

Civil Society



Free market at what price?
THE GREAT FARM REFORMS DIVIDE

SCHOOL GROWS PADDY

Page 10.....

HOSPITAL ON A TRUCK

Page 12.....

A LUTYENS LEADER

Page 29.....

INTERVIEW

‘TRAIN AYURVEDIC SURGEONS BETTER’

DARSHAN SHANKAR ON WHY ONLY CRITICISM IS UNFAIR

Page 8

DIGITIZED AND GONE

Page 30.....

JAM WITH HEART

Page 33.....

POWER OF PLANTS

Page 42.....

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IN THE LIGHT

SAMITA RATHOR



LETTERS



Life saviours

Thanks for the cover story, 'The Next Pandemic?' on Doctors for You. I wholly agree with Dr Ravikant that we must be on our toes and prepare for the next pandemic. No serious attention is paid to conserving our environment. Forests are destroyed, animals killed with alacrity by all governments in the name of development.

Sweta Trivedi

Doctors For You (DFY) is a novel philanthropic organization. In our present red tape-ridden system, how did DFY overcome hurdles? Many healthcare professionals like me are hesitant to organize such work. We need to learn from DFY.

Umakant Shetkar

I have known Dr Ravikant for at least five years now. He is an outstanding person of great merit. Certainly, he is a kind person who deserves the

Padmashri. I worked closely with him on multi-drug resistant tuberculosis and he left a lasting impression on me.

Sanjiv Navangul

Farmers' protest

I read your interview with Kavitha Kuruganti, 'Why can't big players buy in the mandi?' online. My question is, why link the MSP to the three farm laws? The MSP is an independent subject. Its implementation is neither warranted nor sustainable. Why shouldn't market-driven crops be produced rather than crops which are left to rot?

Can Kuruganti comment on why farmers are already selling to traders outside the mandis at much lower prices when they have the option to go to mandis and sell. What is the issue in listing all the objections to

the three laws, clause by clause, and then leaving it to the government to decide how to accommodate them? There is clear politics and personal power play at work.

Rajiv Popli

Floral value

I enjoyed reading your Plant Power page. Yellapragadda Subba Rao, the great Indian American biochemist, extracted Reserpine — the best anti-hypertensive in the world — 50 years ago from *sarpegandha* (*Rauwolfia serpentina*). It used to be sold in India as *saapbooti* by itinerant medicine peddlers for epilepsy, insomnia, mania and hysteria. Sadly, nowadays, it has been overtaken by better, though vastly more expensive, synthetic medicines.

Deepak Chatterjee

Thank you for a really informative article. We live in Minnesota, one of the coldest regions in the US. We do have a good spring and summer, although brief. I would like to learn more about Indian botanicals and if we can grow these plants indoors. Please send us some references.

Vijay Dixit

Please do an entire issue on India's flora.

Munisha Chauhan

Incense woes

The present status and future prospects of the agarbatti industry have definitely been properly projected in your interview with Arjun Ranga, president of the All India Agarbathi Manufacturers Association (AIMA). But in Maharashtra we face a few problems like consistent supply of quality raw material, fluctuating rates, unprofessional and unorganized manpower, etc. which restrict the growth of the industry.

Prashu Bhoskar

Baza buzz

This story is so relevant right now. I really appreciated the fact that Baza Coffee gives 17 percent of the final price to producers whereas other buyers give a mere 2.5 percent and don't even work with coffee farmers.

Srila Bose

Thank you for this very interesting article. I have been educated and enlightened! Where can I purchase the coffee you wrote about?

Evita Fernandez

You can order online at www.blackbazacoffee.com

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COVER STORY

THE GREAT FARM REFORMS DIVIDE

Are the government's new laws on farming the reforms the country needs or are they going to worsen the plight of farmers? With their agitation farmers have finally brought attention to agriculture.

24

COVER PHOTOGRAPH: SHREY GUPTA

Local issues in Kashmir 16

Planting the right seed 17

Jam, juice, flakes, chips or pulp 20

Degraded forests attract Sadhna 22

Are Railways' numbers real? 31

Fruit wine with Himachali roots 35

A personal air pollution story 36

Old temples, great designs 38

Products 40

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Lessons from farmers

THE long agitation over the Union government's new farm laws shows that reforms by stealth or force don't work, not even when they are introduced by a government with a sizeable majority. There is really no substitute for discussion in Parliament and outside. In fact, wider consultation is a principle that should be applied to the legislative process in general if laws are to be meaningful to people and successfully implemented instead of remaining on paper as is mostly the case. The drafting and then passing of the Right to Information (RTI) law under the UPA 1 government is a good example of how citizens can contribute to the making of a law and then also work to have it implemented. There was a lot of give and take, which is the way to go in a healthy democracy.

In the case of agriculture, farmers' incomes have been falling for a long time and they themselves have been desperate to have their problems addressed. The obvious thing to do was to take them on board. If the government didn't do that it is because it sees reforms as bitter medicine that people have to take. It is clear now that winning the trust of the farmers would have been better. It would also have resulted in more relevant reforms. There is, for instance, the need to reduce the emphasis on wheat and rice, which calls for a collaborative effort.

Stories we have done on agriculture in this magazine over the years have shown us that farmers, both big and small, are only too eager to be better connected with markets. They welcome opportunities for value addition and want greater control over storing and selling their produce so as to be able to realize better prices. Empowering them to do all this is the way to improve their situation. Liberalizers are being unrealistic when they take the position that small farmers should be taken off the land and that subsidies should be dispensed with. These are fanciful scenarios. Farmers all over the free-market world are heavily subsidized. As for small farmers in India, they have nowhere to go except into cities as cheap labour.

If a less flighty approach was taken to reforms perhaps merit would be seen in a minimum support price (MSP) being more efficient than subsidies. Dr M.S. Swaminathan has said as much and in his report submitted in 2004, he has proposed an MSP of 50 percent above costs to make farming viable as an occupation. He has also called for a nationwide market for farmers to sell their produce. When we interviewed Dr Swaminathan 10 years ago, he regretted the fact that his report was gathering dust. The UPA was in power then. He also lamented the lack of a sense of mission in addressing the problems of agriculture. Changes in agriculture required reaching out to farmers in their fields, he said, just as had been done during the Green Revolution years. It is advice that remains relevant.

With this issue of *Civil Society*, we continue to mark our presence in difficult times. We bring you all our regular features and stories from across the country.

DARSHAN SHANKAR ON SURGERY'S DEBT TO AYURVEDA

‘Let Ayurvedic doctors be used as surgeons but train them well’

Civil Society News
New Delhi

AYURVEDIC doctors trained as surgeons in Ayurvedic colleges have been allowed by the government to perform 58 types of surgeries to make up for the lack of surgeons in India.

The decision has led to an outcry by allopathic doctors with the Indian Medical Association (IMA) saying it will lead to ‘mixology’ and quackery, which the public healthcare system could do without.

The fact is that surgery began in India with Sushruta whose treatises form the basis of Ayurveda. Present-day Ayurvedic doctors also study surgery at the master's level in Ayurvedic colleges. But does that make them good enough to practise?

Darshan Shankar, who has spent a lifetime building bridges between western science and traditional medicine, strikes a note of caution. He says better infrastructure and training are needed in Ayurvedic colleges before the surgeons are treated as the equivalent of general surgeons, as the government has suddenly envisaged.

But India is short of surgeons and modern medicine owes a debt to Ayurveda. Instead of denying Ayurvedic doctors the right to practise as surgeons, they should be trained better and used to bolster the public healthcare system.

Excerpts from an insightful interview with Darshan Shankar, who has founded the Institute of Ayurveda and Integrative Medicine (IAIM) and the Trans-Disciplinary University (TDU) in Bengaluru.

Do you think Ayurveda physicians trained in surgery should be allowed to practise as surgeons? Surgery, after all, began with Sushruta whose treatises form the basis of Ayurveda.

It's true that Ayurveda is a knowledge system that has given surgery to the world. The Burroughs Wellcome Library in London, which chronicles the history of medicine, has the *Sushruta Samhita* — which is an entire treatise on surgery. It is the palm leaf version that has been preserved. Even as late as the 18th century there is evidence that the techniques of plastic surgery were exported from India to Britain.

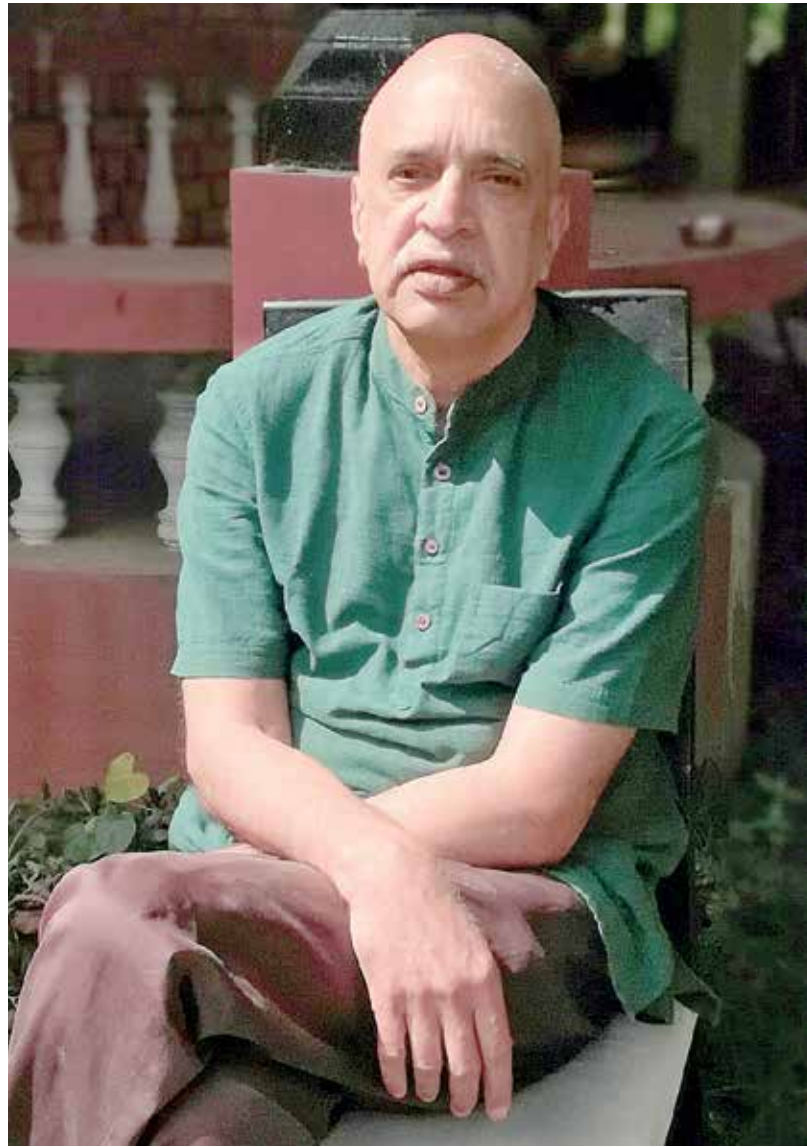
Historically, I would say there is a global debt that surgery owes to Ayurveda. The surgical world is obligated to revitalize surgery in Ayurveda.

At the bachelor's level, the Ayurveda physician learns minor surgery just like in the MBBS course...

What is minor surgery?

Cuts, wounds, sutures. They don't enter operation theatres (OTs) but minor OTs. At postgraduate level the MBBS and the Ayurveda graduates start at the same point. They don't have a background in surgical practice.

It is the master's degree course in surgery that trains the allopathic surgeon in general surgery or whatever he or she specializes in. It is similar in the case of Ayurveda. In my university I have looked at the master's courses in allopathy and Ayurveda. We have compared the curriculum. We find that over 90 percent of the curriculum is the same. In Ayurveda they have used Sanskrit words with



Darshan Shankar: 'Ayurveda deserves to participate in surgery'

‘Although they have the same curriculum, the training given to a modern surgeon is far superior compared to that imparted to an Ayurvedic surgeon.’

their allopathic terminology in brackets.

The element which is different in Ayurveda is that it includes features of pre-surgical and post-surgical practices which are very interesting. I think that if you look at such procedures objectively, you may find that allopathic surgery can benefit.

However, the training for both streams is very different. The infrastructure for teaching surgery at postgraduate level in Ayurvedic institutions is certainly much poorer than the infrastructure and human resources available in allopathic medical colleges.

Therefore, although they have the same curriculum, the training imparted to a modern surgeon is far superior compared to that imparted to an Ayurvedic surgeon. The reason is that the infrastructure in Ayurveda colleges is not of the same standard as modern surgical colleges.

What does the Ayurvedic surgeon learn? Who teaches the Ayurvedic surgeons and have they been practising surgery in the past two decades?

Theoretically, both learn the same curriculum. But in practicals the Ayurvedic surgeon does not get the opportunity to practise during the course of his training with the same exposure that the modern surgeon gets during his master's degree.

The situation varies from state to state. In Maharashtra the state has passed a gazette notification similar to the recent one passed by the central government saying that Ayurvedic surgeons can practise to the extent of their training. The training is, of course, decided by the curriculum. As a result, several colleges in Maharashtra improved their infrastructure and you now have surgeons graduating from colleges in the state who do surgery almost on a par with modern surgeons.

I have a friend who is a master's in surgery from an Ayurveda college who practises in Raigad-Ratnagiri district. The state government has appointed him district surgeon because there is such a huge shortage of surgeons in India. People from all over the district come to him and he does a fantastic job.

What kind of surgeries does he do?

He does all general surgeries — appendix, gall bladder, hernia and so on. Laparoscopy too.

Is this the case with all those who graduate in surgery from Ayurveda colleges?

No. I think theoretically they know the range of surgeries but in practice most Ayurvedic surgeons restrict their surgical practice to the anal-rectal region. Even allopaths advise patients with an anal-rectal problem to go to an Ayurvedic hospital. So even though the curriculum is the same, for lack of training, the Ayurvedic surgeon is not equipped to practise from day one.

But this is a ridiculous situation. You teach them the entire curriculum that an allopathic surgeon learns yet despite an acute shortage of surgeons you don't train them adequately.

So you feel concerns over allowing Ayurvedic surgeons to practise are not unfounded?

They are not unfounded for day one.

Do you think it's a good idea?

I think it's an excellent idea and an extremely important one. It's very important for India's public health system. We are acutely short of surgeons. The IMA should welcome this move. They should be constructive and offer to work with Ayurvedic centres and strengthen their infrastructure and training. After all, 500 surgeons graduating annually would be an asset to the world of surgery. Actually, we need hundreds of thousands of surgeons. Instead, there is a very peculiar politics of medicine at play.

In my hospital I have three Ayurvedic surgeons. I find it absurd that they have spent three years learning surgery and they cannot practise general surgery. We have good infrastructure in our hospital. Yet every time a surgery has to be done, I have to invite modern surgeons to participate. I do so willingly because I want my surgeons to build capacity, but I find it humiliating.

Why have a three-year course in surgery if an Ayurvedic surgeon can't practise after that. On day one I would not advise that Ayurveda surgeons be allowed to practise until they undergo adequate training. But Ayurveda deserves to participate in surgery. It gifted surgery to the world and now the world must come forward to create a level playing field.

What is the infrastructure that Ayurveda colleges lack?

The infrastructure needed by an Ayurvedic postgraduate college teaching a master's degree in surgery should be the same as an allopathic postgraduate college. Today, this is not the case.

The teaching staff for a postgraduate programme in Ayurveda surgery must include trained surgeons and anaesthetists. In addition, it should have OT nurses, OT technicians and a resident surgeon. The unit should also have staff trained in BLS (basic life support) and ALS (advanced life support) systems.

With such infrastructure and human resources an Ayurvedic surgical unit should certainly be able to handle emergencies with the same competence as an allopathic surgical unit.

Such capacity can be rapidly built in Ayurveda surgery teaching hospitals if there is active cooperation from the larger surgical fraternity which is currently mostly located in allopathic hospitals.

Would regulation be needed and who would provide it?

Regulation for Ayurveda surgery must be exactly the same as for allopathic

surgery. Ideally, the National Medical Commission for allopathy and AYUSH should create a common regulatory framework and a common register for licensed surgeons.

Today, this is not the case. The registers are different. However, since health is a state subject, state governments can create a regulatory framework and a register which is common for all surgeons. The country should not have separate regulation for Ayurvedic surgeons and allopathic surgeons. This synergy across Ayurveda and mainstream surgery is not administratively difficult to achieve, if the narrow politics of the IMA do not vitiate the scene. India is woefully short of surgeons and constructive collaboration is needed for public health.

Some of this comes out of a feeling among ordinary people and allopathic medical practitioners that what comes from Ayurveda is not science. You've spent your life building bridges between western science and Ayurveda as a science. What needs to be done?

I think an introductory course on the way Ayurveda looks at biological change in the body needs to be introduced in all streams of allopathy. It is certainly ignorance to say that Ayurveda is not a science in a generic sense. The Ayurveda knowledge system is not the same as the allopathic knowledge system. It's not a molecular understanding of biological change but a systemic understanding of biological change.

On the frontiers of biology we have incredible insight into changes happening at the cellular level but we don't know what is happening at the systemic level. And that is the weakness not just of modern medicine but of modern biology.

‘The country should not have separate regulation for Ayurvedic surgeons and allopathic surgeons. Synergy is not difficult to achieve.’

Now here is India with a heritage that understands change happening at a systemic level. Therefore, a combination of molecular approaches and systemic approaches is very important to understand biological change. How a cell behaves is not how a tissue, an organ or the whole system behaves. You cannot extrapolate.

We are in the middle of the COVID pandemic and this is what everybody is grappling with. We don't know how the system as a whole behaves.

That's right. I was in Norway a few years ago. I was talking to the head of their government medical system. They are far more open-minded there. He said all that allopathy is good at is managing acute conditions, emergencies and surgeries, not understanding systemic imbalances. Allopathy looks for systemic immunity in a limited way using vaccines. Instead, you have to make the system resilient, which is what Ayurveda does.

You have post-COVID clinics today which are struggling to deal with symptoms that persist in patients.

I think allopathy's forte is in dealing with acute conditions, including COVID. Single molecules are good for an acute condition. If you want to relieve pain you want one molecule which is the analogue of a plant, actually. You extract morphine or its analogues. You can use it for short durations because such molecules are very powerful. For post-COVID what we are seeing are systemic disorders. Allopathy doesn't have the capability to analyze or deal with them.

Your hospital in Bengaluru has worked with innumerable cases dealing with nervous disorders. What is your experience?

The entire turnover of the Ayurveda sector is around ₹70,000 crore per annum, mostly from private clinics, hospitals and industry. The government is a smaller player, as in allopathy. Its investment in allopathy is 1.5 percent of GDP. The actual spend on western medicine is 4 to 5 percent. The rest is happening in the private sector. It's the same in Ayurveda.

It is citizens who are spending on private clinics, hospitals and non-profits. This is their health-seeking behaviour. Take our hospital. It's self-financing. People come on their own for muscular-skeletal disorders, strokes, Parkinson's, skin conditions, gastro-intestinal imbalances, irritable bowel syndrome. I mean, why do they come? Some of the richest people in the city who could go anywhere in the world, come here because they want relief. ■

Udupi school grows paddy to revive fields, promote farming

Shree Padre
Udupi

WHEN the school's golden jubilee was to be celebrated last year, Murali Kadekar, headmaster of Nittur High School in Udupi, wondered what they should do. It must be a significant gesture, he thought, as he wracked his brains for an idea.

Then it struck him that he used to cycle all the way from home to school every day, passing lush paddy fields on both sides of the road. But those fields had long vanished. What if he could get his ex-students to revive them?

Kadekar's seed of an idea eventually succeeded in reviving 50 acres of defunct paddy fields. It became the school's gift to the surrounding community on its golden jubilee. Inspired by what the school had done, some farmers voluntarily revived another 20 acres of paddy fields. Local history was created even in the midst of the pandemic.

Kadekar, 59, retired from service on October 31 last year just as machines began harvesting paddy in the fields he had helped revive. The rice is organic and is being marketed under the brand name of Nittur Swarna. Consumers say it tastes excellent.

Kadekar taught at Nittur High School for 32 years. He was appointed headmaster during the last few years. Apart from introducing his students to farming, Kadekar started many heartwarming initiatives to help poorer students in his school.

AN UPHILL TASK

Kadekar's brainwave, of reviving paddy fields, struck him in the last week of February 2020. He convened a meeting of villagers, mostly his old students. About 25 turned up. Kadekar told them what he had in mind.

They listened to him bemused and listed all the problems. "There aren't any drainage channels so how can we cultivate paddy?" "Those paddy fields are infested with wild plants and look like forests." "We won't be able to demarcate the fields." "No field has bunds." "Will the paddy field owners agree?" "A few paddy field owners don't even know the boundaries of their fields."

No one was interested. But Kadekar wasn't taking no for an answer. "At least let's go take a look at those fields, study the issues and see how we can resolve them," he replied.

So Kadekar and his ex-students went off to see fallow fields within a radius of 12 km from the school in Kakkunje, Puttur, Nittur, Karambally and Perampally. Four of these five areas were entrusted to four ex-students who were named assistant warriors. One was assigned to an ex-headmaster. The group comprised Bhaskara D. Suvarna, 65, Dinesh Poojary, 38, Ranjan Shetty, 32, Harish Acharya, 44, and Sudhakar Kotyan, 49.

They noted that for several km there was no



Murali Kadekar, the school's headmaster, initiated the paddy revival effort



Paddy fields within a 12-km radius of the school were revived

drainage channel or bunds. Excess rainfall wouldn't drain away or be retained when it needed to. The fields had wild plants, trees, plastic and glass waste which would need to be laboriously picked by hand.

The team identified all the problems that they would need to overcome — physical, fiscal and psychological and informed Kadekar. But he still wouldn't give up.

Recalls Ranjan Shetty, assistant warrior of Puttur region, "I had attended the first meeting. Listening to everyone's reactions, I thought, this is impossible. But *mashtu* (teacher) was adamant. We have to do this, he kept telling me. He asked me to convene a meeting with the paddy field owners. He said, let us discuss everything with them,

there will be a way out."

So, led by Kadekar, the team now went to meet the owners of the defunct paddy fields. No amount of coaxing and cajoling could persuade the paddy field owners to restart cultivation. Most of them were very elderly. Their children had gone off to work in distant cities.

The team tried their level best. Suggestions flew back and forth. Somebody suggested that if each paddy field owner could pay just ₹25,000 they could start cultivation and repay the money after selling the rice.

The paddy field owners turned their faces away. "If we have to pay, we aren't interested. Let the fields continue to remain fallow," they said.



Udupi MLA K. Raghupathy Bhat, fourth from left, inaugurated the planting of paddy



Students take part in paddy cultivation



Machines were a big help

Kadekar and his team hadn't drawn up a budget or planned how they would sell the produce. He made two points clear, though. "We are simply rejuvenating the fields for one season. We want to show it is possible to revive fallow fields with community effort. The school doesn't want to make any money. If at the end of it all we have a surplus, we don't want to keep it," he said.

WITHOUT MONEY

Time was ticking away. If they waited for the landowners to make up their minds, they would lose the cultivation season. Kadekar appealed to local villagers to contribute. "Once the paddy is sold we will repay you on priority," he reassured them. "And if the crop fails and we incur losses the school will reimburse you," he added.

The school didn't wait for donations. Without money, Kadekar requested Dinesh Poojary, who leases out JCBs, to begin work. He started digging drainage channels.

A new problem cropped up. What should they do with all the soil they had dug out? Luck smiled on them. A gentleman was preparing a new paddy field some distance away. He was getting lorry loads of fresh soil to fill the low-lying area. Poojary contacted him and he said he would buy the soil.

Next, they needed to clear all the shrubs and trees growing on the fallow fields. Labour charges were prohibitively costly. Luckily, another gentleman offered to clear the fields if he could be given the trees free. They agreed. Some paddy fields had to be

friends, Dinesh Suvarna and Prashanth Bhat, involved in reviving paddy fields lying fallow for 10 to 12 years. The trio incurred an expenditure of ₹130,000.

Sudhakar Kotyan hopes next year at least some paddy field owners will start cultivating on their own. "In Perampally, another 20 acres are still lying fallow," he says.

PLEASURE OF FARMING

Dinesh Poojary, assistant warrior of Puttur region, runs a real estate business. Although he knew nothing about farming, he began work with great enthusiasm. Not one out of the 12 paddy field owners in his area turned up to see their fields being revived. But Poojary didn't get disheartened. "We believe the land need not be ours. I learnt many good things about agriculture. The pleasure one gets from farming you can't get from running a business," he remarks.

"I don't own a paddy field. I had never learnt farming. But now I would like my children to learn cultivation. I took them to see all the stages of rice production. Earlier, sometimes they would waste rice on their plates. Now they don't waste a single grain," he says.

Ranjan Shetty, who headed the Nittur region, owns JCBs and tippers, deals in construction materials and runs a transport agency too. "At one stage bund construction became a real bottleneck. In our area, nobody knew how to construct them either. After many enquiries, we got a team from Someshwar. They were experts in bund making. To build bunds for seven acres, we spent ₹50,000."

Nittur region has revived 7.5 acres of paddy fields belonging to 12 landowners. Locals contributed ₹90,000. Shetty spent ₹50,000 from his own pocket.

"I had no knowledge of agriculture at all. Initially I suffered a lot of tension," says Shetty, "I wondered many times whether in the midst of my nicely running business, I should have taken on this headache. But after completing my task I feel proud."

Karambally's team leader, Harish Acharya, is a goldsmith with no knowledge of farming. But, he says, since childhood, he has been interested in farming. He created a group of like-minded friends who call themselves the 'Karambally friends'. They had been cultivating a 2.5-acre fallow field in a nearby area.

At Karambally, 9.5 acres were revived. "A few people gave us ₹3,000 to ₹5,000. I paid the rest. We have spent ₹93,000 so far," he says. "But none of the landowners want to continue cultivating next year. They want me to shoulder this responsibility again."

One advantage was availability of machinery on rent. The assistant warriors could get machines for transplanting and harvesting and polk lines were used to clean fallow fields. Most work was done by machines.

Another advantage was that since the lands were fallow for so long, manure was not needed. Although there were moments of anxiety, the team didn't succumb to the temptation of using chemicals. As a part of their fields got flooded and the crop seemed susceptible to disease and pest attack, they politely turned down advice to spray chemicals. Luckily, there was no serious pest or disease attack. So the rice was organic, an advantage in marketing it.

Sudhakar Kotyan, assistant warrior of Perampally, works for the local municipality. He got two of his

'I have learnt many good things about agriculture. The pleasure one gets from farming you can't get from running a business.'

cleaned by the school. It cost them ₹50,000.

Having come this far, all the assistant warriors were now determined to revive the paddy fields. Two of them, Poojary and Harish Acharya, assistant warrior of Karambally, had no experience of farming.

Each assistant warrior had to revive around 10 acres. They persuaded the paddy field owners to agree. A few people contributed money but it wasn't enough so the warriors paid from their own pockets.

Suvarna says there was so much plastic waste in the fields assigned to him that it filled four lorries. Kakkunje's 10 acres belonged to 15 owners. It cost him ₹2.5 lakh to revive his fields out of which people contributed ₹1.5 lakh. "Some people who don't even own paddy fields have contributed out of appreciation," he remarked.

Sudhakar Kotyan, assistant warrior of Perampally, works for the local municipality. He got two of his

Continued on page 12

Udupi school grows paddy to revive fields...

Continued from page 11

Helping hands also arrived. The Manipal Rotary Club team visited the project area and contributed ₹75,000. The Kallianpur Catholic Sabha members offered *shramdan* for half a day and contributed ₹25,000.

Kadekar's wise decision to delegate responsibility at an early stage of the project made it very result-oriented. "It's their area. They can influence local people and activities. Luckily, they took complete charge and inspired local people to cultivate," he says.

The team is expecting a crop of 25 tonnes. The price of ordinary rice in the local market is ₹40 per kg. The school has priced its Nittur Swarna organic rice at ₹50 per kg. "Our first priority is to pay back the villagers who generously gave us money," says Kadekar. "We will submit all accounts."

Kadekar had achieved a task considered impossible. "If some of our old students realize the difficulties and importance of farming, I will consider our efforts worthwhile," he says.

He had planned to involve students in his paddy revival programme but he refrained because of the pandemic. "I wanted to take their parents' permission and involve them in some stages of rice cultivation," he says.

For the past five years, Nittur High School has been coaching its Class 10 students in farming. Every July they take part in paddy cultivation on a farmer's field. Teachers also join in. They visit the farm a second time during harvesting. Students help by carrying bundles of paddy and by thrashing the crop.

"So far 250 to 300 students have had this experience and they haven't forgotten it," says Kadekar. "Today's learning by rote method of education doesn't teach children important lessons of life. They don't know anything about farming. When they harvest the paddy they themselves have planted, it gives them a new perspective and job satisfaction."

Nearly 85 or half of the 185 students in Nittur High School are from other districts. They are mostly children of labourers who have come to work in the district. They are very poor. Twenty years ago the school had started a savings bank account called Sanchayika for its students. The school was also a pioneer in the midday meal scheme.

Years ago, when a girl came to school in the morning, her eyes were red and her face swollen. Kadekar learnt she had two younger sisters and her parents were daily wagers. The girl used to get up at 4 am, light the stove and start cooking. She used to do all the housework and could study only after 9 pm.

The school conducted a house-to-house survey. Gas stoves and cylinders were arranged for poor households along with electricity connections. Families living in rented houses got solar lamps. All for free. So far, Nittur High School has provided solar lamps to 100 houses, cookers to 90 homes, LPG cylinders to 75 homes and electricity connections to 25 homes.

On October 31, the day Murali Kadekar retired, a function was held to inaugurate the construction of a new house costing ₹4 lakh for Nayana, a poor student in Class 10. Kadekar had paid for it. ■

Murali Kadekar - 94490 88708



A part of the hospital erected and awaiting finishing

Muzaffarpur gets its cancer hospital on a truck from Chennai

Civil Society News
New Delhi

HOW long does it take to set up a cancer hospital? Two years? Or just four weeks? If the hospital happens to be the one coming up in Muzaffarpur in north Bihar, both answers are correct.

It was in 2018 that the Bihar government announced the setting up of a much-needed cancer hospital in Muzaffarpur, but for various reasons including the lack of funds, the plan didn't take off. Now it is being built at such speed that it will be completed in all of four weeks and be ready for inauguration on February 4.

It is going to be a 'foldable' hospital, which means it will be prefabricated and rigged up on-site. A bigger, conventional building with brick and mortar may come up some time later, but in the foreseeable future this will be the hospital.

The different elements of the structure have, in fact, arrived in Muzaffarpur in a big container on the back of a truck all the way from Chennai.

The structure, made from aluminium compost, is supposed to last for several years. It is supplied by a young company called Modulus Housing Solutions, which was founded in 2018 by two alumni of IIT Madras, Shree Ram Ravichandran and Gobinath P.

Modulus' focus was on housing to improve the standards of prefabricated structures. But during the coronavirus pandemic it saw the need to use

this experience to quickly create small hospitals for treating COVID-19 cases.

Use of its technology for a 50-bed cancer hospital in Muzaffarpur could save time, lower costs and change the way health facilities come up in poorly serviced locations in India.

In the middle of the hectic efforts to get the Muzaffarpur hospital going is Dr Ravikant Singh, founder of Doctors For You (DFY), who has made Muzaffarpur his base for the time being.

The project is a collaboration between the Tata Cancer Memorial Hospital and the Bihar government with grant-in-aid from the Department of Atomic Energy.

Dr Ravikant (as he likes to be known) has the position of assistant professor of preventive oncology, but for now it is the project management skills that DFY is known for in emergency situations that are proving to be invaluable for getting the hospital up and running.

In fact, DFY was in the process of setting up a 100-bed COVID-19 hospital in Muzaffarpur, which was being funded by Wells Fargo as a CSR initiative. But since coronavirus cases began declining, DFY passed on both the funding and the foldable construction solution from Modulus to the cancer project.

"The COVID hospital could accommodate 100 beds, but a cancer hospital needs a different layout because of the facilities it must provide and we have 50 beds instead," says Dr Ravikant. "We have been given 15 acres for the hospital on the campus



A cabin being hauled by a crane



Dr Ravikant, left, with his team members



A mock version of a completed cabin as a medical facility

of the Sri Krishna Medical College and Hospital. Getting land for the cancer hospital was one of the basic challenges we faced."

"Bihar has an estimated 150,000 new cases of cancer in a year," says Dr Ravikant, who belongs to Bihar though he studied medicine in Mumbai. "Barely 30,000 of the cancer cases get properly treated. The rest get sub-optimal treatment from doctors who aren't qualified to treat cancer. A great many patients get no medical attention at all."

There are less than 100 doctors trained to treat cancer in Bihar. Very few facilities exist and patients have to travel to find treatment. The idea of setting up the cancer hospital in Muzaffarpur

was to make a facility available in north Bihar so that patients wouldn't have to make the trek to Patna and other big cities.

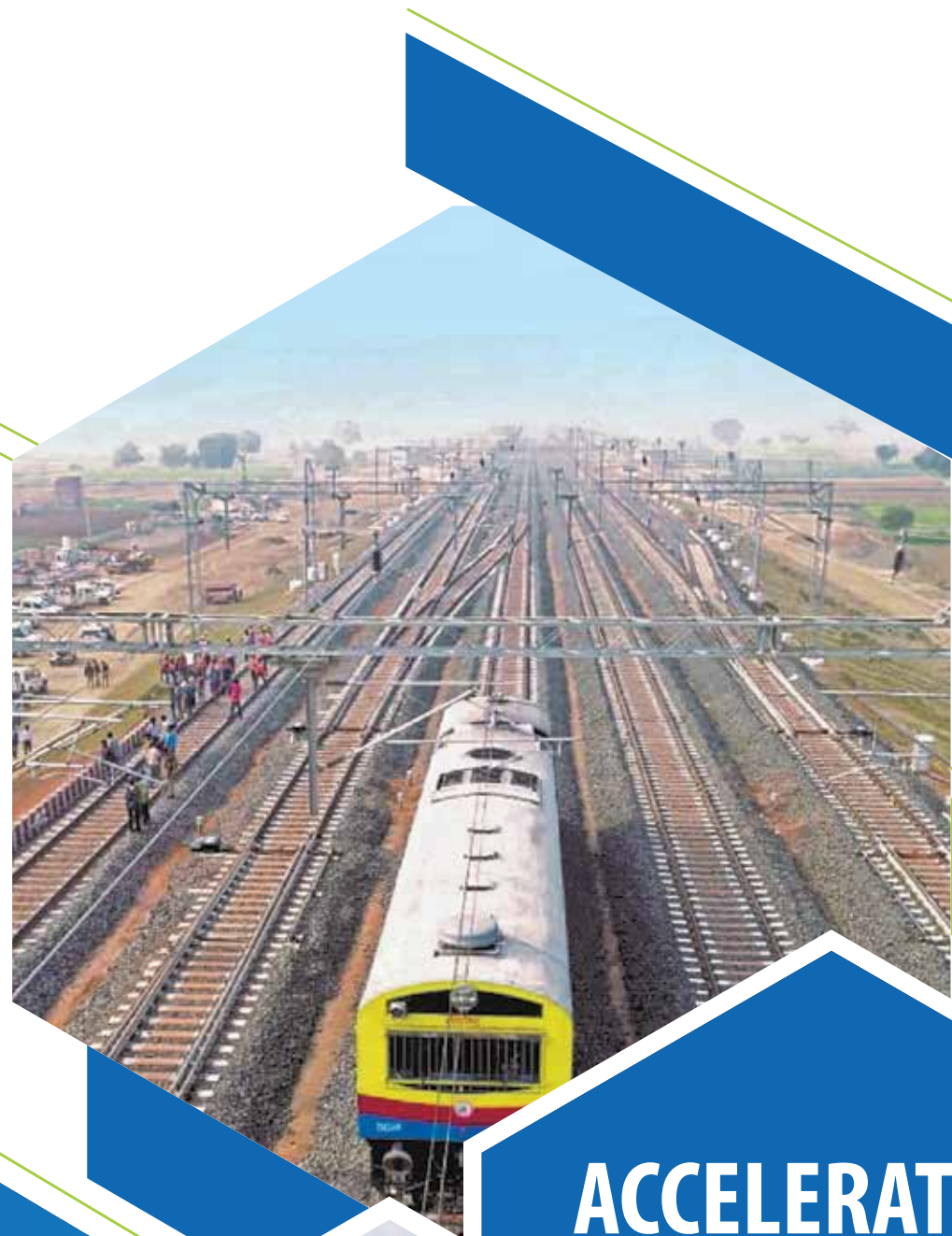
To staff the hospital, doctors and nurses are being recruited mostly from Mumbai. They will have to live in Muzaffarpur and are going to be provided accommodation. Except for radio therapy, the hospital will be equipped to provide all other forms of treatment. It will conduct surgeries and offer palliative care.

Modulus came out of the IIT Madras Research Park in 2018. Its foldable cabins were intended to transform the outdated methods used by the construction industry. The cabins are durable, but

they can also be stacked away in a mere fraction of the space they occupy when installed.

The idea began in 2015 when hundreds of lives were lost in a deluge in Chennai. Shelter was needed instantly, but was, of course, not available. By 2016 the founders of Modulus had put together an academic project and won the Azim Premji Social Enterprise Idea Challenge conducted by the Azim Premji University.

More recognition followed and the first product was ready by 2019. Since then, there has been growing acceptance of the foldable cabins for site offices and as housing for labour. The opportunities are endless as can be seen in Muzaffarpur. ■



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218 Projects Under Execution





Ismaeel Khan

Muzaffar Ahmad Dar

Mohammad Saleem Parray

Local issues on table after poll in Kashmir

Jehangir Rashid
Srinagar

THE District Development Council (DDC) elections, held in Jammu & Kashmir (J&K) from November 28 to December 19 were unprecedented in many ways. They were the first such elections after the state was made a Union Territory, people overwhelmingly participated, and a whole lot of political parties fought the elections jointly.

The DDCs replace the District Planning and Development Boards in all districts of J&K. These councils with directly elected members will now prepare and approve district plans and capital expenditure.

Most mainstream political parties in J&K are of the view that these elections were held in a surreptitious manner with no time being given to them to campaign. They also said that they were not provided a level playing field and many of their candidates were unduly harassed.

Parties like the National Conference (NC), People's Democratic Party (PDP), People's Conference (PC), Awami National Conference (ANC), CPI(M) and others came together to fight the elections under the platform of the People's Alliance for Gupkar Declaration (PAGD). The elections have been done and dusted and the results are out as well.

The PAGD won 100 out of 280 seats, becoming the single largest group. The Bharatiya Janata Party (BJP) emerged as the single largest party, winning 75 seats including three from the Valley. The PDP's Waheed-ur-Rehman's win in these elections was unique since he is languishing in jail for alleged links with militants.

Most of the winning candidates said that people came out to vote because they are tired of grappling with the lack of basic amenities. They were facing

People are tired of grappling with the lack of basic facilities. Power, water, roads, mobile connectivity are in a shambles.

issues like inadequate electricity, drinking water, roads and mobile connectivity.

The winners said they stood for elections since they would like to improve access to such services. Some said they can go beyond their mandate and do 'bigger things' but they were perplexed since the rules and regulations governing the DDCs are not out as yet.

Muzaffar Ahmad Dar, a DDC member from Tujjar Sharief in Sopore in North Kashmir's Baramulla district, believes that the political future of DDC members depends on how much they manage to achieve while discharging their obligations on the ground. He said that people have huge expectations from DDC members since they have suffered a lot.

"If I can solve the basic problems of my people then I can say that I have done justice to them. We have a glaring power problem in my area. There are unscheduled power cuts all the time. The receiving station has been allotted to our area but there has been no upgradation and we await wires and poles," says Dar. His area does not have the requisite number of electricity transformers either, he says.

He also said irrigation facilities in Cheth-I-Kak village need to be improved so that five nearby villages can also benefit. He added that an eight-km Watlab-Cheth-I-Kak road must be completed at the earliest since it connects Baramulla with Kupwara and Bandipora districts of North Kashmir.

Also included in his agenda is local tourism. "There is tremendous scope for pilgrimage tourism in Tujjar Sharief since it is the birthplace of the famous Kashmiri saint, Makhdoom Sahib. Some time ago, Baseer Khan, adviser to Lieutenant Governor Manoj Sinha, visited our area and we placed this demand before him. He was very positive so we are hopeful," said Dar. But he also added a note of warning. If his agenda is not implemented due to government indifference, he and locals will take to the streets.

Mohammad Saleem Parray, an advocate and DDC member from Sagam-Kokernag in South Kashmir's Anantnag district, said that he too will be focusing on development issues plaguing his area — lack of water, roads and electricity.

"It may take some time for the people and the DDC members to understand the situation that emerges after the DDCs are formally constituted with a chairman or chairperson. We are not sure about the protocol so far. Once we understand the processes involved, we will be able to provide some relief to the people," said Saleem Parray. He said he was keen to work on innovative measures in education. He has drawn up some plans and proposals which he will unveil to the people in due course.

"In the past, development could not take place in the panchayats and wards since the elected representatives were not given enough money," said Mohammad Ismaeel Khan, DDC member from Boniyar-Uri. With the formation of DDCs, he hoped that adequate money will be allocated for the development of panchayats, wards and villages.

"It is ironical that today an executive engineer of the Jal Shakti department has no money to issue a single pipeline for drinking water in any village. After the DDC elections we are hopeful that funds will be allocated," said Ismaeel.

Ismaeel said that roads in his area were in the worst condition possible and needed to be fixed under the Pradhan Mantri Gram Sadak Yojna (PMGSY). At least six villages in Bagna and adjacent areas did not have any road connectivity whatsoever. Besides, Limber village had no mobile network. Overall, mobile connectivity needs to be much better.

Sheikh Javed Ahmad, a lawyer and a DDC member from Anantnag district, said that the role and responsibilities of a DDC member would be known in due course of time. He claimed that he was well aware of his mandate. "The broader picture will emerge once the DDCs take practical shape," he said.

"The people want better drinking water, power facilities and road connectivity. I hope to make a difference," he said.

The DDC member from Sogam-Kupwara, Nasir Lone, also said his area had very irregular supply of electricity, making the lives of people unbearable due to the gruelling winter, the worst in decades.

"Unscheduled power cuts have become routine. Electricity transformers need to be upgraded. Electric wires and poles have worn out," he says. "Many households don't even have piped water connections. In winter, water pipes get frozen so people have no water supply."

Sogam-Kupwara also suffers from a shortage of doctors, technicians, laboratory staff, para-medics and other staff. Also, payments due to the beneficiaries under the Swachh Bharat Mission (SBM) are pending for long. ■

Planting the right seed

Rakesh Agarwal
Dehradun

CARRYING a bagful of seeds, 65-year-old Vijay Jardhari, a farmer from Jardhar village in Tehri district, climbed the steep hills of Kalpeshwar Valley in Chamoli district. Without any sign of tiredness, he covered a distance of 10 km in three hours and reached Salna village where Bauni Devi, sarpanch of the van panchayat forest committee, was waiting for him.

He opened his bag and revealed his treasure. Hundreds of colourful seeds tumbled out:

rajma (kidney beans), bhat, gahat (hill legumes), manduva (ragi or finger millet), jhingora (barnyard millet), apart from varieties of paddy, maize, soya bean and amaranth.

"Look, these are our own seeds that we have been using for generations," he said. The elders were unsurprised but young farmers were taken aback.

Thirty-two years after he started the Beej Bajao Andolan (Save the Seeds campaign), Jardhari still goes to villages and promotes traditional seeds among the next generation of farmers. He emphasizes the sustainability and nutritional value of traditional seeds in contrast to hybrid seeds produced by companies.

"We joined hands initially with Bhopal Singh, to fight against limestone mining in the early 1980s. The Supreme Court banned it in 1988. We then started working to protect our traditional seeds and farming from the onslaught of modern farming using hybrid seeds," he recalls. "The farmers' movement at Delhi's borders is a struggle to keep the community culture of farming alive. In Uttarakhand we strive to keep our *baranaja* and *palta* system of farming going."

At that time his campaign was dismissed as being a fringe movement which even farmers scoffed at. Today, using traditional seeds is accepted as a best practice. The success of his campaign is also due to the growing popularity of the organic movement, the emphasis on nutrition and

environment sustainability.

"In 1994 we started a *padayatra* from Askotin in Pithoragarh district of Kumaon to Arakot in Uttarkashi district. We discussed all the major environmental issues facing us. We talked about conserving our *jal*, *jangal* and *zameen*, collecting traditional seeds and promoting community farming," says Biju Negi, Jardhari's long-time friend.

The *yatra* became an annual feature attracting hordes of urban activists, environmentalists, researchers, students and writers.

In Uttarakhand, farmers practise the *baranaja* or the 12-grain system of agriculture. They grow 12

The Beej Bachao Andolan now has a collection of 700 seeds which are used by thousands of farmers.

cereals together. At that time, farmers were switching to mono-cropping. They were opting for paddy, maize and wheat using hybrid seeds which need more water, pesticides and fertilizers. "Also, farmers cannot keep part of their produce to use as seeds for their next crop. They have to buy hybrids from the market. They can't afford that," he says.

This was a model completely unsuited for tiny farms in the fragile Himalayas. Most farmers here have 0.2 to 1 ha. Hill soil is prone to erosion so it's best to cover the field with local crops that don't need much water or chemicals. Jardhari began reminding people of the old tradition of *baranaja*. These 12 seeds belong to different species and replenish the mineral content of the soil.

Thanks to Jardhari, thousands of farmers in Uttarakhand today use traditional seeds and practise the *baranaja* system of mixed cropping.

Hill farmers, mostly women, collect seeds from the crops they've just harvested in hollowed gourd shells, wooden pine boxes or bamboo baskets lined with cow dung and walnut leaves smeared with oil to ward off pests.

Darshan Lal's field in Maichun village in Almora district is a classic example. He has grown *jhingora*, *manduva*, *bhat*, *gahat*, *rajma* and soya bean in between. "Jardhariji came here and advised us to sow millets. We find it's good for our animals and for us too," says Amrita Devi of Maichun village in Almora district.

"Millets are highly nutritious and especially good for the hard-working women of the hills. *Manduva* is rich in iron and calcium, *jhingora* has phosphorous, *ramdana* is packed with vitamins and *dal* with protein. Growing them together enriches hill soil," says Jardhari.

The BBA now has a collection of 700 seeds — over 220 varieties of kidney beans, 300 of paddy, 10 of maize, 12 of finger millet, nine of soya bean and five of *ramdana*.

Not just environmentalists and social activists, scientists and agriculture experts too support it. "The BBA has made immense contributions to conserving Uttarakhand's biodiversity. It has instilled greater consciousness among farmers about conserving underutilized indigenous seeds," says Dr Sunita Tewari, professor, G.B. Pant Institute of Agriculture and Technology, Pantnagar. Kalpavriksh, a Pune-based NGO, has documented BBA's seed collection for posterity.

Today, Jardhari is a member of the National Seed Savers Network, the largest network of seed savers, farmers and breeders in India. In 2009, he was given the Indira Gandhi Paryavaran Puraskar.

"We keep promoting *manduva*. It is now exported to Japan. Many well-known bakeries in Doon make *manduva* biscuits. Even Britannia makes it. A packet of 50 gm sells for ₹25. We also hold a weekly market of organic grains, fruits and vegetables in Dalanwala, an upmarket area in Dehradun," says Biju Negi. ■

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Shree Padre
Ambalavayal/Wayanad

If a small farmer or household in Wayanad has a surplus of fruits or vegetables, all they have to do is take it to the Krishi Vigyan Kendra (KVK) in Ambalavayal town. Be it banana, jackfruit, passion fruit or tapioca, the KVK will transform it into the product of your choice. Jam, juice, flakes, chips or pulp? You decide. In a few days your products will be ready. Just pay and take it all home.

Ancy John owns a resort in Kenichira village near Ambalavayal. Some months ago, she harvested jackfruit totalling 470 kg in her backyard. There was no demand for jackfruit and besides it was lockdown time. So she transported her jackfruit to the KVK. A few days later Ancy collected 16 kg of dehydrated jackfruit flakes and 37 kg of jackfruit pulp from the KVK after paying ₹7,590.

"We will consume part of this at home. I will sell the rest to people who come to stay at my resort. Such products have good pick-up value," she said.

P.K.Musthafa, a youth from Mananthavady, took six quintals of jackfruit to the same KVK and got it made into pulp and dehydrated raw flakes. "Actually, I decided to start a jackfruit pulping unit. This pulp helped me to test market the product." Some months later, he confidently launched his pulping unit.

Processing fruits and vegetables for a fee or 'job work service', as it's called, is also being done at Kerala Agriculture University's (KAU) headquarters in Mannuthy in Thrissur. The local media promoted the service with the tagline 'bring jackfruit, take back halwa'.

At both Thrissur and Ambalavayal, processing fruits and vegetables started during the lockdown. Despite obstacles like transport restrictions and containment zones, the Ambalavayal KVK processed five tonnes of raw farm produce in about five months. KAU started a little later. Although its centre was closed for two weeks because it fell into a containment zone and staff turnout was poor, KAU's centre processed two tonnes of raw material in four months.

BIG DEMAND: The KVK in Ambalavayal had tested the waters last year, before the pandemic. "We thought anyway we have a big dryer. Five women of a self-help group (SHG) are ready to work. Why can't we process the surplus jackfruit households have," recalls Dr Safiya, head of the KVK.

The SHG cuts and peels the raw produce. The

women can convert about 50 jackfruit into carpels per day. The dryer dehydrates 60 kg at a time. Generally, the material is placed in the dryer before the centre closes. Raw jackfruit carpels, for example, require 10 hours to dry at low temperature so by morning they are ready.

For one kg of carpels Rs 50 is charged for labour and Rs 500 per day for the dryer. The fee for making jackfruit pulp is Rs 20 per kg. Seeds can be dehydrated or powdered too, if the customer wants.

Customers have to book in advance. Initially, out of 500 enquiries, the centre could process only 10 percent. The facilities they have can't match the huge demand for processing.



Self-help groups are employed to cut and peel the raw produce

The value addition work being done by the KVKs is reducing wastage, creating awareness as well as self-employment.

A date is fixed for the customer to bring his or her crop. The fee is divided into three: pre-processing labour charges, ingredients required and the processing fee. "The day the customer hands over the crop, we give him the delivery date. They pay the fee and collect the end products," says Vidya T.A., a skilled assistant at KAU.

The KVK centre has most machines required for processing like a halwa maker, dryer and grinder. When the centre started in the first two or three months, jackfruit was the main produce that turned up. Now banana, vegetables and many other local crops are also being brought for processing.

"Compared to the huge quantity of farm produce that goes unused, what we convert into products is minuscule. Yet, it gives us a lot of job satisfaction that we could avoid some wastage of produce," says

Dr Jayasree, head of KAU's communication centre.

"We started this service during COVID times because a lot of crops were going waste. Farmers just couldn't sell them. But we are still getting very good response from Thrissur and from far-off areas so we are continuing our service. Our facilities are limited so we can't cater to the demand. K. Rajan, MLA from Ollur, visited our centre. He was impressed and offered to donate ₹10 lakh from his fund. We will use the money to expand our facilities," says Dr Jayasree.

Interestingly, the Wayanad KVK has a retort packaging (sterile packaging) facility too, an additional advantage for small growers. "We have the machinery but we don't have trained staff for retort packaging. Earlier, we used to request the company that supplied the machine to send their staff. We pay for their travel and services. Now, due to Covid, no one is ready to travel," Dr Safiya explains.

Over time, more new produce started arriving at the two centres: vegetables for dehydration, passion fruit for juicing, papaya for jam, kodampuli (*Garcinia gummigutta*) for drying. The Thrissur centre is also drying tapioca into a traditional food item called *Vat Kappa*. Nendran banana is converted into chips and into ready-to-eat sweets called *sharkaravaratti* and *nendranvaratti*. Proper processing and packaging of sweets extends their shelf life. New products have also been introduced like pickle from banana peel and from passion fruit rind.

CREATING JOBS: The Thrissur processing centre at KAU has marketed itself efficiently. It made a video about its work and also participated in AIR programmes. "In agriculture news, our service was mentioned," says Dr Jayasree. But the Wayanad centre doesn't get a

continuous flow of customers. Perhaps they need to create more awareness of their services.

"There are seven KVKs under KAU. We plan to extend this service to all of them. The pandemic came in the way but now the Kannur KVK has started and the KVKs in Kottayam and Palakkad are prepping up," says Dr Jiju Alex, extension director of KAU. All the KVKs have basic machines to begin processing.

The value addition work being done by the KVKs is preventing wastage, creating awareness of preserving farm produce, and inspiring youth to become self-employed.

"We are getting an increasing number of visitors and calls asking us about machines, how to start a unit, licensing and other formalities," says Vidya T.A. Many people visit the centre just to see the work it has done.

"We would certainly like to inspire local youth to start small vegetable or fruit processing units. It requires an investment of around ₹15 lakh," says Dr Alex.

"Farmer groups, including from neighbouring states, can also learn processing from us. They can take the products made by them during training as mementos," he says. ■

Contact: Ambalavayal KVK - (04936) 260 411; Kannur KVK - (0460) 222 6087; Thrissur KAU Centre - (0487) 2370 150; email: de@kau.in



Conservation & Sustainability

Himalaya has been committed to preventing the loss of biodiversity and preserving nature. We have planted 800,000 saplings through our plantation drives, with the help of our partners, Society for Environment and Biodiversity Conservation and SYNJUK (Ka Synjuk Ki Hima Arliang Wah Umiam Mawphlang Welfare Society). We work closely with the local communities to reinforce secondary sources of income by planting indigenous species which also ensure a survival rate of 75%.

Kisaan Mitra

Empowering marginalized farmers in the Marathwada and Vidarbha regions of Maharashtra, we have helped these farmers achieve financial stability by buying back herbs at a predetermined price, irrespective of fluctuations in market price. The seeds, packaging materials, and transportation for herbs are provided by Himalaya.



Empowering People with Disabilities

Himalaya supported around 330 individuals by providing them with customized artificial limbs and wheelchairs as part of the first phase of initiatives of the Himalaya Fresh Start Foundation. Some individuals have also received soft skills training in livelihood programs to help them discover financial independence through sustainable employment opportunities.

Health and Hygiene

Himalaya provided COVID-19 support through the distribution of hygiene kits and food support to over 50,000 individuals, including tribal communities, transgenders, migrant workers, and other distraught communities. We also helped feed over 3000 strays during this trying time.



Muskaan

Himalaya's campaign, Muskaan, works towards spreading smiles in the lives of children born with cleft lip and palate defects. We have been able to impact the lives of 2,945 children. If untreated, this can lead to complications related to speech, hearing, dental, and feeding.

Saving Little Hearts

Himalaya successfully supported the surgery of 23 children suffering from congenital heart disease.



Degraded forests attract Sadhna

Patricia Mukhim
Shillong

JUST as the doctor ordered, Meghalaya's large tracts of landscape made barren by topsoil run-off due to heavy rainfall, is poised for a holistic transformation.

The brainchild of an Israeli and funded by Japan, this ambitious ₹660-crore project currently underway in Mawlyngot village, some 47 km from here, is a potential game-changer for adding forest cover and livelihood improvement through community ownership of the assets created by this out-of-the-box initiative.

Seventeen years ago Aviram Rozin, an Israeli citizen, his wife and two daughters came to India and visited Rishikesh in Uttarakhand where he lived in an ashram.

Rozin was a successful clinical psychologist and had helped set up one of the leading hospitals in Israel. But he felt an inner calling for something deeper and wanted to be of service to humanity. That calling manifested itself in helping forests regenerate through a series of actions which include training communities living around areas where forests have been denuded.

Let's start this heart-warming story at the beginning.

Rozin founded an NGO called Sadhna Forests of which he is international director. The primary aim of the NGO is to improve food security in dryland areas through environmental transformation. Sadhna Forests is now based in Auroville, Puducherry, and has worked to rejuvenate several wastelands in Tamil Nadu into rich forests.

Sadhna Forests works in India, Haiti and Kenya. In 2010 the NGO started work in Haiti and in 2014 in Kenya. It was supported by a grant from the United Nations Development Programme (UNDP) for wasteland reclamation. This helped turn arid land in Kenya into forests where 166 species of trees and plants and 75 species of birds have now found homes in the forests.

Sadhna Forests has been invited to help give shape to the Meghalaya Community Led Landscape Management Project (CLLMP) funded by the Japanese International Cooperation Agency (JICA).

The objective of the ₹660-crore project is to restore and conserve forests and natural resources of the village communities through sustainable forest management, livelihood improvement and strengthening institutional development to enhance the capabilities of the communities in contributing



Aviram Rozin founded Sadhna Forests to improve food security in dryland areas



A denuded hillside

The objective of the ₹600-crore project is to restore and conserve forests and natural resources of village communities through sustainable forest management.

to conservation of environment, biodiversity, and improvement of the socio-economic conditions of people in Meghalaya.

Rozin and his team of 12 are at present camping in Mawlyngot where they have started training the community in conservation by using Swale technology. Mawlyngot has acres of barren land since communities are highly dependent on firewood for cooking and charcoal for heating.

The Sadhna Forests team arrived in Meghalaya two months ago and has since been camping in Mawlyngot. In the East Khasi Hills, the village is known for Urlong Tea. The team is using the facilities of the Urlong Tea Guest House and has pitched tents outside to accommodate all 12 members. To assist in their mobility, they have bought two of the old Meghalaya city buses which they have transformed into caravans, complete with a kitchen, bathroom and sleeping area.

Rozin says, "We don't want to live in government or private guest houses. We live a frugal life, eat vegetarian meals and are happiest when we are with the communities we work with. The two buses which are being renovated will help us move across Meghalaya where we are pursuing our goal of forest regeneration."

One of the buses has solar panels fitted on both sides. The solar power helps in providing lighting and heating and powers their computers and other gadgets since electricity plays truant frequently in the villages.

Explaining Swale technology, Rozin said, "I had heard a lot about how water from Meghalaya flows

down to Bangladesh and that challenged me. The Swale concept is designed to manage water run-off, filter pollutants, and increase rainwater infiltration. You don't wait for the water to run down a slope and trap it there. You prevent the run-off right from the top of the slope."

Rozin and his wife demonstrated how the Swales had been dug by the communities and how they have been training people in the nearby village of Lewrynghep to prevent soil from drying up by covering the beds with mulch.

"When the soil is too sticky it does not support good crops. I also find that soil here lacks nitrogen, hence we need to plant nitrogen fixing plants. Also, the soil needs to be covered with mulch to prevent drying. That's what we have been teaching people in the villages to do and they are coming to us asking us to tell them more about better farming methods. This means they are ready to receive information. We are not pushing information down their throats," Rozin explained.

It was inspirational to watch the team having their meals together in the lawn outside. There is a short period of silence and thanksgiving before partaking of the food cooked by the team members. Every member is deeply invested in the programme. Rozin's wife, Yurit, is a solid teammate. She has very clear goals on what community training is all about. "We have to start with love and empathy and no blame. Only then can we expect behavioural change in the community. A rich person is one who can give," she says empathetically. ■

Courtesy: Shillong Times

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Tractors and farmers at the Singhu border

THE GREAT FARM REFORMS DIVIDE

Free market at what price?

Civil Society News
New Delhi

WHEN three laws aimed at improving farm incomes were speeded through Parliament in September last year, a chorus of headlines hailed them as being signal pieces of legislation that had the potential to transform Indian agriculture by attracting private investment and linking farmers to new markets.

Farmers in Punjab and Haryana, however, thought differently and when they felt that their protests in their villages were not getting the attention of the Bharatiya Janata Party (BJP) government at the Centre, they began a long march to Delhi.

Camping on the borders of the capital, they made their own headlines by denouncing the farm laws and accusing the government of seeking to corporatize farming in collusion with big business.

For around 60 days, during which leaders of farmer unions held talks with the government, the protest remained peaceful though it involved tens of thousands of people from villages.

Then on January 26, a decision to take out a parade of their own to mark Republic Day, ended in a fiasco for the farmers. Rogue elements defied farmer

union leaders, entered Delhi on tractors and perpetrated violence. They occupied Red Fort and hoisted a flag of their own.

As *Civil Society* went to press, there was a high alert in Punjab and Delhi and its surrounding national capital region. It was not clear which way matters would go. It seemed the farmers had, with this turn of events, lost some of the goodwill they had gained across the country with their resolute sit-in in difficult circumstances.

The issues, however, remain the same. The farmers are concerned that with the new laws the minimum support price (MSP) for crops, particularly wheat and rice, will get abolished over time in favour of a free market in which the government will have no role in setting a floor price. They are also fearful of being pushed off their lands because of the expanding influence of corporations and the view taken by liberalizers that only very big landholdings make commercial sense.

Punjab has its better-off farmers who benefit from the MSP. At the same time 70 percent of the small and marginal farmers in the state also depend on the MSP. Though liberalizers would want landholdings to be consolidated, people depend on their small plots in the absence of employment opportunities and social security.

Economic reforms tend to run into opposition from entrenched stakeholders.

But never before perhaps has the gulf between India's liberalizers and ordinary people been so dramatically visible. Nor has the distrust of business houses like Adani and Reliance been so openly voiced. Significantly, though farmers in Punjab took the lead, they soon found support from Haryana, Rajasthan, Uttar Pradesh, Uttarakhand and farmers in other states across the country, some of whom actually turned up to join the protests.

At the heart of this high-voltage confrontation is the urgent need to make Indian agriculture more sustainable. Small landholdings, falling incomes, poor infrastructure and environmental stress have piled up as issues that must be addressed.

Everyone agrees that solutions are overdue. Farmers should be better integrated with markets and given a bigger share of the final price of their produce. The question is what are the reforms that will work for everyone in a uniquely Indian context.

Is the MSP the magic answer or is it a socialistic relic, a burden on the exchequer and a distortion of market realities? Will replacing the MSP and opening up the farm sector in general bring farmers up or will it place them at the mercy of business interests in unequal commercial relationships?

Currently, only a small percentage of farmers across India get the MSP. It applies to 23 crops, but it is for wheat and rice that MSP is given in a significant way. In many states, many of the transactions already happen outside mandis or government-designated markets where no MSP applies. So, market forces are at work. But prices for farm produce have been declining and agriculture is a loss-making enterprise. In poor states like Jharkhand farmers sell their crops much below the MSP. Poverty, debt and suicide are pervasive in Punjab too.

Globally, subsidies remain the norm because integrating farmers to free markets hasn't ensured better incomes for them. Can the MSP be used as a form of subsidy which can bring competition, regulation and better prices? It is being argued that instead of retreating, the government should increase its presence with a bigger network of well-regulated points of sale where the MSP becomes the base price.



Kavitha Kuruganti



Devinder Sharma

THE THREE LAWS

The three laws that have brought farmers onto highways are the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, the Farmers' (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act and the Essential Commodities (Amendment) Act.

Taken together, these laws seek to change the way business is done with the avowed intention of getting better prices for farmers.

Farmers will be allowed to sell their produce both at state government-managed mandis or wholesale markets under the Agriculture Produce Market Committees (APMCs) and at private mandis set up by companies. The MSP at government mandis is not being done away with but private mandis would have the advantage of not being taxed.

Farmers can also get into contract farming arrangements with companies and market their produce wherever they want to. Commodities like cereals, pulses, oilseeds, edible oils, onions and potatoes have been removed from the list of essential commodities. This means companies and traders can stock as much of such commodities as they want, 'except under extraordinary circumstances'.

There are 41 farmer unions protesting against the laws. They say initially it will be cheaper to transact in private markets since the mandi fee has been waived. Companies too will offer better prices. But over time the government-run mandi will wither away and together with it will go the MSP and purchases by the government at assured prices. Their fear is that farmers will finally be left at the mercy of companies and sundry private traders who will drive down prices.

On the 48th day of the agitation, the Supreme Court intervened to suspend the operation of the laws and appoint a committee to find a solution. The farmers rejected the committee, saying its members were all pro-government and known supporters of the laws. A farmer union leader who was appointed to the committee quit the next day.



A busy langar. Men and women cook meals together



Health services have been provided by the unions



Sikh charitable organizations organized tents for women and children

Farmer unions say the new laws will destroy the government-run mandis and the MSP. Farmers will be left at the mercy of companies which will drive down prices.

'MARKET HASN'T WORKED'

"Reforms are long overdue. The question is what kind of reforms," says Devinder Sharma, an insightful food and agriculture researcher based in Punjab and an insider to the farmer unions.

Sharma questions the thesis that free markets raise the incomes of agriculturists. The market hasn't worked to do this even in the most developed

of economies where farmers are heavily subsidized. How can the market be expected to deliver better incomes to Indian farmers, he asks.

“The market reforms that are being planned are based on the American model. But in America farming is a declining occupation and billions of dollars are given to American farmers by way of subsidies so that they can survive,” says Sharma.

He is well armed with his figures and says: “A report by the Centre for WTO Studies shows that on average a farmer in America gets a subsidy of \$62,000 every year whereas an Indian farmer gets just \$282.”

Sharma argues that despite full access to free markets, America’s farmers are saddled with \$425 billion in bankruptcies. There is no MSP, APMC or mandi in America. They have big retail chains like Walmart which have no stock limits, there is contract farming and commodity trading, the biggest one being in Chicago. Farmers are literate and have computers. And yet markets haven’t worked for them.

BIG AND SMALL

Regarding the argument that small holdings in India are unviable, Sharma asks for evidence that larger holdings will be better. Merely pushing small farmers out of agriculture when they have no alternative to fall back on is not the answer, he says.

“The American model requires the farmer to get big or get out. But if size were the crucial thing why isn’t the American farmer with an average landholding of 400 acres successful?” he asks.

Sharma argues that the problem lies in an economic model in which corporations drive down costs to increase their profits. It results in farmers getting a mere fraction of the end price of their produce. In America, out of every dollar a consumer spends, the farmer’s share is just eight cents.

Similarly, cocoa farmers in western Africa or Latin America earn just ₹100 or \$1.3 per day. This from a \$210 billion global chocolates and confectionery industry. “The bigger companies rake in the profits,” he says.

And despite the rising café culture, coffee in India faces a crisis. “Coffee farmers have a ₹8,000 crore debt they want written off and they are asking for an MSP for coffee,” says Sharma.

The reason why markets don’t work for farmers, making it necessary to bestow subsidies on them, is that the value chain is actually built on extracting cheap raw material from the primary producer, who is the farmer.

MORE MANDIS NEEDED

In the current agitation, the sticking point has been the MSP that farmers get at government-run mandis. They want the MSP to be mandated by law. The worry for them is that by setting up private mandis under the new law, the government-run mandi is essentially being bypassed. The farmers see this as the first stage in doing away with MSP.

The regulated mandi, the MSP, and procurement by the Food Corporation of India (FCI) have worked well in Punjab and Haryana. The average income of the north Indian farmer is higher than that of farmers elsewhere in the country. “The average earning of a farming family in 17 states of India, as reported in the Economic Survey 2016, is only Rs 20,000 a year or Rs 1,700 a month. I shudder to think how they lived on that meagre income,” says Sharma.

There is a strong case for strengthening mandis through better regulation and increasing their number so that farmers have access to organized and supervised markets closer to their fields.

“We have 1,800 mandis in Punjab. The government has invested massively in building roads that link farms to mandis. About 70,000 km of village link roads exist in Punjab. That’s the kind of model that should be replicated across the country,” says Sharma. “Across India we have 7,000 regulated mandis. What we need are 42,000 mandis in a five-km radius. This is a public sector investment. We haven’t done it because a class of economists wanted it left to the private sector,” Sharma alleges.

He further argues that if economists say that markets will give higher prices to farmers, the prices have to be higher than something. There has to be a benchmark price and that is the MSP. So, why not support the demand for an MSP. “The MSP



Raj Seelam



Ved Arya



Leaders of farmer unions show solidarity before a meeting with government officials



Rakesh Tikait, leader of the Bharatiya Kisan Union, addresses farmers



Rogue elements overrun Red Fort on Republic Day



Mayhem on the streets of central Delhi on Republic Day

should be made legal for 23 crops. These cover 80 percent of the gross cropped area in India so it will increase the income of a large section of the farming community. Rural demand will go up in a manner we have not seen which is just what the economy needs,” says Sharma.

He says that economists who take the position that the government does not have the money are fear mongering. He cites Kerala as an example. The state fixes an MSP for 16 vegetables — cost of production plus 20 percent. It has set aside ₹35 crore to pay this MSP. But it hasn’t used a single paisa the past two months because market prices are higher than the MSP. “If the floor price goes up then trading happens at that level,” explains Sharma.

REAL COMPETITION

Kavitha Kuruganti, convener of ASHA-Kisan Swaraj, one of the unions which is part of the agitation, cautions against fragmenting the market in the name of competition because then prices get beaten down. Much better, she says, to have a strong mandi system where an MSP assures farmers the best price.

“If the government really wanted competition it should have asked all big players, whether Adani or Reliance Fresh, to bid for the price they have to offer inside the mandi. That is competition,” she says.

The MSP was originally introduced to boost food production and allow farmers to concentrate on growing crops that the country needs — secure in the thought that the government will buy produce at an established price into which is factored their profit.

Dr M.S. Swaminathan, who is known as the father of the Green Revolution, in a landmark report submitted in 2004 proposed a single national market for

‘The MSP should be made legal for 23 crops. These cover 80% of the gross cropped area in India so it will increase the income of a large section of farmers.’

farmers to get better prices, but he also suggested an MSP of cost of production plus 50 percent. Currently it is 20 percent.

Among liberalizers, the MSP is ridiculed. Dr Swaminathan, however, has interestingly described the MSP as being more efficient than subsidies. For farmers, the MSP helps them make ends meet.

FARMERS’ INCOMES

“When everyone in society has the expectation of an assured income, I can’t understand why we object when the farmer asks for an assured income,” says Sharma. “There is a study that shows farmers’ incomes have risen by just 19 percent in 45 years. In contrast, the basic pay and DA of government employees increased by 150 to 120 times, of university and college professors by 150 to 170 times and of schoolteachers by 200 to 300 times,” argues Sharma.

A study by OECD in 2018 with ICRIER revealed that from 2000 to 2016 Indian farmers lost ₹45 lakh crore. “If even a fraction of this had been lost by corporates

there would have been a *hungama* over policy paralysis,” remarks Sharma.

Falling farm incomes are a global phenomenon, says Sharma. A study by UNCTAD over a 20-year period, from the mid-1980s to the mid-2000s, said that globally the output price or farmgate price remained static during that period.

“The agitation in India is being closely watched by farmers’ groups all over the world and there is a lot of interest in how the MSP works here,” says Sharma.

STATES AND REFORMS

With its three laws, the centre has infringed on the domain of the states since agriculture is a state subject. Some states have already taken up such reforms. A lot of produce also sells outside the government mandi. In the southern states it could be as much as 60 percent.

Yet, there doesn’t seem to have been any attempt to study the experience of the states. Bihar, for instance, in 2006 did away with mandis, APMCs and MSP. Economists lauded the move and predicted the state would become a role model of market-led agriculture for the rest of India.

Instead, the reverse happened. No investments were made by companies and farmers get a paltry ₹1,000 to ₹1,200 per quintal for paddy whereas the farmer in Punjab is paid ₹1,800. The result is millions of people leave their unviable small farms in Bihar to work in cities, often for low wages, in terrible conditions.

“If Punjab can have a price delivery mechanism for farmers why can’t that MSP be given to farmers in Bihar?” asks Sharma.

MIX OF CROPS

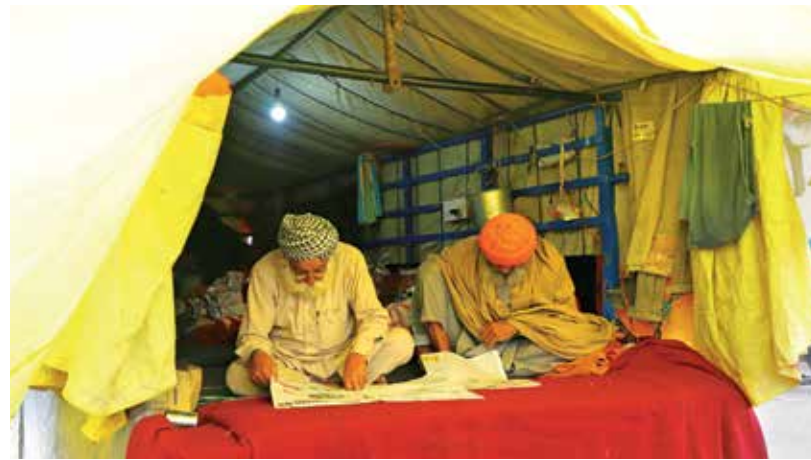
Kuruganti argues that the MSP can be used as an incentive to grow the crops the country needs. For instance, if farmers in Punjab and Haryana are to be weaned away from growing rice and wheat, which are already in excess, an attractive MSP could nudge them in the direction of other crops.

“We believe that legal entitlement for all commodities will set right the equilibrium required for cropping patterns to be restored in India and help farmers shift from mono-cropping not only for paddy but also for wheat,” explains Kuruganti. “When assured prices exist which give farmers a small profit over and above cost of production, farmers will tend to pick up crops that are locally suitable and are environmentally sustainable,” she says.

The states are ideally suited to dealing with agriculture because agricultural production is diverse and so are markets based on commodities. Political and administrative responsibility should also ideally be local.

“Since 2003, a large majority of states has already incorporated many reforms in relation to private markets, direct marketing, electronic trading, contract farming and so on into their APMC Acts,” says Kuruganti. “It makes sense for the states to undertake reform. The central government doing it goes against the principle of good governance.”

In drawing up its three new laws, the centre did not take the states or farmers’



Two elderly farmers read a newspaper inside their covered truck



Tired farmers get a foot massage



Women farmers joined the agitation in huge numbers

A growing number of producer companies are by traders who have the networks and know the farmers they want to buy from.

organizations into account. The lack of transparent consultation is the reason for the current distrust by farmers coming in the way of finding a solution to the agitation.

PRODUCER COMPANIES

Empowering farmers to do business is a challenge in itself. Growing their crops is one thing and selling them at a good price is quite another. There are problems of storage and finance. The real improvements in income are from value addition. The farmer has to be either helped to grow into such roles or learn to cultivate beneficial partnerships.

Liberalizers place much store on Producer Companies (PCs) in which farmers come together to do business and get a better price for their produce.

There are some 7,000 such entities in the country, but we learn from a study done by the Azim Premji University that they are severely under-capitalized and lacking in business expertise.

A growing number of PCs are being promoted by traders who have the networks and know the farmers they want to buy from. This goes against the very spirit of such organizations which are meant to serve as collectives through which farmers shape the transactions that are in their best interests.

The Azim Premji University study suggests a two-tier structure of supplier PCs and market-facing PCs. The supplier PCs should be shareholders in the market-facing PCs, which should serve as assured buyers and be equipped for sales, marketing, value addition and arbitrage so as to get the best prices.

Ved Arya of Srijan, an NGO, says having entrepreneurial support is hugely beneficial for helping the farmer engage with the marketplace.

Srijan helps farmers organize themselves. But it isn't enough because farmers lack the savvy and expertise to engage commercially. So, Srijan has a Buddha Fellows programme under which it nurtures rural entrepreneurs who help farmers get better value for their produce.

Arya gives the example of custard apples, which are collected from forests

and sold for as little as ₹2 a kg and then put into urban markets at several times that price.

Since custard apples are easily perishable, they get quickly offloaded to traders who know how to move them to the retail trade without damage.

A Buddha Fellow leveraged the opportunity in custard apples by removing the seeds and freezing the pulp which was then sold year-round to makers of natural ice-cream and to retail buyers as dessert.

Helping farmers improve their incomes mostly requires working closely with them. It involves handholding and long-term investments at field level. It is not the work governments can do themselves, but they can facilitate interventions by NGOs like Srijan and ethical companies that see value for themselves in upscaling farmers.

24 Mantra, an organic food company, shows farmers how to make the shift to organic cultivation. It is a process which takes three years after which the company assists the farmers in getting certification as organic cultivators and then finally buys their produce.

Farmers who go organic get up to 20 percent more for their crops. 24 Mantra establishes a long-term relationship with them which goes much beyond the terms of a farming contract.

"The kind of contract we have is no more than a sheet long. What matters with the farmer is trust. Once the trust with the farmer is broken nothing can restore it," says Raj Seelam, founder and chairman of 24 Mantra.

"The investment we as a company make is in supervision by our people and the cost of certification. Over the three years that the farmer is making the shift to organic cultivation he can continue to sell his produce in the market. After that the crop is picked up by us."

Kuruganti, however, remains sceptical of how far contract farming will be beneficial for farmers. "For all of us, a farmer producer organization (FPO) is an empowering collective for greater bargaining space. Whereas, in the government's concept, the FPO is that *chamcha* who will make the job of the company easier by aggregating individual marginal farmers. There is a part in the Contract Act called a production agreement which is akin to corporate farming where the risk is supposedly taken by the sponsor. It's not as clean as it looks," she says.

"The capacity of farmers to run FPOs or PCs is very limited," says Satyabrata Acharya of PRADAN, an NGO which works with a million small and marginal farmers in the poorer states of central and eastern India.

"The *arthiya* or trader is now getting into setting up FPOs and PCs using relatives, his own farm workers, clients he lends money to and so on. The big companies will buy through *arthiyas* and other middlemen," says Acharya. "What sort of farming will be done, procurement and the crops to be grown, will be decided by companies through the *arthiya*. In Maharashtra and Madhya Pradesh we hear that large numbers of *arthiyas* are seeking to set up FPOs. It has now legitimized their position."

"In hilly and tribal areas farmers are selling their paddy for ₹11 per kg, whereas the MSP is ₹19.62. They are not even recovering their cost of production," says Acharya. "In Jharkhand the rice is bought by traders, companies and rice mills. MSP makes no difference. Jharkhand does not have the system of mandis and government procurement that Punjab has."

One of the grievances against the new laws is that they were introduced in stealth and without discussion. It was probably a deliberate strategy, considering the complexities of the problems involved. But, as the current gritty agitation has shown, building a consensus that involves farmers and the states would perhaps give reforms a better chance of success. ■

Memoirs of a Lutyens leader



DELHI
DARBAR

SANJAYA BARU

IT is perhaps typical of a quintessential Lutyens' Delhi leader like Pranab Mukherjee that only the fourth volume of his autobiography, that too one published posthumously, has made more news than the three volumes published during his lifetime. During my last meeting with him in the winter of 2019, I had gently complained to him that he appeared to have held back quite a bit writing the first three volumes and I pleaded with him that he should be more forthcoming in the fourth volume. He smiled and remained silent for some time.

I hoped I had not overstayed my welcome and was wondering if he liked my frank talk, when he broke the silence. "I began keeping a daily diary," the former Rashtrapati told me, "when I was still a college lecturer in Calcutta." He would teach in an evening college and there was not much to do during the day apart from read books and prepare for his evening lecture. Instead of idling the time away he decided to keep a daily diary, penning down his thoughts on something or the other.

Soon it became a habit. For nearly a quarter-century he religiously made daily entries in his diary. Then, one monsoon day in the 1980s, the basement in Pranab babu's home in New Delhi's Greater Kailash locality got flooded, destroying books and papers kept in cardboard boxes. He had moved into that home, moving out of a Lutyens bungalow after losing his ministerial post and membership of the Congress party. Dejected and depressed by this loss of years of diligent diary writing, Pranab babu ceased to maintain a diary.

In the summer of 1991 he was invited by Prime Minister P.V. Narasimha Rao for a chat. Rao had disappointed Pranab babu by denying him the finance ministership, a post he had held during Indira Gandhi's tenure in the early 1980s. The job had gone to Manmohan Singh. Over a cup of tea Prime Minister Rao sought to make amends by letting Pranab babu know that he would be made deputy chairman of the Planning Commission, a

less strenuous job, because the PM wanted him to be free and available whenever needed for political and other consultations. India needed a hands-on, full-time finance minister to manage the economy, Rao seemed to hint, but the PM needed a seasoned politician like Pranab babu to manage the ruling Congress party.

Finding Pranab relaxed after this reassuring conversation, Rao asked him if he was still in the habit of maintaining a daily diary. The PM was then told the story of the flooded basement and how monsoon waters had wiped out his collection of diaries. Expressing his sympathy, the Chanakya in

reader with his reticence in the first three volumes. I left that meeting excited. I imagined that Pranab babu was hinting to me that he was now finally ready to come clean and share his innermost thoughts in a candid final volume. He has certainly been more candid in this last volume compared to the first three, but it is so obvious that he has held back so much more.

That is in the nature of most political leaders in India. Rarely has anyone in a position of power willingly shared what can indeed be shared without violating the provisions of the Official Secrets Act. I have read several memoirs published over the past decade. Apart from Pranab babu's, I have read the autobiography of I.K. Gujral, Sharad Pawar, M.L. Fotedar, R. Venkataraman, K. Natwar Singh and so on. Every book offers something of interest to the historian and the political scientist, apart from the political reporter, but none is candid on matters of national policymaking as, for example, the recent books of senior American officials like Robert Gates and John Bolton.

Politicians in the US have been willing to burn the bridge to power by writing memoirs because they see life beyond politics. Many return to their private sector jobs, board positions and consultancies, others go into think tanks and academia. Few Indian politicians have any life beyond politics and no one is willing to burn any bridge till the very end in the hope of getting something more out of the system. Even presidents and prime ministers hold back, hoping for a non-controversial end if not a Bharat Ratna. Even though Pranab babu did not get his second term, he got his Bharat Ratna. Even so, he allowed his last volume to be published only posthumously.

The only politician who had the courage to write a no-holds-barred memoir but wrote it in a fictional form was Narasimha Rao. His *The Insider* (Penguin, 1998) is candid to the core, but the narration stops with 1980. A second volume has been long promised but is yet to see the light of day. A democracy deserves candid autobiographies so that there is informed analysis of how policies were made and unmade. Apart from writing books, retired politicians should offer courses at the various schools of public policy that have come up around the country. There is tremendous thirst for such knowledge, as I have seen from my own experience teaching at such schools. ■

Sanjaya Baru is a writer and Distinguished Fellow at the Institute for Defence Studies & Analyses in New Delhi.



Even though Pranab babu did not get his second term, he got the Bharat Ratna



Pranab babu has certainly been more candid in this last volume compared to the first three.

Narasimha Rao seized the moment and said to Pranab babu, "Well, then, I am glad you will be in Yojana Bhavan. This will not be a stressful job and you will have a lot of free time to refresh your memory and write down important things from your lost diaries into a new book." The PM then offered to personally select the best stenographer available and assign him to Pranab babu so that the deputy chairman of the Planning Commission could use all his free time to dictate from memory entries in his old diaries and thereby recover the past. Perhaps Rao hoped that Pranab's diaries would have stories to tell that the country ought to know.

Pranab babu narrated this entire story to me in response to my suggestion that he should be more forthcoming in the fourth volume of his autobiography, having disappointed the curious

The three D's of digitization



**TECH
TALES**

KIRAN KARNIK

DEMATERIALIZATION is a staple in many a sci-fi film: an object or person is zapped by a beam-gun and, poof, just disappears! This, though, is not mere fiction. Digitization has been, in effect, dematerializing things for quite a while, even if it does not make them disappear. Books and music on compact discs have been digitized for decades, transforming their physical form into bits and bytes: in a sense, dematerializing them. This, or sending documents in digital form after scanning them, has become so routine that we hardly think of it. Yet, digitization — which triggered disintermediation many years ago — is again changing things in a big way. In combination with new business models, it could now have an even more profound impact.

Already, in day-to-day living, we routinely experience the impact, though its ubiquity makes it almost invisible. Years ago, I would not step out of my home without my wallet — even if my financial status constrained its contents to only low-denomination notes. Today, I do not bother about notes in my purse, but do ensure that it has my credit card. For younger people, even a card is passé: all they need is their mobile phone, for that is their digital wallet. A few clicks, and a payment or money transfer is done. Thanks to demonetization, digital payments got a big boost, and even street-side vendors embraced it, with Paytm signages becoming the commonest signboard across the country. While notes are back in popularity (with more in circulation than ever before), digitization of payments and of cash have certainly taken root. On an even wider level, fintech has revolutionized the banking and financial services industry. Share certificates were dematerialized long ago, and practically all financial transactions are now done digitally.

Despite their convenience, e-books have not quite replaced the hard-copy version. The months-long lockdown has, however, given them a boost. The lockdown, and continuing fears of contracting the virus through indirect touch, affected newspapers in a big way. As a result, online news and newspapers have become far more popular. Old habits die hard, though, and the return of hard-copy newspaper delivery will reduce the peak of online access. Yet, a window has opened, and seems likely to accelerate the dematerialization of the printed word. Of

course, in many developed countries, and amongst the young everywhere, accessing news online was already widespread and the trend is growing.

The ease with which one can now photograph a document with a cell phone and 'WhatsApp' it to a recipient is rapidly doing away with the need for sending any physical (hard copy) documents, dematerializing these, along with application or registration forms. It has also converted WhatsApp (and Paytm) into verbs, indicative of the popularity and the penetration of the digital mode.

Education has seen increasing digitization, with reading material, lectures and assignments available online. As in the case of newspapers, the COVID lockdown provided a fillip, with classes for schools and colleges forced to shift online. Also, with more people at home and having time on their hands, online courses — including tuition and music classes — have seen an upsurge. Seminars have become webinars, moving from brick-and-mortar to cyber space via video-conferencing platforms



Paytm signages have become most common across the country

What we see today is only a start: there is greater disruption ahead triggered by the confluence of technology and business.

like Zoom. In effect, conference rooms have been dematerialized.

The return of normalcy — in whatever form, old or new — will see students back in learning institutions; yet, despite many drawbacks, the positives of the online mode will certainly drive pedagogy towards a blended model which will include a fair proportion of online content. Further, knowledge upgradation for working professionals, as well as the sheer interest of many, means an increasing number of online courses. Many such courses, including those offered by some universities, are available for free.

COVID's impact on healthcare goes beyond the obvious. Here, too, the lockdown meant rediscovery

of existing technologies, and their embellishment for wider use. Tele-consultation, long feasible and demonstrated, became unavoidable due to movement restrictions and is now widely used. This too is a form of dematerialization: moving the physical, face-to-face consultation to the digital domain.

Facilitating tele-consultation are various apps that help in fixing an appointment and making a payment — disintermediating the receptionist — besides selecting a doctor. Remote diagnostics through devices and 'wearables' has grown, with sensors that pick up body function data being linked to transmission devices (like cell phones) for review by a doctor. An alternative is analysis of this data by machine learning algorithms or artificial intelligence (AI). Similarly, a Google search about the symptoms can provide possible diagnoses of the likely ailment — along with cures, and the side effects of any recommended medication. Your neighbourhood doctor may be dematerialized and replaced by Dr Google.

There are other areas too in which dematerialization is being caused by digitization. Yet, what we see today is only a start: there is even greater disruption ahead, triggered by the confluence of technology and innovative business models. The latter are increasingly based on free service to the consumer, financed by advertising, with revenue being determined by numbers and audience-targeting. This requires scale (hence free services, continuously improved by big investments in research) and the ability to profile customers for specific reach. The latter requires vast amounts of detailed data. Therefore, your personal data is the price you are paying for "free service". This is the model used by Google, WhatsApp, Facebook and content providers like YouTube and many educational platforms.

The rapid spread of this model entails no cash fees (since the data is provided by the user, the term 'free' may not be appropriate), and is, therefore, a form of 'demonetization'. This will soon pose a challenge to the financial model of universities, clinics, hospitals, media companies and many others.

Digitization results in disintermediation, then dematerialization and, finally, demonetization. Organizations and professional service providers will have to adopt new operating models to survive. Individuals will have to sacrifice privacy to avail of free services. Are we prepared for this 3D digital assault on traditional structures and practices? ■

Kiran Karnik is an independent strategy and public policy analyst. His recent books include *eVolution: Decoding India's Disruptive Tech Story* (2018) and *Crooked Minds: Creating an Innovative Society* (2016). His forthcoming book is on India in 2030.

Are Railways' numbers real?



**HERE
& NOW**

SUBIR ROY

INDIAN Railways has started on a hugely ambitious journey, outlined in the draft national plan circulated among different ministries. As there is a month's window from the time of writing for making comments, the final shape of the plan, particularly taking into account the views of the Union finance ministry, is not yet defined but the broad contours are clear.

In keeping with its role as national carrier, the Railways has gone beyond formulating just a business plan but also set out an overriding wider social goal — becoming carbon neutral (zero net emissions) by as early as 2030. Towards this end, it seeks to rely extensively on setting up solar power projects on railway land.

The plan looks ahead three full decades to 2050, setting out the final as well as interim targets too. The first milestone will be 2024 by when the Railways expects to complete certain critical projects. One of them is to achieve 100 percent electrification and another is to eliminate all level crossings (a perennial source of accidents) along the golden quadrilateral and diagonal routes.

As with all business plans, a set of goals and what needs doing to achieve them have been spelt out. A key task will be to estimate the capital investment needed, not just in its entirety but at intermediate stages too, in order to get to the different milestones.

The next question the plan addresses is to identify from where this capital will come. The plan breaks new ground by indicating it will rely not just on its own surplus generated but also the public-private partnership (PPP) route, investment partners in both the public and private sectors, state governments and original equipment suppliers.

Critically, the Railways will cease to rely on budgetary support for investment beyond 2030. It will then generate surpluses from its operations even after meeting debt service obligations plus secure funds from the extra budgetary sources outlined above.

How big a change this will represent is indicated by the revised estimates for 2019-20. In the last financial year the Railways received a gross budgetary support of ₹68,100 crore which represented 43.6 percent of total capital expenditure. Compared to this, internal resources represented a paltry 3.2 percent. Going from 3.2 percent to around 50 percent in four years (assuming that the share of extra budgetary resources remains the same), out of which one year is as good as gone because of the coronavirus fallout, raises the question as to how seriously the national plan should be taken.

The projection has been made keeping in mind the resolve that not having to rely on government funding will not mean sacrificing growth. Instead, the Railways will seek to not just increase its share of the total freight offered in the country but also its footprint on the entire economy. To be ready with adequate capacity in time, the plan has a projection of anticipated logistical demand in the country for every year until 2030 and on a decade-wise basis thereafter.

By projecting demand and capacity available along the way, the plan has identified bottlenecks likely to emerge and has a sense of the technology which will be required to get round these bottlenecks.

To get a feel of what kind of journey this plan represents, it is useful to juxtapose some of its

is, to say the least, hugely ambitious.

Not receiving capital support after 2024 and vastly upping internal resource generation means the Railways taking a quantum jump in generating a surplus. The indicator for this is the operating ratio — earning minus operating expenses. The lower this figure, the better.

Over the past few years, the operating ratio has been getting worse, and is now nudging 100 percent. From 90.5 percent in 2015-16, it has risen to 97.5 percent in 2019-20. Even this is misleading. The CAG has said that the Railways has engaged in "window dressing" by including advance freight from NTPC for carrying coal and making lower appropriation to depreciation reserve fund and pension fund to make the ratio look better than it actually is. In fact, in reality the operating ratio has

Photos: Civil Society/Ajit Krishna



The operating ratio has gone beyond 100%, that is the Railways is spending more on operations than it is earning.

gone beyond 100 percent, that is, the Railways is spending more on operations than it is earning. Mindful of this, the outgoing chairman of the Railways told *The Economic Times* that "by 2024 we should see a significant improvement in our operating ratio.... We are trying to improve our operating expenses by introducing technology and upgrading our infrastructure." Spelling this out, the newspaper said, "The Indian Railways will see a significant improvement in its operating ratio with reduction in its cost of operations and adaptation of modern technology, all envisaged in the National Railway Plan."

This is logical. Whenever a business introduces new technology it is with the aim of improving operational efficiency and cutting unit costs. Let us assume the new technology will be successful in improving operational efficiency and safety. This requires us to address the remaining critical question: where will the cost-cutting come from? The single biggest expenditure for the Railways,

Continued on page 32



The single biggest expenditure for the Railways is staff expenses. And this gets worse with every new Pay Commission.

possible and certainly not up it. But if that is to be achieved, why this recruitment drive? Does it not take away from the credibility of the national plan and its projections?

Those who feel the Railways are justified in seeking major support from the government argue that it is a public good. It serves a public purpose by making it possible for poor Indians to take up any kind of long-distance travel not just for family reasons but also to go on pilgrimage or Bharat Darshan. Such travel must remain affordable so that the idea of 'one India' is taken forward, something which the present dispensation will certainly want.

Plus, the primary focus should be to make unreserved second class travel reasonably comfortable for poor people who are satisfied with very little. Instead, there is so much hype over privatization of individual trains and introducing bullet trains.

It is not as if worthy investment projects are not being pursued, like aggressively enhancing solar power capacity and making the freight corridors a reality. The latter will hugely enhance capacity and allow vastly more freight to be carried and speed up all trains, passenger and goods. But some fine tuning is necessary. The system should focus less on the middle and upper middle class passenger and worry more about enhancing the quality and capacity of second class travel.

There are some of us who love Indian Railways, not just for the romance of the steam engines and the beauty of the toy trains which give a unique view of the hills, but also because they are a great enabler of the idea of India. The Railways deserves the best, both in terms of planning skills and material help. ■

Subir Roy is a senior journalist based in Kolkata

The primary focus should be to make unreserved second class travel fairly comfortable for poor passengers.

pensions, constituted 72 percent of total expenditure. In the current year's budget (2020-21), this comes down to 66 percent. Mindful of this, the Vision document set the goal of one percent reduction in sanctioned staff strength per annum, assuming a natural attrition of 3 percent. That is, fresh recruitment in a year should not exceed 2 percent of the staff strength of the previous year.

In keeping with this, over the period 2013-19 the Railways has lost 108,000 employees. Now, over the past year and the current one (2019-20 to 2021) the Railways should not recruit more than 4 percent of its strength of 1.2 million employees in 2018-19, that is, under 50,000. But the Railways has announced with much fanfare that it is recruiting 140,000 employees.

To vastly improve margins, so that the Railways can do without budgetary support from 2024, it should bring down the headcount as rapidly as

in fact, what is crippling it, is staff expenses. And this gets worse with the acceptance of every new Pay Commission's report. Just when the Railways manage to pay off the arrears and shoulder the burden of one report, the next one is lurking round the corner.

In 2018-19, the wage bill, which includes

WHERE ARE WE BEING READ?

Civil Society is going places...

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Pami B. waits for customers at her stall in Kisan Haat

Innocent jam with heart

Artisanal efforts find customers

Civil Society Reviews
New Delhi

WHEN your boyfriend's mother puts effort and love into making delicious jams and chutneys the family adores, what do you do to show your appreciation for her efforts?

Simple: you cobble together a business, dream up a brand and begin selling the lovely homemade stuff so that more people get a chance to savour it.

Pami B. is a twenty-something woman from Assam whose stall we come across at the Dastkar's Design Fair in Kisan Haat in Delhi. She is settling into a new life in the capital. She is brave and innocent and so are her jams and chutneys, which are free of additives and full of pure ingredients.

It is a very young business and she is obviously nervous as she fumbles with the billing and stumbles in her pitch to customers. But Pami is one of a growing number of micro-entrepreneurs who seem to be instantly finding customers for wholesome food products.

Pami has called her brand The Pickling. It has a limited inventory: five jams, amla chutney and pure tomato sauce. But with its slogan, 'Preserving taste and health', and its functional label, and for some bottles no label at all, The Pickling is making its own kind of honest impression and is finding its way onto tables like ours at *Civil Society*.

We suggest you try the orange marmalade, which is made from orange, orange peel, clove and crushed sugar rock. There are no preservatives and you have four

months to get through a bottle, the weight of which is not mentioned.

As orange marmalade goes, this one rings true. The orange and clove hang together well and the peel brings in just the right amount of bitterness because it hasn't been muted by too much sugar.

Pami pushes the raspberry jam, which is pulpy, grainy, sweet and a little tangy, which are just the qualities you would expect of a straightforward raspberry. Also on offer are kiwi, strawberry, apple and mint jams.

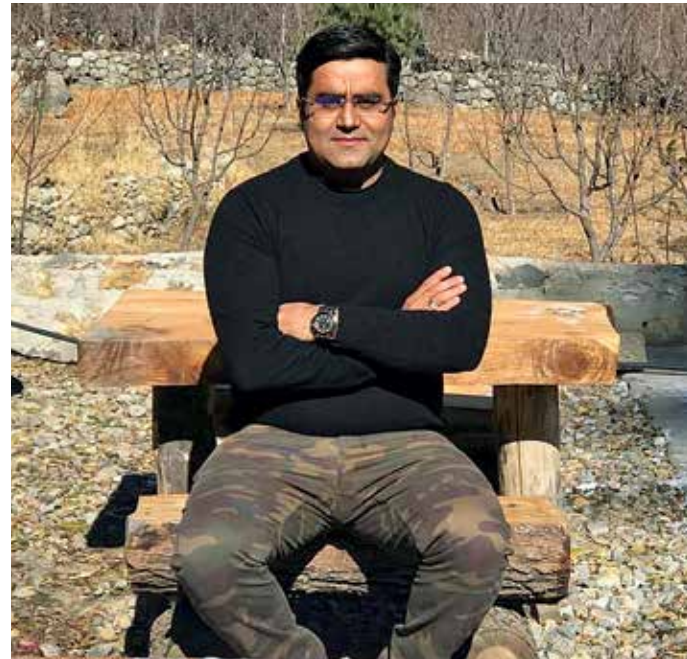
The *amla* chutney, presented by Pami with some fanfare, has an explosive freshness. The aroma wafts to you as she opens the bottle under your nose. It is sour and the ginger and garlic packed into it come across strong, just like they should. Of course, *amla* is full of Vitamin C and ginger and garlic are known for their anti-inflammatory properties.

"I found that my partner's mother was making all these wonderful things and putting so much effort into them that I felt they should reach many more people. The name The Pickling and the packaging and labels are done by me. But the recipes are hers," says Pami.

At *Civil Society*, we have for long been into honest jams. Two such jams come from Salad Days, whose founder, Varun Madan, has built a reputation among his customers like us for his salads, soups and sandwiches.

Madan likes farming and in addition to the vegetables he grows, he cultivates strawberries. Yes, you guessed it: there is fresh strawberry jam on offer and it's great.

Continued on page 34



Varun Madan of Salad Days

Salad Days has been around for seven years, Bhuiira more than 20. It takes time to build a business the right way bottom up.

Madan's strawberry jam is not too sweet and it's free of preservatives. Most conveniently, you get small bottles, which means you don't have to plough through a whole lot and instead have just enough to satisfy you over a few days before moving on to something else.

Madan is a free-roaming, passionate type who has built an enterprise that has goodness in its DNA. He is good to his staff from the delivery boys upwards and during the long lockdown for the pandemic took care of all those who stayed back even though business was at a standstill. He is also good to his customers, never charging too much and bending over backwards to deliver value.

When you are like that you tend to be on a perpetual journey of discovery. Salad Days is based in Gurugram and the farm he grows his vegetables on is not too far away. But Madan has chosen to make the whole country his theatre. He is often biking off here and there. Small things give him a high. How small? Well, as small as an apricot from Ladakh.

Madan brought a whole lot of apricots down from Ladakh to help growers up there who had been caught on the wrong foot by the pandemic. He sold to his customer base, used some in his salads and gift packs, and with the rest he has been making jam. It is still available. It is high on our list of innocent jams because what you get is the full flavour and texture of the heavenly Ladakhi apricot. There is no fudging here and once again the bottles are small.

Many a small entrepreneur in the food business just doesn't make it. We've seen several fold up and who knows how many others there are that didn't survive. It is a difficult business to be in — sourcing raw materials, maintaining quality, packaging it right, delivering on time. Madan has put systems in place. About Pami and The Pickling we still don't know.

Bhuiira Jams is a business that took the slow and steady path to growth while sticking to its mission to deliver a wholesome product from the mountains in Himachal Pradesh while empowering village women along the way.

Beginning in 1991, Linnet Mushran, English and married to an Indian, bought a cottage in the village of Bhuiira and began indulging in her passion for making apple jelly. So good was the response to the apple jelly she made that in 1999 Bhuiira Jams was launched both as a business and as a means of giving local women employment and a greater sense of fulfilment.



Linnet Mushran with the women of Bhuiira



Bhuiira's homely touch

We have never met Mushran, nor have we made it to Bhuiira, but we have always bought Bhuiira Jams products because they are full of fruit and have a unique freshness.

As with most things beautiful, Bhuiira Jams was small and mostly unknown for a long time, waiting to be discovered by people like us. For many years finding a bottle in Delhi was difficult. In other cities it wasn't even a possibility. Its marketing and distribution didn't do justice to the jams. But that didn't matter because customers discovered Bhuiira. As for Mushran, her goal was to make good jam and help local women earn more with respect.

Now Bhuiira is widely available and the internet has made much possible, but when we go to the Bhuiira Jams website we learn that while the business has grown nothing else has changed over the years. It is still run with the same passion and

social purpose with which it was begun to improve lives and do some good with a nice thing like jam.

"Bhuiira jams bring the flavour and romance of the mountains to your table," says the company idealistically. That is quite true and it succeeds in doing so without aggressive advertising and marketing.

The women who work in the Bhuiira factory have seen their incomes rise through steady employment. Their families have benefitted. They are also custodians of a brand that carries the name of their village. It works wonders for their status.

As production has increased, the company has gone from one factory to two. Local growers have a ready buyer for their fruits instead of having to negotiate with traders or sell at government-negotiated rates.

It has taken more than 20 years for Bhuiira to have got where it has got. On a smaller scale, it has taken Madan almost seven years to build Salad Days' identity. For all the instant opportunities the internet offers, there is no substitute for innocence and the passion to do good. ■

Fruit wine with Himachali roots

RAJ MACHHAN

FRUIT wines have their own charm, especially if they come from Himachal Pradesh and are made from the wonderful fruits grown in the upper reaches of the mountains there. Even better if the traditional ways of making wine in Himachali homes are followed.

So, if you come across a brand called Wonder Whyne we suggest you try it. It is a family initiative which comes from Minchy's, a company well-known in Chandigarh and other markets in the north but perhaps not all over the country.

Apple cider and apple wine and wines from grapes, strawberries, apricots, plums and peaches are some of Minchy's popular products. The apple cider comes with a fizz and is named Cidekick. Its popularity has been growing.

Himachal has a strong tradition of producing alcoholic beverages from fruits. Fruit-based alcoholic beverages are served to guests and at community gatherings. These include *angoori* (from grapes), *ghanti* (from apples), and *chulli* (from apricots).

"Traditionally wines are made in homes, but notwithstanding that our Wonder Wyne brand is very popular in the market," says Girish Minocha, Minchy's CEO and founder.

Minchy's Food Products, which is the company's full name, has been exceptionally successful in making use of Himachal's abundant agricultural and horticultural produce plus its exotic wild fruits to produce a range of foodstuff.

"The idea is to maintain a sustainable link between entrepreneurship, nature, and society," says Minchy's CEO, Girish Minocha. The company is one of the few food-processing units in the state to evolve a successful business model.

Minchy's makes fruit juices, fruit drinks, pickles, squashes, crushes and jams among others. It has introduced therapeutic food products such as apple cider vinegar, wild apricot kernel oil, raw turmeric pickle, sea buckthorn oil and bitter gourd pickle.

"Nature has its own way of curing ailments. We provide you nature's bounty in a bottle so that you can get easy access," says Minocha. Some of its lesser-known raw produce like seabuckthorn, *brahmi* and hazelnut are sourced from the tribal areas of Pangi, Kinnaur and Spiti.

Many products are organic and, apart from honey, all others are vegan and gluten free (except the sauces).

"We procure apples from organic growers in Himachal and Uttarakhand. We get white honey, acacia honey and multiflora honey from different regions of the Himalayas such as Kinnaur and the low-lying Shivalik hills. No animal product is used at any stage," says Minocha.

What is the secret of their success?

"We have succeeded by overcoming the laidback attitude that an average entrepreneur in Himachal adopts after the initial run of success. A lot of food processing companies in Himachal have started well, made good



'Nature has its way of curing ailments. We provide you nature's bounty in a bottle so that you can get easy access.'

progress and then somehow floundered along the way. In my experience, if a sense of complacency gets into the system, then the company slowly fizzles out. It's like riding a bicycle, either you move forward or you fall down. My approach is to keep moving, to keep up with the times," says Minocha.

Minchy's has an R&D set-up with three full-time food technology professionals. It has a close-knit management team. "Primarily it's me, my wife, my son and my daughter. We helm the innovation part, identify new products, then the R&D team looks into the feasibility part. We develop a product, some of them click and some just fizzle out. But we keep moving forward," he says.

The company's pickles division is handled by Minocha's wife, Sonia. "It's entirely traditional. Each recipe has been handed down by my grandmother

and my wife's grandmother to her. Everything is done by hand. Each ingredient is carefully measured. Quality is the hallmark of every pickle," says Minocha.

"Last year we launched our apple cider. My son played a major role in developing the product and it has grown tremendously. It's a big hit even in smaller towns and has come to be known as Mucchad Cider," he says. The health products are handled by Minocha's daughter.

He says that he was lucky to have the full support of his family in the initial years when survival is critical. He and Sonia established the company in 1992 with an initial investment of ₹1 lakh. Initially, raising money was a big challenge. "My family, including my grandfather, father and uncle, were very supportive in raising funds. Our first project is still a partnership concern within the family," he says.

Presently, Minchy's products are sold at over 5,000 retail outlets across the country. The company has two manufacturing units, at Solan and Shoghi. A third plant is in the pipeline. It got delayed due to the COVID pandemic. "Despite our countrywide presence, Himachal remains our main market," says Minocha. With the setting up of a warehouse in the coming months, the company is now all set to take its business online.

Minocha says that despite the pandemic, the company has posted a healthy growth, surpassing its 2019 turnover in October 2020 itself. It has around 150 employees.

"We have been lucky to have a good, sincere team," he says. As part of its CSR outreach, Minchy's has also been employing convicts incarcerated at the open jail in Shimla.

Thinking ahead, Girish is now planning to take the company on a higher growth trajectory. "So far our growth has been organic. To grow exponentially we plan to attract investments. You will be seeing a lot of action in the coming days," he says. ■



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Not just another air pollution story

A personal account goes beyond the numbers

Civil Society Reviews

HERE was a time when concern over air pollution used to be treated as an exaggeration. Now it is just about everyone's disturbing story. One family to the next there are cases of cancer, asthma and an array of mild and serious breathing disorders. As it has been with smoking, awareness has taken a long while to sink in. When it finally has, an enormous price has already been paid in terms of public health.

But if awareness has come, in public discourse there is a humdrum quality to the concern and very little of the urgency one would expect. It has become common for newspapers and TV channels to routinely report figures for particulate matter and pollutants in a way not dissimilar from how numbers are meant to sum up the highs and lows of a day's trading on the stock exchanges. If you live in Delhi and the National Capital Region (NCR), chances are that you wake up in the morning and check your phone for air pollution levels in your area. Inside your room, an air purifier has already done its job. For a great many of us it has become acceptable to live in an inside world and an outside one as if the two can be separated.

Numbers have their own significance — at least to those who understand them. The real impact of air pollution is, however, better understood from people's lives. The loss of near and dear ones. Children with scarred and compromised lungs. Asthmatics tied to inhalers. Cancer survivors reduced to a mere fraction of their original selves.

It is this that makes Jyoti Pande Lavakare's book a significant addition to literature on air pollution in India. It is both a personal story and an activist's thesis. Numbers and lives come together to jolt us out of our private air-purified worlds to face the reality outside. Since she has journalistic flair, Pande Lavakare succeeds in being both engrossing and rigorous. It is a well-woven narrative that takes us into hospitals, homes and courtrooms.

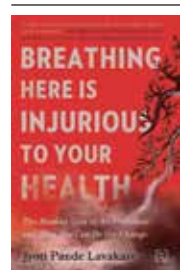
We right away know from the title, *'Breathing here is injurious to your health'*, that the book addresses pollution in everyday life. We need to breathe to live and when the air around us is foul we are half alive and increasingly dead. It is a reality that confronted the author when she lost her mother to lung cancer — just like that with no major warning signs. Decades spent in Kolkata and Delhi had taken their toll. Air pollution makes everyone into passive smokers with superfine particulate matter taken in over the years blocking airways and triggering cellular changes.

As she watched her mother die, and the doctor linked it to what bad air does, the author came upfront and close to air pollution like she never had before. It was no longer a mere statistic, which is what her mother's painful death like the deaths of so many others would have become were it not for this book.

What long-term exposure to air pollution does to



Jyoti Pande Lavakare with her children and husband



Breathing here is injurious to your health; Jyoti Pande Lavakare Hachette India ₹399

the lungs is the larger question. All the evidence points to the consequences being horrible. Bad air doesn't just stop at the lungs but invades the body in its entirety.

Having lived in Kolkata and written what were the first air pollution stories in the country in the 80's, almost four decades ago, this reviewer has seen the impact air pollution has. The data of those years is fundamentally no different

from the data of today. But Kolkata chose to live in denial, succumbing slowly to air pollution even when the signs of what was happening were there for all to see. For example, at least one chemist in central Kolkata set up a separate store for cancer drugs — such was the rush of patients!

Pande Lavakare's book is personal in other ways too. She and her husband relocated to Delhi from the US where they had a comfortable and prosperous life. They had no reason to return except that they wanted their son and daughter to grow up close to their cultural roots. Air pollution makes her wonder whether they did the right thing. Did an emotional decision result in compromising the health of their children?

Many Indian children, of course, just don't have a choice. Their parents, in fact, might not even know how badly their health is being damaged or that a better life elsewhere exists. Tackling air pollution is thus a great responsibility that rests with governments and must be shouldered with complete seriousness. It is not just the short-term public health cost involved, but also what the next generation is being condemned to. Children growing up in the midst of pollution are being tarnished in ways that haven't been fully

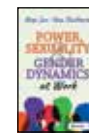
documented. It is criminal for governments to neglect their responsibility.

Pande Lavakare is an accomplished journalist. It is what brings detail and balance to the book, which races along. But while in Delhi she discovers the activist in herself with Care For Air, an NGO. She also fraternizes with the expat community in the capital. The book takes us to their concerns and fears about air pollution. In a microcosm we get what the world thinks of a polluted India. For an economy eager to be lauded globally, dealing with pollution needs to be priority. It is not that bad air is solely an Indian phenomenon. It is the failure to deal with it in earnest that is problematic and brings bad press.

How can air pollution be dealt with? So many things have been tried with limited success. Each step has been important but has served as no more than a band-aid for a systemic malady. There have been improvements in fuel quality, CNG for public transport, bans on generators, curbs on thermal power plants and most recently odd and even numbers for private vehicles. It is not a complete list of initiatives, but the air hasn't become cleaner.

The answer really lies in better urbanization in India. The Indian city, in the way it has developed, can't be repaired. A complete rethink and rejig are needed. Urban loads should be rationalized. An overarching vision is needed for the role of cities and together with it should come the willingness to empower local governments so that regulation improves and becomes effective.

Cities are meant to be drivers of opportunity and growth. Left to fend for themselves without adequate finances and systems of governance, they easily sink into chaos. The headlines tend to be about Delhi and some of the bigger cities, but urban areas in general are in a mess. Pollution is an outcome which won't go away anytime soon till urbanization in India becomes more orderly. ■



Power, Sexuality and Gender Dynamics at Work / Roop Sen and Uma Chatterjee / Sage / ₹450

This book explores the friction between people with different gender and sexual identities in corporate organizations. While companies genuinely want to promote gender balance and remove biases against sexual minorities, the experiences, struggles and doubts within the workplace have remained undisclosed. Moreover, diversity, inclusion and Prevention of Sexual Harassment (POSH) initiatives driving this agenda through political correctness are restrictive.

In the book, Sen and Chatterjee use lived experiences within organizations to analyze interpersonal conflicts, dilemmas and dynamics that manifest in accusations and grief, often leaving leaders and managers perplexed. Read along as they grapple with complex phenomena and advocate tapping the potential of creativity, compassion and trust between different genders, identities and orientations for smoother interpersonal relationships between genders.



Plassey / The battle that changed the course of Indian history / Sudeep Chakravarti Aleph / ₹799

The Battle of Plassey, fought on June 23, 1757, is one of India's most significant battles. It changed the course of Indian history. When the short, sharp hostilities between Siraj-ud-daulah, the nawab of Bengal, and the East India Company troops led by Robert Clive, an ambitious soldier of fortune, ended, Britain was on its way to becoming the dominant force in the region.

The 18th century was a time of great political churn in the subcontinent. After the death of Emperor Aurangzeb, the Mughal empire began to slowly fracture. In the east, the nawabs of Bengal, who ruled in the name of the Mughals, took the opportunity to break free. By the middle of the century, Siraj-ud-daulah succeeded his grandfather, Alivardi Khan, to the throne of Bengal. The young nawab clashed frequently with the East India Company as it looked to aggressively

RANDOM SHELF HELP

A quick selection from the many books that turn up for review

expand and safeguard its interests. Their skirmishes led inexorably to Plassey, a decisive battle in a mango orchard by the banks of the Bhagirathi-Hugli.

Plassey remains a fascinating story even today. It's an amazing narrative of ambition, greed, treachery and brutality. Why did the British so desperately want to own Bengal? Was it just about a young nawab standing in the way of a company's business plans?

Sudeep Chakravarti answers all these questions and a myriad others with great insight and nuance. Impeccably researched and brilliantly told, *Plassey* is the best account yet of one of the turning points in Indian history.



Hits and Misses / The Indian Banking Story / Madan Sabnavis / Sage / ₹550

Do you often wonder if your money is safe in banks? India is grappling with its worst banking crisis ever and we are still trying to figure out what landed us here. This book analyzes the role of the government and the RBI in allowing the problem to reach the dimension it has assumed today.

When will the never-ending NPA issue be resolved? Does it make sense to merge two PSBs when the culture and governance structures are alike? Should RBI reserves be used in times of crisis? The book ponders and debates some of these questions. *Hits and Misses* presents two sides of the Indian banking story by giving an account of the reforms as well as quandaries facing the sector during a time of extraordinary economic and political challenges. The book answers many relevant questions by highlighting the highs and lows of the banking sector which has become the subject of debate in media and financial circles.



India's Tribes Edited by Vinay Kumar Srivastava / Sage / ₹1,295

The book brings together critical essays on tribal communities, some of the most marginalized people in India. It presents important research on resource appropriation, poverty, education, health, economy

and the tribal situation. The writers discuss issues such as the problems of development-induced displacement, labour exploitation, sustainable livelihoods, the politics of religious conversion, tribal women's issues, resistance movements and policy responses. The editor's introduction reflects on the predicaments of tribal people in contemporary times, besides presenting a comprehensive perspective on the contribution of the selected essays to an understanding of tribal life.



The Citizenship Debate: CAA & NRC / Amit Malviya and Salman Khurshid Rupa Publications / ₹295

Every year, laws passed by India's Parliament provoke outrage among sections of people. In 2019 it was the Citizenship (Amendment) Act and the announcement that a National Register of Citizens (NRC) would be drawn up by the Union government. Both were perceived as trying to deprive Muslims of their citizenship rights and as part of the BJP's malevolent agenda. Leaders of the BJP, on the other hand, protested that the CAA was merely giving citizenship to Hindus who were discriminated against in Muslim countries and that the law was being misread.

In this book, Amit Malviya and Salman Khurshid present to us the two sides of the debate that took the country by storm. While offering insights into the history and politics of the citizenship debate, they leave it to us to decide which side we are on.

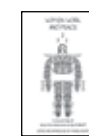


Land Reforms to Land Titling: Emerging Paradigms of Land Governance in India / Pradeep Nayak / Sage / ₹1,395

In India, land policies have been undergoing a paradigm shift since the economic reforms of the early 1990s. Conclusive land titling or guaranteed title to land has emerged as an alternative policy option to the redistributive land reform agenda before economic liberalization and marks a historic reorientation of land policy. *Land Reforms to Land Titling* studies this reorientation.

Would the neoliberal policy of secure individual property rights in

land address diverse land-related questions in India? Whose interests will a conclusive titling policy serve, given unequal land holdings? How are capitalist or market imperatives of efficiency and growth bypassing social concerns? This book addresses these and other important questions through an in-depth study of India's land governance history and the experiences of other developing countries. The author also discusses policy implications.



Women, Work and Peace Edited by Margie Sastry Navajivan Samprat / ₹250

The book is a selected collection of Ela Bhatt's speeches. The 'gentle revolutionary', as Ela Bhatt is called, is an icon for the women's movement in India. She devoted her life to empowering working women with low incomes, beginning with women hawkers and vendors on the streets of Ahmedabad. The organization she founded, SEWA, provides a range of services to women and has gone global. The speeches, carefully chosen by Margie Sastry, contain many practical ideas for students, politicians, companies and ordinary citizens. The book also has a nicely written chapter by Renana Jhabvala, who helped take SEWA to working women across India in fields, factories and homes.

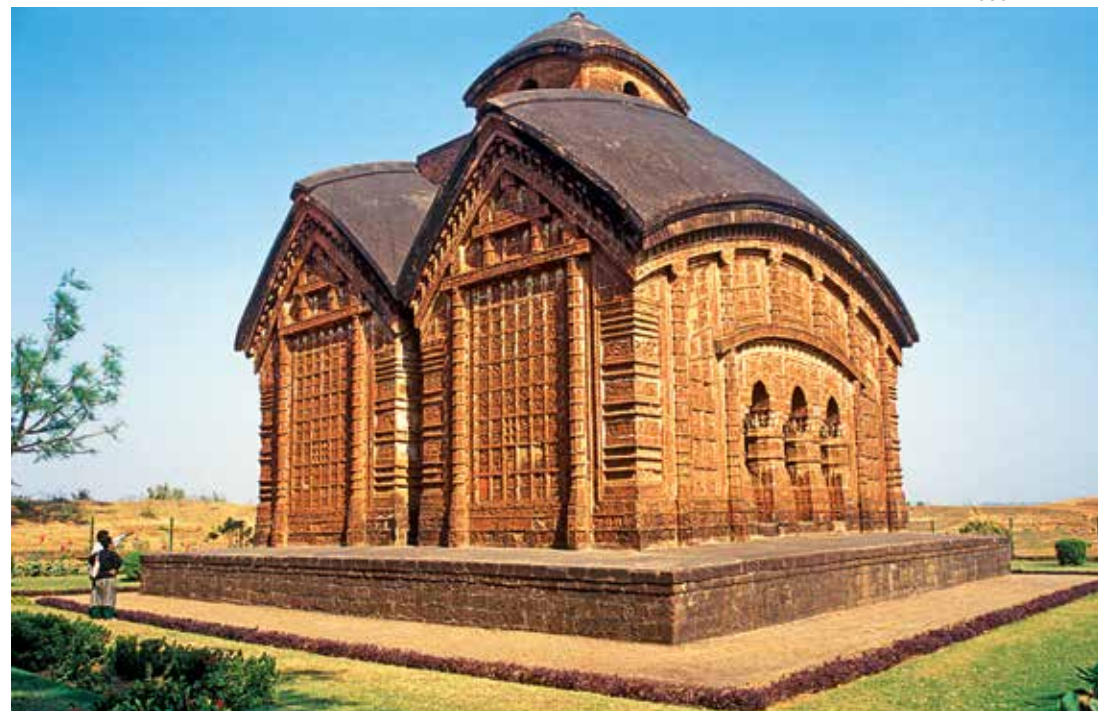


Reading Difficulties and Dyslexia / Essential concepts and programs for improvement / J.P. Das / Sage ₹650

Why do approximately 15 percent of schoolchildren have difficulties in learning to read or doing maths? This updated edition offers an explanation based on contemporary developments in the study of cognition and neuroscience. Going beyond a simple view of reading and maths, *Reading Difficulties and Dyslexia* discusses distal factors such as cognitive flexibility and attentional control. A distinguishing feature of this book is that it presents intervention programmes, based on the distal factors, which can greatly improve word decoding and comprehension, and enhance number sense. ■

Old temples, great carvings

SUSHEELA NAIR



Jor Bangla, the most striking terracotta temple of Bishnupur



Bishnupur's terracotta horses and artefacts

near a Durga temple where it carries on with the same zeal.

The sculpturally resplendent Madan Mohan temple with its intricately carved pillars embellished with 64 dance poses is amazing. Equally appealing are the lavish terracotta carvings of Dasavathara, Bhishma sleeping on a bed of arms, kings on hunting expeditions and the amorous couple, Radha-Krishna. Another piece of impressive architecture is the Keshta Raya or Jor Bangla (joined houses) temple constructed by Raghunath Singh II. It was quite different in architectural design, bearing the appearance of huts joined together at the centre to form a single temple. Every inch is covered in terracotta figures of men and women engaged in their chores, martial scenes and events from the epics.

We stopped by Dol Madol, a huge cannon constructed in 1742 by Raja Gopal Singh to keep the Maratha troops at bay. According to the villagers, when Muslims once attacked the town, no human could fire this mammoth weapon and Vishnu descended to earth and fired it, saving the town.

FROM Kolkata, the dusty terracotta temple town of Bishnupur is just a 200-km train ride through lush green paddy fields and hamlets. It is steeped in history and resonates with interesting tales of the Malla rulers who made it their capital from the 16th to the 19th centuries. The town went through a cultural renaissance as art and culture flourished during their reign. It was once an island town with eight interconnected embankments and artificial lakes built for beautification of the town and also to serve as a protective moat to repel enemies.

We took a cycle rickshaw ride from the railway station to the fascinating temples scattered all over the town. Most of the 30 temples are in clusters excepting a few which stand in splendid isolation, like the Pancha Ratna. The distinctive feature of the Bishnupur temples is that they resemble local huts in their structural design. The local red soil was the basic construction material for terracotta tiles. The moulded baked clay panels were fixed on structures raised with clay bricks. On the filigreed terracotta tiles, scenes from the Hindu epics like the Bhagawata Purana, the Ramayana and the Mahabharata were artistically depicted.

The very name of the town is associated with the deity in whose honour the exquisite temples were built. Birhambir, who was the greatest ruler of the Malla dynasty, was originally a bandit king who robbed and looted indiscriminately. But he had a change of heart after a chance encounter with a disciple and Vaishnav scholar of the Sri Chaitanya cult, Srinivas Acharya. This meeting had a powerful impact on him, and transformed him into a Vaishnavite. It prompted him to build temples to Vishnu and Krishna. He was followed by other Malla kings in the same vein.

The temples of Madan Mohan, Shyam Ray, Jor Bangla, Radhey Shyam, Radhagovinda and Lalji display an amazing wealth of detail in the ornate carvings. But the Ras Manch, built like a step-pyramid, is the most striking monument of Bishnupur. Built by Hambeer, the greatest Malla ruler, the pyramid-like structure is the only temple of its kind in India. The temple has a small central shrine surrounded by three graceful arched galleries decorated with terracotta lotus motifs and panels depicting dancers and singers.

The earliest edifice is the Rasa Manch, a platform for Rasleela festivity. Built in 1600 by King Birhambir, it has a pyramid-shaped roof topping triple arched galleries on a square platform. During the zenith of the Malla dynasty, Rasa Mancha was the venue of an annual festival when idols and images of gods were brought from all neighbouring temples and displayed under the arches. The arches give an impression of space and light, and in the dappled sunlight of noontide, the whole structure seems to float. Devotees would assemble here from even far-flung areas of Bengal to pay their respects to individual gods. Now, Rasa Manch is a protected monument and no longer a temple in use. The popular festival has been shifted to a ground

SUSHEELA NAIR

Some of the other temples in Bishnupur worth visiting are Lalji, Mrinmoyee, RadheShyam, Pancha Ratna Temple of Shyamrai and the Jor Mandira cluster of temples. The Jogesh Chandra Archaeological Centre is worth a peek for its traditional art, sculptures, coins, books and relics from the Malla dynasty. The Shyamrai temple, built in 1643 by Rajnath Singha, is slightly different in that there are four square linked towers carved with terracotta tiles depicting scenes from the lives of the gods displayed in luxurious detail.

Besides the bevy of beautiful terracotta temples, Bishnupur is reputed for its pottery, especially the terracotta horse called the Bankura horse, the mascot of Bankura handicrafts, and terracotta bric-a-brac like carvings, crockery, jewellery and figurines. Other must-buys are metal ware, conch-shell jewellery and Baluchari saris with scenes from the Hindu epics woven into them and the quaint circular playing card called *ganjifa* which have hand-painted figures of the 10 avatars of Vishnu on them.

This erstwhile Malla capital has a rich cultural heritage. Another claim to fame is the *gharana* of classical music. In August, Bishnupur wakes up to the enthralling music of snake charmers' pipes when the annual festival of Jhapan is celebrated with snake shows and snake fights. Make sure to be in Bishnupur in December when the entire town is taken over by the week-long Bishnupur Mela, marked by colour, mirth, revelry and cultural programmes. ■

FACT FILE

Getting there:

Location: Bankura district

By road: 151 km northwest of Kolkata

By train: 200 km (four hours from Howrah station)

One can hire a cycle rickshaw puller. They offer tours to the important temples around the town

So you want to do your bit but don't know where to begin? Allow us to help you with a list especially curated for *Civil Society's* readers. These are groups we know to be doing good work. And they are across India. You can volunteer or donate or just spread the word about them.

GIFT A TREE AND HELP SAVE THE EARTH

Green Yatra GREEN YATRA

A pollution free and green Earth is what everyone wants. But it takes spirited citizens to make it happen. Green Yatra, a Mumbai-based NGO, has set a target to plant 100 million trees by 2025 under their Pedh Lagao campaign. You can support them by gifting a tree to a loved one for their birthday or anniversary.

Green Yatra's Go Green Kids visits schools and sensitizes students to environmental issues. Students are taken on a clean-up drive or to build a birdhouse or plant trees in school premises.

Green Yatra partners with companies like McDonalds and Oracle and systematically manages their waste. Since 2012 they have saved 8,000 tonnes of garbage from going to a landfill and 27,000 tonnes of greenhouse gases from being emitted.

You can volunteer your time or support with a donation.

www.greenyatra.org | 99675 38049

info@greenyatra.org

LIFE OF DIGNITY FOR THE DISABLED



SAMARTHANAM TRUST FOR THE DISABLED

In Bengaluru, over 900 students with disabilities study at Samarthanam's residential schools. By providing free tuition, free accommodation and accessible infrastructure, the school is truly able to empower these children. There is also a special school for children with intellectual disabilities, where 100 students study.

The goal is to enable them to live a life of dignity. Skills are imparted at their 13 livelihood resource centres and 64 percent of those who get training find jobs.

Support them with a donation or volunteer with them. You could help convert textbooks to accessible formats or act as a scribe for a visually challenged student.

www.samarthanam.org | 9480809586

kumar@samarthanam.org

INFORMATION FOR THE DISABLED



ASTHA INDIA

For a person with disability, navigating each day can be hard. But access to the right information, knowing what schemes the government has to offer and knowing one's legal rights can make a big difference.

Since 1993, Astha India has been working to disseminate information among people with disabilities, especially those in the urban slums of Delhi. They run a National Disability Helpline which was the first of its kind when it started in 2000. Callers can access information and receive counselling.

You can help them reach more by volunteering to do desk research or take workshops for children with disabilities. You can also donate to their cause. www.asthaindia.in | 011-26449026 | arthindia@gmail.com

APNA GHAR IS HOME FOR EVERYONE



APNA GHAR ASHRAM

Everyone needs a home. Apna Ghar Ashram is a home for the destitute, the sick and injured, the old and homeless and the mentally challenged who have nowhere else to go. Apna Ghar volunteers find them on railway stations, bus stands and at religious places.

At Apna Ghar, they have a roof over their head, food and medical attention. There are 35 such ashrams across the northern part of the country. You can support Apna Ghar with a contribution. One inmate's daily expense is ₹70. You can also volunteer as a member of the medical team, or as a vocational trainer, or an IT professional.

www.apnagarashram.org | +918764396811

hq@apnagarashram.org

GIRLS GET BICYCLES, WOMEN COMPUTERS



GRAM VIKAS TRUST

In Bharuch district in Gujarat, 150 girls every year receive bicycles so that they continue studying in the secondary school in a neighbouring village. Enrolment rates have increased and attrition rates have decreased in 39 primary schools. And by constructing and renovating 20 toilets in schools, 25,000 children have benefited.

All this is thanks to Gram Vikas Trust, which works with children, women and the elderly in nearly 200 villages in the district, helping the elderly with a ration kit and helping women become proficient with computers. Support them with your donation

www.gvtbharuch.org | 9662006293

contact@gvtbharuch.org

TRAINING AND JOBS FOR WOMEN

MAHILA DAKSHATA SAMITI MAHILA DAKSHATA SAMITI

The road to gender equality is a long one. Mahila Dakshata Samiti has been charting a path since 1976 by empowering women and children in distress through education and employment. They train women in tailoring, embroidery, cooking, baking and catering so that they can be financially independent.

Women who have been forced out of their home and have nowhere to go can live in their short stay home where they are given medical care, counseling and skills training. There is also a family counseling centre. Women can also seek legal aid and police assistance with their help.

Mahila Dakshata Samiti has upgraded infrastructure in government schools in Karnataka and conducted field visits to ensure children don't drop out of schools. You can make a donation to them.

mahiladakshatasamiti.org | 9341222585 | mahiladakshatasamiti@yahoo.co.in

PUTTING AN END TO POACHING



WILDLIFE PROTECTION SOCIETY OF INDIA

India has a growing wildlife crisis and the Wildlife Protection Society of India is at the frontlines. It was set up in 1994 by Belinda Wright, a wildlife photographer turned conservationist.

Since then, the WPSI has worked closely with government authorities to combat poaching and deal with human-animal conflicts. WPSI has conducted 200 workshops, training over 8,000 officers in wildlife law enforcement.

WPSI's wildlife crime database is a meticulous record of 33,000 wildlife cases and 27,000 wildlife criminals. They have not only exposed widespread tiger poaching and seized illegal wildlife products, but also provided legal aid to prosecution in wildlife court cases. You can volunteer with them or support them with a donation.

www.wpsi-india.org | 011-41625920

wpsi@wpsi-india.org

SURGERIES TO BRING BACK A SMILE



MISSION SMILE

Fixing a cleft lip or a cleft palate isn't just about looks. A cleft lip or palate means that the individual can't speak clearly and can't eat properly. It could also lead to ear infections, hearing problems and problems with teeth.

Mission Smile provides cleft lip and cleft palate surgeries for children and adults free of cost.

Till date, they have carried out 36,000 safe corrective surgeries and gifted 36,000 smiles to those individuals.

You can volunteer with them as they go from state to state putting up camps and identifying needy patients. If you know someone with a cleft lip, connect them to Mission Smile. You could also support a surgery with just ₹28,000.

www.missionsmile.org | 9007883789

contact@missionsmile.org

Small producers and artisans need help to reach out to sell their wonderful products. They can't advertise and they don't know to access retail networks. *Civil Society* happily provides information about what they have on offer, their skills and how you can get to them.

Leafy plates



DILSENG M. Sangma, an earnest young man from Meghalaya, manufactures plates and bowls from arecanut leaves and *sal* leaves. One day, he saw some people in the fields eating out of arecanut leaves. He thought the leaf looked beautiful compared to the ugly thermocol plates that were generally used. Sangma decided to make proper plates and bowls from arecanut leaves. He got some tips from YouTube, rigged up a machine and now makes leafy plates and bowls of various sizes. His company's name is Hill Products and his products are named Plates from Nature. Prices vary from ₹7 for a plate to ₹2 for a bowl. The plates and bowls are completely biodegradable.

The Deputy Commissioner of East Garo Hills, Swapnil Tembe, has fully backed his efforts. "We can save water and the environment and stop using plastic and thermocol. We will be using his plates at all official functions," states Tembe. You can use them too.

Place your order at: mangsangsangma24@gmail.com
Phone: 9383053611



Newspaper pencils

FAMILY of Disabled (FOD), an NGO in Delhi, has started a micro-enterprise which makes pencils from discarded newspapers. "Our pencils are as good as the ordinary pencils used by children," says Preeti Johar, CEO of FOD. "You can sharpen them just like regular ones."

FOD experimented and came up with a process to make the pencils. Around 20 people with disability were hired, mostly women, and trained for 15 days. They cut and paste the paper and roll it into cylindrical shapes. It then goes into a machine manned by Chandra Pradesh. "I've managed to buy a new wheelchair with the money," he says. The women say Project Pencil has helped them pay for rent, food, and education for their children. Johar has been trying to sell the pencils to schools in Delhi. A box of 10 pencils costs ₹100. Discounts are available. Using discarded newspaper helps to stop 500,000 trees from being felled to make pencils.

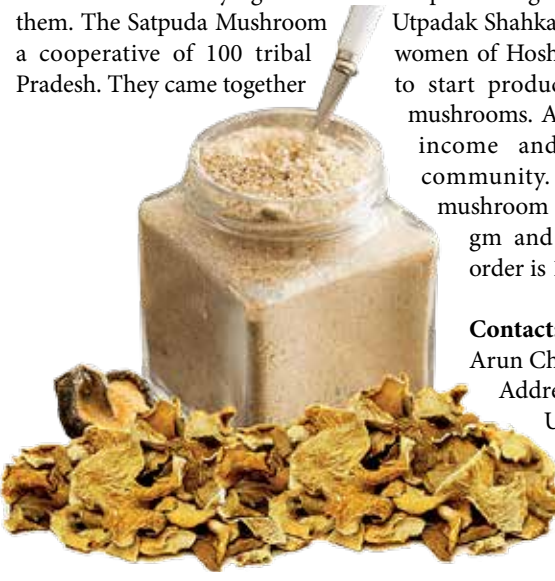
Contact: FOD, B1/500 Janakpuri, Delhi-110058; FOD's Rehab Centre for People with Disabilities 28-29, Block E Extension, Shyam Vihar Phase-1 Najafgarh, New Delhi-110043 Phone: 011-41570140; 9560693394 Email: preeti.johar@familyofdisabled.org



Mushroom magic

ADD zing to your meals with a spoon of mushroom powder or diced dried oyster mushrooms. Pastas, soups, sautéed greens or scrambled eggs acquire that special umami taste with a dash of mushrooms. Besides, oyster mushrooms are a great source of protein, vitamins, minerals, fibre and antioxidants like selenium, apart from being low in calories and cholesterol. What's not to like?

More so when buying mushrooms empowers a group of women who cultivate them. The Satpuda Mushroom Utpadak Shahkarita Maryadit (SAMOHA) is a cooperative of 100 tribal women of Hoshangabad district in Madhya Pradesh. They came together to start producing and packaging oyster mushrooms. As a result, they now earn an income and derive status in their community. Dried mushrooms and mushroom powder are available in 100 gm and 500 gm packs. Minimum order is 1 kg.



Contact: Arun Chourey: 9907831089 Address: Satpuda Mushroom Utpadak Shahkarita Maryadit, PRADAN Campus, Village Sukhtawa, Block-Kesla, Hoshangabad, Madhya Pradesh- 461111.

Terracotta beauties

MANSI Verma's stall has a delightful jumble of things you'd love to take home. An attractive lamp glows gently behind her. There are more on her counter, along with planters with green leaves peeping out, pen-stands, bowls, a jamboree of jewellery, including bracelets for men and neckpieces for women.

It's all made in terracotta, the material Verma likes working with. She started Banerii, her enterprise, four years ago after graduating in fine arts. Verma says she is inspired by nature, mythology, pop culture, Mughal art, traditional motifs and *jaali* work.

Everything is done by hand. "A lot of love and labour goes into all this," she says.

That is apparent. Each piece is a work of art. Colour, shape and design blend beautifully. Pick one beauty and take it home.



Contact: Mansi Verma, 9871819056 Email: banerii.itshandmade@gmail.com

Coconut medley



RABIAH is an NGO which sells a range of coconut products. There is coconut milk, coconut powder, coconut pickle, coconut hair mask, coconut honey, coconut soap, and more, all reasonably priced.

Rabiah also spreads information about the health benefits of using coconut. "I got interested in marketing coconut products because my thyroid problem vanished the only palm sugar brand in

with coconut oil. We are also India. Palm sugar has a lot of therapeutic qualities," says Nitin Goyal, CEO and founder of Rabiah, handing over a bottle.

"And don't eat honey from bees, have our coconut honey instead." We try it and find it has a rich caramel taste.

Goyal says it is the Coconut Development Board which has been helping entrepreneurs set up enterprises involving coconut by providing machines and techniques. Altogether, the board has developed some 50 products from coconut by working with Farmer Producer Organizations (FPOs) in the southern states.

The Rabiah coconut range is also available on e-commerce sites, including Amazon. All the products are neatly and hygienically packed.

Contact: Nitin Goyal: 9350276162; 8800758890 E-mail: nitinpawangoyal@yahoo.com Website: www.ngoproducts.org



Art in every corner

SOME Fine Handicrafts has tables, trays, lamps and furniture with beautiful art work. You can buy a tray with a Madhubani painting, a table with intricate zardozi work, a shoe cabinet with the loveliest Warli etchings and stylish lamps with Gond art.

Ramachandran Nair, a zardozi expert, started this enterprise about a decade ago. "The idea is to imbue articles we use every day with traditional Indian art. Paintings don't have to only decorate our walls," he says.

Nair has a workshop in Delhi which employs 16 skilled artisans who need to get back on their feet at the fag end of the pandemic.

He travels to villages in 16 states to pick up works of art. "Some of my artists have disability. Most don't want to travel to Delhi. So I go to them," he says.

The paintings are brought to the workshop and integrated into classy products. The wood used is termite-proof and the designs are eye-catching. "I am selling timeless art. You can use it for years. If the artwork on your lamp or tray gets spoilt, I can repair it," he says. If you want to gift one of his products, he can pack it and send it.

Contact: Ramachandran Nair 9891591931; 8800235310 Website: www.somefinehandicrafts.com



Flowers and plants almost always capture our attention. We wonder what their names are, where they originate and what they could be useful for. There are rare plants we may never see. Ganesh Babu, a botanist, is our guide.

Screw tree

Helicteresisora L. or the East Indian Screw Tree is a handy shrub with delightful flowers and dense foliage. The fruit of this shrub is popularly known as screw fruit. It is also a well-known medicinal plant used by several ethnic communities in our country for renal complaints and fever.

The screw tree is very versatile in its adaptability to different soils. It can be planted in the sun or shade between buildings. It is generally a pest- and disease-free species which tolerates drier and hotter conditions. It can be grown in large gardens where there is less proximity to water.

The screw tree has beautiful scarlet, erect flowers that look like tiny birds resting on slender branches. It flowers profusely through the year. A single shrub specimen can be planted in expansive lawns. This shrub species cannot be maintained as clipped hedges. Rather, it can be planted intermittently in regular or irregular rows. Planting it near a path or patio or near a water body will make your outdoors look delightful!

Ashoka tree

Saracaosoca (Roxb) de Wilde or the Ashoka tree is an important indigenous plant which is used in traditional medicine for its gynaecological and wound healing properties. The Ashoka tree is a sacred, legendary tree. Ashoka means sorrowless, according to the Ramayana. An Ashoka Vatika is also mentioned where Sita was held captive by Ravana. It is also said that the image of the Ashoka tree is sculpted in the ancient Buddhist temples of Ranchi and Mathura. The Ashoka is a handsome evergreen tree which can thrive in the hills and the plains. It prefers full to partial sunlight. Since the tree provides plenty of shade, it is ideal for planting along avenues.

The Ashoka is also prized in gardens for its beautiful deep green foliage and densely clustered mildly fragrant flowers which are bright orange-yellow and become scarlet. The tree and its flowers attract bees, butterflies and birds, making gardens a lively environment.

Ginger lilies

The most desirable plants for gardening for most people are either those with bright flowers or with glorious aroma. Ginger lilies (*Hedychium flavescens*) fulfil both criteria — they have splendid fragrance and glamorous flowers. That's why ginger lilies are one of the most popular choices of plant lovers.

Ginger lilies, also known as butterfly lilies, have medicinal properties. The plant's rhizomes are used to relieve flatulence, cure fever, as a tonic and a stimulant. Rhizome paste is applied to bruises and sprains.

The flowers are white or sulphur yellow or red-tinged, large and showy, up to 10 cm long. The flowers appear atop dense spikes and resemble butterflies, hence the name butterfly lilies.

Ginger lilies can be planted in full sun or partial shade. The soil should be well-drained and enriched with humus. It is reported that this species can thrive

even in 0 to -50C; hence it can be grown in any climatic condition in India.

This plant can be raised in front of windows or as borders in gardens. Ginger lilies are best planted near living rooms as the fragrance from the flowers wafts in through the windows. Its dark green foliage forms a great background to any landscape. It can be kept on staircases or in the decks in front of houses. Ginger lilies look stunning when planted along water bodies. The plant is a great addition to your collection of aromatics.

Plumbago species

The genus *Plumbago* comprises over 15 species belonging to the flowering plants family of *Plumbaginaceae*. This genus varies from small, herbaceous plants to comparatively sturdy shrubs. Amongst 15 species distributed throughout the world, *Plumbago zeylanica* (white-flowered), *P. capensis* (blue-flowered) and *P. rosea* (red-flowered) are extensively planted in the Indian subcontinent. The *Plumbago* species are traditionally used to treat warts, broken bones and wounds.

The *Plumbago* species have versatile behaviour, hence they can be planted in any element of landscaping such as lines, forms, intermittent spheres and flowering ground waves. These fast-growing plants can be used along borders and foundation plantings.

A mix of *P. zeylanica*, *P. capensis* and *P. rosea* makes beds in gardens very colourful. These are also excellent background or filler plants. *Plumbago* can be pruned as a formal hedge or it can be maintained as irregular clumps for a spectacular wild look. The *Plumbago* species planted in pots in a porch or patio looks pretty since the showers of flowers droop down. *Plumbago* flowers profusely in mid-November, throughout summer and in March. *Plumbago* is a tough and drought tolerant plant. It grows in poor soil, in exposed sunny areas and in partial shady areas. *Plumbago* is also a centre of attraction for certain species of butterflies especially the Blue Butterfly.

Elephant creeper

The elephant creeper or *Argyreia nervosa* (Burm.f) Boj. is a medicinal plant used to treat nervous disorders. It is also an ornamental creeper that can bring height, dimension, colour and shade to gardens.

The elephant creeper is a lovely climber with shiny stems and crowded leaves and large, pinkish-purple flowers which are soft to touch because of the presence of velvety hair.

This species enjoys warmer temperatures and is tolerant of arid conditions. It is usually planted in open sun or partial shade. The elephant creeper is a vigorous, fast-growing climber which reaches up to 15 m. Since it's a heavy climber it needs strong support and should not be planted with other slender vines. It sprawls across compound walls and gives houses a natural look. Installing a 10 m to 15 m strong support for this excellent climber will help it reach the top and become the centre of attraction.

This handsome climber can also be grown on top of a roof. It will then hang down, lending a bright, wild look to the building. It can also cover up unsightly buildings and parking areas and provide shade to outdoor dining spots. ■

Helping People Get Things Done



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UMK 435T-U2NT



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EU70is



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GX80

GX160

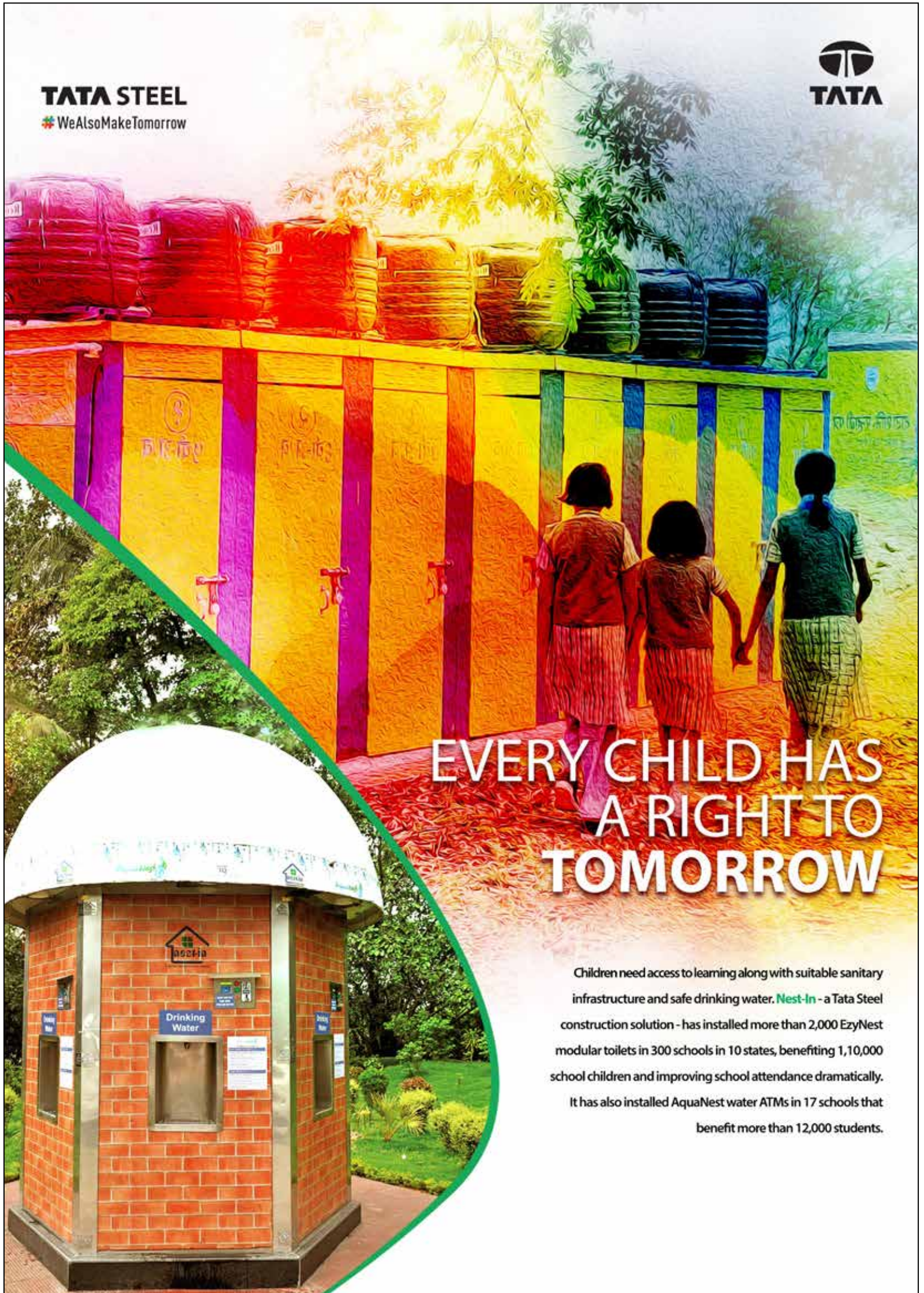
GX200

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TATA STEEL
WeAlsoMakeTomorrow



EVERY CHILD HAS A RIGHT TO TOMORROW

Children need access to learning along with suitable sanitary infrastructure and safe drinking water. **Nest-In** - a Tata Steel construction solution - has installed more than 2,000 EzyNest modular toilets in 300 schools in 10 states, benefiting 1,10,000 school children and improving school attendance dramatically. It has also installed AquaNest water ATMs in 17 schools that benefit more than 12,000 students.