

TATA TRUSTS

APRIL 2022

HORIZONS

CATALYST FOR THE CAUSE

The India Climate Collaborative has created an ecosystem of believers to help the country address a crisis like no other

CLASS APART

Teachers and teaching are the focus in an effort to educate the educators

FRUITFUL WAYS

Livelihoods get a lift with watermelons and mangoes in two states

INTERVIEW

Shalini Bharat on helming a bigger and better Tata Institute of Social Sciences



EDITORIAL

Why would metropolises as disparate as Delhi, Dhaka, N'Djamena, Dushanbe and Muscat be bunched together in any listing, much less a catalogue of calamity? The reason has all to do with the piece of Earth — and the air therein — that these urban centres live and breathe in.

The recently released World Air Quality Report 2021 places Delhi at the top of the heap, for a fourth successive year, in a collection of the world's most polluted capitals. The bad news for India does not stop there: 63 of the 100 most polluted cities globally are in the country, and no Indian city meets the World Health Organization's air quality standards.

Air pollution may not be a direct consequence of climate change but the two are joined at the hip. The bigger global peril is, of course, climate change itself, the overarching issue in this edition of *Horizons* and the subject matter of our cover story. The protagonist here is the India Climate Collaborative (ICC), a Tata Trusts-supported organisation that is on a mission to bring together a variety of stakeholders to help our country cope better with the many challenges posed by climate change.

India is a frontline nation when it comes to the damage climate change is inflicting — and will continue inflicting — on the land, its people and its communities. Countering the menace will necessarily require a cohesive and unified approach. Creating, enabling and sustaining such an approach is at the heart of the ICC endeavour.

Our feature stories offer a blend of narratives: a teacher education programme that is out of the ordinary; an aftercare initiative providing young adults leaving childcare centres with a lifeline and life skills; the work that the North East Initiative Development Agency is doing to keep its community-centric projects running through difficult times; an attempt to bring the children of Maharashtra's migrant sugarcane workers back to school; and a heart-warming report on children with congenital heart disease in Chhattisgarh getting desperately needed treatment and care.

We have two interesting personalities speaking to us this time — Shalini Bharat, director and vice chancellor of the Tata Institute of Social Sciences, and Arjan de Wagt, chief of nutrition with Unicef India. Also on the menu is an article by HSD Srinivas and Satish Khalikar, both from the Tata Trusts, about how technology is changing India's healthcare services; and the pioneering Shanta Sinha on the importance of bringing children from poor families back to school to minimise child labour.

And then there are watermelons and mangoes, to round off what we hope will be a fruitful and thought-provoking edition. Cheers!

Christabelle Naranda

We hope you will help us make Horizons better with your valuable feedback. Please do write to us at horizons@tatatrusters.org.

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NEWS

Nutrition gets a collaborative boost

The Tata Trusts have entered into a three-year collaboration with Asian Paints to boost the nutrition status of women and children across 30 villages in the Krishna and Visakhapatnam districts of Andhra Pradesh. The programme is part of the 'YES to POSHAN' initiative of the Trusts.

To be implemented by the Vijayavahini Charitable Foundation, an associate organisation of the Trusts, the initiative will focus on capacity building of *anganwadi* (childcare centre) and other front-line workers to enable them to identify children with severe acute malnutrition (SAM) and ensure timely nutrition interventions that can help them.



Home visits, community engagement and communication campaigns are important components of this collaboration, which will also include the promotion of diet diversity among women and children and backyard fruit and vegetable cultivation.

Among the other objectives of the programme are mobilising com-

munities to access and utilise government nutrition schemes and driving home messages about the importance of child nutrition.

"We aim to make a difference in the lives of the communities by combatting malnutrition and promoting healthy living," said Andrew Williams, associate general manager, Asian Paints. ■

Screening success

The partnership between Pfizer and the Tata Trusts, operational since 2020, has resulted in the enrolment and screening of about 70,000 people for noncommunicable diseases (NCDs) and cancer in Assam, Jharkhand and Andhra Pradesh.

Said S Sridhar, managing director of Pfizer: "We are proud of the outcomes we have achieved through this partnership and look forward to expanding this programme within Assam, to other cities in the Northeast and to the rest of India." ■

Cancer care help in Chandrapur

The Tata Trusts have started an initiative to deliver day-care chemotherapy and related services to cancer patients in Chandrapur in Maharashtra. Launched on World Cancer Day, the initiative is operating at the Government Medical College (GMC) in Chandrapur.



The chemotherapy services are provided free of cost and administered by a team from the Chandrapur Cancer Care Foundation, a special-purpose vehicle set up by the Maharashtra government, the Tata Trusts, the Directorate of Medical Education and Research and the District Mineral Foundation to make affordable, quality care available to cancer patients closer to their homes.

"The availability of free chemotherapy services at GMC, Chandrapur, will not only reduce the financial burden of patients and their families but also their stress and anxiety," said Vidyut Varkhedkar, additional district collector, Chandrapur. ■

‘Green’ tie-up takes sustainable shape

Social Alpha, the startup incubator supported by the Tata Trusts, has joined hands with ‘the echo network’ to catalyse India’s green transformation through the development of sustainable solutions in ‘one health’ (where human, animal and environmental health are considered equal), regenerative agriculture and ecosystem valuation.

The partnership will provide Social Alpha with access to sustainability experts across the world who can work with the startups it has fostered. The echo network, for its part, will be able to tap into Social Alpha’s innovation ecosystem to collaborate and co-create solutions in its designated verticals of work.

The echo network, a 1,000-member community that spans 22



countries, enables organisations and individuals to interact with one another and generate a shared purpose through collaborative, science-based activities and research.

Said Manoj Kumar, the chief executive of Social Alpha: “Joining the echo network helps Social Alpha further strengthen its charter to promote innovations for social and environmental

impact by converging the interests and priorities of researchers, entrepreneurs and communities.”

“The echo network is a unique concept to change how science is embedded in society both in India and, we hope, the world. We have established a fine-meshed network that allows the sharing of knowledge and purpose,” said the network’s global director Shannon Olsson. ■

Parag honours list announced

The Tata Trusts’ Parag Initiative has announced its annual honours list for 2022. This third edition of the list features a wide range of original writings in Hindi and English, with categories such as picture books, chapter books and young adult literature.

The 2022 selection has been made from books entered by 23 Indian publishers. There were more than 200 entries for the honours list, and 38 books in English and nine in Hindi have made the cut.

The jury for the English-language category comprised Anita Balasubramanian, co-founder of the Learning Network; writer Jeeva Raghunath and author and illustra-



tor Manjiri Nimbkar.

The books in Hindi were short-listed by poet and essayist Arun Kamal; Gurbachan Singh, executive editor of Azim Premji University’s Paathshaala Bhitari Aur Bahar; and Prachi Kalra, an associate professor at Gargi College, Delhi University. ■

Artisans find a foothold

The Tata Trusts-supported Social Alpha, CIIE.co and Be An Angel Network have announced a seed investment of \$180,000 in Desi Hangover, a direct-to-consumer footwear brand that has financially empowered traditional shoemakers in Kolhapur in Maharashtra.

Desi Hangover showcases Indian craftsmanship to domestic and international audiences while blending traditional styles with new-age footwear design. Women comprise 50% of the workforce at the company. ■



Climate call

The India Climate Collaborative has brought together a diverse set of stakeholders to help the country tackle a crisis of catastrophic proportions

The portents get grimmer by the day. Mumbai and its 27 million population face a high risk of floods and sea-level rise by 2035. In Ahmedabad, 11 million people are at high risk of living in an urban heat island.

These are two possible Indian scenarios as stated in a report by the Intergovernmental Panel on

Climate Change, the United Nations body responsible for tracking and explaining human-induced climate change.

The dire reaping represents only a portion of the catastrophic threat India faces from climate change, an existential menace like no other this planet has endured. Adding to the distress are

diminishing and contaminated water tables, soil degradation, an increasing number of extreme climate events, erratic weather patterns, and rising sea levels.

These are not perils that have sprung up overnight, and government bodies, policymakers and numerous institutions and individuals are doing their all to

counter the cataclysm in our midst. Their exertions are sincere but scattered, effective in parts but stymied by shortfalls in cohesiveness, synchronisation, and resources. The biggest deficit, though, is the lack of an integrated and collective response to a clear and present danger.

Bridging the gap between intent and action is the goal of the India Climate Collaborative (ICC), an organisation as much as a movement that is working to help the country stem the hydra-headed challenges unleashed by climate change.

A potent combine

Seeded and supported by the Tata Trusts, ICC has endeavoured since its inception in early 2020 to create an ecosystem that brings together a diverse set of stakeholders, from government bodies and corporate entities to philanthropies, research establishments, implementing agencies and communities.

The need for a unified and interconnected approach to tackle India's climate change hazards is urgent and immediate. Events attributable to climate change cost the country an estimated \$87 billion in 2020 alone, according to a World Meteorological Organization report. And an ICC-backed study by the Council on Energy, Environment and Water, a New Delhi-based research institute, has stated that 638 million people in India are at risk due to climate change and its fallouts.

"It's important to recognise that climate change exacerbates



THE ICC APPROACH

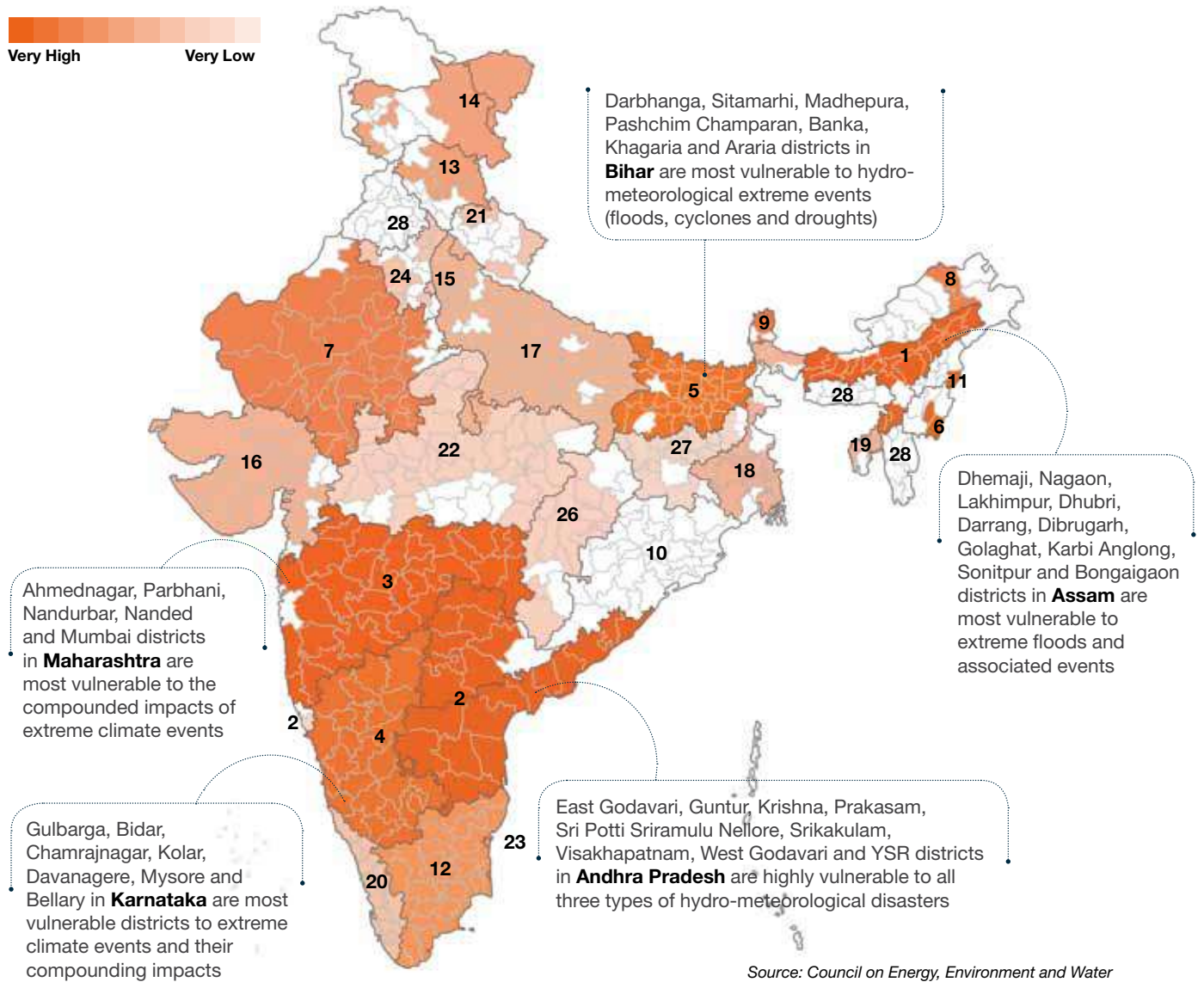
- ICC is a first-of-its-kind, India-focused organisation working to accelerate funding to, and engagement with, the climate ecosystem in the country
- It has joined hands with a diverse set of entities: governments, philanthropies, businesses, civil society organisations and research institutions
- The intent is to mobilise funding, enable scalable and high-impact solutions and foster collaboration for broad-based climate action

30+
domestic and
international
philanthropic
partners

100+
technical and
implementation
partners

25
fundable
climate action
opportunities
created

Assam, Andhra Pradesh and Maharashtra top India's Climate Vulnerability Index



existing problems of poverty among vulnerable populations,” says Shloka Nath, who heads ICC. “They tend to be the most impacted by climate-induced challenges, but they also often lack the resources needed to adapt or protect themselves.” This reinforces the point about the world’s poorest bearing the brunt of climate change, though they have done little to cause it.

ICC began its journey with a mapping of the climate change landscape in India, and it has not stopped for a moment since. Connecting with different stakeholders, bringing philanthropies and corporate donors into the fold, partnering and advocating with the government, prioritising areas for climate action, and linking up with research institutes and community

organisations — the Collaborative has worked overtime to cement a first-of-its-kind effort.

Getting the monetary piece in place has been critical for ICC. “Through our connections with a wide set of stakeholders in the climate ecosystem, we try to understand where funding really needs to flow and, based on this information, we engage with our domestic and international donor

base to fill major gaps,” adds Ms Nath. “We work closely with our donor partners to help them understand climate issues and simplify the process of supporting climate solutions.”

There are three essential elements in the ICC way. The first is incubating programmes in underserved climate change spaces. “We have worked with our network of 100-plus partners to identify, co-create and launch initiatives in air quality, land and water use, agriculture, energy and risk-assessment data,” explains Ms Nath. “Our partner network is the driving force behind our ability to translate funding into real, actionable solutions.”

A funding platform

While the ICC does not implement its own projects, it works to match donors to the solutions being implemented by their partners on the ground. “ICC is a funding platform and it is also, at the same time, about education and awareness, mobilising and building capacities,” says Ms Nath.

The second component is bringing together domestic and international donors for climate action in India – this includes Rohini Nilekani Philanthropies, Wipro, Mahindra and the MacArthur and Bloomberg philanthropies – and the third is concerned with crafting a network and a platform for the sharing of knowledge and practices.

“We have strived to bring climate action into the limelight of philanthropic funding,” says Ms



“Climate philanthropy is still nascent in India ... we are building the plane even as we fly it.”

— Shloka Nath, ICC lead

Nath. “We have fostered regional and cross-border collaboration and knowledge sharing, both of which will be vital over the next 10 years.” A broad dynamic is what ICC is after, and the broader the better.

The complexities in finding the right pathway have been many for ICC. The direction that funding must take is difficult to pinpoint, given the range of risks associated with climate change and the technical expertise required to select a particular area of intervention. The challenges with implementation on the ground have to do with cooperation and cross-sectoral partnerships.

“This is what we are addressing: high transaction costs and time involvement on the funder’s side and a limited ability to coordinate on the actor’s side,” says Edel Monteiro, ICC’s programme lead. “As a collaborative, we can solve both of these at the ecosystem level.”

ICC has a clutch of sector-specific initiatives and these are indicative of the method it has adopted. With a group of government and nongovernment organisations, in India and abroad, it is supporting the Council on Energy, Environment and Water to develop a ‘climate risk atlas’ to chart the risks and vulnerabilities confronting the country. A work in progress, the atlas will gauge climate change threats at the district and village levels to better prepare India in coping with what is to come.

Water security

In the water sector, the Collaborative has joined hands with the Centre for Social and Environmental Innovation (a subsidiary of Ashoka Trust for Research in Ecology and the Environment) to produce, using open-source data, a diagnostic toolkit that can guide and assist rural communities in improving their water security.

Additionally, ICC is supporting projects to devise cold storage solutions based on renewable energy, to reduce post-harvest losses, map and monitor air quality across India, fashion a financing solution to scale up nature-based solutions such as agroforestry, and create a roadmap to restore degraded lands through reforestation.

What ICC has accomplished is help funders clear the fog on myriad climate change issues in India, pursue scalable and sustainable climate action solutions, and get stakeholders singing from the same sheet. And, in a wider

sense, every citizen is a stakeholder in the conversations around climate action and the action it demands.

“Climate change is a systemic challenge that feeds into every aspect of the economy,” says Ms Nath. “Yet we believe change at this scale is possible, because we are surrounded

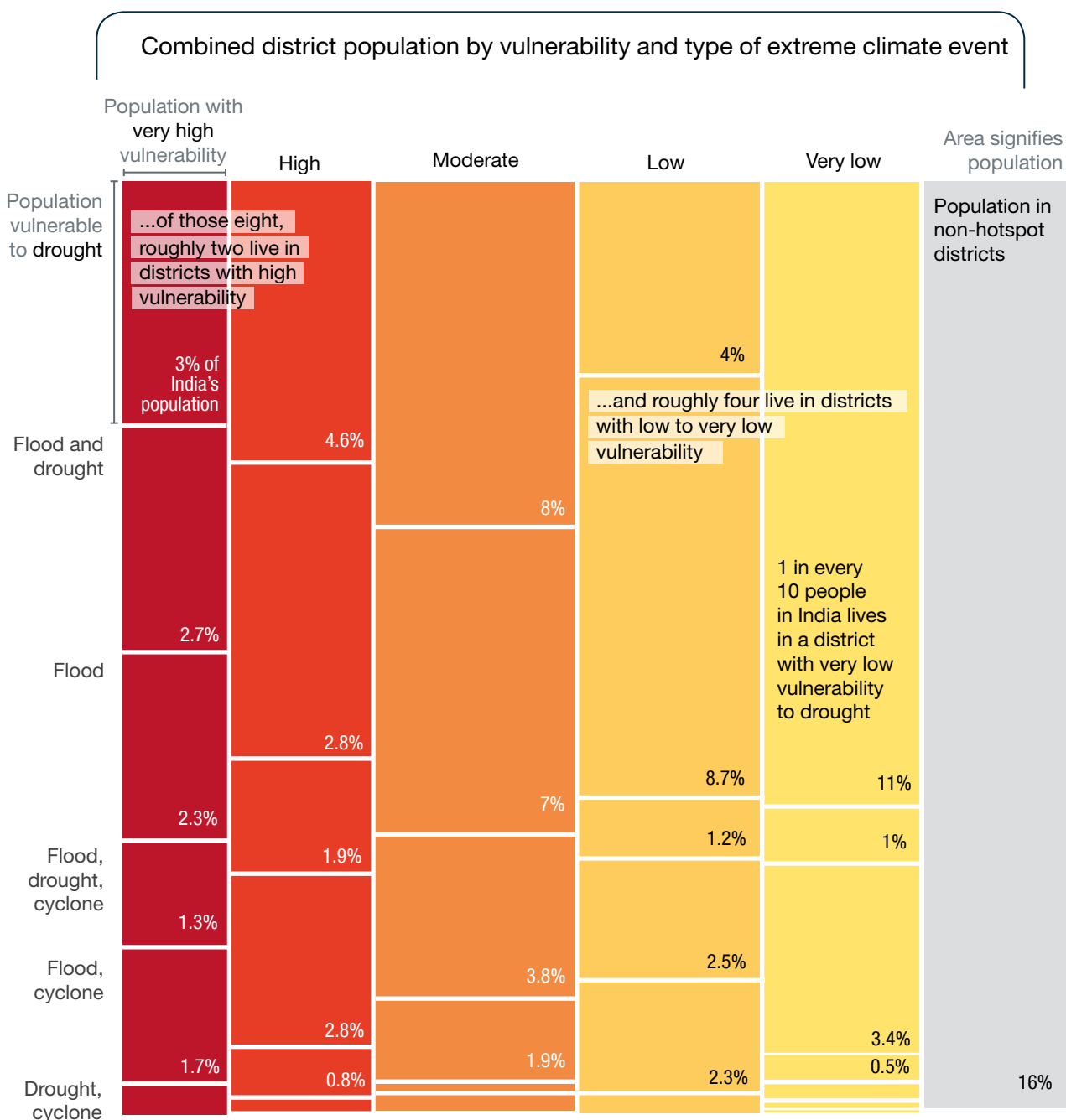
by a community of people and organisations who devote their time, energy, and resources every day to make it happen. That gives us hope.”

ICC has had a tough time navigating the choppy waves around the climate change narrative in the country. “Climate philanthropy is

still nascent in India,” adds Ms Nath with reference to the crucial funding facet. “As I often say, we are building the plane even as we fly it.”

The fact that India is the third-largest carbon emitting country in the world and the fifth

8 in 10 Indians live in districts vulnerable to extreme climate events



Sources: Comprehensive Vulnerability Assessment of India, CEEW; census of India, 2011



A farmer in Jawai in Rajasthan's Udaipur district; the poor have to bear the brunt of climate change, though they have done little to cause it; photo by Shloka Nath

most vulnerable to the ravages of climate change means that we share a dual responsibility in this country, says Ms Nath. “While citizen awareness is vital, the transformational shift we seek will necessarily involve the government, industry and philanthropies.

“We are aligned with the government and supportive of its climate goals. We are fortunate to have a government that is aggressive on climate action and is looking to take a global leadership position on it. But there are gaps between government, businesses, and civil society and we are trying to plug these. Also, we see Indian philanthropy playing a big role in promoting a homegrown model, one that takes bigger risks and

pushes for more collaboration.”

Competing ideas of what constitutes progress — the development versus emissions debate, for instance — complicate the climate change issue, but there are factors beyond disagreement.

Jeopardy junction

“We don’t have a choice about whether to act or not,” says Ms Monteiro. “In avoiding the problem, we are going against our own interests because we are the ones whose farmers are suffering droughts, whose cities are getting flooded and who are suffering heat wave after heat wave. It’s our future that’s in jeopardy.”

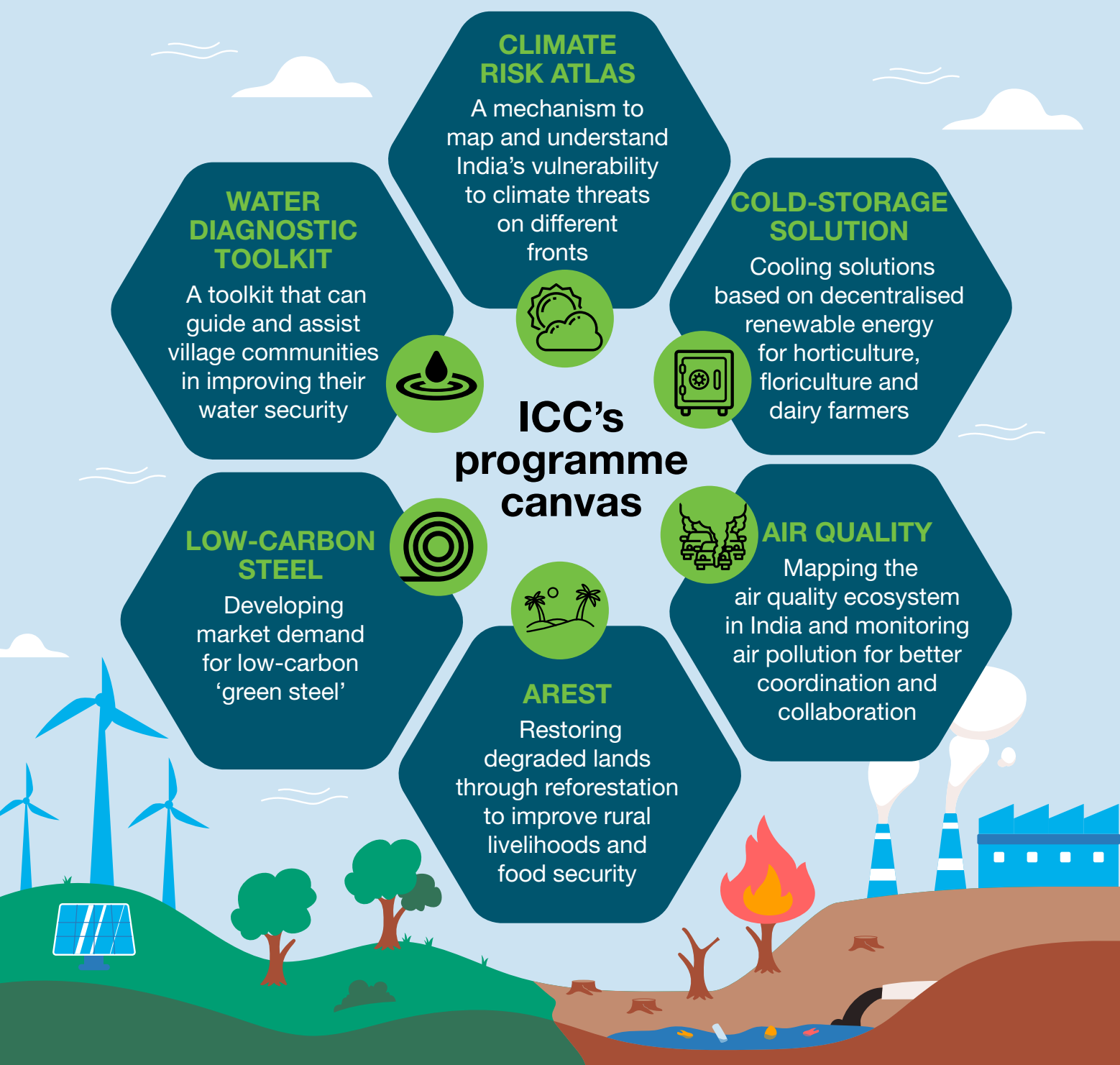
Deciding how we go about the task is equally critical. “Everything

is related to climate change, be it health, water, education, food security or farmer incomes,” adds Ms Monteiro. “Taking action on climate change gives us the opportunity to restructure systems that are inequitable and create better standards of living for our country and our planet. We can use climate action as a platform to fix a broken system and design something better in its place.”

Undertaking the responsibility as a collective will surely pave the path to imagining and creating a better India, a climate-resilient country that has safety nets as well as enduring solutions for its communities and its people. ICC expects to play a full role in this voyage. ■

Counting the gains

The time for doubting, denying and dilly-dallying is long past. Climate change is here to stay and India is among the countries most at risk of its horrendous consequences. The only certainty is that things are going to get worse, which means preparing for a future where the spectre of climate change becomes ever more real and the need for climate action more pressing than ever. An effective countering of the crisis demands a cohesive and combined effort from government, industry, philanthropies and civil society. To lend a hand in creating and cementing an ecosystem of stakeholders that can make this happen is the mission of the India Climate Collaborative (ICC), and there are different strands in the story of how its endeavours are unfolding.





A house in Tamil Nadu after an assault by the sea; cyclones and other extreme weather events are an inevitable consequence of climate change



Climate risk atlas

An atlas comes in handy when setting out to configure strange terrain. The ‘climate risk atlas’ (CRA) being developed by the Council on Energy, Environment and Water (CEEW), with support from ICC, aims to do something similar, only this is a charting of more than just geography.

CRA is a tool to map and understand India’s critical vulnerabilities to climate risks, such as extreme weather events, urban heat stress, water and soil degradation, crop loss, vector-borne diseases and biodiversity collapse.

When completed in 2023, the atlas is expected to provide a comprehensive climate risk assessment of India at the district level. The intent is to identify, assess and project the threats the country faces from climate change, and thereby enable informed decision-making and better preparation at the national, sub-national and community levels.

The entities involved in the effort are a pointer to the detailing and coverage that CRA is aiming to offer. CEEW, a Delhi-based not-for-profit policy research institute, is compiling the atlas in partnership with the National Disaster Management Authority, the Coalition for Disaster Resilient Infrastructure, the European Union, the United Nations Office for Disaster Risk Reduction, the World Business Council for Sustainable Development and the Indian Space Research Organisation.

The atlas builds on the sterling work that CEEW did while putting together a ‘climate vulnerability index’ — released in October 2021 — that revealed the extent of the climate change dangers staring India in the face. CRA itself has attracted attention at home and abroad. The state governments of Odisha and Rajasthan are looking to incorporate analyses

from the atlas in their disaster management and resilience planning, and the Brazilian government has expressed interest in replicating the exercise in their country.

The logic driving the drafting of the atlas is clear. “The climate risks confronting India are well understood in a generalised kind of way, but specific and localised climate risks, the implications of other factors, and appropriate solutions are not available. We end up talking in circles,” says Edel Monteiro, programme lead at ICC.

The atlas can, considering the lacunae, provide the basis for a more knowledgeable and precise response to climate change. “The actual sustainability and impact of solutions will be realised only if we understand, at the district and subdistrict level, what the specific climate risk is and what the specific socioeconomic and landscape issues associated with the risk are,” adds Ms Monteiro. ■



Water diagnostic toolkit

Among all the elements that will be affected by the pernicious consequences of climate change in India, water is where the gravest emergency has surfaced. Changing weather patterns and frequent droughts have added to a welter of long-worsening woes, primary among them groundwater depletion and contaminated sources. To term the country water-stressed is likely an understatement.

Substantial investments, grand schemes and standout interventions notwithstanding, India continues to slide deeper into a water crisis. Skewed development priorities, a scarcity of local solutions and erratic monsoons have combined to deepen this crisis. One thing's for sure: the search for answers has to be localised.

ICC has taken that pathway while supporting the Centre for Social and Environmental Innovation, a subsidiary of Bengaluru-based research

organisation Ashoka Trust for Research in Ecology and the Environment (ATREE), to develop a 'water diagnostic toolkit'. Open-source data is the raw material the toolkit employs to create digital aids that enable community water management programmes.

The overall objective is improving rural water security through water budgets and plugging data and capacity gaps. The toolkit generates and validates data to estimate watershed reserves — in a village, for instance — fills in the missing data layers, and develops training material for better-informed solution designs.

Jaltol, a digital plugin developed as part of the toolkit, was piloted in November 2021 by ATREE. With a mechanism that simplifies water balance estimation at the community level, Jaltol was crafted to requirement after extensive consultations with people on the ground.

Localisation is the toolkit's primary attribute and with good

reason. "Water has been heavily funded through government schemes and philanthropy over the last few decades but the crisis has actually worsened," says Ms Monteiro, ICC's programme lead. "That's because it was handled at a broad-stroke level or with a solution-first outlook, without necessarily considering local contexts and a watershed approach."

The effect climate change has had on water quality and availability is undoubted, but there's more to it. "Water and climate change cannot be separated in India," says Ms Monteiro. "While climate change is not the cause of our water crisis — we have managed to engineer that all on our own — it is a threat multiplier and the problem will be exacerbated as monsoons become more intermittent and floods more common.

"What the toolkit is aiming to do is to decentralise access to data and thereby enable locally informed solutions." ■



Cold-storage solution

Keeping it cool is of the essence for farmers engaged in horticulture, floriculture and dairy. The ability to do this effectively is a determinant in how successful their businesses become. That's the space ICC is working in through its backing for cold-storage solutions based on decentralised renewable energy (DRE).

ICC has funded the SELCO Foundation, a Bengaluru-based nonprofit, in piloting three community-led DRE cold storage pilot projects in Odisha. An increase in farmer incomes and a decline in post-harvest losses are the expected outcomes. Beyond that, DRE-based cold storages enhance farmer resilience while cutting the emission load of conventional centralised systems.

Spreading this solution is far from easy, though. Farmer access to cleaner cooling is inadequate due to high upfront costs, access to financing is difficult and then there's the market linkage factor to contend with. ICC is attempting to get around these barriers by directing philanthropic funding to support a transformation of the market for DRE-based cold storages.

That would mean strengthening the operating ecosystem by targeting levers related to finance, policy and market linkages. ICC's cluster-



A cold-storage unit based on decentralised renewable energy in an Assam village

based ecosystem approach will be piloted soon in select agricultural regions and it will explore how small-holder farmers can access affordable cooling solutions.

There are multiple entities that come into the picture in the farm-to-fork value chain and rarely, if ever, do they interact with one another. "They don't have the time or the luxury to collaborate and coordinate — that's where we come in," says

Ms Monteiro, programme lead at ICC. "We look at what's missing in the conversation."

That may mean talking to NABARD (National Bank for Agriculture and Rural Development), state agriculture departments and the technology providers, adds Ms Monteiro. "The idea is to understand which type of solution is needed, in which village for which crop. It's typical of how we facilitate collaboration." ■



AREST

Restoring degraded lands in peninsular India through reforestation and landscape restoration — that’s the idea behind ICC supporting the Alliance for Reversing Ecosystem Service Threats (AREST).

The Alliance consists of diverse organisations, including Ashoka Trust for Research in Ecology and Environment, the International Center for Research in Agroforestry, Columbia University, the Environmental Defense Fund and the Foundation for Ecological Security, each bringing its unique expertise on restoration research and action. AREST is also supported by the Packard Foundation and the Climate and Land Use Alliance.

Enhancing the country’s carbon sink is the big goal in an initiative that also aims to improve rural livelihoods and food security and policies for managing community-owned land and resources.

The Alliance has been working towards developing a roadmap to restore landscapes across four types of ecosystems: open and natural habitats, land infected by invasive species, degraded agricultural lands and riparian zones across India’s semi-arid and sub-humid zones.

The Alliance has identified and mapped the type and extent of degradation across landscapes and has recommended climate-resilient economic pathways.

The data gathered is being extrapolated to create a scientific and socially responsible roadmap that is expected to support government decision-making and targeted investments for the reversal of land degradation. The roadmap will also provide suitable sites for interventions and suggest a set of tools, approaches and implementation projects.

“This scoping has identified about 11 million hectares of degraded agricultural land with the potential for restoration in peninsular India,” says Shloka Nath, who heads ICC. “Through interventions like agroforestry we can meet national targets on green cover without compromising on food security or forest rights.” ■



The Alliance is developing a roadmap to restore landscapes across four types of ecosystems



An overloaded autorickshaw in New Delhi, which has been placed at the top of the heap, for the fourth successive year, in a listing of the world's most polluted capitals



Air quality

CC has collaborated with Sensing Local, a Bengaluru-based 'urban living lab' that works to improve the state of the environment and public health, to map the air quality ecosystem in India. The intent is to foster partnerships among diverse stakeholders and ease the road to improving air quality at scale. The mapping will result in the sharing of insights that can inform individual and collective efforts.

The mapping exercise tapped 352 entities working in the air quality sector in India and classified them under four heads: geographic distribution, diversity of entities, sectoral focus and modes of engagement with air quality. ICC is currently in the process of developing a shared platform — the India Clean Air Connect — to help stakeholders collaborate across the ecosystem, align on goals

and coordinate action in different sectors and regions.

ICC has also supported the Navi Mumbai-based Waatavaran to install low-cost air quality sensors and build local awareness on air pollution in five cities in Maharashtra: Ulhasnagar, Chandrapur, Aurangabad, Latur and Solapur.

These sensors provide citizens with access to real-time data on air quality. Additionally, the initiative builds capacity within communities to tackle air pollution by mapping their local air quality landscapes, tracking the implementation of clean air projects and reaching out to a variety of stakeholders and decision-makers to sustain local clean air movements. This programme aims to build a replicable model for air quality monitoring and advocacy for clean air.

“Our approach on air quality is about seeding new spaces,” explains says Ms Monteiro, programme lead at ICC. “As regards the players, this is an ecosystem that has mushroomed organically and very quickly across India. Those operating here have not had the time to coordinate with one another; that’s why the mapping, so that these players, who are spread all over India, can connect and inform one another about their work.”

“Air quality is an issue that requires a variety of stakeholders to work together on solutions, among them policymakers, citizens and civil society organisations,” says Ms Nath, who heads ICC. “We have to ensure reliable air quality data, systematic policy development, public awareness and, crucially, an increase in funding through philanthropy.” ■



Low-carbon steel

ICC has tied up with the Climate Group to develop market demand for low-carbon steel in India. To decarbonise steel production in India implies scaling several emergent manufacturing technologies whose cost curves are still very high. Such actions also entail a higher cost of (climate) capital that will erode profitability and go against national desire to remain globally competitive.

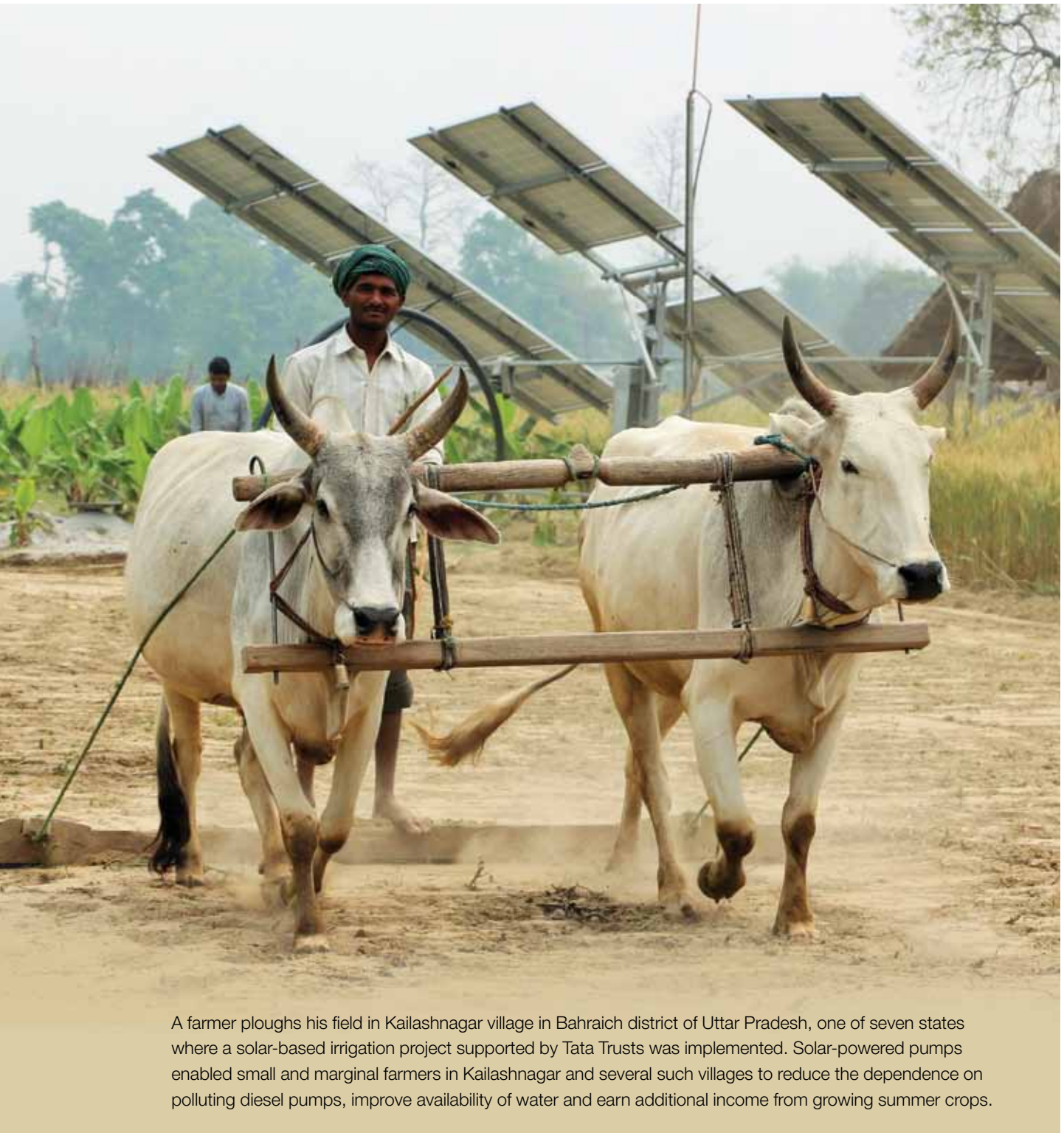
Given this context, India SteelZero was seeded by the ICC to begin with building awareness and plugging evidence gaps on the demand outlook for low carbon steel in India. The

effort will also involve enrolling companies in the steel value chain to commit to procurement targets, but first, deliberate on the demand outlook, agree to procurement guidelines via working groups and eventually plug into the global SteelZero Platform for steel consumers to aggregate and create a market demand for net-zero steel.

“We have kicked off with this project to accelerate cross-industry dialogue and stimulate market demand for green steel, as it is called. It’s a market that does not exist as of now and it’s a heavy piece of work,” says Ms Nath, who heads ICC. ■

Keeping the faith

The Tata Trusts have, over the years, been deeply involved with issues related to climate change, ecology and the environment. People and communities have been at the centre of resultant efforts in renewable energy, clean cooking, coastal salinity and disaster relief.



A farmer ploughs his field in Kailashnagar village in Bahraich district of Uttar Pradesh, one of seven states where a solar-based irrigation project supported by Tata Trusts was implemented. Solar-powered pumps enabled small and marginal farmers in Kailashnagar and several such villages to reduce the dependence on polluting diesel pumps, improve availability of water and earn additional income from growing summer crops.



(Clockwise from left) **A crop management** demo in Bhadiyadar village in Gujarat's Junagadh district, where a Tata Trusts-supported programme to combat coastal salinity ingress has made a difference; **a family in** Gujarat's Gir Somnath district that increased their income from agriculture even while farming in saline conditions; **a training session** for farmers in Bhadiyadar village; and **members of a** self-help group from Puri in Odisha at a meeting to discuss measures to stem coastal erosion.





Laxmi (above), a resident of Gopalpura village in Rajasthan's Dhaulpur district, was among those who benefitted from the 'clean cooking stove project', a Tata Trusts initiative that works to reduce the use of unhealthy cooking stoves. A group of women social entrepreneurs (right) in Chowankhan, a village in Gujarat, at an event to promote the use of clean cooking devices.







Images from relief and rehabilitation efforts by the Tata Trusts in Karnataka (left) following the floods in the state in 2019, and in Kerala (above and right) a year earlier, when a deluge laid waste to lives and livelihoods. The Trusts also pitched in with support when the monsoon wrecked havoc in Assam in 2019 (below).



‘We shape ideas, we build understanding’

Shalini Bharat has been through an “eventful” three years, to put it mildly, but the director and vice chancellor of the Tata Institute of Social Sciences (TISS) is not letting the challenges cloud her tenure at the helm of one of India’s standout centres of learning. Being a trained psychologist has helped.

Matters of the mind aside, Prof Bharat has a well-earned reputation for her work in the field of health. She speaks to Christabelle Noronha about TISS — which she joined as a lecturer nearly four decades back — the importance of the research and field action it undertakes, and her vision for what is more than an educational institution. *Excerpts from the interview:*

What were your goals and dreams when you joined TISS? How has the journey been for you and how has the institution changed during this period?

When I came to the Institute in 1984, fresh after my doctoral studies, I was very happy because I was joining a research unit. Research was primary here and somewhere deep down I’ve always believed that the role of a researcher is crucial in a university context. I think I did achieve my goals in some modest ways.

It has been an extremely satisfying journey so far. I have been able to transcend my disciplinary boundaries and employ a multidisciplinary approach in my research. TISS offered me that opportunity; unlike in a conventional university, there were so many new things happening here. Coming from a straight-jacketed setup, I was thrilled to be here.

TISS has, of course, changed in several ways during the time I have been here. Much of this change has unfolded in the last 15 years and we have grown in size, scope and scale since then. We have restructured and expanded our academic programmes; we used to have three-four major ones and now we offer in excess of 50. We had 250-300 students graduating in 2005 and the number now is about 1,600.

“Becoming big has had several advantages for us; it’s clear that we would have been just a speck in the education sector if we had remained small.”



The Institute has also, quite importantly, grown big in the vocational stream. We have 34 programmes in 16 industry sectors, a student body in excess of 5,000 and partnerships with more than 3,000 companies and institutions. We have gone international as well with our programmes: we have collaborations with universities in Europe, North America, Australia and South Africa, and we have started getting international students.

Health is a theme that you have paid particular attention to while at TISS. What drew you to this subject and how important is research here in the context of India and the social objectives of the Institute?

As a psychologist, I was researching various family-focused themes when I was asked – this was in the mid-1990s – by UNAIDS in Geneva to consider presenting a proposal to study the household and community response to Aids in India. It was the early phase of the disease and there was a lot of fear and anxiety and misinformation about it. I sent out this proposal which got accepted and I began to work on HIV-Aids, women’s reproductive health, the health of marginalised communities, youth health and wellbeing, and so on. I got more and more interested in public health.

My research on HIV-related issues was somewhat impactful, I should



Children in rural India are among the beneficiaries of research studies in public health, says Prof Bharat

say. In the mid and late 90s, it was the only research of its kind in the country to put the spotlight on women's status in the HIV-Aids epidemic. Nobody had looked at this dimension before and my research brought out the gender aspects, the risk and vulnerability not just of women but also homosexual men, transgenders and female sex workers.

As you mentioned, TISS has grown in size and student intake quite quickly over recent times. What kind of advantages have been secured as a result and have there been any stumbles? How difficult is it to ensure that quality keeps pace with quantity?

Becoming big has had several advantages for us; it's clear that we would have been just a speck in the education sector if we had remained small. It was the best time to restructure and grow, to the extent that we are now able to offer more than 1,500 professionals annually to the development sector. TISS graduates are appreciated across many sectors and people generally have good things to say about them.

A much larger student body has made us eligible for inclusion in the national ranking framework and for global rankings too. Additionally, because we have a multi-campus structure, we enjoy high student diversity with respect to the backgrounds our students come from, and having programmes in multidisciplinary fields allows us to cover a variety of themes of national and global relevance.

How is the Institute faring in terms of research output and field

action, both of which are vital to its wellbeing and relevance? And how does it compare in this regard with its peers around the world?

TISS' research output has been good and distinctive. We have diversified over the years to newer themes, among them public health, climate change and sustainability, social entrepreneurship, water and natural resources governance, disaster management, migrants and refugees, domestic violence, even issues related to sexual minorities. And there is a lot of research happening in areas with policy implications.

What's important here is how these research studies become relevant for the state and for national-level initiatives, whether it be for starting a livelihood programme for forest-dwellers, mental health programmes for school administrators or introducing counselling in the health sector. TISS is also a pioneer in developing and implementing what we call field-action projects, which are about developing responses to social issues.

Finances have been a concern for TISS despite the inflow of CSR (corporate social responsibility) funds. Why is that?

CSR is not a funding source for us. Our full funding comes from the Ministry of Education through the University Grants Commission and, of course, we have been getting a lot of support from the Tata Trusts. But, yes, we are facing a funding crunch, primarily because the money we get is not adequate, and it does not arrive in time. We have been receiving less funds in the last two years than what we sought and this has added to the Institute's difficulties.

We are making sustained efforts to get our full grant because that is the lasting solution, but we will have to approach more funders, and a diverse set of funders at that, to expand further. This means a whole lot of work for us. We are also developing internal mechanisms for self-financing programmes and the kind of initiatives where we can raise our own resources.

Social issues relating to gender, religion, caste and, in general, poverty seem to be bedevilling India like never before. What's the role that TISS and similar entities can play at this juncture to help the country become more progressive?

Universities have a critical role to play here. Besides a liberal education, there needs to be more credible research and evidence to counter misconceptions, the all-round polarisation we see, to explore issues of marginalisation, to study inclusivity, and to influence policies and programmes.

We also need to have more and more quality research that's indigenous, especially at the regional and sub-regional levels. Sometimes we find that a lot of quantitative data is put out but what can explain those numbers is crucial. Besides big data research, TISS carries out a whole lot of qualitative research that explores issues in depth. We can certainly do more, and we need to put our work in the public domain and in the mainstream. This we don't do enough of.

“We are facing a funding crunch, primarily because the money we get is not adequate, and it does not arrive in time”



Shalini Bharat with former TISS director Armaity Desai, the only other woman to helm the institution

TISS surely is more than just an educational institution. Does it make sense for it to take an activist position on social issues?

There is so much that we do besides imparting education and giving out degrees. We shape ideas, help build understanding and do a lot of advocacy around social issues. That said, I don't think we have to be in activist mode to do all this. As social researchers, we share the knowledge that we create, we share the data, and we use that data to say what has to be said.

My vision is for TISS to be a global leader in social science education, to undertake research that has real value and application for social transformation, to impact policies and programmes. My vision includes a greater democratisation of education in India. I would like to see the Institute be a destination of choice for people from across the country, from the global south and from our own South Asia region.

How taxing is the responsibility of heading an institution like TISS and what is your coping mechanism at work and beyond? Does being trained as a psychologist help?

It has been really taxing. I will not mince words in saying that because it has been an eventful three-plus years since I've been in this position. Initially there were student protests over one issue or the other, then there were plenty of internal issues, then came Covid and now our financial insecurities. In normal situations, my stress busters are reading, music and good cinema, all of which have become luxuries. Peer-level interaction is the best I can get currently.

Being a trained psychologist helps — sort of — in identifying the sources of stress, in not crucifying yourself for everything. But that does not bring you pleasures such as time with the family; I can't remember when we last went for a holiday or a proper outing. Covid is partly to blame, in that that it has made us work so much harder. On the brighter side, the pandemic-induced lockdowns have allowed me to be at home more often, to have meals together with my family. That has been a blessing. ■



Vezokholoü Chüzho, from Thipuzu village in Nagaland's Phek district, has made her pig-farming venture into a winner

Against the odds

The North East Initiative Development Agency has dug deep to cope with Covid-19 times and keep its community-centric projects on track

There was a time when Vezokholoü Chüzho struggled to keep her home fires burning. Today the 48-year-old mother of six from Thipuzu, a picturesque village in Nagaland's Phek district, earns about ₹300,000 a year, welcome money for a family that once got by with what grew on their modest patch of farmland.

The story of how Ms Chüzho turned the tide is tied to a piggery development programme fostered by the North East Initiative Development Agency (NEIDA), an

associate organisation of the Tata Trusts. Ms Chüzho connected with the programme through an awareness workshop conducted by the Chakesang Women Welfare Society, a local NEIDA partner, and there was no looking back.

Beginning with a couple of pigs in her backyard and precious little knowledge of breeding and feeding practices or veterinary care, Ms Chüzho has progressed to rearing nine breeding sows and two fatteners. Her sows produce about 40-50 piglets annually, making Ms Chüzho one of the top pig

farmers in the project. With the outlook good, she and her husband, Sevohu Chüzho, are now planning to invest in a fruit-sapling nursery.

The workshop that got Ms Chüzho started was about a partnership model for piggery development that sought 50% investment from the community, with the other half coming from NEIDA. It's a model that has been taken to heart by some 16,750 households in the three states where the Agency operates: Nagaland, Mizoram and Arunachal Pradesh.

Piggery promotion is NEIDA's flagship effort for reasons of tradition, food security and economic viability (most rural families in Arunachal Pradesh, Mizoram and Nagaland earn an income from backyard piggeries). Drinking water and sanitation, agriculture, livelihoods and sports are also on the agenda for NEIDA, which has

covered 1,168 villages and touched the lives of 79,019 families since being set up in 2012.

NEIDA has taken a community-centred tack while working to ease some of the most pressing, and perennial, problems facing the poor in the Northeast. Livelihood improvement, water initiatives and youth engagement are crucial elements here, and bringing village communities together an essential feature in wresting gains.

This is not easy at the best of times and it became a whole lot tougher when the first of India's pandemic-induced lockdowns took hold from April 2020. The primary concern in NEIDA's offices in Kohima (Nagaland), Aizawl (Mizoram) and Naharlagun (Arunachal Pradesh) back then was about keeping the pandemic from wrecking years of social development work it had undertaken in the region.



NEIDA's sports promotion activities have been a boon for badminton in Mizoram

As with so many others, individuals as well as institutions, NEIDA persevered and found ways to keep its programmes going. The situation was particularly difficult with the piggery project. “Our team members could not travel and the livestock owners were cut off from critical veterinary services and food,” says Lalrinkima Bawlte, NEIDA’s programme coordinator.

Most of NEIDA’s interventions are field-based and the pandemic punched a huge hole in its operational flexibility. The Agency’s teams had limited access to the communities they served, leaving farmers, pig farmers and orchard growers starved of input supplies and markets for their produce. Sports promotion activities – in excess of 1,600 children are enrolled in NEIDA’s badminton initiatives alone – came to a standstill.

Keeping panic at bay

NEIDA’s people worked overtime to stay in touch with communities dependent on direct field visits and guidance. “Relationships built over time and our strong presence in the community helped keep panic at bay,” adds Mr Bawlte.

Similar to the piggery programme, NEIDA has structured its work with other initiatives in a manner that addresses the entire value chain. “It’s important to know that life for rural households here is not managed by a single paycheque. People depend on multiple sources of livelihood for their income,” explains Sentimongla Kechuchar, NEIDA’s regional manager for Nagaland.

Yona Benso, a 44-year-old from Chendang village in Nagaland’s Tuensang district, is an example of how this approach spells out on the ground. Mr Benso could barely make ends meet with his small timber and firewood business but he was not convinced about getting into agriculture to earn some extra income. He

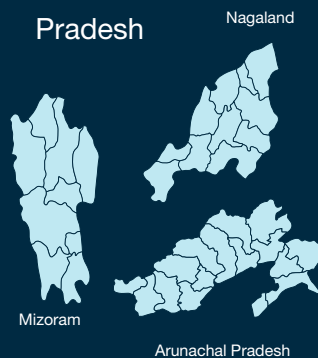


Northeast in the frame

The North East Initiative Development Agency grew out of the North East Initiative, set up by the Tata Trusts in 2008 to address the social development needs of a region struggling with multiple challenges.

THE SPREAD

1,168 villages
in Nagaland,
Mizoram and
Arunachal
Pradesh



THE REACH

79,019
households
supported
through piggery
development,
agriculture,
alternative
livelihood
opportunities, water
and sanitation
projects, and sports





Darchuailovi of Chhingchhip village in Mizoram's Serchhip district at her backyard piggyery

changed his mind when he saw how farmers in his village had benefitted by doing precisely that.

Mr Benso signed up for a training session and also joined a farmers group. But with no cash to invest, he was unable to expand his farm and could grow just enough to feed his family. That's when the farmers group stepped in and helped him secure a loan for ₹30,000. That was the turning point. Mr Benso now earns more than ₹200,000 annually from selling vegetables and kidney beans.

Water is another area that NEIDA concentrates on. Springshed management is a vital part of its water, sanitation and hygiene programme, and this is a big benefit for hill communities almost entirely dependent on springs for their water needs.

The initial learning on this front happened through a pilot project in Nagaland's Tuensang district in 2012-13. Lessons from this pilot were scaled up to cover 100 villages in partnership with the Nagaland state government and technical support agencies.

Springing to life

One of the places that benefitted from the intervention was Enhulumi in Phek district. The village's seven springs had been getting steadily depleted for nearly 15 years, leading to acute water shortage. The NEIDA team focused on rejuvenating one of these springs. Experts were roped in to treat the selected spring catchment area and the community participated actively in the effort. By March 2021, water flow had increased by 70% and the spring now provides drinking water for the entire village and serves farmers too.

Collaborative networks — involving village councils, local leaders and government bodies and officials — have been a key factor in the success of many of NEIDA's endeavours. And getting the community to adapt to change has been its biggest achievement. This has taken many forms, be it with orchard owners adopting orchard management practices, small homes being converted into homestays to drive tourism or getting youngsters engaged in sports.

The past two years have shown what it takes to turn adversity into opportunity and that is an abiding lesson for NEIDA. Its target for the next five years is to cover at least 30,000 more households through the livelihood programme and to provide safe drinking water to an additional 10,000 families. Given the Agency's track record and the receding threat of Covid-19, these milestones could be reached ahead of time. ■

By Arundbuti Dasgupta



Alumni from the 2019-21 cohort of the CETE masters programme

Class apart

Teachers and teaching have primacy in an effort that is sparking worldwide interest in how educators are educated

When Smruti Shovna joined a pharmaceutical firm back in 2018, she had her sights on a career in microbiology research. Her experience turned out to be an eye-opener. While working at the company, she realised that the fresh graduates who came on board did not understand even the most basic of scientific concepts. Clearly, there was a problem with the way they had been taught.

Ms Shovna got further convinced of the learning deficit when she evaluated conventional teacher preparation programmes. The style of teaching during

the mandatory Bachelor of Education (BEd) course was, she found, inherently flawed. “The focus was on rote learning to pass exams rather than on comprehension,” she says, showing up a particularly weak spot in India’s educational setup.

The doors to a different, and finer, perspective on pedagogy opened up for Ms Shovna when she enrolled at the Centre of Excellence in Teacher Education (CETE), an independent centre at the Tata Institute of Social Sciences (TISS) that is designed to strengthen the knowledge and skills of aspiring and current teachers, as well as teacher-educators – those who teach

New perspectives

New Delhi-based Ashu Threja has been a teacher-educator for 12 years and was a schoolteacher for a decade before that. Yet it's only in the last year — after a stint at the Centre of Excellence in Teacher Education (CETE) — that she has found her profession more fulfilling. “Being at CETE has taught me how to become a practitioner who learns, explores and reflects,” she says.



Ashu Threja says the CETE course has enabled her to learn, explore and reflect

Teacher education in India has been largely disconnected from modern teaching methodologies and research. “Before CETE launched one, there was no formal programme for teacher-educator development in India,” says Mythili Ramchand, the professor who leads the programme.

The Centre’s postgraduate certificate programme in ‘contemporary education perspectives and research’ was launched in 2017 with two aims: to bring educators up to speed with the latest trends and learning in teacher education and to bolster research capabilities.

Ensuring that teachers are viewed as professionals who need reskilling is a priority for CETE. “We teach educators about the complex cognitive task that is teaching and the need to engage student-teachers in active learning pedagogies,” adds Ms Ramchand.

In keeping with CETE’s vision for education, many of its modules are available for free on TISSx, its learning platform. There is more to all this than money and fees, and Ms Threja is an example. “After all these years, it’s like a new beginning for my own education,” she says of her experience with the relearning that has changed her professional life. ■

teachers how to teach. “CETE’s student-centric focus equips us to become better educators,” says Ms Shovna.

And better educators are what India urgently needs, given that they are at the heart of what is — with 9.7 million teachers and 248 million students — one of the world’s largest schooling education systems. The availability of teachers is a concern too: India faces a deficit of one million and counting.

Reforming this system has been a slow work in progress, even after the ground-breaking Right to Education Act (RTE), 2009, came into force. The intent behind CETE is to help bring about education reforms that will strengthen the implementation of the Act.

Transforming education

Started by TISS in 2016 as the Centre for Education Innovation and Action Research (CEIAR), CETE was created in 2018 with the Tata Trusts as its founding partner. The Centre offers long-term post-graduate programmes and short-term certificate courses that cater to qualified teachers and teacher educators already working in schools and teacher education institutions. The mode of instruction varies from physical classes to a blended, or purely online, model that uses a digital learning platform called TISSx.

More than 19,000 ‘student educators’ have enrolled with CETE for its online courses, which run in English, Hindi and a host of regional languages. Some 5,000 mostly government schoolteachers — the majority of them from Mizoram, Chhattisgarh, Rajasthan, Telangana, Assam and West Bengal — have been trained through certificate courses and the Centre has also conducted more than 250 workshops and research seminars.

CETE’s courses are free of cost for government schoolteachers, with the fees being borne by the state governments

deputing them or by philanthropies and organisations such as Unicef. A good number of learners enrol in an individual capacity as well.

Reimagining teacher education in India, as CETE has tried to do, is a tricky task. Random reforms and poor investments have not helped and then there is the problem of perception. Teachers are seen as ‘technicians’ whose primary job is to help students pass exams, not necessarily to ensure that they learn about the world around them.

Given the narrow view of their responsibilities, it’s no surprise that many teachers are out of sync with contemporary pedagogy and its practices, and even the role of technology in improving education outcomes. A 2021 report by CETE and Unesco found that much of teacher education in India is conducted at below-par private colleges. Fostering teachers in special, vocational, arts and music education, or quality research, gets precious little attention.

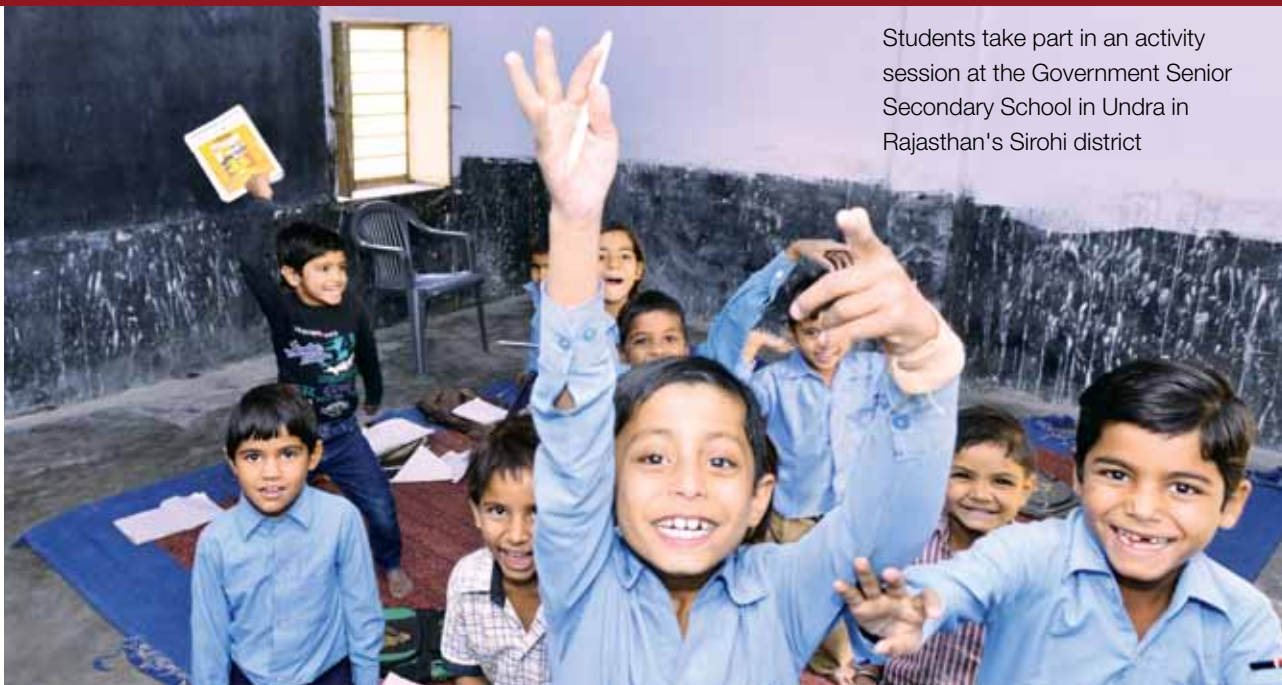
CETE has attempted to tackle these issues by contributing to policymaking in the sector; building better career pathways for teachers; crafting partnerships with stakeholders in the system, especially governments; and bridging the research gap in education. “There isn’t much commitment to rigour in the sector because people do not believe that working with teachers produces change,” says the Centre’s chairperson, Padma Sarangapani. “That’s why CETE needs to exist.”

CETE’s pedagogy takes the road less travelled in teacher education in India. Its integrated BEd-Masters programme has elements like adaptive English, which describes how different cultures use the global language to communicate, and theatre classes for new teachers to overcome stage fright. Field practice and experience are critical in long- and short-term courses, with postgraduate students getting to intern for a year in designated schools.

In the short-term certificate courses, working teachers employ a framework



Students and their teacher undertake a science experiment at the government school in Ram Nagar in Jaipur



Students take part in an activity session at the Government Senior Secondary School in Undra in Rajasthan's Sirohi district

known as the 'constructivist use of technology in learning and teaching' (CTLT) to enable students to gain knowledge through experience. For instance, a teacher can explain the idea of pollution better by guiding students to measure contaminants in a local water body. Similarly, toy-making, games and experiments are used to simplify complex subjects.

Learning from mistakes

Teachers training at CETE are expected to learn through mistakes by using reflective practices. Online 'communities of practice' have been formed to help participating teachers connect and collaborate with faculty and peers. "Some teachers call this 'rich people's pedagogy'," says Amina Charania, an associate professor at the Centre, "so we cite instances such as children from marginalised sections fashioning projects of their own. That converts them."

Thinking out of the box is a constant with CETE, an example being the 'CTLT digital badge' – rolled out with support from the Open University, United Kingdom – wherein teachers take the course in modules and earn badges along the way as markers of their progress.

CETE's efforts have been gaining recognition from different state governments in India and from abroad too.

The digital badges system has been piloted with about 500 teachers in Assam and Unicef has approached the Indian government to impart the CTLT component to 4,000 teachers in 10 states (the project has already been launched in three states).

CETE also designed, in 2017, a two-year postgraduate teacher-educator initiative for 40 teacher-educators in Afghanistan. While a part of the course was delivered by a CETE team in Kabul, the learners also visited the TISS campus in Mumbai.

CETE is closely involved with two pedagogy programmes nurtured by the Tata Trusts: the 'connected learning initiative' (CLIX) and the 'integrated approach to technology in education' (ITE). CLIX has received a grant that will take the programme to Tanzania, Nigeria, and Bhutan, while ITE's strategy of 'each one teaching another' is slated for implementation in the Maldives, Afghanistan and Nepal.

"Improving the standards of pre-service teacher education and transforming in-service teacher education through collaboration and technology are the core of CETE's strategy," says Ms Sarangapani. It's the kind of endeavour that India's teacher education system is crying out for. ■

By Nikhil Menon

It's sweeter with schooling

Bringing the children of migrant workers in Maharashtra's sugar belt back from the cold and into the formal education system has fetched encouraging results

The snack boxes come out quickly when the bell rings for the mid-morning break at a government school in Baramati in western Maharashtra's sugarcane country. The kids dig into their food but one child is only pretending to eat. The boy has nothing in his box, and is embarrassed that his classmates will notice. But somebody does.

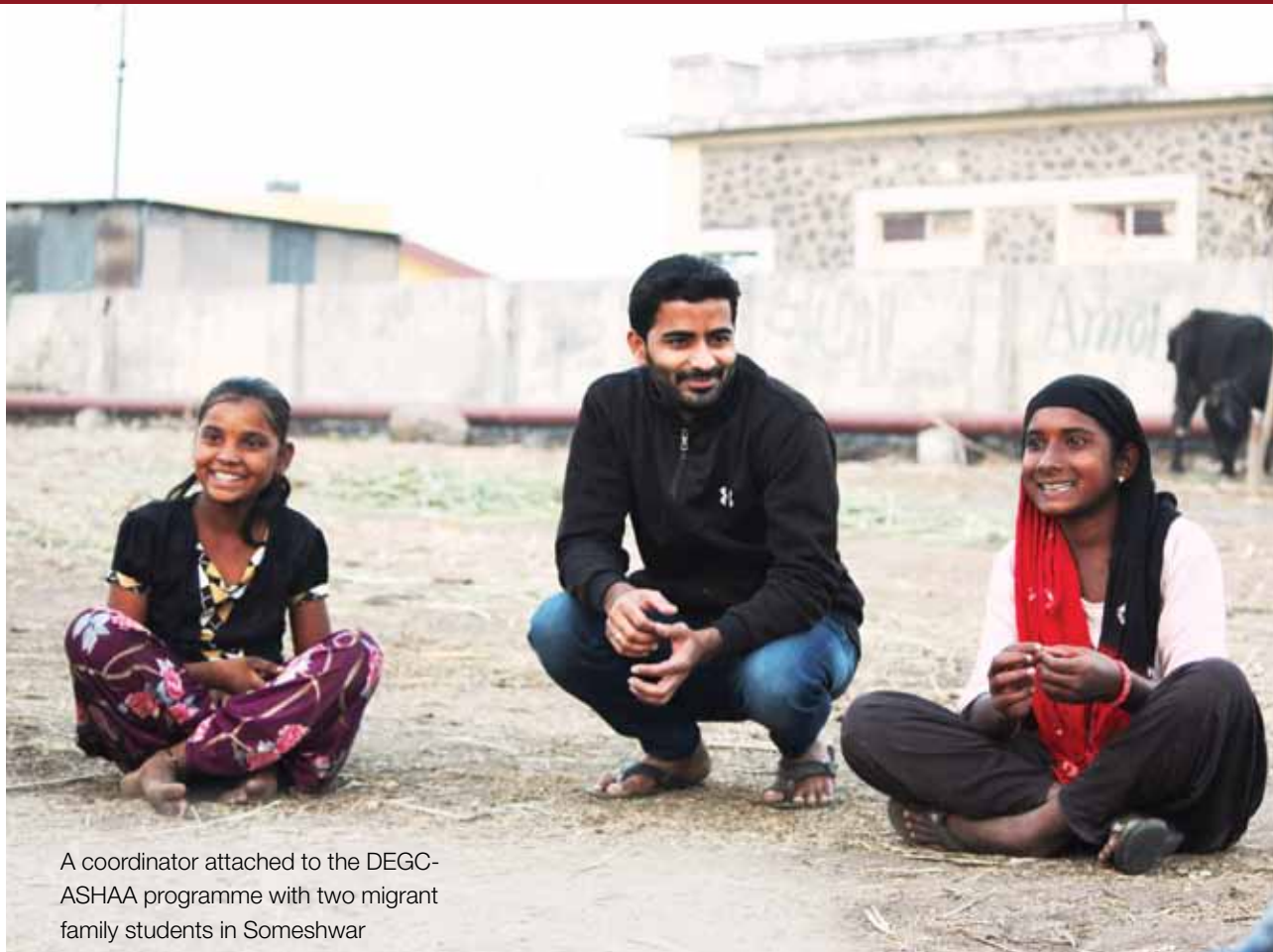
A volunteer with an uncommon rural education programme sees the child's

distress and gets about finding the reason. It's a story he's heard before: the kid is the son of migrant labourers, employed in the local sugar factory, whose dawn-to-dusk toil leaves them no time to put any food in the snack box. For the boy, and his parents as well, the midday meal provided by the school to all children is salvation. The volunteer understands that well enough.

He is part of the Digital Education Guarantee Card, or DEGC-ASHAA,



Students set off for a school located within the Someshwar sugarcane factory in Maharashtra's Baramati district



A coordinator attached to the DEGC-ASHAA programme with two migrant family students in Someshwar

project: an effort where the prime objective is ensuring that children from migrant families in Maharashtra's sugar belt secure a better shot at formal learning.

ASHAA, which means hope, is an acronym for *aamcha shikshan hakke: aamcha adhikaar* and translates into 'education is our right' in the Marathi language. It also translates, on the ground, into getting these children into the school system and keeping them there.

No longer 'missing'

The DEGC programme, supported by the Tata Trusts, unfolded in Pune and Satara districts and it employed a combination of community mobilisation, digital surveys and academic progress tracking to identify and bring thousands of 'missing' children of sugarcane workers back to school. At the programme's conclusion in 2021, after a running time of five years, close to 10,000 out-of-school children under 18 had been located and more than 3,600 in the 6-14 age group were enrolled in schools (or study sessions).

The need for a back-to-school intervention of this kind was acute. The nature of sugarcane labour migration in western Maharashtra is such that it forces poorer families to move from region to region in search of work. Their children are regularly uprooted in the process and rarely find a stable learning environment.

An estimated one million labourers migrate to western Maharashtra from other parts of the state ahead of the annual sugarcane-cutting season. About 150,000 kids from these migrant families miss school for six months when they leave their villages. The landmark Right to Education Act (RTE), which guarantees schooling for all children and has been in place since 2009, faces daunting implementation odds in such circumstances.

Before RTE came into force, many of the 200-odd sugar factories in Maharashtra ran informal *saakhar shalas* (sugar schools) for the children of migrant workers. There were one-off initiatives run by NGOs and regional political leaders as well. All of these were shut down after the

Act was passed to ensure uniformity of education guidelines.

Empty stomachs at school are just one of the issues DEGC has dealt with. The programme team found that many migrant students remain hungry until 1.30 pm, the designated time when the government-sponsored midday meal is served. With help from the local education officer, the team got the meal timing moved up to 11:30 am in some schools.

DEGC has profited from partnerships with Maharashtra's education department – which deputed a government teacher to the project – and Janseva Pratishtan, an NGO that worked on the implementation part. The foot soldiers in the initiative were 35 trained village mobilisers, who fanned out door-to-door across migrant hamlets in the project areas to connect with and collect data from migrant families.

App paves the way

Carrying smartphones and tablets, these mobilisers pinpointed migrant children and recorded their migration patterns, academic progress and previous school attendance details. The data was then fed into an app created for the purpose. "This is an integrated effort that is based on research about the education history of migrant sugarcane workers' children and it's the first of its kind in Maharashtra," says Paresh Manohar, a programme manager with the Trusts.

A key goal of the project was to ensure continuity of education. The programme team issued DEGC cards to teachers to document each migrant student's subject competencies. The cards, which travelled with the students from village to village, made it possible to track their academic development (teachers would continue from where the student had left off). "The digital tracking and mapping of the students is our biggest achievement," adds Mr Manohar.

Tracing and tracking

The DEGC-ASHAA project's use of technology has been a factor in its success, and an important reason why it has been supported to the hilt by the Maharashtra government.

In 2016, the state's education commissioner directed all schools in Maharashtra to institutionalise the use of the DEGC-inspired education guarantee cards. Implementation was generally weak, but within the project area some 3,500 cards were issued by the DEGC team.

In 2018, the commissioner tasked DEGC with designing an app – similar to what was used in its own programme – to track every migrant child in the state. This app was to be aligned to the government's database of students and the State Council of Educational Research & Training became a partner. A technology partner, Dhvani Rural Information Systems, was roped in to develop the app.

The new app was called Balrakshak (or child defender), in line with the state government campaign of the same name to bring out-of-school children back into the education system. Currently in its pilot stage, the app will allow teachers to update the activities and enrolment details of students on their smartphones and to see relevant data for their respective school, block, and district. ■

The schooling component aside, DEGC has also had to address the concerns of migrant parents and their children. What the team discovered was not surprising. These kids find formal education an uphill task, not least because they are expected to labour in the fields alongside their parents when the sugarcane season begins. And, when they do come to school, they are often picked on by teachers and classmates.

"There are many good teachers and students but a few look down on us and also pick fights with us," says Asmita Dhere, a standard VIII student originally from Beed district. "And some teachers discriminate between migrant and 'proper' students." The experience, though, hasn't



Students gather to collect educational material in the premises of a sugar factory in Someshwar

coloured the ambitions of the 14-year-old, who wants to be a teacher.

Even when migrant kids do get enrolled into schools, learning outcomes are a challenge. “I changed schools often; I had trouble completing portions and it was hard to remember and understand what was being taught,” says 12-year-old Samadhan Varat. Why this happens is hardly a mystery.

Fidgety in class

“Many migrant students are fidgety in the classroom. They have not been exposed to pre-primary education and, probably as a consequence, have never learned to sit still,” says Sameeksha Milind, a clinical psychologist with DEGC. Migration affects developmental milestones, she adds, and migrant students generally have lower academic capabilities and often suffer from undiagnosed learning disabilities.

There were anxieties on the parents’ side as well. Many feared their children would not be safe going to school alone and some parents had signed up their kids as farm labour and taken advance payments for this. Meanwhile, older girls were often forced to stay back and handle household chores. A change in mindsets was essential.

The village mobilisers counselled the students and escorted them to school and back. Storybooks and study material were distributed and, where possible, exemptions were obtained from schools to, for instance, allow students to bring along younger siblings in their care. The mobilisers also conducted classes for kids in their villages, provided halogen lamps to migrant families, conducted vaccine camps and distributed menstrual hygiene products.

The DEGC team has distilled its experiences with the programme into a model called ‘migrant friendly villages’. A range of points are covered in the model: sensitising local government bodies, schools and village residents; connecting migrant families to their food, health and education entitlements; and socioeconomic interventions that can ease the migrant child’s path to the classroom.

Mr Manohar says that the DEGC initiative has established the complexity and interlinkages involved in educating migrant children. “You cannot help these students learn by simply shepherding them into schools,” he says. ■

By Nikhil Menon

Starting afresh

An aftercare initiative is providing a lifeline to young adults leaving childcare centres to make their way in the world

When Mumbai resident Kiran Patel* turned 18 in December 2020, celebrating the life event was the last thing on his mind. That's because the moment he became an adult, Mr Patel – an orphan raised in a childcare institution (CCI) – could not continue living at the shelter.

Having to go out into the world with no proper education, vocational skill, financial support or any cushion to fall back upon, Mr Patel felt only despair and fear about his future. This is an

unfortunately common story for teenagers staying in the 9,600 CCIs in India who are forced to leave when they step into adulthood. These 'care leavers' often slip into a cycle of poverty, homelessness, unemployment and exploitation. Many end up on the streets.

Mr Patel's story may have been the same if not for a chance meeting with a couple of care leavers who had joined the 'aftercare outreach programme' (AOP) of Udayan Care, a New Delhi-based nonprofit supported by the Tata Trusts that has been



Care leavers put on a performance at the launch function of the Beyond 18 research report in New Delhi

fighting for the leavers' cause since 1994. The programme supports teenage care leavers through the transition and rehabilitation phase into what is, officially at least, adult life.

Aftercare and alternative care are the foremost facets of the child protection efforts of the Tata Trusts and, by extension, AOP, which has been operational since 2020. Skill training and development, vocational education and the gathering of experience are part of the initiative. Besides organising workshops for care leavers in different cities, AOP also backs advocacy and creates platforms where stakeholders and policymakers can meet and interact.

Poor data gathering and governmental inadequacies handicap care leavers in India. According to a 2019 report that studied

aftercare practices in five states, an estimated 370,000 children were lodged at that point in CCIs across the country. But there is no reliable data on the numbers exiting, or being cast out of, these centres in any given year.

Law on their side, but...

Rehabilitating care leavers is not just desirable, it's mandated by law. India's juvenile justice legislation stipulates that all those getting out of CCIs must receive state-sponsored 'aftercare' support till they turn 21 so that they can live independently and integrate with the community. In reality, most care leavers get no such assistance, with resource crunches and a 'priority deficit' being cited as reasons.



Participants at a vocational skills workshop in New Delhi



Young adults at a meeting of the care leavers network in New Delhi

A better future beckons

A year ago, I hesitated to even speak to people,” says Daljit Prabhakar*, a 19-year-old care leaver supported by the ‘aftercare outreach programme’ (AOP) in Bhopal. “Now I feel more prepared to live on my own. I don’t fear the future anymore.”

Abandoned by his parents, Mr Prabhakar spent the majority of his growing-up years in childcare shelters and juvenile homes. He dreaded the prospect of turning 18, since the milestone meant that he would be legally required to leave the shelter he was in.

For a while it appeared that the shy teenager’s worst fears would come true, but a new future opened up for him when he met a fellow leaver. That’s when Mr Prabhakar met volunteers of Udayan Care, a New Delhi-based nonprofit organisation working for the cause of care leavers.

Udayan Care’s volunteers helped Mr Prabhakar continue his education by getting him enrolled in a graduate programme at the Indira Gandhi National Open University and

take a vocational skilling course.

“I received financial support even for small expenses and was assigned a mentor to guide me,” says Mr Prabhakar, who believes the education and life skills he is learning will help him live independently and with dignity.

AOP’s objective is to help young adults like Mr Prabhakar find their feet, says Dr Kiran Modi, the founder and managing trustee of Udayan Care. “Our mentoring and support programme are tailored for that. We enable these youngsters with workshops based on our ‘work-life readiness’ curriculum, which includes aspects such as financial management and emotional wellbeing.”

Mr Prabhakar has enrolled for a food production course with the Indian Hotel Academy. The course should enable him to nail down a job in the hospitality industry or even set up a business of his own, as he is inclined to. “My ambition is to open a restaurant one day,” he says. ■

* Names changed



Participants at a work-life readiness workshop held in New Delhi

The involvement of the Tata Trusts with the issue began in early 2018 with advocacy that sought to sensitise governments and civil society about the challenges faced by care leavers and the urgent need to extend aftercare to them. This was when they started supporting Udayan Care.

Support from the Trusts has enabled Udayan Care to study the challenges faced by these not-quite-adults. What emerged was 'Beyond 18', a first-of-its-kind research exercise spread over 18 months that captured the voices of more than 500 care leavers in five states.

The report offered a peek into the struggles and challenges faced by these youngsters and included recommendations to improve their prospects and their future. It also formed the framework for the implementation of AOP.

The Trusts followed this up with a grant that supported AOP youth in Delhi. It also provided technical support in advocacy efforts such as the the Care Leavers Association and Network (CLAN), which is aimed at being a representative

group that raises and tackles the concerns of care leavers.

CLAN's exertions laid the ground for Unicef to launch, in 2021, the India National Care Leavers Network, an independent organisation, owned, managed and run by care leavers themselves, that works to secure their rights.

"CLAN advocates with the government for the betterment of care leavers and it offers a safe space for young adults to associate, build relationships and be family to one another," says Abhijeet Nirmal, programme manager, child protection and human trafficking, at the Trusts.

Out of the records book

Finding care leavers and getting them organised has been a difficult task, principally because governments and children's homes have no records on them once they are out of institutional doors. The AOP team adopted an outreach roadmap and created a core of care leavers who identified others like them. CLAN workshops were organised to spread awareness and provide handholding support to AOP youth.

The Covid pandemic has thrown up a welter of implementation roadblocks for the aftercare project, but the AOP team has persevered. Care leavers have been mobilised in many cities and their plight has been highlighted. More significant is the change it has brought about in the lives of the young adults it has touched.

There are countless young care leavers in India and a leg up is what they are searching for. The support they seek, and hopefully will get, can go a long way in ensuring that their future is as part of the mainstream, rather than on the outside looking in. ■

** Names changed*

By Samod Sarngan



Timely surgery for congenital heart disease has helped Dakshita from Raipur in Chhattisgarh lead a normal life

Heartfelt care

Children born with congenital heart disease in Chhattisgarh are getting the specialised treatment they desperately need

Bhuyash Rishi caught a cold when he was 18 months old. That by itself was not too worrying for his family, hailing from Durg in Chhattisgarh, but beneath the chill lurked danger. Doctors at a local hospital said that he showed clear signs of congenital heart disease, ‘double outlet right ventricle’ and ‘tetralogy of fallot’ being the causes. In plain terms, Bhuyash was born with a seriously defective heart.

The complicated surgery Bhuyash needed was unaffordable for his parents, who watched their son’s condition deteriorate for years before a lifesaver came into the picture. The child’s father, Harish Kumar Rishi, came to know of the Sri Sathya Sai Sanjeevani Hospital (SSSSH) and

this was where Bhuyash found the care and treatment to repair and renew the most vital of organs in his body.

Located in Raipur, SSSSH has been an angel of hope and care for kids born with congenital heart disease (CHD). The hospital has treated more than 150,000 children and about 18,500 cardiac surgeries and catheter interventions have been done here. And all without charging a rupee.

Bhuyash’s case is typical. He was operated on free of cost in early 2021 and now, at 10 years, is able to lead a normal and active life. “It wouldn’t have been possible to save my child’s life if this hospital hadn’t helped us,” says Mr Rishi. Enabling SSSH to play the part of healer and benefactor for Bhuyash and so many others has been



Temple of healing

Bastar district in Chhattisgarh, a predominantly tribal area 290km from Raipur, does not lack for beauty or splendour. The same cannot be said of its healthcare facilities, where the shortfall in quality care and treatment is pronounced. This was the reality confronting the parents of Vasanth Korlapu (above) when they discovered that their three-month-old son had been born with a congenital heart condition that could take his life.

Vasanth needed urgent surgery but his family could not afford it. His father, a barber with a meagre income, had already spent more than Rs200,000 on medical bills, only to see his child's condition worsen. Walking was impossible and even breathing became difficult for Vasanth, but there was little his debt-ridden parents could do. The family had almost lost hope when they heard about the Sri Sathya Sai Sanjeevani Hospital.

Vasanth underwent surgery at the hospital in March 2021 and the successful procedure has put him on the path to a healthy childhood. "My son is healthy and he is able to run and play," says the child's mother. "This is not a hospital; it's a temple. Our child has been given a new lease of life at this temple." ■

supported from individuals and institutions, among them the Tata Trusts.

The sad fact is that countless children afflicted with CHD and hailing from financially distressed families are not as lucky as Bhuyash. It is estimated that more than 200,000 children are born with the disease in India every year, that uncounted thousands remain undiagnosed, let alone treated, and that a quarter of them do not make it past the first year of their lives.

A social and medical condition

The nature of CHD makes it a social and medical condition, with links to undernutrition and the lack of quality – and affordable – healthcare. That could explain why more cases of CHD are found in regions with poor development indices.

In central and north India, nearly 20 of 1,000 children are born with CHD, a lot higher than the India average of 8-10 per 1,000. Facilities for care and treatment are rare and immediate attention is hard to come by. (Chhattisgarh has some 2,500 children awaiting heart surgeries).

The CHD challenge is compounded by the state's struggle to ensure sufficient healthcare. Ten districts here are 'developmentally challenged' and there's a large tribal belt far short of necessary healthcare facilities and trained practitioners, critical for early diagnoses and treatment.

CHD can be detected during pregnancy through an ultrasound scan for anomalies. Delayed identification of abnormalities after birth is more complicated. Diagnoses can be made if doctors are equipped with an echocardiography. Unfortunately, these are not easily available and too expensive.

That's the backdrop to the state government, in 2018, bringing in the Tata Trusts to work with its child health programme, Chirayu Chhattisgarh. The aim was to widen the reach and strengthen

services for screening, early detection and treatment of CHD.

SSSSH, which had set up the state's first paediatric cardiac centre back in 2012, was already a government partner in Chirayu Chhattisgarh. The Trusts coming into the programme sowed the seeds for a fruitful collaboration.

The Trusts' contribution to the effort involves three key aspects: training healthcare workers to detect and treat the condition, increasing the number of CHD centres, and funding surgeries for those who cannot afford it. SSSSH is crucial in this equation. "Sai Sanjeevani is committed to reducing the national burden of CHD," says Ravi Kiran Sreepada, a programme manager at the hospital, who points out the no-cost benefit it provides. "We operate without bill counters at any of our centres."

Unique training module

Besides mainstream care, the joining of hands has resulted in fellowship courses — offered under the Tata-Sanjeevani initiative — to reinforce the capacity of health workers. About 60 doctors, nursing and support staff from government hospitals have completed these courses. "The Trusts have created a unique training module," says Mr Sreepada. "They have tremendous management competencies and that ensures skill development in one of the remotest regions of the country."

Narrowing the geographic gap between children and their treatment has been another priority for the partnership (some of Chhattisgarh's outback districts are up to 10 hours from Raipur). The Trusts and SSSSH are setting up four satellite centres in district hospitals for more screenings. The centre at Jagdalpur District Hospital, in the south, is operational while centres in Ambikapur, Bilaspur and Rajnandgaon are underway.

This hub-and-spoke model — with



An infant recovers after surgery in Palwal

centres attached to the headquarters in Raipur — is aimed at widening access for patients and their families through screening centres and telemedicine. While SSSSH is the key operating party, the Tata Trusts facilitate selection, preparation and designing of the centres, and provide support for procurement of equipment. The SSSSH team sets up standard operating procedures and works with doctors from district hospitals for referrals and consultations.

The community connect unfolds through outreach camps in villages to screen pregnant mothers using HD stethoscopes, which have integrated electrocardiogram and recording functions. The records and other data generated are shared with SSSSH for analysis.

A crucial component of the initiative is funding of treatment for those who cannot afford it. About 850 children have undergone surgical or catheter interventions and some 11,400, have been screened for CHD. About 82% of the affected families are below the poverty line.

Most heartening is that the waiting list is slowly becoming shorter. It should be because there is so much more for these children to see and experience with, and through, their budding hearts. ■

**Names have been changed in this article*

By Gayatri Kamath



Five-year-old Minaxi Patel with *sukhadi* (a staple snack) prepared at a childcare centre in Himdolya Kedi Fadia in Baria in Gujarat. The snack is distributed to the mothers of children at the centre.
Photo: © Unicef/Panjwani

‘India doesn’t need more policies; it needs better implementation’

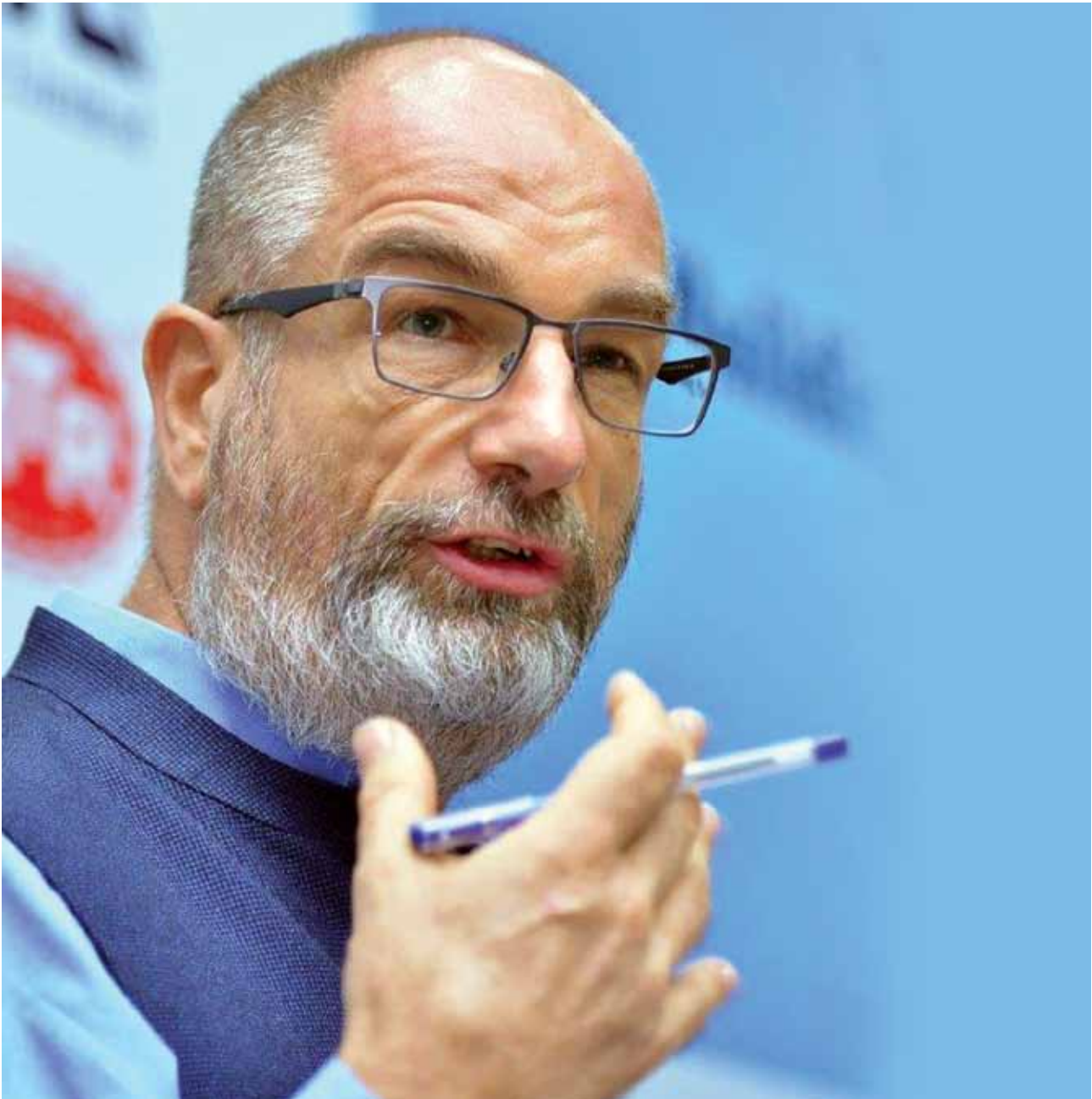
Arjan de Wagt makes a plateful of points about nutrition in India and they add up to plenty of food for thought about a crisis that continues to challenge the country. Despite the many positives here, the chief of nutrition with Unicef India sees “a disconnect between nutrition schemes and the nutrition status of women and children”.

Mr de Wagt, a Dutch national who was previously with Unicef Nigeria, speaks to Labonita Ghosh about India’s nutrition challenges, how to best spend the resources that are available, and the necessity of creating awareness about adequate nourishment for mother and child. *Excerpts from the interview:*

What is the state of nutrition in India today? What are the challenges and what solutions have worked?

I have been a ‘nutrition visitor’ to India for five years and I’ve seen amazing policies and programmes here. There are many countries that don’t have anything like an Integrated Child Development Services system or 1.4 million *anganwadis* [childcare centres] and as many *anganwadi* workers. The quality of India’s nutrition guidelines and tools is high. Despite this, I see a disconnect between nutrition schemes and the nutrition status of women and children. Implementation has clearly been a challenge.

The percentage of children who receive vitamin A supplements and take-home rations and the percentage of pregnant women who receive cash transfers, deliver in hospitals and start breastfeeding in the first hour after childbirth are too low. As is the percentage of pregnant women, adolescent girls and young children who receive iron folic tablets to reduce anaemia. These interventions must have 70, 80, even 90% coverage to have the desired impact, which they don’t.



When coverage increases from 10% to, say, 50%, it usually includes those who are easy to reach rather than those who need help the most. Malnourished kids, for example, are typically found among those who are not easily reached by services. You must have good quality interventions reaching the most vulnerable, who often are also the most malnourished and usually the least likely to be able to access services.

Additionally, you need to address gender issues. Do women have enough time to care for children, or are they too busy with household tasks? Who makes decisions about the utilisation of financial and other resources in the household? If there's healthy food, on whose plate does it end up?

Then there's poverty as a major underlying cause of malnutrition. Some say that if you address poverty, you address malnutrition. But India's

National Health Surveys tell us that among the poorest 20% of households, 50% of the children are stunted. This also means that the other 50% are not stunted. In fact, there is 20% stunting among children in the richest households in India. Poverty doesn't explain everything. You need the right services and a complete package to reach everyone. Why doesn't that happen? Because delivery systems are often not strong enough.

As for financing, I think there's substantial funding but not all of it is spent on evidence-informed, high-impact interventions. For instance, you need adequate numbers of well-trained human resources. Do we have enough frontline workers? Can we expect an *anganwadi* worker to do all the tasks she's supposed to if financial support, supervision and guidance are not always there?

Why is on-ground implementation such a challenge in India?

In many cases people don't know what healthy nutrition, diets and child feeding are. Yet we expect communities to be able to feed their children well. We have to recognise that the government cannot, by itself, stop malnutrition; eventually families and communities have to do their bit by availing the services on offer.

While Covid awareness was delivered through simple messages about safety and hygiene, nutrition is more complicated. It starts with what you do as a pregnant woman and when the child is born. When do you start breastfeeding? What if the child doesn't want to suckle? It's not easy. But who's helping people understand all this?

The solution to malnutrition is to stick to what you were planning to do. India doesn't need more policies; it needs better implementation and that requires going back to the fundamentals and repairing systems when they are broken. We need to invest more in creating awareness on nutrition and healthy eating – I call it 'nutrition literacy' – and community nutrition empowerment.

India's health expenditure is barely 1.5% of its GDP. How much of a handicap is that in improving healthcare in the country?

Of course, we need more money but I think we need better results for the money that we have – not just more money for nutrition but also more nutrition for the money that is there. I wonder how we can better support not only policymakers at the district and ward levels but also families in making decisions about limited resources, and get the maximum nutrition impact from them.

I was excited when Poshan Abhiyaan was launched because there was a good attempt at strengthening systems through increased training of frontline workers, and by states and districts reviewing and upgrading their *anganwadi* centres and using resources that had been underutilised. I started to see districts and states push for more frontline workers, and all of this was within existing budgets.

"I think we need better results for the money that we have – not just more money for nutrition but also more nutrition for the money that is there."



How can data and technology be employed to improve nutrition outcomes and healthcare in general?

Too often we say we want more evidence and more data. I would say we need more use out of the data we have. Are people looking at what is happening at the district, ward and even village level? Is that data being linked to interventions? The system will show if there's a shortage of iron folic tablets or take-home rations. But if nobody is looking at that, and picking up the phone to do something about it, then you have a problem.

Technology provides the opportunity to make data more accessible and usable. But if the *angamwadi* worker, her supervisor or people in the ward don't know what to do with such information, or if they are not empowered to act, or if there are no funds or vehicles to transport supplies to a village, then the data is not useful.

Which states have managed their healthcare and nutrition issues well and why? What about the laggards?

The International Food Policy Research Institute, NITI Aayog [the Indian government think tank], the World Bank and Unicef conducted an analysis of four states (Tamil Nadu, Odisha, Chhattisgarh and Gujarat) where there has been a reduction in stunting to see how this happened. Nutrition and health interventions reaching children contributed about one-fourth, while poverty reduction, gender, education, etc were also critical.

States that have made some progress typically have a comprehensive response, success in reaching the most vulnerable sections and good coverage, with a full package of multisectoral services, whether social protection, water and sanitation, health or nutrition. Their systems function better because of the energy, time, finances and leadership they have invested in them.

Chandini Bhunya looks on as her eight-month-old child, Bireej, is weighed during a nutrition session at a childcare centre in Muttuck in Assam.
Photo: © Unicef/Vishwanathan



Six-month-old Khushi gets her first taste of solid food from her father, Pawan Potai, during an *annaprasan* ceremony (a Hindu rite for infants) at the Rajpara childcare centre in Kanker in Chhattisgarh.

Photo: © Unicef/Altat Qadri

How advantageous are collaborations between government and civil society in the nutrition space?

If you mean civil society in a broader sense, there are advantages. In Poshan Abhiyaan, a lot of effort has gone into mobilising frontline workers and having them promote awareness around nutrition as a Jan Andolan [people's movement]. There has been some investment in mass media, though I don't think it's enough.

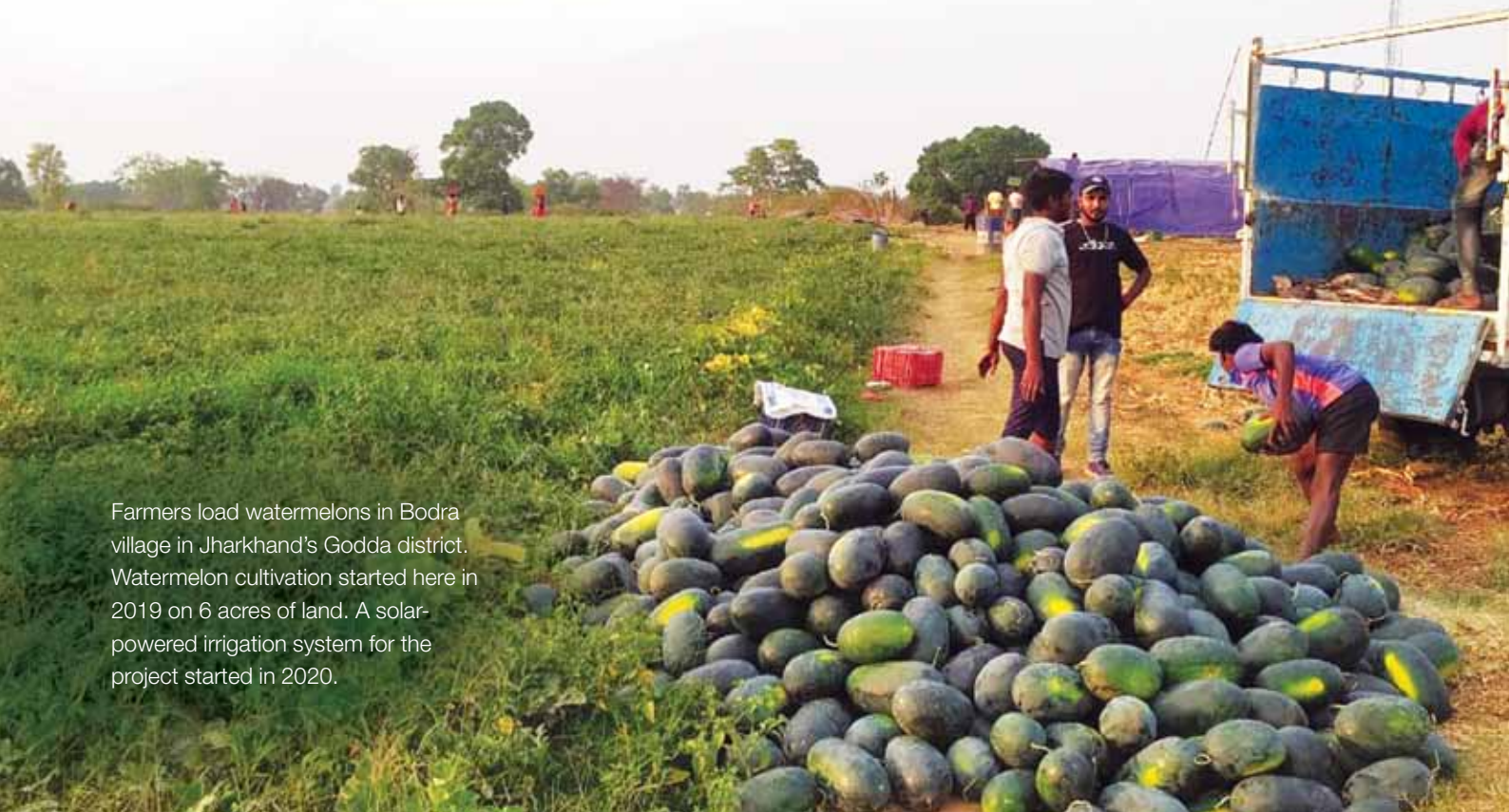
Some years ago, on a road trip from Delhi to Madhya Pradesh, I came across a breastfeeding shelter. Outside the shelter there was some messaging about breastfeeding. But this was after I had seen hundreds of billboards advertising colas, instant noodles and other junk food. Over the 2,600 km that we travelled, the breastfeeding message was the only one about healthy nutrition.

At Unicef we are working with 220 companies to create impactful nutrition and mobilise the private sector. Imagine if there were 10,000 companies and each of them educated each of their employees about healthy nutrition. They could easily integrate this with their existing CSR [corporate social responsibility] mandate and also pass on the message to clients.

Civil society in general – from religious groups to even neighbourhoods and building societies – could talk about healthy nutrition. If they can spread the word about Covid safety protocols, why not nutrition? To me that's the potential of civil society. ■

FRUITFUL PATHWAYS

With watermelons in Jharkhand and mangoes in Maharashtra, two projects targeted at enhancing the livelihoods of local farmers have taken root. The flavour and the texture of these efforts illustrate their value in providing an additional source of income for beneficiaries, while also widening their agricultural basket. The watermelon venture in Jharkhand operates under the Lakhpati Kisan Mission, the flagship programme of the Collective for Integrated Livelihood Initiatives, an associate organisation of the Tata Trusts. Water conservation and solar energy are important components of a project that, in 2021, helped 865 grower-entrepreneurs from across the state improve their earnings. The mango cultivation project, operational in 21 villages in Maharashtra's Nandurbar district, has seen the Trusts teaming up with Nabard (National Bank for Agriculture and Rural Development) to enable about 1,000 mostly tribal farmers with inputs for their small orchards, from which they can make up to ₹50,000 in additional income every year.



Farmers load watermelons in Bodra village in Jharkhand's Godda district. Watermelon cultivation started here in 2019 on 6 acres of land. A solar-powered irrigation system for the project started in 2020.



Anjali Murmu (above) from Phusri village in Jharkhand's Hazaribagh began growing watermelons in 2018. A year later she installed a solar-powered irrigation system that helped expand her coverage area to 3.5 acres. Women from the Shakti Mahila Vikas Sang (below) in Behra village started high-value agriculture in 2017 with tomato cultivation. Boosted by income increases and substantial profits, these women started cultivating watermelons in the summer of 2018.





Lotibai Pawara from Manwani Bk village in the Nandurbar district of Maharashtra has been cultivating mangoes on her one-acre plot while also undertaking soil- and moisture-conservation work to grow vegetables. Alongside, she has started rearing goats to provide an additional source of income. Ms Pawara's farming efforts mean she no longer has to migrate in search of daily-wage employment.



There was a time when Gavali Pawara, a marginal farmer from Chuwad village in Nandurbar, would travel from village to nearby village along with her husband in search of menial work. No longer do they need to do that. Ms Pawara now cultivates mangoes and vegetables and has done well enough for herself to earn an income throughout the year.



Vila Valvi (above) from Manwani Kh village joined the Tata Trusts' livelihood programme in 2017 and got started with mangoes and vegetables. Her mango orchard has now matured and is expected to bear fruit later this year. Fulanati Tadvi (left) from neighbouring Manwani Bk took a similar route while also getting involved in rearing goats. Ms Tadvi has become an influencer in her village and is actively engaged in the implementation of the livelihood initiative, motivating members of her self-help group to adopt improved farming practices.

Compiled by **Kainaz Mistry**



Stopping the slide

Getting children from poor families back in school is vital for their education needs and also to reduce the scourge of child labour and child marriage

It took nearly six decades after independence for the Indian government to accept that the country's children have a right to education, with the Right to Education Act, 2009, making it a fundamental entitlement. It took us three decades to amend the Child Labour Act – this happened in 2016 – to accept that there should be no distinction between one form of child labour and another, and that every child shall enjoy her right to education.

These and other similar enactments have been the consequence of consistent advocacy, social mobilisation and engagement with the government and the system. Given the lacunae in India's legislative and judicial frameworks, our children have had to fight a long battle to get out of work and join schools. And they fought valiantly, paving the way for future generations of children in our country and the world over.

The enactments have had an impact, reducing child labour and increasing the enrolment of children in schools. The lockdowns forced upon us by the Covid pandemic have, however, fuelled a regression. Some 1.5 million schools were closed across India, affecting 247 million children enrolled in elementary and secondary institutions.

Countless school-going children have been pushed into the labour force as a result – some away from their families – trapped in sweatshops, bangle- and brickmaking, embroidery, textiles and the leather industry. Older boys are now getting into the labour market as headload carriers and at construction sites, while many girls have been forced into agriculture work as farm labourers.

Every minute of their lives, children in these sweatshops, worksites and farms are calculating, reckoning, planning and dreaming an escape from their drudgery



Shantha Sinha is a pioneering child rights activist; founder and secretary of MV Foundation, a grassroots NGO; and former professor of political science at the University of Hyderabad

and getting back to school. Girls are resisting early marriages with the hope that schools will reopen, but many have succumbed to the pressure of becoming child brides.

Globally, the progress to end child labour has stalled for the first time in 20 years, reversing a previous downward trend that saw child labour fall by 94 million between 2000 and 2016. A 2020 report by Unicef and the International Labour Organization reveals a significant rise in the number of Indian children in the 5-11 age bracket working as labour. This accounted for just over half of the total global figure.

Terrible work, horrible conditions

The report further stated that the number of children aged 5 to 17 doing hazardous work has risen by 6.5 million to 79 million since 2016. Worse still, the report added, these kids may be working longer hours and under worsening conditions, while many more may be coerced into appalling forms of child labour due to job and income losses among vulnerable families.

Despite such studies, little evidence or data is available in India on the exact number of children who are child labourers. These were the children who struggled hard not to be thrust out of the education system. These were the girls who fought gender discrimination and patriarchy to be able to pursue their education. Their families, too, had begun to hope for a new future with their children in schools, just so they could break the cycle of poverty and exploitation.

The only initiative the government came up with to provide education was setting up online classes for children. This was unworkable and iniquitous. Children faced multiple inadequacies with smartphone access, connectivity, money for

recharging, intelligible material, etc.

Research by development economist Jean Drèze stated that just 24% of children in urban areas were studying online regularly. The corresponding figure for rural regions was a depressing 8%.

Children and their families would not have felt so hard done by if there had been even a modicum of state support to continue with the midday meal programme in schools, and if only the state had made efforts to answer the question: what of schools?

Other questions remained unanswered, too. How to reach out to children while maintaining safety and distance? How to engage with children and their education when they are not able to come to school? How to maintain the rhythm of education in some form without learning loss? How to, instead of introducing unworkable and inaccessible online classes that cause greater anxiety, reassure children about their education and keep them free of uncertainty?



A girl from a Rajasthan village collects wood for the family kitchen



Child labour is a scourge and it can be reduced by getting kids back to school

The challenge during Covid was to ensure that the gains made through legislation and by the setting up of institutions and processes for the protection of children, however fragile, were not lost. India did not rise to the challenge.

There is an education emergency today. Children do not like the routine of work and the immobility brought on by the lockdowns. They do not want the aches and pains of forced labour. They want to get back to school. They want to be with their peer group. They also want to work hard to learn and gain exposure to knowledge and networks that will enable them to be part of the system. They just do not want to be marginalised like their parents were.

State schools have to welcome back children, understand their predicament and reach out to them. They have to be sensitive to the fact that children have gone through immense insecurities and a huge loss of learning. They have to conduct bridge courses to prepare them for age-appropriate classes.

Schools also have to repair and clean up their physical infrastructure and provide for water and sanitation

to the returning students. Additionally, arrangements should also be made to accept all children who have dropped out of private schools due to cost or other constraints. The danger of children not coming back to schools can be overcome.

There is no one-size-fits-all remedy. We must encourage local solutions in consultation with teachers and village communities. Clearly, greater decentralisation is called for, with transfer of funds to protect children up to the village council (or urban ward) level. Children have to be identified with names and faces, not seen as mere statistics.

Much needs to be done

The government must respond to the solutions from below in terms of flexibility of school governance, distribution of work among teachers, making arrangements for children and their learning in classes, and meeting the demand for textbooks and other educational material. Committees comprising community workers, schoolteachers, self-help groups and local functionaries have to be constituted to assist local bodies in bringing relief to children.

Collaborations built on trust and equality, with NGOs and other arms of civil society, will help the government reach out to children and respond to their needs with a greater sense of urgency. Schoolteachers who have lost the habit of teaching and the routine of coming to school should be given a helping hand.

This Covid crisis has exposed the extreme unfairness and injustice in our society. It reminds us of the state's obligation to set things right. The cost of inaction will be immense, with a whole cohort becoming illiterate and worse. Schools must be a topmost priority in this equation, because they are the key to ending child labour and child marriage. ■

Tech tonic for a healthy outcome

With its multiple tools and across-the-board usability, technology is a force that can — and should — transform India's healthcare services

Healthcare delivery — the provision of treatment and medical supplies to people — is undergoing a transformation as it transitions rapidly from the longstanding episodic, disease-centric and volume-based archetype to an integrated, patient-centric and value-based model. As with anything that's truly transformative, this is a phenomenon that brings with it a big basket of challenges.

Realignment of the healthcare services blend, the need to increase patient engagement, shifts in customer base and diversification into other types of businesses are parts of the emerging landscape and they need to be balanced with access and quality of care. Technology is the differentiator in this rapidly changing environment, a reality that healthcare providers have taken to heart. But that's not enough.

Though providers and other stakeholders understand the power of technology in healthcare, a huge portion of the population is still unaware of how it can make services more accessible and affordable for them. After all, healthcare is not like other commodities that people consume, where need and demand are clear-cut.

The impact technology makes can be illustrated through a look at the general reluctance among people to seek medical care when the need surfaces. Multiple studies state that this reluctance is attributable to three main barriers — physical (lack of healthcare availability);

mental (perceived need for treatment); and traditional (high cost of care, absence of health insurance, time constraints, etc). Technology has the power to break through each of these barriers.

The multifaceted role technology plays in making quality healthcare accessible and affordable for all can be explained through four points that are interconnected (each of these are drawn from projects implemented by the Tata Trusts).

Seamlessly connecting providers and patients

A lady was against her pregnant daughter-in-law visiting the local government health centre for a check-up due to bad road connectivity and uncertainty about doctor availability. The daughter-in-law resolved the issue by getting connected — from her phone and at home — to a gynaecologist through a 24/7 helpline. Her doubts were cleared and this was followed by a home visit by a nurse, who set up a video consultation with the gynaecologist on her tablet.

The cited example depicts how telecommunications makes it easier to connect provider and patient, while also showing how telemedicine can be employed for a better patient experience. Given the context and circumstances of healthcare in India, these are approaches that can pay rich dividends.

Huge capital investments are required to establish health infrastructure up to the last mile. Meanwhile, the huge available



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health infrastructure is undermined and underutilised due to a range of maladies, not least a general lack of quality.

Telemedicine has the proven potential to deliver an alternative through its hub-and-spoke model and remote-monitoring ability.

The availability of general and specialist consultations at nearby spokes – provided through telemedicine from a hub hospital – not only reduces patient expenses but also saves the cost of setting up ever more health facilities. Technology enables the linking of health providers to a patient, no matter where he or she is.

Wearable devices, high-definition cameras and interconnected medical devices are changing the way healthcare is delivered, with the obvious gain being in improved

patient experience. Consider scale as well.

Estimating the disease burden of the populace through mass screenings is unthinkable without technology, but that's what the tablet-based detection of various noncommunicable diseases (NCDs) has made possible. This is a vital piece in ensuring efficient and cost-effective healthcare delivery.

Reducing the reluctance to avail healthcare services

A 25-year-old woman suffering from tuberculosis was avoiding a physical visit to the local health facility because of the stigma surrounding the disease and fear of a social boycott if her condition was revealed. The patient got a call from a helpline



Drones can deliver medical services; technology is the most potent force to make quality healthcare accessible and affordable for all

maintaining a tuberculosis patient registry, a video consultation was arranged with a medical officer and medicines were prescribed. Appropriate and uninterrupted treatment resulted in the lady being rid of the disease.

This is a story that highlights how digital technology can help patients overcome the mental block that so often prevents them from seeking healthcare services. Dealing with such patient behaviour is a challenge across the world. The costs are deadly. High maternal and infant-mortality rates are always coupled with delays in the decision to seek health services, often times due to the lack of women doctors at designated facilities.

Tuberculosis, Covid – in its initial days, at least – and mental illness are other conditions that push patients towards a reluctance in accessing healthcare. This psychological obstacle can be overcome through confidential electronic medical records, virtual consultation with the desired service provider and by demystifying medical conditions with tech-enabled behaviour-change tools.

Tracking patient journeys and driving data-driven decisions

A 60-year-old diabetic stopped going for follow-up consultations at a public health centre (PHC) because the place almost never had the medicines he required and going to costly private clinics was out of the question. The government's tech-enabled platform for NCD consultations flagged the patient and a call was made to him. After knowing about his and other patients' experiences, PHCs were provided with adequate medicines and monitored with an electronic supply chain software. The diabetic patient now not only gets his medicines regularly but also receives SMS reminders for follow-up consultations.

This case reveals the potential in technology to track a patient's journey across the care continuum, especially those who

discontinue treatment and, consequently, face the threat of increased disease morbidity. The case also highlights how the optimal utilisation of tech innovations enables the voices of beneficiaries to be heard and how gaps in the healthcare delivery system can be plugged.

The worry of high out-of-pocket expenses, leading to the hesitancy in seeking care, can be eased with health technology and innovations. The cost of screening for NCDs through lab-based tests has come down considerably thanks to point-of-care diagnostics (glucometers and similar digital devices). Telemedicine applications have minimised the distance between doctor and patient, saving time and money on travelling long distances.

The recent mass immunisation project for Covid in a populous country like India is a perfect example of the application of technology for bulk enrolment and a smooth supply chain. Also, when the pandemic hampered movement and access to healthcare facilities, there was a surge in tele-health services. This indicates the readiness of people, patients and providers alike, to adopt technology.

Remote monitoring and capacity building of primary care providers

A primary care physician wanted to treat a snakebite with available equipment and drugs at a PHC, but he needed expert advice and this was available at a tertiary care medical college 300km away. There was no time to transport the patient to the medical college, so the physician connected with a team of specialists at the facility and got guidance about treatment procedures. After successfully saving the patient, the specialists conducted virtual debriefing and mentoring sessions for primary care physicians handling similar emergencies.

Technology had a critical part to play in this life-and-death situation, where remote



Wearable and interconnected medical devices are changing the way healthcare is delivered

monitoring of the patient and virtual handholding of the only available human resource by specialists was made possible. Such measures should be the norm given the shortage of medical and paramedical professionals in India.

The severely limited number of medical colleges, the huge cost and time involved in creating specialty cadres, and their equitable distribution are serious shortfalls that are difficult, if not impossible, to cover in a country such as India. The only option when it comes to providing specialty care, particularly in remote regions, is to use – wisely and optically – the available primary healthcare workforce and to mentor them properly.

Technology can play a pivotal role in the virtual monitoring and mentoring of primary care providers and tech-enabled initiatives (e-ICUs, remote monitoring services, virtual capacity building, etc) are essential to make the most of human resources and infrastructure. Additionally, technology can enable the standardisation of disease codes, treatments guidelines and the digitisation of medical records.

This is a unique time at the global and national level to adopt and implement tech-enabled health programmes more quickly than ever before. The goal of universal health coverage can and must be achieved, and technology is the most potent force to make that happen. ■

