WORDLY WISE

ALL YOU REALLY NEED TO KNOW IS THAT THE UNIVERSE IS A LOT MORE COMPLICATED THAN YOU

MIGHT THINK. — Douglas Adams

The Indian EXPRESS

∽ FOUNDED BY ∽ RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

THE DAY AFTER

Pakistan must promptly return the IAF pilot; next steps need caution and counsel, not silly TRP bluster

NDIA HAS ACKNOWLEDGED that an Indian Air Force pilot is missing in action. In a video released by Pakistan, the blindfolded person has identified himself to his captors as Wing Commander Abhinandan Varthaman. India has lodged a protest ▲ at the acts of aggression by Pakistan on Wednesday — including the violation of the Indian air space by the Pakistan Air Force and targeting of Indian military posts — and objected to Pakistan's "vulgar display of an injured personnel of the Indian Air Force in violation of all norms of International Humanitarian Law and the Geneva Convention". It is imperative that Pakistan declare the IAF pilot a prisoner of war and apply the Third Treaty of the 1949 Geneva Convention. The convention, to which both India and Pakistan are signatories, decrees that combatants of one side taken captive by the other, must be treated in a humane manner, should not be subjected to torture, their medical needs met, and that they must be treated with dignity.

Pakistan must return the IAF pilot home safely. But, in the aftermath of the "non-military pre-emptive strike" at Balakot by India, following the attack by the Jaish-e-Mohammad in Pulwama, the missing pilot also casts a wider responsibility. He is a reminder that conflict between nations has a terrible human toll, that it is a price that is always too high to pay. It is a cost, moreover, that imposes a duty on all — government, political leaders, media and civil society — to speak carefully and act with sobriety. It needs to be recognised that the events over the last couple of days may be the beginning of a long haul and that in these times, every step has consequences.

The aerial strike on terror by the Indian Air Force inside Pakistan has undoubtedly set a new course in relations between the two neighbours. But the way forward will need to be negotiated day by difficult day. So far, across party lines, India's political class has conducted itself with restraint. The same cannot be said, unfortunately, for studio-warriors on television, where, all too often, an unseemly and immature war-mongering is on display. If there was no room for triumphalism after the Indian operation, there is less room now for panic or for calls for escalation. India's TV warriors, and those who raise the pitch from their perch in social media spaces, must realise the obvious: It is all very well to talk up war and quite another to face its full impact. There will be next steps. A dossier was handed over to the Pakistan side on Wednesday with details of JeM complicity in the Pulwama terror attack and the presence of JeM terror camps and its leadership in Pakistan. Pakistan's response, or lack of it, must be assessed in the light of a calmer day.

LITTLE, LATE

PM-Kisan is a good idea. But the scheme raises questions about its design and efficacy

HAT DIRECT CASH transfers (DCT) are the best way to support farmers — as opposed to subsidised supply of fertiliser and electricity or physical purchase of produce at above market prices — is a well established fact. The launch of the Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) by Prime Minister Narendra Modi on Sunday is, therefore, welcome, except that it is too little too late. The scheme provides a flat Rs 6,000 per year to all small and marginal farmers owning up to 5 acres of land — an estimated 12 crore — payable in three instalments. There is no crop with a basic cultivation cost below Rs 10,000 per acre today. An instalment of Rs 2,000 under PM-Kisan would enable a farmer to barely buy Bt cotton seeds for two acres, meet his fertiliser requirement of wheat for two-thirds of an acre or harvest cane from one-sixth of an acre. So, even if the money is transferred directly into the farmer's Aadhaar-seeded bank sans any leakage, its utility from a purely agricultural standpoint is quite limited.

Equally questionable is the timing. If the objective was to help farmers with even one instalment, howsoever little, why announce the scheme so late — in the Interim Budget on February 1 — and set a deadline of February 20 for submission of applications? Giving state governments such a narrow time window and then blaming them — especially those ruled by the Opposition — for not showing interest in the scheme smacks of political opportunism. On the other side, Telangana and Odisha have come out with DCT schemes that, even if primarily politically-inspired, are more meaningful and effectively designed. If farmers, especially those with small marginal holdings, are provided DCT covering even up to a fifth of their total input costs, it is a cost worth bearing. And it can be borne jointly by the Centre and the states.

The Centre alone has, for 2019-20, budgeted a mammoth Rs 2,77,206 crore towards food, fertiliser and crop loan subsidies. This is over and above the Rs 75,000 crore provision towards PM-Kisan. By abolishing the subsidy on fertiliser and farm credit — both of which have no real economic rationale — and limiting that on food to maintaining a minimum buffer stock to enable market intervention if necessary, it would be possible to create a Central DCT fund. The money from this can be used not only for resource-poor landowning farmers, but even share-croppers, landless agricultural labourers and other vulnerable households in both rural and urban areas. Such support is welcome, especially because it is not market-distorting. And with Aadhaar-seeded bank accounts and digitisation of land records, it can be well-targeted too.

NEED FOR SPEED

The universe is expanding 9 per cent faster than was previously thought, and cosmologists are using antigravity to catch up

HEN A GOVERNMENT prints cash to cover a deficit, that's bad economics. But when string theorists deploy antigravity to make up for a deficit in their models of the universe, it could be good physics. But dreaming up hitherto unimagined subatomic particles to explain the difference could be just as good. Choices, choices. There's a universe-load of choices out there, and it's creating much confusion in physics, much more than a fat finger could possibly do on the trading floor.

The source of the confusion is the Hubble constant, an index of the rate at which galaxies are flying apart in a universe which has been expanding at breakneck speed since the Big Bang. In 1929, Edwin Hubble discovered that the universe is expanding, and spectroscopy showed that distant galaxies are receding from us at a faster rate than nearer galaxies. And ever since, boffins from all over have been calculating the Hubble constant — the ratio of how fast a galaxy is receding to how far away it is. While the Planck space probe's figure, based on images of the early universe, was much admired — stuff from space generally is — it is at odds with recent work, which agrees on a different figure and

shows a faster-moving universe. And so the cosmologists at Johns Hopkins University have proposed an antigravity field which appeared 1,00,000 years after the Big Bang, about when Brahma had just had time for one eyeblink, and then disappeared. The hypothesis is based on string theory, which is itself purely theoretical and unproven. But then, the entire edifice of contemporary physics rests on that very theory, and who are we to complain if physicists don't? As Kurt Vonnegut, the perceptive philosopher who was often mistaken for a fiction writer, often wrote, "so it goes".

Courage under fire



With pre-emptive strike across LoC, IAF has demonstrated ability to perform complex missions

S Krishnaswamy

FEBRUARY 26, 2019, will go down as a historic day for the Indian air force (IAF). On this day, it was called upon to conduct a pre-emptive strike against a Pakistani terrorist camp at Balakot. This operation was conducted on a dark night by 12 Mirage-2000 aircraft in a surprise attack, operating from Gwalior. The mission was supported by SU-30MKI, Netra AWACS aircraft and an unspecified number of tanker aircraft. All the aircraft reportedly reached home safely after conducting the mission. The government has called it a "non-military pre-emptive strike", but the aim of the mission was retribution for the attack by Pakistan-sponsored terrorists on the CRPF convoy at Pulwama in which 40 CRPF soldiers were killed.

For the first time since Independence, the IAF has been recognised as being capable of operating independently when the element of surprise, speed and assured results were warranted. It is a proud moment indeed for the whole nation to see the IAF rise to the occasion and reportedly execute such a critical mission to perfection.

The mission launched was a complex one. It required excellent coordination between a variety of aircraft as well as diverse skills, which were amply demonstrated. The attack was reportedly spearheaded by 12 Mirage-2000 aircraft. The spearhead was supported by Netra, the indigenous Airborne Warning and Control System (AWACS) comprising detection radar and systems with the ability to monitor an adversary's air activity and transmissions and accordingly control the strike elements. Conceived by the IAF and designed by the DRDO to support and accompany strike missions, the Netra is small, reasonably fast and more manoeuvrable compared to its larger counterpart, the IL 76 AWACS of the IAF. This is the first time that the Netra has been used to support an offensive mission. The DRDO deserves a pat on its back.

Additionally, it is reported that SU-30 aircraft were used to mount patrol. Their purpose was to engage enemy interceptors launched against the strike elements. Their job was to protect the strike elements and en-

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sure that the mission goes through. Precisionguided weapons and sensors like the Litening Targeting pod that were employed are sophisticated systems which require highlytrained engineers and technicians to prepare. A host of ground radar and communication stations would also have been present to support the mission and to ensure that civil air flights are not disturbed. Aerial tankers were deployed from Agra to refuel the strike formation that took off from Gwalior on a 2,500km round trip. Twelve Mirages had to be refuelled, presumably by two-three tankers, while in flight. It is not an easy exercise for 12 fully-loaded fighter aircraft to meet up and plug with the tankers on a dark night. It requires considerable skill and coordination. Considering that the mission was flown

between 2 and 5 am on a pitch-dark night, there was no room for error. The target itself was "buried" in foliage and surrounded by hills. It would be impossible to spot these in the dark without the aid of FLIR or other night-vision devices. The pilots would have to release the weapon flying low and fast in the dark, over hilly terrain on the very first pass and with no possibility of a re-run. These are demanding conditions not just for the pilots but for every member of the task group. Even if all goes as per plan, there are still many unknowns like the enemy air defence systems that impose the highest risks. These challenges require not luck but hard training and confidence. The IAF brilliantly demonstrated these qualities in mounting the mission. There is an equally large number of professionals that would have worked 24x7 analysing intelligence reports and planning the missions to the minutest details. Carelessness in planning could have imposed severe risks on the mission.

The nature of democracy is such that a civilian government would seldom know the complexities of military operations, especially about the employment of advanced technology and skill-based operations. It is important that a competent advisory body is available to the government within the political system. Such consultation is essential in any large defence-related project and the management of PSUs and DRDO. It is vital that the Minister of Defence conducts regular reviews of the capabilities of the military, the state of inventory and training standards. The minister's participation at the Commanders Conference is often more of a ritual than an occasion to conduct an indepth review of the issues that affect the quality of life and operational capability of our armed forces. Cost-effectiveness in management should seriously be pursued.

It is the responsibility of the government to consider all military options when it becomes inevitable to use force. For a developing economy, war is never an easy option. Military operations have reactions that can affect the economy, growth and infrastructure quite severely. Besides, the loss of the lives of and serious injuries to a large number of able-bodied youth in uniform is something that the country cannot afford Only an extreme provocation can influence the government to use force.

The success of the pre-emptive mission is only the start but and not an end in by itself. The adversary is bound to react. Professionalism demands anticipating every move of the adversary and to be ready to face it. It is akin to getting into a boxing ring and delivering the first punch. One must know how to duck and give the counter punch. Combat operations are unforgiving and they have no place for emotion. The fighter pilot is alone in the cockpit; he fights to kill or to survive. Mission planners and leaders must be adaptive. The LoC is just a line on a map, lighter than the national border and could be easily ignored when compelled. Rules that apply to us may not be respected by the adversary. Their words cannot be trusted. Our forces must have reserve tactics and missions up their sleeve. Battles lead to the destruction of those who are weak-minded or lack skills or both. Winners do not hesitate to hit hard. But they also have the resilience to take a hard punch and get up again.

> The writer is a former chief of the Indian air force



WHEN NUMBERS LIE

Some institutions need to be kept above the realm of politics

Yoginder K Alagh

WE HAVE SEEN and heard many strange notions and events in the last quinquennium – and, it must be admitted, we are lucky in saving money otherwise spent on entertainment because of such bizarreness around us in ready supply. For, where else would political news provide such fun, other than in Bharatvarsha? But, the notion that the largest sample statistical survey in the world our National Sample Survey — is fake news, takes the cake and can only lead to much merriment.

The Indian National Sample Survey is respected the world over. Not just because of its size, but also for its sample design, that uses methods honed by some of the world's most reputed statisticians. Also, it is well known for methods that keep a tight control on errors.

That the statement — of NSS being "fake news" — comes from an authority-figure like a Union minister, only adds to the merriment and is laughable. There is no other way to treat this news. Otherwise, one can only cry. Perhaps that will become imperative once we are told that the weather is also fake news. Although that is a statement I need to believe. With one of my lungs working at 40 per cent efficiency level, as I breathe the Delhi air on my walks, I really need to believe that Delhi air, with all its pollution levels is, in fact, "fake news".

On a more serious note, though, since all parties play around with statistics and quote

not pressurise and ensure that some areas be kept above politics, as in most civilised countries? Just as in the case of the meteorological department, if the measuring rod is destroyed, we have no way of actually telling the weather. We would have to rely only on speculations. Is debunking adversaries in democratic

numbers only when it suits them, should we

societies, particularly as it gets closer to election time, clever? Criticism of opponents is the essence of politics in free societies. But if all of it is wild criticism with little to do with reality, then such criticism simply appeals to a fanatical fringe.

The derision of an opponent regime is one issue. But the reversal of institutions is entirely another. For instance, V P Singh's regime derided technology planning, abolished five-year plans, went slow on Panchayati raj and stopped action on the zonal agro-climatic plans, much to the chagrin of environmentalists like Anil Agarwal The additional secretary in charge of banking left because he felt unfair critiques led to the run on the rupee in the early Nineties.

The PV Narasimha Rao and Manmohan Singh governments paid lip service to the Eighties, but kept up the attack on received institutions after the devaluation, in the process of "reform". By now the model of "adding on" to something (like an institution or policy) without quite destroying it was well developed. Real reform was never implemented.

The Gandhi and Nehru way had always been to construct better worlds for the future, but on solid foundations. Land rights, for example, followed the abolition of the zamindari system. However, more importantly, you don't just destroy one system without offering any valid reason and without any positive alternative. But these are different times when discussion and actionable policies are not based on serious foundations: In such circumstances, leaderships and the system itself gets eroded. Republics fall.

Perhaps it is too optimistic to expect the country's political system to accept a universal code that some "measuring rods" (such as the NSS) have to be above controversy. Maybe we should go back to the drawing board. Perhaps, we can start in every mohalla a debate on the "Minimum Code of Behaviour"? As the Gandhian, the late Chunni Kaka (Chunni Vaidya), told me, "We have to do something, Alagh Saheb". So, tomorrow when you go for a walk, will you stop a few friends and spend a few minutes asking them their thoughts on the "Truth Imperative in Civic Behaviour"? Also try the same at the next social event you go to? Ask the question and force an answer. The priority right now is to fight those who lie by calling the truth "fake".

> The writer is an economist and a former Union minister

February 28, 1979, Forty Years Ago

Banarsi Das Is CM THE BLD-DOMINATED MINISTERIALISTS avenged their defeat of February 15 in the Uttar Pradesh Janata Party by getting their candidate, Banarsi Das, elected leader of the Janata legislature party, defeating the Jan Sangh-dominated pro-changers nominee, Raj Mangal Pandey, by a margin of 35 votes. Das will be sworn in as the CM tomorrow at 11 am at Raj Bhavan. He met the Governor G D Tapase and informed him about his election. The 67-year-old will be the second Janata CM within 20 months, succeeding Ram Naresh Yadav. As soon as the results were announced, the ministerialists raised

slogans in favour of Charan Singh.

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CABINET FORMATION FORMAL CONSULTATIONS ON the formation of the new ministry in Uttar Pradesh will begin in New Delhi after the arrival of the new UP Janata Legislature Party leader, Banarsi Das. Das will be sworn in as chief minister tomorrow and plans to fly to the capital in the afternoon. The main controversy will be about the participation of the Jan Sangh group in the new government. The BLD faction leaders and the chief minister-designate, an erstwhile old Congress stalwart, have been openly attacking the Jan Sangh constituent. But it is doubtful if a ministry can survive for long without the support of the Jan Sangh fac-

tion, which constitutes a 96-member sold

bloc in the state assembly.

FIGHT IN VIETNAM

VIETNAM HAS SAID that fierce fighting is going on in a border province north-west of Hanoi where the country's forces claimed to have put out of action 800 more Chinese soldiers. The Voice of Vietnam from Hanoi said in its latest battle report that including the 800, a total of 2,200 Chinese had been eliminated in Hoang Lien Son province in the past three days. The fighting is said to be concentrated in the Cam Duong area, which sits astride the Red River delta corridor, which runs from the frontier to the Vietnamese cap-



15 THE IDEAS PAGE

WHAT THE OTHERS SAY

"Modi's Kashmir policy has further alienated people of Kashmir and any effort to dilute the special status of the territory will surely make matters worse."

—THE EXPRESS TRIBUNE

The subject is national security

The size of the middle class, timing of the current India-Pak clashes, and the nature of the regime in Delhi will shape the narrative in days to come



ASHUTOSH VARSHNEY

CAN INDIA-PAKISTAN tensions alter India's election scenarios?

Let us begin with the existing knowledge about the determinants of electoral behaviour. A distinction between mass politics and elite politics is relevant here. Historically, national security has been a matter of grave contestation in elite politics, but it has never inspired great passion in mass politics. The primary drivers of India's mass politics have been religion and caste on the one hand, and prices and poverty on the other.

India's countryside, where 65 per cent of the nation still lives, is the largest theatre of mass politics. Rural politics has generally been driven by caste (more so than religion), or when the rural economy runs into an abyss, by agrarian unrest. National security might grab the attention of TV channels and newspapers, but its reach rarely spreads beyond the urban middle classes. Security scholar Ashley Tellis has famously argued that India has always viewed itself as a developmental state, hoping the problem of national security would disappear. It does not. Yet, popular energies never focus on national security. According to this reasoning, until India is significantly more urban and considerably richer, national security will be irrelevant in electoral politics. Does this argument still hold? There are

three reasons to doubt its continuing validity: The size of the middle class, the timing of the current clashes, and the nature of the regime Larger than ever, the middle class consti-

tutes at least a third of the nation today. An estimated 41 per cent of the population is also, by now, online. While the tremors of Kandahar (1999) could not travel far and wide, and Mumbai (2008) did not penetrate the consciousness of the rural electorate, the current national security discourse has a much wider ambit. The urban population is also rapidly growing. Even if villages were to remain largely unaffected by national security issues, the urban vote, on the margin, could be decisive. Recall what happened in Gujarat in December 2017. The Congress won the rural seats convincingly, but it lost in the state as a whole because the BJP's stellar urban performance — added to its second-place rural showing - placed it ahead. Margins may now matter more than the averages.

Also qualitatively different is the timing of the new tensions. Virtually all great past episodes of national security were distant from the national elections. The India-China war of 1962 broke out months after the third general election, the 1965 Indo-Pak war preceded the fourth general election by two years, the 1971 war against Pakistan came several months after the fifth general election, the Kandahar crisis erupted after the 1999 parliamentary elections, the 2001 attack on India's parliament was out of sync with the election cycle and the Mumbai attacks took place five months before the 2009 elections.

Though different from the current conflict, Kargil was similar to it in terms of timing. The conflict flared up two-to-three months before the 1999 general elections. But recall how small the urban middle class



Suvajit Dey

was in 1999, and also how minuscule the cell phone and internet penetration was. Besides, Bill Clinton's decisive intervention ended the conflict in early July; it did not last till the election. Any more retaliation and counter-retaliation will bring the current conflict remarkably close to the election cycle. That is why Pulwama and Balakot are more electorally

significant than the earlier security episodes.

The nature of the regime in Delhi is the third most important variable. Hindu nationalists have always been tougher on national security than the Congress. And, with rare exceptions, national security does not dominate the horizons of regional parties, governed as they are by caste and regional identities.

Prime Minister Narendra Modi has grown up in an organisation that believes in the folk dictum, laaton ke bhoot baaton se nahin maante (some people will always respond to force, not dialogue). If one talks to Hindu nationalist cadres, one often hears this aphorism. The ideological texts of Hindu nationalism also repeatedly speak of how only coercion and power can discipline a country like Pakistan (and Muslim assertion generally). Among the stalwarts of Hindu nationalism, only Atal Bihari Vajpayee departed from its core ideology, resolutely seeking peace and reconciliation. Within 15 months of a Jaish attack on Parliament, Vajpayee sent the country's cricket team to Pakistan, arguing khel bhi jeeto aur dil bhi (win games as well as hearts). Modi is no Vajpayee.

The point is not that the Pulwama attack did not deserve a response. It did. Or that India-focused terrorists are not protected by Pakistan's deep state. They are. Security scholars have no doubt that Pakistan has had two types of terrorist organisations: Those opposed to the Pakistani state, whom the armed forces crush and those fighting India, whom the military protects and uses as assets. With very few exceptions, governments

We will also witness the reappearance of an obdurate historical symbiosis: As unrest in Kashmir

significantly worsens, Pakistan fishes in troubled waters, and as India-Pakistan head towards conflict, Kashmir's genuine grievances return to the backburner. By relying heavily on coercion and thereby intensifying Kashmiri alienation, the Modi government has wasted the political advances made in Kashmir by Vajpayee and

all over the world also believe that this systematic duality persists.

Pulwama was an invitation to Modi to show his Hindu nationalist toughness. Given the proximity of elections, an absence of response would have hurt Modi, opening him up for ridicule in the election campaigns. Not acting tough was not an option, though acting tough may not solve the problem.

We will also witness the reappearance of an obdurate historical symbiosis: As unrest in Kashmir significantly worsens, Pakistan fishes in troubled waters, and as India-Pakistan head towards conflict, Kashmir's genuine grievances return to the backburner. By relying heavily on coercion and thereby intensifying Kashmiri alienation, the Modi government has wasted the political advances made in Kashmir by Vajpayee and Manmohan Singh. But now that a full-scale national security dynamic is taking over, few inside India will focus on Delhi's failures in Kashmir.

India is perhaps headed towards its first national security election ever. Security will compete with unemployment and farm distress as a critical election issue, and depending on what happens to Indo-Pak tensions, it might even eclipse the significance of economics. If Pakistan goes for a military retaliation, which hurts India significantly, that might just gift an election victory to Modi, who looked quite vulnerable only a few weeks ago. Dealing with him will, of course, be tougher in the long run.

Caught in a quandary, India's Opposition parties will also think about how to change the narrative before the elections. Their task is much harder now.

The writer is Sol Goldman Professor of *International Studies and the Social Sciences* and Professor of Political Science at Brown University, where he also directs the Center for Contemporary South Asia

How to kill a forest

Studies show Adivasis have preserved biodiversity. SC verdict turns a blind eye to such knowledge



A R Vasavi

THE RECENT SUPREME Court judgment (in the writ petition (civil) No 109/2008) has evoked much ire and anxiety, and the first reactions to the judgment have been against the suggestion that Adivasis and forest-dwellers be evicted. However, the petitioners, all conservationists, have qualified the objectives of their petition and highlighted the case for safeguarding the forests against "bogus claims to forest rights", calling for the state to take action against the loss of forest cover. Even if we accept their standpoint as valid and read the judgment as an attempt to address the maladministration of forests, we must recognise the long-term neglect of the rights of Adivasis and forest-dwellers.

The context, process, content, and implications of the judgement indicate that forests have, over the past two decades, become the new contested arenas between not only a range of people — Adivasis, other traditional forest dwellers and outsiders but also between them and nature conservationists, the forest department, the extractive mining industry, the eco-tourism industry and a faltering political and administrative apparatus. Far from Jawaharlal Nehru's commitment — based on Verrier Elwin's advice that the tribals of India be allowed to have their own habitats and autonomy — and the Constitution's consideration of Scheduled Areas, where tribals were to have special rights, we have seen the adverse integration of tribals into the most exploitative labour regimes and the most indifferent forms of administration. Displaced and hounded out of their original habitats, Adivasis are now largely internally-displaced refugees.

Hounded for the mineral wealth that their lands contain, cheated out of land rights by money lenders, and, caught between left-wing mobilisation, a life of penury and rampant alcoholism, many Adivasi communities live a disturbed life. Add to this pile of exploitative ventures, nature conservation programmes such as "Project Tiger" that seek to restore forests as pristine nature spaces. These programmes have transformed forest-dwellers and turned Adivasis into eco-refugees. Such re-territorialisation of forests into

"nature only" spaces has not led to any restoration of these tracts. Instead, in most cases, the original inhabitants live in impoverished colonies outside the sanctuaries and parks while the forest department's writ runs large over these terrains. Even as illegal regimes of forest extraction continue, administrative laxity has permitted the growth of a nature tourism industry. This industry uses the tag of "eco-tourism" to legitimise its presence in these forests.

If the petitioners are concerned about the degraded and shrinking forest cover, the question arises as to why they have sought administrative corrections only

when the cases pertain to the allocation of land under the Forest Rights Act. Why has the despoliation of India's forests by the mining, timber and tourism industries not been addressed? How can the presence of large resorts and the heavy footfall of tourists on these sites be legitimised while the rights of their original inhabitants remain challenged?

Adding to the depletion of their habitats are a range of government programmes that go against the ways of lives of the Adivasis. Poor quality education means that these communities are not able to access mainstream advantages. At the same time, they have not been enabled to relate to their worlds. More recently, they have become targets of the Hindutva networks' attempts to draw them into their ambit.

The Forest Rights Act was passed to enable them to regain their lost habitats. But there has been a failure of political will to implement this piece of legislation. That a large number of bogus claimants have emerged is indicative of the contest for forestland, which has been abetted by poor administrative measures. Further, the Adivasis' lack of political constituency was evident from the fact that the Ministry of Tribal Affairs (MoTA) and the Department of Forests and Environment did not bother to attend some of the hearings.

The judgment, despite the delay of nearly a decade, is myopic and undemocratic. It fails to provide a roadmap of how justice could be delivered to genuine forestdwelling communities and address the issue of conserving and rejuvenating forests. Oblivious to the inadequacies of the administrative apparatus, the judgment stipulates the draconian measure of eviction. The petitioners noted that the fragmentation of forestland is one of the key reasons for the failure to restore and conserve fragile ecological spaces. Studies indicate the strength of tribal knowledge of forests and ecological resources. Such knowledge

enabled not only the conservation of flora and biodiversity, but also that of fauna. In the context of the negative fallout of decades of intensive chemical and technology-based agriculture and the recent impact of global climate change, which threatens natural resources and food production, it may be important to draw on such knowledge systems.

Today, the Adivasi has become a pawn in the games that an indifferent polity, a corrupt administrative apparatus and an aggressively ambitious dominant society are playing. Rendered into being subjects who cannot even represent themselves, the Adivasis must see this judgment as an occasion to assert themselves. Instead of seeking land rights on an individual bases, an Adivasi resurgence can claim collective rights on a format that recognises clan/tribal affiliation and work/production plans that can include restoration of habitats, ecological sustainability and autonomous governance. The strength of India's democracy is that it recognises the pluralism of Indian society. If we are to safeguard this, the Adivasi must be recognised as key dramatis personae on the national stage.

> The writer is a social anthropologist, based in Karnataka

LETTERS TO THE EDITOR

END THE SILENCE

THIS REFERS to the editorial, 'Whisper no more' (IE, February 27). It is now high time that menstrual issues are discussed without any stigma or discrimination. It is disheartening to see that patriarchal norms force women to suffer unhygienic practices, shame and the possibility of serious disease. This discussion has just begun and there is a long way to go.

Divya Singh Singla, Patiala

DEBATING STRIKES

THIS REFERS to the editorial, 'The new red line' (IE, February 27). The best part about the air attack by IAF was that it caught Pakistan unprepared. In anticipation of another surgical strike along the LoC, it shifted many terrorists and trainers to a safer zone. Kudos to our intelligence system which provided crucial inputs. We must remember that it was first air attack after 1971 and that the country know its capabilities and has demonstrated it to the world. Pakistan will off course retaliate and the country needs to be on guard.

Bal Govind, Noida

THIS REFERS to the editorial, 'The new red line' (IE, February 27). While we congratulate ourselves over successful strikes on terror camps, one wonders if the problems in Kashmir can be contained in this manner. The government must reach out to the people of Kashmir, win their trust and address their problems.

Sangeeta Kampani, Delhi

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

or sent to The Indian Express, B-1/B, Sector 10, Noida-UP 201301. Letter writers should mention their postal address and phone number.

editpage@expressindia.com

THE WINNER RECEIVES **SELECT EXPRESS PUBLICATIONS**

CLEANING AIR

THIS REFERS to the article, 'The thing about air' (IE, February 26). Merely "political will" will not solve the problem of air pollution. "Social will" is also required. Air purifiers have become household necessities like air conditioners. There is a large market for this device. But this means that we have become dependent on another machine, and are not addressing the environmental reasons for the problem.

Anshuman Singh, *Lucknow*

Rules for the machine

There is need for a legal, organisational framework to regulate bias in algorithms

Manmohan Singh.

SOHINI CHATTERJEE AND SUNETRA RAVINDRAN

WHAT IS AN algorithm, and what is the big deal about permitting it to make decisions? After all, it is merely a set of instructions that can be used to solve a problem. The reasons for the increasing reliance on algorithms are evident. First, an algorithm can make decisions more efficiently than human beings, thus indicating its superiority to human rationality. Second, an algorithm can provide emotional distance — it could be less "uncomfortable" to let a machine make difficult decisions for you.

However, algorithms are susceptible to bias — and machine learning algorithms are especially so. Such bias may often be concealed until it affects a large number of people. We should examine their potential for bias as algorithms are being used to make evaluative decisions that can negatively impact our daily lives. Algorithms are also dictating the use of scarce resources for social welfare.

The use of AI in governance in India is still nascent. However, this will soon change as the use of machine learning algorithms in various spheres has either been conceptualised or has commenced already. For example, the Maharashtra and Delhi police have taken the lead in adopting predictive policing technologies. Further, the Ministry of Civil Aviation has planned to install facial recognition at airports to ease security.

The primary source of algorithmic bias is its training data. An algorithm's prediction is as good as the data it is fed. A machine learning algorithm is designed to learn from patterns in its source data. Sometimes, such data may be polluted due to record-keeping flaws, biased community inputs and historical trends. Other sources of bias include insufficient data, correlation without causation and a lack of diversity in the database. The algorithm is encouraged to replicate existing biases and a vicious circle is created.

It is worth remembering that algorithms are premeditated to differentiate between people, images and documents. Bias can lead algorithms to make unfair decisions by reinforcing systemic discrimination. For example, a predictive policing algorithm used for foretelling future crimes may disproportionately target poor persons. Similarly, an algorithm used to make a hiring call may favour an upper-caste Hindu man over an equally qualified woman.

The extant law in India is glaringly inadequate. Our framework of constitutional and administrative law is not geared towards assessing decisions made by non-human actors. Further, India has not yet passed a data protection law. The draft Personal Data Protection Bill, 2018, proposed by the Srikrishna Committee has provided the rights to confirmation and access, sans the right to receive explanations about algorithmic decisions. The existing SPDI rules issued under the IT Act, 2000 do not cover algorithmic bias.

Possible solutions to algorithmic bias could be legal and organisational. The first step to a legal response would be passing an adequate personal data protection law. The draft law of the Srikrishna Committee provides a framework to begin the conversation on algorithmic bias. The right to the logic of automated decisions can be provided to individuals. Such a right will have to balance the need for algorithmic transparency with organisational interests.

Second, a general anti-discrimination and equality legislation can be passed, barring algorithmic discrimination on the basis of gender, caste, religion, sexual orientation, disability etc in both the public and private sectors.

Additionally, organisational measures can be pegged to a specific legislation on algorithmic bias. In the interests of transparency, entities ought to shed light on the working of their algorithms. This will entail a move away from the current opacity and corporate secrecy. However, considering the complexity of most machine learning algorithms, seeking absolute transparency alone may not be practical. Instead, mandating accountability from

developers and users is expedient. Developers should design fair algorithms that respect data authenticity and account for representation. Further, organisations could develop internal audit mechanisms to inspect whether the algorithm meets its intended purpose, and whether it discriminates between similarly placed individuals. Organisations could also outsource the auditing to certified auditors.

Entities relying on evaluative algorithms should have public-facing grievance redressal mechanisms. Here, an individual can confirm that an algorithm has been used to make a decision about them, and the factors that prompted it. An aggrieved individual or community should be able to challenge the decision. Finally, the use of algorithms by government agencies may require public notice to enable scrutiny.

Considering their pervasiveness, algorithms cannot be allowed to operate as unaccountable black boxes. The law in India, as well as companies reaping the benefits of AI, must take note and evolve at a suitable pace.

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