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AN Amazon FOR THE Sarkar

An in-house e-commerce platform has revolutionised government procurement in a short span of time. Its cumulative billings could touch ₹1 lakh crore this fiscal

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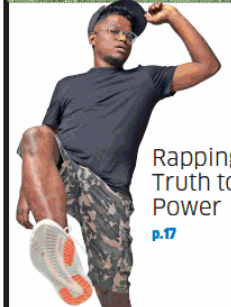
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Sheila Dikshit, Three-Time Delhi Chief Minister, Dies at 81



Prime Minister Narendra Modi and UPA Chairperson Sonia Gandhi pay their last respects to former Delhi CM Sheila Dikshit in New Delhi on Saturday
— ANI

Sheila Dikshit, who was Delhi's longest-serving chief minister, died on Saturday after a prolonged illness. She was 81.

Dikshit suffered cardiac arrest and was brought to the Fortis Escorts Heart Institute on Saturday morning in critical condition, said a note from the hospital. A multi-disciplinary team of doctors carried out advanced resuscitative measures on her, it said. "Her condition stabilised temporarily. However, she had another cardiac arrest and despite all the resuscitative efforts, passed away at 3.55 pm," the hospital added.

A veteran leader of the Congress, Dikshit served as chief minister of the capital for three consecutive terms, from 1998 to 2013. In a tweet, the Congress called her a "lifelong Congresswoman" who "transformed the face of Delhi".

President Ram Nath Kovind and Prime Minister Narendra Modi condoled the demise of

the former Delhi chief minister. "Her term in office was a period of momentous transformation for the capital for which she will be remembered. Condolences to her family and associates," the president said in a tweet. Modi said she made a noteworthy contribution to Delhi's development. "Blessed with a warm and affable personality, she made a noteworthy contribution to Delhi's development. Condolences to her family and supporters."

Congress leader Rahul Gandhi said he was devastated to hear of the death of the former Delhi chief minister and described her as "a beloved daughter of the Congress" with whom he shared a close personal bond. "I'm devastated to hear about the passing away of Sheila Dikshit ji, a beloved daughter of the Congress Party, with whom I shared a close personal bond. My condolences to her family and the citizens of Delhi, whom she served selflessly as a 3 term CM, in this time of great grief," Gandhi

said in a tweet.

Delhi Chief Minister Arvind Kejriwal said Dikshit's contribution to the city would always be remembered. "Just now got to know about the extremely terrible news about the passing away of Sheila Dikshit. It is a huge loss for Delhi and her contribution will always be remembered. My heartfelt condolences to her family members. May her soul rest in peace," Kejriwal said in a tweet.

Dikshit was elected as a member of Parliament in 1984, representing Kannauj in Uttar Pradesh. She has also served as the governor of Kerala. She unsuccessfully fought the recent Lok Sabha elections from the North-East Delhi constituency. She represented New Delhi constituency in Delhi Vidhan Sabha.

Dikshit's cremation will be held at Nigambodh Ghat on Sunday afternoon. The Delhi government has declared a two-day state mourning.
— Agencies/New Delhi

HDFC Bank Net Profit Up 21% In June Quarter

Mumbai: HDFC Bank's net profit rose 21% in the quarter ended June 2019, led by higher other income, including fees and treasury gains, and a rise in core interest income.

Net profit increased to ₹5,568 crore in the period from ₹4,601 crore a year earlier, despite a steep rise in provisions due to an uptick in non-performing assets (NPAs). Provisions rose 60% to ₹2,614 crore from ₹1,629 crore a year ago, led by a 68% rise in specific loan loss provisions to ₹2,414.5 crore. Gross NPAs increased to 1.4% of gross loans from 1.33% a year earlier. The bank's board declared a special interim dividend of ₹2 a share for the year ended March 2020. Net interest income or the interest earned by the bank minus interest expense grew by 23% to ₹13,294 crore, from ₹10,814 crore. Other income, which includes fees and treasury income, increased 30% to ₹4,970 crore from ₹3,818 crore a year ago.

— Our Bureau

Leaving Now but will Return, Says Priyanka in UP

Lucknow: The standoff between Congress leader Priyanka Gandhi Vadra and the UP government ended Saturday, a day after she was detained when she insisted on going to



Sonbhadra where 10 tribals were gunned down. She reportedly met 15 people from the victims' families, who travelled to the guesthouse where she stayed. Priyanka said those who had "arrested" her were now saying she was free to leave. "I want to tell them that I have fulfilled my objective. I am leaving today, but I shall return," she said. —PTI

2 Guvs Transferred, 4 Appointed

New Delhi: The government on Saturday appointed Chhattisgarh BJP leader Ramesh Bais as the governor of Tripura. Anandiben Patel has been transferred from Madhya Pradesh to Uttar Pradesh, replacing Ram Naik. Lalji Tandon, the governor of Bihar, will replace Patel in Madhya Pradesh. BJP MLA from Ghosi, Fagu Chauhan, has been appointed as the governor of Bihar. Jagdeep Dhankar, a senior BJP leader from Rajasthan, has been made West Bengal governor. RN Ravi, who was the Centre's point person in the Naga peace talks, has been appointed as the governor of Nagaland.
— IANS

No Power on Earth can Stop Kashmir Resolution: Rajnath

Pandori (J&K): Defence Minister Rajnath Singh said Saturday the Kashmir issue would be resolved and no power on earth could stop it. Singh said the government wanted it to become not only a paradise of India but also a global tourist paradise. In Kathua, he said, "Resolution of Kashmir issue is bound to happen and no power on earth can stop it. If not through talks, then we know how." He earlier paid tributes to soldiers killed in the Kargil War in Dras Sector on the 20th anniversary of Operation Vijay. —PTI

Rajan Signals Brexit Politics Deterred Him from Seeking BoE Job

London: Former Reserve Bank of India governor Raghuram Rajan has indicated that the political challenges posed by Brexit were the reason he didn't apply to head the Bank of England.

In an interview with the BBC, Rajan confirmed that he hadn't sought the position and cited the fact that central banking "has become much more political in recent times" as an explanation for why not.

The UK government is seeking a successor to Mark Carney, who will step down in January. Carney has been thrust into the heart of the Brexit debate either by having to adjust

monetary policy to react to it or because of criticism from some lawmakers that he is overly pessimistic about the economic risks of leaving the European Union.

"It's best a country has someone who understands the political situation within that country and knows how to navigate that," Rajan told the BBC. "It's obvious I'm an outsider and I have very little under-

standing of the deep ebbs and flows of politics in that country."

Rajan, who now teaches at Chicago Booth School of Business and once served as chief economist of the International Monetary Fund, was recently named as the second most likely to get the BoE job by economists in a Bloomberg News survey. He trailed Andrew Bailey, chief executive of the Financial Conduct Authority.



UK Chancellor of the Exchequer Philip Hammond started searching for a replacement for Carney in April and has attracted 30 applications. He met with Rajan in January, according to the Treasury, although Rajan declined to tell the BBC if he had been approached to run the central bank. "I'm perfectly happy in my job," he said. "I haven't applied for any job."

Hammond, who is likely to exit the Treasury once a new prime minister takes office next week, had spoken of looking for a new governor with international experience.

—Bloomberg

Sheila Dikshit 1938-2019

A Beloved CM Departs

The decisive chief minister who transformed Delhi over three terms remained curious and loved nature walks with schoolchildren

By Nidhi Sharma

Many warned her against the move. Bats, she was told, were inauspicious. But as Sheila Dikshit surveyed her new home at 3 Motilal Nehru Marg at the corner of Lutyens' Delhi, she was only curious about the bats hanging upside down from the trees, and was not in the least bit apprehensive. Her advisors thought she was being naïve about talking the house. After all, she was the first Delhi chief minister to move out of the Shamnath Marg bungalows in the posh Civil Lines area. And she was only in the middle of her second term. No chief minister had reigned over Delhi beyond a single term, least of all a woman.

She needed to be careful. She couldn't allow anything, not even bats, to jinx her term. But Dikshit loved the open space. She just had to take the residence, rejected by many because of the bats that occupied five trees in the garden. As she took a round in the garden, after moving in, she said: "I was never scared but I was curious as to why the bats have chosen this particular house. Then I contacted the World Wildlife Fund and asked them to identify the species. They told me these were fruit bats." She took a walk every day at 6 am in her garden, glancing at the bats. In the evenings, she would sometimes have meetings with her cabinet ministers. Many confessed later that they would sometimes lose their train of thought as bats whizzed past them, but not Dikshit, who would helpfully remind them of the point they were making.

That was Sheila Dikshit. Experimental, progressive, affable, curious and, at heart, a typical Dilliwallah who relished Old Delhi chaat and didn't mind trying a savoury off your plate if she liked the look of it.

As she breathed her last on Saturday, she left everyone shocked in Delhi, a city she had nurtured for 15 years as chief minister and more as a Congress leader.

Almost everyone has a tale to tell. Satpal, her go-to man for preparing press briefs and everything related to the media, recalls: "She always started early in the morning. She was always curious to know what was in the newspapers and it was difficult to keep pace with her. I had to read the newspapers before her. She was very energetic and such a decisive chief minister."

Dikshit was a trusted Congress leader whom the party relied on till she breathed her last. She learnt politics from her father-in-law, Uma Shankar Dikshit. Her husband Vinod Dikshit was an IAS officer. Former PM Rajiv Gandhi relied on her as she served as minister of state for parlia-

A LONG JOURNEY

1984 Elected to Lok Sabha from Kannauj

1986-89 MoS in the Rajiv Gandhi government

1998 Loses Lok Sabha polls from East Delhi

Elected as legislator to Delhi assembly

Takes over as Delhi CM

2003 Returns as Delhi CM

2008 Becomes Delhi CM for a third time

2013 Loses to Kejriwal

2014 Becomes Kerala governor

2019 Chief of Delhi Congress

Loses to BJP's Manoj Tiwari in Lok Sabha polls

mentary affairs and later as junior minister in his PMO. The trust continued as Sonia Gandhi took over the reins of the party. Dikshit won three consecutive elections for Congress in Delhi from 1998 till 2013. Even as a beleaguered Congress looked for somebody to head the UP unit, she was called upon and she agreed to be the chief ministerial candidate in 2017. Later, Delhi needed her again. Congress conducted a poll to see who the party workers wanted as head of the state unit. Not many were surprised at what the poll threw up – Sheila Dikshit. It took a lot of cajoling. Party seniors told her that she would be helped by four working presidents. Once again, she stepped up.

During the 15 years in power, she changed the landscape of the city. From the phasing out of diesel-run DTC buses (after much prodding by the Supreme Court) and the shifting of polluting industrial units to the greening of Delhi, privatisation of power distribution, reforms in Delhi Jaat Board and construction of the much-criticised flyovers – Dikshit turned around the capital completely.

She was assigned the task of preparing the city for the 2010 Commonwealth Games. Not many dreamt that the Commonwealth Games Village would ever be completed. But the chief minister stayed at the site for four days, monitoring every little detail to finish the job in time. But Dikshit didn't emerge from her reign unscathed. She was accused of financial ir-



regularities after the 2010 Games. Her third term was marred by a general fatigue that set in after 15 years of Congress rule in Delhi.

She was loved for her maverick ways. The Barapullah elevated road, which reduced travel time in Delhi, was one of her pet projects. How she wanted to prove her critics wrong when they said it wasn't possible to complete it. She would go for inspections at 2 am.

Even then Delhi's officers just did not want to be posted out. Any interference in posting by Home Ministry saw Dikshit paying a visit and taking it up. She was outspoken, fearless and much loved. Even before India woke up to carbon footprint and green ways, Dikshit introduced these to Delhi administration. Official diaries of Delhi government were printed on recycled paper. She always gifted ornamental plants as New Year and Diwali gifts. The elegantly dressed former CM had an eye for detail. On an inspection, she remarked to her PWD officials: "Why do we have to put such grey tiles on pavements? They look so dreary." As foxed officials scrambled for an answer, she shot back, "Concrete doesn't need to look so concrete. Why don't we add some colour? It doesn't need to be garish." And so Delhi got brick and yellow-coloured pavement tiles.

RIP Sheila Dikshit. You would be remembered fondly by the young and the old alike. Even by schoolchildren for whom you opened up your lawns every week. They are unlikely to forget the chief minister who would go on nature walks with them and marvel at the fruit bats. ■

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ELITE GROOMS		ELITE BRIDES	
<p>Dehradun based Businessman, 31, 6ft, Arora. MBA. Father is a Businessman. Family is financially well off with a net worth in Crores. Looking for a compatible and well educated match from any community in India/Abroad. Contact: 9310065725</p>	<p>Mumbai based Vice President, 32, 5ft 11", Baniya. Graduate from a premier Institute. Father is a Businessman. Family is financially well off. Looking for a compatible and well educated match from any community in India. Contact: 7498020656</p>	<p>Gurgaon based Entrepreneur, 27, 5ft 4", Kayastha. LLM in Intellectual Property Rights from London. Father is a Businessman. Family is financially well off with a net worth in Crores. Looking for a compatible and well educated match. Contact: 9873870835</p>	<p>Noida based CEO, 24, 5ft 6", Brahmin. Masters in Fashion Management. Father is an Additional Senior Solicitor. Family is financially well off with a net worth of several Crores. Looking for a compatible and well educated match from the same or similar community in India/Abroad. Contact: 9310065725</p>
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919

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 Outsourcing Service
899

Writing and
 Printing Paper
719

Duplicating
 Machines
557

Network Service
 Equipment
468

Computer Equipment
 & Accessories
454

Sarkari Shopping

An in-house e-commerce platform has revolutionised government procurement in a short span of time. Its cumulative billings could touch ₹1 lakh crore this fiscal

Note: All transactions/orders are for the period between 2016 till now
 Source: GeM

Malini Goyal

Few notions among those who do business in India are perhaps as pervasive and deeply held as the one about doing business with the government. It's a bit like a visit to the dentist – best avoided, but if you must, then pain and unpleasantness can't be escaped. Complex procurement norms, bureaucratic hurdles, nepotism and delayed payments make it an affair that requires grit.

Entrepreneur Shweta Sharma, 27, harboured similar notions, too.

Started by three college friends in 2016, her startup Leaf Era sells moringa leaf tea and extracts. They started retailing on Amazon and Flipkart and now exports to Hong Kong. Late last year, her entrepreneur father, who runs a sanitary fittings business, suggested something that made her raise her eyebrows. Start selling on GeM, or the Government e-Marketplace (gem.gov.in), he said. Doing business with the government has become easier and safer, with timely payment and few logistical hassles.

Sharma was sceptical.

But within days, she changed her views. Onboarding the GeM platform was easy, with all registration formalities, such as uploading documents and their verification, done remotely in two days. Within a month, Leaf Era was selling on GeM. Under the Womaniya platform (a government initiative to encourage women-led startups), her vendor assessment fee was waived. "The GeM team was very supportive and motivating," she says. Since hers was a "non-traditional" product, GeM executives helped out by sending emails to government departments, letting them know about it. "That's how I got Indian Railways Catering and Tourism Corporation (IRCTC) as our customer. Their office now stocks our products," she says. Her monthly sales have grown from ₹5,000 last October to ₹1 lakh now. Up to a tenth comes from the government. "Payments have always been on time. I would have never imagined that doing business with the government can be so smooth," she says. Now, she is targeting other government departments such as the military.

Leaf Era is one of the growing number of vendors on the GeM platform that is revolutionising procurement by

the government. Rolled out by the NDA government in 2016, GeM is an e-commerce platform launched with the ambition to make government procurement cashless, contact-less and paperless – an Amazon for the sarkari, if you will. Replacing archaic, bloated, file-driven DGS&D (Directorate General of Supplies and Disposals) with a staff of more than 1,800, the lean, tech-led GeM has just 50 employees. It has had an impressive journey, digitising government procurement.

It could easily qualify among the fastest scale-ups of an e-commerce platform in India.

Today, it has 2.5 lakh registered vendors and about 37,000 buyer organisations, including government departments. About 200-plus public sector units (PSUs) and 30-odd states and Union territories have been brought on board. It offers 10 lakh-plus products and 12,798 services. Since 2016, it has managed to do transactions worth ₹32,000 crore. It is targeting to take the cumulative total to ₹1 lakh crore in 2019-20. "We are growing well. Since we were late in digitising procurement, we managed to leapfrog and now offer both products and services on GeM, a unique feature globally," says Radha S Chauhan, CEO, GeM.

Using technology to deliver faster, cheaper and efficient citizen services has been the Narendra Modi government's mantra. GeM rollout deploys the same strategy in the government.

By any yardstick, as a buyer, the government's budget is huge. Typically, its procurement is 5% of GDP, which stood at ₹190 lakh crore in 2018-19. About 40% of the procurement spend is on buying products (including office stationery and laptops) while the rest is on services (like cab services and housekeeping). Till around 2016, it was mostly done on paper, with archaic bureaucratic procedures that were inefficient, time-consuming and opaque, leaving enough headroom to rig the

Get to Know GeM

WHAT'S IT?

It's the Government e-Marketplace, a one-stop shop for it to procure products and services for government bodies

WHAT DOES IT DO?

It leverages technology to make government procurement contact-less, paperless & cashless

WHAT ARE THE ADVANTAGES?

It helps cut costs by 25%, brings in dynamic pricing and faster turnaround time, widens vendor base and curbs the rigging of tenders

WHEN WAS IT ROLLED OUT?

GeM was rolled out in 2016. Earlier, purchase was done through the govt arm, the Directorate General of Supplies and Disposals (DGS&D), with 1,800-strong staff. It was shut down in 2017-18

No. of Sellers & Service Providers on GeM
2.5 lakh

No. of Products
10 lakh+

No. of Startups
2,252

No. of Orders
20 lakh+



Value of Orders So Far
₹ 32,000 cr

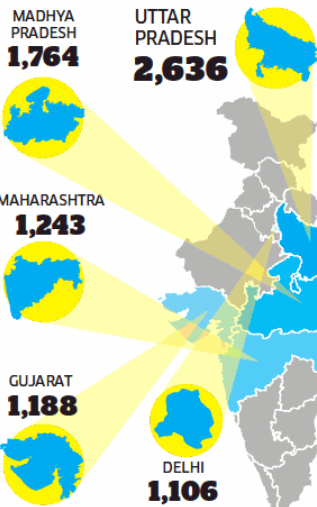
Cumulative Target till 2019-20
₹ 1 lakh cr

No. of MSME Sellers
39,746

Value of MSME Orders
45%

Top States Placing Orders

Order Value (₹ cr)



With manual procedures like physical verification, it would typically take a month for a vendor to register as a government supplier. Product category was limited. Procurement rates were rigid, fixed for one or two years, which meant government often ended up buying end-of-life electronic products. "The whole process of price discovery was opaque, static and there were allegations that suppliers would form a cartel to get the rates fixed at a certain level," says Binoy Kumar, secretary, Ministry of Steel.

Seasoned vendors would game the system, keeping a tight control on who could supply and who could not, thus constraining vendor options. For example, there were only three vendors supplying textile clothing (used by police forces, etc). "This was shocking," says Kumar. Fixing rate contract for an item or a service could take up to six months. Preparing bid document was an elaborate manual process spanning three months. While product specification was not standardised, for services, consultants were hired to fix service level agreements (SLAs). Vendor payment was patchy and often prices quoted in the government could be higher than what was available outside. "Price negotiation, price discovery and vendor options were all very limited," says Kumar.

In early 2016, the government took a decision to reform DGS&D (it comes under the Ministry of Commerce, which at the time was headed by

Nirmala Sitharaman). Kumar, the then DGS&D head, took four months to build a marketplace offering one product and one service – computers and cab-hiring services – as a proof of concept. With a big thumbs up from his bosses, GeM has been steadily scaled up. In 2017,

DGS&D was shut down. To help bureaucrats get on board GeM, over 30,000 training sessions have been conducted and now the training is part of the curriculum at the Lal Bahadur Shastri National Academy of Administration, Mussoorie. While the central government procurement has moved to GeM, both PSUs and state governments have signed on voluntarily, realising the benefits.

Government procurement broadly falls under three categories. One, direct purchase where the buyer can directly pick and order the product (of value under ₹25,000) on GeM. Two, the ₹25,000-5 lakh category where they need to compare offerings of at least three vendors (listed on GeM platform) and pick the one with the lowest price. Three, the ₹5 lakh-plus category where buyers need to invite bids to pick a vendor.

The officers encountered many challenges along the way. Earlier, vendor registration and verification was physical, entailing documentation that could be over 70 pages and time-consuming, says KC Jha, ACEO, GeM. Now everything is done digitally. For example, Aadhaar is used for identification, income-tax returns and PAN for verifying the vendor's financial worth and MCA database for verifying a company's digital identity. With the help of Quality Council of India and local experts, video recording can be submitted to further automate verification of vendors and products.

Initially, prices on GeM were higher than, say, on Flipkart. So, they introduced a tool where prices on GeM could be easily compared with those on other e-commerce sites. "We now have a tool to predict when product prices could be too high or too low," says Rajesh Narang, CTO, GeM. Like any digital platform, buyers and sellers here can rate each other, creating data to vet them for future orders and nudge behavioural changes.

E-Edge

The benefits have been enormous. "GeM platform is fast and time is saved in bidding," says Jagdeep Singh, executive director (operations), RailTel Corporation of India. Chauhan, CEO of GeM, says it cut costs by about 25%. As a category, automobile has been the biggest hit, with an instant 12% discount. Aggregating purchase – for instance, five states together bought 1 lakh smart phones – has helped government to negotiate for bigger discounts.

Product categories have multiplied from under 400 in the early months to 3,500 now. Vendor registration time has shrunk from 30 days to under 10 minutes. Instead of procurement rates fixed for one or two years, now it's dynamic and market-linked. The vendor base has become more diverse and inclusive, with an emphasis on supporting startups and MSMEs. "Being a startup, we normally would not qualify for government orders. GeM has made that possible," says Sanjay Kamra, managing director, Troika Transolutions, a fintech and energy management startup. Sameer Jain, business development head of Nanocean Global, a company that sells patented nasal filters that keep out air pollution, says his company got bulk orders from traffic police in Delhi and Chandigarh, thanks to GeM. "From orders to payments, everything was smooth."

However, challenges remain. "Rates and timelines have come down and the system is stabilising but in remote areas where order

"GeM has emerged as a powerful platform"

S Radha Chauhan, CEO of GeM, speaks about the portal's journey so far and the road ahead:

How has the journey been?

As an idea and for its potential, it has emerged as a powerful platform. Seeing the benefits, besides the central ministries, now 30 state governments and 200 PSUs have come on board. Also, all the mandated procurement from MSMEs is being routed through this platform.

What are the benefits of GeM?

Typically, we have found that it cuts costs by 25%. It is a transparent platform where pricing can be easily compared, and vendors and buyers are rated on key parameters like product quality and payments. This has helped us widen the vendor base and also get better prices. For example, by aggregating government bulk orders for mobile phones, we were able to get better rates. Instead of end-of-life electronic products, we get the latest ones. Payments to vendors are prompt – within 20 days of delivery. The purchase order decision, which earlier could take up to two months can now happen within two weeks. On GeM, with pre-approved specs for items like laptops and vendors, the departments need not wait for approvals to place their orders.

What has been the growth in the number of transactions?

In the first year, 2016-17, we did ₹420 crore worth of transactions. In the second year, it went up to ₹6,000 crore. Third year, we touched ₹32,000 crore. This year, 2019-20, we are aiming for ₹1 lakh crore. We do 3,000-4,000 transactions per day.



is small, delivery is an issue," says a paramilitary official who didn't want to be quoted. "The platform needs to be made more user-friendly," says Singh of RailTel. There are issues around counterfeits, and GeM is working with OEMs to find ways to tackle it. Officers can flag instances of fake product delivery and after three such instances those vendors are banned. Since there is no advertising on GeM, product discovery of non-traditional products like nasofilter can be difficult.

Chauhan acknowledges the challenges but is upbeat. "It's a journey. We are working to get better. We are at 3,000 daily transactions today and should touch ₹1 lakh crore this fiscal. We hope to reach ₹5-6 lakh crore within five years." ■

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Then & Now

Earlier managed by the Directorate General of Supplies & Disposals, govt procurement under GeM has undergone a dramatic change

THEN

Limited product categories (160-400); services were not offered; static, inflated pricing for 1-2 years

NOW

3,431 product categories; 87 services on offer; machine-driven, competitive, dynamic pricing

THEN

Limited base of 4,000 vendors. Time-taking and opaque registration and tendering process, with the possibility of vendor-buyer nexus

NOW

At 2.5 lakh, vendor base widened to include startups. Quick, faceless, contact-less and cashless end-to-end process curbs vendor-buyer nexus

THEN

Manual payment with long timelines (1-6 months)

NOW

Online payment within 20 days of delivery; automatic escalation

system. With GeM, the e-commerce wave that has changed the way Indians buy is now altering the way the government shops.

India is part of the global wave. In 2016, McKinsey put out a report that estimated that "government digitisation using current technology could generate over \$1 trillion annually worldwide". In 2011, Bangladesh, which spends around \$10 billion in public procurement annually, launched its e-GP (electronic government procurement portal) to allocate public funds more effectively and transparently.

Singapore started its journey even earlier in 1998 with GeBIZ as a "one-stop, non-stop" online centre for public sector procurement. Its public procurement programme is now moving on to the next phase, trying to enable more complex engagement with businesses like dynamic contracting, trial experimentation and co-development with business partners.

The Journey

Until 2016, government procurement in India belonged to the analog world, with DGS&D being the sole authority to fix both rates and specifications for every product.

Inheritance of Flaws

With a marked reduction in their prices and required duration, genetic tests are gaining in popularity for diagnosis and treatment of a range of illnesses

:: G Seetharaman

Aryan Ramsinghani reached infant milestones like crawling and sitting up at expected times. But in 2004, when he was around two, he slipped from his uncle's shoulder and hit his head on the floor. Then things changed. "He fell whenever I made him sit up," says his mother Riddhi.

She and her husband, who live in the Mumbai suburb of Chembur, decided to get medical help.

Ramsinghani's doctors ran a series of tests, including a magnetic resonance imaging (MRI) of the brain, and diagnosed him with a rare genetic disease called leukoencephalopathy with vanishing white matter disease, which affects the brain and the spinal cord. They were puzzled.

What had caused this progressive neurological disorder in their toddler? The Ramsinghanis decided to get a genetic test done. At the time, The Netherlands was the only country that

had the technical knowhow for the test, so they sent their blood samples along with the child's.

What followed was a long and uncertain wait. The test took two years, at the end of which they were told the cause was indeed genetic – a variation in both copies of a gene inherited from his parents caused this disease. (We all inherit one copy of a gene from each parent.) His parents were carriers, which means each of them had just one abnormal copy of the gene and so did not have the disease.

"Now the same test can be done in India in 3-4 weeks," says Dr Vrajesh Udani, a paediatric neurologist at Mumbai's Hinduja Hospital, who diagnosed Ramsinghani. While the Ramsinghanis did not have to pay for the genetic test in 2004 since it was done as part of research on the disease, its cost then would have run into lakhs of rupees. But now, it can be done for just ₹20,000-35,000.

This is a sign of how far genetic testing has come in India, with an increasing number of tests being done here and a lot them costing half as much as they did five

years ago. Moreover, tests that took weeks can now be done in days.

Genetic testing is being used for a variety of purposes – right from confirming a diagnosis as in Ramsinghani's case to checking someone's predisposition to a disease to deciding the course of treatment for certain cancers. "It's not just

about knowing the risk, but looking at particular genes for actionable insight," says Sooraj Ratnakumar, cofounder of Swagene, a Chennai-based genetic testing company.

There is no cure yet for Ramsinghani's disease and he is wheelchair-bound. "People with this condition deteriorate, but thank god he is stable," says Riddhi. His diagnosis led his parents to make sure their second child did not also have the same disease. When Riddhi was pregnant again in 2009, she got a prenatal genetic test done and it turned out the foetus was just a carrier like the parents. (The samples were again sent to The Netherlands and the test cost them ₹60,000, while it can now be carried out in India for a tenth of that.)

Riddhi had the baby and named her Kanak, who is now a healthy 10-year-old. To avoid her children getting the disease, Kanak will have to make sure she does not marry another carrier, which can again be confirmed with a genetic test. Leukoencephalopathy with white matter disease is caused by mutation in any of five genes – EIF2B1 to EIF2B5 – and Ramsinghani had a mutation in EIF2B5.

Genetic tests in India can cost anywhere between ₹3,000 for something like thalassemia, a blood disorder marked by inadequate haemoglobin production, and Rs 1 lakh for whole genome sequencing (WGS). This is significant since the first effort to sequence a genome took 13 years and cost nearly \$3 billion. The genome comprises all of our deoxyribonucleic acid (DNA), which carries our genetic information. The DNA molecule contains four chemical units, expressed in letters A, T, G and C. WGS looks at the order of three billion pairs of these letters.

There are around 20,000 genes (made of DNA) in every cell of our body, which act as instructions to make molecules called proteins, which then determine the structure and functioning of our cells, tissues and organs. Mutation in any one of these genes on their own or in combination with mutations in other genes or with environmental factors can cause a disease.

"The explosion in genetic testing is as big as the internet and the industrial revolution," says Udani, who on an average prescribes one genetic test a day.

Dr Girisha Katta, professor of medical genetics at Kasturba Medical College in Manipal, says there is no branch of medicine that does not require genetic testing. "Only the degree varies."

Paediatrics, foetal medicine, oncology and haematology may use genetic testing more than, say, pulmonology. Around 80% of the 7,000-odd rare diseases are genetic in origin, according to Global Genes, a non-profit organisation. As per a Union health ministry report from March 2017, around 450 of these diseases have been recorded in India.

Ramesh Hariharan, cofounder and chief executive of Strand Life Sciences, believes most of

DNA Dossier

What is genetic testing?

A procedure to spot changes in a person's genes and chromosomes

How is it done?

With blood, saliva or tissue samples

Why is it done?

To diagnose a disease or to confirm diagnosis

To check if someone is at risk in case there is a family history of any genetic disease

To determine which treatment or medication will work

To screen embryo or foetus for genetic abnormalities

To check chances of a couple passing on genetic abnormality to their child

How many genetic tests are there?

Over 1,000



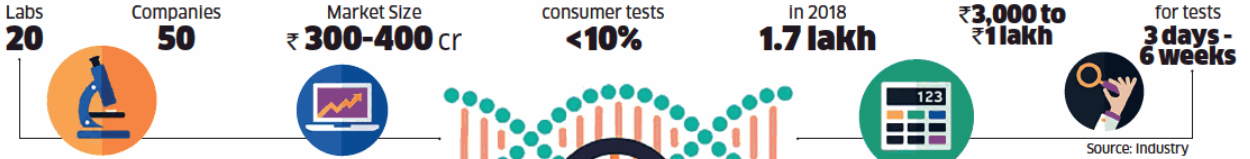
"The explosion in genetic testing is as big as the internet and the industrial revolution"

Dr Vrajesh Udani,
paediatric
neurologist,
Hinduja Hospital,
Mumbai

GETTY IMAGES



Testing It Out in India



the tests can be done in a week. "But to be cost-effective you have to wait for enough samples."

Multiple samples can be processed at the same time. Strand offers tests ranging from ₹15,000 to ₹40,000.

According to industry sources, there are around 20 genetic testing labs in India and around 50 companies in the space, most of whom outsource the tests to external labs in India or overseas. The size of the industry is pegged at ₹300-400 crore, which has been growing at 30% annually over the past couple of years. The most prominent companies in the space are homegrown MedGenome and Strand Life Sciences and global players such as Centogene and Eurofins. Some major hospitals also have their own labs.

These companies focus on genetic tests ordered by clinicians, while the likes of Mapmygenome concentrate on what are called direct-to-consumer (DTC) tests, which account for less than 10% of India's genetic-testing market. Thanks to people's curiosity about their ancestry, DTC tests offered by companies such as Ancestry.com and 23andMe are on the rise in the US, with orders ballooning from 4.5 million in 2017 to 26.5 million in early 2019, according to MIT Technology Review.

But Indians are not nearly as likely to shell out money to find out more about their lineage. Most DTC tests in India are to do with wellness and nutrition and knowing your susceptibility to certain diseases.

Vedam Ramprasad, chief operating officer of MedGenome, calls DTC tests "recreational". "Clinical diagnostics is saturated in the US so they are moving to DTC. In India, we don't even have enough labs to tackle genetic diseases." He adds that it is not possible to use genetic tests to determine one's predisposition to diseases like diabetes and hypertension, where multiple genes may have a role to play, in addition to

"Clinical diagnostics is saturated in the US so they are moving to DTC. In India, we don't even have enough labs to tackle genetic diseases"

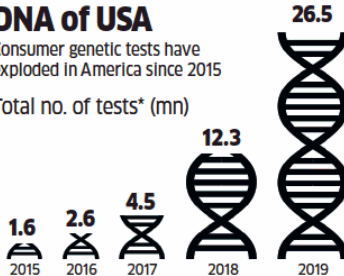
Vedam Ramprasad,
COO, MedGenome Labs



DNA of USA

Consumer genetic tests have exploded in America since 2015

Total no. of tests* (mn)



Source: MIT Technology Review

Diseases where genetic testing can be important

- Thalassemia
- Duchenne muscular dystrophy
- Some types of breast, ovarian, thyroid, colon and prostate cancers
- Familial epilepsy

Diseases where genetic testing not as effective

- Common forms of diabetes
- Hypertension
- Depression
- Asthma



"We don't really tell people whether or not they will get a disease. We just tell them that if a disease runs in their family, they are more at risk than others"

Anu Acharya,
CEO, Mapmygenome

lifestyle factors.

"We don't really tell people whether or not they will get a disease. We just tell them that if a disease runs in their family, they are more at risk than others and they need to be careful," says Anu Acharya, CEO, Mapmygenome. Some 70% of her company's business comes from DTC tests.

MedGenome, which was founded in 2013 and has raised \$64 million in funding from several investors including Sequoia and HDFC, processed about 85,000 samples in 2018 and the number is expected to rise to 120,000 in 2019. The company's College of American Pathologists-accredited genetic-testing lab in Bengaluru's Electronic City has state-of-the-art sequencers, which resemble mini-refrigerators hooked to copiers. Around 40% of its tests are whole exome sequencing, which look for mutations in all the protein-coding genes. This is helpful when the symptoms are non-specific or when the symptoms are common to more than one genetic disease.

In several forms of cancers, genetic testing is used to determine which medicine or treatment procedure will best work for the patient. For instance, when Delhi-based teacher Vaidehi Mishra (name changed) was diagnosed with ovarian cancer in December 2018, the 50-year-old underwent a genetic test to see if she had inherited an abnormality in her BRCA1 or BRCA2 gene – her mother had died of ovarian cancer. She tested positive for a mutation in BRCA1, which meant she could be put on the cancer drug Olaparib after chemotherapy. The drug is only for certain types of ovarian or fallopian tube or primary peritoneal cancers.

"The doctor suggested we get our son (25) and daughter (21) also tested for the mutation," says her husband Prakash (name changed), who works with a multinational chemicals company. They are awaiting the results. Dr Manish Singhal, the oncologist at Indraprastha Apollo Hospital in the capital who has been treating Mishra, says genetic testing has made a huge difference in breast, ovarian, prostate and pancreatic cancers. Now around 60 of his patients undergo a genetic test annually, compared with just 2-3 some years ago.

Among the constraints in genetic testing in India are the lack of sufficient medical geneticists to analyse and interpret the data thrown up by these tests and the inadequate understanding of genetics among clinicians. "Medical genetics is still not a prominent part of the medical curriculum," observes Katta. Geneticists are also worried about the absence of guidelines for gene-testing labs. Equally important is counselling patients and their families before a genetic test about its implications.

While falling prices have helped increase the adoption of genetic testing, the fact that these tests are not covered by medical insurance, unlike in the US, has been a barrier, according to Hariharan. Coverage of genetic disorders by insurers is not mandatory either, after a Supreme Court ruling last year, which has affected patients like Arya-Ramsinghani.

It is evident that genetic testing is now key to several clinical specialities and will only become more so. But that has to be accompanied by better awareness of its potential and consequences among patients and high standards in the labs. ■

One-horned rhinos take shelter on an artificial highland in the flood-affected Kaziranga National Park on July 18

Survival Game

With 90% of Kaziranga National Park flooded, 2,400 one-horned rhinos are fleeing for their lives. So far 141 animals, including 12 rhinos, have died in the deluge even as the government steps up its drive against poachers who could take advantage of the calamity

Shantanu Nandan Sharma
 Bagori, Assam

It was 1 pm on Tuesday. The Haldibari forest camp at Kaziranga National Park (KNP) received an alert that a baby rhino was battling for life in floodwaters a kilometre away. The six-month-old calf was making its way through the nearby Mora Diphlu rivulet but became too fatigued to climb the highland. "Urgent rescue needed," the message said.

In no time, five guards jumped into a country boat moored behind the camp and rushed to the spot. The National Highway 37 that passes through the park, which would have shortened the journey by 5-10 minutes, was heavily flooded and closed for vehicular movement. The forest camp, incidentally, did not have any of the 11 speed boats that the forest department at KNP owns to guard 884 sq km of the park spread across land and water bodies.

An hour later, the men returned, dejected. They carried back the rhino calf, but it was dead. The guards – Dipak, Binod, Kosheshwar, Tapan and Khireswar – struggled to bring the heavy baby animal out of the boat. "Moi gad puwali morile chabo nowaroi (I can't see the sight of a dead baby rhino)," said Tapan Teron, choking back his tears and digging the ground to bury the little beast.

During the past one week, as floods hit Kaziranga, submerging 90% of its landmass, animals are scrambling for a patch of dry ground. They are swimming through swirling floodwaters for miles – and at times drowning out of sheer exhaustion – and they are clambering up hills and highlands in a mad dash to survive. According to data available with the KNP Directorate, 12 one-horned rhinoceroses, including the one at Haldibari, have died so far. While 11 of them drowned, the twelfth, trying to escape the floodplains, fell to its death after it slipped from the nearby Karbi Anglong hills. The forest department struggled for five hours to



Beasts in the Deluge

Animals killed & rescued in Kaziranga floods (Since July 13, 2019)

	Dead	Rescued
Rhino	12	2
Elephant	1	1
Hog Deer	101	49
Swamp Deer	6	2
Wild Boar	9	nil
Sambar	9	1
Others	3	5
Total	141	60

pull the rhino out from between two boulders, but the mission failed. They succeeded, though, in sending a younger, accompanying rhino to a safe zone using two trained elephants and their mahouts.

The forest department has so far rescued two rhinos, which are under observation in its rehabilitation and conservation centre. Altogether, 60 animals, including elephants, hog deer and wild boars, were rescued even as 141 died in the floods. The foresters tie the legs and cover the eyes of the animals they rescue so as to minimise the shock level.

Take the Rhino by Its Horns

For three consecutive days, *ET Magazine* crisscrossed Kaziranga National Park and witnessed a number of interventions where foresters either rescued animals or prodded them to a safer path. In one such incident at Sildubi in the Bagori range on Wednesday, a three-year-old rhino swam several kilometres through floodwaters to

reach the highway. The foresters and the nearby villagers monitored its movement for 17 hours and prevented it from entering human settlement, thus averting a possible commotion and threat to human life and property. Forest guards contemplated using tranquilisers to tame the animal, for which they would have had to take permission from higher authorities, but the plan was abandoned as the rhino was worn out, a condition in which darting could prove fatal. At 8 pm, the animal finally started swimming to a highland, and the guards and villagers heaved a sigh of relief.

KNP has 140 artificial highlands, each spread across 1.5 hectares and at a height of four to five metres. Thirty-three of these highlands were built in 2016.

While most of the animals which died in the past one week had drowned, 16 were hit by vehicles as they tried to cross the road to safety. After all, 49 kilometres of NH 37 – which carry up to 6,000 vehicles a day – pass through the KNP. During

Kaziranga National Park

Area: **884 sq km**

Distance from Guwahati: **250 km**

No. of animal corridors: **9**

Highway that passes through the park: **NH 37**

No. of vehicles that cross the sanctuary daily: **6,000**

Big Five of the Park

Rhinos: **2,413**

Elephants: **1,089**

Tigers: **104**

Swamp Deer: **907**

Wild Buffaloes: **1,937**

Note: The last estimate for rhinos and deer were taken in 2018, elephants in 2017, tigers in 2016 and buffaloes in 2008



“We are Planning to Give AK-47 to Select Anti-Poaching Guards”

P Sivakumar, director of Kaziranga National Park, says there's a move to give AK-47 rifles to a select group of guards in poaching-prone areas. Edited excerpts from an interview with **Shantanu Nandan Sharma**:

Are the animals, including the one-horned rhino, safe in this flood?

The floods in Kaziranga are severe this time because the water level of the Brahmaputra and its key tributaries such as the Subansiri, Buroi and the Bargang rose way above the danger level, flooding the park and also the National Highway 37 that passes through it. The highway had to be closed for two days. But the animals have basic instincts. Before the floods, they start rushing towards the highlands. That's an indication for us, too, that floods are coming.

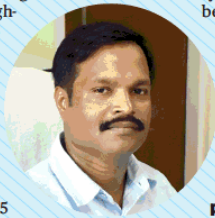
We have recently constructed 33 highlands, taking the total number of humps to about 140. Some of the early ones constructed in the 1990s are getting eroded now. A highland typically has an area of 1.5 hectares and is at a height of 4 to 5 metres. Most of the rhinos are now in those highlands.

More than 90% of our elephants and deer have migrated to the nearby Karbi Anglong hills, which are on the other side of the highway. They will return to the park in September. The problem is, there are about two lakh people living on the fringes of nine animal corridors. That's the main source of regular man-animal conflicts.

How serious is poaching during floods?

The number of poaching incidents has come down (from a high of 27 each in 2013 and 2014), but the number of poaching attempts is still very high. The arrest of a major rhino-horn dealer

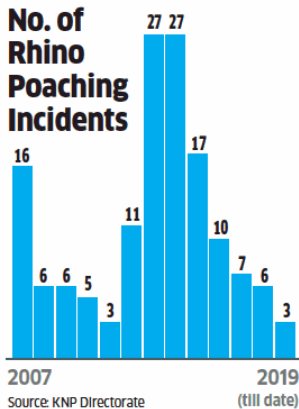
— Toyikhu Zhimomi alias Master — early this month has been a major breakthrough. This man from Dimapur has smuggled at least 10 rhino horns since 2014. Recently, two other raids took place in Itanagar in Arunachal Pradesh in connection with rhino poaching, after it came to our notice that there's a transit point to China beyond Pasighat. The traditional smuggling route is Nagaland-Manipur-Myanmar-China.



Is your staff well equipped to take on the poachers?

We have 900 permanent staff of whom 600 are armed. They use .303 rifles and SLRs (self-loading rifles). Now, 82 personnel of the newly raised battalion called the Assam Rhino Protection Force are given INSAS rifles. We are also planning to give AK-47 to a select group of guards posted in some poaching-prone areas along the hills and on the river Brahmaputra. We have stepped up the anti-poaching drive during the floods.

No. of Rhino Poaching Incidents



by the natural disaster, they try to collect the horns of dead rhinos.

The rhino horn is believed to have medicinal values and is even sold as an aphrodisiac. A horn weighing one kilogram fetches ₹80 lakh for local poachers, says a senior forest official. The horn is then smuggled to China via Dimapur (Nagaland), Churachandpur (Manipur) and Myanmar. Pasighat in Arunachal Pradesh has of late become a new transit hub before the materials get smuggled into China where one kilogram may fetch a whopping ₹3 crore. Rhino horn is also used as an ornament and gift in parts of China and Vietnam.

Kumar Sanjay Krishna, additional chief secretary in-charge of home and disaster management of the government of Assam, says the police is on high alert. “We have alerted the police and forest officials that poachers may take advantage of the floods. The animals have now taken shelter in a few highlands and also in the Karbi Anglong hills,” he says.

There have been 104 poaching incidents in KNP since 2007 for which data is readily available, the worst years being 2013 and 2014. In both those years, 27 poaching incidents were recorded. During the last 12 years, there has been 2011 when only three such incidents took place. Three rhinos have been poached so far in the current calendar year.

The danger during the floods is that if

the poachers come to know about the death of a rhino ahead of the forest department, there is a fair chance that the horn would fall into the wrong hands. On Tuesday, as this writer was sitting in a forest department office at Bagori, an alert came that an adult rhino was found dead. In no time, ranger Pankaj Bora took a speed boat and recovered the horn of the dead animal. “We need to follow a strict procedure. We first take the weight of the raw horn. It will be weighed again after a few weeks when it is dry. The horn will finally be preserved in the treasury,” Bora explains.

In fact, 1,300 rhino horns are currently in the possession of the government of Assam, raising questions on whether it should continue to pile up the inventory. In 2016, it was almost decided to destroy the collection, but a controversy erupted around the genuineness of many of these horns, forcing the authorities to again authenticate them.

“My view is that we must destroy this inventory of rhino horns someday. We should be proud of our live rhinos, not of the horns kept in treasuries. But that's something I can't take a call on,” says Sivakumar. For now, across the floodwaters, he and the foresters are keeping a weather eye out for the real treasures of Kaziranga — the rhinos — to ensure that these majestic beasts are not in trouble. ■

shantanu.sharma@timesgroup.com

floods, animals move southward from the Brahmaputra Valley to the Karbi Anglong hills, perilously crossing the highway.

P Sivakumar, director of Kaziranga National Park, told *ET Magazine* that foresters issue electronic time cards during monsoons to restrict the speed of vehicles to 40 km per hour. “That solves the problem only partly. The real hazard comes from trucks that ply after 6 pm, when animals cross the road,” he says, adding that the government has almost finalised a ₹2,500 crore mega plan to construct a three-lane elevated flyway totalling 35 km. At present, there are nine animal corridors in that stretch where vehicles need to slow down.

The problem is compounded because two lakh people are settled in and around these corridors, leading to regular man-animal conflicts. Some residents even feel jealous of the rhino as the animal gets all the attention from the government. “We are humans. But the government is more interested in animals. The rhinos have a better life than us,” says 72-year-old farmer Manik Bhuyan.

Floods in Assam have so far killed 37 people and directly impacted 57 lakh people in 33 districts. Bhuyan, a resident of Baghmari village near KNP, has also taken shelter along the highway.

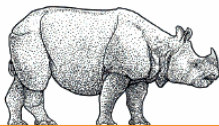
Bhuyan's emotional outburst is understandable, but the reality is that the raison d'être of Kaziranga as a World Heritage Site is the one-horned Indian rhinoceros (*Rhinoceros unicornis*), considered highly vulnerable and listed in the red list of threatened species by the International Union for Conservation of Nature (IUCN). In 2018-19, as many as 1.76 lakh tourists, including 7,443 foreigners, visited KNP, the main attraction being the rhino.

The conservation of rhinos in Kaziranga has been a success story: their numbers have grown from a paltry 366 in 1966 to 2,413 in 2018 when the last census was conducted. KNP also has 1,089 elephants, 1,937 wild buffaloes, 907 swamp deer and 104 tigers. It is home to 15 species of mammals that are considered threatened under the Wildlife (Protection) Act, 1972.

Located on a floodplain in the southern part of the Brahmaputra, Kaziranga was declared a reserve forest in 1908, shortly after a visit by Lady Curzon, wife of the then Viceroy Lord Curzon. As legend goes, Lady Curzon was mesmerised by the sight of the one-horned animal and impressed upon her husband the need to take initiatives for its conservation. Later, in 1950, Kaziranga was named as a wildlife sanctuary and in 1974 it was upgraded to a national park. In 2007, it was declared a tiger reserve as it was argued that the park would be a better habitat with tigers in it. Many conservationists believe that a sanctuary without tigers makes other animals lazy and less productive.

On Thursday, an adult royal Bengal tiger took refuge on a bed in a house in Harmoti area, indicating how the floods have not spared even the big cats. The video of the tiger went viral after the Wildlife Trust of India posted it on social media platforms.

Floods in Kaziranga affect its 35 mammal species as well as many types of snakes, turtles, lizards and insects. It is also the time when poachers prowl — in the chaos wreaked



The Smuggling

Pricey Rhino Horn

At Source:
A horn weighing 1 kg would fetch ₹80 lakh

At Destination:
A kilo would fetch ₹3 crore in China and Vietnam

Smuggling Route:
Kaziranga-Dimapur (Nagaland)-Churachandpur (Manipur)-Myanmar-China

Usage:
Aphrodisiac, ornaments, gifts, Chinese medicine



NP AV

**PC, Laptop
 Tablet, Mobile**

सुरक्षा

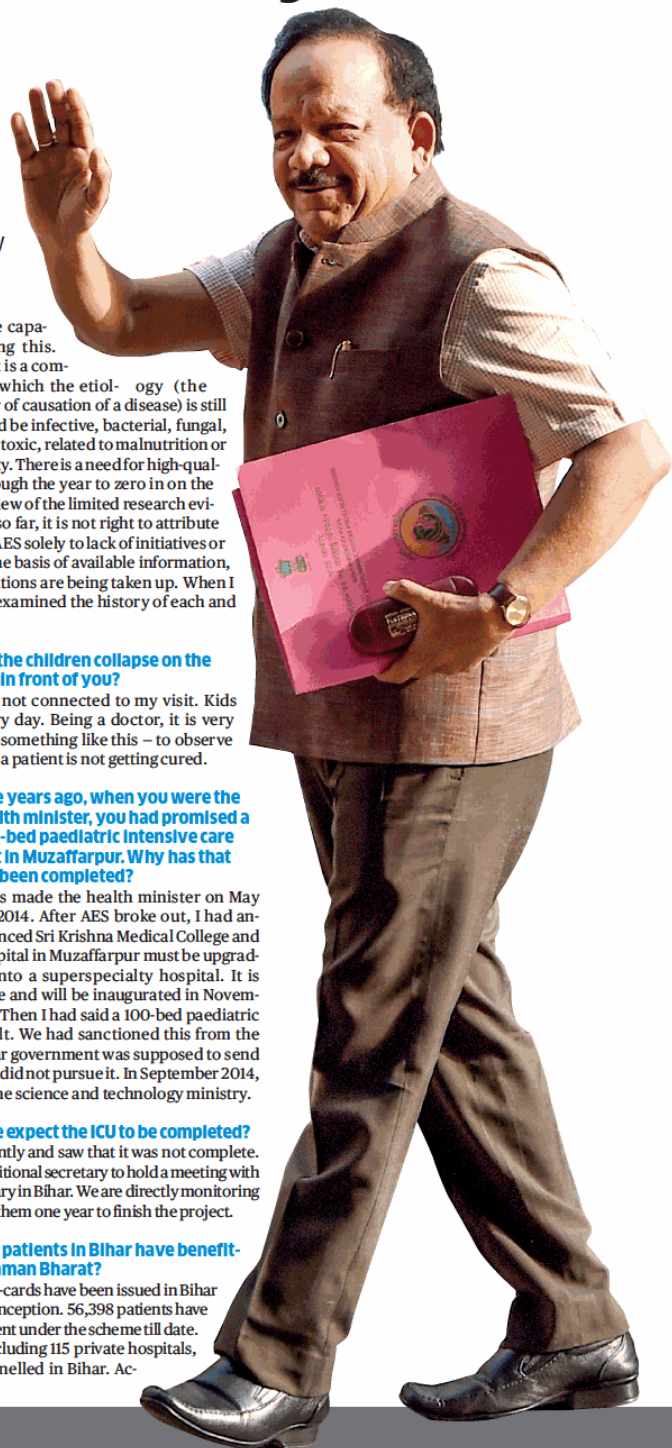
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Getting States to Invest More in Health is a Major Challenge

Providing tertiary care to citizens through government schemes is the first step towards achieving universal healthcare for all, says **Harsh Vardhan**, Union Minister for health & family welfare. State governments should protect doctors from assaults in hospitals and encourage doctors to work in rural services, Vardhan, who also heads the ministries of science and technology as well as earth sciences, tells **Perna Katiyar**. Edited excerpts:



What are your big targets in healthcare for the next five years?

My big target is to achieve my prime minister's dream of universal healthcare for all. We plan to convert 1.5 lakh primary healthcare centres (PHCs) into health and wellness centres by 2022. We have already done that in 19,000 such centres. The year 2025 has been set as the target to eradicate tuberculosis, kala-azar, fluorosis and leprosy.

Providing tertiary care to all needy citizens through health assurance schemes, like the Pradhan Mantri Jan Arogya Yojana (PMJAY), is the most ambitious plan that our government has launched. This is the first step towards achieving universal healthcare for all. As many as 32 lakh families have already benefitted from this scheme. Converting AIIMS-Delhi into a world-class medical university and making 22 other AIIMS fully functional and providing medical education facilities in each district are some of the targets that we are working on day and night.

What are the biggest healthcare challenges the country is facing?

Health is a subject that requires close coordination with many other sectors, as 80% of determinants of health lie outside of the health department. There is still some resistance to immunisation efforts. Significant improvements have been made through Mission Indradhanush, but a lot of work remains to be done. Malnutrition is the root cause of low resistance and ailments in children. Concerted efforts are required by all the departments concerned to tackle this scourge.

The health sector has historically remained under-funded. Public health and hospitals is a state subject, and states need to invest more in health. Getting states to do this has been one of the biggest challenges. Then again, the growing burden of non-communicable diseases (NCDs) is emerging as a major challenge that can seriously impact the country's development.

You mean NCDs such as Acute Encephalitis Syndrome (AES) that hit Bihar's Muzaffarpur and adjoining districts last month? Did lack of awareness campaigns due to elections led to the situation getting out of hand, leading to the death of more than 150 children?

I may not be able to comment on that. Firstly, during that period (of outbreak) I was myself busy with the elections. Secondly, I was not the health minister (during the interim period). Perhaps Bihar health

minister is more capable of answering this. But, like I said, it is a complex disease of which the etiology (the cause or manner of causation of a disease) is still not clear. It could be infective, bacterial, fungal, viral, metabolic, toxic, related to malnutrition or heat and humidity. There is a need for high-quality research through the year to zero in on the exact cause. In view of the limited research evidence available so far, it is not right to attribute the outbreak of AES solely to lack of initiatives or awareness. On the basis of available information, specific interventions are being taken up. When I went to Bihar, I examined the history of each and every child.

Didn't some of the children collapse on the same day right in front of you?

The death were not connected to my visit. Kids were dying every day. Being a doctor, it is very painful to see something like this – to observe that a patient is not getting cured.

The growing burden of non-communicable diseases is emerging as a major challenge"

Five years ago, when you were the health minister, you had promised a 100-bed paediatric intensive care unit in Muzaffarpur. Why has that not been completed?

I was made the health minister on May 26, 2014. After AES broke out, I had announced Sri Krishna Medical College and Hospital in Muzaffarpur must be upgraded into a superspecialty hospital. It is done and will be inaugurated in November. Then I had said a 100-bed paediatric ICU must be built. We had sanctioned this from the Centre. The Bihar government was supposed to send a proposal. They did not pursue it. In September 2014, I was shifted to the science and technology ministry.

By when can we expect the ICU to be completed?

I went there recently and saw that it was not complete. We asked our additional secretary to hold a meeting with the health secretary in Bihar. We are directly monitoring this. I have given them one year to finish the project.

How many AES patients in Bihar have benefited from Ayushman Bharat?

18.2 lakh PMJAY e-cards have been issued in Bihar since the date of inception. 56,398 patients have availed of treatment under the scheme till date. 681 hospitals, including 115 private hospitals, have been empanelled in Bihar. Ac-

According to records, 57 encephalitis patients received treatment under PMJAY. The state has conducted several campaigns in Muzaffarpur to raise awareness about encephalitis symptoms and coverage of the disease under PMJAY. Please remember that PMJAY is a scheme for tertiary healthcare. Many factors can contribute to AES. The state government has to take holistic measures to curb AES.

Within days of you taking charge as the health minister, doctors went on a massive strike demanding they be provided safety in hospitals. How does the ministry plan to make hospitals safer for doctors?

Doctors often work under stressful and difficult conditions. Patients and their caregivers must, therefore, observe restraint. After joining, I met with a delegation of doctors and representatives from AIIMS, Safdarjung Hospital, RML-New Delhi, Delhi Medical Association, Indian Medical Association, Federation of Resident Doctors Association and the United Resident & Doctors Association of India. I wrote to all CMs requesting that law enforcement may prevail so that doctors can discharge their duties without fear of any violence and that strict action be taken against any person who assaults them. On July 5, an inter-ministerial committee was constituted to examine the pros and cons of bringing out a central legislation against assault on doctors and clinical establishments. The first meeting of the panel was held on July 10 and the committee is expected to submit its report, along with a proposed draft legislation, within a few days.

It has been observed that doctors do not want to be posted in rural PHCs. Is there a plan to ensure doctors compulsorily serve in rural areas after their training?

The issue of compulsory rural service lies within the domain of states, which are the principal employers of the doctors. However, to encourage doctors working in rural services, MCI regulations provide an incentive by giving up to 10% extra marks for each year of service in rural, remote or difficult areas and up to 30% in the National Eligibility cum Entrance Test (NEET) for admission to post-graduate courses. In addition, 50% medical diploma seats are reserved for the in-service medical doctors in NEET (PG). Further, under the National Health Mission, support is given through hard-area allowance, housing, etc, to encourage doctors to serve in rural areas. States have also been allowed to offer negotiable salaries to attract specialists, including flexibility in strategies such as 'you quote, we pay'.

Private medical colleges charge exorbitantly. Why will doctors who study here want to serve in rural areas when they can earn better elsewhere?

In the case of private unaided medical colleges, the fee structure is decided by a committee set up by the respective state government under a retired high court judge, in pursuance of the directions of the Supreme Court. The committee decides whether the fee proposed by an institute is justified or not. Fees in deemed-to-be universities fall within the ambit of the ministry of human resource development. The ministry has introduced a uniform entrance examination – the National Eligibility cum Entrance Test (NEET) – and combined counselling for admission to all undergraduate and postgraduate medical courses to bring transparency and curb malpractices. With this, the admission process has become transparent and the malaise of capitation fees has been largely eliminated.

But it has been observed that many private medical colleges charge ₹50 lakh or more. Is this being fixed by the committee?

They cannot charge any amount they want. But one must also understand that no private college can run a charity. Anyone who has built a college has to take out the expenses. Let us say a person says I have built a five-star college and I have incurred so much money and this is the fee I will charge. But the fee will be fixed by the committee.

“18.2 lakh PMJAY e-cards have been issued in Bihar since the date of inception. Some 57 AES patients received treatment under PMJAY”



Children suffering from acute encephalitis syndrome at the government-run Sri Krishna Medical College and Hospital in Muzaffarpur district in Bihar on June 19

There is one doctor per 30,000 people in a PHC. There is 81% shortage of specialists at rural community health centres. Looking at the dearth of doctors in India, is there a plan to increase the number of seats in medical colleges?

Our government is continuously trying to increase the number of seats. Medical Council of India (MCI) regulations with regard to requirement for faculty, staff, bed strength and other infrastructure have been relaxed for establishment of new medical colleges. Certain consultant and specialists working in district hospitals have been allowed to take teaching assignments. 29,200 UG and 11,402 PG seats have been added in the last six years. A record 10,565 UG seats have been increased this year and 5,000 extra seats have been renewed, leading to an increase in admission of about 15,000 this year. An MBBS course is being started in RML Hospital in Delhi with an intake of 100 seats from 2019-2020. Further, a centrally sponsored scheme to establish new medical colleges in under-served areas is being rolled out in phases.

The government has also taken other remedial steps to increase the number of doctors and specialists. These include increasing the teacher-student ratios in some disciplines to increase the number of specialists; allowing the appointment of a candidate with Diplomate of National Board as faculty to reduce shortage; increasing the intake capacity at MBBS level; increasing age limit for appointment, extension against posts of teachers, deans,

principals and directors in medical colleges up to 70 years; strengthening and upgrading government medical colleges to start new PG courses; easing land procedure for establishment of medical colleges in metropolitan cities, and allowing the establishment of new medical colleges by upgrading district or referral hospitals, preferably in under-served districts, among others.

Spending on healthcare is 1.4% of gross domestic product (GDP) in India, compared with 18% in the US. Do you feel there is need to increase this?

We agree that there is an urgent need for more public spending in healthcare. Accordingly, the National Health Policy-2017 recommended raising public health expenditure to 2.5% of GDP by 2025 in a time-bound manner and also recommended that state governments spend more than 8% of their budget on health by 2020. To augment resources for healthcare and to fund ambitious programmes such as Ayushman Bharat, the government has introduced health and education cess of 4% on income tax and corporation tax in place of 3% education cess. Further, Higher Education Financing Agency (HEFA), which is an SPV under the ministry of HRD for infrastructure financing for IITs and IIMs, has now become available for infrastructure work at medical institutions. Roughly ₹1,500 crore HEFA loan was availed in 2018-19.

India's science universities have relatively poor rankings. Is there a plan to improve the level of research in such universities?

We are promoting research in a big way. Our budget for the same has trebled. IISc was ranked 8th (by the THE Best Small Universities in the World) and is the first Indian university to be ranked among the top 10.

Isn't that the problem? Infrastructure related to scientific activities is concentrated in a handful of institutes such as the IITs, IISc and IISER. Don't you think India needs a bigger body of institutes to take scientific research forward?

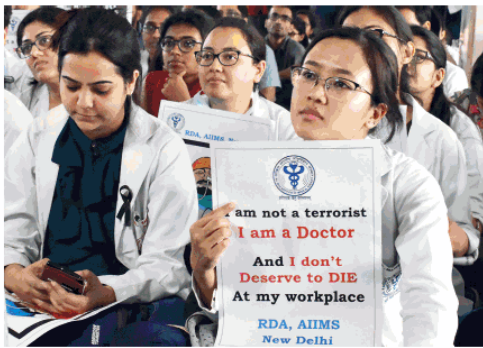
It is not like that. We are supporting a whole set of labs. So much is happening in our labs. Earlier, scientists such as CV Raman, SN Bose and Birbal Sahni, among others, did not have enough facilities. Now, you will find high-tech appliances even in a small lab.

What about their output? Not many technologies or products from our research institutions are commercialised despite years of efforts.

Till a few years ago, there was a gap between research and output. We have tried to bridge that. Earlier, labs used to work in silos. The left hand did not know what the right hand was doing. I have ended that isolation. For agriculture, water, earth science, solar power, biotech and others, I have made groups of labs for strategic, chemical, physical, biological and other fields. We have institutionalised them so that their work becomes complimentary to each other. ■

“Admission process to medical courses has become transparent and the malaise of capitation fees has been largely eliminated”

“A panel is looking at bringing out a rule against assault on doctors. Its report and a draft legislation is expected within a few days”



Doctors in Delhi take part in a strike on June 17 after a medico in Kolkata was attacked by the relatives of a deceased patient

The 25th instalment in the iconic James Bond movie series will create history for more reasons than a silver anniversary. For the first time, the secret agent number 007 will reportedly be assigned to a black woman, Lashana Lynch. The global film industry has for long been dominated by white males but the shakeup has begun. A look at 10 of the most well-known woman-led film franchises

— Indulekha Aravind

Wonder Women

THE BRIDGET JONES SERIES

Starring: Renee Zellweger

The first film in the series based on the novel by Helen Fielding became iconic for Renee Zellweger's portrayal of a 30-something, overweight single woman dealing with her life, including romances. It earned Zellweger an Oscar for Best Actress and led to two more films, the last being *Bridget Jones's Diary* released in 2017. Cumulatively, the films have earned over \$750 million.



RESIDENT EVIL

Starring: Milia Jovovich

The six-film series revolves around a woman who is trying to uncover her past while battling zombies created by an evil company. It is the highest-grossing action film series based on a video game, mopping up over \$1.2 billion. The last, *Resident Evil: Final Chapter*, was released in 2016. A revival is in the works.



SCREAM

Starring: Neve Campbell

One of the most famous slasher franchises, the four-film series revolves around Sidney Prescott, the protagonist, and her fight against a series of murderers who don the role of Ghostface. Apart from Neve Campbell, who plays Prescott, the series also starred Courteney Cox and David Arquette. Together, the series garnered over \$600 million at the box office.



LARA CROFT: TOMB RAIDER

Starring: Angelina Jolie

It might have been panned by critics but the film became synonymous with Angelina Jolie and earned her legions of fans and is considered a box office hit, earning over \$270 million. The 2001 film was followed by a sequel, *Tomb Raider: The Cradle of Life*, and, more recently, a reboot, starring Alicia Vikander, released in 2018.

SCARY MOVIE

Starring: Anna Farris, Regina Hall

A spoof on horror films like *Scream* and *I Know What You Did Last Summer*, the first of the five movies in this franchise was the biggest hit. It featured a bunch of teenagers accidentally knocking down an old man with their car. The last of the five films was released in 2013 and was not successful but, cumulatively, the series made over \$600 million.



Wonder Woman

Starring: Gal Gadot

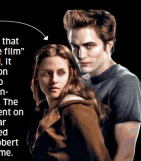
Gal Gadot took on the role of DC Comics' Amazon princess Diana in the first film of the series, where she attempts to stop World War II. It became the highest-grossing superhero original story film, earning over \$820 million. A sequel, *Wonder Woman 1984*, is in the works and likely to be released in 2020.



THE TWILIGHT SERIES

Starring: Kristen Stewart

Director Catherine Hardwicke said that people expected the first "vampire film" would do moderately well; instead, it went on to gross over \$440 million worldwide, and is considered to have led the way for a women-centric, teenage film series. The five-film vampire saga went on to become a billion-dollar franchise and catapulted Stewart and costar Robert Pattinson to global fame.



THE HUNGER GAMES

Starring: Jennifer Lawrence

Lawrence plays the central role of 16-year-old Katniss Everdeen in the series set in a dystopian future where children are forced to kill each other for the entertainment of the wealthy. The four-film series grossed close to \$3 billion worldwide, the last being out in 2015.



CHARLIE'S ANGELS

Starring: Drew Barrymore, Cameron Diaz, Lucy Liu

It began as a television series about a detective agency run by "Charlie" and three beautiful detectives in the 1970s, and went on to become a franchise that includes films and an animated web series. The third film, with a new set of "Angels" including Kristen Stewart, is set to be released towards the end of 2019.



KILL BILL

Starring: Uma Thurman, Lucy Liu

The Quentin Tarantino action films, released in two parts in 2003 and 2004, were a hit. Uma Thurman plays *The Bride*, or the *Black Mamba*, who is seeking revenge on the *Deadly Viper Assassination Squad*, an international group of assassins. The film pays tributes to various genres and actors, including Bruce Lee, and was written by Tarantino and Thurman.

Source: The Guardian, Jezebel, Newsweek, Business Insider

An Access Hard-Won

India took a gamble by taking Kulbhushan Jadhav's case to the ICJ. The effort has paid off and ensured that he gets another shot at freedom from Pakistan Army's custody

:: Indrani Bagchi

Kulbhushan Jadhav will live. Whether the retired naval officer returns home or not, he will certainly get another trial in Pakistan, after the International Court of Justice (ICJ) last week ruled that Pakistan breached its obligations under the Vienna Convention. This new trial will probably be more open and not by the military and India will probably be able to ensure Jadhav gets adequate legal cover.

Three years ago, on the evening of March 29, Pakistani TV channels had lit up with a "confession video" by Jadhav, where he was seen saying that he was a RAW agent and was in Pakistan to do subversive acts in insurgency-affected Balochistan.

The Indian High Commission in Islamabad was only informed after the TV show by the Pakistani authorities. Immediately, the then high commissioner, Gautam Bambawale, shot off a request for consular access to Jadhav.

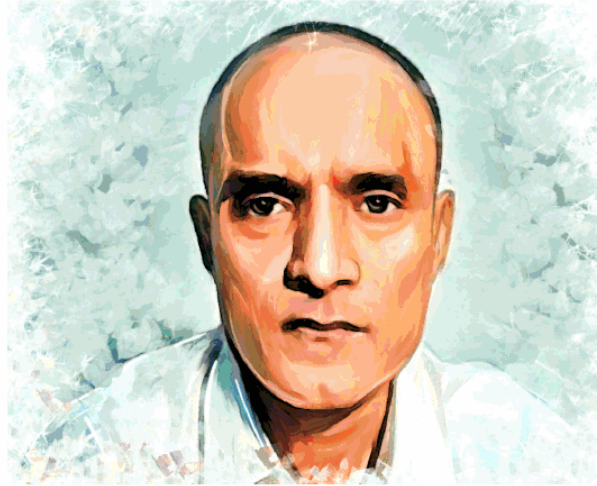
Jadhav was said to have been arrested on March 3, 2016. So that made it over three weeks that he was in Pakistan Army's custody without India's knowledge.

Over the coming months, Bambawale would send similar requests every 15 days or so to the then Nawaz Sharif government. In the process, India built up an impressive dossier of requests for consular access that was denied by Pakistan. These would come in handy later.

Back in New Delhi, the government did not deny Jadhav's nationality, describing him as a retired officer of the Indian Navy, who was doing business in Iran.

India alleged that Pakistan had kidnapped Jadhav in Iran and brought him to Pakistan. A German diplomat in Pakistan suggested the Taliban (or some other terrorist group) had kidnapped him and sold him to the Pakistan Army (the diplomat later fudged his story).

Even Sartaj Aziz, Sharif's foreign policy adviser, was on record saying the "evidence" against Jadhav were "mere statements".



Between mid-2016 and early 2017, the Indian government decided to be creative and approached the ICJ in The Hague and found it had a strong legal case against Pakistan on consular relations under Article 36 of the Vienna Convention.

In early 2017 too, Pakistan had approached India for "assistance" in its probe on Jadhav, saying the charges of terrorism against him included investigations against National Security Adviser Ajit Doval and then chiefs of Intelligence Bureau and the Research and Analysis Wing.

After Pakistan had aired another "confession video" by Jadhav, then external affairs minister Sushma Swaraj told parliament in April 2017: "They (Pakistan) linked providing consular access to our acceptance of their position... We pointed out that consular access to Shri Jadhav would be an essential prerequisite in order to verify the facts and understand the circumstances of his presence in Pakistan."

For Pakistan, Jadhav was seen as a great

catch. After an attack on an army camp in Uri in September 2016 and stepped up infiltration in Jammu & Kashmir, Jadhav was something Pakistan could use to gain equivalence against India. It felt the Balochistan trope could be trotted out with conviction that India was sponsoring terrorism in Pakistan, leaving India no moral space. Never one to shy away from risks, Pakistan added to this by pronouncing a death sentence on Jadhav in April 2017.

As Swaraj said: "To make matters even more absurd, three hours after the death sentence was announced, the Indian High Commission received an official communication from the Foreign Ministry of Pakistan reiterating the Pakistani proposal for conditional consular access. That tells us a lot about the farcical nature of the alleged proceedings..."

It became clear then that regardless of the circumstances of Jadhav's arrest, Pakistan's sole interest was to tar India on the insurgency in Balochistan.

Pakistan was taken aback at the ICJ case, because it was a clear departure from how it thought India would act.

For India, this case was unique in many ways. Ever since then Prime Minister Jawaharlal Nehru took the Kashmir file to the UN Security Council in 1948, India has studiously stayed away from "internationalisation" of bilateral issues, particularly with Pakistan. That it was India which took the Jadhav case to ICJ had several implications.

India was confident it had a solid case against Pakistan. From the start, it has confined its response to asking for consular access to Jadhav, which has been denied 16 times by Pakistan. For this, India utilised a small loophole left over in the Vienna Convention on consular matters, one of the few areas where both India

and Pakistan acknowledge jurisdiction by the ICJ.

In fact, the Indian case has been a well-prepared and solidly argued one on a simple request – of access to Jadhav.

Second, India had to make certain that this case would not give Pakistan an opening to use the ICJ route on other issues like Kashmir or Indus water sharing.

This gamble needed strong political backing. Prime Minister Narendra Modi, who does not shy away from taking unconventional paths, was solidly behind Swaraj and then foreign secretary and current foreign minister S Jaishankar.

It could have gone against India if ICJ had accepted Pakistan's argument that the 2008 bilateral agreement would prevail. In fact, the July 17 verdict settled one important point forever – that the Vienna Convention trumps the bilateral pact.

Julia Sebutinde, one of the ICJ judges, in her declaration, said: "It appears that – right from the arrest of Mr. Jadhav and without waiting for his trial – Pakistan determined that he was a spy who under Pakistani law was not entitled to consular access and, similarly, that India having 'interfered in the internal affairs of Pakistan' had also forfeited its right to consular access, under Article 36 of the Vienna Convention".

What happens now? Regardless of the spin given to the verdict by Pakistan's public relations department, it had to announce that Indian officials would get access to Jadhav. India will want that access to be unfettered, that is, without the presence of any Pakistani officials in the room. New Delhi hopes to get a clearer picture of how Jadhav was picked up.

Second, the ICJ verdict has made the entire "trial" poisonous and internationally unacceptable. But no Pakistan Army chief can sanction Jadhav's release.

India will be pushing for a civilian and open trial, where the story might be different from the current one scripted by the ISI, Pakistan's spy agency.

Pakistan would want to avoid that too.

Jadhav is now a hot potato for the Imran Khan government. They cannot execute him and holding on to him means Indians will walk all over any proceeding.

But they will still want to exchange him for an official dialogue with India or any other form of engagement. India wants Jadhav's return but on different terms.

Jadhav may have to spend many more years in a Pakistani jail or, worse, be under the risk of being attacked in "a jail riot" like the one in which Sarabjit Singh, convicted on spying charges, was killed in 2013.

Either way, Pakistan will remain under Indian pressure. The ICJ verdict just added to the pressure. ■

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Jadhav's friends celebrate ICJ's verdict in Mumbai on July 17.



Banking on Reforms

Fifty years after banks were nationalised, it is time to bring in crucial changes in the sector that go beyond modifying ownership structures to ensure the lenders remain competitive

:: TK Arun

Of the 100 largest banks of the world ranked by total assets, China claims 18; the US 11; Japan 8; Britain, France and South Korea six each; Canada, Germany and Spain five each; Australia and Brazil four each; Italy, the Netherlands, Singapore and Sweden three each, and Belgium and Switzerland two each. Seven other countries have one bank each in this league table. In this group stands India, along with Finland, Russia, Austria, Denmark, Norway and Taiwan.

India is the world's fifth largest economy in nominal GDP. Its largest bank by assets, State Bank of India, ranks 55th by total assets. And no Indian bank figures in the list of globally systemically important banks.

In other words, Indian banking is stunted in relation to the country's position in the world economy. Blame this, to a certain extent, on that signal event on July 19, 1969 – one day before Neil Armstrong took his giant leap for mankind on the moon – when Prime Minister Indira Gandhi nationalised the biggest 14 private banks of the country. However, the principal blame for the stunting of the financial sector must be placed on the late blooming of the Indian economy and bad politics, besides conservative regulation of finance.

India is one of the places where the earliest records of organised lending can be found, along with Sumeria and Assyria. Rinam kritivaapi ghritam pibet (drink ghee even if you have to borrow), the materialist philosopher Charvaka is supposed to have said, at least in the caricatured versions of his thought that survive.

Medieval merchants used hundis, the equivalent of a banker's cheque. The merchant on whom the hundi was drawn would honour the request for payment to the bearer of the instrument. A story goes that a king ran out of money to pay his soldiers while laying siege to an enemy



India is the world's fifth largest economy in nominal GDP. But no Indian bank figures in the list of globally systemically important banks

fortress, but had with him a hundi drawn on a rich merchant of the town under attack and sent word that he wanted the hundi encashed, in response to which the ruler of the besieged town felt obliged to let the trader honour the hundi.

The story might be apocryphal, but it goes to show the respect Indians used to have for honouring credit relations in mediaeval times – a far cry from the situation these days, when, of the total advances by scheduled commercial banks, as large a proportion as 14.33% by value are classified as non-performing, the ratio going up to 18.77% for public sector banks, according to the Reserve Bank of India's Financial Stability Report released in June, providing data for March 2019.

Is this the fault of nationalisation? Well, the ratio of gross non-performing assets to total advances was 6.34% for private banks and 3.42% for foreign banks. Clearly, there is something about public ownership that makes banks vulnerable to accu-

mulating bad loans. What could it be?

Since the mid-nineties, when the influx of foreign institutional investors started pouring discerning capital into the Indian stock markets and relatively well-run companies started getting rewarded with huge rise in their share price, leading to an increase in their market capitalisation and the respective promoters' net worth, listed companies have had a strong incentive to stop concealing their income and earnings. But this did not mean that corporate governance turned from mud to potable water overnight. Promoters still take out huge sums of money from their companies – to fund Indian democracy, besides to build their own personal fortunes. Banks play a big role in the process.

Unlike in developed democracies, the bulk of India's political funding is opaque. Parties take tribute from promoters, and declare a tiny share of their actual income and expenditure to the Election Commission.

Promoters have to create the stash from which to pay off politicians, inspectors and other officials who have to clear files or refrain from raising objections that are in their power to raise.

Promoters do it when they procure things for their companies, when the company acquires another company – the seller overcharges and passes on the extra to the promoter of the acquiring company in an offshore account – and, most commonly, when the company sets up a new facility.

The project cost is inflated, to begin with. The bank manager and his political bosses are propitiated to make them overlook the cost padding. During the implementation of the project, the padded cost is taken out and transferred to the promoters' own kitty, from where he pays out yet more to keep Indian democracy going, apart from to put up the

capital for fresh projects for which he would again raise loans.

Cleaning up political funding is a necessary part of cleaning up state-owned banking. Developing a well-functioning debt market to fund long-gestation infra-

A vital reform that is required is creating a remuneration structure for public sector bankers that is in line with that of their private sector counterparts

structure projects that banks, with their short lending horizons, are ill-equipped to finance is another step that has to be taken. Another vital reform is creating a remuneration structure for public sector bankers that is in line with their private sector counterparts'. Ideally, it would backload the bulk of pay, linking remuneration to the performance of the assets they originate, subject to claw-back.

Such reforms are more important than any change of ownership, as banks face potential challenge from fintech companies that can compete with them in every one of the assorted services banks perform while mediating savings to investment. ■

There is a Big Misconception that Single Women aren't Content

India has more single women than ever before, according to Census 2011. Yet, in our patriarchal society, their single status, unlike that of men, continues to evoke curiosity and questions in the best of situations, and stigma and derision at the worst. *Single By Choice*, a forthcoming anthology of essays by 12 women from ages 26 to 72 who have never married, candidly describes the journey of the writers, who are from a variety of backgrounds. In her introduction, journalist **Kalpna Sharma**, 72, the editor of the book, writes, "...Breaking out of boxes. That is indeed an appropriate way to describe what many single women are doing in India." In a telephonic interview with **Indulekha Aravind**, Mumbai-based Sharma talks about her own experiences as a single woman and what has changed for single women over the years and what hasn't. Edited excerpts:

I am starting with a slightly personal question – how do people typically respond when they learn you are single? And has that reaction changed over the years?

The 'cutoff point' for most women is the mid-30s. Till then, they still think you are going to get married, and I think most women themselves think so, too. They think it is inevitable. After you have crossed that, it starts sinking in that you are not going to get married. I am fortunate in that I had a very liberal father and immediate family. And there are many single women in journalism, too, so I was inured. But there are women who find it much tougher, face much more scrutiny and have a critical gaze on them all the time.

What role does class and caste play in women's decision to stay single?

Generally, and as is evidenced by the women who have written in the anthology, women from a slightly privileged class have a greater degree of autonomy, though that is not across the board. It depends a great deal on the world view of the parents, and also on the ability to be financially independent. For many women who are not financially independent, there is not much of an option beyond getting married and moving out of their parents' home. In terms of caste, it is an additional burden, as (Tamil writer) Bama points out in her essay – when you are a woman, single and from a lower caste. That is something many of us born into privilege can't even imagine. But the sense that you have to get married after a certain age is expected of women, across caste, community and class. It is changing, but not fast enough.

What has Bama (a Dalit Christian) written about her experience of choosing to remain single?

She was clear early on in life that she was not going to get into a marriage. She is a teacher, and she even became a nun for a while. The experience that she describes in her essay is searing – there is no other adjective for it. Here is a woman who is ac-

complished, recognised as a writer. Yet, in the society that she lives in, she is still seen as a woman, and a Dalit. She decides to build her own house because renting had become problematic. Even after that, all her actions are subject to close scrutiny by the villagers. But she remains positive about her decision, which is extraordinary.

In your introduction, you mention there are several common threads in the 12 essays. What are some of them?

One is supportive parents. That is very important in all our lives – that our parents trusted us to make our own decisions. Second, our professions – that we are doing something that gives us a lot of satisfaction has made a difference to our lives. It creates for you a community within which you exist. You are not isolated. Financial independence is definitely a big factor for being happily unmarried. And they all speak about the support groups you form, though not necessarily of unmarried women.

According to the 2011 Census, we have more single women than ever before, including those who have been divorced or widowed. Is our society reshaping itself to reflect that change?

The simple answer is no. Because patriarchy is so deeply embedded in Indian society – in our family, in our politics, in our culture. Society denies women something as fundamental as their agency – the right to decide who to get married to, when and for how long. It is 2019 but we are reading about a father killing his daughter in broad daylight in Mumbai because she married somebody from another caste. And these are just the public instances we hear of. That is because deep down, the mindset that determines the value of a woman has not altered.

What about pop culture and how single women are being portrayed there, from films to web series?

Some of it is dysfunctional in my view. Female autonomy is being equated with and restricted to the freedom to get drunk and



NITIN SONAWANE

have multiple sexual partners. That is stereotyped into this. It is very sad that popular culture is reducing female autonomy to this.

There was a Newsweek cover story in the 1970s that suggested it was finally possible for women to be 'single and whole'. How far are we from that?

If by 'whole' you mean contented, the women who have written the essays in *Single By Choice* most certainly are. There is a very big misconception that single women aren't contented, and that has been busted in many of the essays, including in Sharda's (sports journalist Sharda Ugra). First of all, in India, it is very hard to be alone. You have too many people around here. And people forget that so many of us have been caregivers for parents. We also 'inherit' the chil-

dren of our siblings and become almost co-parents. As Sharda says, we become PANKS – Professional Aunt, No Kids.

Having spoken to various single women for this book, what were some of the biggest revelations for you?

I was both impressed and grateful that these 12 women have been so honest in their writing. There is no artifice in any of the essays. Then there is the humour and the fun, the sense of joy they have in life. Even Bama, who has been through so much, talks about how she can sing and dance and eat whatever she wants, without being constrained by anybody or anything. That is how it was in my life, but I didn't imagine it would be so prevalent. It was reaffirming to know that.

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Rapping Truth to Power

Lyricist and singer Arivu is the latest Tamil music sensation and he pulls no punches in his overtly political album *Therukural*

By G Seetharaman

There is a YouTube video of Tamil rapper Arivarasu Kalainesan, better known as Arivu, where he seldom takes his eyes off the music stand right through his rendition of "Anti-Indian" at a festival in Chennai in May 2018. "I had written the lyrics just the day before and did not have the time to memorise the words," says the 25-year-old.

"Anti-Indian" is the infectious, standout track of his recent hip-hop and rhythm-and-blues album *Therukural* (Street Verses), a play on the Tamil literary classic *Thirukural* ("Sacred Verses), which has earned him praise from commoners and musicians alike. Seamlessly segueing from caste and religious divisions to government apathy, jingoism and Hindi imposition, "Anti-Indian" is the receptacle into which Arivu claims to have poured all his anger at the time.

"Nee kattum vari dhaan vendum, nee sindhum kanneer vendam/ Nee yenbadhu vote-u mattume, naadu yenbadhu rate-u mattume (We only need your taxes, not your tears/ You are nothing more than your vote and this country has a price)," sings Arivu. Carnatic vocalist and cultural commentator TM Krishna is among the fans of the album and Arivu. "It (the album) is about saying things as they are. There is no beating around the bush. Arivu has the ability to go to the kernel of an issue very quickly." The other songs in the album, which Arivu has created with music producer Rohith Abraham, who goes by OfRo, tackle the anti-Sterlite protests, women's rights, the troubles of the middle class and the hypocrisies of lawmakers and voters.

Though there have been Tamil rappers before him, like Yogi B and Dopeadelicz, Arivu could do for hip-hop in Tamil what Divine did for the genre in Hindi.

Born in a Dalit family, Arivu grew up in Arakkonam, 80 km west of Chennai. There was no television or radio as his teacher-parents wanted him and his sister to focus on their education. That meant the only music he heard during his childhood was folk – oppari (dirge), nattupurapattu, which translates to village song, and gaana, popularised by

ting together a band called The Casteless Collective, Arivu was called to audition and was selected. Arivu considers Ranjith a mentor of sorts. "Any political doubt I have, I ask him. His politics is reclaiming human dignity. That's my politics as well." Ranjith was not available for comment.

After Arivu joined The Casteless Collective, he listened to the likes of Kendrick Lamar (whose influence can be heard in *Therukural*), Drake and Bob Marley, and read Alex Haley's *Roots*. He considers Karl Marx, BR Ambedkar and Periyar as his literary inspirations. Among the songs Arivu has written for the band is "Quota", in which he says: "Ooruku munnala pesurada needhiya, yaarukum theriyama kaekurada saadhuya (You talk justice in front of everyone and ask me my caste in private)."

Tenna, music director of The Casteless Collective which has released *Therukural*, says Arivu's biggest strength is his Tamil vocabulary. "He comes from a non-sanitised environment." Abraham, who worked

with Arivu on the album for more than a year, says what is interesting about him is that he is not influenced by hip-hop at all. "Everything Arivu writes about is factual, based on real incidents and his experiences. There is a lot of relatability." *Therukural* has had 2 lakh streams on all audio streaming services and another 2 lakh streams on YouTube, according to Abraham.

In addition to independent music, Arivu has written around 20 songs for 15 films, including one in *Kaala*. It's not just poetry and rapping that seem to come

naturally to him, but even facing the camera. He looks quite self-assured in a music video for the track "Kalla Mouni" from the album, sporting a high fade, shades and a printed shirt.

He has been overwhelmed by the response to *Therukural* but knows there is a long way to go before the change he desires happens. "Technology may have improved but mindsets haven't. We are still making films on caste pride." Arivu is not done reminding us of such follies. ■

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the Dalit settlements of north Chennai.

He also got to read the Communist and Ambedkarite magazines his parents subscribed to. He started writing poetry on poverty and caste in school, which continued into engineering college in Coimbatore, where he became more politically conscious.

While in Arakonnam people knew his caste from where he lived, in college the way of identifying his background was different. "They would ask if I ate beef or the lecturer would ask who among us were (Scheduled Caste) quota students," Arivu tells *ET Magazine* by phone from Chennai, before leaving for Malaysia to record a new song.

But he remained popular in college, as few had his felicity for words, which he put to good use on stage. He went on to do his MBA and then, in 2017, met Pa Ranjith, the filmmaker who has been responsible for mainstreaming the anti-caste discourse in Tamil Nadu, primarily through his films, including the Rajinikanth-starrers *Kabali* and *Kaala*. Later that year, when Ranjith was put-



"Arivu's album *Therukural* is about saying things as they are. There is no beating around the bush. Arivu has the ability to go to the kernel of an issue very quickly!"

TM Krishna,
Carnatic singer



HOMING IN

India was the top recipient of remittances worldwide in 2018, data from the World Bank shows. The remittances were boosted in part by migrants from Kerala sending money home for flood relief and rebuilding

By Rukmini S

Going West

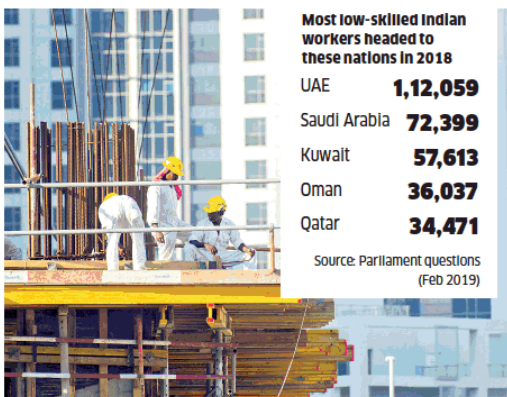
The actual number of Indian workers in other countries is hard to estimate. The ministry of external affairs (MEA) only counts the number of overseas Indians (NRIs & PIOs) and people requiring emigration check. But data on high-skilled Indian emigration is poorly captured



Countries with most number of overseas Indians

USA	4.46 mn
UAE	3.1 mn
Malaysia	2.99 mn
Saudi Arabia	2.81 mn
Myanmar	2.01 mn

Source: MEA (Dec 2018)



Most low-skilled Indian workers headed to these nations in 2018

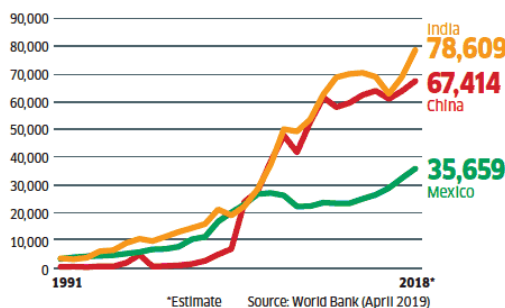
UAE	1,12,059
Saudi Arabia	72,399
Kuwait	57,613
Oman	36,037
Qatar	34,471

Source: Parliament questions (Feb 2019)

Top 3 Remittance Recipients

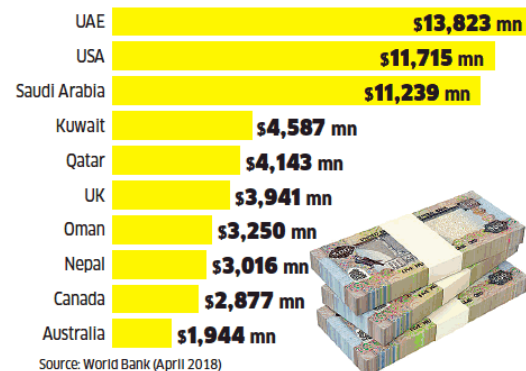
Since the 1990s, Indians working in other countries have consistently been the world's top remitters

Migrant remittance inflows (\$ mn)



Bridging the Gulf

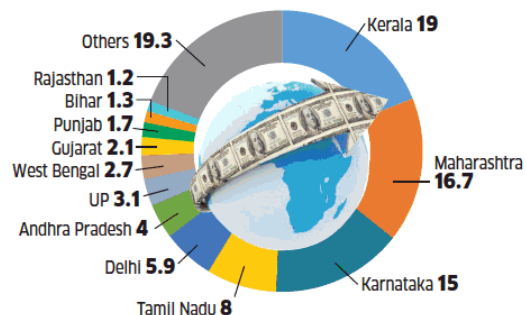
Gulf nations and the United States continue to drive most of the remittances to India



Destination Kerala

Even though Kerala does not send even half as many migrants* overseas as Uttar Pradesh, the southern state has the biggest share of remittances

% of total remittances



Outbound States

In terms of numbers of low-skilled workers moving to other countries in 2018, UP and Bihar dominated the space that was once firmly occupied by Kerala and Tamil Nadu

Uttar Pradesh	86,273
Bihar	59,181
Tamil Nadu	31,588
Rajasthan	30,272
West Bengal	28,648

Source: MEA



The writer is a Chennai-based journalist

LAST VEGANS

A recent veganism conclave highlighted the growing popularity of the movement as well as its inner contradictions

:: Vikram Doctor

Vegans tend to be defensive. The lifestyle that avoids using animal products is just familiar enough these days for people to form prejudices about it, though not familiar enough for most to have really understood the reasons for it or what it is like to live and eat that way.

So vegans are used to being greeted with diatribes about how difficult they are. It's true that many are passionate about their cause, as anyone operating from a strong ethical position is, and can fairly expect strong resistance. Yet veganism seems to evoke a defensive hostility that can make it a rather lonely position to take.

Which explains the happy excitement at the first Vegan India Conference which took place in New Delhi earlier this month. Almost 450 vegans in one place (the Suryaa hotel) with no need to ex-

plain or argue! Elaborate lunch menus, catered by the Suryaa's chefs with vegan guidance, where they could eat everything! And so much proof that they were growing in numbers! "Raise your hands for Vegans!" shouted Palak Mehta of Vegan First, one of the organisers, and the happy crowd shot up fingers in a V-sign: Victory and Vegans!



The vegan spread included mock-meat kurchan (above), paik tofu and coconut milk ice-cream

animal rights activist explained how one of the reasons for India's milk obsession was the misconception that Krishna drank milk: "As somebody who has written a Hindu names book and has researched this for years and years, there is nothing written about Krishna drinking milk... He was a shepherd only because it was representative of a simple, idyllic way of life."

Mehta was ecstatic at the response to the event. "We first planned a B2B event, because we knew there were many companies making vegan products and they could get to know and learn from each other." These include Gowma, which makes artificial leather, Tangelo, which makes vegan ice-creams, Grain Chef that promotes millets, and several others, and also services like Veg Voyages, which organises vegan adventure tours.

But Mehta says they realised there was as much interest in a B2C event, and just a place for vegans to connect. Speakers volunteered to talk about cruelty-free beauty products and how to start your own vegan business. There were workshops on making vegan products at home, a screening of *Cowspiracy* and the release of a video, along with a dance performance about cruelty to animals.

All the bonhomie perhaps papered over the fact that there were three distinct groups whose interests intersected on veganism, but not necessarily other issues. One was animal rights activists, focussed on preventing animal exploitation and the inevitable cruelty that ensues. Another were health advocates, greatly bolstered in recent years by the popularity of vegan

diets among film stars, models and sports stars like Virat Kohli. And the third were environmentalists driven by the unsustainable costs of raising livestock for meat consumption.

Some differences did come up. One environmental activist criticised the plastic packaging being used for many of the new

Jackfruit in burgers is among the many ingredients being used to mimic meat



environmental activist criticised the plastic packaging being used for many of the new

vegan products. Another rather startlingly questioned why vegan products were being created at all "because aren't you just encouraging people to consume more?" But beyond such unanswerable questions lay a spectrum of issues that needed more engagement.

For example, there's the aversion many on the health side have to any kind of processed product. Yet food companies have formidable skills in re-engineering foods, and by developing more plant based foods they could avert considerable animal suffering. Chinese vegans enthusiastically showing off mock-meat products that



(Top) Participants at the first Vegan India Conference in Delhi earlier this month. (Left) Vegan sweets by Hari Prasad Mithal Wale



were astonishingly close to meat (and tasty) were greeted with aversion from Indians who couldn't see the point - yet, mock-meat can really reduce livestock farming in a big way.

Oddly missing too was more discussion on how traditional Indian foods fit so well into vegan diets. While soy products featured a lot, there was little discussion about the huge range of Indian dals and the dishes made from them. An American vegan mentioned how jackfruit burgers were being sold abroad, but not that the jackfruit probably came from India - just one of many ingredients, like banana flower or lotus roots, that Indian cooks have used to mimic meats. Almond milk was abundant at the event, but not cashew milk, which is a much more Indian and sustainable product.

Perhaps the biggest missing issue was reductionism, which argues that really serious reduction in livestock farming and abuse, and its environmental costs, can only be made by persuading people to eat less meat, rather than go entirely vegan. It's a pragmatic argument, yet one that runs against the grain for really passionate vegans.

For her part Mehta acknowledges its importance and says that such issues could feature at future events. "Next year we might need to do a three to four day event. This was just a start, to show how much is happening with the vegan movement and how our numbers are growing so fast!" ■

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Speakers volunteered to talk about cruelty-free beauty products and how to start one's own vegan business

Reading in the Time of Netflix

By Shephali Bhatt

Even after reading 100 books last year – up from the 25 he read the previous year – Vikrama Dhiman thinks he isn't reading enough. "Often industry leaders quote books and casually ask if you have read them. What if I haven't? Am I knowledgeable still? Or even relevant?" These fears keep gnawing at Bengaluru-based Dhiman, who works as a product head at transport company Gokjek. Forty-year-old Prashant Singh read as many books as his age last year. He has read 12 since January this year. "Yet, I fear someone will tell me they are reading a book I haven't read, and which seems better than what I am reading at the moment," says the Noida-based senior executive from Paytm. This FOMO, or the fear of missing out, on books is real and can be found in several peers, he adds. It manifests in different ways.

Anuya Jakatdar, 33, cofounder of book-discovery platform Books on Toast, fears what she's reading is not "literary" enough. That the stuff she enjoys reading is not winning any awards. She finds the Instagram timeline of bibliophiles, who read 300-400 books a year, intimidating. These fears exacerbate for some of them – like Dhiman and Singh – when they give in to the temptation of binge-watching content online, which eats into their reading time. "After a long day at work, it is always easier to go home and watch Netflix than pick up a book," says Dhiman.

In the past, studies conducted by the likes of the American Time Use Survey have established a correlation between the explosion in TV viewing and the decline of reading culture in countries like the US and the Netherlands, among others. There seems to be no comprehensive study on the impact of binge-watching on reading habits as yet. So far, all we have is anecdotal evidence.

Anuj Gosalia, CEO of content company Terribly Tiny Tales, says he has been trying to get back to his reading habit. "But I find myself prioritising Netflix often. It's easy to forget the value of a book in front of the sensory experience the former offers," says the 32-year-old from Mumbai. With social media platforms increasing their focus on videos, binge-watching isn't limited to OTT players. On a recent holiday, Singh from Paytm kept watching videos on TikTok instead

of reading the books he had brought along. As a result, the count of books in Singh's bought-but-never-read shelf is going up. "If earlier I was reading 80% of the books I bought, now it is 60%," he says. "I feel there's a bigger FOMO about ownership of books than about consumption."

The Japanese have a term for this phenomenon of buying books and not reading them – *tsundoku*. In 2007, author Nassim Nicholas Taleb used "antibrary" to refer to a collection of unread books. He was inspired by an Umberto Eco essay titled "How to Justify a Private Library".

The world over, it would seem, people are aiming to read more and more. But, in effect, they are reading fewer books. The data available on Goodreads, the world's largest social network for book readers, points to this as well. Goodreads allows users to set up a reading challenge every year. You can start a challenge any time during the year and set a reading goal according to the number of months left. Between 2016 and 2018, the number of participants taking the challenge went up by 40% – from 3 million to 4.2 million. The number of books pledged to be read went from 141 million in 2016 to a whopping 259 million in 2018, clocking an 84% hike. However, the percentage of books finished, which soared from 27.7% to 31.8% between 2016 and 2017, came down to 21.6% at the end of last year. Suzanne Skyvara, VP, communications, Goodreads, says the platform sees it as a win even when people accomplish only 50% or 75% of their goals. "It means the challenge is helping them to read more books. After all, if you set out to lose 20 pounds of weight and end up losing only 15 pounds, you still feel good." But if you are just growing your antibrary, you don't feel so good.

Sajith Pai, director at Blume Ventures, has close to 200 books in his antibrary right now. At ₹500 a book on average, this amounts to ₹1 lakh spent on books bought but never read. "I need to stop buying more books," he says. The 40-year-old Delhi-based venture capitalist has had to "sadly sacrifice Netflix and Amazon Prime" to make time for books. "I have only watched *Game of Thrones*, *Sacred Games* and *Made in Heaven*," he says. To deal with his antibrary, Pai draws inspiration from prominent entrepreneurs and bibliophiles of the Silicon Valley – like Naval Ravikant (of AngelList) and Patrick Collison (of fintech company Stripe). "They advise you to start reading a book from the middle and if you find it interesting, read it from the beginning. If not, give it away." Pai knows there's no point in holding on to the wish of completing every book he buys. Instead, he reads author interviews and listens to podcasts of business books to reduce the number of titles bought in that genre.

This antibrary cleanse – which, shockingly, resembles the KonMari route of de-cluttering your cupboards and closets by asking yourself "Does this (item) spark joy?" – doesn't work for everyone. At a readers' getaway recently, Sriti Jha, a TV actor, met a girl who keeps something called an "unread-books jar". "She picks a chit to decide which book to read from the lot." FOMO about reading is real for Jha, too. "I see people finish



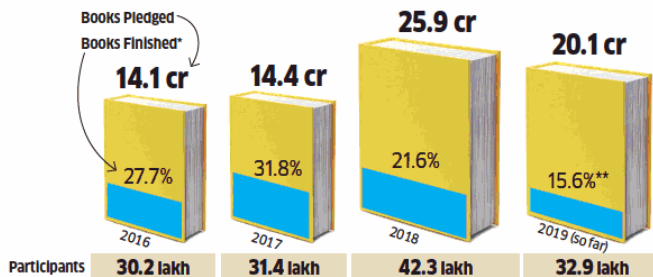
"My major reading hack is listening to audiobooks on the set of a shoot while I sit for make-up. At a readers' retreat recently, I met a girl who has an 'unread books jar'. She picks a chit from it and decides which book to read from the lot"

Sriti Jha, TV actor



Reading Between the Lines

Number of participants and books pledged on Goodreads' annual reading challenge has increased over the last three years. But the percentage of books finished has come down considerably



*Percentages calculated on the basis of data available on Goodreads
**Still half a year left to finish reading pledged books Source: Goodreads Reading Challenge 2016-19



"When we started our YouTube channel, we'd talk about 20-odd books in one video. Some viewers said they found it intimidating. Now, we have tried to bring down the recommendations to three books per person in most cases"

Anuya Jakatdar,
 cofounder, Books on Toast,
 an online platform that recommends books

"I recently watched *Sharp Objects* and revisited the book it was based on. I didn't like the book earlier. The show made me visualise the book better"

Sharin Bhatti,
 cofounder,
 Books on Toast

timidating for me." The feeling of finishing a good book is a lot stronger than that of finishing a good series, he adds.

For Kunal Bahl, cofounder of Snapdeal, compartmentalising helps. "Outside of a few documentaries, much of what is available on the likes of Netflix is fictional content, albeit entertaining and addictive." Over a period of time, Bahl has wired himself to look to Netflix for "fiction-oriented cravings" and to books for nonfiction. "I read as much as I can when I can, without worrying about when I can start the next one," he says.

Himanshu Khanna, founder of design and tech company Sparklin, has divided his time between books and binge-watching on the basis of the level of attentiveness required for each. Khanna prefers reading early in the morning or in the evening, and binge-watches for a couple of hours before going to bed. He has also shifted from Kindle to paperbacks so that "finishing each book feels like doing something incremental".

Smriti Sant, 28, has rationed the number of series she binge-watches. She runs an Instagram account called @Sant.Reads dedicated to readers. Besides, she religiously follows the two-bookmark method for reading. "So when I resume reading from page 50, I'll keep a bookmark on the 70th page. As soon as I hit that, it feels like a small achievement and inspires me to read 10 more pages."

Mumbai-based Vivek Tejuja, 35, known in the online readers' community as prolific, finishes over 300 books a year. He feels a lot of people are ashamed of choosing Netflix over books because somehow it is ingrained in their minds that watching TV is bad. "Watching content is educative," he says. "I watch Netflix, but I pick a series that doesn't take much time."

For Sharin Bhatti, the 36-year-old cofounder of Books on Toast, watching online content became a means to rediscover good books. After watching the mini-series *Sharp Objects* on Hotstar two months ago, Bhatti revisited the debut novel by Gillian Flynn it was based on. "I had read the book once but didn't like it. After watching the show, I read it again. The show was so well-made it made me visualise the book better," she says. FOMO can be positive if it makes you discover better books to read, she adds.

"Kindle shows the time left to finish a book. So when I'm one and a half hours away from finishing a book, the thought that I can finish a book in the time I would spend on watching two episodes makes reading a lot less intimidating"

Anuj Gosalia,
 CEO, Terribly Tiny Tales



However, FOMO shouldn't drive you to apps that give you the executive summary of a book, says Mumbai-based author Kiran Manral. There are quite a few in the market, like Blinkist for non-fiction. You might as well read a long-form article on a subject instead, she reasons: "Summary takes away the pleasure of reading." Manral is also not entirely in favour of reading challenges that put a lot of pressure on people when everyone has a different pace of reading. It's for the same reason that Bhatti and Jakatdar have reduced the number of books they recommend on their YouTube channel Books on Toast. In the beginning, they would talk about 20-odd books in one video. Some viewers found it intimidating. Now, Bhatti and Jakatdar try to bring down the recommendations to three books each per video.

Goodreads' Skyvara says members who enter the reading challenge read more books than those who don't. In Gosalia's case, it's quite the opposite. Three years ago, he took up the challenge to read 36 books in a year but read only 3. The following year, he reduced the aim to 24 and managed to read 7. "This year I didn't make any vocal commitment and have read 14 books already." FOMO about reading books will be a constant, he says, but "I'm happy that at least I'm not not-reading." He recently finished the first book in the Harry Potter series and knows there are six more. "I'll take a flight one of these days to go on a Potter vacation." For Bhatti of Books on Toast, the fear of missing a flight is potentially bigger than the FOMO about books. "I almost missed a flight once because I was engrossed in a book," she says. ■

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Read vs Watch

How people are cutting down on OTT to read more

Divide the Day

Read in the morning, binge-watch at night

Divide the Week

Read on weekdays, watch on weekends

Treat Books Like Series

Set aside some time every day for reading to complete a book

Ration OTT

Binge-watch but be choosy about shows. One doesn't have to watch everything the world's talking about

Let OTT Fuel Reading

Pick up the book that inspired the series one just watched

ing a book in two days while I struggle to finish two in a month. I have reading slumps quite often and resort to watching shows instead." Between her shoots, Jha has found the time to read through her ears. "When I sit for make-up on the set, I listen to audio books," she says. She picked up Virginia Woolf's *To The Lighthouse* minutes before speaking to *ET Magazine*. Even when she's acting, the English literature graduate harks back to her favourite books to better her craft. "When I have to react to heartbreaking news in a scene, I often think of lines from Harry Potter that describe a similar feeling."

More Hacks Than You Can Bookmark

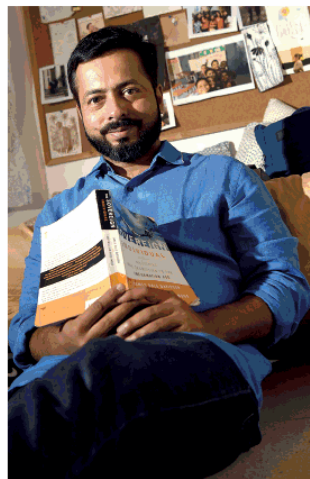
Like Pai and Jha, many who suffer from FOMO about reading books are devising hacks to sustain their reading habit. Gosalia of Terribly Tiny Tales looks at books like the series he binge-watches. "Kindle has a scroll feature that makes a book seem like a really long long-form article. It also shows you the time left to finish a book. So, when I'm one and a half hours away from finishing a book, the thought that I can finish a whole book in the time I would spend on watching two episodes of a show makes reading a lot less in-



"I feel there's a bigger FOMO about ownership of books than about consumption. Earlier, I was reading 80% of the books I bought. Now it's 60%. Peers tell me I'm still doing better than most"

Prashant Singh,

VP, product management, Paytm



ASHWINI NAGPAL



Balkan Magic



The colourful harbour in Budva

Travelling through the coastal towns of Budva & Kotor in Montenegro is like stepping into a bygone era

By Kalpana Sunder

History echoes from every corner of Kotor. I enter the town through the majestic 16th century Sea Gate with a Venetian winged lion symbol built in Renaissance style. Above, a red star marks the end of Nazi occupation and beyond it stands a stone pyramid with a tragic past – a pillory on which criminals were once chained to. “Even today, a local will not stand there, in fear,” says Marina, my guide.

The UNESCO Heritage city is the coastal heart of Montenegro, a small Balkan nation nestled between Croatia, Serbia and Albania, with a striking diversity of terrain and climate.

Down the ages, Montenegro has been ruled by the Romans, the Hungarians, the Venetians and the Ottomans and has suffered from break-up of the Yugoslavia. Today, many call it the “new French Riviera”.

I have driven here from Dubrovnik in Croatia, crossing borders effortlessly into a stunning landscape of tall mountains and a deeply indented coast with mini fjords and walled cities.

“Montenegro has always been a glitzy place attracting celebrities with their yachts. Today, it is a major port for cruise ships,” says Marina.

I sit at a café munching on local biscuits covered with chocolate cream, watching the sunset paint the stone buildings a burnished orange, silhouetted against the granite grey of the surrounding cliffs and the blue waters of the Adriatic

We first explore Budva, a town founded by the Greeks in the 4th century. Its marina is peppered with yachts of the rich and the famous and Venetian-style medieval fortifications encircle the old town. There are greystone houses with red terracotta roofs and entrances leading to pebbled beaches with loungers.

At one end of Budva is a citadel where the annual theatre festival is held. The square in front has four churches. I walk past artists painting on easels and stalls selling souvenirs to the Orthodox Holy Trinity Church, which is adorned by stripes of pink and honey stone and frescoes.

We then drive to Kotor, encircled by ancient ramparts and moats.

The town used to be a prosperous outpost of the Venetian Empire. Today, many of the flamboyant mansions have been turned into boutique hotels. Centuries of Venetian domination has given Kotor a collection of museums, old pharmacies and Roman Catholic and Eastern Orthodox churches.

I walk through the town paved in marble and limestone, criss-crossed with a maze of narrow cobblestone streets and alleys lined with houses with green shutters. One street is so narrow it is called Pušti Me Pro (Let Me Pass)!

“The confusing layout acted as a protection from intruders,” says Marina. A street musician plays a brisk tune on his accordion as a bearded Greek Orthodox priest in black robes walks towards the tiny church.



The main square of Kotor



A narrow alley in Kotor

Legions of cats linger about sunning themselves, as tourists with gelatos in hand dick away the scenes unfolding before them, and church bells chime in the distance. The town is proud of its motley band of cats, probably descendants of those that migrated from ships that came to shore over the centuries. There is even a museum devoted to them, and a square named after them. Kind tourists make sure they are fed!

I walk through shady palazzos and irregular squares with fountains. Each square offers a mish mash of architectural styles and most are named after their former use – like Milk Square and Flour Square.

Many of Kotor's buildings have arches and balconies and the white stone buildings have been hewn from nearby mountains and cliff-sides. The town's old clock tower leans slightly, an effect of past earthquakes.

The sea has always been a part of the life here. We peek into the Maritime Museum fronted by two cannons to know Kotor's seafaring past - this is a treasure trove of maps, navigational instruments, model ships, gleaming cutlasses and ivory figurines.

I walk through an open-air market where stalls offer air-dried ham, olives and garlands of dried figs alongside lace tablecloths.

Restaurants do brisk business serving seafood – grilled sea bass, grilled octopus drizzled with olive oil, salted sheep's cheese, monk fish and squid alongside homemade rakija – a fermented plums and grapes brandy.

We walk through the serpentine streets and end up at St Tryphon's Cathedral dating back to 1166. The dark and candlelit interiors have ancient Greek frescoes and a gold altar.

Local legend has it that Venetian merchants were sailing carrying the relics of St Tryphon – a third-century saint. Because of bad weather, they took refuge in Kotor. But every time they attempted to set sail, the weather turned stormy. So they read this as a message that the saint's remains should stay back in Kotor.

My favourite church is St Luke's, built in 1195, which is an example of religious tolerance. In the 17th century, the Catholics turned it over to the Orthodox Church but retained the right to have an altar. I gaze at faded wall frescoes and the altar gilded in gold. But there are no pews. My guide says this is because Orthodox Christians stand during services. The dead were buried beneath the floor until the 1830s.

Behind the cathedral, the defensive walls – nearly five km long – snake up the rocky hillside with ramparts, towers, crenels, bastions and gates to the 14th century fortress of St Ivan. “It is a kind of mini Great Wall of China,” says the guide.

The 20-metre high walls have been indestructible – even earthquakes have spared them. Kotor also prides itself on never having been taken by force. There is an inscription above the Northern Gate that refers to how, in the 14th century, Turkish general Hayreddin Barbarossa besieged Kotor with a great naval force but was still unable to conquer the town.

I sit at a café munching on local biscuits covered with chocolate cream and sipping on espresso, watching the sunset paint the stone buildings a burnished orange, silhouetted against the granite grey of the surrounding cliffs and the blue waters of the Adriatic. As a cruise ship leaves town, the town goes back to its tranquil self: shutters come down and the locals retire to their homes. I can hear the distant strains of a piano, and it is easy to imagine the Montenegro of long ago. ■

Kalpana Sunder is a Chennai-based writer



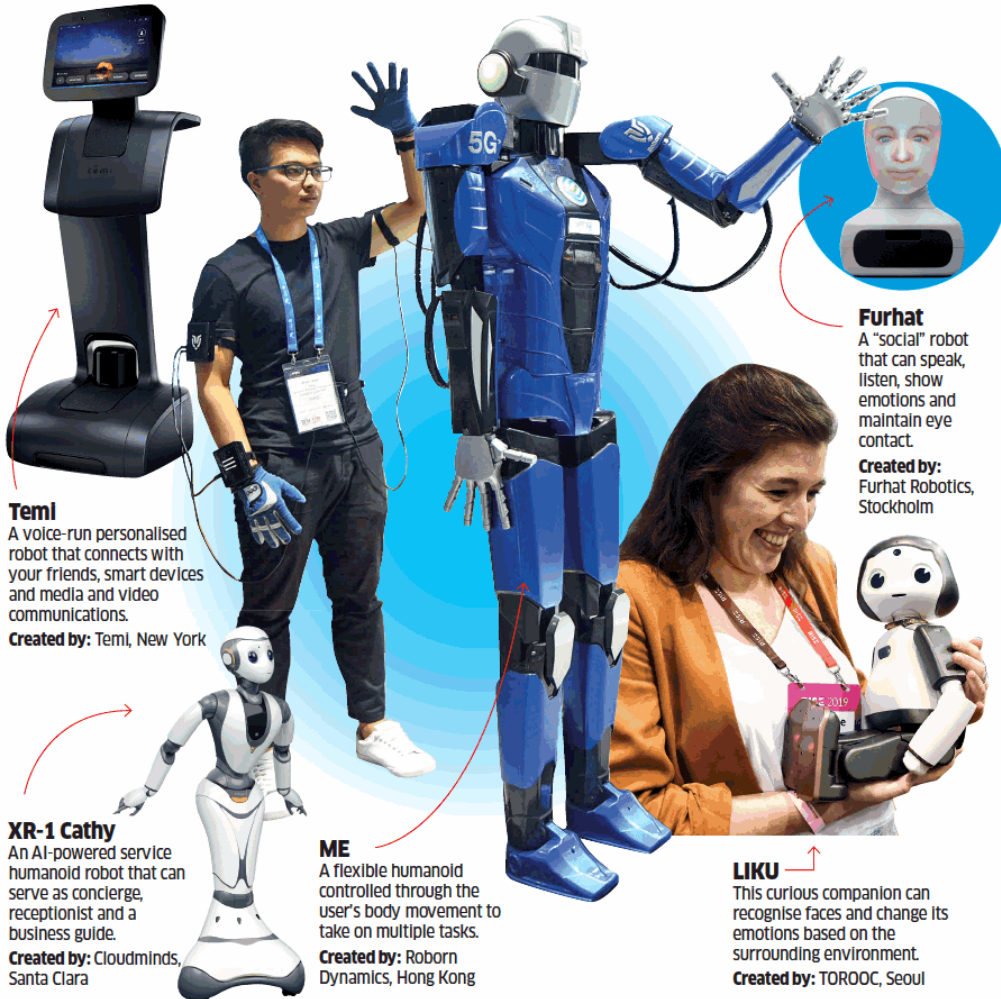
Church of St John in Budva



The coast of Montenegro

We, the Robots

Robotics researchers have been striving towards perfect personal assistants or companions for humans. Here are five such smart machines ready for the market:



Temi
A voice-run personalised robot that connects with your friends, smart devices and media and video communications.
Created by: Temi, New York

XR-1 Cathy
An AI-powered service humanoid robot that can serve as concierge, receptionist and a business guide.
Created by: Cloudminds, Santa Clara

ME
A flexible humanoid controlled through the user's body movement to take on multiple tasks.
Created by: Roborn Dynamics, Hong Kong

Furhat
A "social" robot that can speak, listen, show emotions and maintain eye contact.
Created by: Furhat Robotics, Stockholm

LIKU
This curious companion can recognise faces and change its emotions based on the surrounding environment.
Created by: TOROOC, Seoul

THIS WEEK, THAT YEAR

July 22-July 27
22 July, 1933
Wiley Post of the USA becomes the first pilot to complete a solo flight across the world in 7 days and 18 hours.

23 July, 1995
Alan Hale, a factory manager, and Thomas Bopp, an astronomer, separately spot a comet now named after them - Comet Hale-Bopp.

24 July, 1911
With the help of the Quechua people, American archeologist Hiram Bingham III finds Machu Picchu, the Lost City of the Incas.

25 July, 1814
English engineer George Stephenson unveils Blucher — the first steam locomotive for hauling coal.

26 July, 1896
Vitascope Hall, the world's first for-profit movie theatre, opens in New Orleans.

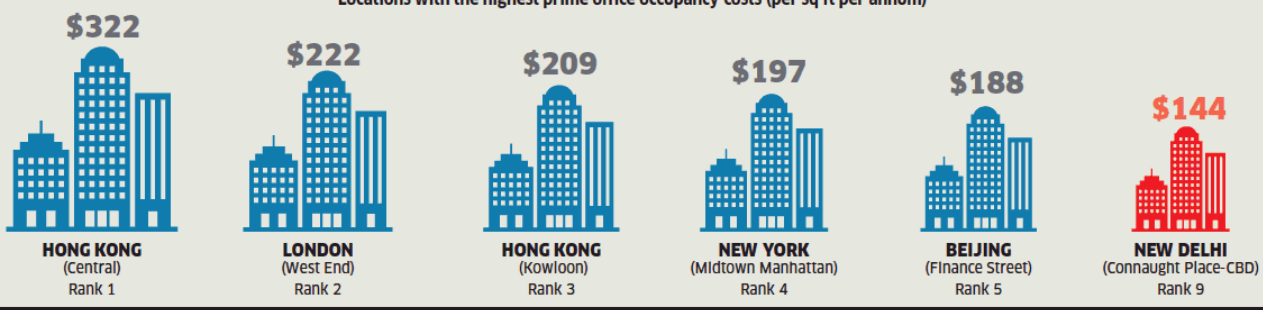
27 July, 1866
The 2,713 km long Atlantic telegraph undersea cable is laid between Valentia Island in Ireland and Heart's Content in Newfoundland.

Text: Sourabh Gupta SOURCE: GETTYIMAGES, COMPANY WEBSITES SOURCE: IOP.ORG, ONTHISDAY.COM, HISTORY.COM

WEEKLY VECTOR

Downtown Demand

Locations with the highest prime office occupancy costs (per sq ft per annum)



SOURCE: CBRE Global Prime Office Occupancy Costs (Q1 2019)

Let's Talk About...



Popsicle

PEOPLE, PLACES AND THINGS BEYOND HEADLINES



PHOTO: KPOPFANDOM.COM

Someone's got a sweet tooth.

Actually, it is a new K-Pop single. And it is very catchy. Plus there is something special.

Korean pop again? What is so special with this one?

The singers are not Korean.

Oh? So who are they?

They are essentially K-Pop fans from across the world selected through a reality show. This is a 10-girl group. It is called UHSN.

UHSN? Now what is that an acronym for?

Korean TV channel MNet did a show called Foreign Schoolgirl. In Korean it is called U-Hak SoNyeo...UHSN.

So is Popsicle unique, or are there many others from outside Korea who are singing in K-Pop bands?

Many non-Koreans have now become part of K-Pop groups. One of the members of UHSN, a Japanese girl named Chiba Erii, was also part of

another K-Pop group. The others, as I said, are from across the world – right from USA, Western Europe, Eastern Europe, Russia, Egypt, up to Thailand.

Will they be accepted within Korea?

Well, Russian youngster Yoo Lana, 22, has set an example. She has made her debut as a solo K-Pop singer, which is of the highest order. Her real name is Eugenia Svetlana. In many photos she looks very Korean.

But how is that possible?

Well when you think about it, Russia shares a border with North Korea. And she is from the Sakhalin island, just north of Japan. Many Koreans had once fled to that island.

Wow, the world is her oyster.

Oyster? Nope. Popsicle.

Text: Suman Layak

DeadZed

Get It For: Free for Android



DeadZed by Not Doppler Studios is a first-person zombie shooter. The story/line is simple: the dead have risen and you have to protect yourself from being eaten. What makes DeadZed different is that it is not an open world game. You are perched on top of your home with weapons and you have to kill incoming zombies. A headshot kills them instantly. Else, it can take as many as 8 bullets to drop them. Ammo is limited and reloading takes time. Zombies move at different speeds and sway around, making headshots difficult. Each zombie that manages to reach you will damage your safe location. Zombie numbers increase and they move faster in later levels. After each mission, you earn XP points, money and coins. These can be used to upgrade weapons. The weather keeps changing to keep things fresh. Graphics are good and so are the matching eerie sound effects. The only thing that might bother you are the full-screen ads that appear after every few levels. There is no way to remove ads.

—Karan Bajaj

PLAY

Noto 2 - Email yourself

Get It For: Free, for iOS



Have you ever emailed something to yourself as a reminder? You are not alone. This app makes things easier. Noto 2 converts your email inbox into a to-do/reminder. First, you are asked to do a basic set-

up. Including adding your email address, choosing a subject prefix and, if you want, a timestamp and location. Then, you just jot down what you want to be reminded about and a simple right swipe sends it to your email. The free version limits you to use one email only. The Pro version lets you customise left + right swipe. At ₹159, it also gives you the option to add 6 email address, add photos as attachments, view and edit drafts as well as use it with third-party apps.

—Karan Bajaj

DOWNLOAD

GET LISTEN DO BROWSE WATCH

Jabra Elite 85h

Premium Noise Cancelling Headphone

Get It For: ₹28,999

When you need a bit of quiet time – in office, in a public place or while on the move – active noise cancellation (ANC) technology is what a lot of gearheads turn to. ANC headphones sample the ambient sound using external microphones and produce a sound that is exactly opposite in phase – effectively cancelling out the sound. This happens in addition to your music or a voice call. When you have a set of premium ANC headphones, like this Jabra (or our current favourite, Sony WH-1000XM3), the outside world sort of ceases to exist.

The Elite 85h is Jabra's attempt to break into the premium end of the ANC market, where Bose and Sony have normally ruled the roost. The 85h tries to be different with a slightly larger design (but they are not heavy and just as comfortable as the others) and a fabric outer layer instead of just plastic. We liked that it has actual, tactile buttons instead of silly touch and swipe controls. You can adjust volume, change tracks, accept/reject calls, invoke the voice assistant and switch between different ANC modes (off, on, hear-



through). A nice hard case is supplied, along with an airline adapter, USB-C cable and a 3.5mm cable to use them in wired mode. The companion app – though not necessary – should be downloaded to change the settings, adjust equaliser, update firmware and switch moments (read: modes, like commute, public, private). Apart from Google Assistant on Android and Siri on iPhone, there is support for Alexa too – you need to connect your Amazon account in the voice assistant settings on the app. We liked the amazing clarity of the voice calls and the efficient noise cancellation that is right up there with the best. Unlike many others, this Jabra also connects to two devices simultaneously. And it has the best battery life in the business – almost 35 hours with ANC on. What we didn't like was the larger size and that the audio quality doesn't quite match up to the likes of the Sony and Bose despite costing the same. Get it if you value the many features and battery life it has. However, if you prefer better music quality, the Sony remains our pick.

—Hitesh Raj Bhagat

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