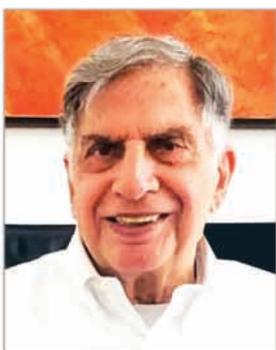


HORIZONS

PUBLIC HEALTH, PUBLIC WEALTH

Covid-19's rampage through India highlights the criticality of reinforcing our public health system — and this needs everybody on board



‘We have to rekindle hope’

Ratan Tata, Chairman of the Tata Trusts, speaks about the coronavirus challenge, boosting the rural economy and the collaborative model of social development



EDITORIAL

Can you really see the world in a grain of sand? Maybe. Maybe not. But you surely can see it in that invisible virus now playing havoc with our lives. The Covid-19 contagion has opened our eyes to a swarm of unsettling truths about human beings and Planet Earth.

Containing this deadly modern-day villain requires a full arsenal of measures, none more important than a public health system calibrated to serve the public interest. That system and its struggles in India form the backdrop for the subject of our cover story.

For all our troubles and tragedies with the coronavirus, there have been numerous examples of the country pulling together to cope with the pandemic. That's the spirit we have to summon to put India's public health system in order. It will take the government and civil society to work in tandem for the goal to be realised.

The Tata Trusts are lending a steady hand in helping make that happen. Through collaboration, innovation and good old commitment, the Trusts have immersed themselves in India's health sector with incisive programmes that address a range of concerns and challenges, from cancer care and noncommunicable diseases to nutrition, mother-and-child wellness and much more.

This edition of Horizons is a little special for another reason as well. We have Tata Trusts Chairman Ratan Tata opening up in a rare interview on a host of issues. Also speaking their minds on these pages are Bhupathiraju Somaraju, standout physician and socially conscious citizen, and public policy maven Ambuj Sagar from the Indian Institute of Technology, Delhi.

In our feature stories section, we fish in fine waters with a project that is paving a brighter future for 35,000 households in four states, we accompany one-time school dropouts in Assam who are finding their way back to class, and we raise a cheer for an initiative aimed at banishing the taboos surrounding menstruation.

In our blend of expert opinions, there's Poornima Dore, who heads the 'data-driven governance' portfolio at the Tata Trusts, explaining why technology and digital systems are integral to India's social development efforts; educator Coomi S Vevaina on crafting a 'globally intimate' future through freshly minted narratives; and Devyani Hari and Priyanka Chhaparia from the Centre for Responsible Business on the criticality of sustainability for enterprises in the post-pandemic order.

Wrapping it up is the photo-feature on the Leh Livelihoods Initiative, which focuses on improving the quality of life of mountain communities in Ladakh through a clutch of social uplift projects.

There's plenty here to indulge your lockdown reading habits, dear reader.

Christabelle Naranta

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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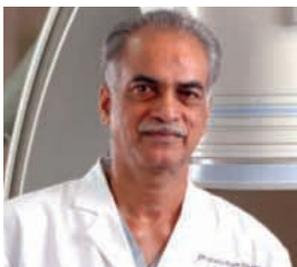
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‘We have to rekindle hope’

Ratan Tata still believes “there is something good that comes into play” when calamity strikes, namely that people everywhere set aside their differences and band together for a common cause. It says much about the Chairman of the Tata Trusts and his optimistic worldview that he continues to hold on to such convictions in the face of a pandemic that, while causing havoc worldwide, has revealed the strengths as well as frailties of human beings.

The positive and the affirmative are constants for Mr Tata, who opens up in this conversation with Christabelle Noronha on a range of issues, from the rural economy and collaborative social development to the path the Trusts have chosen and the lockdown-induced haziness of “not knowing whether it’s a Monday or a Tuesday”.

The world has been turned on its head in recent times. As someone who has lived through and experienced so much, what would be your advice to keep our collective sense of balance?

First of all, let me with humility say that I don’t think anyone in the world has had the experience that we have endured with Covid-19, short of World War II. We really have three parts to the present situation. There is the global economic downturn. In India it’s a virtual recession and that has been coupled with the coming of the virus.

There is no solution as yet in the form of either a vaccine or a protocol that can save lives. People are hopeful that by October or the start of the new year there will be a solution, but we don’t know as yet whether that will happen.

That’s the backdrop against which we have to engineer a recovery of the economy, industrially and agriculturally. Capital markets, the demand for goods and services, tackling unemployment and feeding and caring for the millions who are jobless today — all of these are concentrated in the third leg. The economic recovery aside, we have to rekindle hope, the feeling that we have good tidings to look forward to.

Having said all that, one doesn’t really know what lies ahead. One doesn’t know what the government will do, or what the government can or cannot do. It’s a tremendously difficult task.

“We are proud to have played a part in improving healthcare in India. You have to think big.”



Photo: Shantanu Naidu

I think we ought to be concentrating on India's agricultural output. It is going to take a long time for industry to reestablish itself but the rural economy can be a starting point for revival. A buoyant rural economy can enable us to tide over the current troubles and the Trusts could play an important role here.

You took to Instagram recently requesting people not to get into hate-mongering or pulling down communities and nationalities...

Whenever we have had a calamity, and I'm speaking from a global perspective, there is something good that comes into play. People stop bickering with one another and we get united to deal with the calamity. That's what happened when terrorists struck Bombay in November 2008. Citizens came together, they discarded differences of caste, creed, religion and politics to make common ground.

I was hoping that we would consider this situation acute enough to rise collectively to the occasion and be a united India, looking to overcome our respective problems, rather than being critical and verbally obstructive.

How has the redefining of approach and purpose that the Tata Trusts have undertaken since 2014 — and the resultant emphasis on direct implementation, partnerships, sustainability

and scalability — worked out? Have the outcomes obtained been up to your expectations?

There was an issue of visibility and scale and that had to change. Earlier, for example, we may have been helping the nutrition cause indirectly, but there was no gutsy programme which set high goals and said that we would reduce malnutrition or address malnutrition in a particular way. It was after we refocused on nutrition that we brought in the issue of the mother and how she had to be healthy in order to make her child healthy. That's how nutrition became child health, mother's health, sanitation, hygiene and health services, more comprehensive than ever before and amenable to a holistic approach. Something similar has unfolded with safe drinking water.

We have moved into spheres of national importance and into the vanguard of issues such as nutrition, cancer care and primary healthcare. This method can be fairly complex and heavy in terms of investment, but the basic idea is to have a programme that will play its role and, possibly in the coming years and with the help of the government and nonprofit organisations, carry on at a higher level.

The Trusts have focused on healthcare and nutrition for a while now and this is a domain of particular interest to you.

One obvious result of focusing attention on such issues is that you find they are bigger and more complicated than you thought. When we embarked on our nutrition programme, we looked at bringing to the surface problems associated with improving outcomes, at setting and having forecasts, and at creating an awakening within the government.

We are proud to have played a part in improving healthcare in India. You have to think big. If you consider primary healthcare, for instance, you ask yourself if the solution is to go down the trodden path, adding little brick-and-mortar centres that have a few people inside with equipment that is run down. Or should you consider something bigger and better that connects to other facilities.

Education is another sphere where the same thinking can be applied. The Trusts have been involved in education for a long time but we are now taking this to another level by immersing ourselves in it in ways that we did not previously. Two decades back we may have said this is what the government has to do. Now we are often saying this is an area where we have to work hand-in-hand with the government. And the government is keen to do this with us.

You have been a votary of partnerships and the use of technology in advancing India's social uplift agenda. How, in your opinion, have these panned out for the Trusts?

The sciences have progressed to levels where interdisciplinary cooperation is the norm. Mathematics, computing, nanotechnology, biotechnology, etc are blending to open new doors for the human race. We have to be open to

“A pet comes after you seeking nothing but your affection. And what a wonderful world it would be if all human beings reciprocated that love and affection.”



Ratan Tata with his
German shepherd, Tito

Photo: Sukrut Teni

all kinds of possibilities. We should never be stingy or myopic and say that this is for other countries to do and not for us. India has the capability and the intellect to pursue great things, but we sometimes don't put enough resources into our efforts to find success.

I am being purposely measured in what I am saying because we are at the crossroads of not knowing what to do. We can't do everything on our own. We have to be judicious. We may have some misses and there will be critics shouting about money ill-spent. But the truth is that, be it with malaria, tuberculosis or diabetes, we have not explored enough or done enough to make a difference. Will we do enough? I would say, yes, we have the potential. Just look at the new biotech companies around, for instance. We should aim to see how we can collectively be more useful contributors to the scientific world.

Which are the other areas of social development where the Trusts can make a greater difference?

I think it's impossible to answer this holistically. With some issues and in some areas you can make a worthwhile contribution, while in others the conditions may not exist to achieve what you want to. Each sphere needs to be evaluated separately. We should be in places where we can add value, and we should not be where we cannot. There's no point striving endlessly.



The Trusts have refocused their attention and set high goals to help tackle the nutrition crisis, says Mr Tata

Chances are that we could get into more areas, but the emphasis should be on going where we can make a difference. We should not be jumping from one area to another and thereby be wasteful with what we do. We have to be certain when we enter into a commitment that this cannot be in today, out tomorrow. We have to make a hefty contribution.

Are you saying that the Trusts need to rethink the areas it is operating in?

No; if we were doing that constantly, we would be jumping around. But we may change focus based on what we find on the ground. In the context, I want to address what appears to be a dichotomy. Many years ago, when the Trusts were much smaller and they were serving a different kind of purpose, our involvement was oriented towards personal need. For example, if you needed money for a surgical operation, the Trusts gave you that money.

There has been a fear in some people that going after these bigger causes will cause individuals to be ignored, that the Trusts will be less personal. That is not true. What is true is that if we were at X in terms of spending in a particular theme, we are now at 5X in that same theme. With personal disabilities and the like as well, we are doing two to three times what we were previously.

Everybody appears certain that the Covid-19 catastrophe will change a whole lot about the way the world has been shaped, socially, economically and politically. But nobody is quite so sure how. What kind of future do you see emerging?

I would like to join the people who don't know. The biggest danger is saying we know for sure how to deal with this situation and then making decisions based on that assumption. What does not work could impoverish us. The new normal is insulating yourself from the danger of being infected by the virus and that will continue for a while. There will be potholes along the way and we could fall into the water, but we will survive.

The human race is very innovative and it will find solutions to this crisis. Some of these solutions may not be effective and these will have to be eliminated, but others will emerge to provide relief. I believe we should be humble and look around us for the signals that we receive and not jump to conclusions.

We have to make sure we are on the right track, though. We must also make sure that we don't shift gears to such an extent that we move into another dimension altogether, losing hope and a sense of who we are.

What is your fondest hope for the Tata Trusts and for the Tata group, which share such a richly symbiotic relationship?

I think the answer is obvious. The Trusts are the legacy of the contributions made by [Tata group founder] Jamsetji Tata's two sons, Dorab and Ratan.

They were established to alleviate hardship and improve the quality of life of India's poor. The commercial enterprises that enabled the setting up of the Trusts were, for their part, built to meet the industrial requirements of the country. Both have in their heart the wellbeing of the nation.

The Tata Trusts have a new chief executive in Srinath Narasimhan, and while his immediate priority has been steadying the organisational ship through this pandemic, what is your view of the contribution he can make in the longer term?

I think it would be unfair to Srinath to be saying what contribution he can make. I would imagine he would be in a set-up-in-order mode, if you might, for the next six-eight months or even a year. By then he would be running with a fair idea of what he wants to do and the trustees will provide an overview in terms of what there is to do.

I believe the Trusts have a bank full of ideas and the advent of a new chief executive has its positives. We may identify new areas where the Trusts should focus and new collaborations where the Trusts may have a role which they didn't see before. Nothing should be seen in terms of past and present; it all merges into a coherent vision for the days ahead.

Pets have been more than companions in your life. What is it about these wonderful 'friends' that you find most endearing?

I think you should answer that question, given that you have as much love for pets as anyone I have known. How can you put in words what a pet means to you? There is love, of course, and there is sincerity. A pet comes after you seeking nothing but your affection. And what a wonderful world it would be if all human beings reciprocated that love and affection.

In terms of animals, their genuineness in relationships is simple and ever present. In some countries abroad, they now have pets in prisons because the inmates find that comforting. That is no surprise. The affection inside pets is inherent; nobody teaches them that.

There are many things you can learn from animals, even from a vicious one. We have chosen to define which animal is vicious and sometimes that defines what we do. We are inclined to kill a snake that we encounter on the road because we believe it will kill us otherwise. We need to ask ourselves if that is really true.

How are you coping with the lockdown life? Have you found time for things you may have kept aside?

I thought I would have a lot of time, but I'm afraid the lockdown has created a lethargy in me that I'm almost ashamed to talk about. This started out by there being an availability of time and it became an issue of laziness, of being almost keen to sleep off the hours you have. I would love to have the incentive again to be active and involved. I don't like this – not knowing whether it's a Monday or a Tuesday. ■

"I'm afraid the lockdown has created a lethargy in me that I'm almost ashamed to talk about."



Good **medicine**

An overhaul is overdue. When the talk turns to India's healthcare system, on that much at least there is no doubt or debate. How the country ought to undertake the task is a little more complicated. Resources and their utilisation, systems and processes, people and mindsets — getting the equation right on all of these is vital if we are to swim in healthier waters. Government interventions and institutional frameworks are the key factor in reviving hope and dispelling despair, and support from every branch of civil society a necessary contribution in making that happen. The Tata Trusts have been striving to play just such a role with their across-the-spectrum programmes in the health sector, most recently in the combined effort to contain the coronavirus pandemic.

By Philip Chacko and Gayatri Kamath

REMEDIES FOR MALADIES

The Tata Trusts have multihued programmes in different segments of India's healthcare system. Partnerships with government institutions and agencies underpin the vast majority of them. The highlights:

NONCOMMUNICABLE DISEASES

- Screening project to test all Indians age 30 and above for hypertension, diabetes, heart conditions, and oral, breast and cervical cancers
- Telemedicine initiative to reach and treat underserved regions in Andhra Pradesh, Telangana and Uttar Pradesh



COMMUNICABLE DISEASES

- Programme to tackle acute encephalitis syndrome in Gorakhpur in Uttar Pradesh
- Malaria eradication effort in tribal-dominant regions in Odisha



MATERNAL AND NEONATAL HEALTH

- Blending community outreach, technology and collaborations to improve the health of mothers and infants in Rajasthan, Madhya Pradesh and Uttar Pradesh



INDIA HEALTH FUND

- Collaborative endeavour to pursue technological breakthroughs to counter tuberculosis, malaria and other infectious diseases



MENTAL HEALTH

- Process reform, infrastructure development and individual patient care at the Regional Mental Hospital, Nagpur
- Community screening, detection and treatment initiative covering 300,000+ people in Nagpur district



CANCER

- 'Distributed care' programme to track and treat patients across all of Assam
- The Tata Medical Center in Kolkata provides affordable and high-quality care and treatment for patients in eastern and northeastern India
- Resource and construction assistance to set up twin cancer centres in Varanasi



NUTRITION

- 'Making it happen' project to refurbish childcare centres in Rajasthan, Maharashtra and Andhra Pradesh
- Placing 'motivators' to help implement the National Nutrition Mission in 312 districts in 26 states and 7 union territories
- Pan-India programme to fortify staple foods with micronutrients



HEALTH SYSTEMS STRENGTHENING

- Initiatives to reinforce healthcare setups in Telangana, Maharashtra, Chhattisgarh and Kerala



GERIATRIC CARE

- Health clinics and activity centres for the rural elderly in Maharashtra, Telangana and Karnataka
- 24-hour helpline for elders in Telangana
- Engagement centres for senior citizens in Bhubaneswar and Hyderabad



CONTAINING COVID-19

The Tata Trusts have pitched in with...



Equipment and awareness campaigns



Hospital construction and food aid



Training and testing



Technology support and surveys



Patients waiting for their turn with a doctor at an outreach camp in Dabbakapalli village in Krishna district of Andhra Pradesh

Common **cause**

A tech-savvy screening project for noncommunicable diseases has set itself the gigantic task of testing all Indians aged 30 and above — that's 550 million people and counting

It has crept up almost by stealth to become the seemingly unstoppable ogre, blasting a hole in India's healthcare system as it barrels down a ruinous road.

Noncommunicable diseases (NCDs) — principally cardiovascular conditions, chronic respiratory disease, cancers and diabetes — claim nearly 6 million lives a year in India, accounting for more than 60% of all deaths in the country.

That's a sea change from barely 30 years ago, when communicable illnesses such as malaria and diarrhoea combined to form the biggest killer by

category. It's a transformation fuelled in part by, ironically enough, economic progress.

Despite the increasingly lethal toll they take, NCDs do not get the attention they deserve. For evidence, consider the mindscape occupied currently by Covid-19, which for all its virulence and destructive capacity has done a fraction of the damage in terms of lives lost.

The ground is shifting, though, and it begins with getting a grip on the extent of damage being done by NCDs, identifying the people at risk, and starting early with a treatment course.

The effort to restrain NCDs in India began in earnest in 2010, when the 'national programme for the prevention and control of cancer, diabetes, cardiovascular diseases and stroke' (NPCDCS) was launched. On the table were a bunch of initiatives: strengthening infrastructure, developing human resources, and promoting health, early diagnosis and referrals.

Progress in the years since has been slow and patchy. NCD cells have been created at the national, state and district levels for programme management, and NCD clinics in community centres

to provide free diagnosis, treatment and medicine for familiar conditions. Cardiac care units for emergency care and day care facilities for cancer treatment have also come up in some districts.

‘Population-based screening for common NCDs’ is a key feature of the programme matrix. Frontline health workers and the primary healthcare system comprise the vehicle for such screening in NPCDCS, which was integrated with the National Health Mission in 2013 to smoothen and hurry up the testing process.

The big shift

The screening component has undergone a raft of alterations from back then. The big shift happened with the move to a population-based screening model and the placing of this inside Ayushman Bharat, the potentially path-breaking health assurance scheme promulgated by the Indian government in 2018 for about 500 million of its poorest citizens.

Classifying the screening as an essential service and having it unfold through the newly introduced network of health and wellness centres has added strength to the test-and-treat endeavour. The objective is nothing if not ambitious: to screen in excess of 550 million people for common NCDs and cover India’s entire population in quick time.

Break this down and it translates into a gigantic exercise — the screening of every Indian over 30 years of age for a range of NCDs, including hypertension,

SCREENING SAVER

The population-based screening programme to catch and control noncommunicable diseases (NCDs) is one of the Indian government’s key interventions in the health sector

<p style="margin: 0;">What it does</p> <p style="margin: 0;">Screen for hypertension, diabetes, heart conditions, and oral, breast and cervical cancers</p>	<p style="margin: 0;">Target populace</p> <p style="margin: 0;">The programme aims to cover all Indians age 30 and above (550 million+ people)</p>
<p style="margin: 0;">Coverage so far</p> <p style="margin: 0;">53.4 million enrolments and 20 million+ screenings have been done</p>	<p style="margin: 0;">Geographic spread</p> <p style="margin: 0;">480+ districts in India have the programme application in place</p>

The urgency

NCDs claim nearly 6 million lives a year in India (more than 60% of all deaths)

diabetes, heart conditions, and oral, breast and cervical cancers. Technology, collaboration and commitment are essential elements in the quest.

The Tata Trusts joined the screening mission in June 2018 following the signing of an agreement with the Indian government’s Ministry of Health and Family Welfare (MHFW). The Trusts’ primary partner in the undertaking is American multinational company Dell, which has developed the application for it in consultation with a clutch of experts from varied organisations.

The Trusts have fashioned a technical support unit (TSU), operating at the centre as well as in the states, to implement the project. Monitoring, coordination, capacity building, across-the-board

mentoring support, a robust digital platform and, not least, dedicated personnel — a raft of methods and constituents has been employed to realise the screening goal.

Different arms of the TSU have been installed at the national, state and district levels to ensure effective execution. The central unit rests within MHFW and there are 14 state-level units. Accredited social health activists (Ashas) and auxiliary nurse-midwives (ANMs) — equipped with mobile phones and tablets — comprise the army of workers breathing life into the project in the field.

The process starts with a population enumeration, followed by screenings of individuals and the recording of their data. Those with health problems are referred to the medical officer at the designated

Schoolgirls at a health awareness rally in Vastavai in Andhra Pradesh's Krishna district



On call and on the ball

It does not have the heft or the cachet of the nationwide screening programme for noncommunicable diseases, but the telemedicine project being implemented by the Tata Trusts — in Hyderabad in Telangana, Vijayawada in Andhra Pradesh and Mathura in Uttar Pradesh — shares similarities in its use of technology for health and secures similarly high impact, even if on a smaller scale.

The premise is straightforward and the means employed sophisticated: use a hub-and-spoke model and innovative technology to reach and serve a wide section of the rural populace by delivering desperately needed health services.

What the programme does most effectively is deal with the three 'Ds' in the cost equation that bedevils poor people trying to access private medical care: doctors, drugs and diagnostics. There is a fourth D — distance — that the telemedicine initiative bridges.

The programme was seeded in Vijayawada in 2016 and the manner in which it has matured there shows its strengths. The way this operates, there is a city-based hub out of which six-seven general physicians connect via computer screens and the internet to 20 semi-urban and rural spokes (the telemedicine centres), which are run by paramedics and service 265 villages.

The focus is noncommunicable diseases, consultations are free and medicines are subsidised. A recently opened laboratory pitches in with diagnostics, as do mobile units. If a patient needs to see a specialist, he or she is referred to a government hospital. Remote villages are reached by mobile medical units with a doctor in attendance.

Vijayawada is an all-Tata Trusts operation. In Mathura, the Trusts have partnered the Ramakishna Mission to offer the same set of services, albeit to a lesser extent. The biggest and most ambitious is the version in Hyderabad, where the collaboration is with the Telangana government. There are four doctor hubs here, more than 100 spoke clinics, a coordination centre and a helpline. ■

primary health centre. Well-defined treatment protocols happen from there on. All the information gathered is made available digitally for the district and state officials involved in the initiative.

A 'cascade training model' has been used to bring everybody in the programme up to par, in field practices and with the application software. There are master trainers to train people working in the districts and subdistricts. Monitoring and supervision are also part of the package.

Numbers add up

The success of the effort is reflected in the numbers notched up. The programme has found its feet in 28 state and union territories and, as of March 2020, there have been 53.4 million enrolments in it and more than 20 million screenings done. The figures point to the scale of the attempt in what is a singular initiative for India.

Acquiring the capability to pull the programme off has not been easy for the Tata Trusts. It began with a pilot project in Andhra Pradesh in 2015-16 to devise a health checkup scheme for women. This evolved further through a similar screening intervention in neighbouring Telangana about a year later. The concept and its implementation caught the eye of the central government, then considering ways to get going with a digitised, pan-India population-based screening structure.

“Lots of people and



The NPCDCS programme screens for hypertension, diabetes, heart conditions, and oral, breast and cervical cancers

organisations came and made presentations on how to roll out such a screening initiative, but the [central government] opted for the Trusts, simply because our work stood out,” says Aman Kumar Singh, who heads the programme from the Tata Trusts side. “They had faith in us.”

For all the experience garnered in Andhra Pradesh and Telangana, shaping an analogous project to be spread all over India was another matter. “We are looking to screen in excess of 550 million people who fall in this category of 30 years and above,” reiterates Dr Singh. “We needed a specific set of tools and a robust framework to record data. The idea was to catch these diseases at an early stage, intervene at an early stage, track and follow the intervention, and deliver services

close to where the affected live.”

The primary health centres and their Asha and ANM workers, Dr Singh adds, comprise the core of the programme. Each of these workers serves some 1,000 people in two-three villages. “They have a set of questions and they go out and get the answers to these. That’s the basis of the community-based assessment checklist we keep in our records.”

A unified platform

The screening story has gone so well that the government has approached the Trusts to design a unified software platform where applications from other centrally run programmes can rest and be delivered. “This is a work in progress,” says Dr Singh. “We have been delayed by the Covid-19 crisis but 80-85% of the platform is

already ready.”

For the Trusts, the blue riband remains the original. “There have been plenty of challenges and there are some places where you have to keep on working and working till you finally succeed,” says Dr Singh. “Ups and downs are inevitable, but largely it has been smooth sailing. That’s why 480 [out of 739] districts in India have the programme.”

That’s good news for the country, despite Dr Singh’s humility about what has been accomplished so far. “I feel we could have progressed faster but there is a sense of satisfaction, for sure. We have a few more years left and we should be able to achieve the goals we have set for ourselves. More crucially, in another 10 years all of us may well have our own ‘health passports’ thanks to the programme.” ■



Tea garden workers gather for a cancer awareness camp in Chubwa in Dibrugarh district of Assam

Quiver full of **arrows**

The trailblazing ‘distributed care’ model to treat and tackle cancer is well on its way to taking solid effect in Assam

Rajmoti Nayak* came to know the crab had its claws inside her after a routine clinical examination. Her symptoms suggested it was breast cancer and that was the beginning of an agonising journey — real and surreal at the same time — the 35-year-old mother of three was forced on to get her health and her life back in order.

From the initial checkup to consultation to testing to getting her subsidy entitlement to hospital admission to surgery to follow-up treatment, Ms Nayak has come through the cancer-survival grind. Given her circumstances — Ms Nayak is the wife of a menially paid daily wage worker — it is something approximating a miracle

that she has come this far and fared so well in her battle to beat back the disease that takes no prisoners.

Helping Ms Nayak and her family, who live in Lahdoigarh in Assam’s Jorhat district, navigate the cancer threat along every step of the way has been the Assam Cancer Care Foundation (ACCF), a collaboration between the Assam government and the Tata Trusts.

Patient-centric pathway

Established in 2017, ACCF is a partnership out of the ordinary, as are its trailblazing framework and its objectives. The Foundation is striving to create a network of patient-centric institutions that deliver high-quality, standardised and affordable care as close to

the homes of cancer sufferers as possible. It will take all of that and more to tackle the complex calculus of cancer in Assam.

The ‘distributed model of cancer care’, as it is known, has four pillars: enhanced access; affordable treatment; uniformly high quality of care; and awareness, early detection and palliative care. The larger goal is to improve cancer care outcomes in Assam and the entire Northeastern region.

The tools for the task ACCF has set itself are state-of-the-art hospitals and diagnostic facilities, cutting-edge equipment and a unified technology platform. These are being supplemented by extensive community outreach programmes that spread the light

on cancer as well as other noncommunicable diseases.

Enhanced access is the most critical component in the distributed care model. The majority of people hit by cancer in India are hobbled by the distances they have to travel to get necessary treatment. The four-level ACCF archetype is designed to ease that difficulty.

At level 1 are apex centres, institutions that have an array of oncology services, from radiation to surgical and nuclear medicine, as well as allied facilities such as high-end labs and research resources. At level 2 are dedicated cancer-care units linked to government medical colleges, equipped with oncology services and related facilities. Level 3 comprises units attached to district hospitals – at Tezpur, Lakhimpur, Jorhat, Tarhan and Kokrajhar – with day-care services, including radiation, chemotherapy and diagnostics. Outreach initiatives that reach the community form the bulk at level 4.

Cutting the distance

It is estimated that nearly 90% of cases can be handled at levels 2 and 3. Patients can get a diagnosis and treatment plan without having to go too far, leaving only complex cases for level 1. A straightforward outcome here is the reduced cost for patients and their families, and an improved likelihood of receiving and continuing with treatment.

“Cancer treatment cannot be given in isolation at a super-specialty hospital,” says Rajiv Pathni, ACCF’s head of operations. “There



A nurse (right) counsels visitors who have walked in for screenings at the kiosk inside the Guwahati Medical College and Hospital

Kiosks calling

Catching the culprit early is half the battle won when it comes to cancer care and treatment. The ‘swasth Assam kiosks’ project, part of the spread of efforts by the Assam Cancer Care Foundation (ACCF) to rein in the disease in the state, is crafted to do that.

Set up at heavy-footfall areas of four medical colleges in Assam – in Guwahati, Barpeta, Tezpur and Dibrugarh – the kiosks enable ‘opportunistic screening’ and health awareness.

The target for the kiosks are family members of patients accessing the selected hospitals as well as other visitors. Getting these people to step into the centres for a general health checkup is the aim. Screenings are done for hypertension, diabetes and oral, breast and cervical cancers. Also on offer are awareness sessions on lifestyle, nutrition and other health-related subjects.

Assam has plenty of use for a novel idea such as this. Over 70% of cancer cases in the states are detected at an advanced stage and mortality rates from the disease are between 40-50%. Lack of awareness and low levels of screening are among the key reasons for the grim numbers.

Each kiosk has a doctor, nurses and support staff, and the look and feel of the place induces walk-ins. More than 4,000 people have availed the services at the kiosks since the first of them was established in January 2020.

Another impactful ACCF initiative has been a collaboration with Amalgamated Plantations for the screening and treatment of workers at its tea gardens. The company’s 21 tea gardens in Assam employ about 85,000 people, many of them with poor health indicators (according to a preliminary survey).

The screenings have revealed a range of disorders among the tea garden workers, emanating from physical, biological, mechanical, chemical and psychosocial factors. Help is now at hand for these people. ■



An ACCF team talks to villagers in Khalihoi in Darrang district about undergoing screenings for common cancers

is a continuum of care that extends from the hospital to the level 1 centre, down to the community and the home of the patient.”

Getting all the levels up to optimum capacity and ready to function in coordination is an immediate priority for ACCF. Work is underway at 10 centres across Assam, covering the first three levels, to have the distributed care model running on all cylinders by March 2022. To deal with gaps in the short term, ACCF is setting up day-care centres at multiple locations to provide chemotherapy and radiation services.

Skilled personnel are an essential requirement at all levels of the model and the net has been cast wide to bring them on board. “You can pump in money and construct beautiful hospitals and you can buy

the best equipment, but where are you going to get people to run these places? That is the most crucial question,” says Dr Pathni.

The Foundation has followed two ways to overcome the people challenge. “One, sons and daughters of the soil who have been working in other parts of the country and abroad, too, want to come back and join hands with us,” says Dr Pathni. “Two, we have been working with medical colleges to offer oncology fellowships and certificate programmes to build a cadre of capable professionals.”

Affordability agenda

The affordability portion in the initiative aims to ensure cashless treatment for eligible patients at all ACCF centres by tapping into central and state government

schemes. Additionally, efforts are being made to secure financial support from philanthropies, nonprofits and other civil society organisations. The intent is to ensure that no cancer patient leaves treatment midway due to lack of funds.

Uniform high-quality care is a cornerstone of the distributed care endeavour and technology its backbone. The enabler here is a ‘digital nerve centre’ (DiNC) that will connect the different elements under the ACCF umbrella to a central command centre at the upcoming level 1 facility in Guwahati. DiNC will help deliver a range of services to doctors and patients at remote sites. Importantly, it will minimise the need for doctors to be physically present at any given place.

The emphasis on quality has been the spur to develop standard operating procedures for clinical and non-clinical functions. On the programme menu are surveys and regular quality checks, an expanded cancer registry for Assam, and a clinical handbook for physicians.

“We are bringing to the table standardised procedures developed at high-volume centres,” adds Dr Pathni. “Now, how do you bring this close to patients? That’s where technology comes in. We cannot reach each and every patient, so we need to co-opt community physicians and doctors at different locations. We partner with them and we train them.”

Reducing the load

The prevention, early detection and palliative care blueprint in ACCF’s to-do schedule is targeted at reducing the case load, and the consequent burden, that inevitably falls on overstretched resources, people as much as institutions. Awareness camps at the community level on cancer prevention and screening play a role here, and so too does a localised protocol for palliative care.

ACCF’s community outreach teams have been working in 10 different locations, helping health officers and healthcare workers in screening patients for three common and easily detectable cancers, oral, breast and cervical. “This is a very, very important component of our programme,” explains Dr Pathni. “Over 70% of patients who come to us are in an advanced stage with their cancers.



Workers getting tested at the Chubwa tea garden estate in Dibrugarh

We want to reverse this ratio of 70:30 to 30:70.”

Assam is the centrepiece of the initiative, which is at various stages of replication in five other states of India: Maharashtra, Andhra Pradesh, Jharkhand, Odisha and Karnataka. Besides the respective state governments, a host of NGOs and other partners are involved in the project.

“Our goal is to ensure that no patient should have to travel more than three hours to reach a cancer care facility,” says Dr Pathni. The biggest advantage ACCF has in realising this goal in Assam is the state government’s support. “If you want to reach the last person in the last village, you have to work with the government.”

Dr Pathni is modest about what

ACCF has achieved thus far. He is just as upbeat about the project’s prospects. “We are many miles from what is desirable, but a beginning has been made. Three-four years down the line, I expect this to become a thriving cancer-care system. The model has structural strength, government backing, the know-how, technology and people to make it viable.”

Bottom lines don’t come into the picture, insists Dr Pathni. “The only money we are talking about is what we spend, and we spend judiciously. The moral and ethical aspects of it are what count. This is a noble mission and I expect people from around the world to learn from it.” ■

**Name changed*



Lightweight battery-operated devices help speed up malaria detection in the field

In step with **support**

Technological breakthroughs, its adoption and scaling up, and committed partnerships are the potent ingredients that the India Health Fund seeks out to counter tuberculosis, malaria and other infectious diseases

Tuberculosis is a disease transmitted by coughing or sneezing, and is highly infectious, spreading from one infected individual to up to 15 others. It kills in excess of 1,200 Indians every single day. That makes the toll taken by the raging Covid-19 virus seem paltry, but then tuberculosis (TB) has always been a much deadlier beast.

Latent in more than a quarter of the world's population and responsible for more than 1.5

million global deaths every year, of which 440,000 deaths are in India alone, TB is one of the country's toughest disease challenges. Malaria — which accounts for some 300,000 cases in India every year, primarily in remote, hilly regions — is another.

Eliminating these two diseases is one of the toughest healthcare goals set by the Indian government, with 2025 as the deadline for TB and 2030 for malaria. To reach these audacious targets, the country has to overcome huge stumbling

blocks in the areas of prevention, screening, testing, ensuring adherence to treatment, and capacity building.

TB and malaria affect marginalised populations to a much greater degree, and solutions in the form of public healthcare investments are inadequate, with the focus primarily on service delivery and infrastructure.

What is needed is scientific, technology-driven innovations that have the potential to bring about

non-linear and disruptive impact in an accelerated manner. The solution lies in the convergence of innovative thinking and tech solutions. To find that, the Tata Trusts set up the India Health Fund (IHF) in 2016 in collaboration with the Global Fund.

IHF's objective is to get India closer to the point of eliminating TB and malaria. "With the rise of noncommunicable and lifestyle diseases in India, the attention given to communicable diseases like TB and malaria had been reducing, but Covid-19 has opened that debate again," says Jayeeta Chowdhury, IHF's programme director.

Capital handicap

TB and malaria do not attract enough capital investments for solutions, adds Ms Chowdhury. "For any scientific and technological breakthrough to actualise, there is a long journey that requires an appropriate ecosystem. It also involves risk-taking as failures are common. But these risks do bring about groundbreaking solutions that can bridge gaps faster."

Capital support to innovators and scientists, mentorship, access to healthcare networks, and implementation design for taking novel technologies to the last mile – these are the areas that IHF looks at. Set up with a corpus of \$15 million, its role is to support innovations – in surveillance, diagnosis, monitoring and prevention – that can be scaled up and, more importantly, taken to the field and placed in the hands

The IHF approach

- Gap analysis prioritisation of problems
- Find, co-create, co-fundraise and co-fund innovations
- Collaborate for resource mobilisation, and the scaling up and implementation of innovations
- Increase access to care by infusing innovations

of community health workers.

The other important goal for IHF is to aggregate resources from the private and public sector to support programme offerings and take approved health technologies to the field.

IHF works with companies and innovators that have proven prototypes or mid-to-late stage products with proof of concept. "We aim to offer end-to-end support for accelerating the development and scaling up of innovations on infectious diseases in partnership with ecosystem players," says Madhav Joshi, IHF's chief executive officer.

The organisation has been transitioning towards multi-disease, platform-based solutions and getting beyond the focus on TB and malaria. "One pertinent step in this strategy has been to adapt to the current pandemic situation and repurpose our portfolio of innovations to address Covid-19," says Mr Joshi. "We look forward to working closely with different verticals of the Tata Trusts to reach the last-mile population."

IHF's projects comprise molecular diagnostics, artificial

intelligence and digital health technology. Targeted to fill key gaps in the healthcare ecosystem, they are affordable, efficient, compact and end-user friendly, thus enabling implementation that is quicker and far reaching. These benefits also make them potential solutions in the fight against Covid-19.

One of the products developed through IHF's support is a diagnostic solution for TB called Truelab™ Uno Dx Real Time Quantitative Micro PCR Analyser, which analyses patient sputum and delivers results within an hour. "Same-day reporting means you can start treatment as soon as possible," says Ms Chowdhury. "This facilitates timely recovery and reduces the risk of the infection spreading, thus helping save lives."

Frontline tool

Developed by Goa-based Molbio Diagnostics, Truelab has been approved by the Indian Council for Medical Research (ICMR) and the World Health Organization for TB. Molbio has demonstrated the feasibility and uptake of the platform in district hospitals and community health centres in five

districts of Uttar Pradesh and Andhra Pradesh.

Truelab uses a multi-disease platform-based technology. So when Covid-19 struck, Molbio was able to quickly adapt the system and integrate testing for the virus into a solution called Truenat™ Beta CoV. The device is being used for Covid-19 testing in Andhra Pradesh and Goa (ICMR will also be deploying it across its testing centres). IHF has joined hands with other players to plan and deploy this test facility in hotspots in Mumbai.

A safer TB test

IHF supports another diagnostic company, Valetude Primus Healthcare, which has come up with a safer way to collect and test TB samples. It also allows multiple testing at the same time, thus bringing down the cost per test. “By enabling TB diagnosis at primary health centres across India, we will be able to detect hundreds of thousands of patients who are missed each year,” says Saurabh Singh, the company’s cofounder.

Artificial intelligence comes into play in one of the IHF-supported solutions. Qure.ai Technologies is a startup that has developed a smartphone-based app that can diagnose TB based on an analysis of chest X-rays. Using image-recognition software, it can identify and predict presumptive TB cases.

TB exhibits zoonotic transmission – like Covid-19 – in that it can jump to humans from animals. IHF supports CisGen Biotech Discoveries to promote a test for bovine TB that can reduce



The diagnostic tool for TB being used in Bahraich in Uttar Pradesh

the disease in the dairy industry. TB treatments take time and can run to months, often leading to patients falling off the regimen due to adverse drug reactions or because they cannot afford to stop working. With IHF support, SenseDose Technologies has developed a device that can help patients adhere to a medication regimen. It also allows the health system to track adherence and supervise treatments.

Another significant innovation involving IHF has been for malaria detection in the field. Hemex Health has come up with an affordable and lightweight battery-operated device that can generate a diagnostic result in just one minute. Hemex’s chief executive, Patti White, says that the IHF partnership has helped the company work with multiple governments to test their solution. “This kind of clinical validation will make our innovation a reality and help India towards its goal of malaria elimination,” she adds.

IHF has a ready pipeline of evaluated novel products for

addressing and improving both demand and supply side in the healthcare spectrum. These are currently being planned for implementation. Besides backing inventive products and tools, IHF plays an advocacy role by bringing together experts to identify, select and prioritise problem areas in TB and malaria.

In search of innovation

IHF has been conducting nationwide ‘quests for innovations’ to look for appropriate novel products and processes that can combat infectious diseases. About 350 proposals have been screened, six initiatives supported, and two rolled out for implementation for TB and Covid-19.

The next wave of solutions for TB and malaria are likely to arise from these quests. By encouraging innovation and technology with funding and go-to-market support, and deployment on the ground to increase access, IHF is lending a hand in the herculean effort to rid the country of TB and malaria and tackle other infectious diseases. ■

Best food forward

Helping India improve its nourishment quotient is the objective of the three-dimensional India Nutrition Initiative

Indians of all faiths are familiar with Ramleela, the dramatic retelling of the epic Ramayan where virtuous brothers Ram and Laxman vanquish the villainous Ravan in the climactic good-vs-evil

battle. In Shahjahanpur in Uttar Pradesh, this story has been adapted into a 'healthier' version called *Suposhan ki leela* (the story of nutrition).

Characters such as Suposhit

Ram and Iron Laxman take the stage to fight Kuposhan (malnutrition) Ravan and his sister Anaemia Surpanakha. It is a fun way to make villagers aware of the need for good and healthy food,



A child bites into nutrition at an *anganwadi* in Rajasthan

and a vignette from the Tata Trusts' ambitious and widely distributed nutrition programme.

Malnutrition is one of India's biggest health challenges and countless surveys have revealed the startling extent of its consequences,

among them stunting, anaemia and babies with low birthweight. The launch of the Indian government's National Nutrition Mission in 2018 has been a catalyst, and a rallying call, in battling these multiple deficits.

The India Nutrition Initiative (TINI) of the Trusts is one of many supporting and contributing to what is a national cause. The Trusts' partnerships forged with governments at the centre and the states have paved the way for TINI



THREE-PRONGED THRUST ANGANWADIS (CHILDCARE CENTRES)

593
centres upgraded
in Rajasthan,
Andhra Pradesh
and Maharashtra

34,557
frontline workers
trained

25,000+
community
awareness events
organised

1,700+
village councils
sensitised

SWASTH BHARAT PRERAKS

322 preraks in
312 districts in
26 states and
7 union territories



600 million+
reached through
edible oils fortification



73 million+
reached through
salt fortification



116 million+
reached through
milk fortification



10 million+
reached through
rice fortification

to participate in the Nutrition Mission in full measure, in project implementation, consultations, advocacy and more.

There are three principal parts to TINI's efforts, which unfold in 26 states: refurbishing *anganwadis* (government childcare centres), backing food fortification initiatives, and placing 322 trained young men and women — called Swasth Bharat Preraks (SBPs) or nutrition fellows — at the service of district administrations to help with the Nutrition Mission.

Anganwadis get ahead

The work that TINI has done with *anganwadis* — 593 of these centres have been upgraded in Rajasthan, Andhra Pradesh and Maharashtra — is the most impactful. Under a programme called 'making it happen', TINI works directly with village communities to bring together *anganwadi* staff, community health workers (known as Ashas) and auxiliary nurses and midwives.

The *anganwadi* takes pride of place in nutrition and related activities for children and their mothers. The centres are brightly painted, have equipment and learning material and, importantly, trained frontline workers.

The growth metrics of children, from newborn babies to those aged six, are measured and entered into an all-India dashboard. New mothers and infants get a weekly 'take-home ration', a dry powder that makes for a nutritious porridge. Older children get a nutritious meal daily at the centres.

Sarita Khushwah, an *anganwadi*

worker in Rajasthan's Dholpur district, says the transformation of her centre has been a draw for children: "Earlier, it was difficult to get the kids to come here," she says. "Today my *anganwadi* is better than a school. Children start queuing up at 9 in the morning, even though the centre normally opens at 10. We have 34 children at the centre and they don't want to leave even when the time is up."

Getting the frontline workers to operate in concert (they come under different ministries) is the programme's biggest achievement. The impact of this coordination was demonstrated in May 2019 with a small project in Malpura in Rajasthan's Tonk district. About 50 children and their mothers from eight *anganwadis* were the subjects of much attention, and their progress on nutrition metrics the measure of impact. In three months,

the number of malnourished children dropped from 33 to one.

Building awareness in the community is a crucial element in the programme. TINI has organised more than 25,000 community awareness events, while also educating some 1,700 *panchayats* (village councils) on how to make the centres of best nutritional use for their people.

Centres of attraction

Hari Om Singh Parmar, head of the Paraua *panchayat* in Bharatpur in Rajasthan, hits the nail on the head when he says, "From vaccination to nutrition, the *anganwadi* is the centre of the village. The villagers have realised that without such *anganwadis* our next generation is at risk."

The SBP project is cut from a different kind of cloth. Here the attention is on enabling district



The food fortification effort targets five staples: salt, milk, wheat, rice and edible oil

administrators to be as effective as possible in driving the government's nutrition initiatives. The *preraks* play several vital roles: they support the government machinery in administering community nutrition programmes, ensure data on undernourished children is captured, and they think up innovative ideas to raise awareness about nutrition.

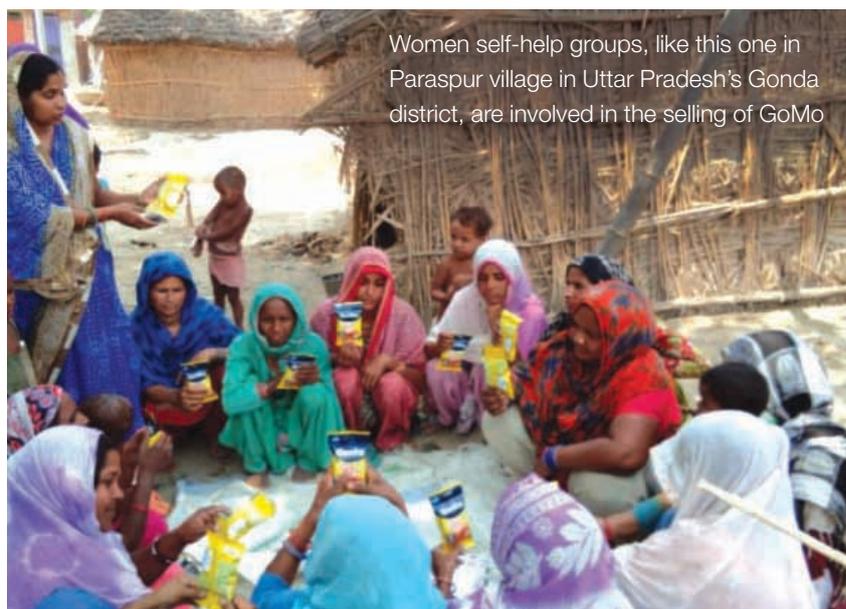
"The preraks bring diverse perspectives and they work successfully with stakeholders in the field," says Vinita Vaid Singal, former principal secretary with the Department of Women and Child Development, Maharashtra.

Fortifying the country

The food fortification component in TINI's basket is all about raising nutritional levels across all ages and regions. Addressing micronutrient deficiency — as much as 75% of Indians may be falling short on this count — is the goal. That means delivering iron, folic acid, vitamins, iodine, etc, through staple foods, a solution with the potential to reach hundreds of millions of people.

Collaboration with the government is, yet again, the preferred way and five staple foods — salt, milk, edible oil, wheat flour and rice — get the fortification treatment. Oil and milk are targeted to deal with Vitamin A and D deficiencies; wheat flour, rice and salt address the problem of anaemia through fortification with iron, folic acid and B12.

Fortified salt, oil, wheat and rice reach beneficiaries through the country's public distribution



Women self-help groups, like this one in Paraspur village in Uttar Pradesh's Gonda district, are involved in the selling of GoMo

Fast and healthy

It's a matter of pull vs push. Working on the premise that improving nutrition levels is easier with healthy, tasty and affordable food products, the Tata Trusts partnered Mars Inc to create a nutritious snack called GoMo.

Made from yellow peas, which are high in protein and fibre, GoMo was developed in 2018 in association with the University of California, Davis, and St John's Research Institute, Bengaluru.

The challenge lay in creating a supply chain that would take the snack into rural India. The Trusts tied up with multiple partners to create a network of women entrepreneurs — called GoMo *sakhis* (friends) — who promote the message of nutrition while earning money on sales of the snack.

More than 1,700 women entrepreneurs have sold 2 million packets of GoMo in 4,626 villages across 14 districts of Uttar Pradesh, Maharashtra and Gujarat. ■

system, and fortified milk is sold through the public-sector National Dairy Development Board (NDDDB). Food fortification has now been adopted by 22 states and five union territories, making micronutrients accessible to 600 million Indians.

TINI is active at multiple levels in this exercise. It supports the

Food Fortification Resource Centre and it drives advocacy and implementation at the state level.

In Andhra Pradesh and Maharashtra, TINI works with rice millers to fortify rice for the public distribution system. The programme also works with NDDDB Nutrition Foundation for milk fortification. ■

Mother, child and more

Community outreach and technology have proven to be invaluable in maternal and neonatal health programmes in three states

Ash can be a killer, especially for newborns. At 1.97 kg, Sumati* was born underweight and in danger when a visit by the local Asha (accredited social health activist) to the day-old baby's village, Kanudih in Uttar Pradesh's Varanasi district, revealed a malady common in these parts — an infected umbilical cord.

Sumati was found to be too weak to breastfeed and running a fever, but the real villain of the piece was the ash applied to the child's umbilical cord, supposedly to quicken the healing process. As it did for Sumati, this local practice often causes sepsis, which is one of the reasons rural Varanasi has an infant mortality rate of 55 babies per thousand, close to double the national average of nearly 31.

Dismal picture

Infections of the kind are not the only peril for mothers and infants in Varanasi, where four out of five high-risk babies — those born premature, with low birthweight or cannot be breastfed — die due to lack of proper medical care. The picture is just as dismal in many other regions of India.

The maternal mortality rate (women dying during childbirth) in the country stands at 122 per 100,000 births. The Indian

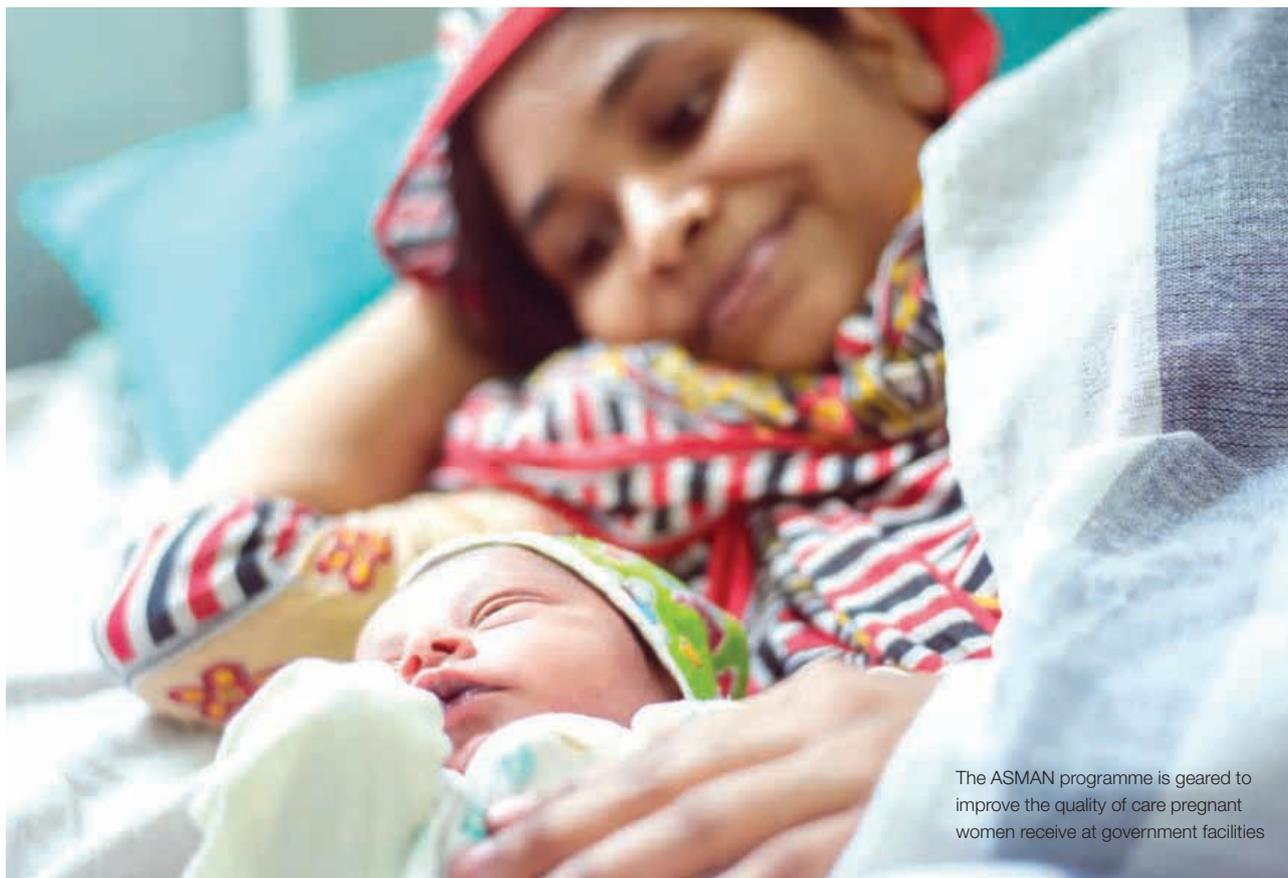


Operational in Varanasi, 'Mission Asha' focuses on saving high-risk babies

government's goal is to bring the figure down to 70 by 2030 and the infant mortality rate to 25 per 1,000 births over the same period (both in line with the United Nations' Sustainable Development Goals).

And it needs help to achieve this linked double target.

The Tata Trusts' maternal and neonatal healthcare programme is aimed at providing just that sort of help. One of the big interventions



The ASMAN programme is geared to improve the quality of care pregnant women receive at government facilities

here is the Mission Asha project in Varanasi and another is ASMAN (Alliance for Saving Mothers and Newborns), running in Rajasthan and Madhya Pradesh. The broad goals of the two initiatives are the same: strengthening the capabilities of state healthcare systems. But they are quite different in their details.

Mission Asha has taken the community outreach approach to improve home-based care for high-risk infants like Sumati. Started in October 2019, it will eventually cover nearly 2 million people in 1,295 villages and directly benefit some 56,000 babies every year. At the heart of the endeavour is the training of some 2,000 government-appointed community health workers – the Ashas – to reach out to new mothers.

Involving about 20 team members, the programme has trained 900-plus Ashas in home-based care. Most of the training happens in the field, with the Ashas learning to weigh babies, take temperatures, clean the umbilical cord, keep records, etc. The most important facet here is identifying and providing care to high-risk births as quickly as possible.

The critical hours

“The first 48 hours are critical,” says programme officer Charu Johri. “If we fail to check the baby within that time, the risk of death is very high.” To ensure adherence to the 48-hour deadline, each team member visits 15-16 babies every day along with designated Asha workers.

The team gets information on

births from the district health system and nurses and midwives at health centres use Whatsapp messages to report infants at risk.

With every birth reported, the project team calls the local Asha to visit the child’s home as soon as possible. The baby is weighed, the temperature is taken and the mother is shown how to keep the baby warm and breastfed. Educating families to desist from using ash and feeding anything but mother’s milk is part of the agenda. As with Sumati, the team provides medicines where necessary.

These simple home procedures have been a boon for mothers and their infants in Varanasi. The Ashas, who typically have to deal with breastfeeding issues, cord infections, hypothermia,

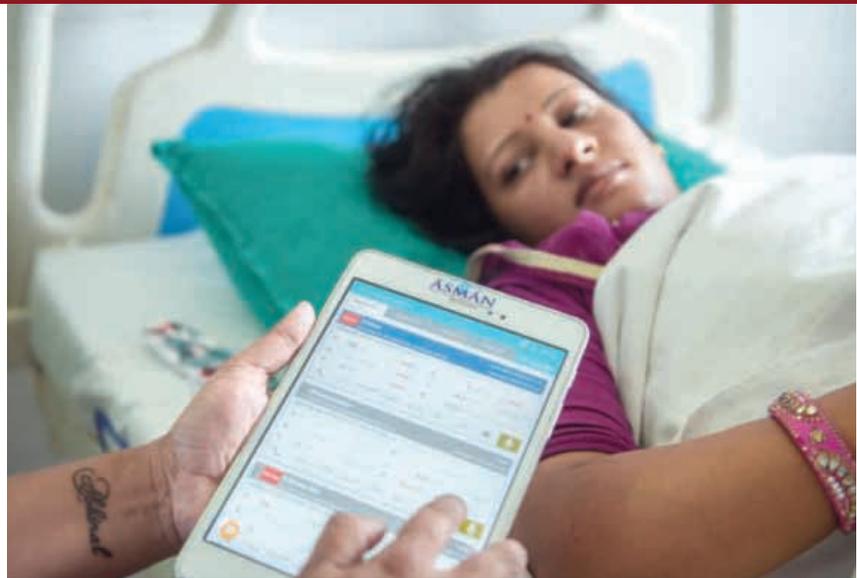
pneumonia and sepsis, have made a difference where it matters. “Our project processes for reporting cases, managing equipment and supplies, and offering incentives to Ashas have helped,” says Ms Johri.

With ASMAN, the other significant project under the Trusts’ maternal and neonatal healthcare umbrella, technology is the star element. A collaboration involving the Trusts, the Bill & Melinda Gates Foundation, MSD for Mothers, Reliance Foundation and the United States Agency for International Development, ASMAN was launched in 2017 in four districts each of Rajasthan and Madhya Pradesh.

Bedside technology

The initiative is geared to improve the quality of care for pregnant women at government facilities, especially during the critical labour and immediate post-delivery periods. Technology, in the form of a tablet-based protocol, is used at the patient’s bedside with a simplified checklist tool that guides nurses through safe deliveries. The tablet monitors patients and fetal heartbeats, sends out alerts to doctors in emergencies, and uploads data onto a government dashboard.

Nurses are the most important personnel in the process. Says Pratibha Nagtilak, the Tata Trusts lead on the project: “Typically, it is the nurse who is present through the delivery. She needs to be properly trained to handle complicated cases. The tablet has a decision-support tool that guides her through the protocols for difficult cases.” Close



The ASMAN advantage

81 facilities in Rajasthan and Madhya Pradesh

250,000 mothers monitored

72 to 7 (per 1,000) reduction in post-partum haemorrhage cases

42% reduction in rate of stillborn babies

104,490 high-risk cases detected and treated

Ashas come home

2 million people to be covered in **1,295** villages

914 Ashas and **41** Asha supervisors trained

56,000 newborns to get home-based care every year

532 high-risk newborns provided with treatment

to 950 nurses have been trained to use the technology.

The tech aid gives the nurses confidence to handle complicated cases, boosts their knowledge and minimises the drudgery of paperwork. It also speeds up patient referrals from one centre to another, besides enabling health workers and

officers to monitor and manage high-risk cases in real time.

Getting all stakeholders on board has not been easy. The project team often has to handhold staff nurses to ensure that data is accurately seeded and doctors have to be prodded to check up on high-risk cases. But the effort is

paying off in terms of numbers and patient experience at the 81 facilities in the initiative. That explains why the Rajasthan and Madhya Pradesh governments are now rolling it out across all districts of the two states. ■

**Name changed*



ASMAN uses a game-based method to train nurses

Gaming for training

Playing this game can save lives. The ASMAN programme uses a game-based method, developed by Bodhi Health Solutions, to train nurses, with 29 game scenarios that simulate real-life cases such as maternal sepsis and pre-eclampsia.

Nurses play the game on their mobiles and go through five levels of increasing difficulty. Loaded with images, patient history, obstetric history, vital parameters, etc, the training thus

imparted helps nurses identify high-risk cases and decide quickly on proper treatment.

Counselling nurses to play the game regularly is one of the tasks under ASMAN. Nearly 550 nurses are on this playlist and nearly 200 have finished all the levels. The project has built in an element of competition: nurses can see other participants' scores and this spurs them to keep playing to do better. The winners in this game are the mothers and babies. ■

Hand in **healthy hand**

Collaboration with state governments, training and technology are pillars of the ‘health systems strengthening’ spread

When 40-year-old Pramila Irudhundi* sat down for a health screening in the town of Mancherial in Telangana, she thought it would be a routine checkup. What the nurse discovered was an advanced case of breast cancer. The detection led to Ms Irudhundi getting timely care and treatment at the MNJ Cancer Hospital in Hyderabad.

Catching the disease was the key for Ms Irudhundi, one of about 8.8 million people screened through the pan-India noncommunicable disease (NCD) application that the Telangana

government has rolled out across the state. The numbers — with 5 million-plus awaiting their turn — highlight the gargantuan nature of the screening exercise, which is being undertaken by the state government in partnership with the Tata Trusts.

Push for public healthcare

This pilot project is one of several under the ‘health systems strengthening’ (HSS) rubric of the Trusts, an area where effort is concentrated on enhancing various aspects of the public healthcare structure of different state governments. The methodology for

this involves training, technology and the use of models that can be scaled up.

Training is a standout feature in the Telangana portion of the programme. More than 9,000 people, among them nurses and medical officers, have been trained to screen citizens, capture data and digitise records. The digitisation part is vital. “Digitising health data enables better evaluation, followups and a seamless continuum of care for patients,” says M Venkat Rao, the HSS programme officer for Telangana.

Telangana is also the stage for another large-scale pilot in the HSS



The urban primary health centre in Futala in Nagpur sports a welcoming new look and its services have improved a whole lot

portfolio, a telemedicine centre that employs a hub-and-spoke model. The hub, called the care and coordination centre, is staffed by 18 doctors. These doctors use videoconferencing to consult with patients at 95 health centres in four districts. Treatment is suggested on the call or the cases are referred to hospitals.

The centre, which handles about 2,300 calls a month and does everything from fixing appointments to tracking treatment, is a joint venture with the Telangana government, which provides funding, infrastructure and specialist doctors. The Trusts contribute with hardware and software and a team of doctors, field managers and call coordinators.

Mr Rao says the care centre prototype offers more than just telemedicine. “It can take about 40% of the load off the

overburdened public healthcare system. Tier-three hospitals in urban areas are unmanageably crowded and even critical cases get sidelined. Patients from remote areas are referred there but they have to spend money on travel, sometimes just to show a report.”

Time and money saviour

The government is planning to extend the model to more districts and connect around 1,000 urban and rural facilities. As and when that happens, the benefits will flow in to an ever-greater extent. “Such centres save people time and money while also improving accessibility, since patients get quality consulting closer to their homes,” adds Mr Rao.

In Maharashtra, the Trusts’ HSS engagement involves improving healthcare services for the urban poor. The project emerged on the back of a 2014 survey which showed that the urban poor faced almost the

same issues as their rural counterparts in getting quality healthcare. Although municipal corporations were allocating funds to run urban primary health centres (UPHC), as much as 60% of this was not utilised properly.

In 2018, the Trusts partnered the state government to create model UPHCs in Nagpur city. Over the last two years, 22 out of 26 centres have been upgraded and the results are striking. “These facilities would see about 20 walk-ins a day; today, they attract five times that number,” says Amar Nawkar, the HSS programme officer in Nagpur.

What has convinced Nagpur’s citizenry to trust public healthcare is the change they see and experience at the model centres. Computer and internet connectivity, essential drugs and equipment, a hi-tech lab that offers free diagnostics and testing, not to

Foursome forward

The ‘health systems strengthening’ vertical of the Tata Trusts reinforces state healthcare structures through...

- **Public-private partnerships**
- **Capacity-building**
- **Technology**
- **Scalable models**





Doctors at the Tata Trusts' telemedicine centre in Hyderabad, which has taken some of the load off government hospitals

mention an attractive layout and furniture – these centres have been designed with patients in mind.

Bringing the centres up to scratch has been an intensive exercise, the biggest challenge being to change attitudes. “We realised that change management called for all the actors – doctors, medical officers and UPHC staffers – to be aligned with a unified vision,” says Dr Nawkar. Team-building exercises were conducted and space was made for things like empathy training (making patients comfortable by greeting them with a smile and compassion).

What keeps the model sustainable is the ‘governance council’, comprising representatives from the government and the Trusts, which provides oversight. And the overall approach itself was crafted to ensure that personnel changes – frequent at the government level – don’t affect the functioning of the centres.

The Nagpur model has drawn the attention of other states and the Trusts are now carrying out a

similar intervention in Raipur in Chhattisgarh. A team of 10 doctors and nurses were sent from Nagpur to participate in the initial training in Raipur. “Hearing their experiences has helped the Raipur participants come on board faster,” says Dr Nawkar.

Learning in Kerala

Besides Telangana and Maharashtra, the Trusts have an unusual HSS project running in Kerala, through a partnership with the state government to build an apex trauma and emergency learning centre (ATELC) at the Government Medical College in Thiruvananthapuram. The logic for it is strong.

“Kerala records 40,000-plus road accidents and 50,000-plus related casualties every year,” says Pratibha Nagtilak, the programme officer for ATELC. “The Kerala government wanted to upskill doctors and nurses to handle trauma and accident cases more efficiently.”

The centre focuses on training medical personnel to handle the

golden hour, that critical period which is often the deciding factor in whether an accident victim lives or dies. The training is conducted by the Hyderabad-based Care Institute of Health Sciences and there are courses for doctors, nurses and attenders on specific techniques to keep the neck and spine supported, airway management, defibrillation and life support, etc.

“The Kerala centre is a unique project because of the Kerala government’s desire that this healthcare system attain global standards,” says Dr Nagtilak. The training, which started in January 2020, will cover more than 9,000 medical personnel.

The HSS projects in Telangana, Maharashtra, Chhattisgarh and Kerala are diverse in terms of geographies, methodologies and impact on beneficiaries, but they have one factor in common – they aim to permanently up the quality quotient of the healthcare systems in the respective states. ■

**Name changed*



Doctors in mobile medical units help keep encephalitis at bay in Gorakhpur's villages

Stemming the **spread**

Technology and hygiene are powerful weapons in the community armoury when combating malaria, encephalitis and their like

Covid-19 is a recent killer but in India's backward regions, communicable diseases such as encephalitis, malaria and typhus have held deadly sway for years. Last summer more than 160 children died of acute encephalitis syndrome (AES) in Bihar's Muzaffarpur district. The tragedy showed up India's weak rural healthcare system, and the need for bolstering it.

The battle against communicable diseases occupies sizeable space in the Tata Trusts'

spread of programmes in healthcare. This includes plugging gaps in village-level healthcare systems, building the capabilities of local health workers, providing medical resources in rural regions and educating communities about sanitation and hygiene.

Gorakhpur district in Uttar Pradesh, which was the centre of an AES blight, and South Odisha, a region that was once home to 40% of India's malaria cases, are two places the Trusts have devoted special attention to.

The Gorakhpur initiative started in 2018, about a year after the district's count on AES accounted for two-thirds of Uttar Pradesh's tally of 4,000 cases and 600 deaths. Project Prayaas, operational in two sub-districts of Gorakhpur, was aimed at tackling the menace of a neurological disorder that affects the brain and nervous system and poses a greater risk to young children.

AES is caused by a cluster of diseases such as Japanese encephalitis, dengue and typhus,

and is transmitted through viruses, mosquitoes, rats and unclean water. Prevention is the panacea here and this can be done best through community awareness sessions, improved hygiene and sanitation, and a nimble medical response system. These are aspects that Prayaas concentrates on.

Red is for stop

The backbone of the programme are Ashas (or accredited social health activists), community workers who are at the frontlines of the Indian government's National Rural Health Mission. Prayaas trains Ashas to identify AES cases through a simple diagnostic method called the 'traffic light protocol'.

The protocol helps them recognise 'red' or serious AES symptoms (fever, delirium and mental confusion) early so that the affected get treatment in time. The Ashas of Gorakhpur have tracked more than 12,900 AES cases and have been instrumental in getting some 26,650 children vaccinated.

About 74% of the children covered under the project are now immunised against Japanese encephalitis and mosquito nets treated with insecticides help keep sleepers safe. Just as important in the project is the decentralisation of care for victims. "Since the Ashas track patients with fever, cases are reported early and this is a big help," says Avinash Choudhary, the chief medical superintendent at the Uska Bazaar community health centre.

Prayaas has three mobile medical units (MMUs) to extend the healthcare safety net to villages.

With a doctor, a nurse, a pharmacist, a lab technician and equipment to conduct 50 tests, the units speed up the identification of cases and treatment in remote areas. Each doctor at an MMU sees around 2,000 patients every month.

Prayaas also works to deal with dengue and typhus as these diseases often escalate into AES. Dengue is countered through a community campaign for cleanliness, pushing villagers into the habit of checking for standing water or garbage, which are breeding sites for mosquitoes. Last year, this campaign reached out to 12,000 homes in 50 villages.

The Prayaas team works closely with *panchayats* (village councils) to improve water drainage and spray larvicides to reduce mosquito breeding. The intensive efforts on different fronts have brought down Gorakhpur's AES death toll drastically.

As with AES in Gorakhpur, so

with malaria in South Odisha, with its rough terrain and a tribal population that is particularly susceptible to health disorders. In 2016, the Trusts partnered the Odisha government to minimise malaria deaths in three districts of South Odisha: Kandhamal, Rayagada and Kalahandi. The goal was to bring deaths from the disease to zero and reduce positive cases by 40%.

Drop zone

The implementation partner for the Trusts here is the Livolink Foundation and a robust community outreach effort is the chosen way. The zero deaths target was reached three years ago and new cases have dropped by 87% since 2017. The success in Odisha was a factor in India becoming one of only two countries to reduce malaria cases in the 2017-18 period.

The strategy in south Odisha focused on regular screening of



Schoolchildren encourage the use of insecticide-treated mosquito nets during a street campaign in Bardaha village in Uttar Pradesh's Siddharth Nagar district



The fight against AES and malaria

AES — GORAKHPUR DISTRICT, UTTAR PRADESH


350,000
households
reached


263
villages covered


39,672
patients
treated at mobile
medical units


236
community
health workers
trained


12,917
cases of fever
monitored


26,651
children
vaccinated

MALARIA — SOUTH ODISHA REGION, ODISHA


310
villages covered
in 3 districts


124,536
people screened


39,557
malaria tests
conducted


10,403
cases treated


87%
reduction in
positive cases
since 2017


23,350
insecticide-
treated mosquito
nets distributed

residents in 310 malaria-endemic villages. Support is delivered by a unique team of people – village health volunteers – and technology has been brought into play.

Livolink has screened nearly 125,000 people, tested about 40,000 and treated in excess of 10,000. “Earlier, villagers would spend a lot of money to get malaria treatment, mostly from quacks,” says Bharat Hikabadi, who heads the Raskola *panchayat*. “Now people get free treatment at their doorstep and blood tests are done twice a year.”

Public awareness

The fight against malaria is now being intensified by screening migrant workers and testing family members of patients to stop potential transmissions. Public awareness campaigns are the cornerstone of the programme. Audio spots on All India Radio, a short film on local TV channels and awareness sessions in 350-plus schools have helped spread the message.

More than 8,500 community meetings have been organised under the project, about 1,600 mosquito breeding sites have been destroyed and some 23,000 mosquito nets have been distributed.

Science plays an effective role in the programme. The Trusts have funded genetic studies of local tribal communities to understand their vulnerability and rapid-detection tests have been developed. The Trusts have shown that technology, hygiene and community awareness are a winning combination against communicable disease. ■



A village health volunteer does a malaria test in south Odisha

Village volunteers to the fore

South Odisha is home to tribal communities living in hilly terrain, with hamlets that can be reached only after hours of walking through forests inhabited by snakes and wild animals. Health awareness is poor and disease rates are high here and that has complicated the challenge for the Tata Trusts and its implementation partner, the Livolink Foundation.

The solution to reaching remote tribal communities and educating them has come in the form of village health volunteers (VHVs), a cadre of locals aged between 20 and 35. Trained through the Indian government’s National Vector Borne Disease Control Programme, there are 263 VHVs and they are at the frontlines of the initiative, first responders in villages where there are no regular health workers.

VHVs keep medicines handy, organise early testing and treatment, and do follow-up visits.

“We have a trained volunteer named Salman Mallick in our village,” says Bhima Budu Majhi, a resident of Budabiormaha village in Kotagarh sub-district. “We go to him for free diagnoses and treatment, and he conducts community meetings to build awareness among us. We no longer have malaria in our village and we are really happy about that.”

In 2019, the Trusts put technology tools in the hands of the volunteers. They have been trained to use a tablet-based app to enter data that helps Livolink monitor the quality of malaria interventions in remote areas. The tab-based system has been rolled out in 223 villages, all of them healthier than before and far better connected to the world beyond. ■



Large-screen TVs have been installed in the wards at the Regional Mental Hospital in Nagpur

From care to cure

The treatment and rehabilitation of mentally ill patients is at the heart of Udaan, a unique endeavour with multiple dimensions

Iwish I can have a normal life, wear good clothes, maybe get a small job and live independently like others.” Asha Meghe’s* backstory makes that yearning seem forlorn. Or perhaps not.

Life can be hard, and harder still without luck. Ms Meghe has had too much of one and precious little of the other. Home for her is the Regional Mental Hospital in Nagpur (RMHN), and it has been so for 38 long years. She got admitted to the place when she was about 12, two summers after being separated from her family, she says. The in-between period, Ms Meghe adds, was what made her lose her mental equilibrium.

“I used to roam the streets; nobody gave me food and I was too exhausted,” says Ms Meghe of the time leading up to her ailment. “I approached a house one day, begging for something to eat. The people there fed me and allowed me to work there. But they used to abuse me verbally and physically. That’s when I became mentally unstable.”

Helping Ms Meghe and people like her regain their sanity — and their dignity — is the intent driving Udaan, a Tata Trusts programme that has set new standards in the care and treatment of India’s mentally disabled. Initiated in 2016 and now in its second phase, this is a collaborative effort with the

Maharashtra government that takes in institutional reform, community-based mental health services, technical support and individual patient care of the kind that may yet bring Ms Meghe the ‘normal life’ she craves.

Udaan began with a comprehensive initiative that has transformed RMHN, a colonial-era relic then in dire need of an overhaul. The programme has played the role of enabler in effecting just that. With patient welfare and recovery as the focus, the institution has come through an inclusive and broad-ranging process of remodelling and modernisation. The objective was to

turn RMHN into a centre of excellence and learning.

Refurbished wards, day-care centre and half-way home, automated data management for patient tracking and treatment, an emphasis on cleanliness and personal hygiene, televisions and phones in the wards, movie club, library and meditation room, gym equipment, open spaces, dance therapy and art sessions, hair salon and beauty parlour, a buffet system for meals, in-house farming, coloured clothing instead of drab uniforms, competitions and even fashion shows – RMHN has gone the distance and beyond with its recasting agenda.

Embedding empathy

Crucial here has been the embedding of empathy in the way patients are cared for and treated. This could not have happened without the committed participation of the hospital's staffs, ward attendants as much as nurses, in the exercise. Training, based on revised care protocols, and capacity building have been important in the context. Included in the reforms package was a cleaning up of patient records, which are now organised and archived properly.

The 'district mental health programme' (DMHP) in Udaan is wider in scope and with the potential for greater impact than what has been attempted at the hospital. Launched in early 2018 and deployed in seven subdivisions of Nagpur district, DMHP is a community-based module through

which more than 300,000 people have been screened for mental ailments. Conducted door-to-door, the idea is to fuel awareness of mental health issues in rural communities, detect those who need help and provide treatment close to the patient's home.

DMHP is cast in a mould that makes it implementable in the rest of Maharashtra and across the country. The programme's delivery mechanism depends on the state's public health system at the district level. With local government hospitals tapped to offer treatment and medicines, a mental health helpline, day-care centres and half-way homes, data management, and psychiatrists who also function

as trainers and mentors, the programme has a host of elements to extract the best outcomes.

Udaan also has a 'technical support unit', including training packages for health workers and data analytics, to aid the government in crafting an integrated mental health package that improves the availability and quality of care for the state as a whole. This component has gained in traction but not satisfactorily enough. Its promise is not in doubt, though.

What has flowered, particularly over the past year, is the individual care package for patients at RMHN. Need based and intensive in nature, the approach here is

Finding the balance

A collaboration with the Maharashtra government, Udaan works on four fronts to alleviate the suffering of the mentally disabled:



Institutional reform

Process overhaul and infrastructure development at the Regional Mental Hospital, Nagpur



Community module

Screening, detection and treatment initiative covering 300,000+ people in Nagpur district



Individual care

Holistic care-and-treatment protocol that has benefitted more than 100 patients



Technical support unit

Staff training and data analytics to create an integrated mental health package for the state

holistic. Patients receive pinpointed attention to reduce disability and promote independence in thought and movement. The end goal is the psychosocial rehabilitation of randomly selected sufferers and their reintegration into society.

Employing established principles of case management, the package is designed for those who have been living in a mental institution for long. The concept is simple: enable individual patients to develop their abilities and renegotiate their space in a hospital environment.

Well-trained case managers are of the essence to make the method work. Among the elements involved are accommodation, safety and food, social relations, symptom management, connecting with family, occupational and financial inclusion, emotional and physical wellbeing, leisure activities and life skills.

Debris of disconnect

This may all sound straightforward enough, but wresting success with those whose minds are filled with the debris of disconnect is demanding in the extreme. The work is punishing and returns are uncertain even when every protocol of therapy is followed. “Individual case management is one of the toughest assignments I have done as a professional,” says Archana Lade, a case manager with Udaan. “It is hard work but you can see the difference in the patient. And that can be huge.”

More than 100 patients at RMHN have benefitted from the individual care package. The basis



An Udaan team member (left) on a home visit in Sukali village in Nagpur

for their recovery and healing is the relationships they have formed with their case manager. Building such relationships can be exacting, given the convoluted trajectories of severe mental illness and the experiences and vulnerabilities of those who have to live with it, not least poverty, social disadvantage and, frequently, abuse.

Udaan has come a long way, but there are many miles left to be covered before the slated end of its timeline in December 2022. As with much of the world, the Covid-19 pandemic has slowed everything down. “Ours has been a steady upward journey,” says Tasneem Raja, who leads the programme. “We have almost completed all the clinical processes and the structural reform. The patient half-way home at RMHN is up and running, as is the family ward. And we are on the verge of adding a bakery and a day-care centre.”

What remains is the integration into the community of long-stay patients. That’s part of the individual care package and far from easy to pull off in a jiffy. “For

patients with severe mental illness, you need a one-on-one interface,” explains Ms Raja. “This was very, very difficult and challenging at the start. But then the changes [in patient behaviour] began happening and our team experienced some extremely emotional moments.”

Ms Raja is more than hopeful that the lessons and voices emerging from Udaan will be heeded, and not merely in Maharashtra. With close to 200 million of its citizens suffering from some form of mental illness — depression accounts for about a quarter of cases — India as a whole can benefit too, from implementing what is a unique and proven endeavour that has produced tangible results.

“There is no reason why Udaan should not spread,” says Ms Raja. “The time is opportune because, very clearly, mental ill-health is a fallout of the coronavirus outbreak. It also helps that a lot of resources are flowing into the mental health sector from philanthropies and the like.” ■

**Name changed*



The Elder Spring programme is about creating an empathetic environment for India's senior citizens

Photo Credit: Paul Maguire

Spring in their step

More than 60,000 senior citizens have plugged into the Elder Spring programme, a three-pronged effort to give a voice to India's ageing

Why fret about tomorrow if today be sweet?" Gowri Jayaram's

outlook serves her well and that's a boon for this 81-year-old who hails from a family of doctors. Dr Jayaram lives alone in Secunderabad in Telangana and the fact does not faze her. "I'm a practical and positive person and I have learned to take one day at a time. I make every effort to keep my mind, my body and my house clean."

Ganpat Velladi, a 70-year-old farmer from Chanai village in Maharashtra's Chandrapur district, is not as financially stable as Dr Jayaram, nor quite as sanguine as her. "Proper food and health are the major requirements at this stage

in my life," he says, "My wife and I cannot afford anything more than what we earn."

Dr Jayaram and Mr Velladi represent two shades from the spectrum of ageing people who have been reached by the Elder Spring initiative of the Tata Trusts. Launched in 2017, the programme's overarching objective is to help create an empathetic environment for India's senior citizens.

Hearing their voices

Elder Spring is a committed attempt to fashion models of care and comfort for the country's ageing. These models are aimed at providing them with accessible healthcare, opportunities for social

interaction and financial self-sufficiency, and the reassurance that their voices will be heard. The endeavour is, most of all, about bringing dignity and a sense of hope to India's silvers.

The target here is an ever-growing segment of the population that is currently pegged at about 130 million people. Despite multiple well-meaning efforts by governments at the centre and in the states, the concerns and priorities of our ageing — classified as those past 60 — remain largely ignored. The need to address these is immediate and acute.

There are three parts to Elder Spring: a rural component that functions in close coordination

with state public health departments in one district each in Maharashtra, Telangana and Karnataka; an urban hub-and-spoke archetype – initiated in Bhubaneswar and now expanded to Hyderabad – that works as engagement centres for the ageing; and an ecosystem-building slice that comprises a toll-free response system (or helpline), a digital platform and advocacy.

The different aspects of the programme seek to tackle the gamut of issues faced by the elderly, including higher rates of depression and noncommunicable diseases, widespread illiteracy, locomotor and visual disabilities, verbal and physical abuse, lack of social engagement and financial dependency. A hidden blight here is the ‘feminisation of ageing’ (single women are the most vulnerable group among the elderly).

Rural silvers

Operational in the districts of Chandrapur in Maharashtra, Medak in Telangana and Yadgir in Karnataka, the rural project is essentially a partnership with the public health departments of the three states to implement the Indian government’s National Programme for the Healthcare of the Elderly. Contained within are dedicated weekly clinics for the ageing at primary health centres, village activity centres, and training for doctors, paramedical staff and community health workers in geriatric assessment and care.

Under the project, more than 3,500 clinics have been organised at

PARTNERSHIP PATH

Components of the Elder Spring programme, which operates in collaboration with governments in four states

RURAL PROJECT

Health clinics and village activity centres in Maharashtra, Telangana and Karnataka

URBAN PROJECT

Engagement centres in Bhubaneswar (Odisha) and Hyderabad (Telangana)

ECOSYSTEM BUILDING



24-hour helpline for elders in Telangana



Nationwide digital platform for the ageing



Advocacy to highlight senior citizen issues

89 health facilities in the three districts. Visiting elders have health cards that make it easier to track and treat their ailments. Over a two-year period, in excess of 53,000 people have availed of the screening and healthcare services on offer at the clinics, which have also catered to about 135,000 outpatients.

The village activity centres – there are 68 of these in all – serve a purpose almost as important as the clinics. About 1,200 elders are registered at these centres, which have a slew of events on their calendar: yoga and exercises, awareness and counselling sessions, recreational pursuits and inter-generational bonding.

The urban module began in

Bhubaneswar in 2018 as a collaborative undertaking with the Odisha government. One reason for piloting the project there was the higher proportion of elderly in the state (9.5% of the total population in comparison with the India average of 8.6%). Another was the enthusiasm of the Odisha government, among the few in the country with a senior citizens policy.

The Bhubaneswar engagement centre, as it is called, is tailored to promote happy and active ageing. It has developed the infrastructure and seeded a range of activities to do precisely that: yoga and aerobics, digital literacy, sessions on health and spirituality, music, painting and dance, a library, recreational

games, volunteering, and reskilling to find gainful employment.

The 4,000-sq ft centre is the hub and this is designed to cater to elders from the middle class as well as those from lower income groups. The intent is to extend the reach of the hub to subcentres, or spokes, which would ideally come up in every city ward. One such spoke is already up and running and others could join the list as the project progresses. About 115 senior citizens have registered at the centre and some 2,500 others have been covered through various sessions.

First-of-its-kind helpline

The ecosystem-building component is, potentially, the most impactful of the three components in Elder Spring. The centrepiece here is the response system, built on a technology platform that is the first of a kind in India and crafted to cater to the many needs of the ageing, from general information (on caregivers, elder-friendly products, old-age homes, etc) and guidance (on legal issues, pensions and the like) to emotional support.

The bedrock of the system is the partnerships with multiple arms of the Telangana government that have enabled it. The system has, in the year since being set up, helped about 9,000 elders. Initially limited to Hyderabad, it now covers the entire state and may well become the model for a country-wide rollout.

Covid-19 has put a spanner in Elder Spring but the initiative has altered course to deal with the challenges thrown up. Two surveys were conducted to gauge the impact



Yoga and exercises are a part of Elder Spring's happy and active ageing credo

of the pandemic on senior citizens in both rural and urban India, particularly those in old-age homes.

At the Bhubaneswar centres, where regular operations have been temporarily suspended, the programme team has connected with its network of seniors through phone and the internet to ease their anxieties and to conduct sessions on coronavirus awareness and prevention, yoga and meditation, home gardening, etc.

The efficacy of the elders project has prompted the state governments involved to explore ways in which the engagement can be deepened. The Maharashtra government is in the process of replicating the rural model in five other districts of the state with funding from the National Health Mission. In Telangana, meanwhile, the government is spreading the initiative to 20 more districts.

The truest measure of the programme's success lies in how quickly and comprehensively the blueprints it has delivered are adopted by the government. Sugandhi Baliga, who heads Elder

Spring, believes that is happening but perhaps not at the pace that was hoped for initially. "With the rural model, the idea is to have the [central government] scale it up across the country," she says. "That is definitely possible because we have shown that it works."

The response system is another piece where, with central government support, the possibilities are tremendous. "Our intent has always been to make this national and we have come a fair way in enabling just that," adds Ms Baliga. Strangely enough, the Covid-19 outbreak has opened many eyes to the usefulness of a national helpline in emergency situations. "We have put in the effort to create proof of concept. They have to take it over and that is underway."

The big picture aside, it is through individual voices that Elder Spring's efforts shine brightest. "The programme is the answer for many of us who need a patient ear to listen to us," says Indra Narayan, president of a senior citizens forum in Secunderabad. ■



Food aid is delivered to the doorstep of a family in need

Booster dose

Equipment and awareness campaigns, hospital care and food packets, training and testing – the Tata Trusts have played a meaty part across the country in helping contain the coronavirus pandemic

Pitching in with support for a collective cause can seem straightforward, but not when crisis morphs into catastrophe almost overnight. That's what the Tata Trusts discovered when they began framing a plan to help rein in the lethal coronavirus outbreak in India. Here was an extraordinary emergency, a tragedy getting worse by the hour and it demanded a response out of the ordinary.

'One Against Covid', the Trusts'

relief initiative, began in mid-March just as Covid-19's nasty teeth started showing. Italy was already reeling from a high death count and New York was on the verge of locking down. India's positive cases were still below a thousand, but the number was rising every week. It was clear to the Trusts that danger was around the corner for the country. It was also clear that backing governmental efforts, at the central and state levels, was the best way forward.

The biggest challenge was

apparent immediately – the holes in India's healthcare ecosystem: lack of hospital facilities, unprepared medical workers, shortage of equipment and drugs, and an overall structure of care that could not but be overwhelmed. Add to these a paucity of credible information on community hygiene and safety, and a populace whose behaviour veered towards the reckless. There was little doubt about the areas the Trusts would have to concentrate on.

On March 28th, a couple of

days into an unprecedented India-wide lockdown, Chairman Ratan Tata said the Trusts would commit to “protect and empower all affected communities” against a pandemic considered to be “one of the toughest challenges the human race will face”. That was the starting point for an unprecedented, pan-organisational endeavour by the Trusts to lend a hand in countering the coronavirus contagion.

The capital idea was to find ways to support India’s healthcare system. Aligned to this was the intent to coordinate and collaborate with other constituents of the Tata group in providing necessary relief. The critical task of putting people in place to make it all work came with hydra-headed complications, not least travel constraints and the forced model of employees having to work from home. One advantage the Trusts banked on was the talent, from across functions and geographies, they could plug into.

Teams tasked with specific responsibilities were formed, channels for communications were created and, most importantly, on-ground implementation methods were cemented. “We set up a call every day with team leaders and [chief executive Narasimhan] Srinath to understand what was unfolding and to find solutions,” says Arun Pandhi, director, programme implementation. “It was a cross-functional marvel,” adds Abhishek Poduri, south zone head for the Trusts.

The relief work took on an identity of its own as normal operations were superseded and a new focus found. Defined by the

altered circumstances and the most pressing requirements, the Trusts have crafted a multifaceted method to make their contribution count in India’s fight against Covid-19.

Personal protective equipment (PPE)

The Trusts have sourced 3 million pieces of masks, gloves, face shields and coveralls for health and frontline workers across the country. This was not an easy assignment. In charge here was chief financial officer Ashish Deshpande, one of the few in the organisation with procurement and logistics experience. With PPE supplies running short globally, he and his team sought help to identify aggregators with the capability to supply in large quantities. “We are a development organisation; procurement on this scale was a novel experience for us,” says HSD Srinivas, head of the Trusts’ health vertical.

The team reached out to state governments, charitable hospitals, implementation partners, associate

NGOs and others to get a sense of the need out there. “In the early days of the pandemic, PPEs were scarce and the Trusts and the Tata group were among the few asking states what they needed,” says Mr Deshpande. It added up to 400 tonnes of material that had to be imported from China, stored properly and then distributed across India.

Managing the PPE shipments was an adventure almost. International flights had stopped, state borders were closed, and road transport required official permits. Against all odds, the first lot of PPEs arrived mid-April in New Delhi on an Air India chartered flight, one of 15 organised by the Trusts. The headache of housing was eased after Voltas offered a 100,000 sq ft warehouse in Pune. Trent pitched in with staff and warehouse management software. DTDC was roped in as logistics partner.

Coordination was centred in Pune. “Our team there went the extra mile, arriving at the warehouse every day in spite of the



Dry food rations being distributed in a village during the lockdown period

MULTIPLE STREAMS OF SUPPORT



PPEs

3 million masks, gloves, coveralls distributed in **30** states



TESTING

- Truenat Beta CoV test, with results in **90 minutes**, used in Andhra Pradesh and Goa
- **9 Mumbai** hospitals use q-Scout app with AI-based algorithms to analyse chest x-rays



FOOD AID

- Palghar central kitchen served meals every day to **5,000+** stranded migrants
- Nashik central kitchen team distributed **2,800** food ration kits
- **1.6 million+** packets of nutritional snack GoMo distributed to **730,000** people in Maharashtra, Uttar Pradesh, Delhi, Telangana, Gujarat, Andhra Pradesh and Rajasthan



E-PASS PLATFORM

- Used by Haryana, Punjab, Delhi, Telangana, Puducherry, Odisha and Karnataka
- **500,000+** passes generated every day



HOSPITAL FACILITIES

Uttar Pradesh

- **168-bed** facility in Gautam Buddha Nagar

- **124-bed** facility in Gonda

Maharashtra

- **50-bed** facility in Sangli

- **104-bed** facility in Buldana



CAPACITY BUILDING

50+ courses in Covid-19 management conducted for **1,100** healthcare personnel in **200** hospitals in **19** states



BEHAVIOUR CHANGE COMMUNICATION

- Reached **12 million+** people in **21 states**
- **320+ video** messages in **22 languages**
- **5 animation** films in **11 languages**
- **6** audio messages in **8** languages



SURVEY FOR NITI AAYOG

18,000 households surveyed in **885** villages in **75** backward districts



lockdown, managing paperwork and quality inspections, and even helping with loading,” says Mr Deshpande. “This part of the project would not have been possible if it hadn’t been for them.”

Mr Poduri’s team set up a system to allocate material to 30 state health departments, several hospitals, municipal corporations, NGOs in relief activities and more. The material was being donated for free but, as Mr Poduri explains, there was a “mathematical rationale [for donating] based on population, number of positive cases, probable progression of the disease and specific requests from state governments”. Since April, more than 200 lots have been dispatched, not just to health workers but also essential personnel in the Mumbai Police, dairy farmers in Haryana and Punjab, and the Border Security Force in Jammu and Kashmir.

Hospital facilities

Aiding in closing the gap in hospital infrastructure has been a vital component of the Trusts’ work during the Covid-19 outbreak. The cancer care team was entrusted with this activity. “We opted for the brownfield route and reached out to state health departments to see if there were any buildings that could be developed into hospitals,” says Dr Atamjot Grewal, head of medical planning.

Four such buildings were selected in collaboration with the Maharashtra and Uttar Pradesh governments, and the Trusts pulled in hospital architects and planners to design the facilities. Tata Projects stepped up to convert the four

shells into fully-equipped health facilities. In July, within three months of starting, Maharashtra had a 50-bed facility in Sangli and 104-bed facility in Buldana, both funded by the Trusts. Uttar Pradesh got a 168-bed hospital in Gautam Buddha Nagar and a 124-bed facility in Gonda, funded by the Bill and Melinda Gates Foundation and set up by the Trusts.

“These are not just Covid-19 facilities; they are fully-functioning hospitals, with fever clinics, outpatient departments, labs, state-of-the art intensive-care units, dialysis machines and engineering support services,” says Rishav Kanodia, programme manager for cancer care.

Testing

As Covid-19 took hold across India, it became evident that checking its spread was being severely hampered by an acute scarcity of testing kits. Here the Trusts’ associate organisation, the India Health Fund (IHF), stepped in with support.

The Truenat Beta CoV test by Molbio Diagnostics enables testing and reporting in 90 minutes. In April, it received approval from the Indian Council for Medical Research and was quickly put into field use in Andhra Pradesh and Goa. IHF is currently working with partners to use Truenat to supplement testing capacity in Mumbai’s hotspots.

IHF also supports another tool: q-Scout, a smartphone app developed by a company called Qure.ai, which uses AI-based algorithms to analyse chest x-rays for signs of lung damage. Already

deployed in several countries, the app is being used in nine hospitals and a mobile van in Mumbai for ‘progression monitoring’ of patients with the virus.

Training

The Trusts have been involved with capability building for health workers to help them manage the disease. The training partners were Christian Medical College, Vellore, and Care Institute of Health Sciences, Hyderabad, which have compiled 50-odd courses that cover the gamut of Covid-19 management, from registration of positive cases and triage to cadaver care and the use of life-support equipment. The courses have been rolled out at 200 hospitals in 19 states and have benefitted more than 1,100 participants (the objective here is to reach 12,000 healthcare workers).

Affirmation of the training’s impact is visible in the Covid-19 data for Nagpur in Maharashtra, where the Trusts partnered the Nagpur Municipal Corporation (NMC). “Our team established protocols and processes for testing, tracking and tracing of cases, starting from testing passengers at the international airport,” says Nagpur health team lead Tikesh Bisen.

Nagpur registered its first Covid-19 patient on March 11. Within two days, the city had set up a control room and a rapid response team. The Trusts team supported NMC with training of health professionals and officers, identification of isolation facilities and more. “Because of the



A consignment of personal protective equipment gets unloaded in Mumbai

Up for the fight

The Covid-19 relief spread organised by the Tata Trusts has gone beyond the immediate and the obvious to reach people and communities in different parts of India:

- In Mumbai, the Mission Garima team donated sanitisers, gloves and PPEs to the caretakers who clean Dharavi's community toilets, while also providing safety training to some 1,200 conservancy department officers.
- In Hyderabad, the Trusts' Elderly Spring senior citizen helpline had volunteers handling requests from the aged for cooked food, groceries and medicine.
- In Jharkhand, the Trusts and the Tata Steel Foundation formed the 'East Singhbhum district coordination group' to align relief work with NGOs in the field. Since the beginning of April, the group has distributed food and dry rations to 13,919 families. It has also developed a framework for skill mapping of migrants returning to the district.
- More than 230 artisans benefitted from an online campaign by Antaran, a Tata Trusts initiative. The artisans learned to use smartphones and Google Translate to connect to customers, and earned ₹3.9 million in pre-paid orders, enabling them to stay afloat.
- Nearly 1,200 employees in the Tata Trusts family contributed about ₹3 million to fund food and rations for hundreds of migrant families stranded in Madhya Pradesh and Rajasthan.
- In Madhya Pradesh, the Trusts team supported the health department in fielding hundreds of calls on its helpline.
- In Gorakhpur in Uttar Pradesh, the Trusts' Prayaas team got self-help groups to make low-cost masks for local communities. ■

proactivity of NMC, Nagpur has managed the virus far better than other cities," says Mr Srinivas.

In Telangana, the Trusts joined hands with the state government to deliver several Covid-19 services. The Trusts' telemedicine centre in Hyderabad functioned like a Covid-19 control room, with added services such as appointment management, helplines and dedicated resources for rural health centres. The centre also monitored the health of some 10,000 patients in home isolation.

Behaviour change

Community behaviour is a make-or-break factor in controlling disease transmission, which explains why the Trusts have gone the extra mile in spreading messages on health and safety practices. The '*paanch kadam, corona-mukt jeevan*' (five steps for a corona-free life) campaign, kicked off in end March, stressed the need for face masks, frequent handwashing, social distancing, etc. To stem the wave of misinformation about the virus, the Trusts linked all messages to the website of the Indian government's Ministry of Health and Family Welfare.

Speed and scale were the order of the day as some 320 video messages in 22 languages, including dialects such as Kumaoni, Ladakhi and Garhwali, were recorded within days. "Our team members pitched in by suggesting more languages and volunteering to record the messages," says Deepshikha Surendran, head of brand and marketing communications at the Trusts. Short films, celebrity messages, audio files, animation,

infographics and text messages were the formats employed.

The campaign was rolled out through what Divyang Waghela, head of the Tata Water Mission, calls a “horizontal and vertical strategy”. More than 400 master trainers helped carry the messages to about 8,000 community resource persons in villages, riding on the Trusts’ pan-India network of field teams and partner organisations.

“We also reached out to government officials and NGOs to share these messages in their networks,” says Mr Waghela. Additionally, the Trusts even roped in 70 regional and national celebrities to appeal for safe behaviour. The reach of the campaign has been tremendous, getting to more than 12 million people in 21 states. More recently, messages have been created on accessing rural jobs and government aid, handling reverse migration and managing farming activities safely.

Data platforms

As the pandemic spread, other verticals of the Trusts stepped up to contribute. In April, the data-driven governance team (DDG) was asked by NITI Aayog, the Indian government think tank, to conduct a household survey in the country’s backward districts. Were people aware of Covid-19 symptoms? Did they know about handwashing and social distancing? How had incomes and jobs been affected?

“We surveyed 18,000 households in 885 gram panchayats (village councils) and found that the majority of people were aware of Covid-19 and the need for safe



Food packets being handed out to migrant families returning home

behaviour,” says Poornima Dore, who heads the DDG vertical. It was not all rosy: 44% had lost their income source and 27% their jobs. On the brighter side, 70% were aware of government relief packages.

The DDG team had another significant contribution to make. During the lockdown, essential service providers needed travel passes to move around. A Tata Trusts partner, the eGovernments Foundation, built a Covid-19 e-pass platform that has been used by Haryana, Punjab, Delhi, Telangana, Puducherry, Odisha and Karnataka to collectively generate more than 500,000 daily passes.

Food aid

As the lockdown extended into months, millions were unable to earn. That meant families going hungry, among the worst manifestations of the crisis. The Trusts-run ‘central kitchens’ project in Nashik and Palghar in Maharashtra – which in normal times cooks food for roughly 28,000 tribal children every day – stepped in with help, distributing food kits and serving meals daily to 5,000-plus stranded migrants.

The Nashik kitchen found it had plenty of staples and groceries to spare. It took about 65 volunteers from Tata companies and a local NGO one week to repack 53 tonnes of groceries into 2,800 food kits for supply to the needy.

The Trusts’ nutrition team assisted the food effort by distributing packets of GoMo, developed by the Trusts in partnership with Mars Inc. GoMo is a lentils-based snack rich in iron, protein and micronutrients. “We felt that GoMo could meet the nutrition needs of communities that are most vulnerable,” says Mansharan Seth, part of The India Nutrition Initiative of the Trusts.

About 1.6 million GoMo packets were dispensed to about 730,000 people in Maharashtra, Uttar Pradesh, Delhi, Telangana, Gujarat, Andhra Pradesh and Rajasthan, among them street dwellers, shelter-home residents, families of migrant workers, conservancy workers, police personnel, daily wage workers, artisans, women in red-light areas and ragpickers. ■

By Gayatri Kamath

Do it right... and public policy is a joy

Ambuj Sagar always knew he wanted to be a mechanical engineer. What he could not have known about was the “meandering” academic journey he would undertake over the course of the quest and beyond, from the Indian Institute of Technology Delhi (IIT Delhi), to the University of Michigan (Ann Arbor, USA) for a masters in aerospace engineering and onwards to the Massachusetts Institute of Technology for a doctorate in materials science.

Currently the Vipula and Mahesh Chaturvedi professor of policy studies at IIT Delhi, Mr Sagar is involved with different arms of the Indian government in policymaking and with global organisations as well, notably the International Panel on Climate Change. He speaks here to **Christabelle Noronha**.

To a layperson, professor of policy studies does not reveal much. What is this area of study and scholarship about in relation to people and how their lives are affected?

I was only 22 years when I left India and still ‘growing up’. Over time it became clear that what really interested me was the chance to make an impact, and that’s when I chanced upon public policy. The exciting thing about public policy is that you are able to engage with issues that are in the public interest, and good public policy can be incredibly impactful.

The motivation for me when I came back was to contribute in India, doing research, training people and getting involved with the government to help build capacity so that we can actually start engaging with public policy in more thoughtful ways. India has had a fairly rich tradition in some areas of public policy – economics and banking, for example – but not, at least not to my mind, as much in science and technology.

Is that because India did not have a more formal structure in science and technology policy?



The IITs have to manage a situation which is unique, says Ambuj Sagar: “They have to maintain and enhance excellence while expanding access to a wider section of Indian society.”

India did give a lot of importance to science and technology from the earliest days but the reality is that back then there was not that much systematic thinking, even globally, on how to leverage science and technology for national priorities. Governments have, since then, understood that science and technology can actually make a big contribution to national development. That’s how Japan rose from the ashes of the Second World War to become a technology powerhouse. South Korea, Taiwan and China have followed this path. While Europe had industrialised more than 200 years ago, here was a group of countries doing it in the modern age at superfast pace. This created a whole set of scholars thinking about science and technology in more sophisticated ways.

The interactions between technology and society have been cited as an area of particular interest for you. Why so, and how does your research work tie in with this interest?



The world can address the climate problem by reorienting the energy sector from fossil fuels to lower-carbon sources

I have been working for many years on how to use technology to address energy and climate-change challenges. Climate change is a huge problem and it is very much linked to the energy equation. If we are to address the climate problem, we will have to reorient the energy sector from fossil fuels to lower-carbon sources. The core of this process is technology.

I am particularly interested in how to organise public policy and institutions to facilitate and accelerate the development and deployment of appropriate technologies in the social development space. We cannot just hope that this happens; we have to marshal public policy to advance the process. The thing with public policy is that there are no silver bullets.

My interest really is in the big picture — how do you organise the ‘big’ system such that you get the best outcomes? Once we get the machinery working, we can get better health outcomes, better energy outcomes and all of that. Fundamentally, that is the kind of contribution public policy can make in reshaping the overall functioning of the environment.

The politics and processes attached to environmental policy have also come on your research radar. What are the complexities here?

We have to understand the politics. It’s impossible, for instance, to think about climate change without understanding the global politics of climate change. Why isn’t enough of international cooperation happening, why is it that rich countries are not taking as much action as they should be, and what are the implications for a country such as India?

The complexities in the climate change arena, specifically, are huge. Everybody has to contribute to the solution, but then that also opens up

the field for a free ride: if nine out of ten people contribute, then I don't have to do much and the problem may still get solved.

You have been involved with different arms and committees of the Indian government. What has the 'outsider looking in' experience been like?

It changes from process to process because every committee is organised in a different way. You have to strengthen the policymaking process such that it's not just the committee by itself but an infrastructure of other activities around it. This creates the knowledge base committees can draw on. Public policy is about allocating scarce resources — obviously, because resources are never infinite — to obtain particular social outcomes. Do it right, get the maximum bang for the buck, and public policy is a joy.

What's the part public policy is playing in India's response to the Covid-19 situation?

There are two broad areas of public policy research that are relevant. One is on the health side, where it is about understanding the different dimensions of bringing this pandemic under control and treating infected folks. This would be health policy. The second is the economic side, which pertains to how we manage the economic impact of this disease, especially in relation to its impact on health.

There are trade-offs, for sure. Lockdowns can have enormous economic impact even as they slow down and control the disease. Here public policy would be about trying to minimise the short- and long-term social and economic effects of the disease.

What has your India experience been like?

Very mixed. It gets frustrating sometimes because you are asked to come up with an answer in a very short time — and time matters. Making a recommendation in three months and making one in a year is very different. To me the holy grail is the proactive process. How do we anticipate the kind of questions that will become important and start thinking about them in advance? If we in academia can start doing that, then committees can become more effective.

As somebody who lives and works in Delhi, what's your view on how to clean up the capital's air?

There is no simple answer to that. Delhi's air pollution problem is not from just one place; it's coming from various sources: from stubble burning in neighbouring states, from vehicles, from construction, from the poor burning biomass in wintertime. Each of these is a different kind of problem and that's what makes the issue so complicated. You need to do a whole bunch of things and that means prioritisation. There is no single solution.

Once we get the machinery working, we can get better health outcomes, better energy outcomes and all of that ... that is the kind of contribution public policy can make...

What is your research on energy innovation and climate policy revealing, especially in the Indian context?

While India has done a lot of good things on the technology front in energy and climate policy, we have not really been as systematic in terms of innovation. This really is about the generation of new technology and about becoming a player in the upstream part of the technology cycle. We could probably do this if we pay a bit more attention to the issue. A lot is going on, though, and we are trying to see how we can add value.

The IITs are seen as jewels of the Indian education system but they are rarely, if ever, counted these days among the global best. Are standards slipping?

I don't think standards are slipping; in many ways, we are improving. It's a tricky thing because the IITs actually have to manage a situation which is unique: they have to maintain and enhance excellence while expanding access to a wider section of Indian society. There aren't many institutions across the world that have to tackle these twin challenges at the same time. We are improving in many ways but the gap between us and the world's best is significant, and the world's best are not standing still so the gap is even growing. We have to narrow the gap.

What about your interests outside of work?

Unfortunately, work takes up most of my time but I do a fair amount of running and cycling. I am a foodie – eating for me is also a social activity – and I do enjoy travelling. I have no single favourite destination. There is no shortage in this world of places where you can get peace and quiet, where you can enjoy the local culture. I am opportunistic with travel: wherever I end up going, there is always something new to experience. ■



Advantage aquaculture

Inland fishing has been a winner for 35,000 households in four states, providing an extra source of income and paving the pathway to a brighter future



A farmer from Rajura in Maharashtra's Chandrapur district inspects the fish seed he uses to stock his pond

The allure of the idea aside, taking the road less travelled can be problematic. For Prafulla Mahato, the wrinkle was the ridicule he invited when he went off the beaten stream in a bid to boost his fledgling business of farming fish.

A 41-year-old from Sukhlara, a village in Jharkhand's East Singhbhum district, Mr Mahato had striven to improve the health of the fish he was breeding by giving them proper feed. His fellow fish farmers took a dim view of his exertions. "They made jokes at my expense; they did not think fish needed feed," says Mr Mahato. That was two years back. "Now more than 80% of fish farmers in my village use such feed."

Trying out the new is intrinsic to the inland fisheries programme being promoted and implemented by the Tata Trusts. Mr Mahato's is one of 35,000-plus families that have benefitted through the initiative and he himself has done swimmingly well by following the principles of good feeding practices and maintaining water quality parameters in the pond he uses to rear fish.

It helps that Mr Mahato, whose earlier job as a medical representative has now taken a backseat, is more than just a fish farmer. He belongs to the band known as community resource persons (CRPs),

influencers who bring other villagers into the programme, train them and foster scientific inland fishing.

There's more to the fisheries programme than fish, though. Wrapped inside the story are allied activities that provide additional livelihood opportunities to the small and marginal farmers involved in the effort: nurseries that breed fish seed, projects to produce fish feed, pond-based horticulture, the growing of vegetables and fruits on embankments, and the rearing of poultry. Mr Mahato, who has increased his income by nearly seven times since enrolling, is a standout example of what the initiative has delivered.

Public and private

The programme has two operational

approaches: culture fisheries in public water bodies such as reservoirs, lakes and rivers (where fish are grown in cages or pens) and fish farming in individually-owned ponds.

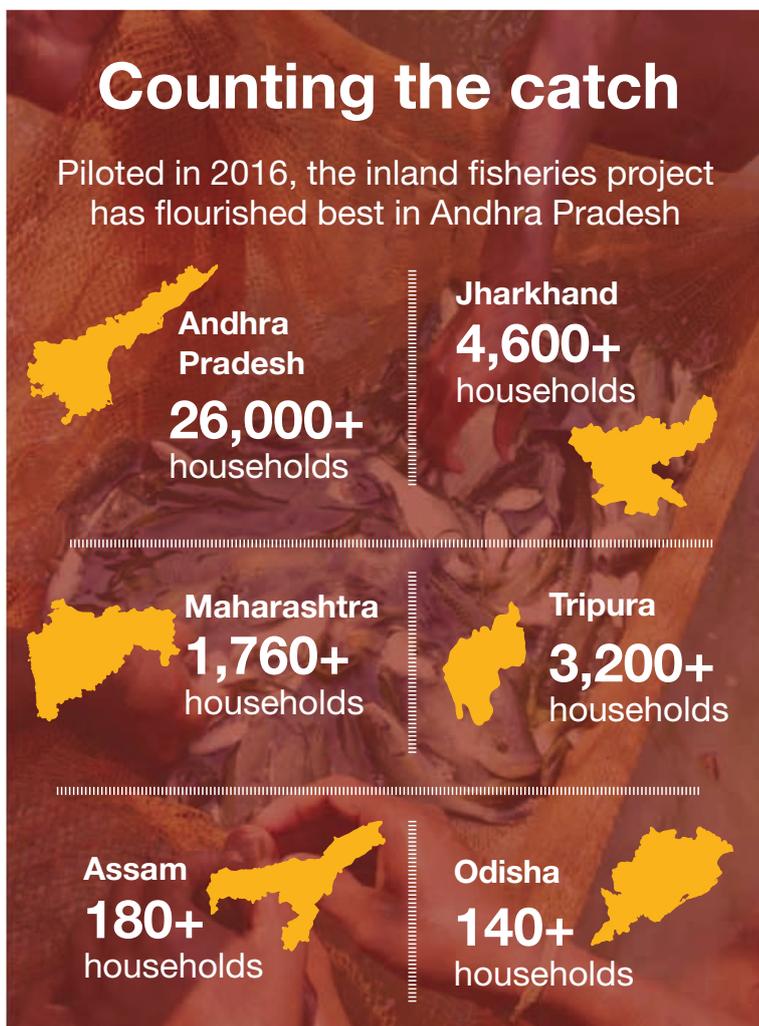
The initiative has taken off in Andhra Pradesh, Jharkhand, Maharashtra and Tripura. It is in the process of being piloted in Odisha and Assam, and the Trusts have also got going lately with a marine fisheries research venture in Lakshadweep.

Launched in 2016 in Andhra Pradesh, the fisheries programme is on the cusp of entering its second phase. This will extend to 2025, by when the expectation is that it will have 200,000-plus fish farmers under a largely common canopy. Central to the homogeneity embedded in it is the support of governments in the states involved. Partnerships with NGOs and organisations pursuing fisheries research and advocacy are other crucial facets.

The people profile of the programme and the intent driving it point to the overall objective. The vast majority of beneficiaries belong to backward communities, mainly tribal groups. These folks were not unfamiliar with fishing but their primary method previously was catching whatever fish they could. The programme has endeavoured to change that by having them shift from 'inland capture fisheries' to 'inland culture fisheries'.

The advantages here are many, principally substantial income enhancements and the forging of a sustainable way of living. Planting the programme in states with a big demand for fish means there is a platform, and huge potential, to have it flourish. Making community participation the cornerstone of the initiative ensures that much of every village roped into it has a stake in its success.

The fish farmers are organised under community institutions (such as cooperatives) and their produce aggregated to pull in a fair price and facilitate market



A group of farmers belonging to the Bhoi community harvest their catch in Mandhal village in Chandrapur



Fishing further

Rohu, catla and mrigal are the most commonly bred varieties in the inland fisheries programme of the Tata Trusts, and for profitable reasons. These species of the carp family are widely consumed across India, they are relatively easier — and cheaper — to grow, and they can be farmed together in the same pond. But the time may have come to look beyond them.

On paper, and in the water, it makes sense to consider breeding higher-value fish and prawns. The problem lies in the economics of the proposition.

“We consider the pond as an ecosystem and we try to utilise the entire water structure of the pond,” explains Shashwati Bhunia, who heads the fisheries initiative. “Rohu, catla and mrigal work well together because they live in different layers of the water; they are not competitors for food or in feeding patterns. All of which means growing them together is more beneficial for the farmer.”

The case for trying out higher-value species such as magur and prawns is strong but there is a catch here. “Prawn cultivation requires a bit more of expertise and a bit more effort, as they tend

to become cannibalistic if sufficient food is not provided,” says Ms Bhunia, “while the carnivorous magur is difficult to culture with other species.”

That has not stopped the programme from taking a serious stab at these more lucrative options. “With prawn, magur and the like, their seed and feed cost is two-three times higher,” adds Ms Bhunia. “Of course, they give better returns — magur, for example, sells for ₹400 a kilo compared with ₹150 for rohu — but then you will also have to increase your investment.”

The safer bet is to introduce improved varieties of rohu, catla and mrigal, the kind that grow more quickly and breed more easily. As always, the farmer is the key player in making the equation work.

“Many of our farmers want to try out newer things and many a time the suggestions come from them,” says Ms Bhunia. “Our point is that we want to start the newer species with select farmers who we know will follow through and get some profit from the venture. We can then consider how to scale it up.” ■

linkages. Training modules, exposure visits, low-cost cages, technology infusions, third-party surveys to gauge impact – the programme covers plenty of ground to cement the progress of beneficiaries.

These beneficiaries are clustered in four broad categories: individual farmers with their own seasonal and perennial water bodies, and farmer and women self-help groups who depend on public water bodies to grow their produce.

Challenges and solutions

The early struggles of the fisheries programme are now receding. Back at the beginning, convincing the community to embrace the idea of fish farming was a stumbling block. Overcoming that diffidence has resulted in impressive numbers being registered.

Data from Andhra Pradesh, Jharkhand and Maharashtra peg the average catch per beneficiary family at about 700kg a year and average income solely from fish in excess of ₹30,000. High achievers like Mr Mahato do much better (he made ₹119,500 in 2018-19).

There have been hiccups along the way. Theft and, occasionally, sabotage have blighted some operations. Blame that on not-so-neighbourly jealousy, the deterrent to which has been getting more residents of targeted villages into the fishing fold.

The positives in the programme are heftier. Besides the extra income, villagers cite a host of attached rewards: reduced migration, better health indicators, awareness of government schemes and subsidies, and community cohesiveness. “This project has improved social harmony within the community,” says Jaisingh Bodra, a 30-year-old tribal from Paseya village in Jharkhand’s West Singhbhum district.

There are challenges that linger still in the Trusts realising their 200,000-by-2025 goal. “One of the major ones we have faced and continue to face is finding motivated and

skilled people to work on the ground,” says Shashwati Bhunia, who heads the fisheries programmes. “Getting the right CRPs is difficult and this cuts across the regions we work in.”

The community itself is not so much of a handicap. “We don’t need to do much pushing now; in fact, there is a pull from the community,” adds Ms Bhunia. The maturing of the initiative has ushered in another gain. “District administrations in a lot of areas have approached us for collaborations.”

On the agenda from here on is going upstream to get a firmer grip on the value chain of the programme, from creating nurseries to rear fish seed to having farmers exert greater control at the fingerling stage. “That’s why we have nursery farmers who sell to grow-out farmers within our own network of beneficiaries, and sometimes even outside,” says Ms Bhunia. “The next step is having our own hatcheries for fish breeding.”

Strengthening community institutions is another priority, and this is essential to the sustainability of the programme. “We need community institutions that can work independently,” explains Ms Bhunia. “We are thinking of incubating farmer producer organisations and farmer producer companies. The ideal would be to have communities owning the work and running it.”

Also on the table are plans to expand and enrich the programme: by taking it to more states, adding high-value fish varieties and prawns to the breeding and rearing basket, using technology tools to minimise costs and maximise output, and by building resource centres that communities can tap into.

Getting a fix on the present has enabled farmers in the fisheries initiative to plan for a future that smells just fine. ■

By Philip Chacko

School dropouts attend an origami workshop at a motivational camp in Raikona village in Assam's Goalpara district



Back in through the out door

School dropouts in five districts of Assam are heading back to class — and learning anew that it can be fun

Harrowing and oppressive — that was what Abul Kalam Azad thought of school. Making matters worse for the nine-year-old from Behulapara village in Assam's Bongaigaon district is the fact that he lives with a slurred speech condition. Faced with taunts and ridicule, Abul dropped out of school.

Three years later, Abul was coaxed into returning — to a new way and a new world of learning. School has become a welcoming and fun-filled place for him. Not surprisingly, he has been attending classes regularly now.

Abul is among 300 children in Assam who have rediscovered the joys of learning. The reason is the Assam State Initiative-Education, a programme that aims to bring dropouts back to school.

Launched in September 2019 by the

Centre for Microfinance & Livelihood (CML), an associate organisation of the Tata Trusts, the programme is operational in four districts other than Bongaigaon: Goalpara, Nalbari, Baksa and Kamrup. Its objective is to get 1,200 kids in the 7-14 age group back into classrooms over a three-year period.

Giving up on schooling

Children dropping out is a common phenomenon in India's government schools. Poverty, lack of knowledge about the benefits of a proper education and the sheer struggle involved in accessing those benefits — long walks to distant schools, truant teachers, pathetic infrastructure and low-quality pedagogy — often lead to children and parents from poor communities viewing schooling as low priority.

“These children are first-generation

school goes and their parents are, typically, agricultural workers or brickkiln labourers,” explains Kandarpa Kalita, a senior programme manager with CML. “It makes more sense for such families to put their children to work [in farming or elsewhere] rather than allow them to go to school.”

The school dropout rate in Assam is worse than in other states (the elementary school dropout rate here was 7.4% compared with the national average of 4.3% in 2014-15). Much of the blame rests on the abysmal quality of education on offer in some government schools. According to the Annual Status of Education Report 2018, only one-third of Standard V students in Assam were able to read a Standard II textbook.

Education, in the context, has become an important facet of CML’s broader scope of work in the state. “Improving educational outcomes is essential for the long-term success and sustainability of any social intervention,” says Mr Kalita. That provided the impetus to the Assam school initiative, which has succeeded in bringing more than 300 ‘reborn’ students back to school within eight months.

The going has not been easy, though. Parents had to be convinced about why educating their children outweighed the monetary benefits of putting them to work. Social backwardness was an issue that had to be addressed as well. For instance, the prevalence of child marriage in the Bongaigaon region has meant that girls almost always miss out on a school education. In addition, there was no peer pressure to put children in schools. The CML team found apathy towards education common in the community.

Identifying students who had dropped out was an unexpectedly tricky affair. The CML survey of dropouts coincided with the Assam government’s efforts to map those residing in the state illegally. This

prompted many families, especially from minority communities, to view the pinpointing of dropouts with suspicion.

“In the insurgency-hit Baksa district bordering Bhutan, rebels even threatened families with ostracism if their children were sent to school,” says Hirakjyoti Barman, the project lead for Nalbari, Baksa and Kamrup districts.

To address these concerns, house visits and community meetings were organised in the targeted villages to identify children who had dropped out and those who had never been enrolled in school. Community elders and religious leaders were roped in to convince parents and dispel their fears.

Feet in the field

CML’s implementation partners — Gramya Vikash Mancha in Nalbari, Ajagar Social Circle in Goalpara and Jubayer Masud Educational & Charitable Trust in Bongaigaon — provided the much-needed feet in the field to run the programme.

The task of reorienting the children towards a formal education started with a 15-day motivational camp (*see Camp class rings a merry bell on page 63*) in their area. “We encouraged the kids to participate in a variety of fun activities at the camps,” adds Mr Kalita. “Academics figured low on our list of activities; our emphasis was on opening their minds and changing misconceptions about school and studies.”

Even as the children were kept engaged in fun and games, the CML team and teaching facilitators were busy ascertaining their education levels. Many of the dropouts lacked foundational literacy and numeracy skills. A baseline study revealed that 85% of the students were below the Standard III-level benchmark in reading Assamese, while 80% were below the benchmark in mathematics.

Once their education levels were ascertained, the children were officially

readmitted to age-appropriate classes as per regulatory norms. They were initially kept in a separate group and provided support so that they could resume their education without being overwhelmed. For example, 11-year-old Banikantha Rabha from Ketakibari village in Bongaigaon was admitted to Standard V but provided support in the Standard II group. Rather than hindering his progress, this has helped

him cope better with studies.

What makes the impact of the programme greater is that the team continues its association with the returnee students once they are back in school. The children are provided with remedial teaching support so that they don't lag behind in studies or quit again. This support is also provided to laggard performers to prevent them from falling



A yoga session for returning students in Raikona in Goalpara

Camp class rings a merry bell

Motivating school dropouts through games and fun activities has been part of the strategy adopted by the Centre for Microfinance & Livelihood (CML) to win the hearts and minds of school dropouts from Assam's rural regions.

Eight camps — three of them residential and five nonresidential — have been held so far in the five districts where the programme is being implemented: Bongaigaon, Goalpara, Nalbari, Baksa and Kamrup. Designed to ease the trepidation with which students used to view school and studies, these camps are, first and foremost, places of fun.

“Through games, craftwork, puppet-making, music, dance and physical exercises, children are encouraged to overcome their fear and inhibitions about schooling,” says Manoj Talukdar, an education facilitator in Tamulpur in Baksa.

These camps, held over 15 days, help change the minds of previously recalcitrant kids such as Sujit Barman, a 12-year old from Nagrijuli in Baksa. “At first, he was not keen to even join the camp, but when he heard about the activities from his friends he was quick to sign up,” says Mr Talukdar.

Thirteen-year-old Thomas Tirki from Simarbasti in Baksa says his memories of the camp are about cricket matches and dancing and singing sessions with his friends. “I enjoyed it a lot; there was no pressure of studies, only games and fun activities,” he says. ■



A 'back to school' community meeting at Nararbhita village in Bongaigaon district

into the dropout trap.

Remedial support is part of CML's larger education objectives. Around 1,540 children, including the 300 dropouts, are helped with such teaching across 70 schools in the five districts. "Education facilitators visit the children every alternate day to understand their problems and provide support and counselling," says Mosaddique Hussain, the project manager for Bongaigaon.

Going native

The children also get to use audiovisual aids and other learning material in Assamese. Children from the Garo and Bodo tribal communities are provided course material in their native languages.

While it is early to gauge the change brought about by the education initiative, signs of improvement are visible. Children in the programme have been attending school regularly and their attitude towards studies has turned positive. "Earlier, they had to be forced and cajoled to go to school; now they look forward to it," says Kuldeep Das, CML's project manager for Goalpara.

As with much of India, and the world too, the education programme hit a rough

patch when the Covid-19 pandemic hit and Assam went into lockdown. The CML team came up with ways to keep continuity. "Our education facilitators have been in touch with the children over phone," says Mr Kalita. "There have been storytelling sessions, reading activities, quizzes, etc, so that they don't forget what they have learned."

The CML programme serves a vital role in the Assam government's efforts to provide education to all. "In far-flung villages, children often fall behind and fail to complete their education. The focus on school dropouts helps mainstream these children," says Karendra Barman, a district programme officer with Samagra Shiksha, the Indian government's initiative to enhance elementary schooling.

While children have benefitted, the programme has also been an uplifting experience for their parents. Doubt and apathy have been replaced by confidence and optimism. Abul's father, Saizuddin, says he wants his son to learn to read and write "so that he can stand on his own feet and fend for himself". Abul is back on track to do that and much more. ■

By Samod Sarngan



A menstrual health management awareness camp in Pindwara in Rajasthan's Sirohi district

Their demand is dignity — period

More than 100,000 adolescent girls and women in eight states have benefitted from a programme that casts menstruation in its right and natural light

It's a bright February morning in Bavka village in Gujarat's Dahod district and about 20 women have assembled to share their experiences about a common and recurring problem they all have to endure but cannot talk about openly. Menstruation is on the agenda for these women, and they are in a place — and a psychological space — where being frank about the subject is welcomed.

Menstruation is, of course and as a matter of course, a normal biological phenomenon that women of reproductive age have to live with. In many parts of

India, they also have to live with stigma and silence, shame and ostracisation, during what is viewed as a period of shunning and separation. The 'menstrual hygiene management' (MHM) programme of the Tata Trusts is helping change that.

"For five days a month I was not allowed to touch kitchen utensils as I was considered impure; I had to sit outside and eat from a separate plate," says 32-year-old Champaben Solanki, who recalls being 'purified' of the 'contaminants' brought on by her menstrual cycles with sprinklings of cow urine.

That was before the MHM initiative began to spread the wellness message on menstruation in her village, highlighting the role that menstrual hygiene plays in general and reproductive health. Launched as a pilot project in 10 villages of Rajasthan and Uttarakhand in 2018, MHM has been scaled up since to include villages in six other Indian states: Gujarat, Maharashtra, Uttar Pradesh, Jharkhand, Assam and Karnataka.

A dose of dignity

The programme has touched the lives of more than 100,000 rural women and adolescent girls, and around 10,000 adolescent boys as well, while also breaking through the thinking of the communities they belong to. Enabling these women to manage menstruation with more dignity is critical to the endeavour.

Many girls in the country are taught from a young age to not talk openly about menstruation. What they learn about in

due course is the embarrassment and ignominy that accompanies their menstrual cycles. This could stretch to a ridiculous extent.

“I was told that plants would die if women watered them during their periods,” says Anitha Dhanraj, a 14-year-old from Bandalli in Karnataka’s Chamrajnagar district. In certain parts of India, menstruating women have to live outside their homes, in the cowshed if no other place is available. In others, they are prohibited from touching food articles or playing with boys.

The taboos and myths surrounding menstruation have impaired the understanding many Indian girls and women have of menstruation itself, of puberty and of reproductive health. Sanitary napkins are, consequently, difficult to find in countless rural communities. Such lack of knowledge and safe menstrual practices often combine to cause ill health and disease. “We found women in some



Creating awareness among young and old

64,768

women
reached



35,286

schoolgirls
trained

610

schools
covered



194

cluster resource
persons trained

regions using dried leaves, hay, ash and cow dung to manage their menstruation periods,” says Lara Gulia, MHM’s programme anchor.

There are three key objectives in the MHM programme: educating adolescent girls about their physiology and good hygiene practices; encouraging adult women to adopt hygienic practices and stitch their own cloth pads; and engaging family members and schools to enhance the reach and impact of the effort. Behavioural change, at the individual and community levels, is central to achieving these objectives.

The curse of tradition

The primary challenge for the Trusts has been in convincing the people who matter most in the programme. Women and girls from rural backgrounds are rarely inclined to oppose tradition and the perversity of patriarchal norms but, as the MHM initiative has shown, they will when offered a hand to do so.

Community interventions, awareness-building sessions and school-based projects have been employed to help overcome attitudinal obstacles. Community resource people, known as *sakhis* (friends), are the first point of contact with the beneficiaries. Each *sakhi* engages with 15-20 adolescent girls and adult women, helping them understand the nature of menstruation and safe practices to manage it.

“Each awareness session is an empowering experience for the women; it enables them to see menstruation as the natural experience it is,” explains Divyang Waghela, head of the Tata Water Mission, under which MHM operates. “Apart from understanding the science behind menstruation, these sessions help them think logically and question traditional social practices.”

Education is another aspect the



A menstrual health management session in Jaripani in Uttarakhand's Tehri Garhwal district

Circle of trust

S*akhis* (or friends) are the cornerstone of the Menstrual Hygiene Management (MHM) programme. They work as educators, motivators and mobilisers to increase awareness about menstruation and encourage hygiene and sanitation.

A session with a *sakhi* begins with a ‘bag of shame’, where participating women and adolescent girls are asked to dump all their embarrassments and negative thoughts about menstruation into an imaginary bag. This serves as an effective icebreaker and helps lighten their emotional burden.

That done, the *sakhi* creates a ‘circle of trust’ where she shares her own menstruation experiences. This makes the women comfortable and they open up about their fears and doubts. “For many of the women, just being able to tell their story is liberating,” says Prastuti Goswami, a programme implementer in Assam.

Meaningful conversations between a mother and daughter regarding menstruation do not usually happen in villages. This limits the understanding of young women about something they have to live with. “When a mother learns that her daughter is having her first menstrual cycle, she gives her a cloth to manage it on her own,” says Ketan Hingu, a programme implementor in Gujarat.

Through their sessions, the *sakhis* initiate and guide such conversations. They cover a wide range of topics, from puberty and the biology of menstruation to nutrition, the use of absorbents, hygienic behaviour, myths and misconceptions, and the need to be open about what is and always has been a natural body function for women. ■



A 'period day' celebration in Khunti in Jharkhand to sensitise schoolboys and young males of the community

programme addresses. The reason is as straightforward as it is sad. The social stigma associated with menstruation frequently pushes girls in rural India to drop out of school when they attain puberty. Special participatory approaches have been incorporated in school learning modules, for adolescent girls in Standard VI and upwards, to tackle this problem.

Adolescent girls are, in fact, perfect votaries of the MHM credo. When they go home and share their newly gained knowledge with mothers and friends, awareness travels even faster and more reliably within the community.

It's a male thing as well

Sensitising male members of the community, schoolboys and young adults among them, is also integral to the project's goals. "For a rural woman to actually stop believing in the myths about menstruation, it is very important to have the support of the men in the family," adds Ms Gulia.

Boys from Standard VIII and above have been roped into the circle. They are educated about male and female reproductive cycles and about how to be supportive of mothers and sisters during their menstruation periods. Adult males in the community are contacted separately through peer networks or through the network of husbands of the women participating in the programme.

The 'couple counselling session' in

MHM was an eyeopener for Mohanlal and Nolakidevi Grasia, a tribal couple in conservative, rural Rajasthan. Mr Grasia understood the process of menstruation and the trouble his wife goes through when it hits. "It is now my mission to educate other males in my community," he says.

Providing access to clean absorbents for safe and hygienic menstrual management is a further component in the MHM programme. This is done by setting up supply chains through local federations. Then there's skills training for women to stitch menstrual pads using safe, sustainable and easily available material. These reusable cloth pads are sold by women entrepreneurs and retail outlets.

"With livelihood skills training that ties in with the programme's objectives, we are able to help women become change agents," says Mr Waghela.

While considerable ground has been covered, a lot more needs to be done to alter the thinking around menstruation in households across India. What's uplifting is that women such as Ms Solanki — she who once had to suffer the cow-urine purification — are seeing a difference both within and around them. "I have benefitted hugely by understanding the highs and lows of our reproductive cycles," she says. "Now I know that periods are not a curse of God." ■

By Sushmita Biswas

LEG-UP FOR LADAKH

Ladakh resembles paradise, it is often said, but the beauty of the still-remote region's Himalayan landscape shrouds a rough reality — this is an expanse where social development has had a difficult time making inroads. Easing the hardships local mountain communities face is the objective of the Leh Livelihoods Initiative, a wide-ranging programme seeded and implemented by Himmotthan Society, an associate organisation of the Tata Trusts. Collaborations with the Ladakh Autonomous Hill Development Council, the National Bank for Agriculture and Rural Development, and a network of NGOs boost the programme, which works to improve the quality of life of small-scale farmers through water resources development, the promotion of agriculture, infrastructure enhancements, skilling projects and more.



Farming is the mainstay of Ladakhis and it tops the agenda of the Leh Livelihood Initiative. Improved agricultural practices and scientific know-how have helped these farmers from Takmachik village near Leh reap a bumper watermelon harvest.



Women weavers from Khaltse — one of the 30 villages in Leh district that are part of the programme — have organised themselves into self-help groups to find new markets and get a better price for their products.



Sonam Yangdol (left) from Takmachik demonstrates the apricot harvesting technique that has helped farmers involved in the Leh Livelihoods Initiative improve their crop yield, find access to new markets and procure more money for their produce.



Rinchen Yangzes from Takmachik village dries apricots in a dryer. Value chain development in apricot farming is an important component of the initiative.



Konchok Dorjai, a field facilitator with Himmotthan Society, in an improvised tent made from a parachute and used to dry apricots in Takmachik village.



Tsewang Yangzin (left) and Sonam Chonzom from Nyoma village work the fly shuttle loom. Among the goals of the Leh project are enhancing the skills of local artisans through training and capacity-building and preserving traditional knowledge.



The Tongyik family ploughs their field using dzos — a cross between a yak and a cow — in Nang village.

‘Medicine is no longer seen as a social cause or calling’

Bhupathiraju Somaraju is a lot more than a doctor. A cardiologist, researcher, educationist and philanthropist, the 73-year-old chairman of the Hyderabad-based Care Hospitals has spent a lifetime devoted to — in the paraphrased words of one of his heroes, William Osler — being of service to his fellow man and building an enduring edifice of character within himself.

Dr Somaraju, born to a farming family in a remote village near Bhimavaram in the West Godavari district of Andhra Pradesh, is set apart by his commitment to a calling that has become central in these turbulent and tragic times. He speaks here to Christabelle Noronha about his vocation and the immediate need to restore its vitality. Edited excerpts from the interview:

What can India and the world learn from the Covid-19 outbreak? And what is the pandemic telling us about the state of the human race and its future?

The Covid-19 outbreak is much more than a health crisis; it is a human, economic and social crisis. This crisis has laid bare the stark fragility of society, the agony and helplessness that is being felt by all at the death of hundreds of thousands of human beings. If not addressed effectively, the pandemic will increase inequality, exclusion, discrimination and global unemployment.

It is not easy to determine what has brought humankind to this state unless one analyses the causes. The way humanity has conducted itself over the years has been catastrophic. It has jostled to occupy the whole of Planet Earth, destroying many living beings, including plants and animals, and making survival extremely difficult for the rest of the species by consuming everything it desires.



“[Humanity] has jostled to occupy the whole of Planet Earth, destroying many living beings ... making survival extremely difficult for the rest of the species.”

We have disregarded the environment, pillaged natural resources and created a huge divide between the powerful and powerless. Because of all these aspects, and much more, today we face viral consequences.

There’s an age-old adage in medicine: “The bleeding always stops.” In due course the world finds a way to handle almost anything. This contagion will, perhaps, run its own course and we may learn some lessons on how to protect ourselves. However, it is about time humankind not only finds the answers, but actually resolves fundamental issues through focused programmes that are built on the foundation of human solidarity.

There is certainly a crying need to overcome the inertia in India’s public healthcare systems and to ramp it up in terms of resource availability, infrastructure, the competencies of healthcare service providers and, ultimately, service quality. Also, over recent years, greed has led to private healthcare being managed as a business enterprise, where the focus has shifted from patient care to insatiable short-term profitability.

You hail from a family of farmers, you grew up in a rural region and, as a child, you walked many miles — barefoot it is said — to get to school. How did this background shape you as an adult and in your journey to becoming a doctor?

Growing up in the rustic villages of India did teach me many things in life. Walking for about 5km every day to school and many other experiences enhanced my physical, mental and emotional strength. When one only has the basic necessities of life and is open for the right type of guidance from elders, one has the innate advantage of vulnerability. Uncorrupted by the lack of abundance, one imbibes the right values and culture.

William Osler’s Aequanimitas has been cited as being the “guiding spirit” in your days as a medical student. What was it about the essay that influenced you so?

Osler is considered to be the founding father of modern medicine. He is also one of the founding professors of the prestigious Johns Hopkins Hospital [in Baltimore, USA] and is credited with introducing bedside learning for doctors. Aequanimitas was one of his most famous essays, delivered as a farewell address to the new doctors at the Pennsylvania School of Medicine in 1889.

In the essay, Osler advocates two qualities: ‘imperturbability’ and ‘equanimity’. Imperturbability was regarded by him as the most important quality of a good physician. He defines this as coolness and presence of mind in all circumstances, and clarity of judgement in moments of grave peril. My other guiding light has been Tinsley Harrison, who wrote the famed textbook of medicine, *Harrison’s Principles of Internal Medicine*.

There’s a quotation from the introductory chapter of the book that has shaped and influenced generations of physicians. It reads: “No greater opportunity, responsibility, or obligation can fall to the lot of a human



Dr Somaraju, seen here attending to a patient, bemoans the neglect of India's public healthcare system

being than to become a physician. In the care of the suffering he needs technical skill, scientific knowledge and human understanding. He who uses these with courage, with humility, and with wisdom will provide a unique service for his fellow man, and will build an enduring edifice of character within himself. The physician should ask of his destiny no more than this; he should be content with no less.”

You are credited with performing the first balloon angioplasty in India, bringing the technique of surgery-free repairing of heart valves to the country, and with developing — in collaboration with APJ Abdul Kalam — the path-breaking Kalam-Raju stent. How did these happen?

The credit for making the Kalam-Raju stent goes to many people, including my friend Prof Arun Tiwari, who was with the Defence Research and Development Organisation [DRDO]. In 1987, he was admitted to the Nizam's Institute of Medical Sciences [NIMS] in Hyderabad for a heart condition. I was serving in NIMS then and that's where I met Dr Kalam, who used to visit his ailing friend in the hospital and was instrumental in getting essential drugs from Germany for his treatment. During our conversations, Dr Kalam was seized of the necessity of making coronary stents at an affordable cost. Consequently, he enabled us to work closely with DRDO scientists as well as Prof Tiwari, which led us to produce, in 1995, an Indian stent that cost a mere ₹10,000.

While heart surgery was well established for mitral valve stenosis, balloon valvuloplasty was a novel procedure in those days. We were the



India's health system must shift focus from hospital-based care to community care, says Dr Somaraju

first ones to do a prospective randomised clinical trial as a substitute for two forms of cardiac surgery. Our first patient for primary angioplasty was a farmer who had come to us after an acute heart attack. He was 54 years old and required immediate attention. We did not use stents; his blood flow was restored through balloon valvuloplasty. It was a first-of-its-kind intervention and a very satisfying experience. He lived a healthy life for more than a decade thereafter.

What explains your increasing involvement in later years in the social side of medicine and in medical education, particularly with the Care Institute of Health Sciences?

It is important that healthcare delivery systems allow one to administer the right treatment to a patient in order to alleviate suffering and pain. Unfortunately, medicine is no longer seen as a social cause or calling. The influx of equity funding into private healthcare has led to a focus on profitability. Also, aspects such as patient-centric care, medical education and the social components of medical practice have been progressively diluted in private medical practice. Coupled with the neglect and inertia of the public healthcare system, this makes it very difficult for right-minded professionals to do their honest best for every patient.

What would you prescribe to tackle the many ills impairing healthcare in India? Where would you begin?

The type of management that is being practiced in private hospitals needs a redesign. Due to the pressure of profitability, the focus has shifted from value-based care to a volume-based service. Private healthcare is being handled as a business rather than a calling.

As for public healthcare, this needs ramping up in terms of infrastructure, quality of service and improvement in patient-provider ratio. The budgetary allocations for health must be doubled. Healthcare must shift focus from the present hospital-based care to community care. Home care, preventive treatment and wellness should take precedence.

There needs to be equity among healthcare service providers, too. The gap in salary and benefits between members of a healthcare team is very large. As members of a team, the role of each provider is important, be it doctor, nurse or technician. Hence there must be a sense of fairness and equity in compensation.

More than ₹4 billion is the requirement to set up a medical college that adheres to current regulatory norms. Besides becoming a dampener in establishing such institutions, this large financial outlay also leads to the vicious cycle of medical students being charged exorbitant academic fees. These students, in turn, find ways to expeditiously make good the cost once they join the medical profession, frequently by unfair means.

How has the partnership between CIHS and the Tata Trusts progressed in the trauma and learning centre project at the Government Medical College in Thiruvananthapuram?

We are in the process of establishing the ‘apex trauma and emergency learning centre’ at the Government Medical College in Thiruvananthapuram with the support of the Trusts and in partnership with the Kerala government. This simulation-based centre will train about 9,000 doctors, nurses and other healthcare providers on emergency and trauma care over the next two years.

Along with this, we have also planned to train people in the general population – students, auto and taxi drivers, police personnel and other first responders – on cardiopulmonary resuscitation and first aid during emergencies. It is an onerous responsibility and we hope that this wonderful initiative will serve to improve patient care and reduce trauma-related mortality in Kerala.

You have spoken a lot about the stress of modern-day work and life and its consequent effect on the everyday health of people. As somebody who surely experiences plenty of this, how do you cope, personally and professionally?

Stress gets reduced when one truly believes in what one is doing. For me, other matters become relatively trivial in the pursuit of caring for people. The ‘cowboy model of medicine’, wherein a single doctor was expected to cure a patient, has become outdated. In the present age of collaborative medicine, medical professionals have to work in teams.

Working in teams has huge advantages. In addition to better outcomes, it also enables the sharing of workload and allows for a better work-life balance, thereby reducing stress. The aspect of work-life balance becomes even more important as women join the profession of medicine in ever-larger numbers.

As a part of a large group of cardiologists, I have found great positives in working together over the last 30 years. But to make a difference it is vital that one finds a good organisation and the right platform. ■

“As members of a team, the role of each provider is important, be it doctor, nurse or technician. Hence there must be a sense of fairness and equity in compensation.”

of not having requisite information and systems that can enable better governance.

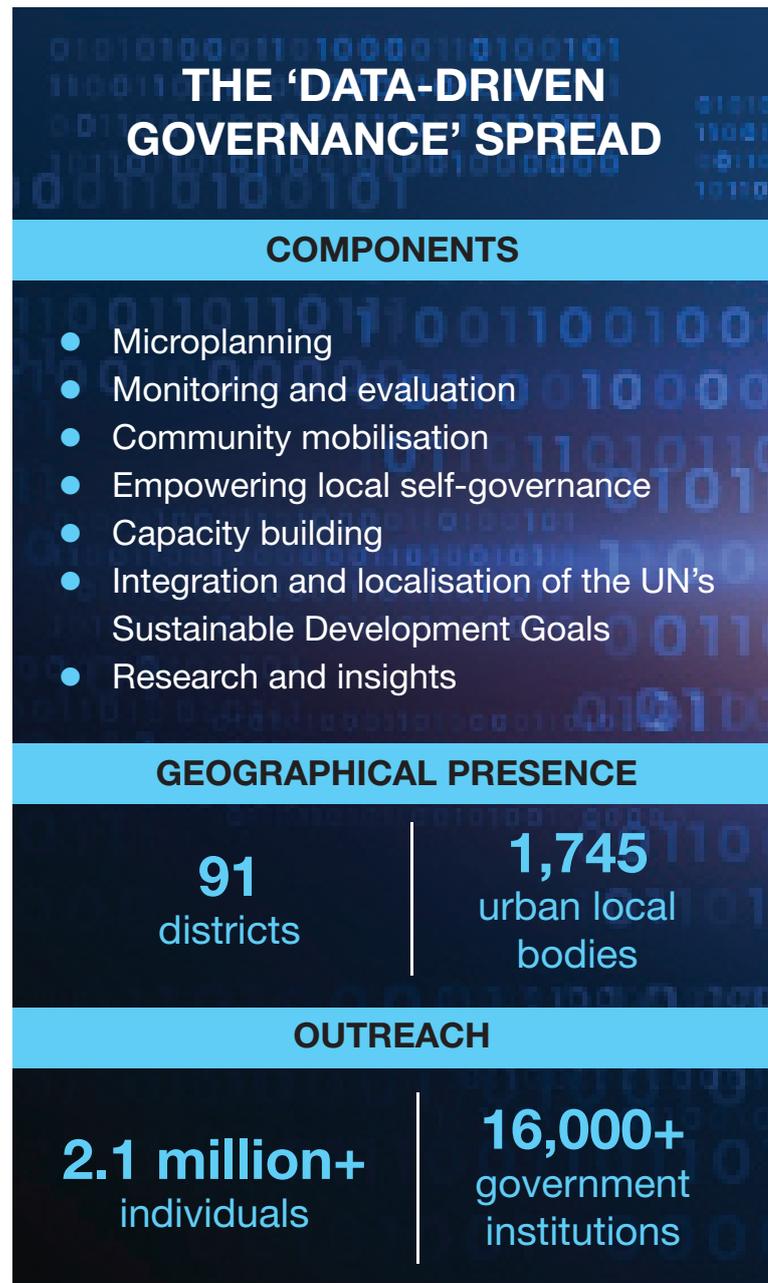
We have to double our efforts as a nation to get where we have to on this front. We do not currently have a database on, for example, testing centres, the movements of migrants, or any assessments of the skills required by a particular industry in a region. Neither do we have data-defined means to identify the pathways and capabilities needed to make telemedicine, digital classrooms, etc, available in the hinterland. It is like going to sea without a compass.

Last-mile hurdles

For a country as diverse, complex and huge as India, technology adoption in governance has always had the potential to resolve critical challenges in the delivery of public services and to improve interactions between government and industry, not to mention empowering citizens through greater participation in everyday governance.

With 29 states, 8 union territories, 736 districts and more than 4,000 towns and cities, India is a country where planning is, clearly, neither easy nor straightforward. Add to this the vibrant mix of language, religion and other dimensions that account for differences in how development projects need to be designed and received. Our planning and budgeting have to factor in the realities of marginalised and disadvantaged groups and the challenges of last-mile delivery.

The Tata Trusts have, through their 'data-driven governance' portfolio, been working with rural and urban communities and decision makers across 90 districts and 1,000-plus towns. That translates into the application of data and technology in development plans for villages and *gram panchayats* (village councils), community-led multi-thematic



information mapping, better delivery of municipal services, and targeted urban planning. The core objective has been to strengthen last-mile access, while building capacities within the community as well as with administrators to maximise the use of information as a resource.

These principles apply to decision making even in normal times, but a crisis like Covid-19 underscores their importance. Such systems are a necessity simply because they enable quick and ready responses and

action in a set up where district authorities, municipal commissioners and even philanthropies can get on the front foot instead of being reactive.

The silver lining in all of this is that people are, gradually but definitely, realising the criticality of, and working towards, finding solutions that can be scaled up and customised to capture regional requirements in health, education, livelihoods, etc.

It would be illustrative, in the context, to examine two specific platforms that the Tata Trusts have, through their 'data-driven governance' portfolio, been using to help contain the Covid-19 outbreak. Employing data and technology, these platforms facilitate quick, scalable and localised responses in rural as well as urban settings.

E-lockdown passes (using DIGIT)

Streamlined delivery of municipal services is essential to make Indian cities more liveable. The Trusts and a consortium of partners have, over the last two years, enabled the development of a unique platform known as DIGIT for municipal service delivery through the e-Governments Foundation.

The idea is that any urban centre with access can utilise the full suite of municipal services, bringing down development costs for multiple cities and also improving the comparability of processes. This has now been taken up by some 1,600 urban local bodies in Andhra Pradesh, Punjab, Odisha, Uttar Pradesh and some states in the Northeast, and it has involved systemic capacity building in the administrative machinery.

DIGIT has been used to develop an e-lockdown pass facility to smoothen the movement of people within and across city, district and state boundaries. This modular platform has enabled scalability and quick responses. Citizens can easily

apply for an e-lockdown pass after submitting details of travel needs and the concerned authority can quickly approve (or reject) the application.

In excess of 500,000 passes have been issued in eight states through this system and it has been adapted by the Indian government's National Informatics Centre as well. The system is also being employed to transport essential commodities.

Rapid assessment in aspirational districts (using DELTA)

The Trusts have in partnership with NITI Aayog, the policy think tank of the Indian government, developed and trained a pool of village volunteers in 85 districts in India and executed large-scale data validation exercises across key development parameters for district performance benchmarking and competitive ranking as part of the countrywide 'aspirational districts' programme since April 2018.

This has involved a massive grassroots-level capacity building exercise, with teams spread over 27 states, as well as the rolling out of a technology application named DELTA to generate district planning information. This platform involving people and technology was further utilised during the lockdown period to carry out a rapid Covid-19 assessment survey covering 855 village councils and 18,000-plus respondents. Completed over two weeks and executed through a telephonic app, it has been the largest pan-India survey on Covid-19 thus far.

The Trusts provided the government with timely and valuable household-level feedback on Covid-19 assessment, preparedness and impact, and also enabled the smooth movement of people. The fact that we already had the systems in place to do a survey and issue passes at scale made it possible for us to readily move to action while being responsive to local requirements.



Photo Credit: Suprabhat Dutta

The DIGIT platform supported by the Tata Trusts was used to issue e-passes during the lockdown

The Trusts have, over time, developed these processes to enhance regional development outcomes and enable localisation of the United Nations' Sustainable Development Goals. They are based on two crucial premises: one, facilitating convergence across departments for better planning and targeting of programmes, and improving scheme-linked service delivery to citizens; and two, operationalising technology, community-owned data management processes, and intensive capacity-building of communities and administrations to further the twin mandates of e-governance and citizen-centric planning.

If we, as a country, had right now an

information and budgeting architecture in district and cities that rolled up to the national level and helped track different development parameters — along with stakeholders who understood and used this information smartly — where would we be?

It is still not too late. The realisation that digital is important for development is now hitting home. We need to ride this wave and ensure that not only does Ramu Kaka get to know about the schemes and efforts announced for his benefit, but that state institutions, industry, charitable foundations and others involved in social development also understand the context of Ramu Kaka's existence, and work together to help him out of poverty. ■



Stories can evoke wonders in the world that children inhabit

A new narrative for a new world

Stories are our lifeblood and the way to create one for a 'globally intimate' future is through education that emphasises humanities and the arts

Things fall apart; the centre cannot hold; Mere anarchy is loosed upon the world. William Butler Yeats's words seem prophetic a century after he penned them in his poem *The Second Coming*. Social systems have been crumbling for decades but the coronavirus, that deadly bit of protein covered in lipid, has struck the final blow and caused things to actually fall apart globally.

We have 'normalised' greed, inequality, stress, disconnection, confusion, rage,

hoarding and hatred. We have chosen to ignore the warnings of environmentalists, scientists, social critics and writers of dystopian fiction, George Orwell, Aldous Huxley and Margaret Atwood, among them, while cussedly persisting with our dysfunctional ways. The powerful, monopolistic 1% of the population has made the idea of 'earth democracy' seem an unattainable dream, but the crisis caused by the pandemic has led us to question the 'false stories' we have been fed for so long.



Coomi S Vevaina is an educator, writer and storyteller

Interestingly, we humans do not live on the basis of facts and figures — we live by stories and, as the great American mythologist Joseph Campbell said, “Our myths are our reality.” In *21 Lessons for the 21st Century*, Yuval Noah Harari outlines the rise and dissolution of four stories of the 20th century: imperialism, fascism, communism and liberal democracy. He concludes that the world is facing a crisis of narrative as we have no new story to live by. The “anarchy loosed upon the world” could, however, result in a new story based on “global intimacy”.

A question of identity

Planet Earth has witnessed five mass extinctions thus far. As the American futurist Barbara Marx Hubbard put it, “Nature does not preserve species; nature preserves purpose.” The purpose of evolution, as evolutionary scientists tell us, is a movement towards greater intimacy. The terrible pain we are suffering as a result of Covid-19 has resulted in an upsurge of love, compassion and altruism. These emotions could help us create a sustainable future based on a beautiful new story, one that might well take us from an egocentric to an ethnocentric, to a nation-centric, to a world-centric to a cosmo-centric identity.

The ‘conscious evolution’ triggered by cosmo-centric humanism could well be the renaissance of human consciousness, enabling our species to not just survive but thrive. Education is perhaps the most potent means of ushering in this kind of attitudinal change. Rabindranath Tagore once said: “The highest education is that which does not merely give us information but makes our life in harmony with all existence.”

Educators everywhere could usher in a massive change in consciousness by working on themselves, first of all, and then by nurturing in young learners what I call

‘source-full intelligence’, which is the unique capacity we humans have of understanding and experiencing our uniqueness and oneness simultaneously. This will enable learners to shift from a self-versus-other to a self-and-other to an all-is-self consciousness.

In the process of nurturing source-full intelligence, what automatically gets enhanced are 21st century skills such as critical thinking and problem-solving, creative thinking, content mastery, change orientation, flexibility, compassion and empathy, and collaboration and communication excellence (with integrity).

The biggest threat to this kind of holistic, consciousness-changing education is the current emphasis on STEM (science, technology, engineering and maths) and the marginalisation, even exclusion, of humanities and arts from the curriculum. Atomistic and discipline-centred STEM subjects prepare most of our learners for jobs and some for innovation, but H-TEAMS (humanities — technology, engineering, arts, maths and science) prepare learners for life.

Subjects like literature, history, geography, civics, psychology, sociology and philosophy help create awareness of one’s self and the way humans think and feel (psycho-literacy), awareness of other cultures and social justice issues (socio-literacy) and awareness of our natural environment (geo-literacy). Along with the arts, they help develop the capacity for nuanced perception and nourish the cognitive, affective, social and spiritual domains of development.

With source-fully intelligent education, we can enable learners to think vertically and horizontally, connotatively (symbolically, as with poetry, myth, etc) and denotatively (in a literal manner, as with prose). These learners can then, working on



Educators could usher in massive change by nurturing 'source-full intelligence' in young learners

their own or in collaboration with others, demonstrate flexibility, compassion, empathy, ethical sense sensitivity, and a commitment to earth democracy.

Education of this sort would inevitably result in the emergence of compassionate leaders who would strive to achieve the United Nations Sustainable Development Goals and see these realised by the set date of 2030. Learners whose source-full intelligence is developed with H-TEAMS education would find it easy to create and live out a new pro-life story.

Letter from Einstein

Twenty years after his death, Albert Einstein's daughter, Lieserl, released a letter which her father wrote in 1938. He had asked her to withhold it because he felt humanity was not ready for his message. The message was: "If we want our species to survive, if we have to find meaning in life, if we want to save the world and every sentient being that inhabits it, love is the

one and only answer."

The way forward could be easier than imagined. None of us can be good at everything, but every single one of us is good at something. It is that 'gift' which makes us singular. If we operate in ethical ways, from a sense of 'unity consciousness' rather than 'polarity consciousness', the 'work' we do in alignment with our gift gives us joy and we get into a state of 'flow', ready to give it our hundred percent.

"Follow your bliss" was the advice rendered by Joseph Campbell. When we lovingly and selflessly share our gift with the world, joy, peace and abundance of every kind flows into our lives. By realising that love is not a sentiment to give or withhold (Tagore) but that we 'are love', by blending knowledge from the outside world with wisdom that comes from the study of humanities and arts, we can and must create lives that are joyful and socially just for all living beings on the only planet we can call home. ■

Sustain to succeed

Sustainability will be a critical factor as businesses ready themselves to hit the revival road in the post-pandemic period

Responsible conduct is not a new paradigm for Indian businesses, which have always had the mandate to minimise the adverse social and environmental impact of their operations. Many businesses in the country are integrating the United Nations' Sustainable Development Goals (SDGs) into their core philosophy, thus creating value for a diverse set of stakeholders beyond customers and shareholders.

The raging coronavirus pandemic has provided ample evidence that responsible businesses are resilient businesses. This crisis has made the relationship between business and society more complicated and, at the same time, more visible, necessitating a much stronger alignment between business and societal interests.

Given the circumstances, the imperative is to ensure that, as businesses focus on economic recovery once the pandemic eases, it is not at the cost of sustainability considerations.

Adopted in 2015, the SDGs provide a comprehensive framework to plan, measure and monitor progress towards creating a world that is prosperous, green, and just. Existing business regulations in India – among them the corporate social responsibility charter and the 'national guidelines on responsible business conduct' – have either been aligned or are in the process of being aligned to the SDGs. The Indian government is also finalising a 'national action plan on human rights', which has strong linkages with several SDGs.

As more companies adopt the SDGs

structure, a few common characteristics are discernible. These sustainability principles are imbibed into the very spirit of the organisation and are pervasive at all levels, going well beyond regulatory requirements.

Clear sustainability targets and goal-setting have been instrumental in organisations doing well on SDG measurements. Business commitment to the goals, relating to climate change, gender equality, clean energy, sustainable production and consumption, etc, are often well documented in sustainability reporting. Businesses are increasingly adopting the principles of resource efficiency, the circular economy, and climate change mitigation to ensure long-term survival.

Supply chains count too

Sustainable businesses do not just concentrate on their areas of operations; they also influence their value chains and engage with key stakeholders to deliver on the sustainability agenda. Supply chain sustainability initiatives have been instrumental in driving positive environmental and social impact across the board.

The emphasis, initially, was on suppliers' compliance with standards and codes of conduct, but this engagement has matured considerably to take in supply-chain transparency and deeper collaborative efforts between buyers and suppliers.

Sustainable businesses are also redefining the way they engage with communities. Community development



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The commitment of businesses to countering climate change is crucial

initiatives are based on people participation, ownership and close collaboration with local governance systems.

Multi stakeholder initiatives, with participants from economic, political and social backgrounds deliberating and jointly deciding solutions to common problems, have emerged as a strong enabler in delivering sustainable outcomes. Businesses are pooling their resources, wisdom and expertise through such initiatives to resolve common sustainability challenges.

SDGs are for everybody

Contrary to popular belief, sustainability is not the prerogative of resource-rich and large organisations. The evidence clearly shows that micro and small enterprises are equally effective in delivering on the SDGs and, sometimes, even more effective in driving sustainable change at grassroots.

Covid-19 has resulted in massive economic losses and social challenges. We have seen the best and worst of the corporate world during this period. On the one hand, there has been exemplary

leadership, with companies speedily stepping in to combat the crisis within and outside their operations. Empathetic enterprises have stood by their workforce and partnered their supply chains to support them as well. Undoubtedly, these companies have forged stronger relationships and collaborations to emerge stronger from the crisis.

On the other hand, some companies have put only their interests at the fore. They have taken unanimous, destructive decisions – order cancellations, improper layoffs, no support for migrant or contract labour – that have exacerbated the situation, especially for the vulnerable. These companies have faced a backlash for their unethical behaviour and run a real risk of losing the trust of their employees and supply chains. Their operations are likely to be in jeopardy as things move slowly towards revival.

The pandemic has set us back considerably on achieving the SDGs. It has also exposed weaknesses in our existing systems, particularly the inability to protect marginalised sections of society. Businesses will have to rethink their strategies while being mindful of this context.

Businesses should also anticipate changes in consumption patterns. Consumers and investors will demand more transparency in the way businesses operate. Capital flowing to businesses will be inclined to apply the lens of sustainability in their decision making. Strong partnerships among stakeholders, with an emphasis on the vulnerable, will be crucial to building resilience across businesses and systems.

Wholehearted participation from the private sector will not only go a long way in ensuring that India stays on track to achieve its SDGs targets, but will also ensure the survival of businesses. ■

