TATA TRUSTS

APRIL 2026

HORIZONS

SKILLING THE WILLING

Tata STRIVE's employability and entrepreneurship initiatives have reached more than 2.5 million youth across India

GOING CREATIVE

Budding talents got to spread their wings at the Students' Biennale of the Kochi-Muziris art festival

SPRING SUCCESS

A springshed project has been an elixir for 287 villages in Arunachal Pradesh, Mizoram and Nagaland

INTERVIEW

Kartick Satyanarayan on wildlife conservation, animal welfare and reconnecting with nature

EDITORIAL

For India to capitalise on its demographic dividend, it is critical that the country generate employment channels for its youth before the age-opportunity window begins to close. Creating jobs and self-employment openings has been a persistent challenge, one that is getting thornier still in the age of AI. There is no dearth of government initiatives aimed at coming to grips with the situation, but even the best of schemes and policies need a supportive ecosystem to come good.

Tata STRIVE, the skill-development powerhouse that's part of the Tata Trusts, has been providing such support since its inception in 2015. Employability and entrepreneurship are at the heart of the organisation's multiple and multifaceted programmes, which have thus far reached more than 2.5 million of India's young and yearning. Our cover story tracks Tata STRIVE's skilling efforts, from collaborations with governments and a range of industry partners to a tie-up with the extensive network of state-run Industrial Training Institutes.

Our Centre Stage segment highlights the many merits of the Students' Biennale, which has evolved to become an intrinsic element of the splendid Kochi-Muziris art extravaganza. The latest edition of the Biennale hosted the works of students from 175 art schools across the country, while providing them with the canvas and the means to expand their horizons.

Complementing this are feature stories on the Parag Awards, which honour writers and illustrators working in children's literature, and on a project that enables disabled people in rural regions to access artificial limbs and other prosthetics. Storytelling of the visual kind plays out in our look at a community-led springshed rejuvenation initiative unfolding in Arunachal Pradesh, Mizoram and Nagaland.

Wildlife conservationist Kartick Satyanarayan, interview personality in the current edition of *Horizons,* explains the importance of community engagement in animal welfare and why human beings have to reconnect with nature to understand and appreciate the creatures enriching the world we share. Additionally, we have Valay Singh, lead author of the India Justice Report, on how shortcomings in budgetary allocations are undermining justice delivery systems, and sustainability expert Sanjeev Karpe making the case for bamboo, among the most underutilised of India's natural assets.

Chistabelle Noronha

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

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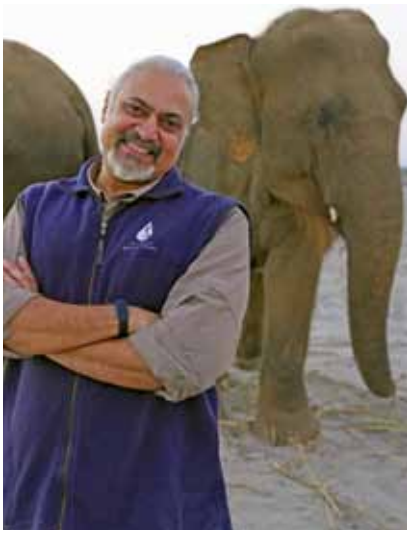

CENTRE STAGE

Cover image
Youngsters training to be electricians at an Industrial Training Intitute aligned to Tata STRIVE's Dual VET programme

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Deepa Kanyal (extreme right), the Tata STRIVE mobiliser for the Rudrapur centre in Uttarakhand, connecting with youth from the area

Where there's a skill...

More than 2.5 million job seekers of 'young India' have benefited from Tata STRIVE's wide and varied employability and entrepreneurship efforts. By Gayatri Kamath and Labonita Ghosh

Every morning around 9am, denizens of Gopeshwar in Uttarakhand's Chamoli district pause as the sound of the national anthem fills the mountain air. It is sung by the 60-odd youngsters attending a course in hospitality skills at the Tata STRIVE skilling centre nearby. In a few months, they will be ready for proper careers.

About 1,500km from Chamoli, in Jharkhand's Jagannathpur town, another set of youngsters is prepping for the auto-technician course at the local Tata STRIVE centre. They are seeking openings at service centres or garages that cater to electric two- and three-wheelers.

In Nerul, Navi Mumbai, the Tata STRIVE skilling centre sees about 700 youngsters train each year in a range of disciplines: Java developers, front-office associates, auto technicians, cybersecurity executives, hospitality executives, electricians, nursing assistants and more.

India's demographics — with about 65% of the population below the age of 35 — will yield dividends, experts attest, only if the country's youth find sustainable livelihoods.

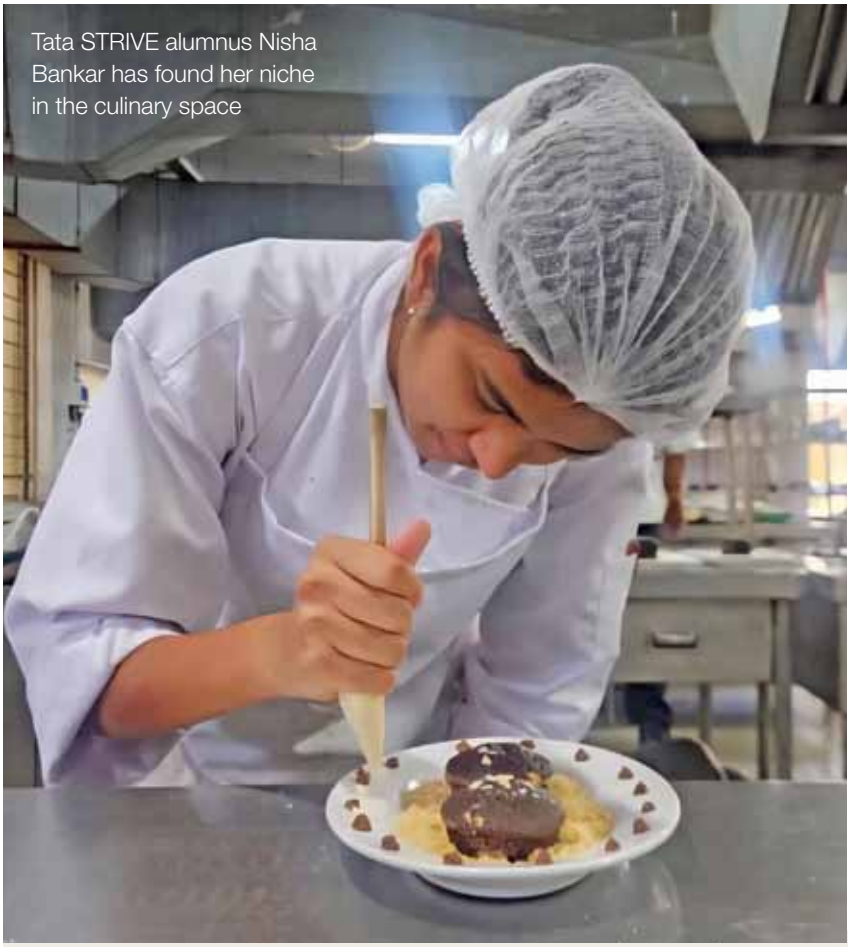
That's the mission for Tata STRIVE, a skill-development endeavour that reaches more than 450,000 youth annually in 24 Indian states. It does this through a slew of programmes that aim to help bridge the gap between education and employability.

Enabler for learners

"Our vision from the beginning has been to serve the underprivileged through [training in] employability, entrepreneurship and community enterprises," says Tata STRIVE's chief operating officer Ameya Vanjari. Supported by the Tata group and several leading corporate entities, and under the aegis of the Tata Trusts, this is a skill-development initiative that has been an enabler for more than 2.5 million 'learners' since its inception in 2015.

Employability is the primary concern for Tata STRIVE, which offers 70+ job courses to aspirants, with the effort going beyond trainers, classrooms and equipment. There are multiple elements in the mix: industry-relevant pedagogy, training in domain as well as life skills, and engaging with industry partners for on-the-job training, internships and placements.

Tata STRIVE now has a network of 167 skilling centres that span the length and breadth of India, from Kupwara in Jammu and Kashmir to Kochi in Kerala, from Guwahati in Assam to Mithapur in Gujarat. Industry preferences are a factor in picking the location for a centre. For instance, inputs from industry partner Bajaj Auto about auto



Tata STRIVE alumnus Nisha Bankar has found her niche in the culinary space

The Tata STRIVE story

- Established in 2015, it has been an enabler for more than **2.5 million youth,** including **468,000+ women**
- The organisation has **167 skilling** centres in **24 states,** offering **70+ courses** in a variety of job streams
- Skilling for jobs, entrepreneurship development, **ITI ecosystem,** strengthening self-help groups (SHGs), and school support are the five pillars of the initiative
- Tata STRIVE has connected with **620+ ITIs;** trained **60,000+** women SHG members;engaged with **2,800** students from 25 schools; and collaborates with **60+ partners,** including corporate entities, government departments, philanthropies and academic institutions
- **FY-2025 impact: 450,000+ youth** engaged; **200,000** counselled; **18,000+** placed in jobs; **1,950+** entrepreneurs supported

Trainees at the Tata STRIVE skill development centre in Nerul in Navi Mumbai (this caters to 700+ learners every year)

technicians led to centres coming up in Odisha and Maharashtra.

Tata STRIVE has also set its mind on opening centres in small-town India, such as the ones in Gopeshwar in Uttarakhand and in Jagannathpur in Jharkhand., where jobs are scarce and skilling helps open up opportunities to the world beyond the local.

Starting a centre is a complex exercise. "There are socioeconomic considerations, aspirations, community attitudes and parental concerns that need to be weighed in to make a centre successful and sustainable," says Shiladitya Samaddar, head of operations, skill development and entrepreneurship at Tata SRIVE.

A crucial constituent when starting off is the community mobiliser, typically the first employee when a new centre is being established. "These mobilisers talk to the community about the value of skilling and the livelihoods they make possible," adds Mr Samaddar. The mobiliser's toolkit includes videos that explain different career options and a counselling app called Karya Path that supports candidates in choosing a path based on their interests.

The skilling centres vary in size and scope. Smaller centres have a couple of classrooms and about 100 students passing out every year. Mid-sized ones offer more courses and cater to about 250-350 youngsters annually.

Diamonds shine

The Nerul centre is one of the largest, with about 10 courses and 700-plus learners every year. "It's our flagship centre and we have had diamonds passing out from here," says Mr Samaddar.

The diamonds he refers to are students who have found new settings for their talents, such as hospitality trainee Shreeram Kulkarni, now an in-demand florist, and barista Nisha Bankar, whose culinary skills took her to the India Skills 2025 competition.

Diversity is an important aspect for Tata STRIVE, which has a 38% intake of women at its skilling centres. The Hyderabad and Rudrapur (Uttarakhand) centres have women training to be auto technicians, and the Nashik centre hosts all-women batches for its electrician course.

A key differentiator for Tata STRIVE is in the pedagogy design that underpins its training courses. The courseware is built with inputs from domain specialists and with an optimal blend of classroom and hands-on experiences. Additionally, trainees are hand-held through modules in soft skills such as communication, digital literacy and financial literacy.

Tata STRIVE has employed technology to optimise operations across its multiple centres and courses. "We have built a digital backbone that captures real-time data across every intervention," says

Raghu Reddy, head of technology and innovation at Tata STRIVE. "Every process is designed for replicability, ensuring that even as we reach millions, our quality remains uncompromised. This strategic integration is what empowers us to hit our most ambitious targets."

In course design, Tata STRIVE swears by a fundamental truth: industry requirements and social aspirations are always evolving. As a result, courses are constantly adapted to meet relevant needs. For example, beauty courses have expanded to include bridal makeup and nail art. With digital services on the rise, Tata STRIVE collaborated with Microsoft and Tata Communications to design a course on cybersecurity.

Trainees from the Dual VET programme at ITI Mulund in Mumbai

Partnership positives

Partners have played a critical role in Tata STRIVE's journey, providing domain expertise, equipment, on-the-job training and job opportunities. The organisation's 60-odd partners range from small and medium businesses in cities and towns to stellar companies such as Indian Hotels, Siemens and Schneider.

There's more to Tata STRIVE's exertions than its skilling centres. A key initiative is the engagement with government-run industrial training institutes (ITIs) to make pedagogy more relevant and candidates more job-ready *(see* Inside assistance *on page 13)*.

Another component is training aimed at paving the entrepreneurial pathway. "We encourage youngsters who have learned a skill to step out on their own and set up a business," says Mr Vanjari. The businesses run the gamut, from solar power maintenance to beauty salons to cloud kitchens.

The budding entrepreneurs are supported in full, with the provision of seed capital that can go up to ₹150,000, and mentoring and feedback sessions with 'success' managers. Also included is a 10-day course on business-related matters (income tax, goods and services tax, legal regulations, etc).

Fostering small enterprises at scale is an intensive exercise and scale-up can be a challenge. To address this, Tata STRIVE has explored a third pillar: plugging into India's vast network of self-help groups. The standout example here is Tata STRIVE's engagement with more than 640,000 women in the Pimpri-Chinchwad region in Pune.

From 2025, Tata STRIVE has added a new initiative to its programming: counselling schoolchildren on vocational careers. This takes forward insights gained from years of experience working with youngsters. "There is a considerable gap in our education system; our youngsters are not aware of the potential in non-academic options," says Mr Vanjari. "We want to see how middle-schoolers can benefit from being introduced to vocations."

Connecting with governments (central and state), industry (conglomerates to small enterprises), homegrown entrepreneurs, homemakers, career-minded youngsters and, now, schoolchildren has helped Tata STRIVE strengthen its offerings and expand its horizons. That's good news for India's livelihoods ecosystem. ■

Bartending is a part of the hospitality programme run by Tata STRIVE at the World Skill Centre in Bhubaneswar

Jobs and beyond

Odisha has been a laboratory for Tata STRIVE's skilling initiatives, and a boon for the state's youth and its industrial training institutes

The mood in the kitchen is tense. A Master Chef-like situation is playing out in the culinary department of the World Skill Centre (WSC) in Bhubaneswar, Odisha. Two senior chefs from the Taj Group of hotels, spoons in hand, are tasting and grading dishes prepared by a batch of would-be chefs. The youngsters stand around in uneasy silence as the examiners taste each plate. An hour later, they breathe easy: they have passed with flying colours and also picked up a host of tips along the way.

The exam is part of a course for commis (Junior Chefs), designed by Tata STRIVE and offered as one of four career options in the school of hospitality at WSC. The three-month WSC programme, which also covers housekeeping, front office and food and beverage (F&B) courses, provides youngsters with a fast-track option into the hospitality world, preparing them for internships and, eventually, jobs.

Spreading their wings

Says Akanshya Dandasena, a 22-year-old from Gajapati district in Odisha who completed the F&B course a year ago and now works with a Bhubaneswar restaurant: "I used to be wary of meeting and conversing with new people; I don't fear that anymore. I have learned so much about personal grooming, presentation and customer interfacing."

The WSC School of Hospitality is just one of the many initiatives that Tata STRIVE has operationalised in Odisha. There are nano unicorns, sports change leaders, a chief ministers' fellowship programme and more, all of them crafted to raise the skilling bar and generate livelihoods.

The Tata STRIVE engagement with Odisha dates back to 2017, when the Odisha Skill Development Authority invited it to upgrade 10 government Industrial Training Institutes (ITIs). Over the years the

programme has been expanded to cover all 69 government ITIs in the state. "We entered Odisha at a time when skill development was a new idea across the country," says Rajarshi Mukherjee, head of partnerships and programme development at Tata STRIVE. "Many states were providing skilling solutions without understanding the actual challenges faced by the youth. Odisha was going through a similar situation."

Odisha's ITIs, like a lot of its ilk across India, had not kept pace with changing industry dynamics. Technology and teaching methods had become outmoded and there was little focus on employability skills.

Change leader Tejaswini Nayak (right) with students of ITI Bijepur in Odisha's Bargarh district

Mindset and attitude

To make its learners employment-ready, Tata STRIVE developed modules for workplace competencies and life skills: personality development, communication ability, critical thinking, problem-solving, etc. These are now taught across Odisha ITIs, reaching 35,000-plus learners in 30 districts. "We provide them with the right kind of mindset and attitude," says Kumar Indrajeet, lead, special projects. "It's about creating individuals who can serve industry with will and focus."

To achieve this objective, Tata STRIVE rewrote the ITI playbook. Trainers and instructors are guided to become 'change leaders'. Currently 109 in number, they are Odisha natives with a background in soft skills teaching who go through a special 10-day 'train the trainer' programme that aligns them with Tata STRIVE's pedagogy.

Change leaders liaise with companies and invite them during placement season. They engage with parents to resolve challenges faced by students in completing their ITI stint. This aspect is important because Odisha is home to a large number of underserved communities, where agriculture is the fallback for many families and ITI dropout rates are high.

"My primary responsibility is to train learners, enhance their employability and help them create

On your mark…

Sport has become integral to Odisha's industrial training institutes (ITIs). Tata STRIVE has about 30 'sports change leaders' and their job is to motivate learners to strengthen their body, mind and inner self. Sport plays a key role in all of this.

Ankit Barla, a former state-level basketball player, is a sports change leader with the Sundergarh ITI. He works on the fitness levels of his wards and also conducts yoga and meditation sessions "to calm their minds".

Mr Barla's classroom lessons focus on team building, seeing tasks to the finish and facing up to challenges. The mindset that emerges from these lessons enables students to succeed in a competitive work environment.

The programme benefits youngsters from marginalised tribal families. "They know that if they play well, they will get selected for sports hostels where they will get free food, accommodation and equipment, things they can't afford back home," says Mr Barla. "When they come to the ITIs to secure a job, we need to make them mentally strong as well."

a career," says Tejaswini Nayak, a change leader at the Bijepur ITI in Bargarh district. "I also organise industry visits for students to get a sense of workplaces. There is nothing like exposure trips to give them a taste of the real world."

Learners often view change leaders as lifelong mentors. Uday Hembram, a native of Takatpur village in Mayurbhanj district, talks about how a change leader helped him get his life back on track. Despite being a chemistry graduate, Mr Hembram couldn't get a job for many years and his family's financial situation was precarious.

In 2021, Mr Hembram joined ITI Jatni for an 18-month course in welding. He wanted to drop out but was convinced by the institute's change leaders to persevere."They have ve become like family and I still consult them even on personal decisions," says Mr Hembram, who has since become a trainer at the ITI in Phulbani.

It isn't just skilling. In 2018, Tata STRIVE launched a project called Nano Unicorn to promote entrepreneurship. This aims to train young people, especially those from marginalised backgrounds, to become job creators rather than job seekers. The programme integrates experiential learning, business plan development, financial literacy and digital-skills training into a 10-day course, while also providing access to mentorship and funding.

The would-be entrepreneurs receive structured guidance from a pool of 75 mentors, with participants being able to pick a subject of their choice (food processing, dairy, retail, tailoring, mobile repairs, beauty services, etc).

Some 3,300 nano unicorns have been supported in Odisha. Among them is Shibani Mohapatra from Berhampur, who set up a common service centre, a place where citizens get help to avail services such as opening of bank accounts, getting identity papers processed, and finding information about pensions or the latest government schemes.

Plugging into business

"Berhampur is surrounded by villages where the nearest bank or government office could be several miles away," says the 20-year-old Ms Mohapatra. "Most people, especially seniors, struggle to access these centres. That's why I decided to open one closer to them."

The Nano Unicorn programme has found good traction, with an average monthly revenue of ₹39,788 and a profit of ₹17,621. Notably, 91% of those trained in 2023-24 have begun their loan repayments, a testament to the initiative's effectiveness.

A unique aspect of Tata STRIVE's work in Odisha is the Chief Minister's Skill Development Fellowship, a collaboration with the Indian School of Business that places young leaders in district administrations to improve, implement and strengthen various skilling initiatives.

What Odisha has accomplished is being noted elsewhere. "We have been approached by many states about the 'Odisha model'," says Mr Mukherjee. ■

Inside assistance

Pointed pedagogy and hands-on experience are the main ingredients in Tata STRIVE's attempt to enhance India's industrial training institutes

From welder to purchase manager — that's the arc Roshan Rane's working life has taken. The transformation can be traced to the day he joined the welder course at the Industrial Training Institute (ITI) in Mumbai's Mandvi area in 2022.

As part of the course, Mr Rane went to Shree Vishwakarma Industries in Thane for on-the-job training. His attitude and leadership skills caught the eye of company owner Ravi Vishwakarma. Within a couple of years, Mr Rane's career blossomed: from a welder apprentice he became a production manager and then moved up to purchase manager.

Mr Rane's career growth can be attributed to the exposure and training he received at the Mandvi ITI, which is one of 3,300-plus such government-run institutions Tata STRIVE has been involved with since the programme began in 2017.

Most of these ITIs have fallen behind the times in terms of infrastructure, equipment and pedagogy. And yet they are often the most convenient resource for youngsters looking to secure vocational training. "Strengthening the ITI ecosystem is important for helping the youth get better quality of learning and employment-relevant skills," says Bijitha Joyce, head of ecosystem strengthening at Tata STRIVE.

Linking up with the ITI network was logical. Skilling in India has to be a play of scale, and Tata STRIVE knows this better than most. For a decade, it has laboured to revise the ITI pedagogy to improve both trainers and trainees. The intent is to make teaching and learning experiences more effective

Youth training to be electricians at one of the ITIs attached to the Tata STRIVE initiative

and domain skills more relevant to modern industry.

As a result of Tata STRIVE's ITI engagement, more than 190,000 youth have learned sustainable skills and a clutch of industries has found a pipeline of employees, among them electricians, auto mechanics and welders.

To upgrade the ITIs, Tata STRIVE banked on two very different types of partners. At one end are the state government directorates that oversee vocational training, and at the other are enterprises and industries in search of the specifically skilled.

Several states have come on board, including Odisha, Maharashtra, Uttarakhand, West Bengal and Gujarat. Of these, the Odisha engagement, which started in 2017, is noteworthy because of its sheer scale.

The state government wanted Odisha to develop skilled talent to global standards. Tata STRIVE developed and cascaded a new curriculum to all 69 ITIs in the state. Soft skills — communication, teamwork, problem-solving, confidence-building and digital literacy — have been packaged into a youth development module.

Another success story is Maharashtra, where Tata STRIVE engages with 169 ITIs. The organisation's advocacy effort has brought an additional benefit: the state government directorate has addressed safety issues and made accident insurance mandatory for all ITI trainees.

What the state authorities appreciate is the value that Tata STRIVE brings to the table in terms of pedagogy and industry connect. One example is the partnership with Siemens India to roll out a programme called Dual Vocational and Education Training (Dual VET) in 398 ITIs.

Improving India's ITIs

- 190,000+ trainees have benefitted from the initiative
- Odisha, Maharashtra, Uttarakhand, West Bengal, Gujarat and Andhra Pradesh are the participating states
- Tata STRIVE has cemented tie-ups with 2,600+ partners, including Siemens India and Bajaj Auto, to enhance the programme

Dual VET is a German-origin model of skilling where a significant component is on-the-job training in local industries. To make Dual VET industry-relevant, Tata STRIVE has reached out to some 3,000 industry partners to have them take on interns.

Another interesting engagement is the partnership with Bajaj Auto, which has been ongoing since 2022. This has introduced 600-plus ITIs to Bajaj Management Systems (BMS), a course that imparts 11 tenets of 'total productivity maintenance' while utilising the auto giant's manufacturing excellence.

What all of this will deliver is a pipeline of potential employees familiar with quality thinking that can support the auto company's supply chain partners. Ashutosh Kamble, who joined the welder trade at the ITI in Beed, Maharashtra, is among those who completed the BMS course. "It teaches us quality, efficiency and discipline," he says.

With both state governments and industry tracking India's skilling evolution with interest, Ms Joyce sees the focus on ITIs increasing. In its FY-2026 budget, the central government has allocated ₹6 billion to upgrade 1,000 ITIs across the country. This is good news for youngsters seeking skills that will lead to a living wage. ■

Budding auto technicians train at the Tata STRIVE centre in Nerul in Navi Mumbai

Tomorrow calling

With relevance and necessity in mind, Tata STRIVE has made the skilling of youth for new-age industries and vocations a priority

The word vocation evokes images of carpentry shops and tailoring units. Tata STRIVE is rewriting this playbook by creating skilling courses for today's emergent industries: cloud computing, solar power, electric mobility, cyber security, full-stack development and more.

Starting with six courses in 2015, Tata STRIVE has been adding new courses every year, with the tally now crossing 70. "There is a push-pull logic to the way we plan courses," says Ajita Karve, head of design, quality and communications at Tata STRIVE.

The pull comes from new requirements voiced by the organisation's industry partners. For instance, Tata Motors has partnered Tata STRIVE for years as a pipeline for skilled auto technicians. A few years ago, when the demand for electric vehicles started rising, the automaker approached Tata STRIVE to skill trainees in servicing these. Similarly, Bajaj Auto requested skills specifically in servicing CNG engines. "When we get a particular request from a partner, we try to determine the demand for such a course and how many livelihoods could be generated," says Ms Karve.

Often, industry partners choose corporate social responsibility expenditure as a route to skilling. "Organisations look for implementation partners like us," says Rajarshi Mukherjee, head of partnerships and programme development at Tata STRIVE. "They want to ensure their spending is aligned with their core business and marketing strategy, even as it helps improve brand visibility and directly impacts youth in their operational areas."

An example here is Voltas, which needed retail sales associates to market its Beko brand of home appliances. In response, Tata STRIVE designed a course that layered retail skills with information specific to Beko appliances.

Some of the push to launch

new courses comes from within. "We get feedback from our faculty and our placement team, who tell us what skills companies are looking for," says Ms Karve. One line of feedback comes directly from the trainees placed.

As part of its process, Tata STRIVE touches base with placed students at intervals of 30, 60, 90 and 120 days. The students talk about their real-world experiences and whether their workplace needs a particular skill. This feedback gets incorporated into the design of the course.

Apart from adding new courses, Tata STRIVE continuously upgrades existing courses. Ms Karve cites the assistant electrician course as an example. "Our assistant electricians need to handle the newer electrical products in the market, with new displays and sensors and AI-based devices."

While relevance is critical in sustainable skilling, so is consistency and course quality. To stay on top, Tata STRIVE has designed its own quality framework, which is used to rigorously monitor the performance of its centres, facilitators and courses.

An interesting facet is that all courses are designed to be consumed easily and to match the profile of those who come to Tata STRIVE. This is typically a cohort that prioritises applied learning over theoretical study and shows a strong preference for visual communication over dense, text-heavy formats.

Tata STRIVE's design team develops highly detailed facilitator guidebooks for every course. Such granularity ensures that a course launched in Mumbai can be replicated in Assam or Rajasthan with zero dilution in quality.

"We are integrating dedicated AI modules into all our courses, preparing youth to thrive in future work environments," says Raghu Reddy, head of technology and innovation at Tata STRIVE.

There is support for trainers and facilitators. If facilitators have to explain an abstract idea in the local cultural context, they can use the AI tool to cite examples. As with so much else of its work, Tata STRIVE is doing what it is meant to in the skilling space — make the present relevant for the future. ■

Schooling them early

Tata STRIVE has ventured into a new area, schools, to introduce various vocations as an alternative to higher education — and to destigmatise skilling.

The doors were opened by the National Education Policy (NEP) 2020, which aims to move Indian schools from rote learning to competency-based education and bring in vocational exposure from middle school onwards.

Tata STRIVE's school engagement started in 2025 and now operates in 25 schools with a collective count of around 2,800 students from classes VI to XII. The Tata STRIVE team is also connecting with schoolteachers to help interpret the new-age pedagogy highlighted in NEP 2020.

Underlying all these efforts is a central idea: to make skilling popular and create acceptance for vocation-oriented learning.

An event held in Pune to recognise SHG members who have trained for jobs in the hospitality sector

Doing it her way

A start in micro and small businesses for 40,000 women — that's the happy outcome of a collaboration between Tata STRIVE and the Pimpri-Chinchwad Municipal Corporation in Maharashtra

Smita Kshirsagar carries two bottles of perfume in her bag, not for use but for inspiration. Ms Kshirsagar, who makes *attar*, a fragrant oil distilled from botanicals, has been trying to break into the perfume market with little success. The 52-year-old homemaker-turned-entrepreneur from Pune thinks she knows why: "I saw this box that was attractively packaged, listing all the ingredients. My products have simple packaging and branding; this is what I need to change."

Ms Kshirsagar is getting there with help from Tata STRIVE, a skill-development initiative of the Tata Trusts. Tata STRIVE works with 4,690 self-help groups (SHGs) in the Pimpri-Chinchwad Municipal Corporation (PCMC) area of Pune to help its women members run micro, small and medium businesses (MSMEs).

Project Sakshama, launched by Tata STRIVE in 2023, has in its fold around 40,000 SHG women. SHGs are a cornerstone of women's socioeconomic empowerment in India, yet many face challenges in upgrading product quality, accessing markets and improving revenue. Tata STRIVE stepped in to lend a hand.

Women empowered

"When a woman is empowered with a livelihood, the entire family is empowered," says Bijitha Joyce, head of ecosystem strengthening at Tata STRIVE. "Typically, SHGs are viewed merely as money-saving, loan-dispensing entities. We wanted to go beyond that savings mindset and establish a livelihood for the women members of SHGs."

Project Sakshama is a five-year programme that trains women in financial literacy, livelihood skills, leadership and enterprise management. It seeks to strengthen the SHG system itself — for collective growth, improved bargaining power and better market access — through clusters and federations.

In addition, SHG members are connected with customers through corporate, retail and e-commerce platforms. And finally, by embedding digital governance and tracking systems such as real-time dashboards, Sakshama promotes transparency,

Products made by SHG entrepreneurs on display during a promotional event held in Mumbai

accountability and efficiency.

"The idea was to take SHGs, build their capabilities and enable [new sources of] livelihoods for them," says Ajita Karve, head of design, quality and communications at Tata STRIVE. "After year three of this five-year project, we will begin handing it over to the respective departments at PCMC so that they can assess the sustainability of whatever we've done so far."

Tata STRIVE began in Pimpri-Chinchwad by collecting data to understand existing SHGs and their activities, something that had never been done before. A baseline survey was conducted to assess the profiles of the SHGs and their members' livelihood needs.

"We have created a dashboard that contains all the information about the SHGs, down to every member and her entire business background and revenue stream," adds Ms Karve. "With a click of a button, we can access information about 4,000-plus SHGs."

Tata STRIVE tracks SHG activities through this dashboard and tries to ensure that processes are followed, for instance, checking that the *panchsutri* [a five-step internal regulation mechanism] is maintained. "Accounting practices and meetings are now registered on the dashboard," says Ms Karve. "At any point, you can see which SHGs are holding meetings on time, who's lending, who's repaying, etc."

Tata STRIVE's capacity-building programme, designed inhouse, has four modules that deal with financial literacy (how to open bank accounts, start and manage online payment systems; get access to microcredit and government funds, etc); livelihood development (how to be financially independent with either a business or upskilling for a job); leadership; and enterprise management (providing trade-specific training). More than 22,700 women from 3,297 SHGs in the PCMC area have been trained so far.

There's a variety of training options. "For those who can't work full-time but want to earn some money, we offer short courses that come in handy during festivals," says Ashwinee Sangekar, lead, monitoring and evaluation (PCMC). For instance, 25 SHG

members were trained in women's grooming, 38 have learned tailoring, while another 32 and 20 members respectively have become proficient at making seasonal offerings. Also on the learning menu are home décor, jewellery and gift items.

The aspirations of the women involved are high and Tata STRIVE is doing its best to support these. About 50 MSME activities have been identified for nurturing, mentorship and development, including helping potential entrepreneurs identify business opportunities; create a business plan; get information about requisite licenses and registrations; and improve packaging, branding and pricing of their products or services. There is also an emphasis on soft skills such as personal grooming and customer interfacing.

SHG member Sonali Bhoge (left) has started a spice business from home while teacher-turned-entrepreneur Rekha Somavanshi heads an SHG federation

Cooking up a career

For homemakers interested in the culinary, Tata STRIVE has organised for chefs from the Taj Group of hotels to host cooking lessons. This venture led to 48 women setting up food stalls in a PCMC-managed hub in Pune's Akrudi neighbourhood. "The food stalls generate ₹2,000-3,000 in revenue every day because of high demand," says Ms Sangekar.

Cloud kitchens top the list of home-based ventures. That's the road 38-year-old Rupinagar resident Sonali Bhoge is planning to take with her soon-to-start food business (she currently sells spice mixes from home in partnership with two other women from her SHG). "I have learned how to package my cooking masalas more attractively and how to price my products," says Ms Bhoge. "I participate in exhibitions and have set up temporary stalls in the offices of some Tata group companies."

Having PCMC as a partner has been a boon for the programme, such as offering opportunities for casual employment. SHG members have delivered property tax bills for a small fee and also conducted door-to-door surveys about PCMC's services, again for earnings.

While individual success stories are meaningful, Tata STRIVE is also engaged in strengthening the SHG system by forming a structure of clusters and federations. A group of about 10 SHGs, each with 10-12 members, forms a cluster; 11 to 15 clusters form a federation.

There are 255 clusters and eight federations in the PCMC area. Each federation is governed by an executive committee that manages its operations independently. The idea is that this formal structure will last longer. "We're trying to build an institution that can run independently when Tata STRIVE is no longer present," says Ms Joyce.

"It's difficult to get women out of their homes and into a livelihood, but it's harder to ensure they don't drop out," says Rekha Somavanshi, president of the Zhep federation. "My biggest challenge has been to make sure my fellow SHG members finish their training and continue in the system."

That means constantly having to find new sources of work while creating the next level of leaders. "I also have to ensure we have a 'hero' product that sells well, and that we have the requisite licences to run our businesses," adds Ms Somavanshi. "I have learned all this from the Tata STRIVE training." ■

‘Conservation is a societal ethic’

The “conservation of forests and wildlife is, in essence, the conservation of human beings,” says **Kartick Satyanarayan** with a depth of understanding that reflects his standing as one of India’s leading wildlife conservationists and votary of animal rights.

In this conversation with Christabelle Noronha, the cofounder and chief executive officer of Wildlife SOS talks about the importance of community engagement in animal welfare, the part that policymaking plays in wildlife conservation, and why we have to reconnect with forests and nature to better appreciate the creatures we share this planet with. Excerpts from the interview:

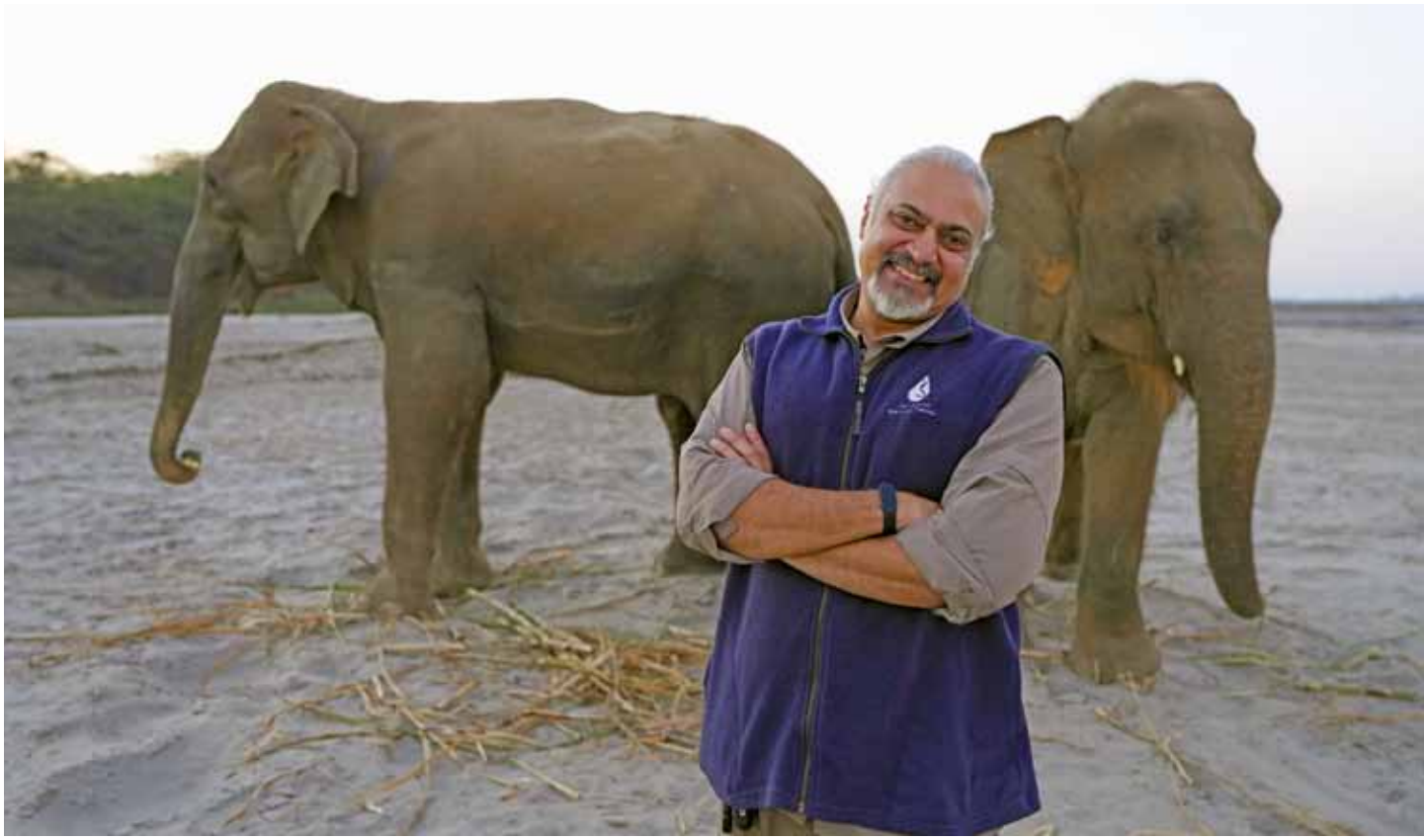
How would you describe the state of wildlife conservation in India at present? What have we got right and where are we lagging?
On the positive side, India has become a global conservation leader with several high-impact success stories. Our tiger population has nearly doubled over the past decade and today India is home to about 75% of the world’s wild tigers. This displays sustained protection, science-based monitoring and enhanced community engagement.

Gir National Park in Gujarat remains the only wild home of the Asiatic lion. The recovery of its numbers from precariously low levels reflects consistent protection despite development pressures and poaching driven by the illegal wildlife trade. Similarly, populations of one-horned rhinos in Kaziranga National Park in Assam have increased due to sustained government action and monitoring, and the numbers of olive ridley sea turtles along the Odisha coast have stabilised thanks to coordinated policy implementation and community participation.

Yet conservation is far from uniform. Across many regions, habitat fragmentation driven by infrastructure expansion, mining and unchecked land conversion continues to squeeze wildlife populations. India’s rapidly expanding human population intensifies pressure on land, forcing wildlife and people into closer proximity. In parts of Mumbai and Pune, increased leopard presence has triggered public anxiety and, at times, indiscriminate trapping in response to conflict incidents.

Connectivity between key landscapes in the Western Ghats and the Himalayan foothills remains inadequate, limiting genetic exchange among wide-ranging species such as elephants and big cats. Railway lines and

“India’s cultural history is replete with expressions of deep reverence for wild animals ... Yet, paradoxically, contemporary behaviour often starkly contradicts this reverence.”



highways that cut through forests without mitigation measures have led to repeated wildlife casualties, illustrating the urgent need for wildlife overpasses, underpasses and ecologically informed infrastructure design.

Lesser-known but ecologically vital species — the great Indian bustard, the Indian pangolin and various endemic amphibians among them — continue to decline outside flagship narratives. These species often function as ecological indicators; their disappearance signals deeper habitat degradation that may not yet be visible through more charismatic species.

Much has been said about human-animal conflicts in India and the nefarious contribution of so-called development to this. How can we find a balance, if at all?

Human-wildlife conflict is an ever-present conservation concern in India, rooted in deeper tensions between expanding human footprints and shrinking wildlife habitats. Roads, railway lines, hydroelectric projects, electric transmission lines and unplanned tourism development are often designed for the shortest distance and fastest completion, with little regard for ecological fragility.

When development is planned without studying landscape impact, wildlife corridors, and species movement, we fragment habitats irreversibly and ultimately compromise the very ecosystems that sustain human life. Effective conservation must, therefore, be as much about coexistence as it is about protection. If coexistence is not built into development planning, conflict becomes inevitable.

Rescued sloth bears Mowgli and Mandro in a mock wrestling bout at Wildlife SOS's Agra Bear Rescue Facility (Mowgli was rescued as an orphaned cub; Mandro was saved from the 'dancing bear' business)

You have written about how India's diverse and rich fauna has shaped our many cultures and traditions, and how our connection with nature has been eroded. What explains this ever-growing disconnect and how can we stem it?

India's cultural history is replete with expressions of deep reverence for wild animals. From ancient scriptures and temple art to folklore that venerates rivers, forests and other living beings, our traditions reflect a profound ecological imagination. Yet, paradoxically, contemporary behaviour often starkly contradicts this reverence.

A striking example lies in our societal attitudes towards snakes. While they are worshipped during festivals such as Nag Panchami, they are also subjected to exploitation, cruelty and commodification in the very same society. During these celebrations, snakes are often captured from the wild, their mouths stitched or their fangs removed. They are starved to weaken them and forced into stressful public displays. When they are too weak to 'perform', they are discarded. The result is an ambivalence: reverence on the one hand and exploitation on the other.

The suffering of wild animals is caused by a growing human disconnect that originates with urbanisation, reduced direct engagement with natural landscapes, and a lack of environmental education. Many people are increasingly absorbed in digital spaces, rarely spending time in forests, on treks or observing wildlife firsthand. As a result, nature becomes abstract rather than lived in and experienced.

Animals do not have a voice or vote, so whose responsibility is it to protect them in a time of uneven governance, an apathetic public and regulations that are frequently flouted or bypassed?

Animals do not participate in electoral systems, but that does not render them voiceless. Their survival depends on layered systems of responsibility: legal, institutional, cultural, and individual. While India's Constitution recognises a citizen's duty to show compassion towards living creatures, and landmark legislations such as the Wildlife Protection Act of 1972 and the Forest Conservation Act of 1980 provide strong statutory backing, the effectiveness of these frameworks depends entirely on how they are upheld.

In periods of uneven governance, responsibility becomes distributed rather than diminished. This makes enforcement of the law dependent on strong public will. The discontinuation of animals in circuses across India within a single generation demonstrates how societal shifts can translate into regulatory reform.

Conservation is not solely the state's burden; it is a societal ethic. Institutions and philanthropic bodies, along with organisations working in partnership with enforcement agencies, play an important bridging role between law and implementation. Apathy often stems from distance. When wildlife feels abstract, accountability weakens. But when people understand that ecological stability underpins water security, climate resilience and public health, conservation shifts from charity to necessity.

The work that you and your colleagues did to end the misery of 'dancing sloth bears' has been recognised globally. Why is it so difficult to accomplish something similar with elephants forced to perform for human gratification?

Ending the exploitation of sloth bears meant dismantling a single, clearly identifiable system: the Kalandar practice of 'dancing' bears. This practice, which had continued for nearly 400 years, involved cubs being poached from the wild after their mothers were killed, feeding a pipeline of capture, training and street performance. It required rescuing every remaining bear being forced to perform, rehabilitating families that relied on this practice, and closing the trade pipeline.

Elephants, however, exist within a far more complex landscape. Unlike sloth bears, they are embedded across tourism, temples, private ownership and begging networks. In some regions, even state-supported tourism models rely on captive elephants, further complicating reform efforts. Their use is normalised through culture, religion and economics, making change socially and politically sensitive.

What's your view on the recent judicial rulings on stray dogs? What would be an equitable solution here?

Wildlife SOS supports a humane, science-based approach to the management of free-roaming dog populations. Experience, globally, shows

Sebastian, a Himalayan brown bear, at the Dachigam Rescue Centre near Srinagar (the facility is managed by Wildlife SOS and the J&K wildlife protection department)

that harsh removal or culling strategies are not effective. The most effective and globally accepted method is the implementation of the Animal Birth Control (ABC) Rules, 2023, which focuses on sterilisation, vaccination and the return of dogs to their original territories in urban areas.

Mass relocation of community dogs into shelters is not a sustainable or humane solution. India currently lacks adequate infrastructure and resources to house large numbers of dogs while ensuring proper welfare standards. An equitable solution lies in strengthening ABC implementation, improving urban waste management, promoting community participation and adopting location-specific strategies that protect both public safety and wildlife.

Which do you reckon are the best examples globally of wildlife conservation, and what can India learn from them?

One of the most widely cited examples is the reintroduction of wolves in Yellowstone National Park in Wyoming, USA. Wolves were originally hunted and eliminated following pressure from local farming communities concerned about livestock losses. The absence of this apex predator had led to an ecological imbalance, with unchecked herbivore populations degrading vegetation and affecting river systems.

The reintroduction of wolves in Yellowstone restored its ecological balance through a trophic cascade, allowing vegetation to recover, improving biodiversity and even stabilising riverbanks. The lesson is clear: ecosystems function as interconnected systems, often in ways that exceed simplified human management approaches. Conservation must focus on protecting entire ecological relationships rather than individual species.

Another inspiring model is the work of Sun Bear Conservation in Malaysia. The facility rehabilitates rescued bears while minimising human imprinting, especially in cubs. Through structured rehabilitation that encourages natural behaviours and post-release monitoring using radio collars, the programme contributes to strengthening wildlife populations and their well-being.

"Many people are increasingly absorbed in digital spaces, rarely spending time in forests, on treks or observing wildlife firsthand. As a result, nature becomes abstract rather than lived in and experienced."

Zoos are a subject with pros and cons attached to it. Should they continue to exist?

The role of zoos must be viewed within the context of the current biodiversity crisis. As wildlife populations decline globally, zoological institutions can play an important role in conservation breeding, genetic management, rescue support and public education. For many people, especially younger generations, responsible zoo experiences may be their first meaningful exposure to wildlife.

Zoos should function as centres for conservation learning and excellence. When welfare, education, and scientific management are placed at the core, zoological institutions can contribute meaningfully to building a more environmentally responsible society.

Elephant calf Bani, who survived a train accident when she was nine months old, at the Wildlife SOS Elephant Hospital in Churmura, Uttar Pradesh, where she was nursed back to health from injuries that had left her paralysed

Has the Universal Declaration of Animal Rights, which came about in 1978, made any tangible difference, particularly since it is not legally binding?

While the Universal Declaration of Animal Rights is not legally binding, it has played an important role in shaping the global conversation around animal welfare and ethics. Its principles have influenced policy frameworks, institutional standards and public awareness, encouraging societies to recognise animals as sentient beings.

In India specifically, progress is reflected in evolving legal provisions, like the growing emphasis on the principal freedoms of animals: freedom from hunger and thirst; discomfort, pain and disease; fear and distress; and the freedom to express natural behaviour. These increasingly guide veterinary care, captive management and rescue practices.

What can people do to help and how can they get involved with wildlife conservation?

Everyone has a role to play in protecting India's biodiversity. The ecosystems around us sustain life by providing clean air, water and food, and protecting them ultimately means protecting ourselves. Small everyday choices can make a real difference. Be mindful about conserving electricity, water and food, plant native trees, and practise kindness and compassion towards animals and fellow human beings. ■

Call of the creative

Fledgling talents from art schools across India got the opportunity to spread their wings at the Students' Biennale, now an essential part of the much-celebrated Kochi-Muziris art festival

Reppandee Lepcha is on the road not known and that's fine by her. "I imagine myself with a sickle finding a path through the forest, trying to figure my way out," says the 28-year-old native of Shipgyer in Sikkim. "I'm not sure what lies on the other side or what I will discover." Whatever that may be, this budding artist reckons, the journey will be worth her while.

Ms Lepcha, an art student with a master's in science — "That's the stable stream to pursue where I grew up," she says — was one of more than 200 fledgling talents from about 175 state-funded art schools across India who showcased their work at the Students' Biennale, which has evolved to become an intrinsic segment of that splendid celebration of art and creativity, the Kochi-Muziris Biennale (KMB).

Called 'shifting landscapes', Ms Lepcha's exhibit is rooted in her identity and her people. She employs an intriguing blend of materials (paper pulp, rice paper, hemp wool and flowers) to weave a melancholy story of cultural and linguistic loss. "Like with many indigenous groups, the language and traditions of the Lepchas, the small tribal community I belong to, are fading away," she says. "My work is an expression of the frustration and anger I feel about this."

Loss of another kind — of innocence and playfulness in the face of war and conflict —

A visitor goes face-to-face at the Students' Biennale

permeates the mixed-media installation crafted by Arshaan Ali Khan and his four art-student compatriots from the Free Thinkers Collective at Aligarh Muslim University. 'Where Memories Are Immured' is about children traumatised by war and its ordeals, says the 23-year-old Mr Khan. "We wanted to give a voice to the voiceless children suffering from the desensitisation that is happening wherever there's conflict and violence."

Staying true

Honesty in rendering surely eases the artist's endeavour to explain the bizarre and frightful times we live in, or social realities that have to be navigated by way of unwritten rules. It's a quality that illuminates the work of Vaishali Bhandari and seven of her mates, graduate students from the Jawaharlal Nehru College of Fine Arts in Shimla. They ponder the question 'To Be Who?' through video, cyanotype (a 19th-century printing method) and through eyes that are everywhere — expressing, expecting, judging.

"We use eyes to reveal how society looks at women," says the 22-year-old Ms Bhandari, "how you have to fit in a certain way, do stuff that others decide, and suppress your actual self. This is about gender, the demands placed on women and the scrutiny they have to live with: don't wear clothes like that, don't sit like that, don't walk like that."

From searing to contemplative, from the personal to the universal, the range of subjects enriching the Students'

Children at ABC's clay workshop

ABC sets the tone

An absorbing adjunct of the Kochi-Muziris Biennale (KMB) concentrated attention on a seemingly complicated undertaking: bringing art to children and children into art.

The Art by Children (ABC) programme, also supported by the Tata Trusts, is a key component of KMB's educational outreach. The objective is to make art education accessible in Kerala's schools through hands-on activities that combine music, dance, play and ecological awareness.

Self-expression, critical thinking and community engagement are on the ABC menu, as also workshops and 'art rooms' to encourage aesthetic awareness and progressive values. Helping out are art educators and creative practitioners from across India in an effort that involves schools, families and local communities.

ABC connected with about 5,000 schoolchildren and teachers over the course of the Biennale. The art room project covered six government schools in Ernakulam, Alappuzha and Thrissur; *anganwadi* (childcare centre) workers were trained in art-themed learning for children; and some 120 families were reached in an effort to integrate art into community life.

As with the Students' Biennale, ABC fosters collaborative learning environments that extend beyond classrooms and into inclusive public spaces. "ABC is a learning space with a strong ecological and social consciousness; it responds to contemporary realities," says programme head Blaise Joseph. ■

Biennale reflected the wider canvas of artworks on display at KMB. The need for such a programme is acute, given the state of creative learning in India and the shortage of resources and infrastructure for education in the arts.

The Students' Biennale, in the context, offers a stage like no other for promising artists seeking opportunities to sharpen their skills, connect with peers, mingle with masters, and take a big step towards becoming full-fledged practitioners of their craft. The Tata Trusts support for the Biennale is an effort to help bring all of these elements together.

Launched in 2014, the Students' Biennale may not attract eyeballs in the manner of its parent, but it remains a crucial complementary piece of what is a unique festival of the arts. And perhaps more so than ever in an environment where the space for art and its expression continues to shrink.

Awards for the best

The Trusts have backed the Students' Biennale at four of KMB's six editions, including the latest, which concluded on March 31 following a run of more than three months. A highlight of this support has been the institution of awards for art students and student-artist groups, with winners receiving one-month residencies in Indian art institutions and travel grants to visit global art hubs.

The Trusts have also supported KMB's Art By Children initiative, which links schools and communities to established artists and educators through workshops and modules in art, craft, theatre and music.

The 2025-26 version of the Students' Biennale, titled 'Sensing Grounds', stays true to a model that has served the programme well. It was helmed by seven curator collectives and featured 70 artworks by students selected through an open call, workshops and curatorial visits. These students were given production grants and they could bank for guidance on the curator collectives, comprising art educators and experts who see themselves more as collaborators than mentors.

Student participants from Aligarh Muslim University working on their exhibit, 'Where Memories Are Immured'

"Curation cannot be about momentary situations; we see it as long-term relationship building and the students as our future collaborators," says Dharmendra Prasad, a multimedia artist who is part of the Assam-based Anga Art Collective, which has under its wing student participants from the Northeast. "Our candidates are emotional and they get spooked by the rush of the art world. Curating in such a situation is complex; it's cultural, it's delicate."

Mr Prasad is loath to advise his wards about becoming artists. "That's important, of course, but more important is that they themselves tell their stories, or somebody from outside will — and badly. In truth, we are learning from them even as we guide them."

A scene from the Students' Biennale of participants connecting with peers

Boundless world of art

For Shamooda Amrelia of the Mumbai-based Secular Art Collective, which covers participants from Maharashtra, Bihar, Jharkhand and Madhya Pradesh, the Students' Biennale is as crucial as KMB itself. "This is not a lesser being; it is the future," she says. "There is a commonality in our students, yet they are very diverse. Far from pigeonholing them, we have sought to expand their horizons. Their journey ahead could lead anywhere; the world of art is boundless."

"The Students' Biennale has evolved into a first-of-its-kind national exhibition platform for Indian art students," says Paroma Sadhana, programme manager, arts and culture, with the Tata Trusts. "Over the years, it has become a springboard for young artists to launch their careers, get exposure and learn about exhibiting. It's invaluable."

Ms Sadhana, who has tracked the Students' Biennale from up close, believes the artworks on show have become bolder and more conceptual over time. "There are more and more media-based displays, performance pieces and large-scale installations rather than the traditional paintings and sculptures. With the awards, the Trusts conceptualised them to recognise talent as well as potential."

As for KMB, the mother ship appears to have steadied, the swells that rocked the 2022 edition behind it. This was the "people biennale", one media report gushed. Visitor numbers that could add up to 1 million — the vast majority from Kerala — attest to the event's popularity as a source of insight and spectacle. As usual, the setting helped: the colonial warehouses and bungalows hosting the artworks, the old-world charm of Fort Kochi and that distinct Kerala flavour.

Themed 'For The Time Being', KMB 2025-26 featured works by 66 collectives and artists from 25 countries, among them Marina Abramovic, the Serbian conceptual and performance artist, and Argentinian sculptor Adrián Villar Rojas. This time out, India's first and largest international exhibition of contemporary art succeeded in reinforcing its credentials as an artist-led, people-focused enterprise.

"Every KMB edition comes with its own set of challenges, and we have been able to learn from our mistakes and grow from them," says Mashoor Ali, the

A discerning visitor takes in an exhibit created by the Govandi Arts Festival

programmes manager for the Students' Biennale. "We have expanded to reach students from remote regions. Another major shift was the increase in group projects, which allowed many more students to participate."

One of those is Rohit Athavale, a 25-year-old pursuing his master's at the JJ School of Art in Mumbai. Mr Athavale's installation artwork depicts Mumbai's degeneration: the low-income living zones of the marginalised, bloodthirsty builders, communal tensions and the unravelling of once-syncretic neighbourhoods.

"I have chosen caste and class because they are everyday realities for millions of poor people," says Mr Athavale. "Then there's the discrimination, both opaque and transparent. The aesthetic of my artwork tries to capture all of that." Does he see a future as an artist? "I have to keep practicing. There are many stages and you have to break them down. Can I have a stable life? That depends on how I manage things. I have to keep a balance."

Immersed in her milieu

Tai Sasum, a demure 25-year-old bachelor's student at the Rajiv Gandhi University in Doimukh in Arunachal Pradesh, lacks Mr Athavale's faith in the future sorting itself out. What she has is an intense understanding of her milieu and of familial despair. Ms Sasum's installation, 'forest shelter', employs dyes, paintings and video to explore memory, longing and, most of all, her mother's life.

"When I was young, the forest near my home was a saviour; that's how I always saw it," she says. "The real reason [behind my artwork] was to be imaginative and delusional, to carve out a safe space – a forest shelter – for my mother, who was married off when she was a child to my father, who was very old. I wanted to change her life story; I wanted her to run away, even if that meant I would never have been born."

Participating in the Students' Biennale has been an exhilarating experience for Ms Sasum. "I loved it," she says. "I saw some Japanese performance artists. They were captivating and scary, so deep into their art." Does she see herself pulling off something similar? "Not at all; I would be embarrassed. Actually, I don't exactly know what I want to do. It's all open; I want to be a free spirit." ■

By Philip Chacko

Participants at the Parag Initiative's 2025 edition of the 'More than Words' masterclass, which was held in Bengaluru

Booked for life

Writers and illustrators were the stars of the show at the Parag Awards, which continues to celebrate children's literature in different Indian languages

Tapashi Ghoshal, an illustrator of children's books, is no stranger to the power of imagination in young minds. She saw it on display again recently when offering a seat to a little girl during a Delhi Metro ride. The little girl was insistent on playing games on her parent's mobile phone. To divert her, Ms Ghoshal asked if she'd like to see a picture book.

For the next 40 minutes, the little girl described each image she saw in such detail that Ms Ghoshal was wonderstruck. "Kids get hooked to screens because we don't give them books," she says, "but those visuals come so fast that your mind moves fast with them. Books offer the possibility to hold an image in your mind and go beyond it."

Ms Ghoshal is one of the winners of the Parag Awards 2025, taking home the Parag Significant Contribution Award. The other winners for 2025 were Hindi litterateur, historian and editor Priyamvad, who received the Parag Author Prize, and Rishi Sahany, who got the Parag Illustrator Prize.

The Parag Awards, formerly known as the Big Little Book Award, are an annual event of the Parag Initiative, which is part of the Tata Trusts. Parag has been supporting the development of children's

Nurturing the new

Apart from supporting the publication of children's books, the Parag Initiative catalyses the development of new voices and approaches in children's literature through capacity-building programmes like 'More than Words: An Illustrators' Masterclass for Creating Wordless Stories' and 'Grooming of Writers and Illustrators for Children's Literature and Development of Early Readers in Hindi'. These are conducted by the Ektara Trust.

The impact has been telling. Launched in 2024 to immerse illustrators and mentors in wordless picture books as a medium of storytelling, the More than Words masterclass gets 100+ applications for its 25 seats. Of the 24 storyboards presented in More than Words 2025, all but one were selected to be developed as books and magazine features by various publishers. Writer-illustrator Sanika Deshpande, a 2024 masterclass participant, had her wordless book, *Cat Walk*, released in January 2026.

"The Masterclass moves deliberately from conceptual understanding of a picture book and perspective building on styles and formats to creating one's own stories," says Maulshree Kalothia, who heads the Parag Initiative. Budding illustrators develop story concepts with mentors, which are then presented to publishers. "It is a model where each participant goes back nourished."

Similarly, the Ektara programme addresses the gap in children's literature in underrepresented genres like plays, memoirs, reportage and wordless narratives. The programme is aiming to develop 50 early-reader picture books in Hindi over three years, sourced primarily through its workshops. ■

books in Indian languages for more than two decades. This includes working with writers, illustrators and publishers to create books and building the capacities of librarians and educators through professional courses that help in catalysing the reading habit.

Nurturing young talent and recognising writers and illustrators through the Parag Awards is part of the effort. "Children deserve books that offer joy, imagination, nuanced storytelling and rich visuals,"says Maulshree Kalothia, who heads the Parag Initiative.

Parag added three new award categories from 2025: the Author Prize, the Illustrator Prize and the Parag Children's Choice Award. The last is based on a children's poll that reflects the growing landscape of children's literature. This went to the delightful *Aada Paada*, a book by Sushil Shukla, a Hindi poet and director of publishing house Ektara, with illustrations by Atanu Roy, himself a Parag award winner in 2016.

Fillip for writers and illustrators

The Parag honours help shine a light on children's literature in India across languages, providing a much-needed fillip for talented writers and illustrators. "This is the first award I have received for my writing for children," says Mr Priyamvad. "That it comes from the Tatas makes me happier still."

Mr Priyamvad's intense and sensitive works of fiction and nonfiction have appealed to adults for nearly 50 years. He began writing for children eight years ago at the behest of Ektara's Mr Shukla. "I took up the challenge after he pursued me for two years," says the Kanpur-based author.

Mr Priyamvad's first stab at children's literature was a short story published in *Chakmak* magazine. Since then, he has written four children's books, including

(from left) Author prize winner Priyamvad, illustrator prize winner Rishi Sahany and Tapashi Ghoshal, winner of the 'significant contribution award'

captivating works of history like *Sikandar ke Dus Sawal* (Sikandar's Ten Questions) and the popular novel *Nachghar,* a love story for children.

Children's stories have outgrown the world of fairies and dragons and kings and queens, points out Mr Priyamvad. "Now the writing is closer to life. New voices have come in. Themes like religion, caste and gender are being raised. All of this is very good change. I want to sensitise children to the different experiences and issues of life."

Apart from recognising and motivating creators, the Parag Awards signpost the evolution in children's literature in India. This is evident in Rishi Sahany's metaphor-laden watercolour illustrations that simultaneously lean into the playful and the absurd, appealing to both youth and adults.

Growing up on the foothills of Lonavala near Mumbai, Mr Sahany was keen to become an artist. A graduate from Mumbai's JJ School of Fine Arts, he worked as an animation artist and won a national award for his film, *Sound of Joy,* before turning to illustration with a satirical book on kids and religion. This led him to Ektara.

"In animation, you see your work after six-seven years and sometimes the end result is not satisfying because several artists have worked on it," says Mr Sahany. "But with books people were seeing my work and I was getting feedback.

Coming a long way

Mr Sahany has come a long way from when his first book, *Roo,* was published in 2021. That was followed by the poetry collection *Registan Mein Bus* (Bus in the Desert), with its delightful illustrations, *Bhaloo Ka Nakhoon* (Bhaloo's Nails), and the wondrous wordless book, *Sa Re Ga Ma Pakshi* (Sa Re Ga Ma Bird), which is about a young artist finding her voice.

As the popularity of Indian picture books has grown over the last two decades, the illustrations lighting them up have also evolved. There's diversity of styles,

Books by the winners of the Parag Awards reflected the evolution of children's literature in India

mediums and in the representation of places and characters.

This change has been apparent to Ms Ghoshal, a graduate of the Delhi School of Art. She began illustrating children's books in the 1990s after she met Geeta Dharmarajan, writer and founder of the nonprofit, Katha. "In the early days, I used to illustrate as close to the text as possible," says Ms Ghoshal, "but I soon realised that I don't have to depict only what the writer is saying. When I interpret the text in my own way, I can add many things."

Ms Ghoshal's versatility stems from her love for experimenting with different art styles and mediums, as seen in works ranging from Mr Shukla's *Saat Patton Wala Ped* to Udayan Vajpayee's *Naam Hai Uska Paakhi* to Amit Dutta's *Ram Kumar: Between the Lines*. "The work guides me to the medium," she says. "Every work is like a journey and I have to find my path. Sometimes colours or a movie or even a sari inspire me. Sometimes I start from the middle of a story, sometimes I make a paper collage. I always want to experiment and to enjoy each illustration."

Mr Sahany's illustrations are wide-ranging, from exaggerated caricatures to realistic studio drawings, from minimalist line drawings to elaborately painted landscapes. "In the book on Kumar Gandharva [the renowned classical singer], I wanted to work with different media so I did pencil sketches, watercolours and oil colours in the same book," he says.

For Mr Priyamvad, life with all its mysteries and difficulties is the biggest inspiration. "I am inspired by humans, how they live and talk. If I feel an idea or incident will work for children, then I write it for them."

For Parag Awards, honouring such creators is a way to elevate children's literature in India and in Indian languages, and to extend its boundaries. ■

A leg-up for the limbless

The disabled are the beneficiaries of a programme that provides prosthetics through camps in rural regions

Ravi, a 16-year-old from Basantpur village in the Balrampur district of Uttar Pradesh who lost his hand and leg in a railway accident at the age of two, with the prosthetic limbs he received through the initiative

Born with congenital deformities in her arms and lower limbs, Naziya Mohammad struggled to cope with the simplest of everyday tasks. The now 18-year-old Delhi resident's destiny took a turn for the better when she read about a prosthetics initiative — originating from the pioneering 'Jaipur foot' — and the success stories of its life-changing effectiveness.

That's when Ms Mohammad and her family approached the Delhi branch of the Shree Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS), the Jaipur-based nonprofit behind the initiative. A team of technicians from BMVSS helped with Ms Mohammad's medical evaluation and the fabrication and fitting of an artificial below-the-knee limb.

Getting the Jaipur foot and being able to move around has been emotional for Ms Mohammad. "I no longer feel limited," she says. "I'm able to walk independently and handle many of my daily activities." What comes through clearly is her gratitude to BMVSS, which has since 1975 being spreading the word on, and demonstrating the benefits of, the Jaipur Foot. As for the need, the numbers tell the story.

About 10 million Indians live with locomotor disabilities, including individuals who have lost their limbs due to road accidents, cancer, diabetes, landmines and gunshots. The country also has 4 million polio survivors with affected limbs. Unfortunately, as many as four out of five Indians with such limb disabilities do not receive prostheses or assistive devices, primarily due to financial barriers (prosthetic limbs can cost up to ₹150,000 or more).

BMVSS has been trying to plug the affordability gap for more than five decades, a period during which it has provided the Jaipur foot and assistive devices to some 2.5 million disabled people. The organisation's prostheses cost only around ₹2,500-5,000 and are fitted free of cost for the poor.

Remarkably, the Jaipur foot is the world's

Sadhanand (right), a 47-year-old from Madhenagara in Uttar Pradesh's Shravasti district, gets help with his prosthetic limb

Stanford connection

Typically, above-knee amputees in India and the developing world are fitted with a single-axis knee joint, which does not allow rotating movement. The benefits here are its low cost and simplicity in fabrication, but this design limits movement and affects the patient's gait. Then an upgrade came into the picture.

A collaboration between the Shree Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS) and Stanford University, USA, led to the development of a joint based on the polycentric concept. The Stanford 'Jaipur knee' mimics human gait by providing stance stability and what is known as 'swing phase response'.

The device has been successfully fitted on more than 30,000 patients since its unveiling in 2009, with encouraging outcomes in terms of acceptability, compliance, durability and performance. The device was hailed by *Time* magazine in 2009 as one of the 50 best inventions of that year. ■

only non-articulated foot — a prosthetic foot with no hinged ankle mechanism — that enables its users to walk or run on uneven terrain, swim and squat.

While prosthetics used in developed countries (carbon-fibre feet, silicone liners and modular endoskeletal limbs), are lighter and easier to use, they are much more expensive, costing between ₹100,000 and ₹500,000. The Jaipur foot costs a fraction of that and its fitting takes less than a day (modular systems often need multiple sittings).

Focusing on the rural

In 2025, the Tata Trusts joined hands with BMVSS to set up camps across Bihar, Jharkhand, Maharashtra, Uttarakhand and Uttar Pradesh, the objective being to reach people beyond urban centres. The camps are a necessity, given that about 75% of people with disabilities reside in rural areas.

"During the 19-month duration of the initiative, from September 2025 to March 2027, about 18,000 individuals will be gifted a new lease of life," says Sanjiv Phansalkar, head of programmes at the Tata Trusts.

The idea of BMVSS emerged from trauma. Its founder, retired civil servant DR Mehta, suffered a life-threatening road accident and was admitted to a hospital in Jodhpur (Rajasthan) with a broken right femur. The doctors initially felt amputation was inevitable, but eventually they managed to save Mr Mehta's life and limbs. During his five-month-long stay in hospital, Mr Mehta resolved to set up an artificial limb centre for those less privileged than him.

The Jaipur foot was developed in 1968 at Saai Man Singh Medical College, Jaipur, by a group of doctors and a master craftsman. News of what was a groundbreaking development in prosthetics took time to spread, though, with a mere 50 limbs being fitted in the first seven

years. Now the number of limbs fitted every year is about 16,000.

"BMVSS is the world's largest organisation for the rehabilitation of the disabled," says Premendra Raj Mehta, chairman of the nonprofit. "We have been active in more than 40 countries spread across Asia, Africa and Latin America, and we have even organised camps in war-torn regions."

The Jaipur foot has advanced in many ways since its early days. It has become lighter, more durable and more biomechanically aligned. The foot is now made using lightweight wood, high-density polyethylene and rubber compounds to ensure longer life, improved ankle joint mobility and a more natural gait.

BMVSS is working on expanding its reach, and that's where the association with the Tata Trusts comes into play. With grant support from the Trusts, the organisation expects to improve its outreach in the hinterland through camps, the setting up and running of which are a complex affair.

Before planning a camp, BMVSS collaborates with local authorities and NGOs to assess needs in the area and identify the requirements of patients. A typical one-day camp caters to about 250 beneficiaries, with facilities for screening, measurement, fabrication and fitting in one place. The prosthetic limb is customised by trained technicians.

The camps are not limited to prostheses. Disabled patients are provided with assistive devices such as hearing aids, blind sticks, walkers, rollators, wheelchairs and crutches. "The Tata Trusts' contribution to the initiative has enabled BMVSS to hold on-site camps to effectively reach people who cannot travel to big cities or hospitals," says Piyush Khanorkar, a programme officer at the Trusts. ■

By Kishore Rathod

Beneficiaries fitted with artificial limbs, calipers, and assistive devices at a camp in Uttar Pradesh's Siddharthnagar district

SPRINGING FREE

Natural springs are the stars that need to be kept in the pink, and the people ensuring it are villagers who appreciate better than before how vital this is to their water security. That's the crux of a transformative initiative undertaken by the North East Initiative Development Agency (NEIDA), an associate entity of the Tata Trusts, in 287 villages across Arunachal Pradesh, Mizoram and Nagaland.

Launched in 2015 and operating under its water, sanitation and hygiene (WASH) programme, NEIDA's springshed rejuvenation project has seen 566 springs being treated and restored to good health. Led by the community and backed by technology, the project combines three key facets: identifying recharge areas, implementing ecological interventions, and empowering local institutions.

Many rural settlements in Northeast India are perched on mountain ridges, making springs the immediate source of water. Traditionally, these springs are sustained by rainfall, but climate change, erratic monsoons, deforestation and unsustainable water use have led to a dangerous decline in their flow.

The springshed rejuvenation project has been successful in turning this tide.

(clockwise from facing page top) **Members of** the all-women Jampa Saro water-user group from Jampa village in the Papum Pare district of Arunachal Pradesh attend a training meet on springshed rejuvenation. Homemakers and small-scale entrepreneurs among them, these women are responsible for the sustainable management of local water resources. **This family,** pictured at their home in Tepin Happa in Arunachal Pradesh's Lower Subansiri district benefits directly from improved spring-water availability in their village. **Tezo Thele,** a 31-year-old from Mesulumi village in Nagaland's Phek district, participating in the rejuvenation of a local spring by digging a trench to increase rainwater infiltration into the ground.

(clockwise from above) **Members of** the Mangkhum Mangpa water-user group in Kakoi village in Arunachal Pradesh's Papum Pare district at a 'participatory rural appraisal' (PRA) exercise, during which locally available materials are used to map and understand water availability, seasonal patterns, etc. **A woman farmer** from Sangtsong village in Nagaland's Kiphire district plants a native tree species in the vicinity of a local spring to help restore and protect the water recharge zone. **A PRA exercise** being conducted in South Phaileng village in Mizoram's Lunglei district.

Velizolu Curhah (above), a 26-year-old farmer from Phusachodu village in Nagaland's Phek district, fetching water from a local spring that was treated under the programme. The spring recorded an increase of 54% in its discharge rate after two years of treatment. **Yingye Chingmak,** a 32-year-old resident of Kejok village in Nagaland's Tuensang district, is seen at his home with a household tap connection provided through the central government's Jal Jeevan Mission. The spring supplying water to the village was rejuvenated through a slew of measures.

Para workers (above) pictured during a a four-day residential training programme on springshed management in Pungro in Nagaland's Kiphire district. Para workers play a crucial role in mobilising communities to carry out various activities, and they serve as a vital link between village communities and NEIDA, facilitating communication, coordination and the implementation of springshed interventions. **Women from** Vanhne village in Mizoram's Lunglei district seen washing clothes at a local spring that, prior to the implementation of the springshed rejuvenation initiative, would dry up during the lean season. Following a treatment process, this spring has become a reliable and vital water source once again.

Resources matter

A study of 11 high-GDP Indian states reveals how shortcomings in budgetary allocations are undermining their justice delivery systems

Valay Singh is the cofounder and lead of the India Justice Report

The delivery of justice is an essential service, guaranteed through the constitutional promises of 'equality before the law' and 'the protection of life and personal liberty'. As a sovereign function that cannot be undertaken by any other entity, it is the prerogative of the state to ensure access to justice. Every government, therefore, is duty-bound to provide an impartial, efficient, responsive and accessible justice system for all citizens. But can the government truly meet its mandate if essential building blocks are missing?

Budgets are one such foundational element. Findings indicate that the pillars that comprise the institution — police, judiciary, prisons — are low priorities in India, despite these being critical to maintaining the rule of law, ensuring societal trust in the system, and being an engine for economic growth.

A file picture of the Bombay High Court; Maharashtra is one of the high-GDP states lagging behind in budgetary allocations

Across 11 high-gross domestic product (GDP) states, including Maharashtra, Karnataka and Gujarat, the marginalisation is visible: on average, the justice system receives roughly 5% of the state budget. Within the system, legal aid receives the least financial attention, with allocations amounting to under 1% of the total budget.

Limited means

A significant share of institutional budgets (85% to 90%) is allocated to salary expenditure, leaving limited scope for investments in infrastructure, technology and long-term capacity development. As overall public expenditure shrinks, relative to GDP, competition for limited resources has intensified, further reducing the fiscal space available to the justice system.

Even the limited funds allocated are often underutilised. Factors such as rigid central schemes that restrict expenditure on staffing — the Modernisation of Police Forces Scheme, for instance — states' inability to meet cost-sharing requirements, and administrative delays due to staffing gaps contribute to this underutilisation.

Against this backdrop, 'Budgets for Justice' is a first-of-its-kind study by the India Justice Report. It examines budgetary allocations and expenditures for the justice systems in 11 states with the highest GDP in India and each with a population exceeding 10 million people.

Taken together, these 11 states account

Fiscal injustice?

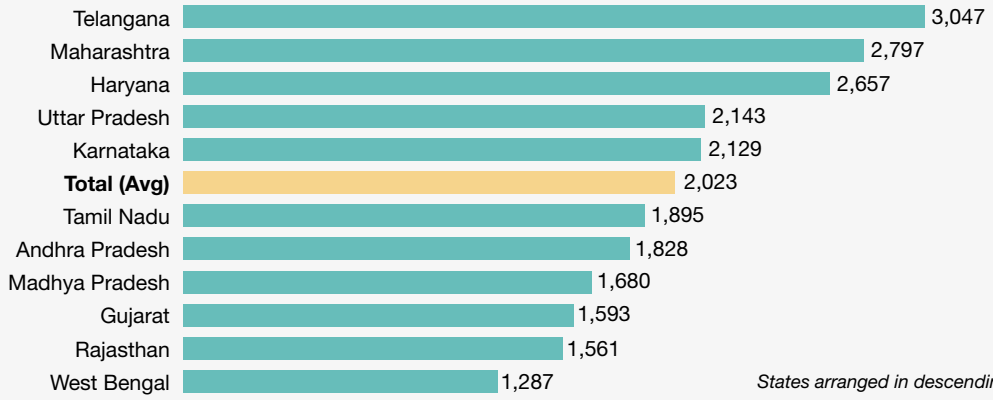
On average, the share of justice remains around 4-5% of the total budget of 11 states.

	State budget ₹in trillion (crore)	Justice budget ₹in trillion (crore)	Share of justice in state budget (%)	Per capita expenditure on justice (in ₹)
2021-22 (AE)*	28.78 (28.78 lakh crore)	1.26 (1.26 lakh crore)	4.4	1,341
2021-23 (AE)*	35.55 (35.55 lakh crore)	1.58 (1.58 lakh crore)	4.4	1,661
2023-24 (RE)*	32.71 (32.71 lakh crore)	1.44 (1.44 lakh crore)	4.4	1,520
2023-24 (RE)*	39.00 (39.00 lakh crore)	1.70 (1.70 lakh crore)	4.4	1,776
2024-25 (BE)*	43.18 (43.18 lakh crore)	1.97 (1.97 lakh crore)	4.6	2,023

Per capita spend on justice (₹BE 2024-25)

AE: Actual expenditure
RE: Revised estimate
BE: Budget estimate

The per capita spend on justice varies across states, with Telangana having the highest spend at ₹3,047 and West Bengal the lowest at ₹1,287.



States arranged in descending order of per capita spend.

for over 60% of India's police strength, over 70% of high court and subordinate court judge vacancies, and 60% of the national prison population.

Using budget documents for 2023-24 and 2024-25, the study analyses the scale of allocations, utilisation levels and the degree of disaggregation across the core pillars of the justice system to better understand how budgets for justice are structured, prioritised and spent, particularly in key areas such as police modernisation, judicial infrastructure and access to legal aid.

The study revealed that while the overall budget for justice has increased from ₹1.57 trllion (1.57 lakh crore) in 2022-23 to ₹1.96 trillion (1.96 lakh crore) in 2024-25, the bulk of the increase is absorbed by the police, which continues to receive over 80% of total justice allocations. In contrast, the judiciary, prisons, legal aid and rights bodies such as the state human rights commissions (SHRCs) remain marginal in terms of budget share, often receiving less than 1% of overall state spending. Victim compensation across the 11 states is ₹660 million (66 crore).

Illustratively, Gujarat, Haryana, Karnataka, Uttar Pradesh and West Bengal together allocated ₹16.77 billion (1,677 crore) for prison infrastructure in 2024-25. In contrast, SHRCs remain severely underfunded, with a total budget of ₹415 million (41.5 crore) allocated across these five states, which is the lowest allocation among justice institutions.

Even within better-funded institutions like the police and judiciary, essential components such as training, technology, and modernisation receive a

disproportionately small share. For example, less than 2% of budgets are allocated to training for police and less than 1% for the judiciary. Allocation to schemes directly connected to women and children — Cyber Crime Prevention against Women, Children and Safe City, etc — have also declined between 2022-23 and 2024-25.

On average, 4.3% of states' budget funds were allocated for justice in 2024-25. This ranged from 2.6% in Rajasthan to 5.3% in Maharashtra to 7.3% in Uttar Pradesh. Seen in terms of spend per person, the highlighted states spent ₹389 per person a year on the justice system (excluding the police). The average Indian likely spends more each month on eggs.

Overall, per capita spending for states was estimated to be ₹1,667 on police, ₹353 and ₹67 on judiciary and prisons, respectively, and only ₹9 on legal aid. For disaggregated data available in five high-GDP states (Gujarat, Haryana, Karnataka, Uttar Pradesh and West Bengal), per capita spend on SHRCs was less than a rupee.

Big share for the police

It is, to some extent, justifiable that the police receive the larger share of financial resources given that it has the largest workforce, infrastructure needs and workload, and services court processes, among other tasks.

While this figure of ₹1,667 seems skewed in comparison with average per capita spends on judiciary, prisons and legal aid, it is important to note that the lack of enough disaggregation conceals the actual expenditures on frontline police personnel, their recruitment and training, funds for police stations and other citizen-centred services.

Crucially, less than 1.5% of the police budgets across the 11 states was allocated for training in 2024-25. For the judiciary, this figure hovered at around 0.5%. At least three states (Haryana, Karnataka and Maharashtra) allocated less than 1% for police training from their police budgets, while Madhya Pradesh allocated the most (2.4%). The analysis also noted that while the funds for police training as a percentage of the overall budget has increased over the years, for the judiciary they have stagnated.

Overall, police training was allocated ₹22.08 billion (2,208 crore) in 2024-25 in the 11 states, 39% over the previous year's revised estimates. More than a quarter of the allocation was in Uttar Pradesh, which has the largest police force (269,000 personnel). A deeper dive shows that, while the state's actual police strength increased by 5%, the number of training institutes and their capacity to train personnel remain unchanged.

For the judiciary, the share of funds for training of judges and judicial staff ranged from 0.4% and 0.6% between 2021-22 and 2024-25. Only Uttar Pradesh invested more than 1% of its judiciary budget for training. At least six states had reduced the share compared with the previous year.

A look at utilisation shows Andhra Pradesh reporting over 100% utilisation of its training budget for the judiciary in 2022-23, followed by Karnataka (98%) and Rajasthan and Tamil Nadu (94% each). UP utilised just 41% of its training budget in 2022-23, despite having the highest budget allocation for that year.

The Budgets for Justice study's findings will inform a multi-year, updateable database on the pillars of the country's judicial system. Ultimately, this knowledge framework seeks to highlight the critical role that budgets play in ensuring that states can deliver justice to mandate, without which constitutional promises will remain unfulfilled. ■

A bamboo grove in Bengaluru's Cubbon Park, the green lung of the city

Grassy powerhouse

Community forests, diverse markets and policy convergence are fuelling the growth of India's bamboo ecosystem — and that's welcome news

Across India's forested landscapes, a quiet yet consequential transformation is unfolding. Bamboo – abundant, regenerative and deeply interwoven with rural livelihoods – remains one of the country's most underutilised natural assets. A significant portion of this resource is now part of 'community forest resource' (CFR) rights recognised under the Forest Rights Act, placing its stewardship and management in the hands of tribal communities.

Eastern Maharashtra offers a compelling illustration of the opportunities this opens up. Gadchiroli, traditionally known for its dense forests and tribal heartland, is emerging as a major 'green steel' manufacturing hub in Maharashtra, signalling the broader industrial transition underway in the region.

The adjacent districts of Gadchiroli and Chandrapur together account for over 90% of Maharashtra's bamboo production, making them central to the state's bamboo economy. With the third-largest bamboo area in India, Maharashtra occupies a strategically significant position within the national bamboo landscape.

Unfolding here is a convergence of industrial transition, natural resource wealth and community-led governance, set against a global shift towards low-carbon development and presenting a rare and time-sensitive opportunity.

Sanjeev Karpe, a sustainability entrepreneur and bamboo sector specialist, is the founder and director of the nonprofit, KONBAC (Konkan Bamboo and Cane Development Centre)

Bamboo today stands at the intersection of climate resilience, rural prosperity and sustainable industrial transformation, poised to evolve from minor forest produce into a cornerstone of India's green growth strategy.

For decades, bamboo was viewed as minor forest produce — useful but peripheral to mainstream economic planning. That perception is changing rapidly. Globally, sectors such as shipping, aviation, steel, cement, thermal power and construction face mounting pressure to decarbonise. Biomass-based fuels, sustainable construction materials and bio-based industrial feedstocks are gaining strategic importance. With its rapid harvesting cycle (three-four years), high biomass productivity and ability to grow on degraded lands without competing with food crops, bamboo presents a scalable solution.

The four bamboo segments

Yet bamboo's relevance extends far beyond energy. To understand its potential, the sector must be seen as an ecosystem spanning four interlinked segments.

1. Traditional craft economy: Across tribal and rural India, bamboo has sustained artisan livelihoods for generations, being the preferred material for everything from baskets and mats to agricultural tools and household utilities. This labour-intensive, skill-based segment is deeply rooted in cultural traditions and supports thousands of households, particularly women. Though largely informal, it remains one of the most livelihood-dense components of the bamboo value chain.

2. Traditional structural applications: Bamboo is widely used for scaffolding, fencing, staking and temporary structures. While value addition per unit may be modest, this segment absorbs large volumes annually and provides steady, decentralised income across rural and peri-urban markets. In many regions, it forms the backbone of bulk bamboo consumption.

3. Modern interiors and lifestyle applications: Furniture, décor, engineered panels and architect-led structural applications represent a high-growth, design-driven segment. This domain combines material innovation, aesthetics, branding and sustainability positioning, making bamboo increasingly relevant to urban and premium markets.

Landmark projects have demonstrated bamboo's modern potential, including installations at the Kempegowda International Airport in Bengaluru, the Lokpriya Gopinath Bordoloi International Airport in Guwahati, and within the new Parliament building in New Delhi.

Scaling up the bamboo segment requires systematic investment in skill upgrades, product development, scientific seasoning and treatment infrastructure, integration with architects and developers, and rigorous quality standardisation that's aligned with national and international benchmarks.

4. Industrial and energy applications: Large-scale industrial applications — including bioethanol, biomethanol, compressed biogas, pulp and paper, textiles, engineered bamboo lumber, briquettes and activated carbon — have the capacity to absorb substantial volumes of raw material while attracting significant long-term capital investment. This segment represents the scale-intensive pillar of the bamboo economy, linking forest resources with energy transition and green manufacturing.

Industrial-scale initiatives are already redefining bamboo's role in India's development landscape. Among these are the commercial bamboo-based ethanol production at Numaligarh Refinery

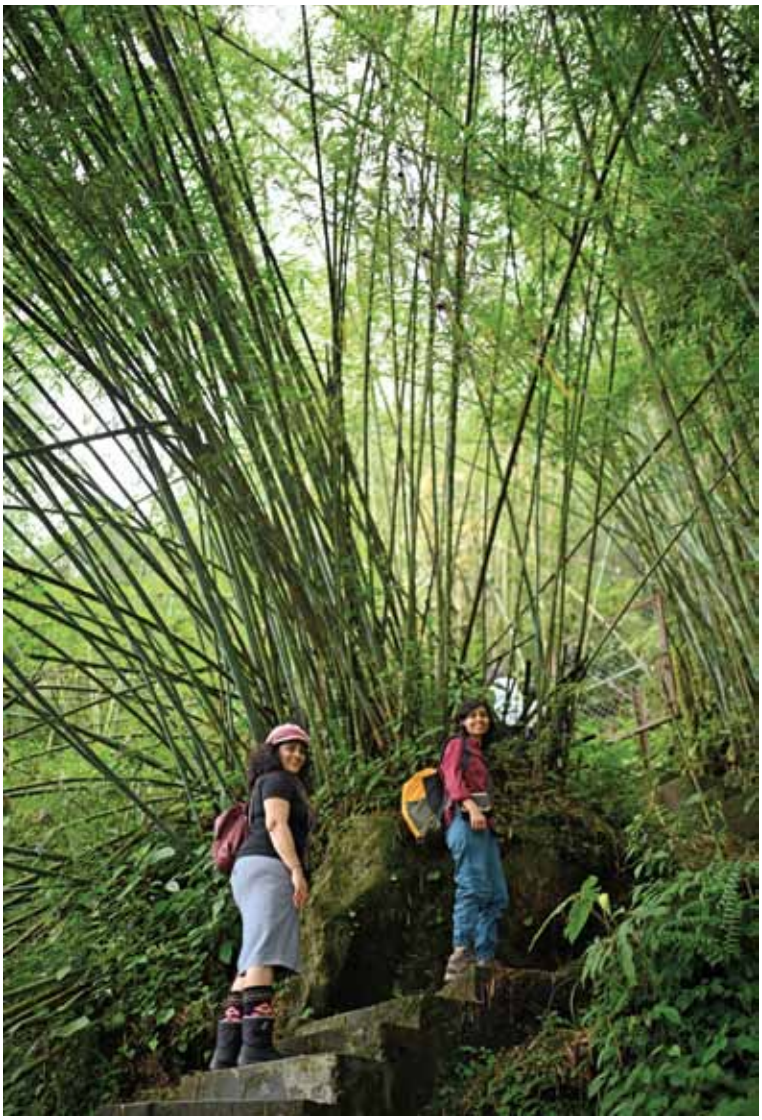
in Morangi in Assam; bamboo lumber manufacturing in Agartala in Tripura; bamboo crash barrier manufacturing in Bemetara in Chhattisgarh; high-end bamboo construction and furniture manufacturing in Sindhudurg in Maharashtra; bamboo-based personal care product manufacturing in Kolkata; and engineered strand-woven bamboo lumber production units in Jagiroad in Assam.

Investment magnet

These pioneering efforts are now catalysing a new wave of investments, including a proposed bamboo-based methanol project in Gadchiroli; bamboo lumber manufacturing in Khowai in Tripura; a bamboo glued-board manufacturing unit in Gadchiroli; high-technology briquette production facilities in Sindhudurg; and bamboo-derived activated carbon manufacturing in Sambhajinagar (Maharashtra).

Together, these developments underscore a growing industrial confidence in bamboo as a scalable and renewable feedstock. They signal a structural transition towards bamboo-led green industrial growth, positioning bamboo not merely as a traditional forest product but as a strategic feedstock for India's low-carbon and sustainable manufacturing future.

India has undertaken significant policy reforms to strengthen and formalise the bamboo ecosystem. The removal of regulatory barriers on bamboo grown outside forests has eased cultivation, transit and trade, encouraging farmer participation and private investment. Biomass pellet co-firing mandates in coal-based thermal power plants have opened new demand channels for renewable feedstocks. Additionally, the phased adoption of flex-fuel engines in vehicles is expected to significantly expand bioethanol demand, further reinforcing the strategic role of biomass in India's energy transition.



Trekkers navigate a bamboo forest near Gangtok in Sikkim

Some Indian states are building on this national momentum. Maharashtra has articulated bamboo-focused industrial strategies aimed at developing processing clusters, strengthening value chains and attracting green investment. Assam has taken a progressive step by mandating that at least 5% of materials procured for its Public Works Department projects incorporate bamboo-based products.

The policies now in place reflect a growing recognition that bamboo is a strategic material in India's decarbonisation and green industrial growth plans. But policy alone cannot unlock transformation.

Communities with CFR rights now

Bamboo baskets and other bamboo products are widely popular in India

control bamboo-rich landscapes. For many tribal regions, bamboo represents the most scalable renewable resource. But converting standing stock into sustainable livelihoods requires market intelligence, aggregation models, enterprise incubation, access to finance, product innovation and climate-linked advisory support.

Without institutional bridges, the sector risks remaining fragmented at the artisan level or becoming overly centralised in capital-intensive projects with limited local value capture.

With over half of India's population dependent on rain-fed agriculture, climate volatility is increasing vulnerability. Bamboo offers an alternative pathway.
As a perennial crop, it provides recurring harvests without annual replanting, performs well on degraded land and contributes to soil stability and carbon sequestration.

For CFR communities and smallholders, bamboo can serve as a climate-resilient income stream, a buffer against crop failure, a raw material for local enterprises and a potential participant in emerging carbon markets. The optimal bamboo model will vary by region, though. Some areas may benefit from furniture clusters, others from industrial aggregation, still others from craft modernisation. Context-sensitive planning is essential.

India's decarbonisation commitments, forest governance reforms, biofuel ambitions and growing demand for sustainable materials have converged at a defining moment. Bamboo has multiple facets: it is a climate-mitigation tool, a rural employment engine, a tool in regenerative land-use, and an input for green industry.

The opportunity is not merely to expand bamboo production but to design a balanced, multi-segment ecosystem that maximises environmental and social returns. If approached thoughtfully, bamboo can transition from an underutilised forest asset to a cornerstone of India's inclusive green economy, placing tribal communities not at the margins of growth but at its centre. ■