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TELLING NUMBERS

Indian citizenship applied for: Maharashtra, Gujarat top list

PENDING APPLICATIONS for Indian citizenship are highest in Maharashtra (162), followed by Gujarat (125) and Haryana (112). These three states and Uttar Pradesh (86) together account for more than half the 909 citizenship applications pending with the Home Ministry, which presented national and state-wise figures in reply to a question during the recently concluded Winter Session of Parliament, which saw the Citizenship (Amendment) Bill passed in Lok Sabha. In West Bengal, where the BJP plans to make the Bill an election issue, there were 52, the sixth highest number among states, behind Karnataka (61). Under existing rules, the government granted citizenship to 605 applicants in 2015, 1,106 in 2016 and 816 in 2017.

The Bill proposes to relax citizenship rules for immigrants belonging to six non-Muslim religions from Bangladesh, Pakistan and Afghanistan. In Assam, where the Bill is proving contentious, there were no pending applications, going by the Home Ministry reply. However, once the update of the National Register of Citizens (NRC) in Assam is final, political parties expect that it will detect a large number of Hindu immigrants from Bangladesh.

How many immigrants living in India stand to benefit from the Bill? In a deposition to the joint Parliamentary Committee that examined the Bill, the Intelligence Bureau provided a breakup of 31,000 immigrants belonging to religions and coming from countries that are specified in the Bill (see chart). They have already got long-term visas on the basis of their claim

PENDING CITIZENSHIP APPLICATIONS*

Maharashtra	162
Gujarat	125
Haryana	112
Uttar Pradesh	86
Karnataka	61
West Bengal	52

*Out of 909 across India, applications pending with Home Ministry only; no applications from Assam.

Source: Home Ministry reply in Lok Sabha

LONG-TERM VISA HOLDERS*

Hindus	25,447
Sikhs	5,807
Christians	55
Buddhists	2
Parsis	2
Total	31,313

*Only immigrants from Bangladesh, Pakistan and Afghanistan who claim they fled due to religious persecution.

Source: IB deposition to JPC on Citizenship (Amendment) Bill

of religious persecution, and want Indian citizenship.

"Hence, these persons will be immediate beneficiaries," the IB said. To facilitate the process of granting citizenship to eligible immigrants, the Centre has delegated powers to collectors of 16 districts and home secretaries of seven states, the Home Ministry said in its reply in Lok Sabha.

SIMPLY PUT

The new plan for Dharavi

Residents of Asia's largest slum have come to expect a redevelopment project whenever elections approach. What's new in the plan drawn up now to 'transform Dharavi into a commercial hub'?

SANDEEP ASHAR
 MUMBAI, JANUARY 22

SPREAD OVER 2.40 sq km and home to over 60,000 families, Dharavi, Asia's largest slum, stands on prime land in the heart of Mumbai, barely a stone's throw from India's richest business district, the Bandra Kurla Complex.

Plans to give the slum a makeover emerge almost every time an election comes around. Dharavi's revamp — first planned in 2004 — has been on the agenda of every political party. With Lok Sabha elections approaching, the Maharashtra Cabinet cleared a new makeover plan in October 2018, and the Dharavi Redevelopment Project Authority (DRPA) opened the technical bids last week. At an estimated cost of Rs 26,000 crore, this will be the country's biggest slum resettlement project, officials said.

The land and the stakes

The Dharavi slums occupy an entire Assembly segment in the Mumbai South Central parliamentary constituency. The Congress has won every Assembly election in Dharavi since 1980, barring in 1995 when the Shiv Sena won. In Mumbai, every second resident lives in a slum, and a successful revamp of Dharavi can serve as a powerful signal for residents of slum settlements elsewhere in the city.

But parties and town planners have been unable to agree on the model for Dharavi's redevelopment and the size of the resettlement tenements. The construction industry has been eyeing this sprawling chunk of realty — as per the prevalent Development Control Regulations, Dharavi's redevelopment is expected to release over 5 crore sq ft of saleable built-up space in the market.

And yet, the revamp could never take off. Global tenders were invited in 2007-11 and in 2016, and the plan was tweaked, but these attempts did not elicit a response from private builders. This time, some 15-20 construction firms attended the pre-bid conference, but when technical bids were opened on January 15, only two — the Dubai-headquartered Seclink Group and Adani Realty — were found to have participated in the bid-



The redevelopment plan seeks to take the sprawling slum in the heart of Mumbai vertical. Critics say it will destroy Dharavi's social fabric. Neeraj Priyadarshi/Archive

ding. The financial bids are yet to be opened.

The new plan for revamp

Under the revamp plan, the developer has to provide a 300-sq-foot tenement for free to those residents who are able to prove that their slum structure was in existence before January 1, 2000, and for a price to those who settled in Dharavi between 2000 and 2011. In return, the government has allowed the builder to go higher (by increasing the floor space index), thus concentrating residents into tower blocks and freeing up space for luxury commercial and residential towers. Some urban planners have opposed the vertical redevelopment idea, saying it would destroy the locality's original social fabric and land use patterns.

The new plan abandons the earlier approach of dividing the 240-hectare slum into five sectors to be developed separately, with most having a predominantly residential

character, and combines all sectors into one large cluster. This, officials say, will allow for better planning and more buildable space. Critics say the move is tailored to ensure that only a few construction giants reap the benefits of the project.

The new plan also makes "transformation of Dharavi into a commercial hub" the project's mainstay. The Housing Department had informed the state Cabinet that "the Rs 26,000-crore project will not be viable if it was promoted as a residential redevelopment project... (and) the plan is to transform the region as a hub of business and economic activity." The department referred to the failure of earlier attempts at redevelopment along the lines of a residential redevelopment project. Under the new plan, the bulk of the over 5 crore sq ft of saleable built-up space will be utilised for economic activity, a senior Minister said. The government has tagged the project as

one of "vital importance" in an apparent bid to expedite the resettlement of the slum dwellers and the acquisition of private land.

The government has also tweaked the economic development model. It has decided to implement the project through a Special Purpose Vehicle (SPV), in which it will hold 20% stake. Lowering the risk for the selected developer (who will also be the SPV's lead partner), the state will make a capital investment of Rs 100 crore in the project, whereas the private player will bring in a minimum share premium of Rs 2,850 crore. Housing Minister Prakash Mehta said "revisiting the financial model and extending concessions was necessary considering the project's overall size and various development constraints". The SPV route will boost investor confidence, he said.

Incentives and concessions

To make the project lucrative, the government has extended a bouquet of fiscal sops and indirect subsidies to the project, including a waiver of stamp duty on the development rights agreement and the first sale of the saleable area, and property tax refunds for the components used for rehabilitation of slum families and building infrastructure facilities.

While the Revenue and Finance departments had objected to the concessions, the government has gone with the Housing Department's contention that these were necessary to make the project "economically viable" and to "attract investors". The Revenue Department has said that waiving stamp duty on the development rights agreement alone will result in a loss of Rs 1,000 crore to the exchequer. The Finance Department has said that "some of the concessions... amounted to indirect subsidies that were inappropriate".

The state has also applied the benefits of its industrial promotion policy for mega investments to the project, agreeing to grant a "rebate of the state's share in the Goods and Services Tax (GST) over the taxable components in the construction project for 15 years", with the exception of cement consumption, which would not be exempt after an investment of Rs 2,000 crore. The proposal will soon be placed before the GST Council, officials said.

TIP FOR READING LIST

WHY PEOPLE SPREAD FAKE NEWS

IN THE age of fake news, various people frequently express concern about the reasoning skills of other people, who blindly believe whatever is in line with their preconceived beliefs. But are those beliefs the only reason that people fall so easily for fake news? Scholar Cailin O'Connor and James Owen Weatherall, who teach philosophy of science at University of California-Irvine, argue that is another, deeper reason — a need to conform to the consensus view of a community.

In their new book, *The Misinformation Age: How False Beliefs Spread*, O'Connor and Weatherall stress that social factors, rather than individual psychology, are essential to understanding the spread of false beliefs — what you believe depends on who you know.

"... Almost everybody has a bias toward conformity. You don't want to stick out in a group of people, including with

your stated beliefs. There are lots of studies that show people prefer to conform with others," O'Connor said in an interview to *Pacific Standard* magazine.

The authors begin with the example of the Vegetable Lamb of Tartary — a tree whose fruit was supposedly filled with tiny lambs. It was a myth that lasted for centuries, with mediaeval scholars preferring to cite one another rather than fact-check. Among contemporary examples, the book focuses largely on beliefs held by scientists — such as the general consensus on climate change.

"The one thing you begin to notice in this book is that propagating a reflexive skepticism and sowing discord aren't terribly difficult, especially when there's a vested interest willing to pay for it; 'merely creating the appearance of controversy' is often all that needs to be done," *The New York Times* said in its review.



Why MP farmer scheme is talking point again

MILIND GHATWAI
 BHOPAL, JANUARY 22

ON MONDAY, Madhya Pradesh Agriculture Minister Sachin Yadav announced that the government would scrap a farmer-oriented scheme introduced by the previous government. The following day, he clarified that it would be implemented in a new form. What is this scheme, and why is it controversial?

The Bhavantar scheme

The Bhavantar Bhugtan Yojana (BBY) was launched by the BJP government in October 2017 in the wake of unrest among farmers over falling prices. It was conceived after five protesting farmers died in police firing and one in custody in June 2017 near Mandsaur. Bhavantar literally means difference in rate. In its original form, the scheme was meant to provide a cushion to farmers when prices of crops fell below the minimum support price (MSP) announced by the central gov-

ernment. Under it, farmers got the difference between the MSP and the modal price (average market price in a mandi over a particular period). For example, if the MSP of soybean was Rs 3,050 per quintal and a farmer sold it for Rs 2,200, he would not get Rs 850 but Rs 550 if the average rate that prevailed in three mandis was Rs 25,000 per quintal.

The implementation

The farmers had to register themselves at mandis with details such as their landholding, bank accounts, and likely produce. They were eligible only if they sold their produce during a particular window in the mandi where they had registered themselves. The actual difference in the selling price and the modal rate was deposited directly in their bank accounts.

The scheme was, however, tweaked regularly after its implementation, which brought out its flaws and the difficulties faced by farmers. Also, it ran into allegations that it benefited traders more than farmers.

The traders were accused of forming cartels and deliberately keeping prices low. The Congress, then in Opposition, alleged that most traders were affiliated to the ruling BJP and reaped benefits at the cost of farmers by purchasing produce at low rates. The price of soybean crashed after the scheme was introduced. The Congress pointed out that the prices of soybean went up immediately after the selling period under the scheme was over.

A pre-election promise

Just before the Model Code of Conduct for the Assembly elections was to kick in, the Shivraj Singh Chouhan government announced what it called Flat Bhavantar. Farmers were promised Rs 500 per quintal on soybean and maize if they sold their produce between October 20, 2018 and January 19, 2019. The payout, however, was seen as a bonus under a new name. Nearly 15 lakh farmers had registered themselves under the scheme. Since the payout was to be made

only after formation of the new government, some called the scheme an inducement to vote for the BJP. But it did not help the BJP, and the Congress government has to now make the payout.

Where things stand now

Agriculture Minister Yadav initially announced that because the scheme was flawed, the Congress government would scrap it. The immediate implication was that lakhs of soybean and maize farmers would not get the Rs 500 per quintal that had been promised to them. The Congress government is already struggling to raise money to meet the Rs 50,000 loan waiver it has promised.

After the announcement that the scheme would be scrapped, former CM Chouhan announced that he would take to the streets if the farmers did not get what his government had promised. Since then, Yadav has gone back on his announcement saying the scheme was not being scrapped, but would be implemented in a new form.

FACT CHECK, GROUND REALITY

Was Kanha tigress really eaten by a tiger? What the evidence suggests

A mysterious carcass has triggered speculation of cannibalistic tigers on the prowl. This is why this may not be a cause for worry

JAY MAZOOMDAAR
 NEW DELHI, JANUARY 22

ON MONDAY, news reports suggested that in a suspected act of cannibalism, a tiger may have killed and eaten a tigress in Kanha Tiger Reserve of Madhya Pradesh. The news agency PTI quoted Kanha field director K Krishnamurthy as saying that "circumstantial evidence suggests that the tiger, during a territorial fight, dragged the tigress for about 700 metres". How frequently do animals feed on their own?

First thing first. The deceased Kanha tigress was unlikely to have been the victim of a tiger. A male tiger has no reason to eliminate a mating option, unless she was defending her cubs.

The remains showed that even the innards and almost the entire skin were missing. Tigers may not be picky, but they do not eat dirty. Barely anything was left of the carcass; even the large bones were picked clean. That would require a range of scav-

engers to take turns, but the freshness of the skull did not allow for so much time. The carcass looked a mystery, but it did not justify a cannibal tale.

Because cannibalism is rare — and often occurs, when it does, under unusual circumstances.

Eating each other

Cannibalistic behaviour has been recorded in less than 2,000 out of over a million formally described species on earth. In species that are not naturally cannibalistic, it can be triggered by a scarcity of resources or the urge to push one's genes.

Yet, cannibalism is not unnatural. It is well known that praying mantises eat their partners during sex to maximise egg output. Cane toad tadpoles gorge on the eggs of their species to preempt competition. Every desert spider mom regurgitates food to help her young ones grow until she serves herself up to be devoured alive.

Evidently, nature does not consider it as "ungodly" as we do. The cannibal morph of



Almost nothing was left of the carcass that was found in Kanha. Express

tiger salamanders feed on the non-cannibal ones for extra nutrition. Embryonic Lamnoid sharks feast on their smaller siblings inside the mother's womb to grow fast and maximise their chances of survival after birth.

Particularly among large carnivores,

though, the risk of pathogen transmission limits cannibalistic behaviour. Recent studies, however, suggest that cannibalism may actually reduce the prevalence of parasites by reducing the number of susceptible hosts. While that debate continues, cannibalistic behaviour is well documented among cats, both domestic and wild, under certain circumstances.

Cats eating cats

All male cats are wired to kill the offspring of another cat. The purpose is to deny rival male cats reproductive success and establish one's own bloodline. A female cat returns to oestrus (a sexually receptive and fertile state) immediately after losing her cubs and the murderous male can mate to give his genes a chance. When a male kills his rival's cubs, records show, he often ends up consuming them.

A cat mother, though, will fight tooth and nail to defend her kittens or cubs. While a tiger has no incentive for killing a tigress and reduce his breeding options, a

defending mother may push it and fight to death. In April 2009, Ranthambhore's Berdha female (T4) died defending her adolescent cubs. Her sacrifice was not wasted as both her offspring — T40 male and T41 female — survived.

Fights among two adult tigers of the same sex may also lead to cannibalism. A dominant tiger seeks to eliminate weaker males and become the only mating option for the tigresses in the vicinity. Tigresses may fight over prime territories and access to resources but these battles rarely turn fatal.

Cat moms may themselves kill their offspring under unusual conditions. If resources are limited, she may eliminate the weaker cubs to focus on the survival of those that stand a better chance. It is also possible that a cat under stress will reflexively direct the aggression to her cubs. There are instances of captive leopards chewing up their cubs delivered inside trap cages exposed to people.

In none of these cases, cannibalism is

driven by hunger. Carnivores rarely consume another carnivore as food. But the very act of killing involves a heightened aggression that can make a predator get into an involuntary mode where it starts eating what it has killed. Going by eyewitness accounts, Ranthambhore's tigress Machhli partially consumed a marsh crocodile it famously vanquished. There are recorded instances of tigers and leopards biting into a territorial rival they killed.

In most of these recorded instances, the big cats did not finish the meal and, probably as the hormones settled, moved on. In a rare case or two, leopards did return to feed on leopard carcasses. But there is not enough to suggest that the predatory behaviour of big cats include cannibalism.

That is why Kanha's tigress carcass, whether or not consumed by a big cat, makes an unlikely case for tiger-eating tigers in the prowl. Conservation is anyway a fraught battle and does not require imaginary threats.

The Indian EXPRESS

FOUNDED BY

RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

The Bank's balance

Legislating payments out of the RBI's excess capital could compromise its independence



AMARTYA LAHIRI

HOW MUCH EQUITY should the Reserve Bank of India (RBI) hold? A committee is currently examining this issue. The question actually has many dimensions to it: How should the RBI's equity level be computed? What should be the structure of the RBI's assets? Should the RBI pay the government any excess equity holdings as a special one-time payment?

The RBI's current equity holding is around 27 per cent of its total assets. This overall equity level can be divided into four categories: Paid-up capital, contingency capital, revaluation capital and asset development fund. The two largest components of these are contingency capital (6.6 per cent) and revaluation capital (around 20 per cent). The revaluation capital is an accounting entry that offsets changes in the rupee value of the foreign assets and gold holdings of the RBI due to changes in the exchange rate of the rupee and changes in the dollar price of gold, respectively.

The total equity of 27 per cent has attracted a lot of attention lately. Arguments have been made that this is too high, especially when compared with other countries and that the RBI should transfer a part of this "excess" capital to the government as a one-time payment.

One way of judging whether or not this level of equity holding is excessive is to use a metric that is typically applied to commercial banks. Under this method, one computes the fraction of the value of the banks' assets that are at risk due to fluctuations in the market value of the asset. This is known as VaR analysis. This approach tries to look at the worst "x" per cent changes in the asset value of the bank during the sample period and estimates the associated size of the fall in asset value. If the bank has capital greater than this value then one can say it has enough capital to

withstand negative shocks in 1-x per cent of cases. The higher x is, the greater is the safety level that the bank has. Thus, if the chosen x is 1 per cent then the bank has enough capital to absorb 99 per cent of the shocks that typically hit the system.

In recent joint work with Bandyopadhyay, Devnani and Ghosh, I have shown that the RBI would require a 30 per cent overall equity to asset ratio to cover 95 per cent of all shocks it faces. Thus, its overall equity level has to be raised from the current 27 per cent level. If, instead, one only focuses on non-exchange rate-related shocks, then the core equity to asset ratio needed by the RBI to cover 95 per cent of all such shocks is around 17 per cent. That implies that the RBI's current core equity level of 6.6 per cent needs to be more than doubled.

It isn't obvious, though, as to why a central bank has to be judged like a commercial bank. When the equity of a commercial bank becomes negative, they are bankrupt and their shareholders typically demand liquidation. The central bank of a country, however, is not a commercial bank. Its owner is usually the government, which certainly will not demand liquidation of the central bank in the event its equity turns negative. Indeed, there do exist central banks with negative equity. What is crucial for a central bank is the level of its assets and the riskiness of the portfolio it chooses in terms of its term structure and currency composition. In the event of an emergency, the central bank would need assets to fight it. So, a VaR analysis of the asset portfolio of the central bank is a worthwhile exercise but only for determining its riskiness relative to the country's risk appetite.

So, why might a central bank hold equity rather than paying it out to the government? There are two important reasons. First, put-

ting a part of the country's assets in a protected entity like the central bank builds fiscal credibility of the country as long as the central bank is viewed by markets as being independent of the government. This can improve the country's international credit rating. It also gives the central bank greater credibility in committing to perform its emergency functions without worrying about the fiscal contingencies of the government.

Second, mandating payments from the capital of the central bank creates a policy moral hazard. For example, a cut in the policy rate raises the value of government securities that the central bank holds. If the resultant rise in the central bank's equity sparks a payment to the government then there would be greater spending and inflationary pressure in the economy. Anticipating this, the central bank would be tempted to not lower rates as much. A similar argument operates with exchange rate depreciations. More generally, legislating payments out of the central bank's excess capital will tend to compromise its operational independence in achieving its policy mandate.

In light of the above, an advisable route for the committee currently looking into the RBI's capital structure is to recommend a formal agreement between the government and the RBI with the agreement stipulating: (a) a target band for the equity level of the RBI based VaR computations; (b) the time frame within which the RBI needs to bring its capital level back within the band every time the bounds of the band are breached, and (c) explicitly prohibit any payments to the government that is based on the equity level of the RBI.

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BIGOTRIES UNCHECKED

UP MLA's comments on Mayawati, silence of BJP leadership, show that coarsening of discourse goes to the top, runs deep

THE UGLY ATTACK on BSP leader Mayawati by a BJP legislator from Uttar Pradesh cannot be shrugged off as just another example of the coarse jousting that Indian politics has become hardened to. By calling the former UP chief minister "worse than a eunuch", "neither a man nor a woman", Mughalsarai MLA Sadhna Singh tapped into the multiple bigotries and prejudices that exist in Indian social life. This is sexist, casteist abuse in language that seeks to dehumanise a politician who has carved out a distinctive place for herself in the political firmament as a leader of Dalits.

Women in Indian politics are routinely subject to verbal and physical violence (Mamata Banerjee and J Jayalalithaa are but two examples), even when they model themselves as selfless icons of motherhood or sisterhood. Mayawati, as a Dalit woman politician who has defiantly played by her own rules, without throwing any crumbs of deference to an upper-caste and predominantly male political establishment, has been a target of abuse for many years now, from rape threats to sniggers about her appearance and lifestyle. This particular speech by Singh was apparently spurred by Mayawati's decision to ally with once-bitter foe Samajwadi Party in the upcoming Lok Sabha elections. Singh decried Mayawati as a woman "without honour" for casting aside the memory of the assault on her in 1995, by SP workers. This was not a woman speaking with empathy about a victim of male violence — Singh's voyeuristic language, the imagery of cheerharan (disrobing), sought to turn the Dalit leader into a figure of disgust and dishonour for her cheering audience. Those who dismiss Singh as a minor leader playing to the gallery are wrong. Her politics of vilification is a reflection of the ways in which mainstream Indian politics uses all its privilege to police and double down on sexual minorities, women and Dalits. The BJP, which is going to town with its promise to give a new deal to the Dalits as elections near, has reacted with silence to this volley of abuse. Only Ramdas Athawale, an NDA ally and a fellow Dalit, has spoken out in protest. This begs the question: How can a politics of sabka saath, sabka vikaas be sustained in the face of this flagrant caste animosity?

The language of politics must inevitably snag on the many conflicts of an electoral democracy, and get caught up in its rough and tumble. But it is not enough to rue the dipping standards of political rhetoric as a matter of lip service. Language is, also, power weaponised. When it is wielded against those seen to be on the margins of social life with such toxicity, it attacks the dignity and equality that the Constitution guarantees all Indian citizens — man, woman or of the third gender. Political parties must draw the red line at such abuse. And the BJP must realise that words have consequences: There must be a penalty to pay for those like Singh.

CONGRESS, LIKE BJP

In Rajasthan, Ashok Gehlot government imitates its predecessor's rhetoric — and blind spots — on the cow

THE NEWLY ELECTED Congress government in Rajasthan seems to be going its predecessor's way in terms of rhetoric and policy vis a vis the cow. First, the Ashok Gehlot-led dispensation took a leaf out of the Vasundhara Raje regime's book by having a dedicated ministry for cow welfare. Now Pramod Bhaya, who is in charge of this ministry, while professing his reverence for the cow, has described the incidents of cow-related lynching and vigilantism in the state as "law and order problems". At least three Muslims, including dairy farmer Pehlu Khan, were lynched on the suspicion of smuggling cows during the BJP's stint in office. By not calling the hate crime by its name, Rajasthan's Congress government has signaled a worrying reluctance to distance itself from the majoritarian discourse that has targeted people from the minority communities in the name of cow protection and welfare.

On the cow welfare minister's to-do list is a conference bringing together those working in registered cow shelters in Jaipur: "After cows stop producing milk, they are abandoned. We are hoping to raise this question with all stakeholders in the conference," says Bhaya. Indeed, in Rajasthan — as in several other states — cattle that are past their prime are being let loose and they have become a threat for farmers who are tiring of keeping vigil to prevent their standing crops from being devoured. The problem, essentially, is that states are increasingly looking at the problem from a religious perspective, instead of addressing the disturbances wrought upon the livestock economy by the zeal to protect cattle. A cow no longer giving milk or male cattle not required for work or breeding purposes would earlier be headed for the local livestock market. The trader who deals in such animals did the farmers a service by paying for the unproductive bovines. The atmosphere of fear created by cow vigilantism has led to the rupturing of the links between the farmer and the livestock market.

In July last year, the Supreme Court had issued guidelines to states, including Rajasthan, to curb cow vigilantism. Less than a week after the apex court's directive, Rakbar Khan was allegedly lynched in Alwar district by vigilantes. After the incident, the state's then-BJP government promised to put in place measures to implement the Court's directives. It did precious little. In its term in office so far, the Congress too has failed to send out a reassuring message, either to the minority community, or to the cow economy.

MAGIC BOX

Rapid DNA analysis is coming to the aid of police forces, but strong regulatory jujus is needed to prevent black magic

A DEVICE STRAIGHT out of *Gattaca* has been installed in an American police station near Philadelphia. The police are ecstatic, since the "magic box" almost completely automates DNA fingerprinting and spits out a report in 90 minutes, while a forensic matching request takes up to a month. With Rapid DNA technology, a crime scene and police can no longer wait a millennium for a hit over what than their lives generally permit. This technology is bound to spread fast, and could soon be available in a police station in Bulandshahr or Shamli.

However, detractors point out that the technology needs to find a clearly defined place in the regulatory framework of DNA matching. Contaminated samples lifted by poorly trained personnel would bring up false positives, complicating criminal cases. More importantly, there are privacy concerns. Police forces worldwide have always had a native enthusiasm for rounding up, on flimsy pretexts, characters whom they deem to be suspicious. If they also take swabs, innocent people could find themselves on forensic DNA databases for no better reason than being poor, or of a certain colour or persuasion, or for just being in the wrong place at the wrong time.

As we know, there's no stopping progress. Despite all the privacy concerns expressed, biometrics are the only reliable passwords of the future, because no password generated by a human or machine could remain uncrackable once quantum computing become practicable. DNA analysis, too, is an infallible fingerprint, and it has remained restricted to science fiction only because science had not come up to speed. Now, Rapid DNA is here, and apart from forensics, it could become a standard mode of authentication. But every technology has a dark side, and its use should be closely regulated.



S B P SINHA

SKY IS THE LIMIT

IAF and HAL need to work together for Tejas to fly high

THE GEOPOLITICAL environment and India's volatile neighbourhood places a unique responsibility on the armed forces. It has to be prepared for any eventuality at all times. But the polarising debate in recent months over defence acquisitions has raised questions about indigenous defence production. There are a few names thrown around in such discussions, the foremost among them being Tejas, the indigenous Light Combat Aircraft, designed jointly by the Aeronautical Development Agency (ADA) in partnership with Hindustan Aeronautics Limited (HAL) as per the Air Staff Requirement (ASR) issued by the Indian Air Force (IAF) in 1985. At all stages, the IAF has wholeheartedly participated and supported in this vital indigenous design and development project.

It is said at times that Tejas production is getting delayed due to the IAF changing specifications. The ADA, the design authority for Tejas, in consultation with HAL, incorporates design changes based on observations made during test flights by the National Flight Test Centre. The ADA makes all such changes in consultation with HAL and other agencies and these changes are issued as "change notices" with requisite documentation and manufacturing technology. While the IAF participates in all these consultations, it is not authorised to issue "change notices".

The IAF has not changed the 1985 ASR, except for granting concessions after limitations were encountered during the design and development of the aircraft. Many design changes were incorporated in the Tejas to bridge the shortfall from ASR while some design changes were incorporated to enhance the safety of flight, based on lessons

learnt from recent accidents and incidents. Evolving design changes are part of any aircraft design and development process.

Surprisingly, the ADA never complains of the IAF making any changes. In contrast, HAL off and on blames the IAF for changing specifications. The IAF is a customer and it can only issue the ASR. But, HAL, as the original equipment manufacturer of the Tejas, has to issue the specifications for the aircraft and its components in the maintenance and piloting manuals delivered along with the aircraft to the IAF as part of contracted documents.

To help HAL expedite the production of Tejas Mk 1, the IAF accepted declaration of initial operational clearance (IOC)-I in January 2011. The final IOC, that is IOC-II, was issued in December 2013, which was followed by the delivery of IOC Tejas to the IAF starting from March 2016. Further, the Air HQ held a meeting in 2015 with HAL, ADA, DRDO and other agencies for faster and larger induction of Tejas in the IAF. During this meeting, it was decided that Tejas with "SoP 18" proposed by HAL and ADA along with four essential capabilities of AESA Radar, BVR missile, air-to-air refuelling and Electronic Warfare (EW) suite was acceptable for production in large numbers. The Tejas in this SoP was named as Tejas Mk 1A and its technical evaluation by the IAF is now at the final stage.

Tejas' flight envelope is still in the process of being expanded to its full capability. The Tejas fleet does not have a two-seater, which is essential to train pilots. Lack of a two-seater prevents the IAF from posting junior pilots to Tejas squadrons. The EW suite for Tejas Mk

1A, the most crucial element to enhance survivability of the aircraft and pilot(s), is not yet developed. HAL has recently selected Elisra of Israel for the design and development of EW suite.

HAL manufactures aircraft and its components based on training, documentation, drawings, work cards, material, aircraft and components to specifications provided and stipulated by the OEM. Such manufacturing has everything defined with very few variables. In contrast, the production of Tejas aircraft is very different and complex because the aircraft is still at the design and development stage. The standard of preparation of an aircraft defines its capability, which is evolving for Tejas as all its versions are presently in the design and development phase. This requires a production capability with a robust supply chain supported by competent sub-vendors to help HAL production line to quickly adapt to such changes. Therefore, HAL needs to bring in institutional flexibility to quickly adapt its production line to such evolving changes during the design and development phase of Tejas or any subsequent aircraft.

The IAF plans to induct Tejas in all versions to arrest the depletion of combat squadrons. There is no ambiguity about IAF placing orders for more Tejas versions as the aircraft matures. But orders for Tejas can only be placed following the due process and after ascertaining the capabilities of the aircraft. The IAF and HAL can succeed only together, not in isolation.

Air Marshal Sinha is a former DCAS and AOC-in-C of Central Air Command



JANUARY 23, 1979, FORTY YEARS AGO

CHARAN SINGH
CHARAN SINGH IS expected to join the Cabinet as deputy prime minister with the portfolio of finance while H M Patel will become the home minister. Rabi Ray, the Janata general secretary, may take the place of Raj Narain. Of the four ministers of state who had resigned in protest against Charan Singh's exit from the government, three will come back. The fourth, Janeshwar Mishra, has declined to return because of his close association with Raj Narain.

RAJ NARAIN'S FIGHT
RAJ NARAIN CONFIRMED that Charan Singh would rejoin the Desai Cabinet but declared

that the war against Prime Minister Morarji Desai would continue. "Charan Singh will fight from within and I will fight from outside," he said. Singh's principal lieutenant said that his joining the Cabinet without Narain's own induction was not a betrayal.

BIHAR UNDERTRIALS
KANTA HINGORANI, AN advocate, filed a writ of habeas corpus in the Supreme Court on behalf of 18 undertrials in Patna and Muzaffarpur jails in Bihar, who have already been in jail for periods out of all proportion to the gravity of their alleged offences without being proved guilty by any court. The judges issued notice to the State of Bihar and

asked for a report with regard to the undertrials within two weeks. The petition was filed on the basis of two articles by K P Rustamji, member of the National Police Commission, published by *The Indian Express* on January 8 and 9, disclosing the extent of injustice and suffering of these undertrials.

ARAFAT'S BODYGUARD
A BOMB EXPLOSION in a car in Beirut killed five persons and seriously wounded Yasser Arafat's top security officer, the reputed mastermind of the 1972 Munich Olympics massacre. The security chief, Ali Salameh, 36, code-named "Abu Hassan", was in an "almost hopeless condition", Palestinian sources said.

13 THE IDEAS PAGE

WHAT THE OTHERS SAY

"The lowest growth rate does not indicate that China's economy is facing a crisis. Instead it's a process of resolving tough problems, controlling serious risks and finally realising a soft landing."
—GLOBAL TIMES, CHINA

Diving into a revolution

Like the sport of diving, Swachh Bharat Mission has had to overcome a 'degree of difficulty' to bring about behavioural change



PARAMESWARAN IYER

IT MAY SEEM a bit of a stretch, or even a twist, to compare the Swachh Bharat Mission (SBM) with the sport of diving, but there is some method in this seeming madness. Let me put you out of your suspense: The common factor is the "Degree of Difficulty" (DoD) multiplication factor. The DoD factor is well recognised in the sport of diving, where it is a numerical value given to a dive, multiplied by the judge's score of the dive.

The DoD is based on a formula that adds together the different components of a dive. Obviously, the more moves (typically twists and somersaults) attempted in a dive, the greater the value and, therefore, the greater the potential for scoring points. Likewise, under the SBM, there are at least two additional and complex "moves" being attempted compared to typical infrastructure programmes: One, changing behaviour by getting people to use toilets and stop defecating in the open and two, sustaining the changed behaviour over time. The two extra "moves" make the SBM much more difficult to implement. When "judging" SBM, however, most commentators do not factor in the DoD factor in the implementation process.

The SBM's primary emphasis on the usage of toilets transforms it from an infrastructure-focused "toilet construction" programme to a much more complex behaviour change social revolution. The scale of the challenge at the start of the SBM in October 2014, changing the behaviour of 550 million people living in rural India, significantly added to the DoD. To compound the DoD further, the SBM was marketing a product (household toilets) for which, in most cases, there was no intrinsic demand.

Equilibrium in markets is more easily attained when demand matches supply. For example, electricity, roads and metro rail are all intrinsically in high demand by the intended beneficiaries. So, when supply of these products is facilitated by national flagship programmes, the markets reach some sort of equilibrium. The main challenge in the latter markets where demand exists is efficient and speedy implementation at scale, which is itself no easy task. The SBM "market", however, is more complex, where there is no inherent demand for "goods" (toilets) due to a "preference" for defecating in the open. From the supply side, therefore, the programme needed to provide both toilets as well as a behaviour programme at scale for changing preferences.

The gurus of marketing tell us that you may have a good product, but you still need to promote it because there may be other similar products in the market which compete with yours. In the case of the SBM, the major competition to toilets was the deeply ingrained habit of open defecation and cultural norm of not having a toilet near one's residence. While an electric bulb is clearly

preferred over a flickering lamp, a black top road over a kuccha path and rapid transit over traffic jams, the deeply ingrained habit of open defecation posed stiff competition to the alternative new products on offer: Toilet plus behaviour change. Demand for a toilet had to be stimulated to wean people away from the habit of open defecation and this was challenging.

When the prime minister addressed the nation from the Red Fort on August 15, 2014, and spoke about "dignity of women" and the importance of providing toilets to women and girls, many people were shocked because this was a departure from established tradition. The surprise was in part because sanitation was a far from obvious topic for a PM to talk about during his first major national address. But that speech helped to take the toilet out of the closet and put it out in the open, the first promotion of the product, and the first salvo against open defecation.

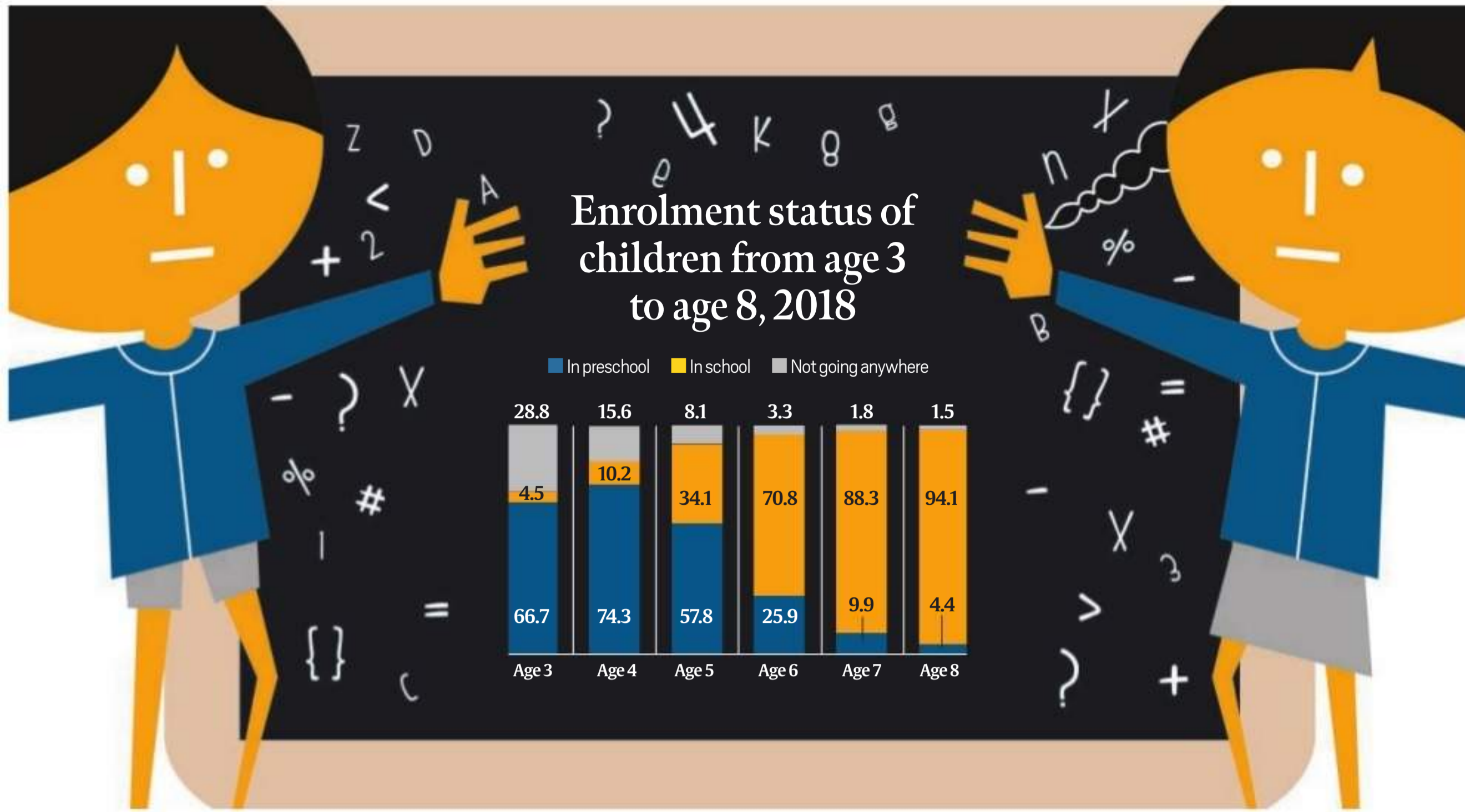
The four major challenges we faced were the 4 Ss: Scale — 550 million people needed to change their behaviour; Speed — the programme had to be implemented in 5 years; Stigma — centuries-old taboos, for example, it was impure to have a toilet inside or near the home, needed to be challenged; and Sustainability — having to make the recently changed behaviour stick. There was little prior experience of doing all this, which made the learning curve, and the degree of difficulty, even steeper.

Previous behaviour change attempts in sanitation had focused more on individual households. The SBM learned by doing that if the competing product to toilet usage was open defecation, then that had to be tackled not by engaging with individuals and trying to persuade them to "buy" our product — an individual household twin-pit latrine — but by marketing the product to an entire village community. This was done by using different "triggers" to convince them that open defecation was a public "bad" and that usage of toilets was a public "good". It took great effort to have trained village motivators (swachhagrahis) familiar with the local language and idiom work to convince the community as a whole that the health and dignity of the entire village were at stake if they persisted in open defecation. It was extremely painstaking work and it literally "took a village", peer pressure and whole-hearted community participation to make a village ODF.

The degree of difficulty was intensified by the fact that sustaining the change in behaviour is even more difficult than achieving it. To use electrical idiom, your campaign in poetry but govern in prose. Once the enthusiasm and energy of the ODF movement achieves its objective, sustaining the outcome in the cold light of the following day takes even more hard work by way of having systems and incentives in place.

Lessons from the SBM could be usefully applied to other programmes requiring intensive behaviour change campaigns at scale. Here, it would be useful if the diving analogy of DoD were applied to similar programmes attempting to market public good products not intrinsically in demand.

The writer is secretary, Ministry for Drinking Water and Sanitation. Views are personal



Mithun Chakraborty

What the children learn

ASER data underlines that early education is crucial, one-size-fits-all policy does not work



SUMAN BHATTACHARJEA AND PURNIMA RAMANUJAN

EARLY CHILDHOOD EDUCATION, or ECE, is included in the Sustainable Development Goals (SDGs) for 2030 that were approved by India among many countries around the globe. SDG Target 4.2 states that by 2030 countries should "ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education".

This global goal emerged thanks to extensive international research in disciplines as varied as neuroscience, psychology and economics, which show that early childhood — defined internationally as the age group of 0-8 years — is a critical period. During this time, the foundations of life-long learning are built, with 90 per cent of all brain development taking place by age six.

In India, too, the importance of early care and stimulation has been recognised in the National Policy on Early Childhood Care and Education (2013), which aims to provide "developmentally appropriate preschool education for three to six-year-olds with a more structured and planned school readiness component for five to six-year-olds." The recently created Samagra Shiksha Abhiyan scheme has also brought renewed focus and attention on ECE through the Integrated Scheme on School Education that aims to treat school education "holistically without segmentation from pre-nursery to Class 12".

There are currently two main avenues for accessing early childhood education in India. The most widespread comprises the 1.3 million anganwadi centres run by the Ministry of Women and Child Development across the country under the Integrated Child Development (ICDS) Scheme. The other is the burgeoning private sector, with more than 40 per cent of privately managed pri-

mary schools reportedly offering pre-primary LKG and UKG classes as well. Some states in India offer a third possibility as well, in the form of preschool classes integrated within government primary schools, for example in Assam and Jammu & Kashmir.

According to the RTE Act, enrolment in formal schools should begin at age six, with ECE exposure recommended for children between age three and six. However, 26 of India's 35 states and union territories allow children to enter Class 1 at age five. National trends from the recently released Annual Status of Education Report (ASER 2018) indicate that enrolment patterns broadly meet these policy prescriptions. At age three, two-thirds of children were enrolled in some form of preschool; while seven out of every 10 were enrolled in primary school at age six. But we also see that fairly large proportions of children are already in primary grades even at age three and four; and many are still in preschool at age seven and even eight.

As with many estimates at the all-India level, these national trends hide major variations, both across the country as well as at different ages. For example, at age three, national policy recommends that children should be in an ECE programme. Gujarat comes close to meeting the norm, with well over 90 per cent children in some form of preschool, the majority in ICDS Anganwadis. In contrast, in Uttar Pradesh, almost two thirds are not attending anywhere. At age four, almost a quarter of all four-year-olds in Rajasthan are already in primary school, with almost equal proportions in government and private schools. But in Assam, about seven out of 10 children are attending an anganwadi. At age five, nationally, about a third of all children are already in primary school. But in UP, close to two in every 10 children are not enrolled anywhere; and, in Rajasthan over 60 per cent children are in primary school. At age six, although all children are expected to be in primary school, over 40 per cent of all six-year-olds in both Telangana and Assam continue in some form of pre-primary class.

These varied pathways in the early years have major consequences for what children experience and learn along the way. From the perspective of the primary school, children in Class 1 are far from homogenous in terms of age. ASER 2018 data shows that na-

tionally, more than a quarter of children entering primary school are five years old or younger. Less than 40 per cent are at the mandated age of six years. And a third are seven or older. These age-grade distributions have obvious implications for teaching and learning. A four- or five-year-old child is simply not developmentally ready to handle Class 1 curriculum. From the point of view of a teacher, moreover, teaching the same content to a class with wide variation in students' age is not a trivial challenge. The requirement that teachers complete the curriculum for a given grade in a given year — and, by extension, that the children master the content being taught — does huge disservice to both.

The outcome in terms of learning is clearly visible. In the elementary school sector, ASER has demonstrated for more than a decade that getting all children into school, while undoubtedly a major achievement, does not by itself ensure that children are able to learn at the expected level. ASER data shows that gaps between what children can do and what is expected of them emerge very early in children's school trajectories and widen as they move through the system. A quick look at the Class 1 language textbook in any state provides a good indication of what children are expected to do during their very first year in school. But ASER 2018 data shows that even several months into Class 1, nationally more than 40 per cent of children are unable to recognise letters of the alphabet, let alone read words or connected text.

As implementation of the Samagra Shiksha Abhiyan rolls out across the country, ASER data on young children suggests that a "one size fits all" solution is unlikely to be successful. While helping children get a head start in the early years is important, it is critical to ensure that all stakeholders — parents, teachers, policy makers and textbook developers — understand that the key words are "quality" and "developmentally appropriate".

Bhattacharjea is director (research) and Ramanujan is senior research associate, ASER Centre, New Delhi

While helping children get a head start in the early years is important, it is critical to ensure that all stakeholders — parents, teachers, policy makers and textbook developers — understand that the key words are 'quality' and 'developmentally appropriate'.

the judicial verdict". It also asserts that if, as the chargesheet suggests, the event was organised on the occasion of the anniversary of Afzal Guru's hanging — which was also evident from the protests later held at Jantar Mantar — then, whether this act can be considered just as a criticism of the present government is the key question before the court.

"If the agitators have conviction about their 'Azadi slogans' and the organisation of the event called 'Cultural Evening' against what they called the 'Judicial killing of Afzal Guru', then they must stand up like Mahatma Gandhi and face the penalty as per the Constitution," the editorial claims. It further says that the reality is, neither the students nor their real masters in and outside the campus believe in Gandhi or Ambedkar. "They believe in Marxist Jihadism, the same mindset that criticised both Gandhi and Ambedkar when they were alive, and they are now using them to further their anti-Bharat, violent ideology. This hypocrisy is seditious and no sane voice would stand by the same," it states.

CRISIS DOWN SOUTH

ON THE RECENT political crisis in Karnataka, an analysis article in *Organiser* says that with hardly a few months in power, the minority JDS government of H D Kumaraswamy was teetering towards another political crisis, as

its disgruntled partner was threatening to plunge the state into chaos. "[The] Congress may have been 'delighted' at the 'lotus wilting' as the Independents ingratiate themselves back into the Congress fold, leaving the BJP in the lurch. Still, it is clear that all is not well with the Kumaraswamy government," the article claims. It further says that the state's political drama seems a lot like a prelude to the general elections. "For instance, BJP wants to show that the mahagadbandhan, be it at a regional level or national level, is bound to collapse. Similarly, by hook or crook, Congress wants to ensure that 2019 isn't easy for PM Modi. So the unholy alliance will continue till the Lok Sabha polls," the article asserts. It adds that Karnataka politics suffered a crisis as seat-sharing talks for 2019 began between the JDS and Congress. "Congress pressurised Kumaraswamy to implement their manifesto — loan waiver to farmers. Only 800 farmers' loans were waived. PM Modi criticised the Congress-JDS coalition for failing to implement its election manifesto. When irritations begun to surface, obviously the Congress lost foothold. Siddaramaiah played his cards well. His son becoming chief minister revived the dream of father H D Deve Gowda of becoming the Prime Minister yet again. This is another major jolt for the Congress," the analysis article reads.

It adds that whatever is happening is not

politics based on ideological issues, but on lust for power and competition for the caste and religion-based vote banks. The two dominant castes — Lingayats and Vokkaligas in Karnataka — encouraged by political coercion, also play district-level politics.

POLITICS AND FARMERS

AN ARTICLE IN *Organiser* on farmer distress and loan waivers suggests an urgent, holistic review of agricultural policies. It states that if the politics over farm loan waivers is not stopped, then the economy of the country will be crippled. These remarks in the RSS mouthpiece came a few days after the new Congress-led governments in Rajasthan, Madhya Pradesh and Chhattisgarh promptly announced farm loan waivers.

The article claims that the government must set up either a Parliamentary Committee or an Experts Commission to undertake a de novo holistic review on "farm loan waivers" based on criteria and conditions specific to each region and category of farmers. It further suggests that all political parties must stop indulging in popular but economy-sapping "farm loan waivers" and "farmer" distress" as part of their desperate vote bank politics.

(compiled by Lalmani Verma)

LETTER TO THE EDITOR

APATHETIC BJP

THIS REFERS TO the editorial, 'Misreading Northeast' (IE, January 22). Cometh the elections, cometh the populist agendas. The Citizenship (amendment) Bill is nothing but a political gimmick used by the BJP to consolidate its traditional votebank. The ruling party has been totally apathetic to local sensitivities. The ethnic sovereignty of the entire Assam region has been jeopardised because of this bill. The Centre needs to listen to the dissenting voices. The framers of our Constitution would never have imagined granting citizenship on a religious basis.

Apurva Singh, Hyderabad

LEADERS GALORE

THIS REFERS TO the editorial, 'Question of answers' (IE, January 22). The Mahagadbandhan seems to lack clarity on fundamental issues such as who will spearhead the movement to stall the Modi-Shah electoral juggernaut in 2019. As the date nears for the general election, one can foretell confusion and conflict emerging with many regional leaders rushing to forge a combined unity. It is also likely that the Congress, keeping to its dynastic practice, could push forward Rahul Gandhi.

HR Bapu, via email

HEARTS AND MINDS

THIS REFERS TO the article 'The afterlife

LETTER OF THE WEEK AWARD

To encourage quality reader intervention, The Indian Express offers the Letter of the Week award. The letter adjudged the best for the week is published every Saturday. Letters may be e-mailed to editpage@expressindia.com or sent to The Indian Express, B-1/B, Sector 10, Noida-UP 201301. Letter writers should mention their postal address and phone number.

THE WINNER RECEIVES SELECT EXPRESS PUBLICATIONS

of Section 377 (IE, January 22). Does liberal law translate into liberal society? This was not the case when Section 377 was decriminalised. The main struggle for LGBT people's social acceptance. The social mindset needs to be changed before LGBT community can freely exercise their "right to love". We don't need thousands of laws but one law and a thousand ways to implement it.

Divya Singla, Patiala