

Civil Society

SHADES OF THE BETEL NUT

Designers and farmers wake up to it as a dye



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COVER STORY

SHADES OF THE BETEL NUT

Colour extracted from the betel nut is turning out to be popular as a natural dye with designers and craftspeople alike. Can this makeover for the reviled nut be a moneyspinner for farmers?

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COVER PHOTOGRAPH: SHAILESH GOWDA

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A rethink on the farm sector is long overdue. The view that people will inevitably have to be taken off the land and herded into factories as workers has been running aground. There aren't the employment opportunities to absorb masses of people — that too without education and skilling keeping pace. The possibilities in manufacturing have also changed as the world has moved on. Labour-intensive agriculture remains a reality in the near term. Making it sustainable and remunerative is, therefore, important. Think agriculture-based industries for value addition. But also consider better positioning of produce.

Take the example of the betel nut or *supari*. A dye sourced from it becomes a fashionable and celebrated colour that designers call areca, which is our cover story this month. Farmers can't enter, let alone shape, markets on their own. They need an ecosystem that guides them. In the case of the betel nut, a government scientist extracted the dye. It was already known as a red liquid to farmers. But the science was important. Thereafter, commercial agents have stepped in — exporting the colour and using it for high-end fashion. But it has taken years for these benefits to accrue. A more alert system would have spotted the scope early.

Our interview of the month with A.V. Balasubramanian in Chennai reveals the enormous value in India's traditional rice strains. They have been edged out of mass consumption by market forces that favour polished long white grains. But the traditional varieties are more nutritious and don't give the spike in sugar that white rice does. Yet we ignore them. Balasubramanian is a man of modern science who has with great integrity pursued traditional knowledge in farming. His work is pathbreaking.

In *Civil Society* we like to look beyond the narratives that encircle us. The doctors' agitation in Rajasthan over a new law on public healthcare is an example. The agitation was all about emergency care. It was only the voice of some doctors, the better organized ones, that was heard. As a result, a forward-looking law which addresses the need for inclusive and government-run healthcare was lost in the din. Read our interview with Dr Pavitra Mohan, who has been working in community-based care that meets the needs of poor patients in remote rural areas in Rajasthan.

The harassment of girls on northern campuses is not new. But the recent incidents at the IP College for Women in Delhi were shameful beyond description. The girls have been protesting and we present their case. We also provide an update on gruesome street dog attacks. In public health terms has a statistical threshold been crossed? A solution is urgently needed.

Shankar Anand

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IN THE LIGHT

SAMITA RATHOR



LETTERS



One spouse

Apropos Zakia Soman's article, 'For a ban on polygamy,' living in the US for more than 50 years I have concluded that all religious scriptures need to be reinterpreted in the light of globally connected digital communities. I agree with Zakia Soman.

Iftekhhar

The second marriage is an injustice to women in any religion. Women, too, should have the right to a second spouse, if the practice is not banned.

Vyas Devlal

Crushing think-tanks

I'd like to comment on Sanjaya Baru's piece, 'Foreign funds, Indian minds.' With contestation of ideas and solutions becoming the norm, think-tanks focused on policy-change are always viewed with suspicion.

If the research body is foreign-funded the government's antenna

goes up higher.

The government has been selective in targeting think-tanks. Foreign think-tanks, financed by foreign funds, have been sitting in policy and decision-making bodies for a long time.

There is not a murmur of disapproval from fellow non-profits, not only in the Centre for Policy case, but also when Greenpeace, Oxfam and others are targeted, because they are not linked with local civil society. The 'politics' of knowledge is being played out at a higher level. The aftermath of this regulatory scenario is that it is killing independent local Indian civil society.

Dr Narasimha Reddy Donthi

Worker welfare

Rajiv Khandelwal's article, 'Upgrade shopfloors, give workers more than a job', describes a good normative model to which the Social Compact aspires. But, it gives no data on actual achievements, especially in bringing about structural change in the relationship between employer and contract worker. It, therefore, ignores the fundamental tension between employer and employee over the distribution of surpluses, and the competition between employer and employer over maintaining market share and rates of profit.

My prediction is that this compact will fall apart except to the extent that it offers companies a way of claiming that they have

spent CSR money by providing minimal welfare benefits to workers. It won't get rid of contract work at low wages and it will not increase employment. It would be interesting to see an evaluation a year from now.

Dunu Roy

Dog menace

Thanks to Meghna Uniyal for writing on the problem of stray dogs infesting cities. Why India can't find an amicable solution bedevils me. Go to any developed country, there is no such fear on the streets. In India stray dogs enjoy better rights than human beings due to the NGOs. In fact, dog activism is their livelihood.

Kala

I hope the judiciary and government agencies who are playing with the lives of citizens read this article.

Vineeta S.

I am a dog lover and I feed stray dogs. I think that our society and our government are not working correctly for dogs and cows. We should work for animals and put in efforts to create a better society by providing birth control, vaccination and food.

Jyoti Rawat

Civil Society's hateful campaign against voiceless animals is very disappointing. I used to like this magazine, but now I will stop reading it.

Abha

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A.V. BALASUBRAMANIAN ON TRADITIONAL SEEDS

‘In India there were 100,000 rice varieties till the 1980s’

Civil Society News
New Delhi

THIS is the International Year of Millets and millets are everywhere. But far removed from all this high-voltage action, enjoying a quiet spotlight of their own, are traditional rice varieties. Belatedly, they are being recognized for superior nutritional and medicinal values as well as their organic character and the natural agricultural practices by which they are grown.

Communities have over generations grown strains of rice that are red, brown, white or black, but, as consumption goes, they have lost out to the high-yielding and mass-produced white varieties such as Basmati that have come to dominate markets. Long grains are the craze, not short or round ones even when the aroma may be better.

Many traditional varieties would have been lost forever if it weren't for family homesteads that have preserved them. Such conservation efforts, too, would have remained obscure and scattered but for initiatives to document the properties of the strains together with the folklore and traditional practices that surround them. The government, too, collects traditional varieties but doesn't promote them or encourage their cultivation — and for traditional strains to flourish they must primarily exist in the fields.

Now, having acquired some visibility, traditional rice strains are also finding niche markets which are appreciative of their unique attributes. They are generally healthier than high-yielding white rice because they don't pile on the calories and spike blood sugar as much. There are also strains which are known to communities for their medicinal properties. In a health-conscious world it is a matter of time before global buyers show up in significant numbers.

Among those salvaging this natural wealth is the Centre for Indian Knowledge Systems (CIKS), a non-profit, which has for over 40 years been working with farmers to learn what they know, help them save seeds and scientifically document dietary advantages they offer.

A.V. Balasubramanian is the founder-director of CIKS. He has an MSc in chemistry and post MSc in molecular biophysics. But it is in understanding traditional knowledge and the study of plant life that he has immersed himself. Additionally, he has been helping farmers set up producer companies.

Civil Society spoke to Balasubramanian on traditional rice varieties, CIKS's work and the opportunities he sees in farming. Edited extracts from an extensive interview:

Q: You have been working on reviving and promoting traditional rice varieties for several years now. How many rice varieties are out there and why do they need to be revived and conserved?



A.V. Balasubramanian: 'There is a growing market for traditional rice varieties'

About 25 years ago, we started by wanting to help farmers cultivate crops, particularly rice, a major crop in our area, sustainably and organically. So we did workshops and capacity-building. Soon farmers got back to us and said, look, until a few decades ago we had a lot of indigenous rice varieties. If only we could get them back it would help us in organic cultivation.

We asked the farmers why. They said there are many rice varieties which have resistance to particular diseases or pests or broad spectrum resistance to various diseases and pests. There are also varieties suited to cultivation in various soil types. Some varieties grow well in sandy soil or clay soil or in saline soil where modern seeds and hybrids don't perform.

We asked how those seeds disappeared. They said until 30 to 40 years ago, they saved part of the rice they cultivated and there was also across-the-fence exchange. The department of agriculture used to provide some traditional rice varieties to farmers.

With the emphasis on high-yielding Green Revolution varieties, the department stopped giving farmers any of these traditional rice varieties. There is a big push for hybrid and modern rice varieties. So traditional varieties have disappeared from the public scene.

We undertook research and we found, like so many things in India, certain things go dormant but very few things disappear completely. We found that a few farmers continued to cultivate some traditional varieties because they either had a saline tract or alkaline soil or sandy soil, or a patch that was susceptible to some pest. So the seeds were available but scattered in different locations.

When we looked into literature we found a remarkable piece of work

by Dr R.H. Richharia, one of India's greatest rice scientists who was at one time director of the Central Rice Institute in Cuttack. He said that in Vedic times India probably had about 400,000 varieties of rice. He estimated that even in the late 1970s and in the 1980s we perhaps continued to have 100,000 rice varieties.

Dr Richharia had a personal collection of close to 15,000 to 20,000 rice varieties in Madhya Pradesh where he retired. Darshan Shankar of the Academy of Development Studies worked closely with Dr Richharia and he helped them collect and nurture 600 such rice varieties.

Q: Why are these rice varieties important?

Because of agronomic reasons. Some are drought-resistant, pest-resistant or resistant to certain diseases or suitable for particular soils. They are also very important for resistance against climate change and disasters.

For example, in 2005, when the tsunami hit Tamil Nadu, thousands of hectares in southern Tamil Nadu went under salt water for 20 to 120 minutes. Once the salt water receded, these lands became unfit for cultivation of modern or hybrid varieties. However, there is a traditional rice variety in coastal areas called Kalar Pallai which grows in saline soil, and gives a modest yield.

We also found another interesting thing. There is a rice variety called Kala Namak, native to the Gorakhpur region of UP. It's an ancient aromatic rice variety that grows well in salty soil. We got samples of Kala Namak from friends in the Gorakhpur region and we started cultivating it. We found it did quite well in tsunami-affected coastal Tamil Nadu. This variety is important for resilience against climate change and for disaster management.

Kala Namak, by the way, is a very tasty variety. It is superior to Basmati except for grain length which is important for global marketing.

Also, while collecting rice varieties, farmers would talk about the nutritional and therapeutic value of such varieties. They would say, this is good for pregnant women or lactating mothers or for convalescence.

But such claims did not have the backing of modern science attestations, though many Ayurveda, Siddha and traditional medical texts corroborated what they said.

So about 10 or 15 years ago, we started modern nutritional testing of some traditional varieties. For example, Neelam Samba is considered good for pregnant women and lactating mothers. We tested it and found its calcium content was very high, consistent with the traditional claim. There are also other anecdotal references that are very important.

There is a *mota* red variety cultivated in Ramanathapuram district of southern coastal Tamil Nadu. People stuck to this variety even though its yield was low and it was *mota*, which in Tamil means coarse. They said it is hardy and will grow even in soil where nothing else grows. Secondly, it is good for lactating women.

A young woman from Kerala who had joined us three months after having a baby used to come to office with a breast milk pump. She tried this *mota* rice and said the quality and quantity of milk she produced was much better and she could assess it.

In terms of culinary properties, some traditional varieties are excellent for making fermented foods like *idli*, *dosa* and *puttu*, a tasty breakfast from southern Tamil Nadu. There are varieties suited for therapeutic uses as well.

Q: How many rice varieties have you identified, conserved and researched so far?

We have been able to preserve 160 traditional rice varieties on our farm. By that I mean they have been cultivated for at least three years or more continuously. We ensure that these seeds are conserved in more than one location so that a tsunami or flooding does not destroy all the seeds in a freak event.

We widely distribute varieties which are becoming popular with consumers. We have a programme where we scale up cultivation of these varieties with farmers and help them reach the market. Last year we scaled up to 5,000 metric tonnes of about 30 traditional rice varieties.

Q: How many acres are you working on? Is it in collaboration with farmers?

CIKS has an experimental farm of 11 acres where we conserve, document and research. We also work with 5,000 to 7,000 families of farmers in nine districts of Tamil Nadu. Sometimes, a farmer takes a variety from us, scales it up, and ties up with a local miller to reach the market. We are fine with that. Our work has momentum. If he has a problem he may come back to us and that's fine too.

Q: Aren't 160 varieties a mere drop compared to what we have lost? You mention a figure of 100,000 varieties. That's a huge loss to the natural wealth of the country...

I'll put it this way: when I say we are focused on conserving 160 varieties, it doesn't mean 100,000 are lost. We are focusing on certain varieties which are important for their nutritional properties, agronomic properties, therapeutic properties and, most important, there is rising consumer interest.

Over the years the National Bureau of Plant Genetic Resources (NBPGR) has collected paddy samples or accessions from thousands of locations across the country. But these seed samples are not available to the ordinary farmer. They are only available to scientists of the ICAR (Indian Council of Agricultural Research). We did protest and say it was unfair.

They said that if you want to deposit some samples of rice varieties with us we can place it in a railway station locker kind of system. We will preserve it with a code number and when you want it you can take it back. That was 15 years ago. They have still not notified the procedure.

‘Paddy samples collected by the NBPGR from thousands of locations are not available to the ordinary farmer. They are available to scientists.’

So these collections are out of the reach of the farmer. There are also serious doubts globally and in India about the viability and health of seeds that are stored for long periods in cold storage like liquid nitrogen. Do they evolve naturally? Actually, there is no substitute for maintaining the seed by planting it every season and harvesting it. It must exist in nature.

There are other varieties that farmers have and use. I can go on record and say what the official agency is doing is unethical. A few years ago the editor of *Current Science*, the official journal of the Academy of Sciences, sent me a paper for review saying that a group of scientists had collected dozens of rice varieties from farmers in Karnataka.

After screening they found some of them were drought-resistant. They said they would research and develop varieties which could get intellectual property rights. I asked if they had sought the informed consent of farmers when they collected such samples. If there are commercial benefits how will you ensure they go back to the farmers? There was no reply so this is a grey area.

Q: Are farmers able to find a market and a higher price for their traditional rice like other organic produce?

There is potential in this area but some crucial links need to be re-established. There is a huge growing consumer market in urban and semi-urban areas and rural areas. People feel that there is value to food that is cultivated organically. And there is value for traditional varieties.

The gap is that the consumer wants a steady supply and, secondly, the quality has to be assured. The rice can't have stones and pests and be broken.

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Farmers need access to quality seeds, or seed quality material. Some handholding is needed for cultivation. Secondly, processing, storage and post-harvest facilities are important. The era of hand-pounded rice is over. But when you take traditional rice varieties to the mill, it has equipment that is calibrated for modern varieties. The machinery has to be recalibrated to take in traditional rice varieties. The millowner may ask for 200 or 300 bags to make it worthwhile for him. The farmer faces a challenge if he has to cultivate to scale.

Also, a whole lot of claims are made about organic and traditional varieties. There is fact, fiction and exaggeration. You eat this, your cancer will go away or your kidney disease will disappear. We are trying to do some research based on authentication and documentation to see what we can say with assurance. Wild claims are made by modern science and also by organic and traditional practitioners.

Q: In this arrangement the commercial agent is important to take the farmer to market. Are such interfaces coming up for traditional rice varieties?

We are a non-profit. We cannot be directly involved in marketing or trade. We can only help farmers undertake trading or marketing. The Farmer Producer Organization (FPO) is a new kind of entity. A farmer in the village usually has some experience with a cooperative or a trust because they run temples and *sanghas*. But the FPO is a kind of corporate entity so the farmer has less experience of it.

When the FPO was introduced in Parliament some 20 years ago, the Government of India said that a different kind of legislation was needed. But in the interim they just amended the Companies Act and added a provision so that the FPO could get registered.

Twenty years later there is no separate act and that has some serious consequences. If you have an FPO in Tirunelveli district with 3,000 shareholders, its compliance requirements are the same as for Tata Motors or Sundaram Finance. So there is a big gap in the institutional form in which farmers can do marketing.

Q: What is it you would like the government to do for traditional rice varieties?

Let's be clear, the biggest player in the market is the government. A single stroke of the pen on what is taxed, not taxed, where and what investments need to be made can swing the market this way or that.

For the past 30 years I have been recruiting people with an agricultural background. Every recruit, whether with a B.Sc, M.Sc, Ph.D or diploma in agriculture, has to be educated on sustainable agriculture. It means the entire education system is based on subsidizing agriculture. ■

LIGHTS COME ON IN ARUNACHAL'S LAC VILLAGES

Micro hydel power flows to homes and border forces

Civil Society News
Gurugram

HIGH up in the mountains in Arunachal Pradesh, close to the border with China, villagers are experiencing for the first time in decades what it is like to have electricity in their homes at the flick of a switch.

Seventeen micro hydel projects, built on perennial streams, have been making it possible for them to have lights and watch TV and, as telecom connectivity arrives, charge their phones.

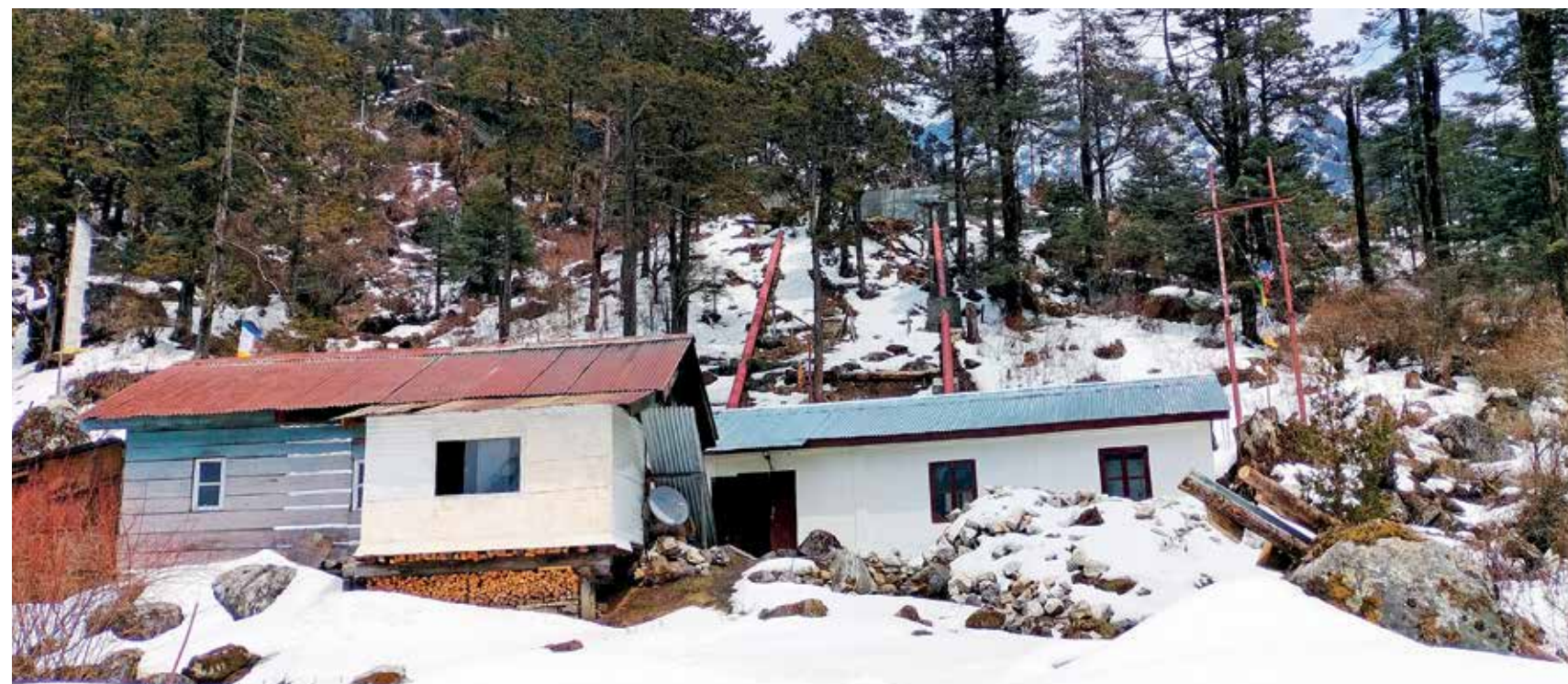
Home Minister Amit Shah in April inaugurated nine of the projects which had completed the mandatory trials and gone into commercial production with a capacity of 725 kW. But in all 17 are running and finally there will be 50 projects generating power in these remote parts near the border.

Micro hydel power is an essential element of the BJP government's Vibrant Villages Programme. Roads have been built and other issues of access to services addressed. But the missing link in all such efforts has been electricity. No amount of development would be complete if villages continued to be in darkness.

So distant are these villages that taking the national grid to them is costly, logistically challenging and time-consuming. Some of them have just a few households. At the same time, enlivening these villages is important so that there is habitation on the border. Currently, there is migration, since people feel cut off, which needs to stop.

China has been pursuing a policy of developing villages on its side of the Line of Actual Control (LAC). Arunachal's villages, by contrast, have been subjected to decades of neglect until the Modi government went into mission mode to build infrastructure. There is actually no time to be lost.

When it comes to taking electricity to them, micro hydel projects with localized grids are seen as the solution. They have small ecological footprints, do not require much capital expenditure and can be quickly installed. They are also easy to maintain and local people can be trained to keep them up and running. Solar is not an option because of heavy rain and cloudy weather for several



The micro hydel project at Taksang Gumpa is at 12,000 feet in Tawang district. This is the power house. Note the dish antenna



At Dichu, in Anjaw district, a few hundred metres from the LAC: The small power house with local grid, channel for diverting water and the turbine

Above: Prashant Lokhande at a facility in Tawang district with two students who worked on the project there



months in the year.

Apart from meeting the needs of villagers and making their lives more complete and cheerful, these facilities also supply power to India's forces on the border. They have so far been running diesel generators, which are both costly and polluting.

FIRST PROJECT While the projects are currently being set up in mission mode at great speed, the Arunachal state government has for some time been working on using micro hydel power as a means of lighting up its remote villages. As early as in 2005, the then Deputy Commissioner of Lohit district,

joint secretary in the Union home ministry.

Much progress has been made from the first little plant at Kaho to the inauguration of the nine hydel plants by the home minister. They will operate across eight districts and meet the needs of 25 villages with a population of 5,332 people, apart from providing power to 11 Army establishments on the international border.

The Kaho effort was an outlier in 2005. The village is close to Tibet. It was off the grid and difficult to get to as well, even for an idealistic officer like Lokhande. Setting up the micro hydel project meant carrying equipment across a footbridge. He involved the local community and the plant came up with an investment of just a few lakhs of rupees. It was micro in every way but changed the lives of the local people. It was their *Swades* moment.

Last year, however, the state government launched a border village illumination programme to mark 50 years of Arunachal. Lokhande, now more senior in the government, led this initiative. What had begun at Kaho now became a structured effort with a dedicated budget of ₹200 crore and timelines. A goal was set of 50 micro hydel units with capacities ranging from 10 to 100 kW.

The focus has paid off. It is no mean achievement that so many projects in remote locations and difficult terrain have been commissioned in barely a year. All of them are being built by the state government's department of hydropower. The planning and execution are being done by the state's engineers led by Chief Engineers Jummar Kamdak and Along Ketan and Superintendent Engineer Motto Basar. Project reports go for vetting to IIT Roorkee.

To speed up projects, the state government has also been setting up the local transmission grids. It is quicker and finally more stable than being part of the national grid.

The first 17 projects have come up at a cost of ₹50 crore and together generate 1,255 kW. Interestingly, the state government has already earned ₹4 lakh of carbon credits through generating clean power.

GOING BACK Lokhande recalls that he went back to the first project at Kaho and found it to be working perfectly well. "I was surprised to see that even after 18 years that machine was fine and providing power. We had, back then, trained two youngsters from the village

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to operate it and that system actually worked for two decades at hardly any cost," he says.

Lokhande says micro hydel projects aren't new to Arunachal. They had been put up in the past and connected to the grid. But problems of grid stability would follow. After visiting Kaho and seeing its continuing success, the idea of having a mission for micro hydel projects alone struck him.

"We could have many more micro hydels which would serve the dual use of villages and the armed forces. It would take us many years to take the grid to remote villages and it would be unstable because it would undertake a torturous journey through the mountains. Standalone local grid micro hydel would be better suited," he says.

So, he discussed his idea with the chief minister and the deputy chief minister, who is also the power minister, and they came up with the Golden Jubilee Border Village Illumination Programme. It was launched in April last year.

"The Kaho project generates only 10 kW but it was okay in those years for the village because it was unconnected by road. They had no power and it was important value addition for them. It cost us just ₹2 lakh which we got from the MPLADS fund of Tapir Gao, the MP from Arunachal," explains Lokhande. "The villagers were able to use the power for their basic needs and for TV. I provided DTH to the people. Kaho has just seven to eight households."

Arunachal's chief minister, Pema Khandu, says that the Union home minister's visit to inaugurate the micro hydel plants shows the commitment of the government at the highest levels. But the state-level officers and engineers deserve special credit.

"I appreciate the hard work put in by our hydropower department and Prashant Lokhande who initiated this innovative and challenging project," says Khandu. Chowna Mein, the deputy chief minister, adds: "I congratulate Prashant Lokhande, our former commissioner, for conceptualizing this programme and our engineers for executing it in mission mode."

While the current urgency could well be for strategic reasons, the setting up of micro hydel facilities is in multiple ways an example of effective development. It is eco-friendly, economical, locally managed and transformational. It is a lesson on how to reach out to the underserved.

Lokhande says, of the villages that are being reached, "600 have a population of 50 and 90 percent have a population of less than 250".

Stemming migration from these small villages is important. "We are of the considered opinion that civilians, doing cultivation in the border areas, who say, I'm an Indian, are the sentinels of border areas. They are the ones who protect our border," he says. ■



Students protest on campus

Girls fight back after festival is overrun

Kavita Charanji

New Delhi

COLLEGE festivals are supposed to be fun. Exuberant students turn up at their campus to enjoy themselves in a spirit of camaraderie. Or so it should be. But the Indraprastha College for Women's (IPCW) recent annual cultural festival, Shruti, was a hellish experience for its students.

On March 28, the second day of the festival, according to a press release by the alumnae and former teachers of IPCW, a large number of men barged into this women-only campus, through the gates of the college causing a stampede. A group of men also scaled walls from all directions — the sportsfields, the hostel and other areas. They seemed to be in thousands, such was the shock they caused.

In the resulting stampede several students were injured. The girls were flung to the ground, groped and abused. One girl was pinned to the floor, while the clothes of another were undone. When other girls rushed to protect them, the men just laughed, say the girls.

There is a recent trend of Delhi University (DU) women's colleges becoming targets of sexual harassment during festivals. It happened in Gargi College in 2020 when outsiders had barged in and molested several students. It happened again at Miranda House in 2022 during a Diwali mela when

men climbed over its walls and harassed the girls.

Going by this record, IPCW's principal and the college authorities should have ensured tight security during the IPCW festival. Instead, the horrific occurrence at IPCW seems to follow a predictable pattern — failure of the authorities to prevent the incident, subsequent denial, trivialization, victimization of the victims, and delayed justice with the culprits not being brought to book speedily.

Nearly three weeks later, Delhi University issued a 17-point advisory to colleges for holding festivals and events. Some of the directives include a mandatory no-objective certificate from the police, entry only to pre-registered students, security drills and CCTVs at all the gates.

When this incident occurred, no FIR was lodged immediately, nor were there urgent calls to the police. The following day, angry student protesters turned out in large numbers to demand strict action against the culprits. The administration must be held accountable for the trauma they faced, they said.

The principal, Poonam Kumria, dismissed the protests as politically motivated. But IPCW students reiterate that it was they who led the protests and student bodies like the All-India Students' Association (AISA) and Students Federation of India (SFI) only joined in to express solidarity. "The central

point is that the girls were sexually molested. Whose responsibility is it to reassure the students that their voice will be heard, to ensure that an FIR will be filed on behalf of them, if not the principal?" asks a former teacher of the college.

The college authorities claimed that they had written to the police to provide security for an 8,000-plus crowd at the festival. But the Delhi Police say the college did not send a formal application regarding security. At any rate, no special arrangements were made and a few policemen were sent to guard the gate.

The Delhi Commission for Women (DCW) which took suo moto cognizance of the incident in its interim recommendations, found glaring lapses. For one, 10 days after the incident senior Delhi Police officials said that CCTV footage had not yet been secured from the college. Summoned again two days later, they said incomplete footage had been provided.

Likewise, though the college authorities had forwarded 231 complaints and representations to the Delhi Police, till April 4, a week after the incident, statements of only two survivors had been recorded under Section 164, CrPC.

There is misogyny in the way the incident has been brushed aside. Says one IPCW student who joined the protests: "Men feel they can barge into women-only spaces and own these spaces. The intruders were sloganeering, shouting, 'Miranda, IP dono hamara. Miranda nahin choda toh IP bhi nahin chodenge'. They are trampling on our freedom and safety," says a student who took part in the protests.

"We have heard students say that on the day of the incident the principal told the girls to leave the campus and the men would follow. This is such a misogynistic and patriarchal statement to make," says IPCW alumna Rupal Vaidya.

Vaidya and fellow alumna Kiran Mittal recall that when they were hostellers studying in the college there were incidents of sexual harassment outside, in buses and so on, but once students entered the gates of the campus, they felt very safe. "Over 30 years ago when we were students, the college administration responded to cases of sexual harassment, even those that occurred outside, with sensitivity and alacrity," says Vaidya.

On the other hand, she points out, today, despite the current regulations to deal with cases of sexual harassment at the workplace and in higher education institutions, there are many lacunae in the way IPCW authorities have implemented them.

For instance, says Vaidya, the IPCW authorities have disregarded the provisions that every college should proactively disseminate information as to what constitutes



Police try to disperse protesting girls



Men at the walls, photographed by students

sexual harassment according to the law. The college is supposed to explain the complaint procedure, whether complaints can be made anonymously and what a college needs to do to inform the Internal Complaints Committee (ICC) about the provisions of the law. There are also guidelines about the composition of the committee which is supposed to be headed by a female presiding officer.

Some days after the IPCW incident, the principal announced that a committee would be set up to look into the grievances. Students were asked to submit their complaints along with proof of misbehaviour to the Administrative Officer of the college on or before April 6.

Despite evidence such as photographs, videos and CCTV coverage, the girls have been asked for evidence. "This is clearly a case of mass harassment and molestation. It is like asking a rape survivor to prove the crime. It is a double-edged sword. If the girls provide evidence, there is the possibility that they will face threats," says Mittal.

Nor does the IPCW website comply with UGC provisions on other fronts. The college's

website does not have the complete contact details of the mandatory ICC though it lists some names.

In a public notification copied to the IPCW principal, DU announced the setting up of a committee to enquire into the incident. But the committee is to be headed by a male professor. The 2013 Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act mandates the setting up of a Prevention of Sexual Harassment Committee (POSH).

The rules state that only an ICC can deal with such cases. The composition of the committee announced by DU also does not comply with POSH terms, which require at least two members with social or legal expertise as well as at least one member from an NGO committed to women's causes.

What also evokes the ire of the alumnae and former teachers is that counselling is to be given to the traumatized students within a window of three hours a day over a three-day period. "This is laughable. Can this time frame be sufficient? Will the girls get a psychology teacher or a counsellor specially trained in sexual trauma counselling?" asks one former teacher.

Many days after the incident, five students were 'bound down' by the police for their role in the IPCW case. In effect, they have to be present for police investigations and cannot leave the city or country without official permission. Another eight DU students have been identified against whom the police plan to take similar action.

The girl students are not satisfied with the advisory issued by DU. They say their inputs were not considered. Their demand, for student representation on the committee to ensure transparency, has not been conceded as yet. ■

Kolkata gets ready to revive its trams, but where are the drivers?

Subir Roy
Kolkata

YES, there is life after death for the trams of Kolkata, the only city in the country still to boast of them. They were on death row, so to speak, until even a couple of months ago with periodic reports stating that closed tram routes would not be revived. Now comes an affidavit filed by the West Bengal government before the Calcutta High Court, that it plans to revive seven tram routes. If this does eventually happen, it will mean operating tram routes will more than double, from the present three to 10.

However, this is not going to happen straightaway but two years down the line in 2025. Sections of tram lines that have been blocked because of infrastructure work by Rail Vikas Nigam have to first be restored. The beneficiary in this case has been another environmentally friendly transport project, Kolkata's Metro Rail. Work on the Howrah Maidan-Salt Lake and Joka-Esplanade sections of the Metro have encroached on tram tracks, derailing most of the tram routes in the southern and central parts of the city.

The revival of the two routes is vital as it is linked to the revival of the Ballygunge and Tollygunge tram depots. Without these two routes being functional, tram cars cannot be taken from the depots to the central tram workshop at Nonapukur for repair and overhaul.

There are two other culprits. First, there are two bridges going over railway lines which have to be tested to ensure that they can carry tram cars. Second, a key road which used to host a tram route has in the meantime been made into a one-way thoroughfare by the traffic police. The object of listing all these hurdles is to be realistic. Making public a good intention (reviving tram routes) is one thing, actually being able to do it within the stipulated time frame is another matter.

One person who is sceptical about the 2025 deadline is Debashish Bhattacharya, president of the Tram Users Association. He adds his authority to reiterate some of the issues pointed out above. Part of Diamond Harbour Road, needed for a route to be revived, is now being used by the Metro Rail which is unlikely

to be able to give it back in a couple of years. Then, for revival of the route going over the Sealdah flyover, the track will have to be relaid, for which permission from another agency is needed. As for reintroducing trams on Chitpur Road, commuters are now using auto-rickshaws. If trams were to return, the politically powerful auto-rickshaw drivers would lose substantial business. For revival to happen, several official agencies have to cooperate, something that often does not happen. And when the deadline for revival is not met the tram department, part of the West Bengal Transport Corporation, can easily blame the other agencies.

Perhaps the single biggest hurdle in the way of a substantial revival is finding a large number of new tram drivers when over the years many of the former ones have retired. Current plans to recruit fresh staff will not be enough to meet the large need for drivers.

POLLUTION-FREE The logic for reviving Kolkata's tramways is well known and has been repeated stressed by both tram enthusiasts and those who worry about automobile pollution of the city's environment. Mainly diesel guzzling public transport (taxis and buses) belch toxic fumes. Instead, if a number of public journeys were conducted by electricity-driven trams it would incalculably improve the city's air quality and its residents' health.

Tram enthusiasts want more trams on the city's streets as these iconic vehicles, if properly maintained and periodically overhauled, will bring back to the city some of the class it had when it was described as the second city of the British Empire. Scores of historic cities across different continents (Paris, Berlin, Florence, Barcelona, Istanbul, Zurich, St Petersburg, Shanghai, Hong Kong) have smoothly running tram services made up of highly elegant looking tram cars. It is an honour for a city to belong to such a list that combines history with current relevance.

Yet, trams do not have absolutely everything going for them. They take up a lot of road space so they are not a practical mass transport solution in a city like Kolkata with narrow, crowded roads. There will be little space left to run a sufficient number of buses to



Electric trams are now seen as inexpensive, ecofriendly and safe model of city transport. Kolkata was a frontrunner in using trams

Photo: Civil Society/Ashoke Chakrabarty

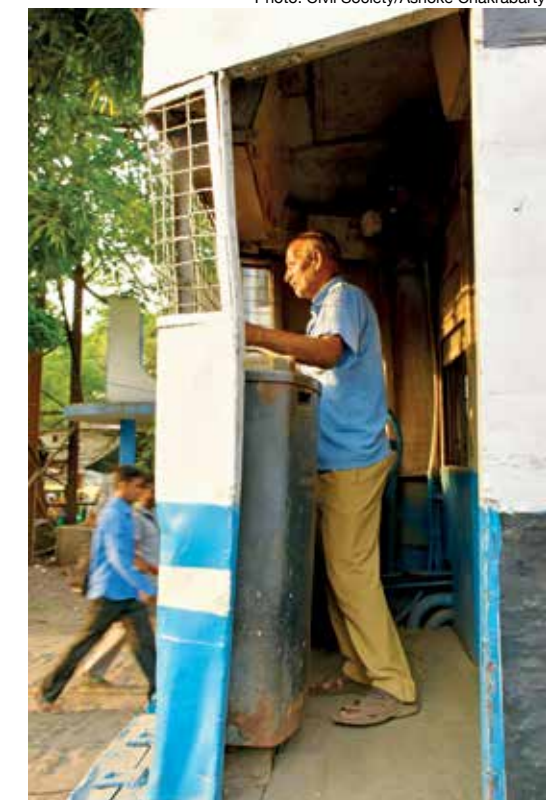


Trams are passenger friendly

accommodate current passenger traffic. Plus, roads with tram tracks are costlier to maintain and the Kolkata Municipal Corporation is not exactly rolling in riches.

TROLLY BUSES? A good solution would be trolley buses which run on bus tyres (so they do not need metal tracks) and draw their power from overhead cables like trams. But we don't make trolley buses. Neither do we make trams anymore. The last new tram came in over three decades ago in 1989. In the past decade eight new single-coach trams have been introduced. All the typical double-coach trams that still run today were made decades ago and the best-looking ones among them have been thoroughly reconditioned.

Another key issue is environmental. Trams which run on electricity undoubtedly reduce



A tram driver in his cabin: There is a shortage of drivers

Photo: Civil Society/Ashoke Chakrabarty



A tram trundles down a busy street in Kolkata

Photo: Civil Society/Ashoke Chakrabarty

pollution in cities but the power has to come from somewhere. In the case of Kolkata it is drawn from an electricity supply system which is fed from large coal-fired power plants which add to pollution in their environs. So trams actually please the city by harming the countryside or semi-urban areas where the thermal power plants are located. A near to perfect solution would be green hydrogen powered trams but that is moonshine.

The automobile lobby would certainly like to dismiss trams as an anachronism but the global list of cities that happily continue to use them offers an effective rebuttal.

Besides, in an age when global warming is sought to be fought and a net zero stage reached according to individual national deadlines, the age of the internal combustion engine vehicle is over and the age of electric transport has arrived. This bolsters the demand for revival of trams. ■

Samita's World

by SAMITA RATHOR



SAMITA

Rajasthan law making free healthcare a right also raises the bar for state-run facilities

Civil Society News
New Delhi

A new law in Rajasthan that gives every citizen the right to free public healthcare has the potential to raise the standards of medical services in the state and make them more accessible and relevant to the needs of people.

The law commits the government to ensuring health infrastructure is in place and that its clinics and hospitals are more inclusive and responsive. It could serve as a model law for other states interested in ensuring that quality healthcare reaches people, especially those who are needy and underserved.

The law, however, has been mired in controversy with doctors belonging to the Indian Medical Association (IMA) going on strike over a provision that stipulates free treatment in private hospitals in the event of emergencies, such as accidents, with the government reimbursing the costs.

The Rajasthan state government finally decided to reconsider the provision on emergency services so as to end weeks-long disruption in medical services. But the agitation drew public attention away from the real issues involved. Lost in the din were the many important ends that the law is intended to serve.

High up on the list is the goal of energizing the healthcare system by strengthening the primary health centres (PHCs) and sub-centres and the district hospitals in the tier above them. This would take away the load from tertiary facilities.

A better PHC system would make it possible to treat people closer to where they live. It would also lead to the detection and treatment of diseases in their early stages. The law commits the government to adequately staffed and equipped health centres.

“It is an important law because it comes at a time when the talk is all about privatization and the use of insurance to provide healthcare. But with this law the government commits itself to providing free healthcare with dignity to every citizen at state-run facilities,” says Dr Pavitra Mohan, co-founder of Basic HealthCare Services in Udaipur. Dr Mohan is one of the rural doctors whose work this magazine tracks.

“The government is saying it will have in place infrastructure, staff, medicines and diagnostics. The citizen can now demand these from the government,” says Dr Mohan, who is a pediatrician and public health practitioner.

“At the primary level it is only the government system that can effectively reach people and meet their needs. We have seen during Covid-19 the important role played by government-run facilities,” he says by way of example.

Basic HealthCare Services runs six primary health centres in rural Udaipur. It also runs a government PHC which it has adopted. The emphasis at these PHCs is to move away from doctor-dominated healthcare services to empowering nurses to monitor patients and take decisions under the supervision of doctors. There is also training of local women to serve in the PHCs.

When PHCs are located within reach, the community benefits from regular monitoring and easy communication. No one has to lose wages to travel to a health facility. Local women trained to be Auxilliary Nurse Midwives or ANMs and nurses engender trust and familiarity, making it simpler for patients to approach them. The bridging of cultural and linguistic divides is essential for delivering healthcare. So too the fear of medical interventions that comes from lack of knowledge.

Dr Mohan says PHCs are successful when there is teamwork. Typically, at the PHCs that Basic runs there is a doctor and nurses and ANMs. But whether the doctor is there or not, the PHCs are functioning and effective because everyone is engaged in running them. High levels of motivation are important.

“How successful the law is will depend on the rules for implementing it. The government has to motivate doctors to serve in rural areas and provide the facilities they need. The salaries the government pays young doctors are good enough. But they should also feel that they have opportunities for professional growth,” Dr Mohan explains.

The rules will also have to work their way around problems such as locating PHCs. Currently, the provision is for a PHC for every 25,000 people. But in southern and western Rajasthan people live in small clusters and a population of 25,000 could be spread over 100 km. The rules will have to deal with local realities for the law to be effective.

“In Rajasthan, the basic infrastructure exists,” says Dr Mohan. “You will find a doctor and nurses in a PHC. Medicines are free. But the quality of the infrastructure, availability of medicines and the commitment of the doctors and nurses is where the challenge lies.”

Much work clearly remains to be done even though Rajasthan ranks among states that have something to show by way of public healthcare. Going forward implementation of the law will require the involvement of public-spirited doctors and voluntary groups in Rajasthan.

The Rajasthan law itself comes out of the efforts of non-profits like the Jan Swasthya Abhiyan. The Congress had promised in its manifesto in the last state elections that it would make free healthcare a right. The promise has been fulfilled with the passing of the law which came out of wide consultation and the experience of voluntary groups.

The right to healthcare was, in fact, first proposed at the time of the National Health Policy. But it wasn't included and it was decided at that point that it should be left to the states to legislate on.

Rajasthan's experience will be useful for other states, especially those which already have medium to good infrastructure in place. For those lower down the ladder of development, the challenge is going to be more complex.

But passing the law is an important step in the state government coming forward to spend more on health and take responsibility for reaching health services to those who need it most. It also creates some hope of restoring balance in the healthcare market where privatized services are in a dominant position but aren't the solution to universal care, which alone can reach large numbers. ■



Dr Pavitra Mohan: 'How the law is implemented will matter'

Is the dog problem out of control?

More children die in gruesome attacks

UMESH ANAND

WHY are innocent children being mauled and even killed by stray dogs? What statistical threshold has been crossed for such reports to be now coming in with worrisome regularity? Is the stray dog problem across India spinning out of control? Are we in the throes of a public health crisis involving attacks, bites, rabies and deaths?

These questions arise from a series of incidents which have been reported in the media and are the only real public record of the street dog problem. In the absence of a verifiable census exact numbers are not known. But it would seem that the attacks are the result of a rapidly rising population of strays. There seems to be less space in congested cities to avoid run-ins between humans and dogs.

Between February and April this year there were at least 13 attacks, the most brutal among them involving children, who couldn't be rescued in the heat of the moment when the attacks took place.

Even as we were putting together our list, in came one more incident reported by NDTV. An 11-year-old boy was mauled to death at the Shastri Nagar College Grounds in Uttar Pradesh's Maharajganj. He was going from his home to a local market when he ran into a pack of stray dogs, according to the report, which quoted the police. The boy's face and right arm were bitten off, the police said, as he seemed to put up some resistance.

In Chhattisgarh, dogs mauled a five-and-a-half-year-old girl. She was the child of labourers working nearby. Passers-by who rushed to her rescue could not save her on time.

In Telangana, a boy aged five, was killed in Khammam district. He was mauled and couldn't survive. And it wasn't just in a district, but in Hyderabad too where a death occurred when a four-year-old boy was killed by stray dogs, prompting the high court to pull up the municipal administration over the measures it was taking to control stray dogs.

In Lucknow, inside the compound of an apartment building, a 13-year-old was pounced upon by strays and bitten. He was fortunate to be saved. But he had to be taken to hospital for his wounds and given anti-rabies injections.

The boy was quoted in *The Times of India* as saying that he tried to run away but one of the dogs jumped on him and knocked him down. In the melee, before other residents came to his rescue, hearing his cries for help, he was bitten in four places.

In New Delhi's Vasant Kunj area, two brothers, aged seven and five, were killed in a wooded part of the colony within a span of two days. They lived in local shanties and belonged to poor families. Both incidents are said to have occurred when the boys had ventured out on their own.

There have been innumerable attacks on adults as well. The most recent being a CCTV record of an elderly man being attacked and killed by dogs on the Aligarh Muslim University (AMU) campus while out on a morning walk.

The street dog population, it would appear, is sizable. There are

estimates that say it is in millions but it could well be in tens of millions. It is also clear that the current ways of dealing with street dogs, formulated some 20-odd years ago, have not worked. The idea that dogs at street level can be sterilized, vaccinated, fed and finally adopted doesn't seem to have borne results because the numbers have continued to go up.

Municipalities, on the other hand, have neither the resources nor the expertise to deal with so many dogs, especially so because of the present set of rules under which dogs have to be picked up and put back at the same locations even if they have been attacking people or killing children.

A new set of rules drafted by the Animal Welfare Board stipulates that resident welfare associations (RWAs) are duty bound to designate feeding spots and look after street dogs, finally turning them into 'community dogs,' doesn't seem to have much chance of working either.

First, a good many RWAs exist only in name. Secondly, RWAs have enough to do ensuring basic municipal services without having to take responsibility for street dogs. The rules don't take in account the many people who may not like dogs and wouldn't want them hanging around in the streets or near their homes.

Animals should be treated with kindness. Given love and affection, animals are known to respond. But such equations tend not to work in the wild or unstructured urban situations. When it comes to stressed-out stray dogs on the streets of cities, the possibility that millions of them will be transformed through adoption and bestowing love on them appears remote. It is a statistical impossibility because of the huge numbers.

Can governments and courts, where citizens go for justice, continue ignoring these realities even as the problem appears to get worse and further out of control?

The increasing number of incidents show that such attacks are widespread and not limited to any single part of the country. In fact, the way they happen indicates that they don't seem to be preventable any longer. The feeding of dogs appears to make them more aggressive and competitive instead of calming them down and restricting them to locations. Incredibly, dogs which may attack and kill can't be removed from the very areas where such incidents have happened. Since these are strays, they mostly can't even be identified.

It should be noted that several of the deaths are of children from poor families. This could be because they were unattended at the time. It could also be the reason why the problem is not taken up with the seriousness it deserves.

When it comes to dogs, the poor don't have a constituency to speak for them. In contrast, animal rights activists are well-funded and organized. Incredibly, they appear to show no remorse for the deaths of children while defending the rights of dogs to be on the streets.

As incidents mount, an urgent way out of the mess is clearly needed. The original case seeking to take dogs off the streets was filed more than 20 years ago and is still the basis for litigation that has reached the Supreme Court. Something quicker will be an act of kindness to dogs and humans alike. ■



This is how dogs killed a four-year-old child in Hyderabad

In UP small tanks deliver big benefits

Bharat Dogra
New Delhi

KHEMINKHERA village in Mahoba district of Uttar Pradesh (UP) has two ancient tanks and one is famous for its beautiful lotus flowers. These tanks are excellent examples of traditional water conservation as the overflow of one tank finds its way to the other one. People can freely collect lotus stems (*kamalkakri*) and lotus seeds (*makhana*) here for a livelihood.

But though these tanks had been a blessing for several centuries, over the recent past enormous siltation led to a reduction of their benefits.

Recently, with the help of Srijan, a voluntary organization, surplus silt was removed with great care to leave behind some silt and protect the bund during the work. The fertile silt was carried away by grateful farmers to their fields, enhancing soil productivity.

With silt removed, the quantity of water collecting in the tanks rose considerably — leading to significant increase in water recharge and water levels in wells.

Kheminkhera is just one of many villages in the Bundelkhand region which have benefited from cleaning and silt removal in tanks. Other small water conservation efforts have also yielded significant benefits.

In Goiya Khurd and Goiya Kalan villages of Chitrakut district, for instance, several Kol tribal women said that they had benefited significantly from repair of check dams and digging of pits in water channels. Now some water is available in these sources almost throughout the year compared to the huge scarcity experienced earlier in summer and the pre-monsoon weeks.

Although tribal and Dalit families own only a small part of the total farmland, care has been taken to ensure that water conservation benefits reach their land to at least some extent. Similar water conservation work in Bojh village has also yielded good results.

The benefits of such work is particularly significant for villages like Boura in Mahoba district where the water crisis had grown acute as the accumulation of silt had led to the drying up of the main tank for several weeks. The animals, especially, suffered acute thirst. The cultivation of water chestnuts or *singhara* for a livelihood also suffered. However, after desilting, the water situation improved and



A check dam is repaired in Goiya Khurd village



The nullah was also desilted

the villagers have formed a committee to continue the desilting work on their own.

The people of Markhera village in Tikamgarh district of Madhya Pradesh faced even more severe water scarcity. The water table was declining and the water level in wells was going down. The output from hand pumps was often reduced to just a trickle. Women's drudgery in fetching water from distant places had increased. Many of them had chronic backache due to constantly drawing water from very low levels in wells.

It was at this stage that conversations between villagers and Srijan activists led to joint planning for water conservation. Earlier the government had constructed check dams on the Chandokha nullah but these had broken down much earlier than expected. Now it was decided to repair them and to dig *doha* pits.

When this work was taken up, villagers could also take the extracted silt and use it for bund construction in their fields. The digging of *dohas* as well as the repair of check dams helped greatly in improving the water situation in the village.

Many more farmers are now able to irrigate their farms properly. Crop yields have increased for several of them by about 50 percent or so. Some of them are able to grow an additional crop as well. The water level in

wells and hand pumps has risen so that potable water can be obtained more easily. Women do not have to spend much time or labour in stocking water.

It has even been possible to obtain water for creating a beautiful forest, not far from the water course and the main repair work site, which in turn will contribute to water conservation. The villagers have formed committees and sub-committees to protect the recent gains and to look after the maintenance of the *dohas*.

Such water conservation work can be very cost-effective. The entire work of repair and digging of pits in Markhera has cost just around ₹4 lakh or so while the many durable benefits have spread to several villages.

Nearly 460 *dohas* have been dug in five districts of Bundelkhand region by Srijan and its collaborating organizations, particularly under its BIWAL project. In Niwari district of MP, the experience of *dohas* dug in Gulenda and Bahera villages has been particularly encouraging.

Credit should go to the donors who have supported such cost-effective water conservation projects. In Kheminkhera village, Indus Ind Bank has contributed funds while in Goiya Khurd it is HDFC Bank that has been a generous sponsor. Several personal donors have also funded such works.

In small-scale water conservation works involving the community in planning and implementation and benefitting from their knowledge of local conditions is the key to success. It makes the project creative, as well.

The government should accord more attention to such schemes instead of blowing up limited budgets on mega projects of highly suspect value. The story of Bundelkhand's massive dam projects as revealed in Virendra Jain's award winning novels *Doob* and *Paar* are testimonies of wastage of funds and the disastrous displacement of rural communities. ■

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MANY SHADES OF THE BETEL NUT

Designers and farmers wake up to it as a dye

Shree Padre
Kasaragod

THE betel nut has a terrible reputation. As a part of *paan* spittle it is associated with disgusting red stains in public spaces. Chewed on its own it is linked to oral cancers. But far removed from its negative image, the betel nut has another and completely wholesome identity as well. Farmers in Karnataka have traditionally extracted from it a natural red dye. And over two decades ago, scientists found that the betel nut's red could be used to develop a range of pleasing shades, pink in particular.

But despite such potential, the betel nut continues to languish. Could it possibly be a driver of higher rural incomes in a state like Karnataka where it is grown widely? Designers have been cottoning on — in India and, globally, from Turkey to Japan. It isn't enough. Much more needs to be done to develop betel nut commercially and give it pole position for being organic and unique in the colour it yields.

It was in 1996, that Dr Geetha Mahale began her quest to understand *paan* stains a little better. Setting aside her angst over the stains she would see around her, she began to investigate what it was that made them so devilishly long-lasting.

She was then a senior scientist in the department of textiles and apparel design at the University of Agricultural Sciences (UAS) in Dharwad in Karnataka. Mahale noted how tough it was to remove *paan* stains. Was it the entire combination that made up the *paan* — spit, leaves and other ingredients? Or was there a single component emitting the colour?

Her probing finally led her to the betel nut, which in common parlance is called *supari* and agriculturally is known as areca nut because it grows on the areca palm.

Mahale realized that the betel nut/ areca nut was the source of an incipient natural dye — and she knew a thing or two about such matters since she was researching natural dyes at the university.

Obsessed with the idea, Mahale began researching the betel nut and organizing dyeing workshops with farmers in and around Sirsi. “We got dozens of shades from areca nut, each with its own beauty. I got kind of attached to the colour. I realized we needed more research, and the idea was worth pursuing,” says Mahale, who retired as head of department in 2018.

In 2010, UAS published a book on her work, ‘Value Addition to Agro and Animal-based Fibres.’ It has a chart of shades one can derive from areca nut dye on different fabrics and with different mordants. Mahale was given an award by the Indian Council for Agricultural Research (ICAR) for this study.

That's how a new colour, areca, came into use in rural Karnataka. The dye alongside began to be used by the local handloom industry and then travelled to Rajasthan to a company that began exporting it globally.

Traditional crafts like Ajrakh, Kalamkari and the Channapatna toy industry have picked it up. So have weavers and fashion designers across Asia who are mixing it with other natural dyes to glean newer shades.

“I love the areca colour. It is pink, soft, calming and peaceful. We use madder to make red-pink colour. Madder is good too. But areca is different,” says Masaki Aoki, a natural dye expert in Japan, who has his own studio called Tezomeye. Aoki has been teaching at the Kyoto University of Art and Design for over a decade.

Maki Teshima, also a natural dye expert from Japan, runs workshops on areca nut dye. “The nut releases a beautiful rose pink colour. I fell in love with it,” says Teshima. “People who joined my workshops loved the beautiful rose and gray colours we created using the nuts. You can't deny the beauty of the colours from areca nuts.”

For centuries, the betel nut has been chewed and then spat out across Asia. It's been the bane of health professionals who call it addictive and carcinogenic and of exasperated municipalities trying to beautify city spaces. But, if recognized for properties that provide a natural dye, it is potentially a money spinner for farmers. Karnataka is the biggest producer of areca nut in India and stands to benefit the most.

Dr Jyothi Vastrad, who succeeded Dr Mahale, continued to work on the areca nut dye. Another scientist, Dr Sannapamma K.J., experimented with the dye on banana fibre.

The main ingredient used is a syrup called *adike chogaru* which is made by farmers themselves. Two kinds of areca nut are produced: white and red. The white nuts are those that are harvested when ripe, then sun-dried and peeled. To make red areca nuts, green or unripe nuts are harvested, peeled, boiled and dried. What remains in the boiler at the end is a blackish-red, tannin-rich syrup.

This syrup is bought by local traders, some of them small farmers, by going house to house for as little as ₹5 to ₹12 per litre. It is not sold in shops. While areca nut is priced at around ₹500 to ₹600 per kg, its byproduct, areca nut syrup, is available for ₹70 to ₹130 per kg.

About 200,000 litres of the thick syrup are produced annually. But it is made only in four taluks: Yellapur, Siddapur and Sirsi in Uttara Kannada district and Sagar taluk in adjoining

Shivamogga district. One challenge that scientists face with natural dyes is shade variation in different batches despite using the same dye.

“Flavonoids are the main content in *chogaru* that yield the colour. If we assess the quantity of flavonoids, bringing uniformity in shades is possible. We are working in this direction, and we are succeeding in bringing about uniformity,” says Vastrad, adding that the flavonoid in areca nut is catechin.

How many colours does the areca dye yield? In the eyes of the ordinary farmer, areca nut dye is the colour of the soil. Shalini Goud, a natural dye



Dr Geetha Mahale, the scientist who developed the dye in Dharwad



All in areca colour jackets: The Karnataka governor, Thawar Chand Gehlot, and members of the faculty of the Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences

expert who owns Uga Studio in Bengaluru, says areca nuts produce a range of peachy pink shades. If the fabric is first dyed in iron water, areca nut yields a shade of chocolate brown. The dye can be used on plant-based fabrics like cotton and linen and protein fabrics like silk and wool which shimmer with the areca nut colour.

LOCAL APPLICATION The new dye has caught on locally. Prasanna, a well-known theatre personality, started Charaka, a women's cooperative, in rural Karnataka in 1996 to provide alternative employment to local rural women. The cooperative now employs around 300 women and sells its garments under the brand name Desi. It has eight units where it makes shirts, *jubbas* (a long garment for men), *kurtas* and sarees from cotton and handwoven material. The areca nut dye is widely used by them.

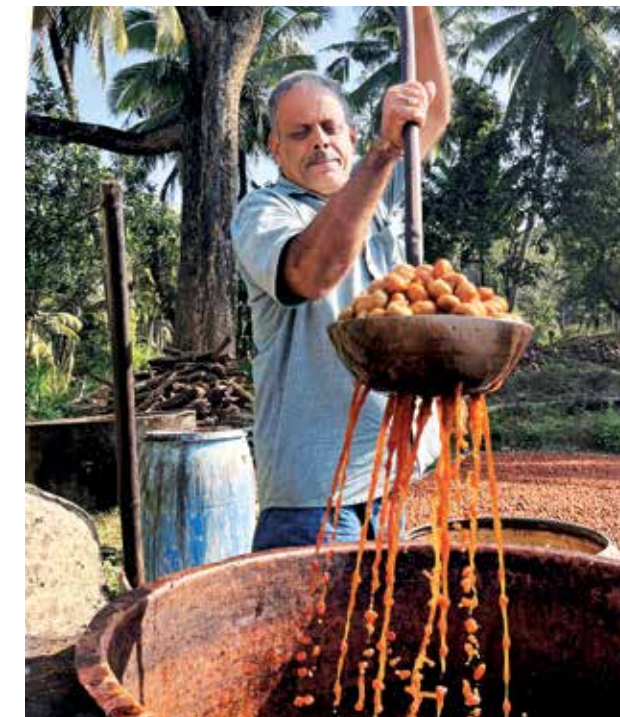
“To dye our materials we buy around 3,000 litres of the syrup every year,” says Padmashree D., who is in charge of marketing at Charaka.

“Areca is our signature colour and the *jubba* our signature dress. We produce around 7,000 *jubbas* and *kurtas* a month, including the ones dyed in areca nut. We still fall short of demand. About 30 percent of the colour we use is only from areca nut,” says Terence Peter, administrative officer at Charaka.

At a recent three-day fair in Puttur, Charaka's turnover was as much as ₹3 lakh. “We use areca nut liquid dye on cotton and silk. It is excellent. The advantage is that the colour is fast and attractive, like a light pink-brown, similar to *kattha* (*Acacia catechu*),” says Padmashree D. *Kattha* is a condiment used in *paan*.

Dye for *kattha* is extracted from the stem of the *Acacia catechu* tree which grows wild in forests. Thousands of tonnes are required every year for dyes resulting in deforestation. In contrast, areca nut is a cultivated tree and *chogaru* is available in plenty, making it more sustainable.

Charaka also produces bedspreads, curtains, quilts, indoor slippers, stoles, and bags, from mobile and tablet pouches to handbags. Recently, the cooperative started marketing its products online as well.



A farmer making adike chogaru, the basic dye

Sidhanth Sodhani has been exporting areca, calling the colour nut brown. He says he gets repeat orders.

RAJASTHAN'S INTEREST Despite years of experience in natural dyes, Sidhanth Sodhani, owner of Sodhani Biotech, a natural dye company in Jaipur, Rajasthan, hadn't heard of areca nut dye. He says his younger brother, Sankalp Sodhani, stumbled on the new colour when he participated in an experiential train journey, the Tata Jagriti Yatra, in 2016. His co-passenger was Santhosh Shedthikere, a young farmer from Sagar taluk in Karnataka. Shedthikere told him about the new colour and mentioned that it was being used at Charaka.

Sodhani got interested and ordered the *adike chogaru* syrup. He sent samples to his customers. The feedback was promising. His company has named the colour 'nut brown' and supplies areca nut dye in a spray-dried form.

For the past five years, he has been exporting nut brown to Turkey, Japan, the US, China and Europe. He claims he has repeat orders. “Nut brown could rise to sixth or seventh place globally among the natural dyes,” he says. Sodhani has bought thousands of litres of the syrup from Shedthikere. Extraction of colour pigments from *chogaru* would reduce transport costs, says Sodhani whose company exports 40 tonnes of natural dyes per annum.

Apart from India, Bangladesh, Bhutan, China, Sri Lanka, Taiwan, Thailand, Japan, Malaysia, Indonesia and Myanmar are using areca nut dye. A minimum of 50 companies globally use the dye. But much of the world is not aware of its properties.

There is also interest in making the fashion industry, which uses copious amounts of water and chemicals, more sustainable. Countries are keen to revive their old traditions of manufacturing natural dyes.

Twelve centuries ago, areca nut dye was used in Japan. Since Japan does not grow the nut, it was imported from Indonesia. The colour obtained was called *binrouji* or 'noble black'.

But Japan, like the rest of the world, shifted from vegetable dyes to chemical ones centuries ago. Japan's natural dye experts are dejected that knowledge of natural dyes has almost vanished. Experts like Aoki and Teshima are trying to rekindle interest and disseminate traditional knowledge of natural dyeing techniques.

In Bhutan, Chandrika Pakhrin, owner of *cdkgyencha*, uses areca nut, called *doma* in her country, to make natural dyes ranging from brown to orange and pink. Her parents grow areca nut on their farm. Pakhrin exports her garments to Europe, mostly to Spain and Japan.

In Taiwan, Pingtung University of Science and Technology studied the use of this dye by tribals 15 years ago. Loy Xuan Zang, director, says clothes made with areca nut are costly to buy. *Wa.Textile*, a fashion brand by designer Wo Yiling, sells exclusive areca nut-dyed dresses.

In China, the town of Zhongpi is hoping to reverse migration by becoming a natural dye hub using areca nut. The number of people chewing betel nut has declined in China. Since 2016, areca nut-dyed apparel is being produced there to earn more income, says Lin Shujun who owns a studio in the town. In Thailand, Zhamhaus, a natural dyeing company in Bangkok, produces furnishings from areca nut dye.

FROM SAREES TO TOYS Realizing the potential of *adike chogaru*, *Adike Patrike*, a 35-year-old farming magazine, ran a series of articles to create awareness about the dye among the farmer community. It also contacted research institutes and textile industries, requesting them to carry out trials with areca nut.

The onus of providing samples fell on the magazine. There was a hitch, though. Since areca syrup is a liquid, courier and lorry companies refused to transport it. So it requested some farmers to sun-dry the syrup into tiny crystals.

Persistent efforts paid off. More than 20 textile units and companies began conducting trials. Some have concluded their experiments. The results are encouraging, and have been reported in almost every issue of the magazine, which eventually compiled all our articles into a book on *adike chogaru*, published recently. Included were interviews with two Japanese natural dyeing experts on the areca nut dye.

Traditional crafts, like the Kalamkari textiles of Andhra Pradesh and the toys of Channapatna, have taken to the dye. In the old days Kalamkari craftspeople used only vegetable dyes. But in recent years, chemical colours and screen printing have been replacing manual block printing.

Shyamala Arts and Crafts in Pedana in Krishna district of Andhra Pradesh, is one of the few who have retained traditional methods of Kalamkari. Its owner, Pitchuka Srinivas, is an internationally known artisan who exports his products. "I had used areca nut dye decades ago by cutting the dry nut into pieces and boiling it. The result with areca nut syrup powder is better. *Supari* dye enhances Kalamkari art," he says.

To conserve Kalamkari in its traditional form and impart knowledge to the next generation, Srinivas has converted a room in his house into a Kalamkari museum. One of his exhibits, Tree of Life, has won accolades.

Recently, Srinivas decided to use areca nut dye as the background colour for replicas of his Tree of Life display. His business partner in the US was so happy with it that he bought three of

the art pieces for \$120 each. Srinivas now plans to incorporate areca nut dye in all products being exported to the US.

"We will explain what areca nut is to our customers and how the colour is extracted. Automatically, word will spread across the globe," he says.

Sankalpa Art Village in Visakhapatnam used the dye in the tie-and-dye method for some shirts and *churidars*. The clothes sold quickly at an exhibition. "We are very pleased with its colour and fastness. We plan to start a small natural dye business. We will definitely be using *supari* dye," says Chalapathy Rao, owner of Sankalpa.

Rao, in fact, proposed testing the dye on Etikoppaka wooden toys and asked us for areca nut dye powder. This gave us the idea of also



Masaki Aoki, Japanese natural dye expert

'Areca is our signature colour, the *jubba* our signature dress. About 30 percent of the colour we use is only from areca,' says Terence Peter of Charaka.

approaching the toy makers of Channapatna.

We requested B. Venkatesh of Beereshwara Arts and Crafts in Channapatna to use the areca nut dye on toys. The experiment turned out to be a success. "Generally, we use *kattha* to get a brown colour for our toys but it doesn't give a uniform colour, areca nut dye does," says Jameelya, Rao's daughter, who studied product design in Dehradun. "Our artisans too were happy with it." Gilaka, a toy for toddlers, was made using areca nut dye and it has been bought by a reputed toy company in Bengaluru, she said.

The areca nut dye has also found acceptance amongst the weavers of the Guledagudda *khana* (*khana* means blouse piece) and Ilkal saree in Bagalkot district of Karnataka. Both these traditional weaves have been dying.

Ramesh Ayodi, a young weaver, is struggling to revive the tradition. He has started a group called Khana Weaves and has a page on Instagram. He is also taking part in exhibitions of naturally dyed fabrics. Ayodi is using areca nut dye for both the sarees and blouse pieces in silk and cotton. "We are getting repeat orders. A small group of *Khana* lovers has come up," he says.

"Earlier I used pomegranate, *manjistha* (*Rubia cordifolia*) and other plants as natural dyes," says Ayodi. "But areca nut dye is more attractive and has sheen. More studies must be done. For textile printing we



need to find out whether areca nut syrup or the powder is better. For transporting syrup, one has to hire a vehicle since lorry services don't take it. This makes it very expensive. Such challenges have to be addressed."

Inspired by the response to the trial products, Khana Weaves has decided to produce different types of areca nut-dyed sarees for the next three months. These sarees, though in small numbers, have already hit the market.

Sufian Khatri, an internationally renowned *Ajraakh* specialist from Kutch, too has taken to the *supari* colour. His family have been *Ajraakh* artists for 10 generations. He recently bought 100 litres of this dye for more trials.

MORE RESEARCH As a result of *Adike Patrike's* campaign, three research organizations are conducting studies on the areca nut dye: the Textile Engineering Department of the Rural Engineering College in Hulakoti, Karnataka; ICAR's Central Institute for Research on Cotton Technology (CIRCOT) in Mumbai; and the Institute of Chemical Technology, also in Mumbai.

Natural dyes are catching on globally. But for areca nut dye to take off, it faces two problems: first, it is not well known and, second, it is not available in a ready-to-use form.

Farmer Producer Organizations (FPOs) need to come up, set up a company and market areca nut syrup. The present dye can be used for dyeing yarn. For block printing or fabric printing the dye has to be converted into a paste.

But for mechanical printing in factories, the quality of the dye has to be far superior. It should not contain any alien particles, sand or impurities. More research is needed to take areca nut dye to this level of sophistication.

That would also mean improving the quality of areca nut syrup or *chogaru*. Ninety percent of areca nut farmers sell their *chogaru* as a diluted liquid. They do not condense it under the sun because that requires a lot of effort. The income from *chogaru* is meagre since the market is in the hands of middlemen. To earn more they will need to condense the areca nut syrup and sell it through their own organization. Subraya V. Danageri, a farmer from Yellapur *taluk*, has been selling *adike chogaru* only after condensing it. "Last year, we produced 400 litres. We sold it to Campco for ₹36,000."

If the farming community wants enhanced income, it will have to start condensing *chogaru* in a professional way. It needs to know how best to process *chogaru* into a qualitative concentrate or sun-dried powder suitable for the textile industry.

Also, nobody knows how to retain the strength of the pigment for a long time. Agricultural universities have to be roped in to carry out studies to improve the processing.

TAKING THE PLUNGE The Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences in Shivamogga has taken the initiative to organize a national workshop on areca nut dye. This

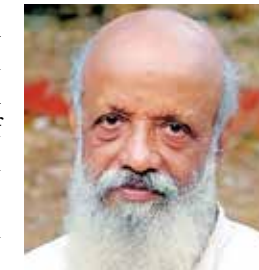
university was the first to promote areca nut dye by wearing areca-dyed jackets for their convocation earlier this year, even getting the Governor of Karnataka to don one.

"We will initiate more research on areca nut dye," assures Dr Jagadeesha R.C., vice-chancellor. "For the national workshop, we will invite all stakeholders like handloom weavers, exporters, areca nut farmer organizations, natural dyeing experts and so on. The workshop will have hands-on training sessions on dyeing. Policy papers will be prepared and proposed."

Other dyeing experts are trying to popularize the colour. Jagada



Jyothi Vastrad



Prasanna



Pitchuka Srinivas



Charaka makes and sells clothes dyed in areca under its brand name Desi



An Ilkal cotton saree by Khana Weaves



The dye can be used for block printing


Rajappa, a veteran in natural dyeing in Hyderabad, trains people in natural dyes. She has conducted two workshops on the areca nut dye for farmers in West Bengal and Rajasthan.

"Areca nut yields a good dye. In West Bengal no one knew of it. I give it top priority because it is locally available. We can popularize it through workshops and demos," she says.

There are other exciting experiments happening. Kolkata's ultra-fine muslin sarees are going to be dyed with areca. The banana fibre cloth makers of Bengaluru, a lotus stem fibre cloth company in Manipur, the Pen Kalamkari company of Kalahasthi are all on the verge of using the new colour. But for areca to become a money spinner, farmers will have to take the initiative to organize themselves.

Instead of being cursed for defiling walls and causing health issues, areca nut can acquire a new lease of life as an alluring colour. Instead of ruining walls it can pretty up cloth. The areca nut will then be the pride of Karnataka and its farmers. ■

Censorship and self-censorship



DELHI DARBAR
SANJAYA BARU

THE problems for democracies, observed an editorial in the inaugural issue of the national newsmagazine *India Today* (December 1975), “is to decide where freedom begins and responsibility ends....What a handful would consider suppression, millions of Indians do seem to consider emancipation.” That quotable quote is not about India today. It was, in fact, *India Today* magazine’s view half a century ago.

Launched in the midst of Prime Minister Indira Gandhi’s Emergency Rule, as I have recently recorded in my book, *India’s Power Elite: Class, Caste and a Cultural Revolution*, the first issue of the newsmagazine sang paeans to Indira’s democratic authoritarianism, very similar to what it now does in praising Prime Minister Narendra Modi’s.

The magazine quotes an unnamed political leader to say, “We can use the Emergency to boost tourism in India. The slogan for publicity campaigns should be: Come to India to see the Emergency. There has never been anything like this in any democracy before.”

The editors of this newly launched magazine would not rest content with such endorsement of the stifling of media freedom. *India Today*’s editors made bold to declare: “There has been worldwide concern about the curbs put on the press since the Emergency. Mrs Gandhi has repeatedly said that she does not want to muzzle the press. But, the problem for democracies is to decide where freedom begins and responsibility ends....” The magazine then assured its readership that “As the Emergency continues, press censorship rules are gradually being relaxed to allow *constructive* criticism of government policies.”

Being anti-government was regarded even

then as being anti-national. The BBC was targeted then. It is targeted now. In the recent past many journalists have suffered the consequences of reporting news that has been critical of elected politicians in power, of government functionaries and institutions. It has become commonplace for many among the middle class to take the view that the media should only do positive journalism and eschew negative journalism. “Constructive”, as *India Today*’s editors said in 1976.

There is, however, one fundamental difference between then and now. During the Emergency the Union and State governments



Censorship is less transparent but what is worse is the high degree of self-censorship

It was said during the Emergency that when asked to bend, they were willing to crawl. Today, many crawl with pride.

had officials designated to handle censorship. Today, censorship is less transparent but what is worse is the high degree of self-censorship. It used to be said of the media even during the Emergency that “when asked to bend, they were willing to crawl.” Today, many in the

media crawl with pride.

When a former governor of a major state goes on record to raise important questions about the role of senior central ministers in a situation relating to national security, prominent media persons taunt the gentleman wondering if it is a case of sour grapes. The issue at hand itself gets brushed under the carpet. The focus is shifted to the credibility of the person in question. All this is done brazenly, without embarrassment.

If the two media institutions I name in this column have come to epitomize submission to authority, there are many more that indulge in self-censorship in subtle and inobtrusive form. As one editor told me, “say what you would like to, but please do not mention any names.” While there is some attention being paid to overt and covert censorship and self-censorship at the national level, little attention is paid to the far worse situation at the provincial level.

Most media moguls in Indian language media are members of the local ruling dispensation, and of local land, real estate and liquor mafias. Their stranglehold on media is more direct and devastating. The provincial media may be free to openly criticize the opponents of the local ruling dispensation but will not be allowed to turn a critical gaze at the government next door. Thus, a Kolkata paper can freely criticize a Mumbai politician but rarely feels free to be able to criticize a local politician. Freedom is assured as long as the media lens is outward and focused at distant threats to media freedom.

If print is in bad shape, television is worse off. Television news anchors have become entertainers both on screen and off-screen at glitzy media events where media moguls and senior journalists compete with each other to flatter ministers of the government and play courtier. Prominent newsmen display with pride the personal attention that the PM or his chosen few are willing to bestow on the journalist by merely turning up at a wedding reception or a media event.

Continued on page 25

With AI, a zero-sum game?



LOOKING AHEAD
KIRAN KARNIK

TECHNOLOGICAL singularity, an idea first advanced by mathematician John von Neumann, is when technological growth becomes self-sustaining, irreversible, and practically beyond the control of humans. The years 2030 or 2045 represent two extremes of estimates of when “singularity” will happen.

Scientist Stephen Hawking expressed fears that AI (artificial intelligence) may mean human extinction. Visionary inventor Elon Musk too has opined that it may be an existential threat. These thoughts have, just a few days ago, been reinforced in an open letter by a thousand tech leaders, asking for its greater regulation. The question is no longer whether AI will overtake human intelligence, but only when this will happen.

Even in its comparative infancy, AI has demonstrated immense capabilities to perform, even replace, some human functions. What simple automation — and now, increasingly, sophisticated robotics — is doing on the shop floor in manufacturing, AI is beginning to do in offices. AI with Generative Pre-trained Transformer (GPT) has already moved up the value chain and demonstrated its ability to not only edit, but also to author a report or write a story given a few basic facts or pointers. In a rudimentary manner, it could well replace sub-editors and coders. Creative writing too is part of its skillset.

GPT4 and ChatGPT are creating waves in industry, with companies rushing to see how they can best be used, even as others are preparing to face serious disruptions in their business models. Many are worried about jobs that may disappear and some about the ethical issues and legal tangles that may ensue. There is discussion about the biases that may be unintentionally introduced by its creators and — because it learns from data (the more, the better) — by the datasets it uses.

A household example of its capabilities: feed it a picture of some ingredients from your kitchen and it will suggest a variety of recipes for what you can make from them. In a recent interesting experiment at the Indraprastha Institute of Information Technology, Delhi (IIIT-D), in a human versus AI contest, students were pitted against AI for diverse tasks: painting a picture, composing song

lyrics, and writing a recipe for a given prompt. The output was assessed by eminent judges from the relevant field, who were not told which was a human effort and which an AI-created one. Even in its present early form, the AI-generated (Dalle2) paintings fared well with certain themes (around 30 percent).

The song composed and presented by two young musicians for the AI-generated (ChatGPT), with lyrics inspired by Javed Akhtar’s style, was among the winners. Similarly, the recipes generated by Ratatouille, an AI product from research on computational gastronomy (yes, with a “g”; a name coined and popularised by Prof. Bagler of IIIT-D), tricked expert chefs into thinking they were authentic.

Clearly, as the pace of technological progress accelerates, the capabilities of AI are going to



The capabilities of AI are going to be truly mind-boggling

be truly mind-boggling. Some of this will contribute to greater human good, as technology has generally done. Historically, it has also resulted in more and higher quality livelihoods (better-paid, less arduous), despite temporary disruptions in the job market. With technological singularity, might we see a change in this too? With AI as a competitor of humans, will jobs shrink?

After all, the efficiency, speed, continuous learning, and tireless 24/7 work capability of AI will be superior to that of humans for many functions. Also, AI and robots don’t fall sick, take days off, or agitate about something. If a robot (or programme) is faulty, it can be immediately removed and replaced without worrying about organisational motivation, retirement/retrenchment benefits, etc.

Upgrading and updating are possible in quick time and at short notice. The result could be that humans become redundant for many production and service roles.

In such a scenario, what role would humans have a few decades from now? A good option may be to change the rules of the game. Instead of human intelligence competing with AI, our best bet may be to get AI to compete against human stupidity!

This sounds ludicrous but is a serious proposition, because one area in which humans have an edge is in disruptive innovation, invention, and imagination. These are vital, but facets that AI is not adept at — not yet, at least. And these three i’s inevitably come from asking “stupid” questions (like why an apple falls down, or why the sky is blue), or from “stupid” dreams (imagining heavy objects flying and humans travelling through space to reach the stars), or “stupid” thoughts (inventing the printing press, light bulb, or computer).

Creativity is another important human characteristic, and one to which we may devote ourselves in a jobless but prosperous future. But, as noted in the IIIT-D contest, this too is an area in which AI may excel. Curiosity, a vital seed for discovery and invention, may continue, though, as a human preserve for some time.

As AI advances further, the best future may be a human-plus-AI one, rather than a zero-sum contestation. The danger in this is the vast scope for misuse of AI by pranksters, ideological or terrorist groups, companies/organizations, and even nations. As in biological research, AI could do great good (think vaccines), but could be misused (like viruses engineered to create sickness).

Further, it is not impossible that some AI bot or app turns “rogue” and breaks free of the boundaries set by its human creators, in a modern-day rebirth of Frankenstein’s monster. More insidious is the way AI can create fake news and facts, complete with images and voices that are indistinguishable from the real ones. As these go viral, concepts like “facts”, “evidence” and “truth” may lose their very meaning. This raises deep ethical and philosophical issues.

Like climate change, irrespective of who causes the problem, the impact of AI will be global and even species-threatening. Here too, there is need for urgent and extensive debate about the implications, impact, and correctives; and, consequently, the desirability (inevitability?) of some sort of regulation, enforced globally. ■

Kiran Karnik is a public policy analyst and author. His most recent book is “Decisive Decade: India 2030, Gazelle or Hippo”.

Map and save water bodies



LIVING RIVERS

VENKATESH DUTTA

these wetlands are afforded the protection and conservation they so urgently require.

During my survey of wetlands in several districts of UP, I discovered that many water bodies had been leased out by the revenue department to local fishermen and farmers for fisheries and aquaculture. However, as the water levels began to decline, these farmers began to cultivate the wetlands instead. Unfortunately, the leases were never cancelled and in many cases, the land was even sold to property dealers for housing projects. This trend was widespread and I observed it in almost all the wetlands I surveyed.

One particularly egregious example was a 150-hectare wetland called Karela Jheel in Mohanlalganj, located in the southern *tehsil* of Lucknow, which had been encroached upon by



Wetlands are a crucial component of our landscape

farms and settlements. When the administration was informed of this, they cited law and order problems in removing the large-scale encroachments.

Wetlands are crucial components of our landscape, functioning like the kidneys of our ecosystem — naturally filtering wastes and playing a critical role in maintaining freshwater habitats. These sites serve as biodiversity hotspots, freshwater reserves, carbon sinks, and sources of livelihoods. Additionally, they aid in mitigating the impacts of climate change and extreme weather events. Nature has designed them to store surplus water during rainfall, making them valuable in protecting us from flooding.

They are often undervalued because their ecological services, such as water filtration, habitat provision, and carbon storage, are not easily quantified in monetary terms. Thousands of such water bodies in India are outside the reserved forest or protected areas. They are still waiting to be recognized as protected water bodies. They are easy targets for encroachment. The land development agencies are also not bothered to protect them

as these common property resources are sources of money for them.

Even in older revenue maps and satellite imagery, the boundaries of such water bodies are clearly marked. Yet, they remain vulnerable to exploitation by land developers and real estate agents, who see these areas as opportunities for housing projects and commercial complexes. No wonder every year we are losing wetlands by 3 to 4 percent. In the past four decades alone, we have lost almost one-third of wetlands in our country.

The loss of wetlands is a complex issue, influenced by a range of factors including population growth, urbanization, industrialization, and agricultural expansion. In many cases, wetlands are seen as underutilized land whose landuse can be easily converted to farming, housing, and commercial development. Another challenge is the lack of adequate legal protection and enforcement for wetlands. In many cases, wetlands are not recognized as distinct ecosystems in their own right and are instead viewed as wastelands or unproductive areas. This means that they are often left out of conservation planning and management efforts, and are vulnerable to encroachment and degradation.

The Wetlands (Conservation and Management) Rules, 2017 were notified by the Ministry of Environment, Forest and Climate Change (MoEFCC) in September 2017 to safeguard wetlands across India. According to these rules, it was mandatory for all districts to establish a district-level Wetland Authority for the management of wetlands at the local level. A State Wetland Authority was also created to oversee wetland management at the state level. The district magistrate is the chairman of the District Wetland Authority and is responsible for ensuring that no activities leading to wetland destruction take place. The authority has the power to impose penalties for any violations. However, the actual implementation of these rules has been far from satisfactory. In several districts, these authorities have not yet been established, and even in those where they have been, meetings have not taken place.

Accurately mapping all wetlands across the state is a crucial step in the process of restoring them. Proper land records also play a key role. Fortunately, with the help of satellite and drone technologies, creating digital records of wetlands, rivers, and connected water bodies has become much easier. ■

Venkatesh Dutta is a Gomti River Waterkeeper and a professor of environmental sciences at Ambedkar University, Lucknow

The frozen SMILE schemes

BHARAT DOGRA

THE Ministry of Social Justice and Empowerment has initiated a well-intentioned scheme for two sections of marginalized people — those engaged in begging and transgender people. Named Support for Marginalized Individuals for Livelihood and Enterprise, this long name has been abbreviated very creatively to SMILE. The objectives of the scheme are laudable but it has not yet succeeded in bringing any smiles to those it is intended for.

The reasons are not difficult to understand. In the scheme for the rehabilitation of those engaged in begging, the budget allocation has been going down quite drastically — from ₹100 crore in 2020-21 to ₹50 crore in 2021-22 to just ₹15 crore in 2022-23.

What is even more important is how actual spend has gone down even as allocation has declined. In 2020-21, against an allocation (or budget estimate) of ₹100 crore, the spend was zero. The next year, when the allocation was ₹50 crore, the spend was ₹0.05 crore. For 2022-23, the data for the first nine months up to December 31, 2022 shows that only ₹0.26 crore had been spent.

Such low utilization is very unfortunate as much can be done for the welfare of beggars. It is well known that many of them have been forced by circumstances into begging and some child beggars may even be victims of organized gangs. Hence, in most cases, rehabilitation efforts would be very useful, although sometimes rehabilitation may involve rescue as well.

Apart from rescuing beggars, particularly children, who may be in the clutches of organized gangs, there is also the urgent task of reviewing the cases of those homeless or poor persons who have been wrongly picked up or targeted during anti-begging drives. Then there is the related task of reviewing some laws which increase the possibility of injustice being

done to poor and homeless people in the name of such drives.

There are several experienced social workers and organizations, lawyers and legal aid organizations as well as senior or retired officials who can contribute much to human rights work related to this issue. They can also contribute to creative humanitarian rehabilitation efforts, giving new hope to thousands of persons who have been badly caught up in unfortunate circumstances which force them to survive on begging, often in conditions of homelessness or near-homelessness.



Money can be gainfully deployed to mitigate begging

The two schemes for the homeless and for transgender people are laudable but even the modest allocation has not been spent.

This effort can also be linked to the wider issue of sheltering all homeless persons. If the entire amount of ₹150 crore allocated for this scheme in the past two years had been spent creatively, involving the best available expertise, a great deal could have been

achieved. But only ₹0.05 crore or ₹5 lakh was spent, making hardly any impact.

As for 2022-23, with reduced allocation of only ₹15 crore and spend upto December 31, 2022 of only ₹26 lakh, there is not much evidence of any crucial work being done. But, learning from this dismal experience, it is important to remove the problems which have hampered effective utilization of funds so far and make a new beginning this year. The allocation of ₹20 crore in 2023-24 should be raised at the time of preparing the revised estimate so that a promising beginning can be made this year regarding this important but neglected scheme which harbours considerable potential.

The same can be said for the other component of the SMILE scheme which deals with the welfare and rehabilitation of transgender people. In this case, although the overall allocation is very little, it has been going up steadily for four years from ₹10 crore in 2020-21 to ₹20 crore in 2021-22 and ₹30 crore in 2022-23 and finally ₹53 crore in 2023-24.

It can be claimed that the allocation for this scheme has increased by over five times within four years, but such a claim would actually be quite misleading. If we look at the actual spend, it has been so inadequate that there has been hardly any achievement under this scheme.

Spend was nil in 2020-21, ₹1.9 crore the next year, and in financial year 2022-23, upto December 31, 2022, only ₹0.03 crore or just ₹3 lakh. Here too necessary remedial action should be taken to remove bottlenecks. Financial year 2023-24 offers a good opportunity to do this as the allocation is at its highest at ₹53 crore.

These sub-schemes of SMILE were launched with good intent and need to be taken forward with remedial action without delay so that the faces of marginalized people can actually light up with a smile. ■

Bharat Dogra is Honorary Convener, Campaign to Save Earth Now. His recent books include 'Man over Machine' and 'A Day in 2071'.

Censorship and self-censorship

Continued from page 22

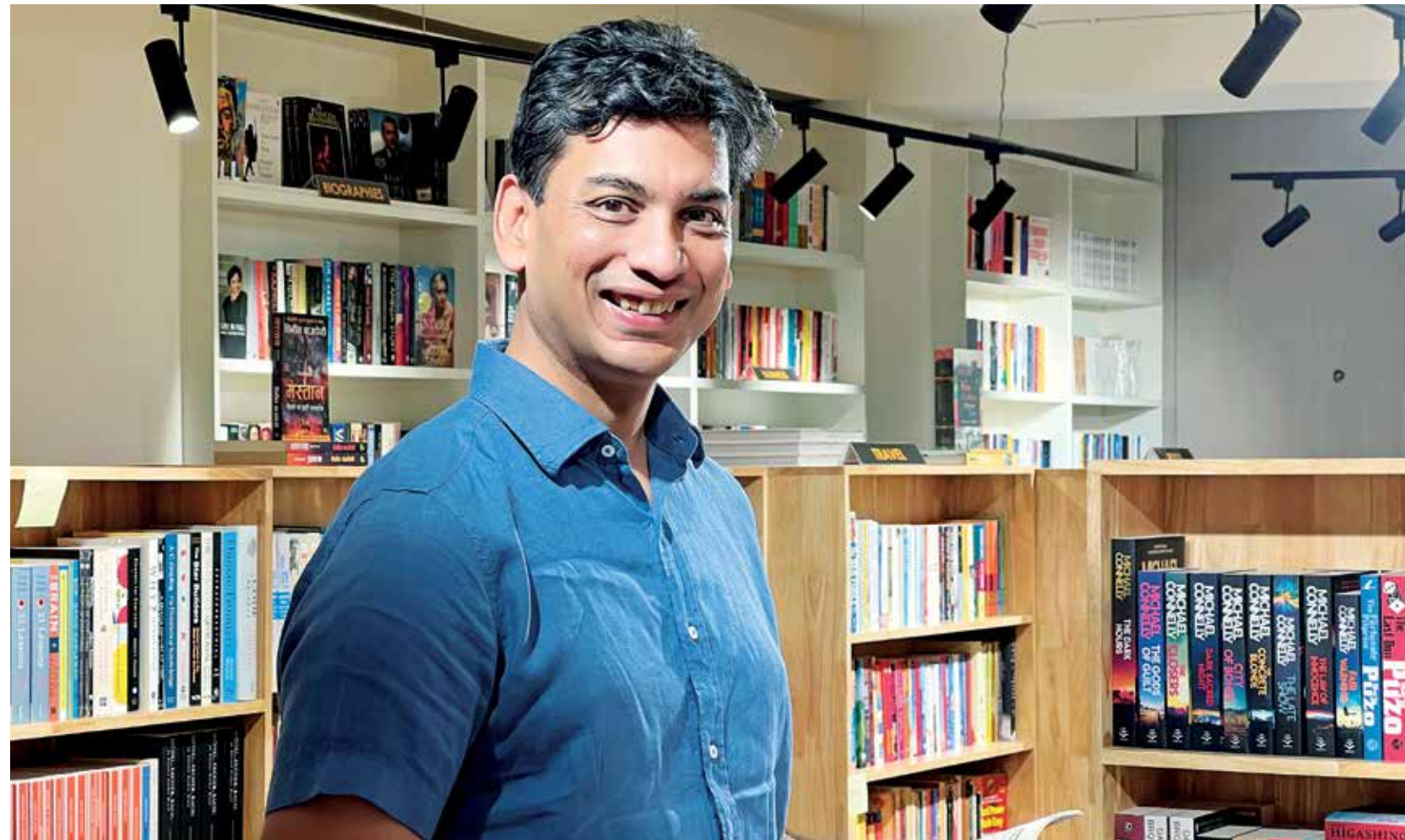
Another media mogul that I refer to in my book (*India's Power Elite*) is Samir Jain of the *Times of India* group. In the 1990s a joke that many of us working at Times House shared was an alleged remark of Jain. Asked if the *Times of India* was pro-establishment or anti-establishment, I recalled, it was jokingly said

that Jain's reply was, "We are neither pro-establishment nor anti-establishment. We are The Establishment."

The joke was told as a sign of how seriously the newspaper took itself. When Arnab Goswami joined *Times Now* as an anchor, he was encouraged by the Jains to declare at prime time, "The Nation Wants to Know." The channel spoke for The Nation. The same venerable institution now plays courtier in the

present ruling dispensation's daily Darbar. The usually reticent senior Jain became voluble at a recent media event in the presence of the PM, offering him arguments in support of the ruling political party's ideology. The media will not question the ideology of the ruler. It will henceforth defend the ideology and propagate it. Four Legs Good. Two Legs Bad. ■

Sanjaya Baru is a writer and Distinguished Fellow at the United Service Institution of India.



Ajay Jain: Staying debt-free, keeping overheads low and owning the real estate

Beating the bookstore curse

Ajay Jain's Kunzum is a new survival model

KAVITA CHARANJI

AT a time when bookstores are rapidly closing across India, Kunzum is a rarity. It is Delhi-NCR's fastest growing chain of bookstores. In fact, the first Kunzum bookstore opened in Hauz Khas Village in March 2022, just after the pandemic forced ailing bookstores to finally pull down their shutters.

Two months later, in June, another four Kunzum bookstores popped up in quick succession — in Jorbagh, Vasant Vihar, Greater Kailash-2, and at DT Mega Mall in Gurugram's upscale Golf Course Road.

What could possibly have inspired Ajay Jain, author, traveller and photographer, to open so many bookstores?

On the face of it, with bookstores in decline, the timing of Kunzum's entry into the book

market couldn't have been worse. Big bookstores are feeling the pinch of exorbitant rentals, while fierce competition from online platforms like Flipkart and Amazon, and e-books are proving to be impossible competition for bookstore owners.

But Jain has turned the common bookstore model on its head. He buys the real estate where his bookstores are located and frees himself from the tyranny of high rentals. His stores also offer the experience of being among books and aren't blandly transactional. Book buyers become part of a community. He is also upbeat about the book business and is setting his sights on the future in the belief that people are actually reading and the printed book is far from dead.

"I read an assessment somewhere that bookshops are not failing, bookshops run by

lazy booksellers are failing," says Jain. He explains that even in technologically advanced countries like the US, audio books and e-books account for barely 15 percent of all books sold and read. More than 80 percent of books that people read are still in print form.

In the relaxed ambience of the Kunzum bookstore in south Delhi's Greater Kailash you can browse, read or buy a book that catches your eye over a leisurely cup of coffee on the house.

You can spot Salman Rushdie's *Victory City*, Prince Harry's tell-all book, *Spare*, actor Kabir Bedi's memoir, *Stories I Must Tell: The Emotional Life of an Actor*, and historian and writer Ramachandra Guha's daunting tome, *India After Gandhi*.

There are well-stocked sections of classics, graphic novels, bestsellers, coffee table books,

children's books, titles on films and music, travel, science, environment, self-help books and books for management types, basically everything you might want. The second floor showcases the best of Penguin titles worldwide. And on the third floor there is Theatre Kunzum, a space for live events.

Jain says he didn't want to set up just another bookshop. "We wanted to have a space that addressed a larger purpose which was to promote readership, make people come in, browse books in a relaxed atmosphere and strike up conversations. With narrow aisles, most bookshops are stocked top to bottom with books. Customers just enter for transactions and if you just focus on a bookshop which is transactional in nature, then it is no different from Amazon," he says.

Though the Kunzum bookstores were launched recently, their roots go back to the iconic Kunzum Travel Café in Hauz Khas Village. Started by Jain in 2010, the café was originally a private gallery for his own photographs and books. It was a 'pay as you like' space for slam poets, musicians and other creative types to hang out and hold events. Soon he had created a little community in Kunzum Travel Café. Business looked good with almost 200 events a year.

Then the pandemic struck, and Jain was back to square one. He used that time to rethink his future. He felt that he could leverage the Kunzum Travel Café brand and community angle to set up a chain of bookstores. A side perk of the business was the opportunity to sell his own books, like his novel *Nikita*, a coffee-table title *Indians* and a slim self-help book, *Don't Feel Stupid at 60* — to name a few.

Instead of scouting for places on rent, Jain decided to sell off family property and reinvest the money in his bookshop venture. That gave him freedom from commercial pressures and landlords squeezing him for higher rents.

"I decided to operate these businesses in an old-fashioned way by using the wisdom of our fathers and grandfathers, like staying debt-free and keeping overheads low," says Jain. Otherwise, he explains, his rental overhead would have been 30-40 percent of the overall running cost. "The only reason why legacy bookstores like Bahrsons and Faqir Chand survive is because they own the property," he says.

So, Kunzum isn't just another run-of-the-mill bookshop. It is pitched on the tagline, 'Curation, community and convene'. You can take your time to ferret out books you'd like to read.

Frontline community managers add a personal touch as they discreetly interact with buyers and suggest titles when customers are confused about what to choose. There are leather-or cloth-bound classics, plus bestsellers and graphic novels. You'll find *The Diary of Anne Frank*, *1984* and a host of others in



Browse books at your pace



Filmmaker Onir at Kunzum



Kabir Bedi interacts with his readers

graphic form at Kunzum.

"I am trying to promote graphic novels. They are catching on because they are easier to read than in text form," says Subir Dey, Kunzum's curator-at-large who also organizes events and author interactions at the bookstores.

"The idea is to evangelize a return to reading of books that has tended to die down because of the instant gratification offered by OTT platforms," says Dey.

His view is that traditional bookstores are in trouble because they haven't evolved over the years. In contrast, Kunzum is a lively bookstore. It has a 40-member team constantly on their toes when discerning customers ask for special or new editions of books.

It also organizes book launches, discussions,

readings, workshops, music gigs, poetry slams and more at its five bookstores, all of which attract locals.

Readers get the opportunity for face-to-face interactions with authors, designers, editors, publishers and other creative personalities at events.

Popular draws in the recent past at GK-2 have been interactions with Daisy Rockwell, American translator of 2022 International Booker Prize winner *Tomb of Sand* by Geetanjali Shree, and charismatic actor Kabir Bedi.

Jain's marketing strategies to promote Kunzum books are smart and fun. The Kunzum CEO Book Club promotes a corporate reading culture through regular events. That includes invitations to corporate leaders to talk about their favourite books. There is even an LGBTQ themed book club. Then there's the Pre-Loved Book section, like a free library, that allows the buyer of every four new books to borrow one, keep it for as long as they choose and exchange it for another.

For children there is Kunzum Book Bees with its sessions of storytelling, creative writing, book readings, contests, interactions with authors and designers, games and prizes. Some of the clever initiatives for children, says Deepti Tandon, Children's Programme Manager, are reading parties and 'passports' that are stamped when young readers cross a certain number of books they have bought and read.

The Kunzum Travel Café has been rebranded as a bookshop in Hauz Khas Village, even as the others gather momentum. Though sales have been good since Kunzum opened shop, the time is opportune for going into overdrive, Jain believes. He is open to the idea of a franchise model but only if partners can take forward the culture and ethos that Kunzum has so carefully crafted. ■

Birds of a neighbourhood

NATURE WATCH

WHEN buildings come up and neighbourhoods change, what do birds do? We mostly don't know unless you are someone like Dr Sonal Malhotra, a microbiologist, for whom watching birds is a serious hobby.

Some years ago, he identified 80 species of birds in the leafy neighbourhood of Palam Vihar in Gurugram, where he too lives. Recently, he set out daily on his bicycle, helmet on and torch and camera handy, to find out how many of those birds remained.

Over the month of March, he found that very few were still around. Somewhere the branch of a tree had been chopped off, buildings had come up, bushes had vanished and the odd pool from a leaking sewer that had resulted in a marsh was no longer there. The birds had all found reason to move on.

A worrisome departure is that of the common sparrow. Why would it want to leave? But then there are birds that have gone and come back. The story of the Spotted Owlets is particularly interesting.

This owlet couple occupied the hollow in a neem tree near a Mother Dairy booth. They were visible to anyone willing to stand still long enough and keep looking up. They had many babies in the neem tree's hollow. It was a quiet corner till a couple of big plots changed hands and four-storied residential buildings began coming up.

Disturbed by the construction, the owlets moved on and Dr Malhotra could not sight them, even during the pandemic when things had quietened down during lockdowns and birds were generally aplenty.

But when he was out in March making a tally of the birds, he found the owlets had returned to the neem tree and occupied the hollow once again. The buildings have been completed. Now they are out every night hunting just like they used to.

"For two years, 2020 through 2022, I did not notice any nesting activity. Interestingly, once the housing construction was almost complete, I noticed the owlets had reappeared. They reside and breed at the tree from November through April," says Dr Malhotra.

Species that typically thrive in an urban environment and can still be found in Palam Vihar are the mynahs, crows, kites and pigeons. So marking them present is not important.

What is nice are the surprises. A vacant two-acre plot, for instance, has attracted birds. Dr Malhotra has spotted the Rufous Indian Flycatcher with its long tail here. Found nearby also is the Rufous Shrike. It's common, he says, to hear the shrill call of the Ashy Prinia here



among the bushes but not spotted it. Similarly he hasn't been able to spot the Grey Hornbill, but he has heard its call and so it is definitely around. So also with the White Breasted Kingfisher and Coppersmith Barbet which can be heard but not seen.

Birds he hasn't been able to spot or hear and therefore don't seem to be around are the

Common Drongo, Common Hoopoe, Black-shouldered Kite and the Honey Buzzard.

Honest and meticulous as might be expected of a man of science, Dr Malhotra emphasizes that birdwatching is just a hobby for him. He is not a specialist. It is quite possible that some of the missing birds will resurface in other seasons. But for now they seem gone. ■

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.

Dolls to remember



Kirat Brahma

WHAT's a doll with a past? A heritage doll. Meet queen Gowdung Rani, fearsome female warrior Gambari Sikla, the kingly Sikhona Joholaw, and more. They are mythical and historic characters from the folklore of the Bodo community in

Assam. Lovingly handmade, the dolls have been designed by Kirat Brahma, a graduate of the National Institute of Design in Ahmedabad.

There are contemporary and stylish dolls here too like Shillong Ni Alasi and Bodofa UN. Along with little girl dolls, pretty butterflies and other soft toys that would catch the fancy of any child.

"Children today are playing with Doraemon, Spiderman, and all kinds of Western toys. If they play with toys that come from their heritage, how educative that would be. The toys would engage them and they would also acquire knowledge about their culture," says 32-year-old Brahma.

"The limitation of local content, especially for children, has resulted in the death of many rich cultural heritages," he says, ruefully.

Brahma comes from a village close to the Bhutan border in the Bodo Territorial Region called Ranga Pani (red water). Its Bodo name is Gizwadwe, he emphasizes. Brahma's father was a schoolteacher and farmer.

When he was three he was sent to Kokrajhar to live with his uncle and study at Sister Margaret Novel School. Brahma then joined the government's Navodaya School. It was his art work that caught the attention of his teachers. He was catching fish, one day, when he came to know he'd been selected for NID. Brahma travelled to Ahmedabad. "It was a transformative experience," he recalls.

He studied film and animation and then set up Free Folks Studio with a tribal from Jharkhand and a Wanchu tribal from Arunachal to focus on tribal art. The trio shifted to designing adult colouring books which did well but by then Brahma had

decided to return to his roots and work for his people.

He set up Zankla Studio as a social enterprise. It works with weavers, artisans and storytellers to revive Bodo culture and make it contemporary and appealing. The dolls are made with local cloth woven by hand and fashioned into dolls by artisans.

"All the toys are made from locally sourced material, wherever possible. Using traditional fabrics/dresses woven in the traditional method by locals is an addition to these toys."

The toys can also be decorative items, souvenirs, and collectibles.

The dolls are also used for animation films with a storyline. "Instead of playing with a borrowed character from the mainstream, our kids can play with toys that come from our roots," he says.

Brahma's social enterprise helps the local economy by providing jobs. He also has plans to expand his business by making customized toys. Zankla Studio is located in a place called Simla, close to Brahma's ancestral village which has no internet connectivity.


The dresses are traditional, the faces are all Bodo and so are the names. From deep within the forests of Assam, Brahma is igniting interest in Bodo culture and putting a smile on the faces of children. ■

Contact: 7099026484
Email: zanklastudio@gmail.com
Address: Zankla Studio, Rangapani, Baksa – Bodoland, Barpeta, Assam




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.

BE A NUTRITION CHAMPION

 Matri Sudha works in Delhi's slums to fight malnutrition. Almost 57 percent of children in such areas are anaemic. Matri Sudha has trained local women to be Nutrition Champions. They reach out to pregnant and lactating women with advice on nutrition. They identify children who are malnourished and ensure they receive proper nutrition. The NGO also works with anganwadi centres.


Matri Sudha has been giving needy families Poshan Kits. Each kit costs ₹1,200 and contains 5 kg rice, 5 kg wheat, 2 kg dal, 1 litre cooking oil, 250 gm masala packets and 1 kg salt. Pay ₹1,200 for a kit and ensure that at least one family is hunger-free.
www.matrisudha.com
matrisudha2000@yahoo.co.in
+9199101-44337

NUTRITION THE LOW-COST WAY

 In 1974, the Child in Need Institute (CINI) began to treat malnourished children in Kolkata with Nutrimix, a low-cost nutritious food. They realized that malnutrition was a social issue and not only a health issue. CINI takes a life-cycle approach to health.

Intern with CINI and help them with documentation, website management, action research, data analysis and fundraising.
www.cini-india.org | cini@cinindia.org
+919330020997


DO YOUR BIT FOR ONLINE FREEDOM

 Join Internet Freedom Foundation (IFF) in defending online freedom and privacy. The foundation was born out of the SaveTheInternet movement for net neutrality. IFF has campaigned for an adequate privacy law. It wrote to the Parliamentary Standing Committee for a human rights audit of

Facebook India. It took up the cause of students of the National Institute of Fashion Technology who complained that their college's social media policy curbed freedom of expression. IFF is based out of Delhi. But wherever you are you can donate and volunteer. Just shoot them an email.

www.internetfreedomfoundation.in
donate@internetfreedomfoundation.in
8527968287, 9990000256

BE A FRIEND TO FRIENDICOES


 Help stray dogs by helping Friendicoes look after them. Friendicoes runs a shelter in New Delhi's Defence Colony, for 200 stray dogs, an out-patient clinic for injured animals and a 24/7 ambulance service for stray dogs in distress.

Friendicoes nurses strays back to health and finds them loving homes through their adoption programme. In Gurugram, their sanctuary houses nearly 1,000 animals who have nowhere else to go.

Friendicoes needs volunteers who can walk dogs, help their staff with the adoption programme or people who can foster an animal for short periods.

You could organize a fundraiser for Friendicoes or donate yourself. You can also donate an old car, old furniture, food and medical supplies, cameras and laptops.
www.friendicoes.org | volunteers.friendicoes@gmail.com | 011-2431-4787

GET A PATIENT OFF THE STREET


 Poverty and mental illness are twin challenges. In Kolkata, Iswar Sankalpa, founded in 2006, provides affordable mental healthcare to the urban poor. When a poor person loses his home and income, there is a chance he could be suffering from a mental disorder.

Iswar Sankalpa's two shelters house nearly 1,000 men and women. The NGO also helps

rehabilitate mentally ill people by providing vocational training facilities.

It runs Crust & Core, a bakery, and Nayagram, where women do farming to earn a living. Iswar Sankalpa works with the Kolkata Municipal Corporation to integrate mental healthcare into primary health centres in the city.
www.isankalpa.org | info@isankalpa.org
033-24597451

LEARNING TO CARE FOR ANIMALS


 A sick cat shows up at your door. Or an injured bird falls into your garden.

What do you do? Most of us fumble for answers. Stray Relief and Animal Welfare (STRAW) India wants to change that through animal welfare education.

They collaborated with the Central Board of Secondary Education and other state educational boards and introduced a module on humane education. Their Compassionate Classrooms programme has reached thousands of children across India.

STRAW organizes nature walks to familiarize children with the natural world. There is also an animal helpline to counsel pet owners and coordinate rescue operations of injured animals. You can volunteer or donate.
www.strawindia.org/home.aspx | contact@strawindia.org

DECENT FAREWELL FOR YOUR PET


 When a loved pet passes away, it is always a challenge to perform the last rites. In Delhi we discovered Paws to Heaven, a crematorium, which does a wonderfully sensitive job. There is a prayer room and a picture wall too.

Paws to Heaven is on Bund Road in the Chattarpur area of Delhi. It is an electric crematorium where the ashes of your beloved pet can be collected in an urn and given to you the next day.

The original support for this essential service came from BSES Rajdhani, the power company, under its corporate social responsibility (CSR). Now it needs the love of animal lovers.

www.pawsindia.org | paws@pawsindia.org
011-26895737, 09810036254


FROM STREET TO SCHOOL

 CHETNA works for street children and homeless children in Delhi. It has contact points where the children are taught formal subjects and encouraged to take part in sports. When the child is ready, he/she is mainstreamed into government schools.

CHETNA is also a Childline partner, which means that if a child needs to be rescued, they show up. They run workshops with all stakeholders. One of their programmes helps make the police child-friendly. They run two centres to help children dealing with substance abuse. Your donation can take a child from the street to school.

www.chetnango.org | info@chetnango.org
91-11-41644471, 41644470

RICE LOVER? GROW A DYING VARIETY

 Did you know that there are nearly 100 indigenous varieties of rice in Tamil Nadu, all with their own nutritional properties? Some varieties are pest and drought resistant, others provide energy and stamina and some are given to pregnant and lactating mothers for nutrition.

The Centre for Indian Knowledge Systems is working to conserve the biodiversity of rice. It plants each variety of rice every year, and in more than one part of Tamil Nadu so that no variety is lost in calamities.

With just ₹15,000 you could adopt a rice variety at one location and ₹30,000 at two locations.
www.nammanellu.com | 9940008356 | ciksbalu@gmail.com

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Our journey of partnering the nation's aim to build a technically skilled youth base, is now in its 10th year. Our Industrial Technical Institutes of Tamar (from 2012) and Jagannathpur (from 2017) have ushered a rigor in this vocation among rural youth and in particular, girls from tribal belt in Jharkhand. The need is strong, and so is the appetite to create more bases (the third at Chandil, from 2022), to provide many more trained hands for a resurgent India.

**More than 650 youths
trained and the
journey continues!**

