. Through the partnership with Ammada, we are looking to positively impact the health of not only students and staff but also their families," said Puneet Gupta, Vice President & Managing Director, NetApp India/SAARC. "Going beyond the installation, we have also implemented a continued engagement plan to ensure proper functioning and timely maintenance of the water purifiers."

The engagement plan includes frequent visits to schools and hostels, conducting system inspections, providing training in record keeping, offering recommendations for preventive and corrective measures, and taking care of repair and maintenance tasks.

Earlier in a similar effort, NetApp aided 10 tribal girls' schools in Vidisha,

Madhya Pradesh, impacting 800 girl students in the district. Through their works in Vidisha and now in Bengaluru, it is estimated that the safe drinking water initiative will directly benefit well over 6000 people including students and staff. It will also lead to improved future outcomes for an additional 15,000 members of students' families.

UNICEF emphasises that providing clean water at schools is one of the most effective practices to enhance access to education and improve learning outcomes. Community awareness on the link between poor water quality and health issues is another key aspect of this association, promoting the health benefits and cost savings of clean drinking water.

## HCL and UpLink Call for Applications Globally for Second Challenge of Aquapreneur Innovation Initiative

**H**CL, a global conglomerate and UpLink, the open innovation platform of the World Economic Forum, announced opening the applications for the Zero Water Waste Challenge – part of the Aquapreneur Innovation Initiative. The challenge calls for innovative water usage approaches to improve freshwater conservation from supply to demand, moving towards zero water waste. At the end of the challenge, 10 winners will receive a total financial award of 1.75M CHF.

This is the second challenge out of five Challenges of the HCL and UpLink's Aquapreneur Innovation Initiative. Launched last year at Davos in May 2022, to create a first-of-its-kind innovation ecosystem for the global freshwater sector.

The last date to apply for the second-year challenge is October 2nd, 2023.

Under this initiative HCL committed \$15 million until 2027 to support the water focused entrepreneurs.

Roshni Nadar Malhotra, Chairperson, HCLTech said, "As the climate change continue to intensify and fresh-water resources become scarcer, the corporates have a unique opportunity to make a substantial difference in the world we live in. At HCL, we are committed to help resolve this global crisis. In partnership with UpLink, we are all set to announce the second edition of our Aquapreneur Innovation Initiative moving towards zero water waste. While our commitment to this vital cause is unwavering, we invite fellow organizations to join

### IMPORTANT DATES TO NOTE

**21 August to  
2 October 2023**  
Open for submissions

**17 October to  
15 November 2023**  
Review and selection process

**January 2024**  
Announcement of the  
winning Top Innovators

us in this shared mission, contributing essential funding and catalyzing widespread exposure."

Gim Huay Neo, Managing Director of the Centre for Nature and Climate at the World Economic Forum says, "The Aquapreneur Innovation Initiative is building a vibrant innovation ecosystem for water which is crucial for the conservation and restoration of all-natural ecosystems. By connecting innovators, experts, investors and partners, this initiative is fast-tracking high-impact solutions to enhance water security. Already, we're seeing significant impact with the ten winners of the first Innovation Challenge and we're excited to surface and support a new cohort of aquapreneurs."

### The focus of this year's challenge will be on:

- **Capturing and protecting fresh-water supply**  
Protecting groundwater reservoirs

by capturing additional water resources. Solutions could focus on recharging groundwater, capturing storm- and rainwater or water from the atmosphere, preventing or minimizing leakages, boosting ecosystem resilience or monitoring and managing freshwater.

- **Water re-use and recycling of materials**

Increase water-efficiency by reusing and recycling water resources. Solutions could include products that enable shower, washing machine and sink water to be recycled for non-potable uses, or re-use of water in industrial facilities, cleaner and greener tech to purify reused water etc. Ideally need to manage trade-offs, e.g. need to have sustainable energy support, as well as focus on water quality.

- **Saving water in agriculture**

Reduce water withdrawal in agriculture through smart irrigation. Solutions could include precision irrigation, remote sensing, regenerative agricultural practices focused on water retention, and technologies such as mobile applications to optimize the amount and timing of water applied to crops.

Evaluation and selection criteria for 2nd year will include:

### I. Organizational structure

- **Financially viable business model:** solution demonstrates a sustainable business model and revenue approach, and presents proof of funding history, as well as investable opportunities



for investors or philanthropic funders.

- **Stage:** beyond the ideation phase and demonstrating the potential to scale and achieve long-term financial viability, impact, and sustainability. UpLink Top Innovators have typically reached the pilot to growth/scale phase of their operations.
- **Management team:** committed, diverse and values driven management team with the right skill-set and demonstrated execution capabilities, and including local staff, or the willingness to work with local stakeholders.
- **Measurement and standards verification:** solution demonstrates a clear impact monitoring, evaluation, and verification framework. The metrics and indicators should be tracked transparently, reference and apply relevant, robust standards, and receive independent credentialing and third-party verification.
- **Governance and operating**

**models:** solution has a legal entity attached to the project or technology. The operating model shows the extent to which the project has achieved financial viability and sustainable revenue streams or has a vision and plan for achieving it.

## II. Key characteristics:

- **Innovative:** while many water technologies already exist, innovation is needed in service, pricing, partnerships, and business models.
- **Replicability:** submissions from across the globe that are scalable in their local contexts and potentially replicable in different parts of the world.
- **Holistic and sustainable impact:** solution demonstrates 'win-win' benefits for multiple agendas, particularly society and the environment. Solution supports the water agenda in the long term, delivering impact that outlasts the length of the challenge.

- **External risk:** solution is aware of any risks and uncertainties associated with achieving the desired outcomes.

Top 10 water- focused entrepreneurs will be selected as Top Innovators to join the UpLink Innovation Network, an exclusive program tailored for Founders, CEOs, Executive Directors, and more. They will get various benefits, including access to selected events, projects, and communities led by the World Economic Forum and its partners. Participants will gain strategic connections with organizations within the Forum's and UpLink's networks, fostering valuable collaborations. The program extends targeted support encompassing technical, business, and operational guidance. Notably, a financial incentive is provided – among the selected Top Innovators, up to 10 can each receive 175,000 CHF from a total fund of 1.75 million CHF.

# Infosys Foundation Commits over Rs 100 crore to Launch a STEM Scholarship Program to Empower Aspiring Girl Students

In a mega initiative, the Infosys Foundation, the philanthropic and CSR arm of Infosys, announced the launch of a scholarship program called 'STEM Stars' to support education in STEM (Science, Technology, Engineering, Mathematics) fields for underprivileged girl students.

The program aims to encourage and provide financial assistance, thereby helping them pursue an undergraduate degree in STEM. As part of the first phase of this program, over 2,000 girl students across the country, who intend to pursue higher education in any of the STEM fields from reputed colleges, will be given financial assistance for four

years. In India, the primary factors preventing students from choosing STEM courses are lack of access, mentorship, and monetary constraints. The STEM Stars scholarship will help cover tuition fees, living expenses, and study materials of up to INR 1 lac annually for the duration of the STEM course. In its inaugural year, this scholarship will cover NIRF (National Institutional Ranking Framework) accredited institutes that include, the IITs, BITS-Pilani, NITs, and renowned medical colleges.

Sumit Virmani, Trustee, Infosys Foundation, said, "Poverty denies many youngsters, in India, the right to education, and girls are often the most

impacted. At Infosys Foundation, we believe it is vital to support education for underprivileged girl students and to help them realize their potential. Beyond serving just the individual, we've seen that education for women positively impacts the schooling of their children, in turn, thus keeping opportunity disparities from becoming a generational issue. That's why, the 'STEM Stars' scholarship program seeks to empower aspiring girl students with a holistic educational ecosystem. We believe this is key to moving our nation forward."

Aspiring girl students who wish to apply for the scholarship can visit: <https://apply.infosys.org/foundation>

The dumbo octopus is a creature threatened by deep-sea mining. Environmentalists argue that seabed mining could obliterate ecosystems that are barely known to science.

*Image: NOAA Ocean Exploration/Flickr*



# Treaty to protect high seas too late to stop mining

Deep sea mining is about to get the green light and companies itching to exploit it have a head start on authorities, says **Mohd Hazmi Mohd Rusli**

**W**hen the International Seabed Authority begins accepting applications for deep sea mining operations in the coming weeks, there will remain a lingering question.

How much control will authorities have over operations to ensure environmental protection of marine habitats far from coastlines, or will it turn into a wild high seas free-for-all? The answer seems to be: the new High Seas Treaty is powerless.

The International Seabed Authority, established under the United Nations Convention on the Law of the Sea 1982, regulates and controls all mineral-related activities on seabeds in international waters and is currently negotiating a mining code to establish the rules under which companies will be allowed to extract minerals from the seabed. But the clock is ticking. The Authority has been forced to speed up finalising the code after the tiny Pacific nation of Nauru triggered a

two-year rule to allow applications for seabed mining from July 2023.

Although commercial mining has not yet started, companies such as De Beers, China Minmetals Corporation, UK Seabed Resources Ltd and others from Tonga, Nauru, Germany, Japan and Singapore are lining up to make it a reality.

As a result, there are fears environmental protection for international waters will be drowned in the rush by these companies hoping to exploit one of the planet's final frontiers for mining.

Deep seabed mining for metals such as cobalt, manganese and nickel could potentially support mass production of essential electronics such as smartphones and



tablets as well as stimulate the development of green technology like electric vehicles and wind turbines.

Realising the imminent impacts of deep-sea mining and how it could affect the marine environment, the world in March this year reached what could well be a turning point in the protection of the world's oceans — the adoption of the High Seas Treaty.

Without such a treaty, the high seas and deep seabeds beyond national jurisdictions had for decades been governed and managed in a fragmented way.

The Treaty — which took two decades to finalise and will not be signed off until later in 2023 — seeks to change this by establishing a new framework to address marine

The International Seabed Authority can issue licences to companies intending to explore the deep sea without much hindrance.

Not only that, there are no guarantees the High Seas Treaty could even offer environmental protection despite clauses in it allowing for the creation of marine protected areas beyond national jurisdictions.

It also remains to be seen how nations might work together for the establishment of marine protected areas beyond national jurisdictions.

Proposals would first have to be submitted by participating countries to the International Maritime Organisation supported by a draft management plan detailing whether or not activities like fishing, shipping and deep-sea mining would be restricted

to USD\$1.4 billion over five years. A 2017 UNESCO report stated that ocean research vessels may cost between US\$10,000 to US\$40,000 a day to operate. The projected total cost to process the minerals is estimated to be approximately USD\$135 million.

Contractors are expected to follow best environmental practices and work closely with the Authority to come up with programmes for monitoring and evaluating the biodiversity impacts of their exploration and mining activities.

As seabed explorations are now ongoing but mining is yet to start, contractors, scientists, legal experts and the Authority must continuously work together to monitor the environmental impacts. With more

**There are no guarantees the High Seas Treaty could even offer environmental protection despite clauses in it allowing for the creation of marine protected areas beyond national jurisdictions. It also remains to be seen how nations might work together for the establishment of marine protected areas beyond national jurisdictions.**

resource conservation with new management tools and institutional mechanisms for decision-making and equitable benefit sharing.

But the treaty doesn't have any power over mining activities overseen by the International Seabed Authority because it does not apply directly to activities already regulated by existing bodies.


In other words, the High Seas Treaty would not impede or hamper deep-sea mining exploration and any mining activities.

It only prepares the world with an institutionalised and coordinated protective measure without any clear provisions to obstruct mining.

within the suggested designated area. Such proposals may likely face opposition resulting in years of delay before designations of marine protected areas in the international high seas or seabeds could be realised.

In the meantime, regulations allow countries to apply to the International Seabed Authority for 15-year exclusive rights to explore a specific area for deep-sea mining.

To receive such contracts, they must submit work plans demonstrating the contractors they are sending out for explorations possess the financial and technical capabilities to fulfil their obligations. It's an expensive endeavour, costing up

scientific data, it would then be possible for member countries under the High Seas Treaty to unearth the most sustainable way of balancing mining activities with the protection of the marine environment. 

*Dr Mohd Hazmi Mohd Rusli is associate professor at the Faculty of Syariah and Law, Universiti Sains Islam Malaysia, and a former research fellow at the Australian National University, Canberra. He declares no conflict of interest.*

*Originally published under Creative Commons by 360info™.*

*(Source: <https://www.eco-business.com/opinion/treaty-to-protect-high-seas-too-late-to-stop-mining/>)*



# IT IS NOT JUST HEAT WAVES CLIMATE CHANGE IS ALSO A CRISIS OF DISCONNECTION

Human life has changed so fast in our modern age that our biology, ecology and psychology has not kept up. We need to treat social and environmental health on par with physical and mental health to fend off the ills of global warming, states **Kiffer George Card** and **Kalysha Closson**



**C**limate change is widely recognised by the scientific community as “the biggest global health threat of the 21st century.”

However, climate change isn’t just about greenhouse gas emissions. At its core, it is both a symptom and a cause for the centuries-long trend in declining social connection and community cohesion.

### **A MODERN ATOMISED LIFE**

Consider this: if human history was summarised in 100 minutes, modern life would only take shape in the last 30 or so seconds.

In these last 30 seconds, human beings began domesticating plants and animals, built cities, invented factories and began harnessing electric power. These novelties totally revolutionised how we relate to each other and the world around us.

Prior to the modern age, most humans lived in small collective bands, surrounded by extended family, and hardly ever ventured far from home. These traditional lifestyles are increasingly rare as the pressures of capitalism and colonialism homogenise our lives.

Across the globe, people increasingly live in cities and are forced to abandon traditional lifestyles. Social networks have divided and grown smaller and smaller. Despite efforts to resist declining social connection, we increasingly organise ourselves into disconnected and competing family units. As a result, rates of loneliness are elevated and increasing in nearly every global region and our attachments to one another are becoming less and less secure.

### **CONSEQUENCES FOR OUR PLANET**

The consequences of modern life don’t end with growing rates of loneliness and social disconnection. Indeed, in the same fraction of time that we revolutionised human social life, we have also dramatically increased our demand on the world around us – clearing billions of acres of forests, releasing billions of tons of greenhouse gases into the atmosphere and imposing vast infrastructure upon this planet and its non-human inhabitants. Moreover, we are losing traditional ecological knowledge needed to protect our environments. These atomised lifestyle changes have been costly to the environment.

In addition to the more environmentally intensive lifestyles we now lead, our increasingly individualistic culture has emerged as a key driver of environmental degradation. Studies suggest that tribalism and polarisation are stifling our ability to respond to the environmental threats we are increasingly facing.

### **A VICIOUS FEEDBACK CYCLE**

Perhaps of greatest concern, it is apparent that there is a vicious feedback cycle between

climate change and poor social cohesion. In fact, there is a growing body of research showing that climate change will not just be worsened by our social disconnectedness, but will itself contribute to greater disconnection. Climate change and our modern social ills are linked.

As exemplified by recent media reports, even close families and friends experience conflict over climate change. Such conflicts may arise from disagreements about how to live our lives in an environmentally conscious way and this potential is increased by important gender differences in climate anxiety.

Couples worried about the future may therefore experience conflicts over whether to have kids. For other couples, climate change may

– including increased risk for loneliness and isolation. The feedback cycle goes both directions.

Moreover, at the population level, these impacts are compounded. Extreme weather effects can increase the rate of interpersonal violence. Declining birth rates lead to considerable economic impact. And mass migration creates cultural challenges such as those driving the re-emergence of extreme-right parties in Europe.

### THE WAY OUT

Put simply, human life has changed at a breakneck pace and our biology, ecology and psychology have failed to keep up.

As Indigenous peoples have taught for centuries, it's time we recognise

climate change, including its effect on mental health. Other studies also show that the more connected we are, the better we will be able to discuss and respond to climate change.

Of course, if the last few decades are any indication, we must acknowledge that social connection and cohesion is difficult to achieve. If modern life were conducive to healthy social lives, we would not be where we are today.

This is exactly why we need renewed public and philanthropic investments in social cohesion and community life. For example, friendship benches in Zimbabwe provide a leading example for how relying on and strengthening community can help people live happier and healthier lives. We must learn from

**As Indigenous peoples have taught for centuries, it's time we recognise that all things are interconnected. If we don't act, climate change will worsen our social bonds, which will only reduce our capacity to respond to the environmental threats that lie ahead.**


reduce intimacy, increase intimate partner violence and threaten sexual and reproductive wellbeing. Indeed, there is compelling evidence that unseasonably warm weather is associated with a decline in births nine months later, which suggests that changes in the climate could impact intimacy between partners. Climate change is a wedge issue that has the potential to drive us further and further apart.

While the decision to not have kids may have many environmental benefits, living and ageing without children can have its own difficulties

that all things are interconnected. If we don't act, climate change will worsen our social bonds, which will only reduce our capacity to respond to the environmental threats that lie ahead. The climate will worsen and the cycle will continue.

However, there is a way out of this vicious feedback loop: we can reverse the centuries-long trend in disconnection by treating social and environmental health on par with physical and mental health.

Our own research suggests that promoting social connection is key to reducing the harmful effects of

communities leading the way across the globe if we are to survive and thrive in the midst of environmental change. Indeed, climate change requires us to come together. 

*Kiffer George Card is assistant professor in health sciences at Simon Fraser University.*

*Kalysha Closson is adjunct professor and post-doctoral fellow at the faculty of health sciences, Simon Fraser University.*

*This article was first published at The Conversation.*

*(Source: <https://www.eco-business.com/opinion/it-is-not-just-heatwaves-climate-change-is-also-a-crisis-of-disconnection/>)*





Warmer temperatures and changing rainfall patterns have also led to increased tree mortality, according to the Intergovernmental Panel on Climate Change. Image: Rolf Sigmund, CC BY-SA 3.0, via Flickr.

# HOW TREES BENEFIT NATURE, PEOPLE AND THE CLIMATE !

Many countries rely on tree planting to help reduce greenhouse gas emissions and meet future climate targets, says **Orla Dwyer**, Carbon Brief

**N**ature and trees have been hailed as a “saviour” with a “mind-blowing” potential to tackle the climate crisis. But there have also been warnings that trees should not be solely seen as a permanent solution

for “carbon removal”. Alongside removing carbon dioxide (CO<sub>2</sub>) from the air, forests provide a huge range of benefits for biodiversity and people around the world.

All these issues were discussed last week at the “Trees for Climate Change, Biodiversity and People”

conference organised by the British Ecological Society.

Held at the University of Kent, experts delved into tree diseases, woodland recovery and the future of forest landscapes.

Prof Yadvinder Malhi, professor of ecosystem science at the Univer-

sity of Oxford, said the conference highlighted the “awe-inspiring” ways in which trees provide for nature, people and the environment.

Below, Carbon Brief summarises the key themes and issues discussed by scientists, researchers, practitioners and policy experts over the course of the two-day conference.

### How important are trees for climate change and biodiversity?

Trees are important for both climate mitigation and adaptation. They absorb and store CO<sub>2</sub> from the atmosphere and help defend against the intensity of some extreme weather events, such as heatwaves.

Prof Malhi tells Carbon Brief that trees are key for adapting to the effects of climate change, “particularly the restoration of trees and trees in peri-urban and urban landscapes, where they can play an essential role in minimising the effects of peak temperatures or increased flood risk”.

Trees and woodlands can improve air quality, protect soils and host a range of biodiversity. But trees can also be challenged by climate change. A 2019 study found that climate change could cause trees to “live fast and die young”, reducing the ability of forests to act as a carbon sink over long timescales.

Dr Cat Scott from the University of Leeds told the conference that the UK’s land management practices are largely focused on what humans can get from the land in the form of products such as food and timber.

She said there is an “increasing realisation” that this has not led to ecologically diverse landscapes.

Scott is the director of the Leeds Ecosystem, Atmosphere and Forest Centre which helps manage four forest projects in northern England.

At these sites, researchers can monitor temperature changes in woodlands compared to open fields. During the record-topping UK 2022



**With climate change, the predictions are that our trees will become more stressed themselves. So, if they are suffering with more frequent droughts, as we’ve been seeing, the trees will be more stressed and, therefore, less able to defend themselves against a pest or pathogen.**

—REBECCA GOSLING  
Conservation Evidence Officer,  
Woodland Trust

heatwave, Scott said temperatures were 15C lower in one project at Hardknott Forest compared to open grassland nearby.

Trees comprise a prominent part of the UK’s plan to reach net-zero emissions by 2050. There are a number of government tree-planting schemes and grants, including funding for farmers to plant trees on their land.

But progress on tree planting has been “too slow”, according to the recent Climate Change Committee (CCC) report on the UK government’s progress in reducing emissions.

Tree-planting rates will need to double by 2025 to reach the government’s target of 30,000 hectares of woodland creation per year, the CCC said. The conference heard about

the importance of having many different types of trees in a forest to ensure many different types of species can live there. For example, ash trees support 955 different species and oak supports 2,300.

Ross Barnett from the University of Stirling researches how different landscape factors impact the complexity of sounds in a restored woodland. His findings showed that woodland planted with just one type of tree support significantly fewer invertebrates, pollinators and predators than woods with many tree varieties.

Dr Eleanor Tew from Forestry England, England’s largest forest manager, said six tree species currently make up almost 70 per cent of forest area managed by the organisation. Tew said the government agency is trying to increase the species diversity in its forests.

### What are the main threats to tree health?

Alongside climate change and other threats facing trees in the UK and across the world, pests and diseases can have a major impact.

These diseases include ash dieback which is expected to kill up to 80 per cent of the UK’s ash trees, according to the Woodland Trust.

Warmer temperatures and changing rainfall patterns have also led to increased tree mortality, according to the Intergovernmental Panel on Climate Change.

Dr Cecilia Dahlsjo from the University of Oxford explained that ash dieback is a fungal disease native to Asia. It has been present in the UK for more than a decade.

Dahlsjo described how ash dieback weakens a tree’s canopy, branches and trunk. It has a 70 per cent mortality rate over a period of 10-15 years, she added.

Rebecca Gosling, conservation evidence officer for tree health at the Woodland Trust, told the conference that a new introduced pest or



pathogen has been identified every 1.4 years in the UK. She said it is “quite a serious situation”.

Ash trees face another threat from emerald ash borer, a beetle that has been “hitchhiking” into Europe from Russia and the US, Gosling said. This insect can cause significant damage to ash trees.

Prof Lucio Montecchio from the University of Padova said that trade is the main way in which known and unknown plant parasites move between countries. He told the conference:

“Usually parasites [do] not move through wind from one country to another...fungi, bacteria, viruses – they must be moved.”

Quick response times are important, he said, alongside increasing

find they’re more able to survive in the UK.”

Warming temperatures caused by climate change increase the risk that “more pests from warmer climates will be able to survive” in the UK, Gosling said.

In terms of current and future threats to UK forest landscapes, Malhi tells Carbon Brief:

“Pathogens are probably a bigger effect than climate change, and certainly bigger than deforestation and land use in terms of what’s going to shape these ecosystems over the coming decades.”

### **What benefits do trees provide for people?**

A number of experts at the conference discussed research on

many neighbourhoods in Kano city, Nigeria are named after trees. They are important for local history, he told the conference, so tree loss can be a “disaster”.

People, especially Indigenous peoples and local communities, can often help to protect trees and forests. A study found that Indigenous peoples played a “vital role” in the least-deforested areas of the Brazilian Amazon.

More than 1.6bn people also rely on forests for timber, food, fuel, jobs and shelter.

Malhi said there should be greater research emphasis to show that “trees are more than just carbon” storage. He told Carbon Brief that social science about nature highlights the “whole spectrum of values

**With climate change, the predictions are that our trees will become more stressed themselves. So, if they are suffering with more frequent droughts, as we’ve been seeing, the trees will be more stressed and, therefore, less able to defend themselves against a pest or pathogen.**

local nurseries for trees and reducing imports from abroad.

Gosling told Carbon Brief that pests and diseases are “high up as one of the biggest threats our woods and trees have” in the UK. She said that experts fear climate change will “add another layer of threat” to trees:

“With climate change, the predictions are that our trees will become more stressed themselves. So, if they are suffering with more frequent droughts, as we’ve been seeing, the trees will be more stressed and, therefore, less able to defend themselves against a pest or pathogen.

“The second arm to that is that actually the pests themselves might


the impact that trees can have on people. Prof Zoe Davis from the University of Kent researches the “wellbeing benefits” people can get from being in nature.

She co-authored a study published in Nature Sustainability which looked at the human wellbeing response to certain species traits, such as colour and sound.

The findings showed that many aspects of nature, such as bird song, can bring joy or other positive emotional responses.

Trees can also have cultural or local significance around the world. Dr Aliyu Salisu Barau from Bayero University described how

of trees” – ranging from ecological, cultural, spiritual and psychosocial. He added:

“There’s a whole frontier of research there about how people benefit from trees... I think much of the world, as the population gets more and more urban, is going through a nature deprivation catastrophe. I think that’s going to have lots of profound consequences for people’s wellbeing and welfare.” 

*This story was published with permission from Carbon Brief.*

*(Source: <https://www.eco-business.com/news/in-depth-qa-how-trees-benefit-nature-people-and-the-climate/>)*



Access to cheap smartphones has since skyrocketed, even in the hinterlands, with a billion smartphone users predicted across India by 2026, according to a 2022 Deloitte report.

*Image: david baxendale, CC BY-SA 3.0, via Flickr.*

# Indian fishermen use smartphones to map a vanishing way of life

Fishermen in Tamil Nadu are using apps to map their ancestral lands and protect old ways from new development.

Official maps show the roads, the power stations, the lighthouse - but skip all the special spots where generations of Indian fishermen have moored boats or dried their

silvery catch, prayed for the living and buried their dead.

So now the fishermen of southern India are learning a whole new skill: mapping their ancient land by app - plot by precious plot - to stop industry from swallowing life on the lagoon.

"I am just a fisherman. I knew nothing about mapping. But I had to learn this so that our livelihoods are not destroyed tomorrow by the government," said Bharath S. Raji, whose family has trawled Pulicat Lake in Tamil Nadu for generations.

Smartphone in hand, Raji navigated the sandy lakeside banks to capture places of special interest - docks, drying areas for nets, shrines to local deities. He pointed out the holes left by the government's latest coastal maps, blank spaces he said are villages brimming with life.

With a new government zoning map three months off, Raji fears his industry and whole way of life will become the next black hole of Lake Pulicat.

"We always owned the land. But the government keeps changing the



[zoning] rules not realising that our customs and our livelihood here is older than their rules,” said Raji, a 33-year-old father of two.

Raji and his fellow fishermen of Gunankuppam have captured the co-ordinates of hundreds of special places on Google Maps and other apps, none of them designated as landmarks in official government maps.

Industrial proposals to develop the creek around Gunankuppam label the places the fishermen most cherish as “wastelands”, Raji said, fearing the rapid industrialisation that is transforming much of India is about to slap him in the face.

Proposals for the creek include a port and power plant, developments that could beach the flotilla of hundreds of gaily painted boats that trawl the lagoon for mackerel and sea bass.

## Old v new

“The maps released by the Tamil Nadu coastal zone management authority have agitated the fishermen community as they are not detailed,” said Ajay Anand, assistant director of fisheries in Thiruvallur district, a key member in the government agency that will determine the fate of the lake.

“So, the fishermen community took it upon themselves to do the survey.” “There have been many attempts of industrial encroachment but the local fisherfolk used the maps as a guide to fight them,” he said. The fishermen’s maps will be independently cross-checked by the fishing department, Anand said.

“Eventually, the government will use the maps prepared by us,” he said. India’s ministry of environment, which oversees coastal zoning, did not respond to a request for comment. The fishing villages around the Ennore peninsula, where the village of Gunankuppam and lake are located, slip between India old and new.

Around the creek, wooden boats and loin-clothed fishermen wade through sludgy waters surrounded by foundries, thermal power plants and ship yards.

The dissonance between time-less life on the lagoon and naked ambition for a high-tech future is underscored by a rumbling speck on the horizon - India’s national space station - visible from the lake.

Locals have seen India launch satellites, even as they struggle to feed families from their rich waters and fertile soil.

“I don’t feel any pride about the country,” said fisherman Magimairaj D., whose earnings total 20,000 rupees (US\$243.25) a month. “You think India is developing? Not at all.”

## Mapping drive

“Fishermen lose their lives and livelihoods in the process of this development,” said Saravanan K., a coordinator at the Coastal Resource Centre, a local environmental activist group.

“Our lands are being used to generate electricity. But we are deprived. The sea, the river – which were sources of our livelihood – are polluted in the process,” Saravanan said. Saravanan opened his laptop and pulled up the GIS software he uses to map hundreds of villages in his area, cross-checking the sites designated by fishermen such as Raji against satellite images of the entire area.

Saravanan said he learned how to use the software from a friend who had studied software engineering and from YouTube. Next he recruited statewide volunteers to map the land.

“The technology is the same [as what the government uses] ... it’s just that they don’t do it and we do,” he said.

Given that mobile phones only came to Gunankuppam in 2006, the rapid takeup of mapping apps seems all the more striking.

Raji was among the first three villagers to own a Nokia phone, and would travel 20 km by road to pick up a signal.

Access to cheap smartphones has since skyrocketed, even in the hinterlands, with a billion smartphone users predicted across India by 2026, according to a 2022 Deloitte report.

And the fishermen look at past successes to motivate future mapping missions.

They cite appeals lodged with the National Green Tribunal, a government body that enforces environmental protections, that have curbed industrial activities in protected coastal areas.

Their efforts helped block a thermal power station from expanding into ancient fishing zones, and stymied a private takeover of public waters, Saravanan said.

Durai Mahendran, state president of the Tamil Nadu fisherman association, credited local mapping efforts with saving his village from a development drive that is reshaping swathes of the fragile coast.

Watching the sun set over Pulicat lake, fisherman Dayalan D. is a convert to new technology to preserve his old way of life.

“Whenever the government comes up with a proposal to construct a road or any structure, it is easy for them to encroach on our land,” said the 39-year-old fisherman.

“But with the right documentation in the form of maps, we can prove our claims on the land.”

*This story was published with permission from Thomson Reuters Foundation, the charitable arm of Thomson Reuters, that covers humanitarian news, climate change, resilience, women’s rights, trafficking and property rights. Visit <https://www.context.news/>.*

*(Source: <https://www.eco-business.com/news/indian-fishermen-use-smartphones-to-map-a-vanishing-way-of-life/>)*



Although this year is unlikely to be an extreme El Niño year, research shows that rare extreme El Niño events are projected to occur more often under global warming.

Image: Jeremy Bishop / Unsplash

# Why we won't have a super El Niño this year

Media reports of a possible 'super El Niño' this year might have been greatly exaggerated, say research scientists - **Dr Wenju Cai** and **Dr Guojian Wang** - from CSIRO, an Australian government agency responsible for scientific research.

**M**edia headlines may be saying the world could be set to face a 'super El Niño' this year, but in reality the likelihood of that is low.

After a triple-dip La Niña, last week the World Meteorological Organization declared an El Niño is underway, although Australia's Bureau of Meteorology El Niño–Southern Oscillation Outlook remains at El Niño Alert.

Looking to history as a guide, this makes the likelihood of a so-called 'super El Niño' this year low. What scientists refer to as extreme El Niños such as the 1997 and 2015 events tend not to follow consecutive La Niña events.

Since 1950, there have been five three-year La Niña events – 2020–2022, 1998–2000, 1983–1985, 1973–1975 and 1954–1956. None of them were followed by an extreme El Niño, and only one was followed by

a strong El Niño in 1957. All of this may be bad news for newspaper headline writers, but it is probably better for the rest of us.

During the neutral phase of the El Niño–Southern Oscillation, westward-blowing trade winds pile up warm sea surface temperature water in the western Pacific Ocean, and drive the upwelling of cold, subsurface water in the east along the equator and off the west coast of South America, forming a cold tongue extending to central equatorial Pacific.

Warm and moist air masses rise high into the atmosphere – referred to as atmospheric deep convection – over this western Pacific warm pool, producing rainbands or convergence zones over the western Pacific.

But during an El Niño, these trade winds weaken and warm sea surface temperature anomalies develop in the eastern equatorial Pacific.

Many scientists, like those at the United States National Oceanic and Atmospheric Administration, define an El Niño partly as when these sea surface temperature anomalies are 0.5 degrees Celsius above average, whereas Australia's Bureau of Meteorology looks for 0.8 degrees Celsius above average.

El Niños can vary in strength, from weaker ones with generally small effects, to strong ones. The strongest of them are sometimes called extreme El Niños. The last extreme El Niño was in 2015.

Scientifically, when an extreme El Niño occurs, the equatorial eastern Pacific anomalies are particularly large, meaning the sea surface temperature of the water is much warmer than normal.

All the convergence zones congregate in the equatorial eastern Pacific too, generating a massive reorganisation of the atmospheric circulation – for example, the centre of the western Pacific convection moves approximately 18,000km to the east.

This reorganisation also leads to devastating extreme weather events, like severe thunderstorms and tropical cyclones. For example, during the 1997 El Niño, extreme tropical cyclones killed many in the Cook Islands.

During past extreme El Niño events, severe droughts and wildfires have occurred in western Pacific regions, including Australia such as the Ash Wednesday bushfires in February 1983. There have also been catastrophic floods in the eastern equatorial region of Ecuador and northern Peru.

The South Pacific convergence zone shifted equatorward, spurring floods and droughts in south Pacific Island countries and inducing extreme cyclones to regions normally not affected by such events.

Other impacts have included floods in the southwest US, the disappearance of marine life, and the decimation of the native bird population in the Galapagos Islands because of absence of upwelling water that otherwise brings nutrients to the surface.

The associated global economic losses of such events amounts to several trillions of dollars each time. The intensity of an El Niño event can be measured in two ways.

One definition uses the equatorial eastern Pacific sea surface temperature anomalies. However not everyone uses this definition in the same way. Some people define an extreme El Niño as when the sea surface temperature is at least 2 or 2.5 degrees Celsius warmer than average. A stricter definition of an extreme El Niño is when the average of the warm anomalies over the peak season of December, January and February is within the top five percent of all seasonal average anomalies or more than two standard deviations of the long-term time series.

The 1982, 1997, and 2015 El Niño events meet this definition, all with peak sea surface temperature anomaly averages between 2 to 3 degrees Celsius, whereas the strong El Niño event in 1957 was only in the top 20 to top five percent of seasonal average anomalies.

Another way of measuring the intensity of an El Niño event is to use the rainfall over the equatorial eastern Pacific. This reflects the impact arising from the shift of atmospheric convection and convergence zones to the equatorial eastern Pacific.

An extreme El Niño defined this way is when the equatorial eastern Pacific rainfall averaged over the peak season of December, January and February is more than 5mm per day. The eastern equatorial Pacific is normally cold and dry, receiving approximately 1mm of


rainfall per day. But the arrival of the convergence zones brings dramatic increases in rainfall, as much as 11mm per day during the 1997 extreme El Niño event.

One advantage of the rainfall definition is that it helps scientists assess how extreme El Niños may change under global warming.

For example, under global warming, the equatorial Pacific and particularly the eastern equatorial Pacific, is projected to warm faster than regions away from the equator.

The warming differential means that it is easier for the atmospheric convection centre and convergence zones to shift to the eastern equatorial Pacific.

Although this year is unlikely to be an extreme El Niño year, other research shows that rare extreme El Niño events are projected to occur more often under global warming.

Steps taken to limit greenhouse gas emissions will help stabilise El Niño-Southern Oscillation-associated economic and social risks in the centuries ahead. 

*Dr Wenju Cai and Dr Guojian Wang are research scientists at CSIRO, an Australian government agency responsible for scientific research, and visiting scientists at Ocean University of China. Cai specialises in research into global climate variability and change, including conceptual non-linear frameworks for extreme El Niño and La Niña, and the Indian Ocean Dipole. Guo's research interests include the mechanisms of extreme El Niño-Southern Oscillation and extreme positive Indian Ocean Dipole, their impacts on regional and global climate, and their response to greenhouse warming.*

*The authors' research referred to in this article was supported by the Earth Systems and Climate Change Hub of the Australian Government's National Environmental Science Program.*

*Originally published under Creative Commons by 360info™.*

*(Source: <https://www.eco-business.com/opinion/why-we-wont-have-a-super-el-nino-this-year/>)*





San Francisco climate march Protesters march with signs along Market Street during the San Francisco Youth Climate Strike, on 15 March 2019. Image: Wikimedia Commons/ Intothewoods7.

# Reducing eco-anxiety is a critical step in achieving any climate action

There must be a balance between sufficient anxiety to promote positive and urgent change in people's behaviour, and not so much as to create paralysis. How we communicate facts matters, tells **Kerrie Pickering** and **Gary Pickering**

**W**e all have times when we feel anxious about our future; perhaps this is more acute for many people this

summer, as we experience unprecedented wildfires and heat waves due to the warming climate. General anxiety intensifies climate or "eco"-anxiety. This can spur some people

to climate action, while for others it can lead to a state of paralysis and inactivity. Our recent Canadian study looked at how values and action around climate change vary with an individual's personality traits. We found that the higher a person's general anxiety trait and the more they valued nature, the more likely they would engage in climate action.

Last year the Intergovernmental Panel on Climate Change delivered a "final warning"; we must take action on climate change while there is still

time. Around the world, countries have declared climate emergencies to help motivate individuals and governments to act. Personal lifestyle changes such as switching to a vehicle that is not reliant on fossil fuels and reducing red meat consumption can have a large impact on greenhouse gas emissions if enacted on a global scale. But not enough people are making these changes, and this could be in part because of the level of anxiety they are experiencing.

## Understanding climate anxiety

General anxiety is the tendency to worry about future events. An increase in anxiety can keep you alert and primed to perform your best, but once it exceeds a threshold, performance begins to deteriorate.

This can be a good thing, motivating us to prepare for an event, like studying before an exam or getting supplies before a storm hits.

But when worry becomes excessive or difficult to control, it can affect mental health and lead to generalised anxiety disorder, causing feelings of fatigue, restlessness and irritability, and reducing our ability to prepare.

Climate anxiety is when people worry about future environmental changes from climate change. It is not recognised as a pathological condition; in fact some have argued that it is a sane and overdue response to the climate crisis.

For some people, climate anxiety is triggered by living through a climatic event, such as when a farmer loses crops to drought, or even just the thought of such an event. Moreover, people who have a strong connection to nature tend to have higher levels of climate anxiety, as they are more aware of the environmental changes happening around them. Climate anxiety can be a motivating force for people to take action to reduce emissions, especially in

wealthy countries. That being said, these actions tend to be around changing to a more sustainable diet and engaging in climate activism rather than on conserving resources or support for general climate policy.

Those in poorer countries in the Global South also experience climate anxiety, but economic and political barriers can limit climate actions at the individual level.

Greta Thunberg, a well known climate activist, used climate anxiety to motivate world leaders at the 2019 World Economic Forum saying, “I want you to feel the fear I feel every day. And then I want you to act.”

The fact that Thunberg — born and living in Sweden — is the popular face of climate activism is also somewhat representative of the weaker voice and agency experienced by many in the Global South.

## Overdoing it

Too much climate anxiety can cause paralysis, preventing climate action. In this state, people can struggle to go to work or even socialise.

They can experience panic attacks, insomnia, obsessive thinking and appetite changes. While individuals of all ages experience climate anxiety, more young people are reporting it, likely because of the profound impact climate change will have on their future and because they feel powerless to do anything about it. There must be a balance between sufficient anxiety to promote positive and urgent change in people’s behaviour, and not so much as to create paralysis.

Several interventions have been shown to be effective at lowering climate anxiety, including talking with a counsellor, going for a walk in nature and getting involved in climate action groups.


## Moving forward

With more people experiencing climate anxiety, mental health practitioners need to be better educated

around identifying symptoms and treatment options. Yet in Canada there is resistance to including climate change in the curriculum and professional training of social workers, who do most of the counselling.

News media, social media and government publications are primary sources of information about climate change. Communicators in these areas can help reduce excessive anxiety from their climate messaging by using positive gain-framed messages. For example, saying “if we all reduce our weekly meat consumption by just 20 per cent, we can reduce our carbon footprint by 30 per cent!” Instead of the loss-framed “if we do not all immediately reduce our meat consumption by 20 per cent, the planet will be unable to support human life by 2050”. Both statements may be valid, but the former is more effective at spurring action.

Solution-orientated messaging is another effective technique to reduce anxiety. Governments can focus more on clearly articulating national action plans aimed at managing and reducing impacts, rather than continually reminding people of climate induced disasters that appear beyond their control.

The urgency of the climate crisis requires structural changes at all levels of society, but also meaningful action at the individual level; there is much we can and must do. Our level of anxiety and how well we are supported will help determine how successful our response to this challenge will be. 

*Kerrie Pickering is a research associate at the Environmental Sustainability Research Centre, Brock University. Gary Pickering is a professor in biological sciences and psychology, Brock University.*

*This article was first published at The Conversation.*

*(Source: <https://www.eco-business.com/opinion/reducing-eco-anxiety-is-a-critical-step-in-achieving-any-climate-action/>)*





India is the world's second-largest coal producer and at least 13 million people in the nation depend on the industry for a living, said a 2021 report by the National Foundation for India, a philanthropic organisation focused on social justice. Image: WindEurope, CC BY-SA 3.0, via Flickr.

# LOST IN TRANSLATION?

## CLIMATE EXPERTS AIM TO BREAK LANGUAGE BARRIER

Climate change communication often excludes people who don't speak English, but things are now improving in India and Bangladesh.

Indian researcher Sabir Ahamed took a linguist's help to translate the term "just transition" into Bengali for his new study on the impact of coal mine closures

on local people, as countries start to shift from fossil fuels to clean energy.

Ahamed settled on the somewhat poetic "kalo theke aalo", which literally means "from darkness to hope", after consulting the language expert for a phrase his target audience of coal communities in India's state of West Bengal would understand.

"It's catchy. It is not a direct translation but people do associate 'kalo' with coal so it gives an immediate context," said Ahamed, 45, who explained that there is no equivalent of just transition or even climate change in the Bengali language.

"Besides, I wanted to show there is hope, that there is a way out (of coal)," added Ahamed, who is based in Kolkata in eastern India and works with Pratichi India Trust, a research and advocacy group.

The concept of just transition is complex, even in English.

The UN's International Labour Organization (ILO) defines it as "greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind".

Ahamed's research is among just a handful of efforts to make jargon-heavy climate change and energy transition dialogue - so far restricted to English-speaking think tanks and experts in India - accessible to people who will be impacted the most. "What is the purpose of doing research if we cannot communicate the findings or the analysis to the communities or stakeholders?" Ahamed added. "I research for action."

India is the world's second-largest coal producer and at least 13 million people in the nation depend on the industry for a living, said a 2021 report by the National Foundation



**What is the purpose of doing research if we cannot communicate the findings or the analysis to the communities or stakeholders? I research for action.**

**-SABIR AHAMED**

Researcher, Pratichi India Trust

for India, a philanthropic organisation focused on social justice.

Many are at risk of losing jobs and incomes as India builds its renewable energy capacity, just transition experts warn. However, communication about the country's future move away from fossil fuels - and what this might entail - has yet to reach the people whose lives will be most affected, analysts and activists warned.

"The dialogue around just transition is limited to echo chambers," said Mayank Aggarwal, who heads the just transition vertical for Indian consulting firm Climate Trends.

Aggarwal has this year launched a podcast on just transition in Hindi and used social media platform X - formerly known as Twitter - to host debates about it in the language, which is widely spoken and understood in India's mining areas, he said. "We want to reach out to people who actually matter, who don't know what just transition is. We want them to understand the issue and be an important stakeholder in the discussion."

The problem is far from unique to South Asia - even the UN Intergovernmental Panel on Climate Change (IPCC) has tried to make its global findings easier to understand in recent years after criticism from scientists about jargon being a barrier.

### **Mind the gap**

In recent months, think tanks have enlisted comics, poets and musicians to better communicate climate change threats to the public, with a broader aim of making the issue more accessible and widely understood as many people remain unaware. Apart from spreading the knowledge more widely that extreme weather events such as heatwaves, droughts and cyclones

**India is the world's second-largest coal producer and at least 13 million people in the nation depend on the industry for a living, said a 2021 report by the National Foundation for India, a philanthropic organisation focused on social justice.**



are fuelled by climate change, using local languages will also encourage people to demand political action, campaigners said.

While general community outreach by climate and energy NGOs and researchers in India and neighbouring Bangladesh - where most people speak Bengali - is done in local languages, efforts are now being made to break down and translate technical terms.

In Bangladesh - which is considered one of the world's most climate-vulnerable nations - activist group YouthNet for Climate Justice has started posting Bengali commentary on social media about the reports of the IPCC, for example. The activists, who have in the past campaigned for the cancellation of upcoming coal-based power plants in coastal areas,

The next leg of the programme will focus on renewable energy - and with new projects coming up in India's western and southern states, fellowships will be offered in languages spoken in those regions - Gujarati and Tamil - "to strengthen impact and reach" of research studies, the organisers said.

"Just transition is a complicated process, and it is important that coal communities understand its dynamics," said Pradip Swarnakar, an academic who heads the JTRC.

During recent visits to coal hubs in India, Context found jobs for local communities are shrinking as mines use outsourced workers - and that with no other skills, many people are resorting to illegally scavenging coal to eke out a living. "Officials are discussing India's net-zero targets

to climate experts and researchers. Ismet Jarin of the Bangladesh-based NGO Awaj Foundation, which supports garment workers, said the country's fashion industry was becoming greener and more sustainable, but stressed that workers who have long been calling for better wages and conditions are unaware of how this shift would impact them.

"It is important that they can see the connection between climate and their rights, and we are working to convey the message to them in a language they understand," she said.

"We try to use examples that workers can relate to - of seasons changing, disasters and climate hazards becoming more frequent, how the fashion industry is adapting and how workers will cope as the world adjusts to these changes,"

## In a bid to reach more people in India's coal regions, the Just Transition Research Centre (JTRC) at the Indian Institute of Technology, Kanpur, rolled out four fellowships last year - with one in Hindi, one in Bengali and two in English.

now want community radio stations to discuss climate and energy issues in local dialects of Bengali. "Climate-related information hardly ever seeps into the community and we are working to bring it close to the people," said Sohanur Rahman, executive coordinator of YouthNet.

In a bid to reach more people in India's coal regions, the Just Transition Research Centre (JTRC) at the Indian Institute of Technology, Kanpur, rolled out four fellowships last year - with one in Hindi, one in Bengali and two in English.

Researcher Ahamed was awarded one of the fellowships - which aimed to assess the impact of mine closures on coal communities.

but there is no awareness about this among people, so they don't even demand skills for a future beyond coal," said Pinaki Roy, who teaches children in the coal hub of Jharia in eastern India.

### Literally speaking

Climate change and just transition can often feel like distant and irrelevant problems to communities in India and Bangladesh because they are mainly presented and discussed in English, said activists who work with such people on the ground.

And literal translations of terms from English to local languages fail to convey the threat or persuade people to care and engage, according

Jarin added. It's an aim shared by the Indian researcher Ahamed.

"The world is moving away from coal but there is no information about it at the ground level," he said.

"I want to reach out to (local communities) by writing in Bengali, and motivate others to do the same." 📌

*This story was published with permission from Thomson Reuters Foundation, the charitable arm of Thomson Reuters, that covers humanitarian news, climate change, resilience, women's rights, trafficking and property rights. Visit <https://www.context.news/>.*

*(Source: <https://www.eco-business.com/news/lost-in-translation-climate-experts-aim-to-break-language-barrier/>)*



India has also committed, in its Nationally Determined Contributions (NDCs), to creating a carbon sink capable of absorbing 2.5 to 3 billion tonnes of carbon dioxide through additional forest and tree cover.

*Image: IWMI Flickr, CC BY-SA 3.0, via Flickr.*

# India's green credit scheme needs strong regulation to work

India's environment ministry has proposed a Green Credit Programme under which individuals, organisations and industries can earn and sell credits for certain environment-friendly activities, which can then be traded, writes **Simrin Sirur, Mongabay.com**

**W**ith the aim to incentivise sustainability and environmental protection, India's environment ministry has proposed a programme to enable individuals, organisations and industry generate "green

credits" for voluntary activities deemed beneficial for the environment. But without proper oversight or strong regulatory mechanisms, the scheme could open the door to greenwashing or double counting, experts warn.

The draft Green Credit Programme Implementation Rules,

released on June 27 by the Ministry of Environment, Forests and Climate Change (MoEFCC), propose awarding individuals and other entities with credits for undertaking eight "environmental interventions." These credits can then be "made available for trading on a domestic market platform," says the draft of the programme. India has dabbled with similar mechanisms to drive down energy consumption and is now wading into the trade of carbon credits while setting up its domestic carbon market.

But unlike a carbon market – which prices a standard unit of per



tonne carbon emitted – the Green Credit Programme (GCP) doesn't yet have a standard unit of measurement for the benefits accrued across various activities, which range from tree plantations to sustainable infrastructure. The GCP is envisioned to function as a separate market mechanism but may overlap with the carbon market if the "green credit" also results in the reduction of carbon emissions, notes the programme draft.

"Even tracking carbon credits, which focuses on just one gas, is a complex exercise that is challenging to regulate. Extending that same method to other ecosystems and pollution areas creates a strong risk of greenwashing," Avantika Goswami, programme manager for climate change at the Centre for Science and Environment, told Mongabay India. "It also raises serious questions about how rigorous the monitoring will be and who should take responsibility for pollution reduction and biodiversity savings."

Trupti Mishra, a professor at the Interdisciplinary Programme in Climate Studies at the Indian Institute of Technology (IIT) Bombay, states, "I believe any programme, regardless mandatory or voluntary, needs robust process, involving technical support, good measurement tools and more importantly proper monitoring at the source level. Since green credit or for that matter carbon market are new programmes for Indian companies, these would work well with process support involving awareness to monitoring."

The programme aims to propagate the 'Lifestyle for Environment (LiFE) Movement' spearheaded by the government, which aims to promote healthy and sustainable living. The LiFE concept was given a boost at COP27 in Sharm el-Sheikh, where it featured in the cover decision text that influences global climate action.

The draft programme comes at a time when India is hosting the G20



**Green credits are supposed to complement the action of companies. Only buying credits and no internal action is a sign of greenwashing.**

**—TRUPTI MISHRA**

Professor, Indian Institute of Technology

Presidency and will have to walk the talk on its international climate commitments, which include achieving net-zero emissions by 2070. India has also committed, in its Nationally Determined Contributions (NDCs), to creating a carbon sink capable of absorbing 2.5 to 3 billion tonnes of carbon dioxide through additional forest and tree cover.

### **Who gets the green credits and how?**

A wide cross-section of society can participate in the GCP, notes the draft notification. This includes individuals, Farmer Producer Organisations (FPOs), cooperatives, forestry and sustainable agriculture enterprises, urban and rural local bodies, private sectors, industries and organisations of different kinds.

The eight activities that can generate credits include planting trees; harvesting and saving water; treating wastewater; promoting natural and regenerative agricultural practices; improving waste management, segregation and collection; reducing air pollution; conserving and restoring mangroves; obtaining

an Eco Mark label for manufacturing and constructing buildings, which is a label that the Bureau of Indian Standards (BIS) gives to environment-friendly products.

"Overall, this is a great initiative. But it will be challenging to implement and requires the establishment of a scientific committee with activity-specific experts, who can frame the requirements for receiving green credits," said Easwaran J. Narassimhan, an associate professor at the Centre for Policy Research (CPR), a Delhi based think tank. "The administrator must ensure that every credit generated under different categories are not 'hot-air credits' (unsubstantial or lacking real value) and are additional to what is already happening anyway," Narassimhan added.

The administrative body tasked with implementing the GCP is the Indian Council of Forestry Research and Education (ICFRE), a research and capacity-building organisation that doesn't typically deal with implementation. As part of the GCP, it will be in charge of granting credits and maintaining a registry of green credits, among other responsibilities.

Guiding the ICFRE will be a Steering Committee, which will formulate guidelines for implementation and verification, make recommendations for which sectors should be included in the programme, and review and monitor it. The central government may empanel auditors to audit the entire system from time to time, says the draft.

### **Areas of uncertainty**

India's experience with such market mechanisms has been with mixed results. The Perform Achieve and Trade Scheme (PAT) launched in 2012 encourages 13 carbon-intensive industries to reduce their energy consumption. Energy saved is certified and can be sold to entities that did not meet their targets. The second cycle of the PAT scheme,

which ended in 2019, resulted in emissions reductions worth around 68 million tonnes. A 2021 study by the Centre for Science and Environment, however, found that for the thermal power sector, a major emitter, energy reductions were only 3 per cent compared to the sector's total energy consumption. "This highlights the fact that the target given to TPPs is very less compared to the overall emission reduction from the sector," the study said. "Having the option of acquiring energy saving certificates for compliance makes it far less expensive for thermal power plants to dem-

several different sectors. But it could also lead to problems when being implemented, say experts.

"The liquidity of these credits for trading in the market is another concern. Are credits generated for specific activities tradable within the activities? If not, there needs to be clarity on how credits generated in different activities are comparable," said Narassimhan from CPR.


The question of how the credits will be calculated is ambiguous in the draft notification, which says a value will be arrived at after considering "the equivalence of resource requirement (for a project), parity of

enwashing. It may be an easier way for the companies to park it under sustainability activities and action for SDG goals. There are possibilities that companies can greenwash by falsely communicating or overhyping their credits, buying unreliable credits and buying credits unrelated to companies' sectoral activity."

The draft notification also makes no mention of what will happen if credits are found to be fraudulent.

The GCP also proposes to link with the Accredited Compensatory Afforestation (ACA) scheme under the Forest Conservation Rules (2022), which allows private and public entities to grow plantations on non-forest land and sell them to project proponents looking to "compensate" for the forest diverted to their projects.

While the ICFRE will administer the GCP, the ACA scheme is administered by state and district forest departments. They also fall under two different laws – the former under the Environment Protection Act and the latter under the Forest (Conservation) Act.

"While both these reforms are being pursued under different laws, they have to be understood as a series of reforms that the government has to undertake to reconcile global commitments and national policy requirements. The monitoring, however, is likely to be complex as it will not just be done by different institutions, the compliance will be subject to the legal standards of two different laws. It will be a challenge to reconcile the data generated under both these processes, as there are risks of double counting and other related gaps," said Kanchi Kohli, an independent legal and policy researcher. 

*This story was published with permission from Mongabay.com.*

*(Source: <https://www.eco-business.com/news/indias-green-credit-scheme-needs-strong-regulation-to-work/>)*

## Having the option of acquiring energy saving certificates for compliance makes it far less expensive for thermal power plants to demonstrate compliance by installing energy saving measures

onstrate compliance by installing energy saving measures," the study found, adding that thermal power plants that didn't comply weren't always penalised.

Similarly, another market-based instrument, the Renewable Energy Certificate (REC), allows electricity distribution companies (discoms) and other entities to buy these certificates from generators if they are unable to meet their renewable purchase obligations (RPOs). A 2021 report by Intelicap, an advisory service, found an over-supply of RECs due to poor enforcement of penalties among non-conforming discoms. It also found that demand was overwhelmingly driven by obligated entities with little voluntary participation.

The GCP is ambitious because it covers various activities under

scale, scope, size, and other relevant parameters." Measuring the benefit of certain activities should be done carefully, experts say. For example, rewarding a waste-to-energy plant with a green credit might be counterproductive if it processes mixed waste, leading to higher emissions.

While Mishra from IIT-Bombay acknowledges that double counting is not an issue with green credits and carbon credits programmes, she does express concerns about the potential for greenwashing, which is "the practice of making products, activities, or policies seem more environmentally friendly or less environmentally damaging than they actually are."

She explains, "Green credits are supposed to complement the action of companies. Only buying credits and no internal action is a sign of gre-





With tropical and temperate forests covering about 40 per cent of the Himalayan nation, the health of its trees is key to Nepal's prosperity and its roughly 29 million people. Image: Feed the Future, CC BY-SA 3.0, via Flickr.

# Trees like women best: Nepal's forests thrive with female bosses

A groundbreaking initiative to put women in charge of Nepal's vast forests has shown women do it better when it comes to planting trees and preserving the planet.

**P**ut women in charge of cultivating forests and the trees grow stronger. That's the takeaway from a pioneering 30-year scheme that has elevated women to the top of Nepal's community forests - and paved their way into local and national politics.

Three decades of picking women for leadership roles has produced healthier forests and happier workers, according to Nabaraj Pudasaini, joint secretary of the government's Department of Forest and Soil Conservation.

"In comparison to other community forests in the country, the

ones managed by women are doing exceptionally well," said Pudasaini.

"Women spend more time in the forest than men, so they naturally have a deeper love and understanding of it. They are honest, transparent and have good relations with villagers, so they became a success," he added.

Apsara Chapagain is typical of this trend for top female foresters, as the first women to chair the Federation of Community Forestry Users Nepal (FECOFUN), a national body that



promotes community rights over local land.

With tropical and temperate forests covering about 40 per cent of the Himalayan nation, the health of its trees is key to Nepal's prosperity and its roughly 29 million people.

Having run FECOFUN from 2010 to 2015, Chapagain is now deputy speaker of the assembly in Bagmati province, one of seven in the land-locked nation.

The 51-year-old credits her rise in local politics to her pioneering work with protecting trees and championing women.

"We have worked to show the way for the state," said Chapagain, whose time with the forest movement taught her how to run teams, chair meetings and take decisions for the benefit of the community at large. "Any institution of the state cannot ignore FECOFUN's contribution," she added.

### From forest conservation to political leadership

Nepal's community forests were set up in 1995 to use land more sustainably and help reduce local poverty.

The country's forested area has since increased to about 44 per cent from 29 per cent, according to the Ministry of Forest and Environment.

FECOFUN now represents 3 million Nepalis working the forests in about 22,415 groups. Of those, 1,000 groups are female-led, and the rest are split equally by gender.

Popular Gentle, an expert in community forestry, said FECOFUN was a pioneer in Nepal in ensuring the equal representation of women, ethnic groups and every caste.

He said the Nepali government had watched its success and followed suit, incorporating FECOFUN's policy to ensure that women take a third of roles running all aspects of the state.

FECOFUN was still more ambitious, safeguarding half of its jobs for women in a groundbreaking

provision that began in 1996 and propelled many women into mainstream politics today.

Bharati Pathak, who stood down as chair of FECOFUN last month, said the programme "has enabled female participation and empowerment for women who could not come out from home".

Nepali society is male-dominated, with women largely confined to caring for family and home. Nearly 29 per cent of women are economically active - compared with about 53 per cent of men - and female workers are much more likely than their male counterparts to be in precarious employment, according to World Bank data.

Pathak - who has spent 15 years on FECOFUN's central committee - has been treasurer, general secretary and president.

Now serving as a member of the Bagmati assembly, she is one of a group of forestry trailblazers turned politicians. In last November's election, more than 40 community forest campaigners - 30 of them women - won seats in the House of Representatives and the seven provincial assemblies in Nepal.

Overall, female representation in state and national politics stands at 33 per cent.

### Women in charge

Women are vital to the cultivation and preservation of Nepal's forests - and also key to fostering greater inclusion across state institutions, said Sindhu Dhungana, joint secretary of the Ministry of Forest and Environment.

"Nepal's community forestry programme can serve as a model for the world," said Dhungana, whose ministry oversees the Department of Forest and Soil Conservation.

He praised women's role in conservation efforts, saying they had planted trees, stopped grazing, fenced forests and educated villagers about land preservation.

One such woman, Nanda Kuwar, has chaired the Madhumalati community forest in Kailali in western Nepal since 2014.

When the 50-year-old took over, the forest was sparse, and the land was under direct threat from construction, cattle-grazing and farming. Kuwar's first task was to launch a campaign to get the community planting more vegetation in the forest - an initiative that opened her to attack by a developer armed with a sickle.

"Blood was flowing from my hand, and I immediately went to the hospital," she recalled.

"Now there is greenery and big trees. Seeing the trees of my community forest makes me forget my pain."

Meanwhile, the Buddha Mangal Tal Women Community Forest in Nawalparasi district in the country's midwest has been hailed as a beacon of environmental rescue led by women.

Encroachment by villagers who cultivated paddy and reared cows had been a blight on the forest - and when local men failed to stop it, the women stepped up and took charge, said Kamal Pariyar, chairperson of FECOFUN in Nawalparasi.

A committee was established - managed by women - which fenced off the area and planted trees. Visitors to the forest must buy tickets, with the proceeds going towards poorer families, prioritising female-led households.

"When the women took over leadership 15 years ago, they put a stop to encroachment," said Pariyar. "They made sure that every household understood the importance of the forest." 📄

*This story was published with permission from Thomson Reuters Foundation, the charitable arm of Thomson Reuters, that covers humanitarian news, climate change, resilience, women's rights, trafficking and property rights. Visit <https://www.context.news/>.*



An actor playing Poseidon, ruler of the ocean, comes face to face with International Maritime Organisation (IMO) secretary general Kitack Lim during a break at the Marine Environment Protection Committee (MEPC80) talks on 4 July. As part of a demonstration against what critics are saying is a slow response to curbing global shipping emissions, the protester told the secretary general to “get his act together”. Image: Ocean Rebellion

# IMO SETTLES FOR ‘BY OR AROUND 2050’ NET-ZERO TARGET FOR SHIPPING

Experts call the new target ‘vague and non-committal’. It is understood that China – the world’s biggest shipowner – had blocked attempts by climate-vulnerable states to bring the sector in alignment with the Paris Agreement, writes **Hannah Alcoseba Fernandez**

**A**fter two weeks of tough negotiations, 175 member states of the International Maritime Organisation (IMO) failed to agree on absolute emission reduction targets by the middle of the century.

Instead they settled on a revised target that looks at “striving for” curbing shipping emissions by up to 30 per cent by 2030, by up to 80 per cent by 2040, in order to reach net zero “by or around 2050”, depending on “national circumstances”, according to the final text of the resolution.

IMO secretary general Kitack Lim, however, described the adoption of the 2023 IMO greenhouse gas strategy as a “monumental development” for the organisation. He said it opens a new chapter towards maritime decarbonisation.

He also emphasised that the consensus is not the end goal. “It is in many ways a starting point for the work that needs to intensify even more over the years and decades ahead of us,” he told IMO delegates. “With the revised strategy that you have now agreed on, we have a clear direction, a common vision, and ambitious targets to guide us to deliver what the world expects from us.”

Experts criticised the target as lacking, as it does not do what is needed to keep the global rise in temperatures to below 1.5°C, in line with the Paris accord.

The new commitment is a “wish and a prayer agreement,” said John Maggs, president of Clean Shipping Coalition, a global international environmental organisation that focuses exclusively on shipping issues. “The language [is] seemingly contrived to be vague and non-committal,” said Maggs.

“The most vulnerable put up an admirable fight for high ambition and significantly improved the agreement but we are still a

long way from the IMO treating the climate crisis with the urgency that it deserves and that the public demands,” he added.

The Pacific Island countries, supported by the United States, the United Kingdom and Asian nations Japan and South Korea fought hard for a net-zero emission target by 2050 but were opposed by China, backed by India, Indonesia, Brazil, and Argentina. China, India and Indonesia see shipping as a hard-to-abate sector, requiring more time to decarbonise.

While the inclusion of 2030 and 2040 emissions reduction targets for shipping is not insignificant, the agreement does not address the climate crisis, said Lucy Gilliam, senior shipping policy officer of non-profit Seas at Risk.

She noted how vulnerable groups were excluded from discussions until the final hour.

“The Pacific Island nations brought it back from the brink. But let’s be clear that the process was not transparent, just or equitable, and it is reflected in the result reached,” she said. “What’s especially egregious is that we have the know-how to tackle this crisis. We also know that action

will be far cheaper than inaction.” Global shipping is affected by sea level rise, severe storms, inland flooding, drought, extreme heat events, which if not addressed could cost the industry up to US\$9.8 billion by 2050, based on research non-profit Environmental Defense Fund (EDF) published in 2022.

Within the wider industry, there is a recognition that reform is necessary but there is a concern that a higher level of ambition will be too challenging and expensive.

Research published this month by Netherlands-based consultancy CE Delft, however, shows that cutting shipping emissions by half this decade would only add some 10 per cent to the total costs of operations.

The IMO, which is the United Nations body that regulates the safety and environmental performance of international shipping, reconvened late last month for negotiations on the adoption of a net-zero shipping emissions reduction target by 2050, ramping up its previous climate plan that only aims to halve shipping emissions within the same time frame. The shipping talks had lasted for 14 days, before concluding on Friday (7 July).



International Maritime Organisation secretary general Kitack Lim (left) during the opening of the 80th Session of the Marine Environment Protection Committee (MEPC) on 7 July 2023 at the IMO headquarters. Image: IMO



Climate-vulnerable countries have been asking the IMO to adopt science-based targets by reducing emissions by at least 37 per cent by 2030 and by at least 96 per cent by 2040 and reach zero by 2050 at the latest.

Global shipping carries around 90 per cent of trade around the world, emitting around one billion tonnes of greenhouse gases every year. Halving shipping's emissions footprint would be equivalent to shutting down 121 coal power plants.

### What an ambitious shipping target means for Asia

Sources tell Eco-Business that China, the world's largest shipowner based on 2022 United Nations data, opposed a higher shipping ambition because its own economy is not required to reach net zero by 2050.

Chinese president Xi Jinping announced three years ago that the superpower would achieve carbon neutrality by 2060. The source, a founder of a Hong Kong-based institution that does consultation on automobile and vessel emissions, as well as climate change impacts, and who preferred to stay anonymous, said that the Chinese regards the IMO's net-zero ambition as "unrealistic".

"Many shipping companies and ports do not see a clear zero-emission fuel solution for seagoing shipping, hence it is accepted that the shipping sector be given more time to decarbonise, as compared to sectors that have a clear decarbonisation roadmap, such as power and on-road transport," the source said.

India and Indonesia, ranked as the world's leading ship-owners, likewise have set more relaxed carbon neutrality targets – net zero by 2070 and 2060 respectively – and they might have the same justification as China for not supporting net-zero shipping emissions by 2050, the source added.

Meanwhile, South Korea and Japan, which are among the world's biggest ship builders, are in favour



A Chinese shipping container vessel docked in Hamburg, Germany. Image: OlliL, CC BY-SA 3.0, via Flickr.

of net zero by 2050, because they have been actively involved in research and development for zero-emissions fuels in the past few decades, said John Yum, shipping lead at South Korea-based non-profit Solutions for Our Climate.

"South Korea and Japan have had the technology to build high-end ships. Higher climate ambitions will likely lead to more orders for zero-emissions ships, which are not yet on the market," said Yum.

Japan has been working on its first ammonia-fuelled gas carrier due to be completed by 2026, while South Korea has been developing a blended fuel of liquefied natural gas and hydrogen which aims to use less toxic gas emissions.

Singapore has likewise been preparing for a multi-fuel future for the shipping industry, and the island state could be more prepared to meet a tighter timeline compared to other ports. Just this week, Singapore's maritime port authority confirmed that the trade-reliant city-state expects ammonia bunkering to take place in its waters from 2026.

The Philippines, the world's top provider of seafarers and maritime officers, declared its support for net-zero shipping emission reductions by

2050 at the start of the intersessional talks. In preparation for the decarbonisation of the shipping industry, seafarers will need to be equipped with adequate skills and training to operate new technologies and handle alternative fuels like hydrogen and ammonia, which are being eyed for low-carbon shipping due to their potential in reducing greenhouse gas emissions to near-zero.

At a shipping conference held in Manila last month, president of Sweden-based World Maritime University Max Mejia said that this would include ramping up of Science, Technology, Engineering, and Math (STEM) learning as early as possible in the local educational system. Countries with high level of STEM education, such as Japan, Singapore and Europe, do not have large seafarer populations, he said, while a seafarer-supplying country like the Philippines has not done so well in STEM.

Mejia believes the situation needs to change, and the Philippines must focus on promoting STEM education from a young age. 🌱

(Source: <https://www.eco-business.com/news/imo-settles-for-by-or-around-2050-net-zero-target-for-shipping/>)



A cottage built using cob, a material made from mud mixed with sand, straw or lime, is being fitted with a conical roof. Buildings constructed using locally sourced materials are increasingly popular in India as climate impacts worsen. Image: anu10dolkar/Dirty Hands

# As Indian cities heat up, climate-resilient traditional buildings are coming into fashion

Vernacular architecture, which uses locally-sourced natural materials and traditional designs, could be key to climate resilience in India's built environment as extreme weather events become more common, writes **Jency Samuel**

If the pandemic triggered eco-consciousness in A. Krishnan, a Chennai-based software professional, the heat waves of April and May and the floods that followed made him into a total sustainability convert.

In Chennai, the capital of Tamil Nadu in south India, people joke that the city has just three types of weather: hot, hotter and hottest. "This summer I thought my flat felt hot because the new apartments around mine were blocking

a breeze. But it turns out that the temperature was a lot higher this year," says Krishnan.

The number of days that hit 40°C or hotter have been more frequent this year. In May 2022, only five days eclipsed 40°C. In May 2023, there were 10 40°C-plus days. In June, there were 15.

"I'm moving to the suburbs to a traditional house since it's much cooler," says Krishnan.

An increasing number of Indians are, like Krishnan, turning to ver-



vernacular architecture – a traditional form of building design that varies according to the climatic conditions of the region and uses locally-sourced construction materials – as temperatures rise climate change becomes a stark daily reality.

### Renewed interest in vernacular architecture

Traditional houses have not always enjoyed a good reputation in India, and the perception that natural materials are of inferior quality has lingered, even though many of these buildings have survived for more than a century. But that perception is changing. Industry experts cite people's interest in sustainability, growing concern about climate change and a desire to uphold traditional ways of living among the reasons for a renewed interest in vernacular architecture.

"People have become weary of the urban environment. They want to move to villages or return to their hometowns to provide a better environment for their children," opines Anushree Tendolkar

“  
**Walls should breathe. I avoid plastering and painting. In summer, I don't need an air-conditioner. In winter, it's warm inside.**

— S. SAMYUKTHA  
Architect, Earth Building

of Dhirty Hands ("dhirty" means mud in Hindi), an environmentally-sensitive architecture firm based in Thane near Mumbai.

As the impacts of climate change are increasingly felt, so more people are thinking about the climate-resilience of their homes.

"There's been a change in recent years. More people want eco-friendly houses now," says Rajiv Kumaravel of Tamil Nadu-based Monarch Architects.

Vernacularly designed buildings tend to be cooler than modern dwellings, says Benny Kuriakose, of Benny Kuriakose & Associates, a Chennai-based firm.

### Thermal comfort

A 2021 study by Centre for Sustainable Technologies (CST) at Indian Institute of Science, Bengaluru, found that the indoor temperature of modern houses was

7–10 per cent higher than traditional houses in rural West Bengal.

"Inside my mud house, the temperature is 5–6°C cooler [than outside]," says S. Samyuktha, an architect at Earth Building, who divides her time between Coimbatore in south India and Ladakh in the trans-Himalayan region, where vernacular building styles are still prevalent.

In the south, cob – where balls of mud are mixed with sand, straw or lime depending on the soil, and layered into walls – is predominantly used. In the north, stone and wood are used, or bamboo in some places.

"In the colder north, we try to trap the heat in. In the south, we try to keep the heat out," explains Samyuktha. Kumaravel goes by what Laurie Baker, a British-Indian architect who pioneered vernacular sustainable architecture in India, advocated for.

"Baker said that walls should breathe. So I avoid plastering and painting. In summer I don't need an air-conditioner. In winter, it's warm inside," he says.

Samyuktha says that sustainable building design is not only about eco-friendly materials but about human health. Her mother is fully free of knee pain since moving into a mud house with terracotta flooring.

### Contemporary relevance

But some question the feasibility of vernacular architecture in cities.

Most vernacular buildings can only be a maximum of three storeys high, with 18 inch-thick walls. But given the space constraints in cities, wall thickness is reduced as the building is supported by concrete columns and beams.

"In urban areas, fusion works better. We can reduce the use of cement by using Laurie Baker's methods like exposed brick walls or concrete filler slabs," suggests Manoharan.



Construction of a building using Kath-Kuni elements. Kath-Kuni is an indigenous construction technique prevalent in the hills of Himachal Pradesh, northern India. Image: Rahul Bhushan



For sustainability-conscious people living in cities, Tendolkar suggests lime plastering, as it lets the walls breathe, and painting the walls using lime or fine mud coloured with natural pigments. Aravind Manoharan, a civil engineer and co-founder of Tiruppur-based Magizh Builders, uses Chettinad egg white lime plaster that is manually smoothened with stone and does not require a coat of paint.

kathkuni structures – walls made of criss-crossed wooden beams and stone without any binding material – are earthquake-resilient.

But he cautions that not all vernacular techniques are sustainable. In some places, stone quarrying has been banned as excessive quarrying in hilly areas has caused landslides.

“It’s not wrong to use modern materials,” he says. “It’s not always right to limit yourself to traditional


dioxide released when the construction materials are mined, manufactured and transported.

“Whatever the style, we use natural resources. Cement is about 70 per cent limestone. But cement’s embodied energy is high and hence so is the carbon footprint,” says Tendolkar. “At the end of its life, construction debris ends up in landfills and waterbodies. Recycling steel is energy intensive. But lime and mud can be reused and repurposed.”

While the government has introduced Green Ratings for Integrated Habitat Assessment (GRIHA), a sustainability rating system, some point out that it doesn’t include natural materials and vernacular architecture. GRIHA’s case studies only feature alternate materials such as fly ash bricks and paints low in volatile organic compounds.

The Indian Green Building Council (IGBC), a non-government rating initiative, is more inclusive. While listing the buildings done partially or fully using natural materials, Anand Muthukrishnan, IGBC’s deputy executive director, admits that their rating system does not fully incorporate embodied energy, but they’re working on it. “But our rating promotes awareness of natural materials and their use in manufacturing,” says Muthukrishnan.

While the ratings may be a selling point for large construction companies, people like Krishnan question their relevance for small or budget-constrained builders that design and build according to the principles of Laurie Baker. For the all-natural builders, health and climate sensitivity matter more.

Vernacular buildings’ ability to withstand wider temperature variations offer a genuine adaptation solution for India as climate impacts intensify. 

(Source: <https://www.eco-business.com/news/as-indian-cities-heat-up-climate-resilient-traditional-buildings-are-coming-into-fashion/>)



A resource-efficient building constructed in Kath-Kuni style, with much of the stone and wood reclaimed from old buildings. Image: Rahul Bhushan

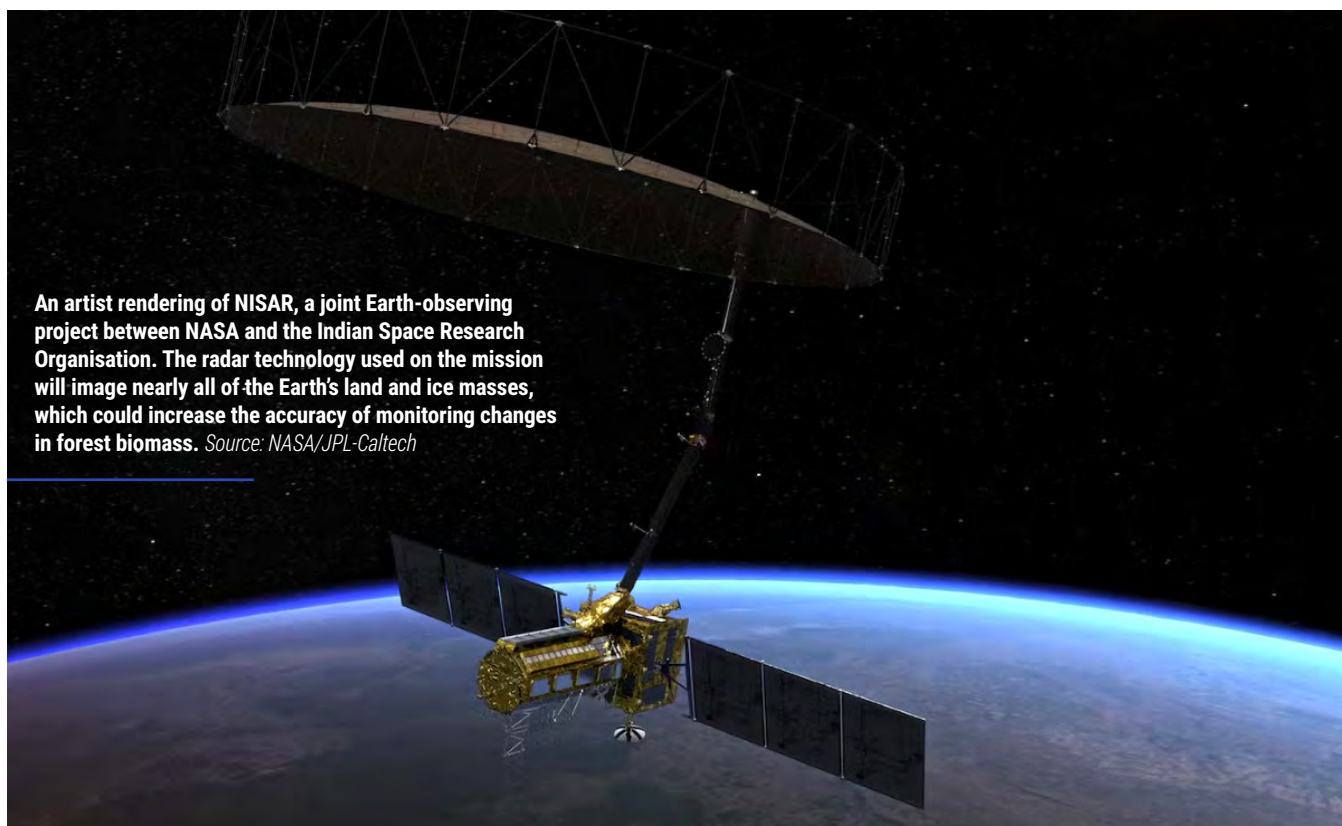
Experts dismiss concerns about mud walls crumbling in heavy rain. “In traditional construction, we say that the hat and boot – or the roof and foundations – need to be sound; a proper roof overhang will protect the walls,” says Manoharan.

Rahul Bhushan of North, a consultancy based in the cold, earthquake-prone mountains of Himachal Pradesh, points out how traditional

techniques. In building for the future, we need to mix contemporary techniques with vernacular wisdom.”

### Low carbon footprint

Buildings account for about 40 per cent global carbon dioxide emissions – 27 per cent being operational carbon required for heating and cooling and 13 per cent being embodied carbon, the carbon



# Can new tech make carbon offsets trustworthy?

Technology providers are launching automated products to boost transparency in voluntary carbon markets, but human auditors remain crucial, writes **Catherine Early**

**C**arbon offsets have a reputation problem. The basic concept – that a reduction in carbon emissions or increase in carbon storage can compensate for emissions that occur elsewhere – sounds plausible,

but successive scandals have plagued the market for years. Schemes have been accused of providing money to projects that: would have gone ahead anyway, do not reduce carbon emissions, lead to an increase elsewhere, and damage local communities or biodiversity.

Much work is underway to rectify this. For example, a raft of standards and guidance is due this year, to define best practice and improve credibility in the use of carbon credits by companies. This kicked off in late June with a code of practice from the Voluntary Carbon Markets Integrity Initiative (VCMI) for businesses to follow when using and making claims about carbon credits as part of net-zero commitments.

## Monitoring tech leads the way

Many believe one way to help fix offsets could be new technologies to digitise monitoring, reporting and verification (MRV). This is a multi-stage process used to measure the amount of greenhouse gas emissions reduced or absorbed by a particular activity, such as reforestation, over a period of time. The findings are then reported to a third party to be verified so that carbon credits can be issued for trade on international carbon markets or used by corporations towards their net-zero targets.

Today's conventional MRV techniques involve time-consuming manual processes and analogue data capture through in-person auditing of sites. Some digital technologies are



already used, such as greenhouse gas inventory software, remote sensing and satellite positioning systems. But they comprise only around 10% of the process, according to a report by a working group on the subject set up by Gold Standard, a carbon credit certification programme.

Digital MRV would use various technologies – such as satellites and drones, artificial intelligence, blockchain encryption and “smart sensors” (which can analyse data, not just record it) – to automate data collection, analysis and validation, and provide more reliable and consistent data far more quickly. This will in turn reduce the costs and time associated with issuing new carbon credits.

One example, launched at last year’s COP27 climate talks, is CTrees, a non-profit which claims to be the world’s first-ever global system for accurately calculating the amount of carbon in every tree on the planet. It covers both carbon emissions and removals from all types of forests, at a resolution of one hectare – equivalent to just over one soccer pitch.

The platform is built on AI-enabled satellite data, bringing near real-time data to buyers, project developers and regulators involved in carbon markets, as well as governments, the private sector and civil society.

CTrees is led by Dr Sassan Saatchi, a senior scientist at NASA’s Jet Propulsion Laboratory, and a team of scientists and data engineers in the US, Brazil, Denmark and France. Supported by a combination of philanthropy and revenue from providing data products to partner non-profits, it draws on more than 20 years of research and development by universities and space agencies worldwide.

Early this year, CTrees started to provide operational data for project-level assessments of forest carbon. The fact that the dataset is global means it can track issues that have beset carbon markets for years – such as so-called “leakage”, where a policy or project designed to protect forests

leads to deforestation shifting to another region, Saatchi says.

“Our dataset observes everything – you can see easily if deforestation has gone up in the area, or 100km away, or even in another jurisdiction, or another country. Social scientists and economists can use the data to really understand where the leakage is happening.”

CTrees is to launch a free global alerts system for land-use change later this year that will produce notifications for activities like deforestation or degradation every two weeks, increasing to every week starting in 2024. This will allow for faster interventions from governments, he explains, as annual aggregations of carbon emissions and removals will provide policymakers with information that they can use to assess whether their programmes are generating the intended results.

The CTrees platform can integrate new data and science as it becomes available – for example, from the NISAR mission, a joint Earth-observing project between NASA and the Indian Space Research Organisation due to launch next year. The radar technology used on that mission will image nearly all of Earth’s land and ice masses, four to six times per month. Information on forest volume and biomass will be detailed enough to reveal changes on a human scale. The technology will halve the uncertainty associated with measuring the variability of changes in forest biomass, Saatchi says.

### Bringing disparate data together

Another new digital platform, from the Climate Action Data Trust (CAD Trust), aims to link, aggregate and harmonise data from all major carbon registries, which may be run by governments or private companies. These registries track carbon projects, issue credits and record the ownership of offsets by giving each a serial number in order to mitigate

the risk of double counting, where two organisations claim the same tonne of carbon removed.

Until it launches in the third quarter of this year, anyone wanting to cross-check registries for the same credit must do so manually, according to Yuvaraj Dinesh Babu, executive director of CAD Trust. This will only get more time consuming as more countries set up registries and start to trade credits following the adoption of rules on international carbon trading at UN climate talks, he points out.

CAD Trust’s platform will provide a central place where anyone can check that credits are not being double counted – and, being run on blockchain technology, all actions that registries take on it will be auditable, he says.

Eventually, Babu hopes that all national carbon registries will be linked through the platform. It could then be used to prove what countries have achieved against their national climate strategies through the UN climate convention stocktaking process, a key part of the Paris Agreement through which countries assess what has been achieved against international climate targets, to help inform future action.

Another carbon registry aggregation platform, AlliedOffsets, is also aiming to make it easier and quicker to find a variety of information, including what offset projects a particular company has bought credits from, whether they have bought the volume they say they have, and the quality of each project.

“We realised how opaque the whole sector is [and] how poor information gathering was, and we started to ask questions such as why this one credit costs \$2 and another \$50, when they’re supposedly for the same thing – a tonne of carbon. That seems insane,” says Lars Kroijer, the firm’s founder and managing director.

“We aggregate all the ratings companies, the brokers, and the news



sources so you can find everything in one place – whether you're a buyer, a broker, a project developer or an academic," says Kroijer. "If someone wants to find all [the] nature-based solution projects in India, I could answer that question in three minutes. In the past, I don't know where you'd start; it could take months."

## Standardising standards

Given all these developments, offset certification bodies such as Gold Standard and Verra, as well as other organisations with an interest in carbon markets such as the World Bank, have been scrambling to assess, pilot and produce guidance, technologies and standards on digital MRV.

Verra, which claims to be the world's largest carbon credits programme, is piloting a digital MRV platform that uses remote-sensing to measure forest carbon, provided by climate tech company Pachama.

Verra says it will not be issuing credits using any data provided by the pilot, but rather will compare the digital system to its current approach in terms of accuracy, and assess if – and how – it could use the data. It will produce a document on its findings later this year for consultation with its stakeholders.

Benktesh Sharma, Verra's senior director of technology solutions, explains that current MRV methods mean reports sent by those carrying out a project for it to audit are inconsistent. "They have their own interpretation of how to use methodologies to come up with estimations of greenhouse gas reductions," he says. "But digital MRV will give us a standardised approach to handling this data, and we can check the data quality easily."

"It will be shifting a mindset, from where you try to wrangle around various documents, to working on a digital interface. And users won't have to create a PDF document, or print a document and

upload [it] into the system," he adds. "Rather, data will be moving from machine to machine."

In theory, digital systems will allow us to check the quality of data for a particular project, such as its location and how it was created. Incomplete or incorrect information would be flagged to Verra, according to Rishi Das, Verra's manager of technologies for natural climate solutions, who says that this should filter out any bad projects from its system. However, if malpractice is suspected in any project the programme has issued credits on, it will be far easier to scrutinise digital information rather than go through pages of PDFs provided by projects, he says.

Demand for quality offsets in the voluntary carbon market outstrips supply, Sharma adds, and it currently takes many years from starting an offset project to the point where credits are issued. A more efficient, digital process could drastically reduce this timescale, meaning that carbon reduction projects could be scaled up much more quickly, he says.

## What are the downsides?

Digital MRV could save a lot of time, prevent human error, and improve transparency across the board, providing more companies and investors with confidence in voluntary carbon markets, acknowledges Ana Carolina Szklo, technical director of markets and standards at the Voluntary Carbon Markets Integrity initiative (VCMI). But she sees some disadvantages to digital MRV.

"Digital MRV such as satellite monitoring of forests is expensive, so we just have to be mindful that we don't exclude companies and developing countries that don't have the resources to promote and implement such modern technology systems," she says.

Technology doesn't solve all problems, she adds; it just flags up poten-

tial issues which would then need to be investigated with a physical visit to the site. For example, in Brazil, some images of forestry projects have captured other land-use changes. A satellite image on its own cannot prove if the project owner did it deliberately, or if fire could have been spread accidentally from a neighbouring area, she says.

Human auditors should also maintain a role in MRV systems, as their analysis of the data is very important, she stresses. "I'm not sure whether we're ready to just hand that all over to machines and technology, and not have any human brain capacity actually doing analysis behind all the data."

Meeting targets for emissions reductions is not all about maths, she says. Some elements that need to be taken into account are subjective, such as the need for companies to have strong governance structures in place to be able to make good decisions on which projects in carbon markets to invest in.

"It takes some time to process and disseminate technology to ensure that there's confidence behind everything, so that investors can bring resources, and the private sector can implement projects," she says, adding that many of these technologies have to go through a pilot phase.

Kroijer is optimistic that digital MRV can be part of the solution to overcoming scepticism to carbon markets. "It's easy to get up on your soapbox and yell, but the underlying solutions to climate change are sometimes technical, and they need to be worked out over a long period of time," he says. "There's a reason why there's a lot of bad in this space, but find me any space with 25,000 projects where there isn't a flaw." □

*This article was originally published on China Dialogue under a Creative Commons licence. (Source: <https://www.eco-business.com/news/can-new-tech-make-carbon-offsets-trustworthy/>)*

*Make the Right Move*

# ABC

## Ready to Lease Office Spaces



# ABC

**Assotech Business Cresterra**  
Sector - 135, Expressway, Noida

1

**Integrated Intelligent IT Park Complex**

2

**1.8 Million SQFT Mixed Use Development**

3

**LEED Gold Certified Green Building Complex**

4

**Market Leading Floor Efficiency of 83% [+2%]**

5

**70% leased out of Phase - I**



**SERVICED APARTMENTS**  
Phase - I



**OFFICE SPACES**



**RETAIL**  
Phase - I

  
**ASSOTECH**  
www.assotech.in

**Assotech Realty Pvt. Ltd.**  
46, First Floor, Janpath, New Delhi - 110001  
Ph: +91 - 8010821111  
info@assotech.in

**Our Leasing Partners**  
**CBRE**

"The Plans, images and facilities shown in the advertisement are merely indicative in nature (not a legal offer) and are subject to variations and modifications at the sole discretion of the Company or the competent authority. The Project is being developed as an IT/ITES complex as per the IT Policy of Government of Uttar Pradesh. Phase 1 of the Project has been completed and Phase - 2 of the Project consisting of Tower No 4, 5 & 6 is under construction and has been registered under UP RERA vide Registration No. UPRERAPRJ1594."



# SAVE LIVES GIVE SMILES

Every Year, **35,000+** children are born with cleft lip and palate in India. Untreated clefts lead to difficulties in eating, breathing, hearing and speaking. The children often face social stigma and drop out of school.

**Cleft treatment can change this. Forever.**

## OUR LEGACY & REACH:



**640,000+**  
cleft surgeries  
since 2000



**150+**  
partner  
hospitals



**30+**  
states  
and UTs



**300+**  
cleft medical  
professionals

Smile Train empowers local medical professionals with training, funding, and resources to provide free cleft surgery and comprehensive cleft care to children across the country. We advance a sustainable and scalable global health model for cleft treatment, drastically improving children's lives, creating both an immediate and long-term impact.



Let your CSR Program transform lives and create lasting impact.

Join us to change India, one smile at a time.

### Contact us:

Email ID: [csrindia@smiletrain.org](mailto:csrindia@smiletrain.org)

Address: Plot No. 3, LSC, Sector C Pocket 6&7,  
Vasant Kunj, New Delhi 110070 Ph: 011 47856300  
[www.smiletrainindia.org](http://www.smiletrainindia.org)



## National Cleft Helpline – 1800 103 8301