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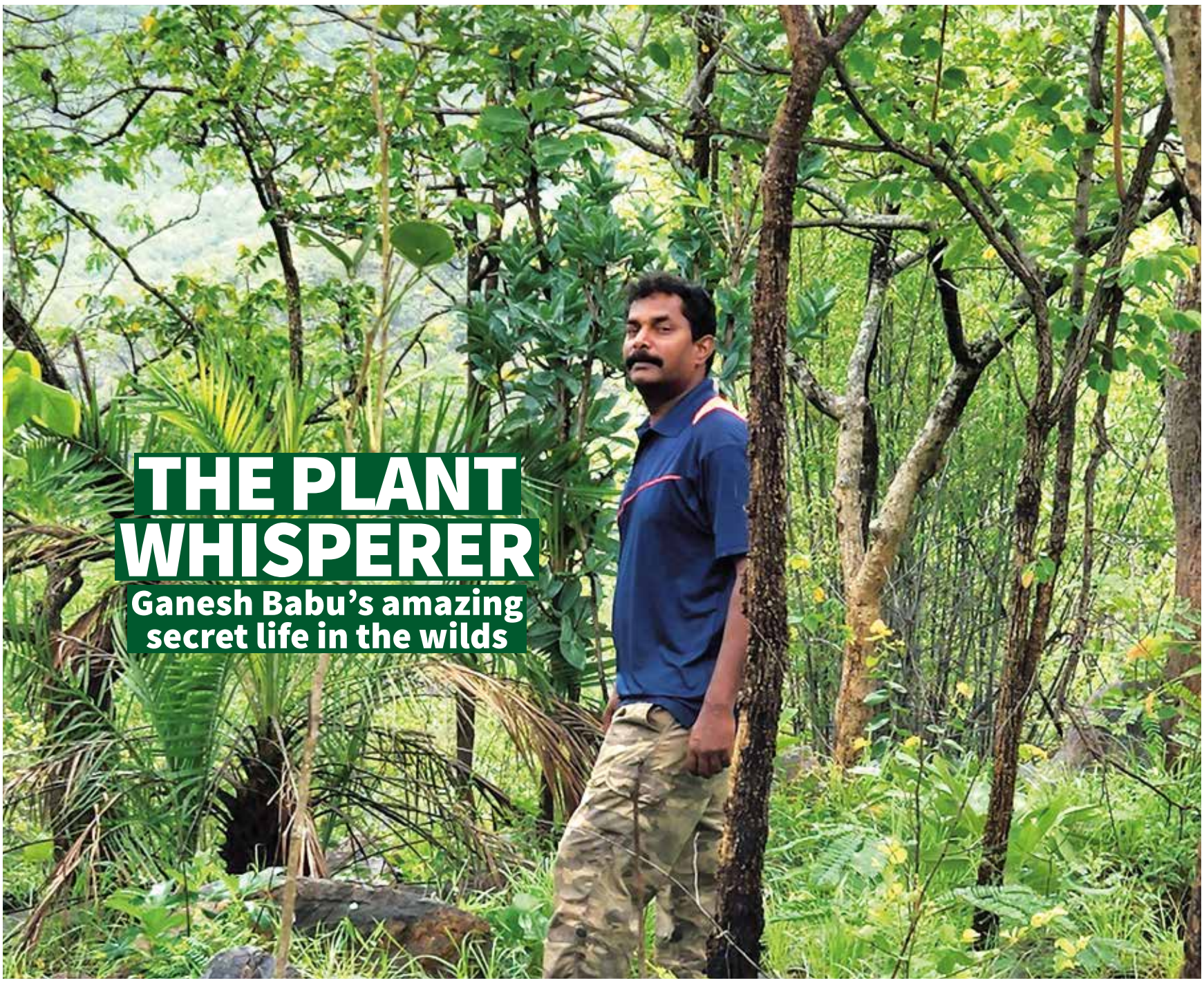
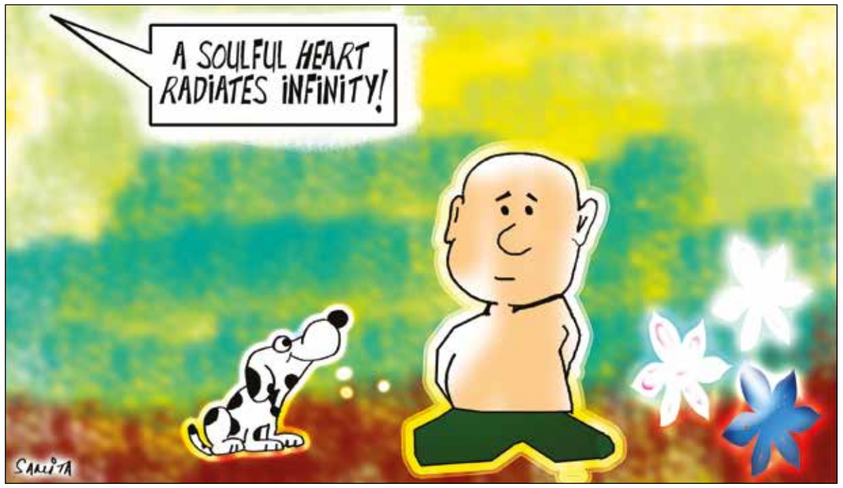


THE PLANT WHISPERER

Ganesh Babu's amazing secret life in the wilds

IN THE LIGHT

SAMITA RATHOR



LETTERS

Dogs rule

Your cover story, 'The Stray Dogs Tangle,' is very timely. Citizens across India are extremely harassed by the massive population of stray dogs. Incidents of dog attacks and bites are very, very common. The ABC Rules are totally flawed and should be scrapped. The municipal laws have to be enforced immediately if human lives are to be saved. It is the duty of the courts to prioritize human life over that of animals.

Vineeta S.

I am a dog lover but I strongly feel it is cruel to let dogs roam uncontrolled on the streets. A few dog lovers here and there have done nothing substantial to ameliorate the sufferings of stray dogs who are left to fend for themselves. For the dogs it is a daily battle for survival for food and shelter. Dogs get into territorial fights, they have untreated injuries and psychological problems leading to aggressive behaviour against local humans. Street dogs should be corralled by the municipal authorities and taken care of by providing shelter, food, medical care and population control measures.

I am also against pet dogs being kept in postage stamp-sized residential flats. Animals, by instinct, need large open spaces to thrive. Keeping them confined in a small space is cruel. A live animal can never be a substitute for a teddy. We need logical and effective laws to deal with both stray dogs and pet dogs. Breeding of pet animals should also be regulated.

P.K. Roy Chowdhury

A very detailed and well-researched article. Yes, something needs to be done urgently. But the government lacks the will to act. Ramkumar, Meghna Uniyal and people like them need to be commended for their courage in taking on this issue. As a friend after a particularly fierce and sharp exchange with a dog activist, said, dog lovers are people haters! They use the excuse of being animal lovers to get at people. They use guilt and coercion to get them to comply. We have had clashes between stray dog lovers and those who supported pigs. The municipal corporation was caught in the crossfire.

Purnima Joshi

Rights and duties go hand in hand. People who feed strays or advocate that they be left on the street, should simultaneously guarantee the safety of human beings. In our selfish altruism we can't forget to be humane to humans. Perhaps dog pounds could be the way forward. Dog lovers could manage them.

Aarti Singh

I work with the aged and run a consultancy for the elderly. Stray dogs are often the reason aged people stop going to the local parks to walk. This is detrimental to their health.

Harshbir Rana

Street dogs should be adopted by dog lovers and kept in their home. Street dogs should not be fed in the open.

Amitabh Anand

A very well-laid out article. However, you should do a second piece on solutions to the problem of having stray dogs roaming wild on our streets.

Narasimha Reddy Donthi

This is a biased article.

Rishi Dev

We also have a stray dog issue in Turkey. It's a horror show on our streets. The 'spay and release' programme is not working obviously. This terror must end as soon as possible. In the last eight days three people were killed by stray dogs — a two-year-old baby, an elderly person and a disabled one. Dog feeders don't care about human lives.

Canli Yayin

Be it at my friend's house in Mumbai, my house in Chennai or my friend's house in Madurai, stray dogs are ferocious everywhere. Due to them I have even stopped wearing bright colours like red, yellow or orange. I stopped jogging in the morning since there are stray dogs around, the roads are empty and there is no one to save you if the dogs maul you.

Siddharth

Dying rivers

There is so much most of us don't know about rivers. Venkatesh Dutta's article, 'Rivers need groundwater', was an eye-opener. How do we get more people to know about this? And this is important, if we are going to save the community and the country from disaster in the near future. This is a good starting point initiated, as usual, by *Civil Society*!

Walter Vieira

Corrections

Civil Society stories are extensively vetted and copy edited but, regrettably, errors do creep in despite our best efforts.

In the interview of Srinivas Kodali it was wrongly stated that he had worked with UIDAI. Kodali has worked on UIDAI, documenting it, and been a close observer of how Aadhaar is used and misused.

In our cover story, 'The Stray Dogs Tangle', Meghna Uniyal's name was wrongly spelt with an extra 'n' as Unniyal.

—Editor

Letters should be sent to response@civilsocietyonline.com

COVER STORY

THE PLANT WHISPERER

Ganesh Babu is an insider to the world of plants. He talks to them, nurtures them like few know to do. A botanist by training, he has played a key role in creating a repository of 1,500 medicinal plants. 14

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Civil Society
READ US. WE READ YOU.

The plant world

So much attention has our page on medicinal plants attracted from readers over the past year that we decided to put the man behind it on the cover of this issue of *Civil Society*. Ganesh Babu is a gifted botanist and an insider to the world of plants in ways that go much beyond the botanical knowledge that he has at his command. He is intuitive and insightful and deeply connected to traditional medicine and its use of plants for public healthcare. Medicinal plants are under threat for two reasons: poor preservation and diminishing knowledge about their uses.

What we know about them has come from how communities have cultivated them and used them. But that is changing even though Ayurveda and folk medicine continue to meet public healthcare needs on a large scale.

Ganesh plays an important role in creating awareness about plants. By identifying them and preserving them, as has been done at the repository created by FRLHT in Bengaluru, he is also instrumental in making them available for future generations. Ganesh makes a yet bigger contribution by acknowledging his mystical and subliminal connections with the plant world. He talks to them and connects with them in ways in which he believes they remain in communication with one other.

Books like *The Hidden Life of Trees* and *The Secret Life of Plants* have explored plants in this dimension. Ganesh lives it in the course of his ceaseless journeys of discovery. Thanks to the work done by Ganesh and FRLHT, tens and thousands of homes and schools in south India have been growing and using medicinal plants. This is seminal work which should be applauded. A bridge is also created by such efforts between western science and traditional Indian systems of medicine. The future of healthcare is in such integrative initiatives.

Our interview with Kabir Vajpeyi provides several insights into the functioning of anganwadi centres. At stake here is the integrated development of the child from an early age which has been further underlined by the New Education Policy. Kabir and his wife, Preeti, are architects who 26 years ago began using their skills to enhance learning through better design of government schools. For the past seven years they have been employing that valuable experience to improve anganwadis. In our interview Kabir provides a ringside view of the many challenges that anganwadis face, from badly designed kitchens to dysfunctional toilets and unsafe water supply.

Finally, we received much appreciation and some criticism too for our story on stray dogs. To take our stray dog coverage further we have in this issue a feature on how dogs are harming wildlife in sanctuaries. So, it is not just an urban problem but one that is engulfing the country and needs to be addressed quickly.

Publisher
Umesh Anand

Editor
Rita Anand

News Network
Shree Padre, Saibal Chatterjee, Derek Almeida, Jehangir Rashid, Susheela Nair, Kavita Charanji

Desk & Reporting
Surmayi Khatana

Layout & Design
Virender Chauhan

Cartoonist
Samita Rathor

Write to Civil Society at:
A-16 (West Side), 1st Floor, South Extension Part 2, New Delhi -110049.
Phone: 011-46033825, 9811787772
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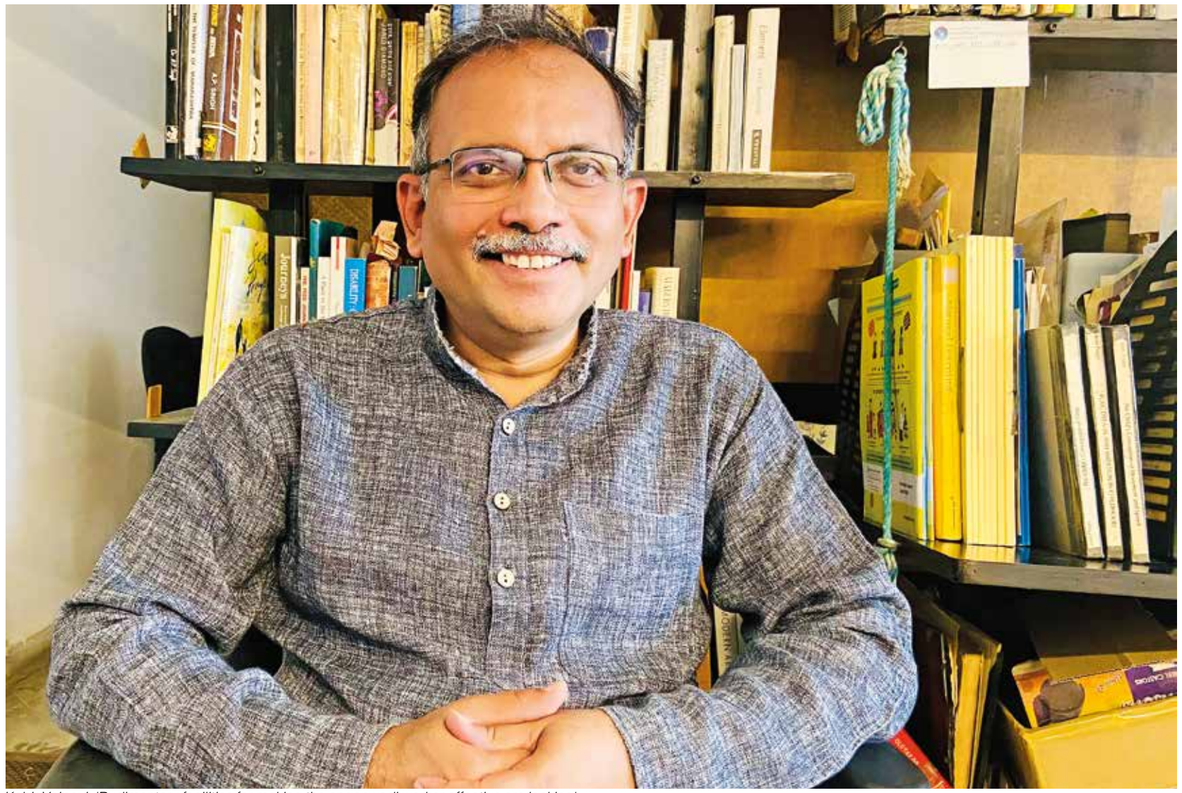

Kabir Vajpeyi: 'Rudimentary facilities for making the anganwadi worker effective are lacking'

‘We have not understood the value of child development’

Kabir Vajpeyi on what is lacking at anganwadis

Civil Society News
New Delhi

For the past seven years, Kabir and Preeti Vajpeyi have been involved in bringing architectural and design changes to anganwadi centres so as to make them more child-friendly and inclusive.

With the New Education Policy’s emphasis on early childhood development, their work acquires yet greater significance. More than ever, anganwadis now need to be vibrant and creative places where pre-school children begin the process of learning and development.

The Vajpeyis are public-spirited architects who have in the past used their training to transform government schools through low-cost solutions. All of 26 years ago they were involved in a programme in Rajasthan to enhance learning in government schools at minimum cost. From that effort came BaLA or Building as Learning Aid, a programme widely adopted by state governments.

As in BaLA for schools, the Vajpeyis have explored design solutions for anganwadis, which are mostly neglected and lacking in infrastructure.

To understand the challenges involved in improving anganwadis, *Civil Society* spoke to Kabir Vajpeyi in an extensive interview, an extract from which appears below:

You have been working for several years on the infrastructure needs of anganwadis across states. In what condition do you find anganwadis in general?
I am first going to talk about the state of anganwadis as an institution, based on my experience. The anganwadi centre is the dissemination point of the Integrated Child Development Services (ICDS) scheme.

The ICDS programme is a very important programme. It has been conceived more holistically than many others. It looks at child development in connection with so many critical aspects.

It addresses the early-age child, the infant, the mother, the caregiver, the family, and, even before that, the adolescent girl who might become a mother later.

But the focus and attention such a well-conceived programme deserves is lacking. You don’t often see focus in the programming or in the financing or on the ground.

So what do you think is lacking in the implementation of the concept?
I think it is the intent to engage with the issue of child development holistically. We have not really understood the value of child development and what it means in the later phases of life for everyone.

There are studies which show that if you invest wisely in the finer details of implementation and monitor quality, the returns are nine to 15 times for every rupee spent. Good programming translates into effective childhood development, education, health, employability, livelihood and so many things. So it has a huge economic spin-off.

What are the three or four things that you think must be quickly done in terms of implementation?
I think engagement is needed to really develop a child. The capacity of our anganwadi workers needs to be enhanced and augmented.

So are you saying they’re not trained enough?
They come with experience, but they need more systematic knowledge which they can use to transact with children on the ground. For instance, they may often think children are supposed to be very disciplined and sit quietly. I mean, at the pre-school stage children are meant to explore their environment and not sit quietly and be disciplined.

Rudimentary facilities for making the anganwadi worker effective are lacking. Often, she fights a lone battle. At times, for days together, she may be bringing food from her home. There might be several things she might be doing out of sheer dedication and affection for the children. The state of anganwadis is the culmination of several shortcomings in the system. Unfortunately, the blame and focal point is on the anganwadi worker.

Nutrition is key to the programme, but if you look at the kitchen and where the food has to be stored you will often find rodents, dampness and all kinds of things percolating there. Why? Because nobody in the system ever thought of securing it properly.

Take the simple example of water. We did a study in Rajasthan, West Bengal, Bihar and Maharashtra. We found that the local panchayat or municipal authority was not fulfilling its responsibility of providing water to the anganwadi. As a result, the anganwadi worker or her helper had to fetch water from her personal resources. She’s supposed to be a voluntary worker who gives four to six hours of her time every day. But 25 percent of that time is spent in organizing water instead of being focussed on the core activities of the anganwadi.

Under the national curriculum framework for early childhood care and education, outdoor activities are given high importance. They involve play, engaging with nature and so on. They’re so critical at that stage. Such activities are not just about physical development but about social, emotional, cognitive development. You develop self-confidence. You develop social engagement by way of playing. You learn to negotiate.

Now, the significance of that outdoor space is just not understood. It is not for the anganwadi worker to first understand it. It is for the system, for the people who are sanctioning, financing and planning the anganwadi to understand it and then only can it percolate.

You are saying that the programme needs to be better conceptualized and managed?
It is well conceptualized. But, yes, management needs attention. There’s another aspect to the anganwadi story which is alarming. It is corruption and it is across states. Every anganwadi worker is supposed to pay the higher-ups and the money comes from the food they buy. Imagine, we are stealing from the very food that is meant for the youngest members of our society! This is outright shameful and outrageous. How do we stoop to such a level?

> ‘From the overall ration amount she gets, the anganwadi worker has to pay a cut to higher-ups. It’s the system which is responsible for this.’

In which states is this happening?
I mentioned Bihar, West Bengal, Rajasthan and Maharashtra. From the overall ration amount that she gets, the anganwadi worker is supposed to pay a cut to the higher-ups. I feel it’s the system which is responsible for this, and not this lady, the anganwadi worker. She is forced to do this.

What is the relationship between infrastructure, which is your domain, and the successes and failures of this programme?
What we’re trying to do in different states has to do with the infrastructure at an anganwadi level. But, yes, certainly we try to look at the linkages. We are adapting and augmenting existing anganwadi spaces so that all services under the Integrated Child Development Services programme are delivered more effectively.

I’ll give you an example. If we find that there is severe malnutrition in a particular district or block or project area, we try to identify deficiencies from the infrastructure perspective.

My take would be, what can we grow on the anganwadi premises to take care of some of this malnutrition? What nutrients are deficient which can be grown at home and on the anganwadi premises using whatever minimal resources are available?

Do you get to connect larger health concerns with the lack of infrastructure?
Not always, but I’ll give you an example from Rajasthan. We discovered that many of the adolescent girls who were also going to an anganwadi for counselling and other support were experiencing urinary tract infection.

There were two reasons. One was that the anganwadi was located in the school, where the sanitation facilities were not good. So these girls were either not coming to the anganwadi when menstruating or, when they were, they were holding their urine because the toilets were so bad. They couldn’t go back home to use the toilet because that would mean having to cover one or two kilometres.

There was a toilet there, which was part of the anganwadi system. But it was not designed for use by multiple users such as mothers, very young children and the adolescent girls. An investment had been made in the toilet but it was dysfunctional. So while the programme is clear that toilets are needed for children, adolescent girls and mothers, in fact they are designed for none of them!

It is claimed that water is reaching a whole lot of schools and anganwadis. What would you say about water quality or the manner in which it reaches the schools?
There are a lot of issues around getting water. In most cases the direct source of water itself is not there or if it is there, it is often dysfunctional.

The quality of water is supposed to be tested by the PHED (Public Health Engineering Department) at every anganwadi. But, invariably, when we asked for the report, the schools and the anganwadis said they had never seen a report from the PHED about the quality of the water they were drinking. And when we asked the PHED about it, we never found that report anywhere. Somebody must have conducted the test for sure, but we could never see it. That’s our finding.

So, in Dungarpur and Barmer, two districts in Rajasthan where we could not get PHED reports, we decided to conduct tests ourselves. Fortunately, there was some old data prior to 2014 which was available on the website of the Central Groundwater Board and some other sources about the quality of water in every gram panchayat. So some of our team members dug up that data and they discovered high

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levels of fluoride and chloride.

We conducted tests ourselves and involved the school functionaries, children and their science teachers. We also invited some of the people from the local village community.

Our tests showed alarming levels of fluoride. We then drew samples and asked the PHED to conduct tests in its laboratory. As per the results, all the parameters matched our findings, except for fluoride. The fluoride level was shown by the PHED as normal when, in fact, it was very high. The ground evidence of this was showing up clearly in the deformed bones and teeth of children in these areas. How can we allow this?

When it comes to the quality of food, are we faced roughly with the same kind of problem?

There is more than one model under which the anganwadi provides the supplementary nutrition. One is where there is a centralized kitchen somewhere, perhaps run by a Self-Help Group (SHG) or some central entities who are making the food and then supplying it, perhaps at the village level, the cluster level or even at city level. So it is not really being cooked within the anganwadi.

Anther model is when food is cooked at the anganwadi. In that case, funds are provided to the anganwadi worker to procure the raw materials. Some food is provided by the department through the Food Corporation of India (FCI), for instance, oil and cereals. But the anganwadi worker has to procure vegetables and the like on her own. In some cases, they are doing a very good job. I've tasted the food myself, sitting with them. It was very well cooked and very well served.

But, in many cases, there's a numbers game. They would show a figure on the register and say this is the number of children who are enrolled (and present). But actually those children do not ever come to the anganwadi because nobody actually invites them there. Meals are being prepared only on paper, not in reality.

So the ingredients for the meals are all procured and then sold. The anganwadi worker gets part of that money and the rest goes up as part of that corruption process I mentioned.

Another kind of food distribution is pre-packed foodstuff meant for distribution to malnourished and undernourished children in the anganwadis. These orders are bagged either by SHGs or by some central agency and provided to the anganwadi centres.

I don't think there is much pilferage happening in this model. I haven't gone into the nitty-gritty of how pre-packed food is procured. I have seen some of the packing units in rural areas by SHGs and they were quite meticulous. ■

WILDLIFE IS ATTACKED BY ROVING DOGS IN SANCTUARIES

Meghna Uniyal
Pune

OVER the last decade much has been written about India being the stray dog and rabies capital of the world. The free-roaming dog population in India was estimated to be an astounding 60 million dogs in 2014 and there are now daily reports of stray dog attacks on citizens. However, what has largely gone unreported and even ignored is another unwitting victim of the country's free-roaming dog population — wildlife. What is being reported is only the tip of the iceberg as attacks are documented almost entirely by chance by wildlife photographers and tourists.

An Invasive Alien Species (IAS) is a species non-native to any ecosystem that causes harm to wildlife or human interests. An IAS threatens biodiversity, causing decline or extinction of native species through competition, predation and diseases. The IUCN includes domestic dogs as IAS and have declared such species to be the second greatest threat to wildlife globally after habitat loss. Free-roaming dogs have contributed to the extinction of as many as 11 vertebrates. Of about 200 species said to be threatened by free-roaming dogs, 30 are classed as critically endangered, 71 endangered and 87 vulnerable in the IUCN Red List of at-risk species.

A large number of Protected Areas in India are now overrun by free-roaming dogs that are involved in direct predation of adults and juveniles, plundering of nests, competing for prey, hybridization and transmission of diseases. Free-roaming dogs now threaten numerous Schedule species of wildlife, including snow leopards, the iconic black-necked crane, the critically endangered Great Indian Bustard, Asiatic lions (a species not found anywhere else on earth), blackbuck and numerous other species.

"Because of their instinctive nature, dogs will still form packs, and chase animals, either for food, or for fun. Such encounters can have potentially deadly effects on wildlife, either through direct killing, or by constant harassment and stress," says Abi T. Vanak, conservation scientist at ATREE (Ashoka Trust for Research in Ecology and the Environment), Bengaluru, who studies the impact of free-ranging dogs.

A 2017 research project conducted by ATREE titled "Canine Conundrum: Domestic dogs as an invasive species and their impacts on wildlife in India" was the first sub-continental-scale assessment of the impacts of dogs on native species in India. The research revealed 80 species of wildlife have been attacked by domestic dogs, out of which 31 are listed as 'threatened' on the IUCN Red list, including four critically endangered species.

A recent survey of stray dogs published in the *Journal of Threatened Taxa 2019*, in and around Ranthambore National Park, showed 86 percent of surveyed dogs having distemper antibodies in their blood, indicating the probability of the dogs acting as a reservoir for the deadly disease, fatal to tigers. A 2018 Tiger Task Force report revealed that in 17 out of 35 Tiger Reserves in India, camera traps showed more dogs than tigers. The National Tiger Conservation Authority (NTCA) admitted that "dogs are a threat to both ungulates (which they hunt) and to carnivores, since they carry infectious diseases like rabies".

Free-roaming dogs now threaten snow leopards, the iconic black-necked crane, the Great Indian bustard, Asiatic lions and other species.

How did we get here? The 2001 Animal Birth Control Rules of the Ministry of Culture (a ministry that has nothing to do with animal control) forces authorities to release unowned dogs back wherever they were collected from, regardless of whether they've bitten, attacked or even killed a citizen or animal. The ABC Rules prohibit the removal and euthanizing of unowned dogs, a strategy used successfully as part of animal management the world over and which is in accordance with Municipal Acts and the Prevention of Cruelty to Animals Act in India.

Inexplicably, the Ministry of Environment and Forests has abandoned its mandate under the WPA and allowed the same ABC Rules to be implemented in areas with wildlife, despite ABC Rules having failed to protect people or reduce the dog population over 20 years. Sterilization does not prevent dogs from hunting and killing wildlife and is a massive expense to the exchequer for no gains whatsoever.

Thus, despite the almost draconian Wildlife Protection Act, that defines 'hunting' as even chasing wildlife, the policy governing the management of dogs, including those that hunt wildlife, falls short profoundly. Today, a tribal can be jailed for poaching a deer whereas an unowned dog is vaccinated and released for the same offence as per even NTCA guidelines, in a likely healthier state to continue depredations.

"Free-ranging domestic dogs have emerged as the greatest threat to wildlife around the country and relevant sections of the Wildlife Protection Act must be implemented to remove them from PAs to protect wildlife," says M.K. Ranjitsinh, India's leading wildlife conservationist and author of the country's Wildlife Protection Act.

'*Canis lupus familiaris*' translates to 'dog of the household' and are a species meant to be owned. Loyal and affectionate, dogs are highly popular pets worldwide. However, as free-roaming animals, not under human supervision and control, they pose a serious danger to people, livestock and wildlife via direct predation, diseases, faecal contamination, accidents, noise pollution and attacks. Globally dogs in unowned contexts are removed and then sheltered, adopted or euthanized.

All the benefits that dogs bring as companion animals are undone by forcing them to be homeless, coming into conflict with and attacking people and other animals. Unowned dogs themselves suffer terribly, at the mercy of the elements, diseases, accidents and retaliatory attacks. The continuation of the unscientific and ineffective ABC policy is a disaster for both people and animals. ■

Meghna Uniyal is Director & Co-founder, Humane Foundation for People and Animals

Photo: Civil Society/Vikas Patil

Dogs killing a chital around the Dandeli Wildlife Sanctuary in Karnataka

Photo: Civil Society/Kalyan Varma

Dogs hunting an Indian Wild Ass and its foal in the Rann of Kutch in the Thar desert

Photo: Civil Society/Neeraj Mahar

A dog eyes black-necked cranes in Changthang Cold Desert Sanctuary, Ladakh

Town with a unique cradle

Shree Padre
Kalaghatagi

KALAGHATAGI, a small town in Karnataka's Dharwad district, is famous for its beautiful cradles. Made with teak wood and painted in vivid natural colours, the craft dates back several centuries. The town is proud of its cradles and recently its municipal council decided to make the Kalaghatagi cradle its official logo.

"We have taken a decision, but we are yet to make an official announcement," said Y.G. Gaddi Goudar, chief officer of the Kalaghatagi Municipal Council (KMC).

What makes these cradles unique is that they are baby-friendly, attractive and long-lasting. The wood used is high quality teak. The colours are natural and extracted from vegetable dyes. No nails are used. Bright colours and patterns make the cradle an instant attention catcher.


Maruthi Badiger at work. Natural colours and teak wood are used.

Another attraction is the drawings on the side panels of the cradle. Depending on customer preference, the craftsman draws Krishnavathara, Dashavathara, Rama Panchayath or Shiva Panchayath on the panels. Since the craftsmen are skilled artists, they paint the drawings directly on the wood without any prior sketches.

These cradles are rather expensive. Those with stands are priced at around ₹75,000. Those which can be hung with ropes from the ceiling cost between ₹20,000 and ₹25,000.

Due to lack of demand, the cradle-makers were on the verge of giving up their craft. Fortunately, in recent years, there has been some revival of interest.

Thirty-five years ago, when I visited Kalaghatagi to write a story on these famous cradles, I had met 80-year-old Gangadhar Peeraji Sawakar when I visited his house in Chitragara Oni (Artists' Lane). He was painting an old cradle which, he said, his father, Thammanna Sawakar, had made and sold for just ₹5, sixty years earlier.

It would take eight to 20 days to make a cradle. But, despite demand, there weren't many families involved in this traditional profession even at that time. "We earn only ₹100 after a week of work," a cradle-maker said. "The Kalaghatagi cradle is becoming history."

Last month, when I happened to pass by Kalaghatagi, I didn't think I'd see any cradles being made there at all. But locals told me they were still being made though only by one family. They led me to Shridhar Sawakar's house in Chitragara Oni.

Thirty-year-old Shridhar turned out to be Gangadhar Sawakar's nephew. He said his is the sixth generation proficient in the craft.

Shridhar, a graduate, took up his uncle's profession after the latter fell ill. His own father passed away last year. Shridhar is one among just three people continuing this tradition. "It requires one and a half to two months to make a cradle," he says. In the past five years, he must have made about 25 cradles.


A cradle made by Shridhar Sawakar

Ekamaresh Tandur, an electrical engineer and contractor from Davanagere, got a cradle made for his granddaughter, Athira Tandur, last year. "I had seen a similar cradle in my grandmother's house decades ago. Although some colours had faded, it still looked attractive. At that time, I never dreamed that I would own such a cradle," says Tandur.

He had been told that cradle-making was a dying craft in Kalaghatagi. So he placed an order for one with Shridhar. It cost ₹1 lakh. "They make sofa sets too with the same kind of colour combinations and woodwork. I have ordered a sofa," he adds.

Tandur was very excited when the cradle reached his house. To mark the occasion, he organized a small function and invited 45-year-old Krishnadevaraya, member of the erstwhile royal Vijayanagara dynasty, who honoured Shridhar Sawakar for conserving an old tradition. "This cradle is my contribution for the coming generation," says Tandur.

Thirty-year-old Ajit Mothi, a jeweller from Davanagere, is another buyer. When his sister gave birth to a daughter, Sujnani Prabhu Patel, she was keen to have a traditional cradle for the baby. "Cradles are not new for us. We have made silver-covered wooden cradles for our customers. But my sister and I wanted to buy one which had natural material and colours," says Mothi. The final choice was the Kalaghatagi cradle. "This heritage of ours should be conserved for future generations," he says.

Shiva Kallappa Bagalkot, a postman from Kamadhenu, a neighbouring village, also got a cradle made to gift to his daughter when his granddaughter, Shriraksha, was born. "It's an art form of historical importance. I thought it will be a memorable gift to my daughter," he says proudly.

Shridhar works alone. So even if he has confirmed orders, he is not able to deliver the cradles quickly. The reason he cites for not hiring people is that he doesn't want to broadcast his traditional knowledge of colours. Besides, profit margins are small and don't justify extra expense on additional labour. Shridhar's words betray considerable anxiety about the future of his craft.

Two more families are making Kalaghatagi cradles: Maruthi Badiger and his cousin, Ashok Badiger. Maruthi, 43, learnt the intricacies of this craft from his grandfather. His father was not keen to follow it. He says cradle-making requires considerable manual labour but the returns are paltry. Occasionally, an old cradle made by his grandfather is sent back to him for repainting and repair. He charges ₹5,000 for repainting.

He makes 10 to 12 cradles a year. He also paints idols and *kolata* sticks used for performing *kolata*, a traditional dance.

Maruthi points out that the craft faces stiff competition from plastic cradles and other cheaper varieties. He says that people ask why

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Off the street and into school

Rakesh Agrawal
Dehradun

AFTER three days of intermittent rain, the sky began to clear and Meenakshi, Joginder, Rahul with his sister Kajal, and Shalu happily began to walk to school. They passed a cluster of dilapidated huts in their slum, Bindalpul, near the bank of the Bindal rivulet, where rag pickers, daily wage workers, street vendors and domestic workers live. The children boarded a bus to alight at City Board Street Smart Centre, a kilometre away, where another bus awaited them.

Except that this yellow bus was a stationary bus, converted into a school with seats, a smart board, a TV screen, audio-visual aids and rows of books.

"Welcome, children, after three days," said Deepika Chauhan, their young teacher. All five children occupied their seats in two rows, put on the overhead fan and picked up their slates. Soon, another 10 children from the *basti* joined them and Chauhan began the class, teaching the English alphabet with attractive pictures on the smart board and asking the children to write the letters on their slates. After a while, she came over to talk to every child and see what they had written.

An hour later, lessons were over. Each child was given a glass of milk with Bournvita, two bananas and patties and pastries. "You can't teach children on an empty stomach so we combine learning with tasty and nutritious food," says Chauhan.


The bus has a smart board, audio-visual aids and rows of books

Dharmendra Rautela, SHO, teaches students at a thela school

Welcome to the Street Smart Programme of the Aasraa Trust, a non-profit organization based in Dehradun, dedicated to teaching out-of-school children working as rag pickers or engaged in begging. Around 649 children attend the Street Smart programme. Aasra has converted a fleet of eight buses into Mobile Learning Centres to bring literacy to their doorsteps. Where lanes are too narrow for buses to enter, the non-profit has imaginatively designed makeshift schools by refurbishing thelas or cycle carts.


Shaila Brijnath

You can see one such school at the edge of the *basti* at Premnagar, a locality on the western fringe of the city. The cart becomes a large table and books, slates, notebooks, colours, pencils are stored on it. The children love to sit around the cart on plastic chairs and tables with their slates and a few toys.

Their teacher at this *thela* school is a policeman. Dharmendra Rautela, SHO of Premnagar Police Station in Dehradun, was so impressed with the concept that he volunteered to teach these children. Two very young children, Karan and Nandini, pick up red plastic letters of the English alphabet and place them next to the relevant pictures. They repeat "A for Apple, B for Ball," with gusto.

Founded by 44-year-old Shaila Brijnath in 2009, the Aasraa Trust runs a series of projects to help underprivileged children from impoverished homes get access to education. It also provides nutrition, medical care, shelter and skilling. Aasraa works with Childline to help abandoned and abused children as well.

"Our vision is to impart a life with dignity to children from the streets and slums of Dehradun. We seek to break the cycle of poverty that governs their lives and empower them through education and vocational training combined with healthcare and education. We reach out to vulnerable children and give them opportunity, care and love," says Brijnath.

A former stockbroker from the UK, Brijnath had an elite education and career. After graduating from Christ Church College, University of Kent in Canterbury, she spent several years abroad working with stock exchanges in the US and UK. She returned to India in 2008 to Dehradun with a mission in her heart: to help children living on the periphery of society.

When she spotted a group of street children selling balloons, combs, flowers and toys to shoppers at Astley Hall, a premier shopping complex in Dehradun, she decided to make her first move. "Shaila realized that they were unlettered and thought she could teach them, but not during prime shopping time," says Shalini Rahi, communication manager at Aasraa.

She set up a table on the pavement outside the shopping complex and began teaching the children Hindi and English alphabets, counting and basic maths, using small colourful toys and pictures.

In a few months, the children learnt these basic skills. Helped by Aasraa, some of them joined government schools, in keeping with the provisions of the Right to Education Act.

All the informal schools help children get admission into government schools. Six-year-old Avtar, eight-year-old Roli and 11-year-old Aniket from the Mobile Learning Centre in Premnagar have joined the Government Primary School, Kholupani in Classes 1, 3 and 5, respectively.

Eleven-year-old Rita, from Chabil Bagh, a slum cluster where she lived with her mother, a domestic help, and father, a stone-cutter, has got admission into Purkal Youth Development Society (PYDS), a CBSE-affiliated school on the outskirts of the city started by G.K. Swami, a former investment consultant. Altogether 19 children from Aasra have joined PYDS. Six other girls who used to work as rag pickers, now attend Guru Ram Rai school, a private senior secondary school in Dehradun.

What started as a small set-up with a group of 35 children has now grown into a large organization that works with over 4,000 children — 1,800 through the Street Smart Programme and about 2,200 through Wings Of Doon, a school remedial programme under which Aasraa has 14 centres across the city and provides free transport, education, meals and medical check-ups to all its children. ■

PUTTING LIFE INTO A PRIMARY SCHOOL

Kavita Charanji
New Delhi

THREE years ago, 14-year-old Yuvaan M. Bery, a student of the Shri Ram School and a talented artist and musician, felt he wanted to do something for society. Socially conscious and aware, he wasn't quite sure what he could do.

"I was aware to some extent of the issues that plague our country and the world. One of them is that education needs to go beyond subjects like maths, English and so on. Education includes the arts. I felt people like myself could share their skills," he says.

His search for a good cause led him to the South Delhi Municipal Corporation (SDMC) Primary School in Amar Colony. He started going to the school on alternate Saturdays to teach art to underprivileged students in Classes 3, 4 and 5. He conducted art workshops with presentations on sketching, shapes and colours and then moved on to water colour, crayons, soft pastels and acrylic.

"Before I knew it, I had fallen in love with this place of laughter and learning where I was reminded of the simple joys of life and, more importantly, that I have much to be grateful for," he says.

The municipal schools are infamous for being ramshackle and under-funded. Children from poor homes study in these schools but the municipality has not invested in infrastructure or quality of education.

Bery was keen to help out. He wanted to raise funds for the school. He started Walk The Talk, a social initiative, hoping to organize a fundraiser with classmates. But that idea became a distant dream when the COVID-19 pandemic struck.

Meanwhile, he put together a team of four classmates for Walk The Talk. He was joined by Giya Sood, Maya Ghosh, Nitika Khungar and Rohan Kapoor who took different responsibilities. Their aim was to raise funds that would support digital learning in SDMC primary schools hit badly by the lack of devices like mobile phones and laptops during the pandemic.

Yuvaan M. Bery, in the centre, with his team


Children at the municipal corporation's primary school

Walk The Talk then organized a virtual concert-cum-competition called Melodies for Hope in November 2020. The innovative event that roped in 30 students from Classes 6 to 10 as participants was viewed by 700 people and raised ₹2 lakh for the SDMC schools.

Walk The Talk's latest fundraiser, a one-day art exhibition called "Canvas for Change", was organized in May to add many more extra-curricular activities in these schools. The exhibition, which included artworks by children from the SDMC primary schools, proved a big success. It attracted a footfall of 100 visitors who were impressed by the young artistic talent. By the end of the day, the Walk The Talk team had collected over ₹1.5 lakh through the sale of 77 multi-media artworks like paintings, digital art and photographs.

The SDMC Primary School, Amar Colony remains close to Bery's heart. He remembers the energy and excitement of the young children whenever the Walk The Talk team would appear around the corner.

"In my last session at the school I asked the children what art meant to them. I was surprised by their answers. It made me realize that the less privileged have a thirst for knowledge. And from them I learned humility and gratitude. I learned more from them than they from me," says Bery.

Now, as Bery busies himself with university applications, he has set his heart on studying history. He is particularly passionate about art history, the history of politics and international relations. But before he goes, he plans to pass on the Walk The Talk initiative to his sister, Samaya, who will organize similar workshops at the school, but possibly more oriented towards dance and the performing arts. ■

Town with a unique cradle

Continued from page 10

they should buy his cradles when they can get plastic ones for as little as ₹1,000 to ₹2,000.

So he came up with an economy version of the cradle which costs around ₹60,000.

The main colours used for the cradles are yellow, green, red, black and white. Permutations and combinations of these basic colours produce other colours. The colours are either extracted from vegetables or from natural stones. Black is derived from traditional *kajal* and white is processed from a particular clay sourced from nearby villages.

Undoubtedly, the use of natural colours is a selling point. "Chemical colours are harmful since the chance that the baby will bite or lick the cradle are high," says Maruthi.

However, he says he is happy that in recent years, the popularity of Kalaghatagi cradles has increased. "Five to six years ago, cradle-making had come to a virtual halt. This was because our sources for wood had stopped. The department had made it compulsory for wood to be bought from government departments. Luckily, in the past two or three years, some film actors took an interest in our cradles and ordered a few. This attracted media attention and helped revive our profession."

The wood is expensive. One cubic foot of teak wood costs between ₹6,500 and ₹9,000, says Shridhar. A cradle with a stand would require three to four times that number. This means the raw material itself adds a considerable chunk to the cost.

"The government should give cradle-makers teak wood at a subsidized rate. This will improve their profit margins and encourage them to continue their craft with more interest," says Mohan Pandith, 73, a farmer from Kalaghatagi and a long-time observer of its cradle industry.

Training more people and perhaps additional help from the National Institute of Design could help the cradle-makers of Kalaghatagi enhance their craft and produce a range of other products as well. ■

Contact: Shridhar Sawakar – 72594 10616 Maruthi Badiger – 92422 11652

Ganesh Babu:'Like a child a plant needs attention and affection'

THE PLANT WHISPERER

Ganesh Babu's secret life in the wilds

Civil Society News
New Delhi/Bengaluru

IT was a plant whose reputation preceded it. An aggressive woody climber, it was known to produce small white flowers in bunches. Both attractive and imbued with medicinal properties, there were high expectations that it would be a notable performer.

But months passed and the *Embelia ribes*, the plant's botanical name, showed no sign of activity. It lay dormant and didn't bother to bestir itself even a little.

Its inert behaviour was surprising given its record as a fast and robust mover. The plant had been brought in from Kerala with the hope that it would flourish in the rambling and lush nursery of the Foundation for the Revitalization of Local Health Traditions (FRLHT) in Bengaluru.

The *Embelia ribes* was in fact in stellar company. The FRLHT nursery is famous for preserving and showcasing 1,500 rare medicinal plants that it has transferred from the wild. But, far from responding to its natural surroundings and inspirational neighbours, the *Embelia ribes* sulked in silence and didn't seem at all impressed.

Ganesh Babu, a gifted botanist at FRLHT, tried talking to the plant, persuading it to wake up and grow. And suddenly one day a leaf appeared. Ganesh was overjoyed. It had been his sense that the plant was seeking attention. The single leaf, as he saw it, was a signal that the plant had been feeling neglected and wanted to be pampered.

Says Ganesh: "When I saw the leaf, I gathered all our gardeners and I appreciated the plant in front of them. After that appreciation, more leaves came forth."

Ganesh decided to give the plant yet more importance: "I brought professors and spoke glowingly about the plant to them. Then I brought our director. After this, the plant began growing like anything. It means the plant knew the kind of importance and appreciation it was getting. After that it became the biggest climber in our garden."

Sometime later, a PhD scholar at the Trans Disciplinary University, which is located on the FRLHT campus, brought 100 saplings of *Embelia ribes* and planted them in many places, including on the campus. Ninety-nine of the saplings died after which Ganesh was asked to save the last surviving one by talking to it.

"I think they were being sarcastic," recalls Ganesh. "But I took up the challenge. I planted the sapling and began talking to it. It grew rapidly. It is still there as a huge climber on the last building of our campus."

What is it that Ganesh says to plants that makes them respond so glowingly? "Like a child, a plant needs care and appreciation. When there is no attention, the plant loses the will to live and grow," says Ganesh. "When a plant feels, Okay, someone is there who cares for me and expects something from me, it thrives," he explains.

But what are Ganesh's conversations with plants like? "It is as I would talk to a child. I tell them, you are so beautiful, you are so purposefully here in this garden. You are invaluable and people will appreciate you for your amazing qualities. From you people will learn about our traditional medical knowledge. And you will be an example for the rest of the world to see. So you should survive, you should flourish, you should reciprocate all this love. And they do that," he says.

Ganesh cites how he went to Madurai last year to develop the garden of Prof. D. Winfred Thomas. It was Thomas who had in fact ignited Ganesh's interest in botany when he was at the American College in Madurai in his undergraduate years.

"They had planted *Bauhinia purpurea* and even after two years it was looking like a stick. It hadn't sprouted at all. The general advice was to get rid of the plant, but Prof. Thomas asked me to talk to the plant and make it grow. I went to his garden in Madurai and talked to it and, believe me or not, within two months it started fruiting. Now it has become a tree. It all happened during the pandemic," recounts Ganesh.

Ganesh talks to his plants in Tamil. But in which language should one talk to a plant? Does it have to be the local language? Is language at all important?

"No. The language is not important because actually language is converted into feelings and vibrations. For plants language translates into your vibrations and they respond. This is what I have experienced," says Ganesh.

For Ganesh, attitude and intent are everything. Scholars at a government Ayurveda college in Karnataka told him they had planted seeds for a hundred Ashoka trees, but none had germinated.

"I asked if they had talked to the seeds. They asked me what I meant. Why did they need to talk to seeds? I told them if you just put a seed into the soil without a higher intention of seeing it grow into a tree, it is the equivalent of burying the seed. But if you talk to the seed and have the expectation that it will become a tree then that is really sowing a seed which will germinate," explains Ganesh.

"When they started talking to the seeds while sowing them, they grew into trees. Now there are 20 to 30 Ashoka trees in the Ayurveda college's garden," says Ganesh.

"Whether you sow a seed or bury it depends on your intent," he explains. "When you don't have intent the message to the seed is that it is being buried and it doesn't bother to sprout."

Bonding with a plant and sensing its needs is important. Plants are believed to respond to music, but once again it is the intent and the connection with the plant that matter. It makes the difference between the plant liking the music or rejecting it as noise.

Ganesh's relationships with his plants are intuitive and subliminal. He says he instinctively knows their needs, be it water or emotional pampering.

"It is like taking care of a child," he emphasizes time and again. "A mother doesn't need research to tell her when her child is hungry or in need of attention."

In India, some 6,000 plants have been identified under traditional Indian systems of medicine. Of these, the uses and actions of 2,000 have been codified in Ayurveda texts. Medicinal plants are traditionally used by communities to treat most minor disorders such as coughs and colds, fevers, breathing problems, stomach infections, digestive system imbalances, cuts, bruises and fractures.

The most trusted of Ayurvedic medicines are made from plants collected in situ and used in their entirety, which means taking all the parts of the plant together.

Traditional medicine at its original best is not reductionist. It believes in the compositeness of plant life with multiple beneficial molecules reinforcing one another as devised by nature.

At FRLHT 1,500 medicinal plants have been brought from the wild and grow in its herbal garden so as to propagate their uses and ensure that they aren't lost to overexploitation.

Since 2002, FRLHT has been promoting herbal medicine in schools and homes by providing packages of medicinal plants at low cost and encouraging people to grow them. Over time, tens of thousands of homes and schools have been reached.

Decalepis hamiltonii needed its orginal habitat

Frerea indica with the thorny Euphorbia neriifolia

The nutritious Wild Moringa in the Srisailam forest

"We want people to realize that medicinal plants can be both attractive and useful. These are our indigenous species. People have got accustomed to exotic plants and their flowers. We want that to change," says Ganesh.

But not all medicinal plants can be transferred. They mostly belong to complex ecosystems in the wild that have to be replicated if they are to survive outside their habitats.

Ganesh recalls trying to grow a medicinal plant for six months on the FRLHT campus without it responding. Then he checked out the original habitat of the plant, *Decalepis hamiltonii*, and found several surrounding succulent species as well as boulders.

"So, then I thought, why don't we imitate this. I brought the same kind of boulders and same type of succulent plants to our garden and within three months the plant reached 40 to 50 feet. The plant required its micro habitat conditions," says Ganesh.

He also gives the example of *Frerea indica*, which is a small plant with beautiful brown flowers that grows only in Maharashtra. Ex situ the plant needs the company of thorny plants called *Euphorbia nivulia* and *Euphorbia neriifolia* and some other species from its original habitat to prosper. People tend to remove the thorny plants, thinking they will harm *Frerea indica*, but it is the other way around.

"There are certain plants that demand biotic associations and microclimatic conditions. They don't grow if you don't put in their proximity the plants they associate with in nature," explains Ganesh.

"Not only do plants like to be talked to, they also talk to one another and cure one another. They are networked with one another. It is how the plant community lives," says Ganesh.

"Once we remove a particular plant, the whole ecosystem gets disturbed. That is the network," explains Ganesh emphasizing interdependence.

Ganesh travels extensively to forested areas where he is able to keep track of wild species. We spend a few days talking to him while he is at the Srisailam Tiger Reserve in Andhra Pradesh with a PhD student he has been guiding. Ganesh has been going to Srisailam off and on for 20 years.

"There are two or three things that we do when we go to the forest," he explains. "First, we check if there is any change in forest cover. Second, we look for new components, whether positive or negative. Third, we identify the wild beauties we can take with us and preserve."

In the Srisailam forest there are about 2,400 known medicinal plants. Ganesh is keenly interested in the Wild Moringa which grows only there.

The moringa or drumstick is believed to be a wonder plant full of

nutritional value and serving many medicinal purposes in Ayurveda. It is used to improve eyesight and for joint pains, among other things.

But the Wild Moringa is much more beneficial than the standard moringa. Tests have shown that it provides higher levels of Vitamin A. Ganesh is interested in how the Wild Moringa can be grown outside the forest and used more widely for medicinal and nutritional purposes.

As with other plants, the Wild Moringa is most effective in its entirety, which means with leaves and stalk. It could be dispensed by an Ayurvedic physician in various forms, including as a powder. But there is no substitute in traditional Ayurveda for the full plant. Of course, eating the drumstick is also hugely beneficial.

Embelia ribes grew to great heights, finally

Medicinal plants come with many wondrous and unanticipated benefits — at times delivering better results than allopathic treatment, especially when it comes to systemic disorders.

Ganesh gives his own example. He used to suffer from a bleeding ulcer for many years. Since it was an extremely serious condition, he chose not to go in for Ayurveda and opted instead for allopathy.

Years of treatment and using antacids didn't do anything to help. Then one day he decided to swallow the white pulp from the aloe vera plant. In a few days, his condition improved and soon vanished altogether.

"I took about three inches of the aloe vera leaf. Peeled away the brown skin till I reached the white pulp beneath. I swallowed the white pulp, which is cooling and settles in the stomach," says Ganesh.

After his own experience, he has recommended aloe vera to others with gastric problems and they have all benefited greatly, he says.

Ganesh, now 47, grew up in the village of Achunthan Vayal in Ramanathapuram district, near Rameshwaram, in Tamil Nadu. He studied in the Schwartz Higher Secondary School, where Dr A.P.J. Abdul Kalam had studied some 50 years earlier.

From there, it was off to the American College in Madurai where his professors, John Jebaraj and D. Winfred Thomas, cultivated his natural interest in plants by taking him on field trips and showing him plant behaviour.

It was from them too that he learnt the importance of an ecosystem and the role that birds, butterflies and other living forms play in shaping the attributes of a plant.

"Once, when my professor was talking about a plant I eagerly told him the botanical name. But instead of being impressed he said not to worry about names so much. Instead, to first appreciate the plant, love it, enjoy its beauty and talk to it."

Ganesh Babu the plant whisperer was born on that day and since then he hasn't stopped seeing plants as the wondrous creations they are.

A WILD PLANT POWER LIST

Modern pharmacology draws on folk knowledge of medical plants. It is an old debt that remains unpaid.

Even so, folk remedies remain a primary source of treatment for millions.

Indian systems of medicine document 6,000 plants. Of them, 2,000 are codified for the actions they have in the human body.

To celebrate holistic medicine we bring you a power list of wild plants that are used to treat a range of disorders. Each plant has its own story. It has its own botanical and folk names.

There are of course many more and these are from a much larger list provided by Ganesh Babu.

You will find 1,500 of these plants alive and well in the herbal garden of the Foundation for the Revitalization of Local Health Traditions (FRLHT) in Bengaluru. And all 6,000 are documented in its herbarium.

Ulat Kambal

This lovely flower enchants you with its warm hues. It's called Ulat Kambal, which means inverted blanket in Hindi, an allusion to its drooping flowers and soft texture. Scientifically known as *Abroma augusta,* it is found across the tropical forests of the Northeast and along the country's east coast. Ulat Kambal is useful in healing irregular menstruation, polycystic ovarian syndrome and thyroid disorder.

Nelabevu

With its hooded white flowers spiked with purple tinges, Nelabevu looks artistic. It can enhance the colour palette of a garden. Nelabevu means herbaceous neem tree in Kannada, a reference to the plant's bitter-tasting properties. This flower's official, botanical name is *Andrographis paniculate.*

Nelabevu's petite flowers arranged on a stalk look like tiny birds sitting on tender branches. Densely packed racemose flowers can be gifted as seasonal bouquets. When planted in clumps its numerous stems and flowering twigs add colour to the landscape. Nelabevu is used to prevent dengue and to combat influenza, itching due to poisonous bites, wounds, ulcers, and chronic fevers, malarial and intermittent fevers, inflammation, skin disease, intestinal worms, diarrhoea and dysentery.

Kaanthal

Kaanthal is the State Flower of Tamil Nadu. A poem on 99 flowers, found in Kurinji Paattu, a genre of Sangam literature, begins with the name Kaanthal, illustrating the importance of this plant. Kaanthal's botanical name is Gloriosa superba. The words 'glory' and 'superb' in its botanical name rightly describe the beauty of this wild flower.

The flower's striking arrangement of five red-tipped yellow petals are often compared with a lady's fingers decorated with henna in Tamil literature. The stamens of Kaanthal are very distinct, being four cm long with conspicuous rotating anthers. Kaanthal is also called Flame Lily. It is commonly found in tropical thorn forests and along wayside thickets near foothills. The flower blooms immediately after the monsoon.

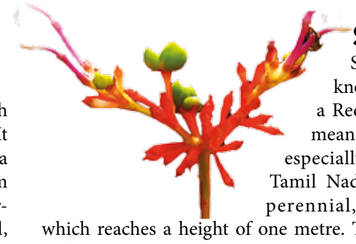
In our traditional systems of medicine, Kaanthal is used for treating skin diseases, intestinal worms, chronic ulcers, leprosy, cancer, head lice and as an antidote for poisonous bites.

Indian Strawberry

With its red berry, yellow flowers and green petals, the Indian Strawberry is a pretty sight. The plant's botanical name is *Potentilla indica*. This flowering herb is a creeping, perennial which, when planted, covers the ground like a carpet. Its branches are reddish in colour with solitary yellow flowers two cm across in size with five petals.

The Indian Strawberry is cultivated for its fruit and is introduced in gardens as an ornamental ground covering to limit the growth of other weeds. Its spreading branches with yellow flowers look exceptionally attractive on lawns. The Indian strawberry is a wonderful choice for landscape design because it looks brilliantly wild. It is ideal for bordering gardens, for golf grounds and for man-made savannahs. Its edible fruit invites chirping birds!

The Indian Strawberry is recommended for eczema in our traditional systems of medicine. Fresh leaves are used in salads and dried leaves can be used to make tea. This flowering herb grows in the North and Western Himalayas at altitudes between 700 to 2500 m above sea level.



Sarpagandha

Sarpagandha, botanically known as *Rauvolfia serpentine,* is a Red-listed medicinal plant. That means it's a rare endangered plant especially in Karnataka, Kerala and Tamil Nadu. Sarpagandha is a native, perennial, evergreen undershrub, which reaches a height of one metre. The plant grows in clusters of exuberant blooms.

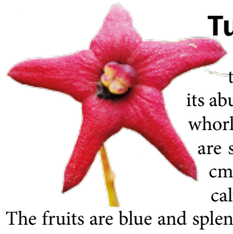
Sarpagandha is an eye-catching plant with white flowers and reddish floral parts. It can pretty up any dull garden and convert a boring landscape into a glorious green-white one. This plant is a great backdrop for a lawn garden.

The roots of the Sarpagandha are used for treating hypertension, fever, wounds, sleeplessness, epilepsy, and giddiness. The plant grows in Himachal Pradesh, Arunachal Pradesh, the Western and Eastern Ghats as well as Eastern and Central India.

Kopou Phool

This lovely Foxtail orchid is known as Kopou Phool in Assam. It plays an important part in the culture of the Assamese people and hence has been adopted as the State Flower of Assam.

All orchids are stunningly beautiful. But Kopou Phool, or *Rhynchostylis retusa,* is special because it also has medicinal qualities. An epiphytic orchid, it is famed for its marvellous, long-lasting blooms. Epiphytic orchids have special types of roots called velamen roots through which atmospheric moisture and nutrients are absorbed. This species can be found hanging on to tree trunks. Numerous flowers on drooping stalks makes it look like a flowery waterfall. Pendulous long racemes entwined around tree trunks look as if the trees have been decorated with glorious garlands! The roots of the Foxtail orchid are traded in the name of '*rasna*' and used to treat rheumatism.



Tube Flower

The Tube Flower is a species that grows to a height of three metres. It is known for its abundant foliage and flowers. The flower has whorls of three in each node. The inflorescences are strikingly large, up to 20 cm long and 10 cm broad. The flowers are white and fruiting calyx are star-shaped, red and very attractive. The fruits are blue and splendid to look at. This shrub grows very fast and can be planted in tall hedges since it cannot be clipped from the top or in beds of shrubs or in a stand-alone pot in your balcony, deck or terrace. In Ayurveda, this species is recommended for improving blood circulation. It is good for digestive disorders and bronchial complaints.

Indian Olive Tree

The Indian Olive tree (*Elaeocarpus serratus L.*) or wild olive tree, is the cousin of the Rudraksh tree. It grows in the Western Ghats and in the Northeastern hills. In most Indian languages this tree is known as Ekamukhi Rudraksh because of the shape of its nuts. However, in Arunachal Pradesh, Assam and West Bengal it is called Jalpai or Zolphai.

The fruits of the Indian Olive Tree are extensively used in the preparation of tasty pickles. In Arunachal Pradesh the raw fruits are eaten. The fruits are reported to possess medicinal properties against diarrhoea and dysentery. The tree also attracts various species of pollinators.

Vajradanti

Vajradanti is well-known as one of the prime species used to guard the teeth against any infection and strengthen the gums. It is evident from the name Vajradanti which means diamond teeth as depicted in ancient Ayurvedic texts. The leaves are chewed to strengthen the gums and to protect the teeth against decay. Vajradanti is scientifically known as *Barleria prionitis L.* It belongs to the December flower family, Acanthaceae.

Vajradanti is a bushy shrub with many branches. It grows to a height of 2.5 metres. Vajradanti's stems are armed with spines and its inflorescences consist of beautiful orange-yellow flowers surrounded by green leafy bracts. The plant's dark green, shiny leaves create a wonderful contrast to its flowers, making this a very attractive shrub. In English, it is popularly known as the porcupine flower.

Ankolam Tree

Ankolam or Azhinjil, or *Alangium salvifoium*, is one of the most auspicious and worshipped trees in India. Traditionally, a piece of the stem of this tree is kept at the entrance of the house not only to prevent the entry of evil spirits but also to bring goodness and cheer to the family. Ankolam is also well known for its antidotal properties especially against several types of poisonous bites.

It is a small, deciduous tree with a pale brown bark with shallow cracks. Ankolam has spiny branchlets that provide safety and therefore attract nesting birds. Anyone who calls himself or herself a lover of birds should have this tree in their garden. The tree has flowers that are white or yellowish-white and fragrant. The berries, 2/1 cm, globose to ellipsoid, are orange-red when ripe and look beautiful. They are sweet and edible.

Wild Himalayan Cherry

The Wild Himalayan Cherry Tree or the Bird Cherry Tree (*Prunus cerasoides*) is a moist deciduous tree which reaches 25 metres in height. The tree's bark is strikingly glossy with a ringed, peeling-off bark. This tree has a single stout trunk hence it can be used to create a focal point in the garden. With its beautiful bark, stunning flowers and edible fruit, the Wild Himalayan Cherry Tree is a visual treat throughout the year. The tree flowers profusely. The bark is used for plastering fractured bones and its steam is used for treating vomiting, leprosy and leucoderma.

Kalanchoe

Kalanchoe grandiflora plants are thick-leaved succulents. An amazing herb, it grows to one metre and bears splendid foliage. The inflorescence is short and compact with many strikingly beautiful flowers, yellow and orange-yellow in colour. The cheery clusters of blooms can render a spectacular look to gardens, balconies and terraces. This native species can be the best substitute for the popular, ornamental jade plant. It can be grown even in dry regions with poor, rocky soils. This species is used to treat bruises, wounds, boils and arthritis. It is also a potential substitute for pashanbhed, a well-known Indian herb used to dissolve kidney stones.

Bonfire Tree

The Scarlet Sterculia or the Bonfire Tree, also known as *Sterculia colorata* Roxb, is a medium-sized tree with beautiful, large, showy leaves. Its tender leaves are spectacular. This deciduous tree sheds leaves in winter but its flower buds arise immediately after its leaves fall. Its orange-yellow flowers are dramatic as they quickly grow from bare stems. The whole inflorescence including the tree's stalks are covered with colourful velvety hair. Since its flowers are large and showy, the tree adds a brilliant look to gardens and avenues.

The Bonfire Tree is a comparatively rare tree found occasionally in the Deccan hills, in the lower altitude of the Western Ghats and in parts of Assam, Meghalaya, Odisha, Madhya Pradesh. The Bonfire Tree is used in Ayurveda, homoeopathy and folk medicine for urinary disorders, mental problems and jaundice.

Rattlepod

The Rattlepod or *Crotalaria retusa L.*, is a herb which reaches one metre in height and has many, clearly radiating branches near the ground. The appeal of this unique herb lies in its extraordinary inflorescence that attracts numerous pollinators especially colourful butterflies. The Rattlepod can be grown in containers too. Every end of its branches is ornamented with 30-cm inflorescences with amazing yellow flowers. Its large petals look elegant with purplish lines and pinkish-orange backs. These flowering branches slowly transform into rattle sticks with many inflated attractive pods. These pods on maturity turn black and create an amusing sound when shaken. According to ethnobotanical studies this herb is used against poisoning, fever and respiratory complaints.

Elephant Apple Tree

The Elephant Apple Tree or *Dilleniaindica L.* is a large evergreen reaching 30 metres in height. The characteristic features to identify this tree in the field are its ranchlets which have V-shaped leaf-scars. The Elephant Apple Tree's leaves are strikingly large and prominently corrugated with impressively imprinted veins. The tree's flowers are conspicuously big, up to 20 cm across, and very showy, with huge white pendant masses of stylar branches surrounding deep golden yellow stamens and petals.

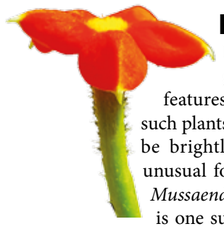
These trees will look absolutely spectacular in avenues and in landscaped gardens. The tree's fruits are large, up to 12 cm across, unique and technically a false-fruit where the yellowish-green sepals play the role of mimicking fruits. Seeds are many and embedded in fibrous, edible pulp. These fruits are reported to be a good source of food for herbivores especially for mega herbivores such as elephants and hence the name 'elephant apple'.

The tree grows in moist forests almost throughout India. Known as Bhavya in Ayurveda, it is used to tackle respiratory and central nervous system disorders and also considered to be a digestive drug.

Giant Potato

The Giant Potato or *Ipomoea mauritiana Jacq* plays a prime role in providing better health to women. The Giant Potato is a tuber-bearing vine with beautiful bell-shaped, pinkish-purple flowers belonging to the Morning Glory family, Convolvulaceae. Its flowers are pinkish-purple, funnel-shaped, up to 6 cm across with narrow tubes five cm long.

The Giant Potato usually grows in open areas in moist deciduous forests. It has also been found in riparian vegetation, lowland forests and in grasslands throughout warmer parts of India. It is also cultivated for its medicinal tubers. The tubers are used to moderate menstrual discharge and often prescribed to increase secretion of breast milk. The Giant Potato is also prescribed in case of debility after delivery and to increase weight.



Flag Bush

Plants of ornamental value are generally grown in gardens to increase the aesthetic features of landscapes. The ornamental features of such plants may not necessarily be flowers but could also be brightly coloured foliage, curious looking fruits, unusual forms and textures of barks/stems and so on. *Mussaendafrondosa L.*, belonging to family Rubiaceae, is one such wild beauty that can be spotted even at a distance due to its very shining, large, leaf-like floral part. In English, it is called Flag Bush or White Lady.

This wild beauty's leaves and flowers are crushed and applied externally to heal wounds. Its shining leaf-like bracts are boiled in water and the water is used as shampoo for cleansing hair. It is also used in the treatment of jaundice. The juice of the plant is used to treat eye infections. The decoction of the leaves can be taken orally to get rid of intestinal worms. Bellila is a common plant which grows in moist deciduous forests and in the evergreen forests of the Western Ghats.

Benga Tree

Indian tradition is known for its close connect with nature and the respect it accords to Mother Earth. In this tradition, nature is seen as superior to man. Trees are held in high esteem. One such tree which is deeply appreciated is the Benga Tree also known as *Pterocarpus marsupium* Roxb, belonging to the family Fabaceae.

The Benga Tree reaches a height of 18 metres. Its trunk and branches exude a bright red resin. The tree's bark is rough and longitudinally fissured. Inflorescences are panicles, terminal or axillary, up to 15 cm long. The Benga's flowers are two cm across and golden yellow. The bright yellow flowers interspersed with dark-coloured flower buds and stalks resemble a tiger's coat, hence the name Vengai in Tamil and Venga in Malayalam. In English it is known as the Indian Kino Tree. Kino means medicinal resin. This resin is used for the treatment of bleeding and diarrhoea. The tree's bark is extensively used to tackle diabetes. Its leaves treat various skin problems. The tree is found in mixed jungles and in the dry deciduous forests of southern and central India.

Fringed Flower

The Fringed Flower or *Rotala aquatica* Wight, is a nectar yielding species. Known as an 'amphibious' herb since it can grow both in shallow water bodies and on land, this slender herb with its creeping stems and rooting usually at lower nodes, bears gorgeous flowers. The Fringed Flower with semi-succulent, shining, four-angled stems has tiny leaves. Loads of fringed pink flowers are a feast for the eyes especially against sunlight. This flower forms a lovely ground cover holding down soil and gentle marshy slopes. Emerging between little boulders, the species can also be exploited as an alternative to grasses.

Anjani

Anjani in Marathi or *Memecylon umbellatum* Burm.f. is one of the most beautiful trees during flowering. It is a small tree, reaching 25 feet, which blooms twice a year. Anjani puts forth dazzling heads of bright blue flowers amidst colourful clusters of flower buds. This small tree can be used to create lovely focal points in smaller spaces. The flower highlights walkways in landscapes when planted on both sides. It is used to treat gonorrhoea. It is known as the Delek Air Tree in English.

Jala Pippali

Phyla nodiflora (L.) Greene, popularly known as Jala Pippali in Ayurveda, is a marshy plant that grows at the edges of water bodies. It is found almost throughout India. Jala Pippali is often grown ornamentally as a ground cover plant. The plant's inflorescence consists of a purple centre encircled by small white-to-pink flowers on the periphery and thus mimics a matchstick. Hence it is often called 'match weed' ! Interestingly, this wetland species does not demand much water. It is a perfect choice for any style of garden.

You can grow this plant not only for its beauty but also to harvest 'pippalis' (inflorescences) for their gentle curative properties as a hair tonic. These beautiful inflorescences can be enjoyed almost throughout the year. Jala Pippali can be planted in hanging pots, allowing its stems and flowers to droop and create a splendid look!

Gambhari

Gambhari (*Gmelina arborea Roxb*) is popularly known as white teak in English. Gambhari is a handsome, fast-growing, moderately-sized deciduous tree reaching 20 metres in height. This tree is leafless from February to April but is adorned with bunches of lovely flowers, which are large and yellowish-brown, on branched panicles. The flowers produce enormous amounts of nectar, helping in producing high quality honey.

Gambhari is native to India. It is found in the

sub-Himalayan tracts and in Uttar Pradesh, Punjab, Dehradun, Odisha, West Bengal, Assam, Madhya Pradesh and southern India. The leaf juice is considered a good mouthwash to treat ulcers. The flowers and fruits are beneficial for treating leprosy, anaemia, ulcers and constipation. The flowers are also believed to be aphrodisiacs and are used as a hair tonic too.

Scarlet Bauhinia

The Scarlet Bauhinia or *Bauhinia phoenicea* is endemic to the southern Western Ghats (Karnataka, Kerala and Tamil Nadu). This vine has been assigned red or 'vulnerable' status by the International Union for Conservation of Nature (IUCN).

It is an exuberant, fast-growing climber which climbs up to 20 m. As a heavy climber, it needs strong support and should not be planted with other slender vines. Sprawled on compound walls, it brings an earthy feel to a house. The brightly-coloured, tender leaves with prominent reticulations of veins are particularly eye-catching. The beauty of the scarlet flowers makes this climber iconic to landscapes. This native liana adds fabulous speckling and unusual morphology to gardens, transforming them into tropical bouquets.

Madhavi Latha

Hiptage benghalensis (L.) Kurz, traditionally known as Madhavi Latha, is a perennial evergreen liana. It is native to India. Madhavi Latha has shiny green foliage, white fringed petals and one median yellow petal, creating a wonderful burst of colour.

The flowers bloom abundantly and intermittently throughout the year and emit a mild fragrance too. This climbing species can help cover less attractive spots and is ideal for large spaces as it sprawls all over quickly! Though it is a liana, it can be clipped to form a small tree with very little canopy. White petals with bright yellow petals in the centre contrast with its shiny green backdrop, making it a picturesque climber. Being a dominant species indicating dry areas and a type of salt-tolerant soil, it can be grown in drought-prone areas as well as in coastal climates. Its fruits are samaras with three spreading, papery wings that help seed dispersal on the wind. It is useful in treating cuts and wounds, relieving burning sensations, bronchial complaints, coughs and ulcers.

Maha Drona

Maha Drona, scientifically known as *Anisomeles malabarica (L.) R. Br. ex Sims,* belongs to the *Lamiaceae* family, or the mint/basil family. Maha Drona reaches a height of one to two metres. Its stems are four-angled and blunt, white and hairy. Flowers are pink with white streaks or entirely white, up to two cm long.

Maha Drona is reportedly one of the best remedies for knee pain. The leaves of the Maha Drona are filled in half a mud pot and gingelly oil is poured into three-fourths of the pot. The mouth of the pot is tied with a cotton cloth and kept in a sunny place for a month. After 30 days the Maha Drona leaves soaked in oil are heated and the warm oil is applied gently on the knees. Maha Drona is a moderate shrub which looks nice in any garden. It can also be placed in containers to flank front doors or patio steps. It attracts tiny birds and butterflies too.

Begonia

Begonia malabarica Lam, belonging to its own family *Begoniaceae*, is a beautiful and sturdy houseplant that can be planted in shaded summer beds since it is not finicky about being outdoors. Unlike other native wild plants it is ideal for indoor environments and can even add colour to bathrooms as this species loves humidity!

Tuberous begonias will die every year but the wild one doesn't. It offers attractive, year-round asymmetrical foliage with colourful streaks on dark green leaves and stunning seasonal male and female flowers. Its deep red colour beneath its leaves makes it adored by plant lovers. As an outdoor garden plant, native begonia can be used as a colourful and compact edging for flower beds or to ornament window boxes and fill hanging baskets.

This is the only species with leaves that have all five different tastes. When chewed, its leaves are first sour followed by bitter, sweet, pungent and finally an astringent taste! The leaves are used to treat blood cancer, heart diseases, skin infections, diarrhoea and respiratory complaints.

Kailash Taru

Sacred trees are usually planted in and around temples or places of pilgrimage. The tree which is planted at the heart of the temple is known as Sthala Vruksha or sacred element. One such sacred tree is Kailash Taru or Nagalinga Pushpa. It is believed that the Kailash Taru has been in India for more than 3,000 years. It is scientifically known as *Couroupita guianensis Aubul* and belongs to the family *Lecythidaceae.*

This tree is known for its unusual flowers and fruits. The main trunk is ornamented with hundreds of drooping racemes with fragrant flowers which are large, showy, 6-10 cm long, yellowish-red outside and pink inside. The tree's flowers produce two types of stamens — the fertile ring stamens and the sterile stamens on hood-like structures. In Hindu mythology, the hooded sterile stamens are seen as 100-headed snakes and the style at the centre is seen as a Shivalinga, hence the local name Naga-Lingapushpa. The bark, leaf and flower have medicinal properties and are used for scorpion stings, dysentery, piles, scabies and other skin diseases.

Shalmali

Shalmali or *Bombax malabarica L.* is a huge tree with a straight trunk which reaches 25 metres. It is usually found in India's deciduous forests. Shalmali is a gloriously tall tree, native to India, which flowers abundantly and blooms profusely in summer. It has large, showy, scarlet flowers which appear before its leaves sprout on the branches. Hence, during flowering it is leafless! While in bloom it has a profusion of red lotus flowers adding pizazz to any landscape.

Shalmali's unripe fruit, green in colour, mimic the size and shape of unripe bananas. Its tap root, bark, gum, flowers, fruit, seeds and silk cotton are used against dysentery, diarrhoea, piles, cough, menorrhagia and leucorrhoea. The cotton obtained from its fruit capsules is used in pillows to induce better sleep. Shalmali's common name is red silk cotton tree. ■

War and the economy

DELHI DARBAR

SANJAYA BARU

WAR has direct human and economic consequences. Often, such consequences impact not just the countries at war but many others, depending on the economic size of the warring nations, their geographic location, geopolitical and geo-economic significance for the world economy, role in international and multilateral institutions and so on. Many countries in the developing world, especially in Asia and Africa, have been engaged in decades of conflict without their having much impact on global growth.

Furthermore, the impact of war on economic growth is paradoxical. By destroying lives and property a war has a negative impact on human welfare, economic development and growth. However, by providing employment in what may be described as the 'war economy', it generates incomes and contributes to increased output and employment. The 'war economy', so to speak, has sometimes helped countries come out of recession. On the other hand, disruptions caused by war stoke inflation, generate inflationary expectations and contribute to economic uncertainty.

By generating demand for arms and ammunition, war increases the profitability of arms manufacturers and incomes of arms -exporting nations. Arms-exporting developed economies have benefitted significantly from wars involving developing countries. By disrupting movement of ships, if the conflict is at sea, wars impact trade at the regional and even global level. Hence, the economic consequences of war can be wide-ranging and long-lasting, positive for some and negative for others.

As a recent Cato Institute study on the economic impact of war concluded, apart from directly and negatively impacting the countries at war, a conflict with wider regional or global consequences can hurt other countries, especially developing economies. Indeed, developing countries are at greater risk, compared to developed countries, of seeing their economies negatively impacted by war. To quote: "War and other forms of armed conflict should be considered a major impediment to the economic development of low-income countries, many of which are beset by ethnic and religious strife." (C.F. Thies and C.F. Baum, "The Effect of War on Economic Growth", *Cato Journal,* Winter, 2020)

Apart from the loss of lives, the Russian invasion of Ukraine has destroyed considerable property and productive resources in Ukraine. It has also had some negative impact on the Russian economy itself. However, given the geo-economic and geopolitical importance of both Russia and Ukraine, the economic consequences of this war are far more wide-ranging and long-term. Equally important, the decision of the United States and its allies to impose severe economic sanctions on Russia has also had wide-ranging negative impact on the global economy. Indeed, the long-term and indirect consequences of these economic sanctions, especially financial sanctions, could be far more than the medium-term consequences of the global economic disruption directly caused by the war.

Former Reserve Bank of India (RBI) Governor Raghuram Rajan has dubbed western sanctions 'weapons of mass destruction'. "When fully unleashed, sanctions, too, are weapons of mass destruction," wrote Rajan in a recent column (*Project Syndicate*, May 17, 2022). "They may not topple buildings or collapse bridges, but they destroy firms, financial institutions, livelihoods, and even lives. Like military WMDs, they inflict pain indiscriminately, striking both the culpable and the innocent. And if they are used too widely, they could reverse the process of globalization that has allowed the modern world to prosper."

For India, the economic consequences of the Ukraine war are both short-term and

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War increases the profitability of arms manufacturers and incomes of arms-exporting nations

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River as a person with rights

LIVING RIVERS

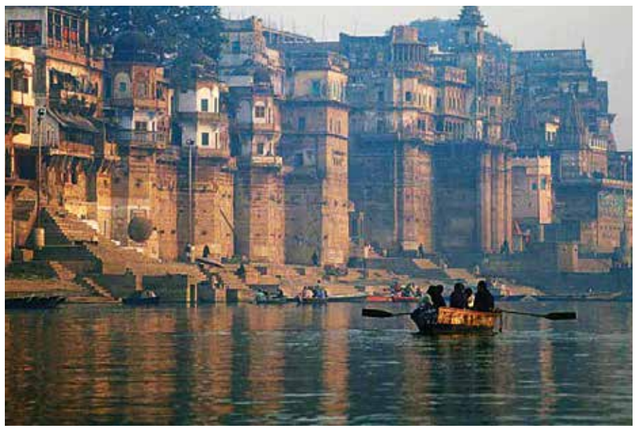
VENKATESH DUTTA

THE idea of endowing legal rights on non-humans and entities with constitutional protections is not new. Local grassroots movements in India, such as Chipko, have campaigned in the past to include the rights of forests to exist and thrive in our forest policies. The method has lately been used with certain characteristics, particularly for rivers, in many parts of the world. Many countries have granted 'legal personality' to their rivers. This implies that rivers are accorded a fundamental set of legal entitlements that include specific rights, obligations, and commitments. Legal rights have been established through both legislative and judicial processes with their own unique potential and constraints.

Ecuador provided legal rights to nature in 2008. Bolivia passed a 'Law of Mother Earth' into existing legislative frameworks in 2010. Rivers were granted a system of hybrid legal rights to counter over-extraction of water in Victoria, in southeastern Australia, in 2011. Similarly, three rivers — the Whanganui in New Zealand, and the Ganga and Yamuna in India — were granted 'personhood' status in March 2017. Two years later, Bangladesh recognized all rivers as legal individuals with the status of living beings with legal rights.

It has been extremely difficult to grant judicial protection to rivers just for rivers themselves. Ecological health and well-being are much wider than human health. The difficulty of awarding rights to a river as a whole especially when it flows through many states and trans boundaries in nature, the process of choosing river guardians (*loco parentis*), and the lack of enforcement mechanisms may further weaken the ongoing transnational movement of giving legal rights to rivers.

The High Court of Uttarakhand declared the Ganga and Yamuna and all their tributaries as legal persons with all corresponding rights, duties and liabilities of a living person on March 20, 2017. This decision came just a few days after New Zealand declared the Whanganui catchment to be a legal person. The High Court had also ordered the removal of encroachments and restricted mining on the riverbed. The state government was under enormous pressure as a result of this judgment since it was required to treat the rivers with human decency and be responsible for their maintenance and conservation. However, on July 7, 2017, the Supreme Court decided to consider an appeal against this decision. The government of Uttarakhand filed the appeal, claiming that its obligations as steward for the rivers were murky since the rivers flow beyond the state boundaries in the downstream. As a result, the rivers' existing legal standing is uncertain until this appeal is decided.



Ecological health and well-being are much wider than human health

If rivers and human beings are cognizant of their shared rights and liabilities, legal rights for rivers will be more effective.

These cases are among the first few instances of how legal rights have been applied to rivers. There are clear-cut legal rights to rivers. These legal rights are not like 'human rights', which encompass civil and political rights, despite being considered as a legal person. Conversely, legal rights are made up of three components: ownership of property as clearly defined 'rights of use', the ability to agree to and execute contracts, and legal standing, i.e., the ability to sue and claim damages in court.

This is considered a novel institutional framework to deal with misuse of water and to safeguard ecological integrity of river catchments. However, growing evidence suggests that sustaining these legal rights to save rivers is far more challenging than initially conceived. The likelihood of a river's legal rights being effective depends on whether they can be given due power and effect.

In both law and practice, having a right means that someone else has a corresponding obligation to fulfil it. If the rivers and human beings are cognizant of their shared rights and liabilities, legal rights for rivers will be far more effective. How the river may be made into a legal person just so it could file a lawsuit in its own defence has been the most challenging aspect of granting personhood to rivers.

However, not everyone agrees that giving rivers legal standing—the capacity to sue or be sued in court—is a wise idea. The bar for establishing *locus standi* has been substantially lowered by the recent easing of environmental compliance and the concept of 'damage' to individuals and societies.

Furthermore, having legal protections is only valuable if they can be enforced. We know very well that our enforcement agencies like pollution control boards and environment departments have not been able to safeguard the interests of our rivers. There are several instances of NGT orders when the rights have been upheld in court but the local actors in charge of enforcement have not been able to effectively implement the court's ruling. The existing institutional arrangements have largely been unsuccessful in complying with the required regulatory standards.

The practical challenge of providing enforceable legal protections to rivers that improve riverine ecosystems continues to be a problem, since the full costs of environmental damages may be underestimated. A number of practical considerations must be taken into account in order to enforce legal rights for a river. First, a person or a group needs to be chosen to represent a river, defend its rights, and act on its behalf. Second, in order for the rights of the river to be protected in court,

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Mobility matters

LOOKING AHEAD

KIRAN KARNIK

CRUCIAL meeting to get to, and stuck in a traffic jam? That is when you realize how much mobility matters. If in a non-airconditioned bus or in an autorickshaw, the smell of noxious exhaust fumes reinforces the menacing message of the pollution havoc wrought by motorized vehicles in our cities. Despite the compulsory use of CNG by public vehicles in Delhi, pollution is still at dangerous, health-affecting levels. In many other cities, it is possibly greater, made worse by the adulteration of fuel with cheaper kerosene.

Poor traffic management, driver indiscipline, and lack of enforcement contribute to jams, in addition to the sheer volume of traffic. A further problem is improper road engineering, ensuring flooding—often in the very same places — with the slightest rainfall. One has not seen a good study quantifying the massive monetary impact of person-hours lost, fuel wasted, and pollution resulting from idling engines in slow or immobile traffic. There is also the human cost of interviews missed, of ambulances delayed, of mental and physical strain.

The technocratic solution is more fly-overs (or tunnels) and broader roads. The first, unless very carefully planned, only shifts the point of congestion; the second has increasingly taken away all pedestrian space in most cities. Further, after these steps to smoothen flow, the inevitable accidents lead to the addition of speed breakers. The outcome: no time saving, but huge additional expenditure! On expressways, the potential time saved is more than offset by the choking at each toll point.

In light of these issues, what will be the future mobility solutions? With growth and prosperity, are we doomed to face ever greater challenges, especially in cities, as we have seen in the past few decades? There is now hope, from several fronts, that it need not be so.

First, after very many years, there is a resurgence of interest in mass rapid mobility through public transport. Sadly, convenient and cheap bus systems are dying in most cities (Delhi has fewer buses than it did 10 years ago). Lack of funding has meant few new buses, old ones prone to frequent breakdowns, and a downward spiral in quality, reliability and viability. In cities with a "local" train system, this has resulted in a huge additional load on them. Some cities are now getting new buses, but the numbers are abysmally low. The focus has shifted to fashionable, glitzy "metro" train systems. To the extent that these provide quick intra-city mass transport, they are welcome. However, they are limited, expensive and generally unviable even with high fares. They are not quite a substitute for the convenience or low cost of buses, even though they are far more comfortable.

Clearly, though, metro systems are a part of future mobility solutions. Hopefully, new technologies (driver-less trains, better signalling adding to safety and frequency, lower power requirements, etc.) and subsidies will enable cheaper tickets, making them affordable for daily commuters from lower economic strata.

Metros are not quite a substitute for the convenience or low cost of buses

Public mass mobility in cities also needs an efficient bus system, upgradation of "local" trains, and fast trains from nearby suburbs (like the planned Regional Rail Transport System in the National Capital Region). But, to be effective, the rail systems require inexpensive last-mile connectivity and sufficient parking space for vehicles, including bicycles. Since space in cities will always be at a premium, underground and multi-storeyed parking are essential. More important, good footpaths will facilitate walking from station to home or workplace, reducing the requirement of parking space, cutting vehicular pollution, and saving money for commuters while improving their health.

For a variety of reasons, the need for individualized or small-group transport will continue. One can already see this moving to electric vehicles (EV), which will — in just a few years — dominate the motorized two- and three-wheeler market. Many battery-replacement stations and faster charging will give a boost to EVs. The phasing out of the internal combustion engine, using polluting fossil fuels, is clearly on the horizon.

Hydrogen as a fuel for cars is some years away, but one can already foresee its use for trains and trucks in a decade or less. Shipping may also move to hydrogen. The skies too may see a new version of the hydrogen airships of old, especially for goods transportation. Hopefully, whether powered by electricity or hydrogen, freight trains will become the preponderant means of goods shipment, rather than the inherently less efficient road transportation. Meanwhile, much of inter-city transport may move from air and road to rail, thanks to high-speed railway. For this, too, the last-mile connectivity (as also a more positive station experience) is important.

Drones have already been tested for commercial use, both in-city as well as to farther and remote areas. Your orders for biryani or books, as also medicines for your relatives in a village, will soon be delivered by drones. In a few years we could also see the launch of "drone taxis" and, substituting "cars in every garage", there may be drones on every roof-top.

We had noted some of these advances in an earlier column (*Civil Society*, April 2022). Yet, as always, these technological solutions will work only in the context of the right societal context. This requires total-system thinking, with people at the centre. The transition to a more sustainable city lies in better town planning. For example, housing within walking distance of workplaces; priority to pedestrians, not motorized transport; broad, comfortable footpaths; covered walkways and road crossings for pedestrians; multi-storeyed buildings at Metro/rail stations for offices and high-footfall places; dedicated, non-encroached bicycle tracks; adequate numbers of parks, gardens and playing fields.

These and other regulatory or policy measures — e.g., levies that encourage hiring and sharing (pay-per-use, or mobility as a service), rather than ownership of cars — would take us to a less stressful and polluting future: a sustainable one in which mobility matters, not menaces. ■

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

War and the economy

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long-term. The short-term impact is clearly on economic growth and inflation, especially the oil price spike. The long-term impact will depend on how the country is able to adjust to these short-term setbacks and restore the growth momentum. However, a more enduring long-term impact would be felt through our response to western economic and financial sanctions.

India, like China and many other emerging economies, has been the beneficiary of post-Cold War economic globalization. There was a

The short-term impact is clearly on economic growth and inflation, especially the oil price hike. The long-term impact will depend on how the country is able to adjust to setbacks.

step jump in India's long-term growth rate from an average of 3.5 percent per annum in 1950-80 to an average of 7.5 percent per annum in 1991-2011. The share of foreign trade in India's national income increased sharply from 15 percent in 1991 to 55 percent in 2011.

There has, of course, already been a decline in this share, to around 40 percent, in recent years. India has benefitted from growth in global trade and incomes and any threat to these would certainly threaten the Indian growth and external payments situation, especially in the context of high oil prices.

The 'weaponization of globalization' through financial and trade sanctions has already disrupted the global economy and economists forecast a period of 'stagflation'. The post-Ukraine economic problems come on top of post-Covid disruptions and, in India's case, post-demonetization disruptions. The long-term impact of these developments on India's growth process can have strategic consequences. The government's ability to mobilize financial resources for development and defence will be constrained and this in turn could slow down the momentum of India's rise.

While India's principal adversary, China, is also facing economic headwinds and a consequent economic slowdown, the power gap between the two may take longer to bridge. This will require India to reinforce its own capabilities, maintain good relations with several major powers, including the US, Russia, the European Union, Japan and countries of the Indo-Pacific and Indian Ocean regions. India's Atmanirbhar Bharat Abhiyan, a return to the Nehruvian model of self-reliant economic development and non-aligned foreign policy, has once again emerged the strategic option of choice.

The successful conclusion of the recent ministerial meeting of the World Trade Organization augurs well for multilateralism in trade. It is perhaps one of the positive side effects of the Ukraine war because ever since the Doha Ministerial Meeting of the WTO two decades ago there has been very little forward movement on the multilateral trade front.

The on-going East-West confrontation has required the developed economies of the North to try and accommodate some of the concerns of the developing economies of the South. Hopefully, this movement forward on the trade front can be sustained, especially with Indonesia and India chairing the Group of Twenty (G20) during 2022 and 2023. ■

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

River as a person with rights

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resources such as time, money, and evidence-based monitoring may need to be made available to monetize ecological values. The current anthropocentric approach of legal and regulatory systems fails to account for many aspects of river systems' integrity. Concepts like natural capital or ecosystem services have not been fully valued by the traditional approach.

Third, individuals or organizations representing rivers and financing instruments will probably require some degree of autonomy from local, state, and central governments in addition to the genuine power to intervene, particularly if such actions are politically conflict-ridden. In the past, when legal rights for nature have been awarded, these elements haven't been there, making it challenging to enforce those rights. There are many instances where cases have been successfully sustained and defended in court and the legal rights have been acknowledged, but local actors in charge of enforcement have failed critically.

Enforcing legal rights for rivers has proven challenging. We benefit hugely from a variety of services offered free of cost by rivers and their dependent ecosystems, such as basic water supply, hydropower, agriculture, navigation, and pollution management. We have diverted too much water from our rivers — equivalent to drawing too much blood from a human which can lead to fatality.

A large amount of the overall damage would go unaccounted for, if the harm to the river's habitat were disregarded as opposed to the harm caused to humans alone. The anthropocentric view that nature is only valuable inasmuch as it benefits people is reinforced by the current paradigm of the judicial and regulatory systems. This must change. ■

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

Happy chicken, better egg

Caring farms raise the bar for quality

SURMAYI KHATANA

Raam Mohan with one of his chickens

A time there was when invariably the only eggs you bought were from the *kirana* store nearby. These are white, cheap and stacked high — much like the hens that lay them are kept in cramped cages on industrialized farms where no thought is given to the physical and emotional well-being of the birds.

But no longer. There are other options. Smaller chicken farms have been raising the bar for the egg industry in general. They ensure that hens roam free, eat at their pleasure from natural surroundings and deliver eggs as and when they feel up to it.

These farms don't count much for volumes and yet they give discerning consumers a significant choice. Healthy birds deliver healthier eggs. It is important to know that the eggs you eat are the result of what farms do with the chickens that produce them. Ecologically conscious farms don't use reinforced feeds. Your eggs come from birds that live stress-free lives and haven't been pumped up with antibiotics and steroids to keep them going.

It is also no longer necessary to buy eggs from the *kirana* store next door. Online grocery shopping has changed that. You could be in Gurugram but sourcing your eggs from Tamil Nadu, which is exactly what we did when Farm Made Foods popped up on the Meatigo website.

Farm Made Foods has several free-range egg farms that are full of happy hens and happier eggs. The eggs arrive at your doorstep in cardboard boxes, nestled in tufts of grass.

Farm Made Foods was founded in 2015 by Raam Mohan, 32, who comes from an agricultural family near Coimbatore. He first pitched the idea to Raam Prasad, his brother, who is a partner in Farm Made Foods. After a while he was joined by 44-year-old Kumar Kempaiah.

The farms at Farm Made Foods house only 1,300 hens on an acre of land. The barn where the hens live takes up nearly 4,000 square feet while leaving 41,000 square feet for the hens to roam freely during the day. The farm gets one egg every alternate day from each hen.

The eggs are tagged and batched with serial numbers of the farm they are coming from. Farm Made Foods has multiple farms on the outskirts of Coimbatore. The hens at Farm Made Foods forage and eat what they want to eat, which is usually protein rich bugs and grass for chlorophyll. "Our hens are seldom unwell, so we give them only probiotics," says Kempaiah.

The hens wake up at 4.35 am and are out of their barn at the first ray of sunlight. They jump around, forage, look for insects, and eat the feed provided by the caretakers. They take dust baths to rid themselves of dirt and nits. Around 5.30 pm they head back into the barn, where they perch on rods to rest and sleep. Hens cannot take extreme temperatures.

Soft switch-off lights, which take around an hour to go completely dark, are used. "The hens cannot be shocked with the light suddenly changing," says Kempaiah. Only water is given to the hens post-7 p.m. "Or else, hens will eat unlimited food if it is available!"

Do hens run away on a free farm? "Even if they get to another barn, the hens come back to their own barn," explains Kempaiah.

The birds are territorial. The barns have nesting or brooding boxes for them to comfortably lay eggs, he tells us. The hens will wait for a specific nesting box they are comfortable with or used to for as long as an hour to lay an egg if it is occupied by another hen. They will not use another nesting box even if it is alongside.

The farms were originally coconut tree farms owned by Mohan's family. The coconut trees continue to grow and provide the shade that protects the hens from harsh sun. The trees also make it difficult for predators like vultures to attack the hens.

These conditions are idyllic and vastly different from a typical industrialized farm

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Chickens roam around freely at a poultry farm

where hens are caged in closed areas. In cages, they cannot sit, move or even turn.

But in these conditions, they produce an egg a day. An acre can house up to 50,000 hens, meaning 50,000 eggs a day. Aeration is bad because of poor ventilation. Hens are also fed anticipatory antibiotics.

They have no activity and eat the feed they are provided and live for some 80 to 100 weeks in these stressful conditions.

"The cortisol hormone from high stress levels gets carried into the egg," says Kempaiah.

"We realized a lot of brands in the market claimed to be free-range, but didn't meet standards. We did not want our consumers to think we were just using those terms," says Mohan. So they reached out to Humane Farm Animal Care, a non-profit certification organization in the US, and had them fly in to check out their farms. "After they saw that we met their standards we got the Humane Farm Animal Care certification."

Kumar Kempaiah

Mohan has an engineering degree. It was while studying management at the University of Glasgow that he was introduced to 'new age farming'. He decided to give free-range poultry farming a shot.

He started experimenting in 2013, using his family's poultry farm near Coimbatore which was producing 80 to 100 eggs per day. He tried to understand how the birds behaved in an environment in which they were free and what their daily schedule would look like. With personal savings, coupled with some capital borrowed from his father, Mohan set up Farm Made Foods.

Kempaiah was a mechanical engineer before he decided to quit his job and raise a vegetable and mushroom farm. He met Mohan in 2016 and realized their ideas aligned. He decided to shelve the vegetable and mushroom farm project and work with Farm Made Foods on free-range eggs instead.

The coconut plantations produce another range of products that Farm Made Foods offers — coconut sugar, coconut candy and coconut *laddoos*.

The team has around 200 people in total. The poultry farm employs mostly women. The farm workers are provided accommodation along with their families. Men are usually 'tappers' for the coconut trees and work on feed mills for the hens. "In agriculture even if one staff member feels demotivated, many things in the process could go wrong," says Kempaiah.

During the initial months of the pandemic, logistics were a challenge. Another issue was limited production. "The rush at the retailers was unanticipated. We were producing at the same rate as we always do," says Kempaiah. But they managed to get over the hiccups eventually.

Farm Made Foods ships to 14 cities across India including Delhi, Mumbai and Bengaluru. The eggs are shipped directly from their farm. Eggs laid between morning and lunch are shipped the same evening. It takes around 18 hours for the eggs to reach someone who ordered in Mumbai, while it takes 24 hours for Delhi. They sell through retailers like Nature's Basket, Foodhall, Big Basket and local organic stores.

New cities are being added even as they have recently seen an increased uptake from the cities they are already catering to. During the pandemic they could not reach out to new cities. But now their eggs are available in Ahmedabad, Goa, and Surat as well.

EVERYONE'S GUIDE TO EGG TALK

Raising hens has become a serious business. There are clear definitions for the manner in which they are raised on poultry farms. Here is what these terms generally mean:

Caged: Hens that produce cage eggs are kept in cages. These have multiple tiers and give little or no space for the hens to move.

Cage-free: Cage-free hens have the space and freedom to move vertically and horizontally. They can nest and roost however they like inside their shed or barn. Some aviaries are multilevel. Cage-free hens feed on natural diets and can forage, but are not allowed to roam outdoors.

Free-range: Free-range hens have access to some vegetation-covered outdoor areas along with a spacious shed or barn. They have access to natural daylight for at least eight hours a day. The birds must have perching spaces, nesting space and dust-bath areas.

Pasture-raised: Much like free-range, pasture-raised hens have regular access to large vegetation-covered outdoor spaces. They should have continuous outdoor access and a good amount of space indoors. Similar to free-range hens, they need to have perching and nesting spaces along with dust baths.

While Farm Made Foods' eggs are 'tried-and-tasted' by us, there are some other outfits that offer cage-free, free-range, and pasture-raised eggs.

Keggs eggs is considered one of the first ones on the block to begin selling 'ethical' eggs. Their eggs are cage-free and have been around for many years. They offer a variety of eggs, including a low-cholesterol version. You can find them in your local grocery store.

Another outfit is Henfruit, set up by Tarun Gupta to take eggs from local farms to tables. Henfruit offers eggs from cage-free hens of six breeds. Their website also lists the ingredients of the feed given to the hens. Henfruit sells herbal eggs too, which are laid by hens eating special feed with herbal supplements in it. You can also get corn-fed eggs from them.

Happy Hens have a free-range farm for hens to run free. Their hens do not have their wings clipped or beaks trimmed and produce pasture-raised eggs. While their hens forage for bugs and protein sources in the morning, they are fed a balanced feed as well. They offer only Omega-3 rich eggs currently. Their packaging is made from recycled paper and is biodegradable. ■

At Vanvadi the forest food festival will showcase over100 varieties of wild, forest foods from the North Western Ghats

Eating from a forest

Vanvadi is a dream come true

BHARAT MANSATA

As summer peters out and the monsoon sets in, the Sahyadari mountains in the Western Ghats brim over with forest foods. There are vegetables, fruits, vines and tubers that are endemic to these ranges and local people relish them.

At Vanvadi, a forest we have regenerated over 28 years in the foothills, the months of May and June saw the fruiting and ripening of karvanda, mahua, mango, jambul and tembrun.

With the first rains, there also emerged shoots of shevla. Brilliantly coloured and exotic looking at closer sight, this locally relished vegetable is cooked in a special way with another forest plant to remove its itchiness.

Shevla has some kind of an exotic status and fetches a fancy price in not-too-distant towns like Badlapur and Kalyan. You might also find it in the Dadar market in Mumbai.

All through June, small hordes of neighbouring villagers fanned out into the Vanvadi forest to hunt for shevla. They also looked for the tender, young shoots of several varieties of creepers that are cooked as delicious vegetables, and are quite abundantly available till about mid-July.

A few varieties of tubers like ol-kand are also consumed in the rains by the local older generation, who swear by their high nutritional value. The ol-kand tubers are securely tied in a small cloth bundle and left overnight in a flowing stream, then boiled and eaten the following day. The elders recall that in the past, especially during periods of food shortage, they survived — quite healthily — on this tuber.

Forest foods are special. They are untainted by chemicals, nutritious, therapeutic and uniquely flavourful. But they are lost to people living in cities as forests disappear and organized farming supplies markets.

At Vanvadi we hold a forest food festival from time to time to create awareness and perhaps change tastes a little. The last was in 2018. We are doing one this year and calling it Forest Foods of the Konkan.

Three organizations are again collaborating to organize this year's festival: BAIF Development Research Organization, Kalsubai Millets and Wild Foods Association, and Vanvadi Forest Collective.

Both Sanjay Patil of BAIF and Nilam Jorwar of Kalsubai have done great work in documenting and spreading the word about forest foods.

The gathering at Vanvadi will showcase over 100 varieties of wild/forest foods of this region. Other highlights will be 'Forest Food Foraging Walks' in small groups of eight to 10 with Adivasi elders; an interactive discussion on 'Forests, Wild Foods and Adivasis'; and a wood fire-cooked lunch, served on plates made from the leaves of the palash tree, which has multiple medicinal uses.

LOOKING BACK

Almost two decades earlier, in 1994, a number of us had pooled our resources to buy undulating land, now known as Vanvadi, in the foothills of the North Western Ghats. Our primary aim was ecological regeneration of the forest and local self-reliance. Over the years, the land regenerated into a magnificent forest: tall, dense and rich in biodiversity.

A survey of the botanical wealth of Vanvadi, based on local tribal knowledge, surprised us. The forest contained 52 species of uncultivated foods that provide edible yield (leaf, fruit, flower, stem, tuber/root), usually at a certain

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time of the year. The peak availability in our region is during the early monsoon, when the agricultural produce of the past year has been largely consumed and the farming population needs nourishment for the hard work of the new planting season.

In February 2014, I attended a vibrant Tribal Food Festival at Bissam Cuttack in the Niyamgiri foothills of Odisha. Over 600 Adivasis, about 80 percent of them women, gathered from around 200 tribal villages of different states in eastern and central India to celebrate the rich diversity of their traditional foods. More than 1,500 food varieties — cultivated and uncultivated, raw and cooked — were on display, including more than 900 uncultivated forest foods. There were 400 ready-to-eat recipes for sampling.

The late Debjeet Sarangi of Living Farms that helped organize the Tribal Food Festival in Odisha told us: "Uncultivated foods provide a critical supplement to the diets of local native communities. Often, in bio-diverse natural forests, there is a year-long supply of several hundred varieties of foods, ensuring diversity and nutritional balance in local diets."

A recent study by Living Farms revealed that there was not a single household in its sample study of the Adivasis of the Niyamgiri hills and forests that reported it does not collect or consume uncultivated foods like wild tubers, greens, mushrooms, fruits, and so on. A wealth of living knowledge still exists in our indigenous communities regarding their forest bio-resources.

An Adivasi of the Pahari Korba tribe declared, "We Pahari Korba have always enjoyed a long and healthy life for generations, without any major ailments or diseases. For every minor disease, symptom or discomfort we depended on forest herbs, plants, vegetables to get well, and we never visited a drug store, hospital or took any injections."

Other Adivasi tribals at the festival related how their uncultivated forest foods have been dependable sources of nutrition even during drought and agricultural failure, caused by increasingly erratic or scant rainfall.

CHANGING TIMES

But in many places, communities are now reporting a decline in the availability and consumption of uncultivated foods, due to a variety of external factors. Deforestation, displacement, urbanization, big dams, industrial mining, mega-plants, the spread of cash crops and monocultures all constitute a relentless assault on the biological and socio-cultural habitats of our enormously rich diversity of uncultivated foods, evolved over millennia.

An elderly Adivasi woman, participating in the 2014 Tribal Food Festival, lamented: "Now we see our own children, educated the modern way, getting culturally alienated from us. This younger generation knows little about our rich heritage and traditional, season-based food practices. I fear that our whole life, livelihood and culture may be lost forever if we do not start educating our children and future generations to conserve nature, live harmoniously with the seasons, and revive our traditional bio-diverse nutritional security."

Devinder Sharma, a food and agricultural policy analyst, states, "Modern living has snapped the symbiotic relationship that existed with nature. Not many know that India is a mega-diversity region with over 51,000 plant species, but with hardly a handful being cultivated."

At Vanvadi, a primary listing yielded over 120 forest species known to have various traditional uses. Apart from food yielding species, we discovered we had more than 45 plant species of known medicinal use and at least 20 timber species, including four rated as 'first grade timber'. And then there are plants that yield natural dyes, soaps, edible oils, bio-fuels, gums and resins, botanical pesticides, leaf plates and so on apart from fodder, fuel, fibre, manure, hedge protection, craft material and the like.

Many species have multiple uses. For example, the flowers of the mahua tree are used to make jaggery, liquor and dozens of food recipes among the Adivasi communities of central and eastern India. The fresh, green fruits can be cooked and eaten as a vegetable, or sun-dried and consumed months later. In our region of north Konkan in the Western Ghats, the seed of the mahua fruit is crushed to yield a cooking oil, far more wholesome than any brand available in the market. And the residual cake after extracting the oil is used to fertilize farm crops. It is also burnt with dried cow dung to smoke out mosquitoes. When the mahua tree dies at a ripe old age, its wood is used for making carriages, furniture, sports goods, musical instruments, agricultural implements and for house and ship building.

The rich heritage of our forested regions sustained our Adivasi communities for generations beyond count. Today, if there are any people left on this earth who can teach our floundering 'millennium generation' the fine art and science of co-existing in harmony with the forest, it is these tribals. Or rather, just those among them who still retain the knowledge, skills, and the native cultural perspective. ■

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.

DIGITAL LITERACY, CLEANING BEACHES

Aahwahan is involved in promoting education and welfare of economically backward sections of society by providing accessible education and healthcare in rural areas. The NGO is based in Bengaluru.

They have helped set up and maintain free computer centres on the campuses of seven schools and appointed a computer trainer from the foundation at each centre for digital literacy.

Aahwahan also carries out tree plantation drives and distribution of blankets for the homeless during the winter in Delhi and Odisha. Volunteers of Aahwahan hold beach-cleaning drives in Karnataka, Goa and Maharashtra. One can volunteer for their programmes and drives.

https://www.aahwahan.com/
info@aahwahan.com
9113018004 7795065657

FIRST PERSON

PRIYANKA TALWAR, 22, SYMBIOSIS LAW SCHOOL HYDERABAD

'ONE CAN DO ONE'S BIT TO HELP ANYWHERE'

I WAS AN intern with Aarohan for five weeks. I had previously worked with some NGOs and wanted to work with one again as a legal intern. I found out about Aarohan in Delhi through my college. It focuses on education, holding drives to convince parents to send their children for schooling. Aarohan handles the admission process, provides remedial classes for the students and meals. For those past the age of schooling, it provides vocational training.

My time at Aarohan was very exciting, there was something new each week. In the first week, since I was a legal intern, I researched NGO registration and guidelines. In the next week, I tutored students from Classes 9 to 12. We had to simplify the material for them to comprehend it since some had joined regular classes directly and did not have the background knowledge and skills gained in junior classes.

We organized an HIV-AIDS awareness drive also, sensitively discussing the topic with parents and children. During the Children's Day week, I took the students to a film festival and then had a group discussion in the classroom about what they watched and learnt. I also held a workshop for very young children, explaining how to distinguish "good touch, bad touch".

I put together a booklet on basic laws and rights, detailing our legal rights, fundamental duties, working women's rights, and so on.

Aarohan runs on passion and will. No matter the resources, they make it work. My biggest learning was that one can do one's bit anywhere — if someone needs guidance or help, you don't need any big institutions to just help people around you. ■

SHELTER, COUNSELLING FOR WOMEN

Sayodhya is a non-profit based in Hyderabad. It is an initiative which seeks to cater for women in need of shelter and support. It has been working since 2010. They have set up homes offering 24-hour availability of emergency shelter, counselling and support for survivors of domestic violence.

They attempt to provide a support system by way of legal aid, shelter and security. The Short Stay home in Amberpet is available for homeless women, domestic violence survivors, orphans, and first generation women from rural backgrounds who intend to study in Hyderabad.

They also run a rehabilitation centre for women. You can donate to their projects.

Website: https://sayodhya.org/
Email: vemulapati.mrudula@gmail.com
Phone: 9490192119

LINKING EDUCATION AND JOBS

Antarang Foundation works on employability and skilling for at-risk youth and young people from disadvantaged backgrounds in Mumbai. They work to encourage students from disadvantaged backgrounds and at-risk youth to stay in formal education as long as possible. Through their CareerAware and CareeReady programmes they assist young people aged 14 to 25 from underprivileged backgrounds in career building to bridge the gap between education and employment opportunities. Antarang has helped over 120,000 people.

Their website features a 'hire from us' section to help beneficiaries secure jobs.

https://antarangfoundation.org
info@antarangfoundation.org.
mentor@antarangfoundation.org
Phone: 022 4005 0164

BE FAMILY TO THE CHILD ON THE STREETS

If you are looking to help children living on the streets, Butterflies is an NGO that works with vulnerable groups of children, especially street and street-connected children. Established in 1989, it is a member of Family for Every Child, a global alliance of local civil society organizations. Butterflies has a research, advocacy and training wing to mobilize support and resources for the protection of rights of children. Their Blue Umbrella Day is an initiative raising awareness on protection of young boys from sexual harassment. They have worked with the government of Delhi to help children in conflict with the law. Butterflies also works with children in Uttarakhand.

Website: https://butterfliesngo.org/
Email: butterfliesngo@gmail.com
Phone: +91-9971772911, 9999321098

CREATIVE CONFIDENCE AND LIFE SKILLS AS WELL

Slam Out Loud is a non-profit that uses performance and visual arts to help build creative confidence, life skills, communication, critical thinking and empathy in children from disadvantaged communities. Their 'Voice For All' project enables access to art education resources through digital platforms and facilitator training.

They provide free e-learning interactive content, and the children create and share original artwork at Art Melas in village and community gatherings. Their theatre course has been implemented in 950 villages in Uttar Pradesh, Rajasthan and Maharashtra, reaching out to over 50,000 children. Slam Out Loud's Fellowship places artists directly in classrooms.

Website: https://slamoutloud.com/
Email: contact@slamoutloud.com

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.

Masala magic

Spice up your food while doing some good. Sampark is an NGO working with women to improve their livelihoods through income-earning opportunities. They have helped form 1,500 Self-Help Groups (SHGs) in northern Karnataka and 1,000 in Varanasi. Kashika Masala is a brand of masalas made by the SHG women to support their livelihoods. Kashika Masala is operated and run by the rural women, who use their traditional native skills to produce home-made fragrant masalas. They also offer customized masalas and products. Their individual masalas are priced at ₹50 each, and you can also buy their spice bundles from ₹300 onwards.

Contact: +91 6306 962 744, reachus@kashikafoods.com, https://www.kashikafoods.com

Jute bags, rice mugs

Pragati Dhanuka was working in textile when she was inspired by the 'Save Aarey' movement to start KSAMAH to help people make a switch to more eco-friendly living. KSAMAH offers eco-friendly daily use products made from rice husk, jute, and bamboo. They offer cutlery, mugs, towels, bags, diaries and vases. They use recycled paper for their stationery and offer trendy jute bags. Their rice husk coffee mug is priced at ₹450, while their jute bags range from ₹200 to ₹500. They also offer gift boxes and starter kits, and one can order a customised box on their website as well.

Contact: +91 9372515135 / +91 9833723238
ksamahofficial@gmail.com; https://ksamah.com/

Himalayan delights

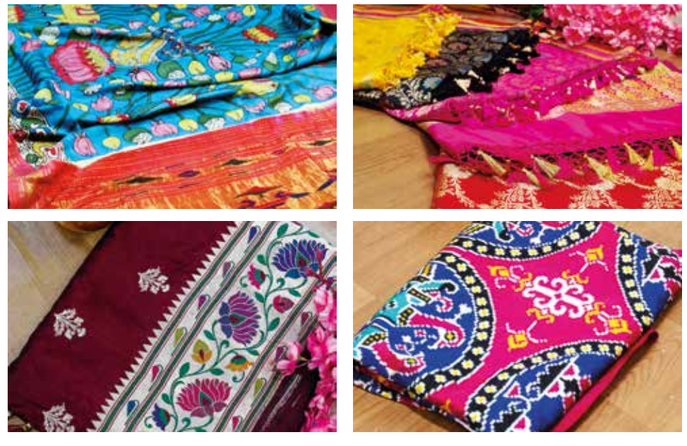
Working to bring 'source to table', Srot, founded by Kavita Bisht, is a women-led brand working with small marginal farmers to help bridge the gap between farms and consumers. Their aim is to create a link with farmers in the Himalayas and their products are made in small batches. They offer unique products like a Himalayan Buransh Squash made from Buransh flower pulp from the Kumaon region of Uttarakhand which is natural and preservative-free. It is priced at ₹399 for a 950-ml bottle. They offer kiwi and apple jams at ₹230 to ₹250. They also offer a Himalayan Turmeric Latte priced at ₹425.

Contact: srotfromthesource@gmail.com
https://www.amazon.in/stores/SROT/page/8D95BE0F-DCA1-4CBE-8987-15A5AA7FAAC8?ref_=ast_bln

Artisanal clothing

If you are looking to diversify your closet with some artisanal clothing from across India, you can check out Luxurionworld. Vinod Gupta and Chandrakant Chauhan set up Luxurionworld to connect consumers with weavers and artisans across India to preserve art forms and handicrafts. They have art forms like Kashmiri Aari, Patola, Kota Doria, Kantha and Chikankari, among others. They source their materials and clothes from artisans working in different states, who learnt the art forms from their families and tribes. Luxurionworld offers running fabrics, sarees, stoles, and jackets. They also sell customized clothing made by artisans who specialize in embroidery and hand painting.

Contact: +91 2235714484, contact@luxurionworld.com
https://www.luxurionworld.com/



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TATA STEEL FOUNDATION

TATA

Skilling programmes at the **Foundation**, are poised to **Reimagine** and unlock potential

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!

Reimagine