

What's in a Surname?

The Khasi-Jaintia tribes of Meghalaya are among the few remaining matrilineal societies in the world. Some men would like to change that



GETTY IMAGES

Meghalaya: A Snapshot

POPULATION: **29.67 lakh**



FEMALE
1,475,057



MALE
1,491,832

SEX RATIO: 989

AREA: 22,429 sq km



LITERACY
74.43%



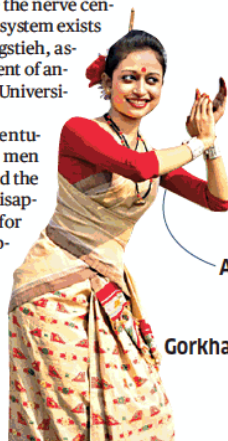
Source: Census 2011

:: Smita Pranav Kothari

Marbakynsai Marbaniang, 37, guffaws as he recalls the time he moved into his wife's mother's house in Sohryngkham 10 years back. "Even the way you press Colgate is different," he says. Before getting married, he used to press the toothpaste from the bottom. Now he presses the tube from the top.

Marbaniang is among some 1.7 million people belonging to the Khasi-Jaintia Scheduled Tribes (ST) of Meghalaya, who follow the matrilineal system. Unlike most of India, where a sobbing bride moves into her husband's house, a man in Meghalaya "adjusts" in his wife's house after nuptials. Apart from the Khasi-Jaintia tribes in the state, the Garo tribe, which comprises nearly 30% of the state population of around 3 million, also follows the matrilineal culture of passing down the family name and ancestral property through the female line of descent. "Clan's lineage and custody of ancestral property are the nerve centres around which the matrilineal system exists in Meghalaya," says Banrida Langstieh, associate professor at the department of anthropology at North-Eastern Hill University, Shillong.

This way of life, dating back centuries, is facing challenges as some men say it is not working for them, and the centrality of the maternal uncle disappears. It is becoming common for people to pass on acquired property (as against inherited assets) to male children. The problems faced by the men in these tribes are not dissimilar to what women face in the patriarchal norm elsewhere, and shines a light on the centrality of inheritance in gender dynamics.



Population by Language (% of total, 2001)



Source: Directorate of Economics & Statistics, Meghalaya

There are close to 500 matrilineal societies in the world, with Minangs of Indonesia being the largest of them with a population of over 4 million. The common denominator among all of them is that lineage of its members is traced through the mother's side of the family. Their cultural practices (for example, post-marital residence and inheritance of property), however, vary.

In India, Nairs in Kerala practised matrilineality till 1925 when it was terminated by law. In contrast, although 80% of the tribal folk in Meghalaya have converted to Christianity and the state's neighbours practise patriarchy like the rest of India, matrilineality is the norm among a majority of the tribal populace in Meghalaya. Langstieh says the matrilineal culture in Meghalaya is the only surviving system of the sort in India on this scale.

Shariti Syiem, 36, wife of Marbaniang, is the only daughter of her parents. The tribal tradition of the region prescribes that when a man marries the youngest (or only) daughter of a Khasi family, he has to settle in his mother-in-law's house. "As Shariti is the only daughter, there was no escape for me but to join her family," Marbaniang says.

Among the Khasis, the youngest daughter is the steward of ancestral property, which had passed down to her mother from her grandmother and so on. But increasingly, acquired property doesn't necessarily pass on along matrilineal lines. Syiem, who says she loves her son as much as her daughter, wants to give "something" to her son. Syiem runs a three-room bed-and-breakfast (BnB) in Sohryngkham (a village in East Khasi Hills, some 21 km

CHATTERBOX

Yogi addresses ABVP event

In the midst of the Maharashtra crisis, the Akhil Bharatiya Vidyarthi Parishad (ABVP) — the student wing of the Bharatiya Janata Party (BJP) — held its national convention at Agra earlier this week. The main speaker was Uttar Pradesh Chief Minister Yogi Adityanath. It was odd that Adityanath, who had once patronised and actively supported the formation of the Hindu Vahini, an organisation parallel to the ABVP, should have decided to address a convention of a rival body.

That apart, the atmosphere at the convention was electric. As the chief guest arrived, there were slogans of *Jai Shri Ram, Zor se bolo Jai Shri Ram* (say loudly, Jai Shri Ram) and *Ayodhya to jhalak hai/Kashi Mathura baaki hai* (Ayodhya is just a glimpse/Kashi and Mathura are still left). The roars were loudest when the CM referred to Pakistan without naming it. He spoke for more than 40 minutes and only on Hindutva, asserting that every speck of dust in India had Ram, Krishna and Shankar in it.

RJD's futuristic plan

Bihar's principal Opposition party, the Rashtriya Janata Dal (RJD) has got a new state president. The previous incumbent, Ramchandra Purve has been sacked and replaced by former MP and Lalu Yadav confidant, Jagadanand Singh. Singh is said to be non controversial and has a calm presence. Local newspapers say Tejashwi Yadav, Lalu Prasad's heir apparent, was not happy with Purve. Elections in Bihar are due in 2020. By replacing Purve with Singh, the strategy is to associate the Rajputs (of whom there are few in numbers) and upper castes with the RJD that is considered a party of Yadavs and Muslims.

DID THEY REALLY SAY THAT?



"In the first Cabinet meeting of new government, they chose to discuss how to prove majority secretly, instead of discussing on how assistance and relief can be given to farmers suffering from unseasonal rains. If this government has majority, then why are they secretly calling the house?"

Former Maharashtra Chief Minister Devendra Fadnis on the new Shiv Sena-Congress-NCP coalition

CHECKLIST
SHORT TERM CHIEF MINISTERS

■Jagdambika Pal (one day)
Kalyan Singh was Uttar Pradesh chief minister in 1998 heading an alliance of defectors from other parties. After a floor test that witnessed unprecedented violence in the assembly, governor Romesh Bhandari recommended President's Rule in the state. The Centre didn't agree, and Kalyan Singh went ahead and appointed a 98-member strong cabinet to reward all defectors, including a breakaway faction from Congress called Loktantrik Congress that included leaders Naresh Agarwal and Jagdambika Pal. On February 21, 1998, the Loktantrik Congress withdrew its support to the Kalyan Singh government. The governor dismissed the government and swore in Jagdambika Pal as the chief minister late at night, a decision that the high court reversed the next morning.

■Satish Prasad Singh (one week)
In 1968, Satish Prasad Singh became the youngest

chief minister of Bihar, for one week but resigned on his own. A faction within the Congress led by KB Sahay and supported by Samyukta Socialist Party revolted against Mahamaya Prasad Sinha, Bihar's first non-Congress chief minister. Satish Prasad Singh was named CM but quit within a week.

■Janaki Ramachandran (23 days)
After MGR's death in December 1987 a succession battle split the AIADMK. MGR's wife Janaki was appointed CM by the faction loyal to MGR, while J Jayalalithaa engineered a split. It was Janaki's claim that Governor S L Khurana accepted as CM. On the day of the floor test, DMK and AIADMK legislators violently clashed in the assembly and police had to intervene. Though the speaker announced that the cabinet had won the motion of confidence, the Central Government under Rajiv Gandhi refused to accept it and used Article 356 of the Constitution to dismiss Janaki's government the following month.



OPINION
JAIRAM RAMESH

GDP: An imperfect measurement

I think, it is important for the government to first acknowledge the reality that for the last eight quarters, quarterly GDP growth has been declined. GDP is an imperfect measure of economic performance. But, you take any indicator of the real economy whether it is rail freight, growth in bank credit, electricity consumption, it is an extraordinary situation that in a country like ours electricity consumption is showing the lowest growth rates.

I think, the first step in addressing the economic situation is acknowledging the reality that we are in a difficult situation. I am glad that India has reached a stage where coming from 7 per cent to 5 per cent is defined as a slowdown. In many countries of the world, 5 per cent growth would be a miracle growth, but, in India, it is changing aspirations of India that an economy that is growing at 5 per cent is unacceptable, and economics textbooks will not define 7 per cent fall to 5 per cent fall as a recession. It is a reflection of the changed circumstances in India over the last 25 years that we are not accepting a growth rate of 5 per cent. So, I would make an earnest plea to the finance minister to first acknowledge that there is a problem. You cannot address the problem unless you acknowledge that there is a problem.

Secondly, we are seeing the cumulative effects of a decision taken on November 8, 2016, which was a political masterstroke but it was a move that cost the economy very dearly. We are seeing the prolonged effects of demonetisation. The government and the party in power has benefited politically and from a perception point of view from demonetisation but the economy has paid a very heavy price for the demonetisation.

Thirdly, there can be no dispute that goods and services tax (GST) was a major step forward and a major reform. Let us not argue who stopped GST, who accelerated GST. The idea of GST first came into the public domain in 2004. We know the history of what has happened. GST was implemented but the haste with which GST was pushed through has created many problems for small and medium businesses, has created many problems for trade, has created many problems for exporters, who are finding themselves priced out of international markets because of delayed refunds. So, when we say GST, it is not against the idea of GST, it is not against the architecture of GST also but it is the manner in which GST was pushed through. I am glad that over the last two years, a number of amendments have been introduced in the structure of GST, in its procedures and in its compliance. It is just like the Insolvency and Bankruptcy Code, we are learning by doing. GST was a completely new world we were entering but the effect, the combined effect of demonetisation and the GST, which was pushed through hastily, has created a situation where today the growth rate is declining.

The next point I wish to make is that Manmohan Singh, when he was the finance minister and also when he was the prime minister, but more so when he was the finance minister, always used to say that investment is not just an economic decision. Investment is a psychological decision. It reflects the sentiment of the investor. I agree with Binoy Viswam, no economy in the world has grown on the back of foreign direct investment (FDI). I would request the finance minister to give up the obsession with FDI and focus on DI. Forget the "F" and focus on "DI", "direct investment", "domestic investment". It is the "DI" that is going to take the economy out of the woods.

Why is "DI" not picking up? Why is the domestic investment not picking up? Why is it sluggish? It is sluggish because of the problems in the financial system, because of loss of demand but it is also sluggish because there is an atmosphere of uncertainty, fear, intimidation. The Finance Act of 2017 gave extraordinary powers to tax officials, which we did not debate in extenso, and, I think, what has happened today is that people are reluctant to invest because of simple policy that if you do not do anything, nothing will go wrong.

So, I would like to make a request to the finance minister. She is announcing one economic measure after the other, like any finance minister would, but she has to really get behind the psychology of investment. She has to look at laws relating to tax policy and tax administration, which has created an environment in small businesses, medium businesses and large businesses, which is creating this uncertainty as far as the investment is concerned. So, I think, it is not just economics but it is the psychology factor which is important. Sir, on a number of measures, I stood up and supported the government. On the Insolvency and Bankruptcy Code, I have spoken on four occasions. I have welcomed the Insolvency and Bankruptcy Code. I have suggested amendments to it and the government has been proactive because we are learning by doing.

But one thing of this government which I cannot support in good conscience is "panic privatisation". The government has come to the conclusion, as I see it, that the engine of growth is going to be privatisation. And this is not planned out privatisation. This is "panic privatisation". You are panicking. And what are you privatising? You are privatising Navratna Companies, Maharatna Companies and strategic companies. And how are you going to privatise them? Who is going to buy it? Are you going to create monopolies? We privatised the IPCL in 2002. We created a monopoly. We privatised VSNL in 2002. The company that bought VSNL went bankrupt. I think privatisation as a panacea for India's economic ills is very, very ill-advised and ill-judged. Much has to be done to reform the public sector. Everything is not right with the public sector. But the answer to that, in my view, is not to privatise profit-making companies and not to privatise strategic companies in the hope that the investment environment is going to improve and growth is going to pick up. I believe that this "panic privatisation mode" of the government may yield short-term revenues, but in the medium- and long term, it will be detrimental to the interests of the economy. This will weaken the foundations of industrial growth.

Edited excerpts from a speech by Congress MP Jairam Ramesh in the Rajya Sabha during a short duration discussion on economic situation in country, November 27



ILLUSTRATION BY BINAY SINHA

Constantino Xavier, fellow, foreign policy, Brookings India tells Aditi Phadnis, Sri Lanka's new President Gotabaya Rajapaksa will be a realist in his foreign policy, delivery on promises made by New Delhi will be central to India-Sri Lanka relations. Edited excerpts:

'India cannot take Lanka for granted'

How do you see the outcome of the presidential elections in Sri Lanka impacting domestic politics in Sri Lanka?

The result reflects a return to the majoritarian Sinhala current that emerges cyclically in Sri Lanka, beginning with the election of SWRD Bandaranaike, in 1956. Except for Mahinda Rajapaksa's resounding victory of 2010, the last president to be elected with a larger margin than Gotabaya was Chandrika Kumaratunga, back in 1994. This reflects the electorate's sense of exhaustion with four years of chronic instability, including a failed alliance between President Maithripala Sirisena and Prime Minister Ranil Wickremesinghe, marked by chronic infighting. Governance suffered and the economic growth declined to a record low in two decades. After the post-war high under Mahinda, with growth rates of nine per cent in 2012, this slow-down was the main reason why voters backed Gotabaya.

There is concern especially among urban and upper-income voters that a return to the Rajapaksas will also mean curtailing of civic rights and growing authoritarianism. Mahinda's extra-constitutional attempts to topple the government, last year, also raised eyebrows internationally. But he ended up backing off then and now a clear majority voted for his brother Gotabaya, even while expecting him to continue to command the country's destinies, in parallel as the Prime Minister.

Mahinda's last tenure was seen as skewed to accommodate China's interests much more than India's. Is this accurate? Do you see a course correction this time, given that both Sri Lanka and China's priorities are slightly different?

Indian concerns about Sri Lanka's proximity to China are mostly an expression of its own insecurity, failure to communicate clearly with Colombo, and inability to deliver credible economic alternatives. For example, back in 2005, Mahinda had offered India first to develop several infrastructure projects, including the infamous Hambantota port now leased to China for 99 years.

Unfortunately, due to domestic pressure from Tamil parties, Prime Minister Manmohan Singh never ended up in Sri Lanka between 2009 and 2014, and even refused to attend the 2013 Commonwealth summit hosted by Sri Lanka. While the Rajapaksas may have understood the UPAs domestic compulsions, the relationship suffered. So Mahinda and Gotabaya naturally looked elsewhere for economic support, and China was more than willing to step in.

After 2014, already under Prime Minister Modi and the new Neighbourhood First policy, India might have then overcompensated and put excessive emphasis on coercive policies, hoping that Sri Lanka would somehow fall in line again. So, India reportedly played a background role in facilitating a new alliance, led

by President Sirisena, which defeated Mahinda Rajapaksa in January 2015. With the subsequent election of Wickremesinghe, Delhi thus hoped for a "pro-India" regime in Colombo, but that soon proved to be an illusion as China continued to strengthen its economic, political and security influence on the island. As with the blockade on Nepal, in Sri Lanka, Delhi's security establishment realised that Indian sticks are of little use against Chinese carrots.

This forced India to rebuild its bridge to the Rajapaksas, which were courted again since 2017, with several visits between Modi and Mahinda. The lessons for India are obvious: Sri Lanka will keep balancing between India and China, and Delhi will have to focus more on economic delivery, rather than the traditional policy of denial and coercion.

While Mahinda has always been the charismatic political leader, Gotabaya has focused on leveraging Sri Lanka's situation at the heart of the Indo-Pacific, where Chinese, Indian, American and other interests are competing for influence. This means that despite his campaign proclamations about "equidistance" and "geostrategic neutrality," Gotabaya will be willing to prioritise relations with India as long as he gets something in return. So we should expect a cold-blooded, transactional relation that requires a lot of engagement and mutual trust to sustain. If Delhi wants Gotabaya to stick to its red lines, for example not allowing China to militarise the Hambantota port, then it may have to put the Tamil and decentralisation issues on the backburner.

India cannot take Gotabaya's goodwill for granted. To avoid surprises and miscommunications as in the 2014-15 phase, Delhi will have to invest in continuous dialogue, at the highest level, followed up by constant bureaucratic engagement.

Should minorities in Sri Lanka be more afraid now?

In 2014, I visited Jaffna and many other Tamil cities in the north, including the LTTE's former capital Kilinochchi. This was just five years after the end of one of Asia's oldest and bloodiest civil wars and the defeat of one of the deadliest insurgent and terror organisations the modern world has seen. People there were hardly supportive of Mahinda who was then the president, and the army remained firmly in control, running most of the economy and accused of many civic violations.

But the road, telecommunication, public services and other critical infrastructure had been modernised formidably, which might explain why we have not seen a single major incident of Tamil terrorism since then. People seemed concerned but partially also content with the new peace and economic modernisation. Poverty incidence in the northern and eastern provinces reduced massively, and growth peaked at 25 per cent between 2009 and 2012.

Many developmental challenges remain and political reconciliation and transitional justice have made no progress, even under Sirisena and Wickremesinghe. But the older generation of Tamil political leaders has been unable to engage with the post-conflict reality: minority identity claims remains salient, but voters in the north and east now place greater emphasis on how parties deliver on economic

development. So while Gotabaya failed to win in the Tamil- and Muslim-majority northern and eastern coastal areas, and in the central highlands, the electorate there will be focused on his ability to revive economic growth.

What is your assessment of the president's India visit?

These high-level visits are excellent optics to signal that the relation is on a positive track and has political investment from both leaders. For Modi, it was the successful culmination of two years of silent background work, rebuilding relations with the Rajapaksas based on the assessment that they would return to power, sooner or later, in one way or the other. For Gotabaya, on the other hand, the visit was a low-cost affair to signal that he is willing to

repair the relationship with India, not offering any concrete commitments.

But the challenge is for both sides to now follow up. The greatest concern is that Gotabaya will repeat the game Nepal's Prime Minister K P Oli played with India over the last three years: He gave in to all of Indian protocol demands and political optics, visited Delhi first, proclaimed India first,

then waited for India to forget about him, and went on to do more business with China. So with Sri Lanka, this week's visit was only the prologue to a long game where India is required to keep Colombo constantly engaged at all levels.

Just five or 10 years ago, I complained that Delhi invested too little in high-level summits with political leaders from neighbouring countries. Except for Rajiv Gandhi's troubled trip to sanction the IPKF, before Prime Minister Modi went to Sri Lanka in 2015, the last proper state visit by an Indian Prime Minister had been in 1979. But today, we have come to the opposite extreme: it often feels like too many visits and too little follow up in substance. Hopefully we will see more concrete achievements over the next year, including many pending announcements since 2015, for example in regard to upgrading the Trincomalee port or reviving the rail and ferry links with Tamil Nadu.

The second challenge will be to balance the security and economic dimensions of cooperation with Sri Lanka. Especially after the Easter terror attacks, India has pursued several new counter-terrorism and intelligence sharing initiatives, but the endgame will be to achieve greater economic interdependence. This is why India's connectivity efforts are so important, including the new air link to the renovated airport in Jaffna, the new Colombo port terminal developed jointly with Japan, and various other investments in the rail, energy and port sectors. These are the important, silent successes of India's new connectivity strategy, which require more diplomatic and technical investment. During this week's visit, India announced another loan of USD\$ 400 million for such infrastructure projects.

Most importantly, there has been no progress on the Comprehensive Economic Partnership Agreement (CEPA), which was supposed to have been announced two years ago. Delhi conveniently points the finger at Colombo's concerns about liberalisation of migration in the services sector, but where there is a political way there should be an economic way.

Helping rickshaw-pullers embrace EVs

A Varanasi-based startup is promoting sustainable transport by empowering rickshaw-pullers to move to electric versions, writes Sneha Bhattacharjee

The last decade has seen a major push for electric mobility to enter the mass market. Apart from climate change, there are a number of other factors that have contributed to this push, including advances in renewable energy sector, battery technology, and urbanisation. With 22 of the 30 most polluted cities in the world being in India, the central government had approved an outlay of ₹10,000 crore for three years till 2022 to subsidise electric vehicles (EVs) and drive the adoption of electric mobility in the country.

However, despite the central government's push, the local administration fails to reciprocate the same. Naveen Krishna, founder, SVM Green Solutions, found this to be the most challenging aspect of setting up his venture — which helps rickshaw-pullers move towards battery-operated rickshaws from the manual ones. "The local administration considers e-rickshaws as a traffic menace," says Krishna adding how it is a challenge to convince the authorities that e-rickshaws will instead solve the last mile connectivity problems.

Krishna's journey began in 2015 when he set up his venture in Varanasi. The plight of manual rickshaw-pullers was what moved Krishna the most. As he saw them abused and manhandled by passengers or street vendors, working long hours with hardly anything substantial to sustain themselves or their families, Krishna realised he should help them out in some way. SVM Green Solutions was the answer. The start-up helps rickshaw-pullers change over to EVs through varied support strategies — from mobilising the community and assisting them to access micro finance, to handling the purchase and delivery of the three-wheeler, fulfilling the registration process, obtaining insurance, and training them in steering the vehicle. The venture has till date been able to help 1,328 rickshaw-pullers.

With a 74-member team, the venture operates in several cities in Uttar Pradesh and Bihar. Getting here has not been easy. To involve stakeholders is cumbersome, feels Krishna. The biggest being the banking partners, who do not see the rickshaw-pullers or anyone from the below poverty line category as credible lender. "They are willing to finance only 75 per cent of the cost of an EV, which costs around ₹1.5 lakh. But the

remaining 25 per cent that is needed to be self-financed by the rickshaw puller is still a large amount," says Krishna who took a pilot project to convince banking partners to fund 90 per cent of the cost for some 23 rickshaw-pullers.

The unavailability of major players in the electric mobility market is another challenge. Big players despite their presence do not focus much on three-wheelers, feels Krishna. Then there are local players, who outsource from China or any other part of the world, have slowly started building their in-house capacity but again fall short when it comes to three-wheelers. "There needs to be an alignment between the policies and the stakeholders, the local and central governments," adds Krishna.

Krishna's venture offers a one-window solution that improves the livelihood of rickshaw-pullers and also introduces them to the green mobility segment. In order to mobilise rickshaw-pullers and create awareness of e-rickshaws among them, the start-up even conducts campaigns and events. Once an amount of interest is generated, Krishna's team approaches them with their services. "We also offer a pay-per-use battery-swap service, 'SMART Charge', aimed at giving the e-rickshaw drivers access to high-performance lithium-ion batteries with the objective of ensuring that they



Naveen Krishna with one of the women beneficiary of SVM's programme 'Vahini'

overcome issues like long charging time, battery maintenance, and less mileage," he adds.

The venture has also launched a programme, 'Vahini', to enable more women to enter the mobility arena. The company has taken up the responsibility of installing their vehicles with a cloud-based camera and providing smartphones to ensure women safety.

Trickle-down corruption

The malaise persists at state and local-level governance

Prime Minister Narendra Modi's promise to establish a corruption-free government in India would have come up against a reality check of sorts from the results of the 2019 India Corruption Survey conducted by Transparency International and Local Circles, a social media firm. Although the headline findings of the survey point to a five percentage point drop in corruption levels — 51 per cent of Indians admitted to paying a bribe this year against 56 a year ago — the figure for 2019 was higher than the 2017,

which was 45 per cent. The survey covers 81,000 respondents in 248 districts across 20 states. The striking point about the more granular findings of the survey is that the bulk of the corruption is at local levels. Thus, even if we assume that Mr Modi is able to make the central government corruption-free, the malaise will persist at the lower levels of the country's governance structure — at state and local government levels. This has critical implications for India's future as an investment destination, since local admin-

istrations are, so to speak, the business end of the ease of doing business environment. For instance, almost half the respondents (49 per cent) said the bribes were for property registration and land-related matters. Only 12 per cent of citizens said corruption on these two accounts had fallen over the past year. Equally worrying is the fact that Indians who admitted to paying bribes said they did so multiple times in the year, suggesting that corruption remains as endemic as ever. The survey also contradicts the common notion that posits technology interface as the optimum bulwark against corruption, especially in citizen-facing services. Some 44 per cent of respondents said they paid a bribe in an office that had computerisation, and 16 per cent said that they paid a bribe despite the office having a functional CCTV

system. That Telangana, one of the first states to introduce a citizens' portal for a slew of common goods and services, figures as India's fifth-most corrupt state tells its own story (Rajasthan, Bihar Jharkhand, and Uttar Pradesh preceded it). It is worth noting, however, that well over a third of the respondents who admitted to paying bribes paid in cash, a potent signal that at least one of the key objectives of the tectonic 2016 experiment with demonetisation had failed. Although Transparency International's global Corruption Perception Index showed that India had risen three places in the ranks, those results are at variance with the findings of this intra-country corruption survey — some 48 per cent of respondents felt that states had taken no effective steps to tackle corruption. Corruption persists in India

despite the passage of the Prevention of Corruption Act, which deems a bribe an offence attracting seven years' imprisonment or a fine or both. This situation points to the inherently weak institutional foundations of governance in India, which creates a vicious circle of venality. The absence of robust systems to punish bribe givers plays into the hands of the political class. It enables them to enhance their powers by becoming centres of routine approvals and clearances. They may offer investors a degree of certainty in place of the tortuous uncertainties of dealing with wilfully inefficient local officials but it involves an unhealthy element of discrimination and arbitrariness in governance, which are embedded with risks for investors. It is for the political class, then, to set the standard first.

The rise of counter-revolution

The basic values on which modern civilisation rests are facing challenges across the world. How this will be resolved is one of the most pressing questions of our time

ALOK SHEEL

The common thread stitching together the great revolutions of the modern era, such as the English, American, French, Russian, Chinese and anti-imperial (including the Indian freedom movement) was a virtuous paradigm of basic values on which modern civilisation rests. This paradigm comprises reason and the scientific method (which accelerated material well-being), individual freedoms (on which democracy rests), the equality of all humans irrespective of colour or creed (which spawned the rule of law and socialist experiments), fraternity (the basis of modern nation states), humanism (which elevates human beings above the supernatural and divine) and secularity (the belief that all religions are equally valid, the end of the divine right of rulers and the separation of Church and State). At the philosophical level, free trade and markets were an application of the concept of individual liberty to economic activity. The ancient and medieval world embraced some of these basic values, such as logical reasoning (the Socratic method of classical antiquity, the Ajnana school of scepticism in ancient India, and the medieval Islamic Mutazilite rationalist school) and individual liberty (Athenian democracy). These were, however, not part of a virtuous paradigm, resulting in contradictory outcomes. Thus, you had the coexistence of Athenian democracy with slavery. Logic without the experimental approach could not lead to a systematic scientific method that accelerated material well-being. It bears reiteration that the great divergence between east (China and India) and west (Europe and the "white" settler colonies) opened up only after the west embraced this virtuous paradigm, collectively known as the "European enlightenment". The movement towards convergence between east and west commenced when the former started adopting this paradigm. Not all these values were adopted in equal measure in all western societies, and later modern eastern societies, at all times. There were also unresolved tensions between the basic values. Social Darwinism legitimised slavery and imperialism. The Russian and Chinese revolutions rejected individual freedom and free markets. The political and social structures arising from such tensions, such as slavery, empire, and dictatorships, ultimately failed, or reformed radically, as these tensions were resolved. Social Darwinism was a travesty of the scientific method, which was quite different in the physical and human sciences. Imperialism privileged economic freedom over political liberty and fraternity, while Left wing dictatorships privileged equality over individual liberty. These values are basic and not arranged in any hierarchy. The resolution of these tensions, first with the end of imperialism in the mid-twentieth century, and later following the fall of the Berlin wall towards its end, infamously led to an influential belief in the "end of history" — meaning that this virtuous paradigm had triumphed not once, or on multiple occasions, but for all time. Some tensions however remained unresolved. While most political groupings, from the left to the centre to the conservative right, have accepted the virtuous paradigm, it has not gone unchallenged. The counter-revolutionary far right comprehensively rejected the basic values of the European enlightenment. It seeks to benefit from the fruits of modern science without genuflecting to either reason or the scientific method; it holds the concepts of individual liberty and equality in contempt; it disregards humanism, and where its beliefs are secular, it elevates the leader to a god-like status. Mostly seen as a lunatic fringe through much of the last two centuries, there are two historical phases where it appeared that the counter-revolution might turn the clock back. The first attempt during the interwar period in Europe failed spectacularly. The concept of Hindutva, an extension of this counter-revolution in



Bringing down the Berlin wall. The fall of the wall thirty years ago led to an influential belief in the "end of history", meaning that civilisational values had triumphed, not just once, but for all time

India, could not also prevail over the revolutionary movement led by Mahatma Gandhi. Over the last two decades radical Islam has gone down the same path. This paradigm is again under major attack, including in India, for the second time since the nineteenth century. This belies the belief in the end of history, as it is by no means self-evident that the virtuous paradigm will prevail. Unlike the interwar period, the major challenge this time round comes not from newly established countries like Germany and Italy, but long-established democracies such as Western Europe and the United States, where the paradigm originated, and the oldest major democracy in the former colonies, India. As before, the philosophical roots of this challenge lie in tensions among the basic values of the virtuous paradigm, this time not between but within two basic values. The first tension is between political liberty and economic liberty, manifested through trade and markets. Once considered indivisible, and vindicated by the fall of the Berlin wall, the attractiveness of the East Asian — including the reformed Chinese — model (which privileges economic freedom over political freedom) has steadily grown, as western capitalism flounders with declining growth and widening inequalities. The second tension lies within the basic value of fraternity, between the inclusive and exclusive aspects of nationalism. The former gave rise to modern nation states on the back of the breakup of the old-world

empires, and later to the nationalist revolt against imperialism, itself an expression of the exclusive aspect of fraternity. Whereas the tension between liberty and equality was resolved through social democracy, even though inclusive nationalism had a synergy with humanism (which exclusive nationalism did not), this tension was never resolved despite the end of imperialism. This tension has unsurprisingly resurfaced, as the rising tide of migration pitches residents against non-residents. Ironically, even as classical socialism got the balance between liberty and equality wrong, it got the balance between inclusive and exclusive nationalism right, as its original impulse was to strive for "permanent revolution", which did away with nation states. Might this permanent revolution apply to its *bête noire*, capitalism, which remains unstable with national borders? Both the major challenges to the virtuous paradigm arose in the wake of heightened globalisation accompanied by major crises of capitalism, the first following the Great Depression of the 1930s, and the second following the Great Recession a decade ago. There is, however, a fundamental difference between the globalisation of the late nineteenth century and that of a century later. The former was not virtuous as it was enforced, being violative of both liberty and fraternity. The latter is virtuous, based on both economic and political freedom, and fraternal in every sense. The first major challenge was resolved after a devastating war. How might the tensions underlying the second end, or be resolved, is arguably one of the most pressing questions of our time.

The writer is RBI Chair Professor at ICRIER. These views are personal

RAGHU DAYAL

The beleaguered Indian Railways (IR) has now appealed for corporate benefactors to step in, to get its trains and stations cleaned, according to recent newspaper reports. Caught in a low incremental growth trap, and continuing to live beyond its means, IR appears to be going the Air India way. How could the IR management remain oblivious of the gathering storm? Freight output and passenger traffic recorded a dismal 0.26 per cent and 0.53 per cent compound annual growth rate (CAGR) over the period 2014-19; but its working expenses clocked 5.54 per cent CAGR, far beyond its gross earnings, at just 4.09 per cent. In the first five months (April-August) of FY20, freight receipts are short by 15.6 per cent and passenger earnings by 5.1 per cent of the budgeted amount; gross revenues are 14.1 per cent less than budgeted, but working expenses are 2.7 per cent higher than budget estimates. IR's ills are both multifarious and well-known — acute capacity crunch on arterial routes, overstrained terminals, irrational fare and freight structure haemorrhaging its finances, and warped investment priorities. Its capital expenditure of over ₹5 trillion in the last four years shows no respite despite the capacity crunch. IR is moving towards a debt trap. Its lease hire charges keep mounting — the provision of ₹11,489 crore for FY20 amounts to 5.6 per cent of working expenses. The wage bill, budgeted at ₹86,554 crore, along with ₹50,100 crore appropriated to the pension fund, accounts for 66.9 per cent of working expenses (₹2.05 trillion for 2019-20). IR has failed to follow simple business norms of optimally pricing its services and judiciously restructuring investments. Its passenger business consumes two-thirds of its resources, but yields one-third of revenues. Cross-subsidisation of passenger services means it is out-priced in the freight market. Scarce resources are spread thinly on scattered projects, providing little tangible relief on congested routes. Important capacity-enhancing corridors, if fast-tracked, would yield the desired benefits. A rigid bureaucratic structure is antithetical to a business ethos. Most railways the world over, including in Russia, China, Germany, France, and the UK, are autonomous corporate entities. IR must shed the ambivalence inherent in its widely — and mistakenly — perceived role of a departmental undertaking with a public service obligation. The IR management has just introduced ten "Seva Service Trains", most traversing only 30-100 km. Such short-distance "regional" trains devour scarce track and terminal capacity, and cause maximum losses among passenger services. Non-suburban commuters availing of season ticket concessions for

Indian Railways should immediately corporatise its production units and construction wing, segregate its passenger and freight businesses, and restructure the Railway Board

up to 150 km travel constituted 22.8 per cent of total non-suburban passenger traffic in 2016-17, but yielded only 1.2 per cent of revenue! Besides systematically discouraging short rail journeys, IR needs to corporatise "regional" and suburban services. Despite the steady induction of expensive technologies and the outsourcing of a slew of activities, IR is over-staffed. It has as many as 150 officials of the level of joint secretary and above, crowding Rail Bhawan. The shears should have been wielded first in Rail Bhawan and then right across the system. IR should immediately corporatise its production units and construction wing, segregate its passenger and freight businesses, and restructure the Railway Board. It could integrate civil engineering with signalling, mechanical with electrical, and merge material procurement with, say, finance. To enhance the Board's cohesion, one member each should be made responsible for (a) freight logistics services along with information technology; (b) the passenger business; (c) infrastructure — track, signalling, electrification, land and buildings; (d) rolling stock and equipment; (e) HRD, including industrial relations, vigilance, and safety; and (f) finance, including accounts and material management). The chairman would be the CEO, handling overall coordination, planning, R&D, and external relations. Also, senior general administration positions in IR, such as heads of divisions/zones and members of the Board must be manned only by those who are exposed to the rigours of operations in the field and interaction with customers. The Bibek Debroy Committee found that "IR's efficiency was better with 9 zones than with 16". It would be prudent to restructure the organisation, including streamlining the traditional four-tiered organisation into a three-tiered system. If required, IR could thereafter re-draw the geographical areas of its 16 zonal administrations, even increasing their number to, say, 22-25. Concomitantly, large station complexes, major freight centres, maintenance depots and installations should be placed under empowered area managers. Since the mid-1990s, China Rail has continuously launched extensive reforms, including drastic restructuring, downsizing, divestment, and stringent accountability. CR, already the world's most dynamic railway system, carries a quarter of the world's rail traffic over six per cent of the world's track length. CR lagged behind IR until some thirty years ago; today, it is the global leader in rail technology. IR needs an innovator's "creative destruction" and leadership aimed focusing its energies.

The writer is former chairman, Container Corporation of India

▶ OTHER VIEWS

Sharp rise in bad loans under Mudra is cause for concern

Reserve Bank of India should step in to examine extent of fallout

The Pradhan Mantri Mudra Yojana has often been held up as the solution to India's job problem. But not only has its performance on creating new jobs been underwhelming — a report in this paper showed that not every loan translated to new jobs — there are now grave doubts over the quality of the loans extended as well, with a sharp rise in the number of loans turning non-performing. On Tuesday, RBI Deputy Governor M K Jain voiced concern over rising bad loans under the scheme. At the end of 2018-19, Mudra loans worth ₹8.93 trillion had been sanctioned by Member Lending Institutions (MLIs), Anurag Thakur, minister of state for finance, said in reply to a question in the Rajya Sabha. Of these, only 2 per cent or ₹17,651 crore had turned non-performing. But, in the subsequent six months, there has been a sharp rise in bad loans. Poor credit appraisals and lack of monitoring by banks, wilful defaults, and the growing inability to pay back obligations due to a slowing economy could have all played a part. But, coming at a time when banks are struggling to resolve their existing pile of non-performing loans, this spurt in bad loans under Mudra may end up becoming another source of vul-



nerability for them. While the political overtones of the scheme are hard to dismiss, the RBI should examine the implications for the financial system more closely and step in if necessary.

The Indian Express, November 29

The challenge in Maharashtra

Power-sharing will be a big issue

After a month-long political churn, Uddhav Thackeray has formally taken over as Maharashtra's chief minister. While the Shiv Sena had chief ministers in an alliance with the Bharatiya Janata Party (BJP) in the 1990s, this is the first time a Thackeray himself is leading the government. It is also the first time that the Sena has come together with its arch rivals, the Nationalist Congress Party (NCP) and the Congress, relegating the BJP to the Opposition. There are two issues in particular which will pose a challenge. The first, as in any coalition government, is power sharing. While the three partners have arrived at a broad deal, questions about the exercise of power will be a constant

theme. Who will take the big political decisions? The second issue is ideological. While the common minimum programme of the alliance mentions its commitment to secularism, it will have to be seen whether the Sena has indeed moved from its Hindutva worldview, or whether the NCP and Congress have moved to a more majoritarian outlook in practice. The government has the numbers and is constitutionally legitimate. But it must always remember that the voters of Maharashtra did not vote for this particular combination to come to power. If it wants to win popular legitimacy, it will have to deliver.

Hindustan Times, November 29

Illegal immigration continues

Menace is due to government's laxity

Over 3,000 people of Indian origin are lodged in US Immigration and Customs Enforcement detention centres; most of them are accused of violating immigration laws. Last week, the US deported 150 Indians for violating visa norms or illegally entering America. A considerable number of these deportees are from Punjab, including Bathinda's Jabarjung Singh. Sent back for the fourth time, he is still desperate to try his luck yet again. He claims to have paid a total of ₹24 lakh to a travel agent and spent six months in seven US camps. The fact that the unscrupulous operator repeatedly managed to send Jabarjung overseas highlights the abject failure of the Central and state gov-

ernments in curbing these malpractices. Rather than confronting the problem, politicians have been busy scoring brownie points by "rescuing" Indians who go abroad through unauthorised channels and get stranded there. The menace of runaway NRI husbands also continues unabated. With the US and other countries tightening the noose around illegal immigrants, India — and Punjab in particular — should ensure that the shady agents are brought to book. A nationwide campaign is needed to dissuade people from putting their life savings — and life — on the line in pursuit of dollar dreams.

The Tribune, November 29

Spotlight

SUNDAY, DECEMBER 1, 2019

ISHAARORA

WALKING DOWN THE alleys of a bustling supermarket, one is spoilt for choice when it comes to food. Various condiments, snacks, sauces, beverages, confectionary and ready-to-eat foods beckon consumers with the sheer variety they offer. Sadly, for some people, it's all untouchable. They are the ones who suffer from various food allergies, and have to keep away from most processed and packaged foods, because in India brands do not furnish allergen information on labels. This includes even foreign brands that otherwise provide this information for the same products in other countries.

So what do these people do? They have an alternative, but it's not for everyone again. And this time the conundrum is not labelling or availability, but price. Special stores abound in metros and large cities offering food products for those with intolerance for milk, nuts, wheat, soy, etc. But they are few, and concentrated only in tier-I cities. And prices of these products are prohibitively expensive. For instance, a small pack of gluten free biscuits costs over ₹100, which would be around ₹20 for its regular variant.

This very situation forces people like Poonam Lohiya, a 35-year-old homemaker and resident of Delhi who suffers from celiac disease and is on a life-long gluten-free diet, to opt for only homemade food. "The prices of gluten-free products are more than double the rate of regular products available in the market, which is why I have not bought any packaged food items all these years, even though I was diagnosed with celiac disease in 2010," she says. With Lohiya's husband being the sole bread winner of the joint family that the couple and their two children are part of, there is little room for her to be able to afford gluten-free products available in the market. "I grind my own flour at home, and stick to eating home-made food. I have tried gluten-free bakery items like bread, biscuits, etc, bought from outside but only on special occasions. The sellers do not offer any discounts, even during festive season," she rues.

This situation persists even after the Food Safety and Standards Authority of India (FSSAI) in June this year laid down specific guidelines and instructions for proper testing and labelling of products. "When presence of any allergens is identified in food ingredients and products, controls shall be put in place to prevent their presence in foods where they are not labelled. Where cross-contact cannot be guaranteed, consumers shall be informed," wrote FSSAI in its Guidance Document released in June. Under the heading titled "Health Supplement/ Nutraceuticals Processing", a subhead titled "Allergen Management" is dedicated entirely to giving information regarding the major allergens present in foods, enlisting the steps manufacturers can take to minimise chances of cross-contamination, while ensuring that they provide all allergen-related information fair and square on the products' labels. However, very few brands have made the effort to provide full disclosure regarding the presence of allergens in their products and whether they have been prepared in separate facilities.

Interestingly, the FSSAI has started looking into the matter seriously this year only — a stark contrast to the scenario in the West where the USFDA enforced the Food Allergen Labelling and Consumer Protection Act in 2004 to ensure that manufacturers label their products right. Why the delay? Lack of abundant research and testing, say the authorities. "Consumers are now becoming more aware about food allergens. In fact, many brands are now innovating on allergen-free products. It (recognition of allergens in foods) requires testing. We have initiated a little bit of work in that space, and more work needs to be done," says Pawan Aggarwal, chief executive officer of the FSSAI. "However, there are many challenges involved in preparing such specialty foods. For instance, millets are gluten-free but it is difficult to develop the right binding and puffing with all these grains — ragi, corn, bajra, etc. Hence, the need of the hour is more home-grown brands, generating awareness and easy availability of products," he adds.

The awareness lag

Manufacturers feel the government has still not looked into the matter seriously. "Of the total population, the number of people with celiac disease is very small. Even among those few people, majority are not aware of their condition, which is why we have not seen proper laws for allergen labelling and specialised foods production," says Kirti Bhatia, owner of Jalandhar-based Savour Life Products, a company that manufactures a variety of gluten-free products on a small scale. "A couple of years



CAN I EAT THIS?

The food market is big, but not for people with food allergies. And even if the market for specialised foods is burgeoning, it is at a heavy cost

back, there were not even appropriate guidelines defining gluten-free. At least now the FSSAI has taken cues from the USFDA and adopted some guidelines. I think there's still a lot of work to be done there," she adds. Even though the company does not operate on a large scale, Bhatia says their gluten-free breads, pizza base, kulcha, muffins and biscuits are the most popular items.

"We are seeing an increase in food-related allergic disorders in India. It is a condition where symptoms appear within minutes to hours of a particular food allergen intake. The five most important and common foods that lead to allergy include seafood, eggs, wheat, milk, peanuts," explains Govind Makharia, professor of gastroenterology and an acclaimed expert in celiac disease at AIIMS, New Delhi. "Food allergy is poorly recognised in our country and many doctors do not even suspect it. We are seeing an increase in awareness about the condition of food allergy, but only in minority. There is a dire need to study the burden of food allergy in India, and the type of food allergens in our context," he adds.

Proper awareness or not, the number of people with food intolerance has only been increasing. A 2013 journal titled *Problems and Challenges to Adaptation of Gluten Free Diet by Indian Patients with Celiac Disease* published by doctors at AIIMS, New Delhi, revealed that nearly 80 lakh Indians are estimated to have celiac disease, which is an autoimmune disorder that occurs because of ingestion of a protein called gluten present in wheat, barley, oats and rye, and

affects mainly the small intestine. It added that nearly 1 in 100 people have celiac disease in India. Besides, almost 60-70% Indians are lactose intolerant as per a 2013 study conducted by department of gastroenterology at Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGI), Lucknow. Since the data available is quite dated, it is only natural to assume that the numbers have increased over the years.

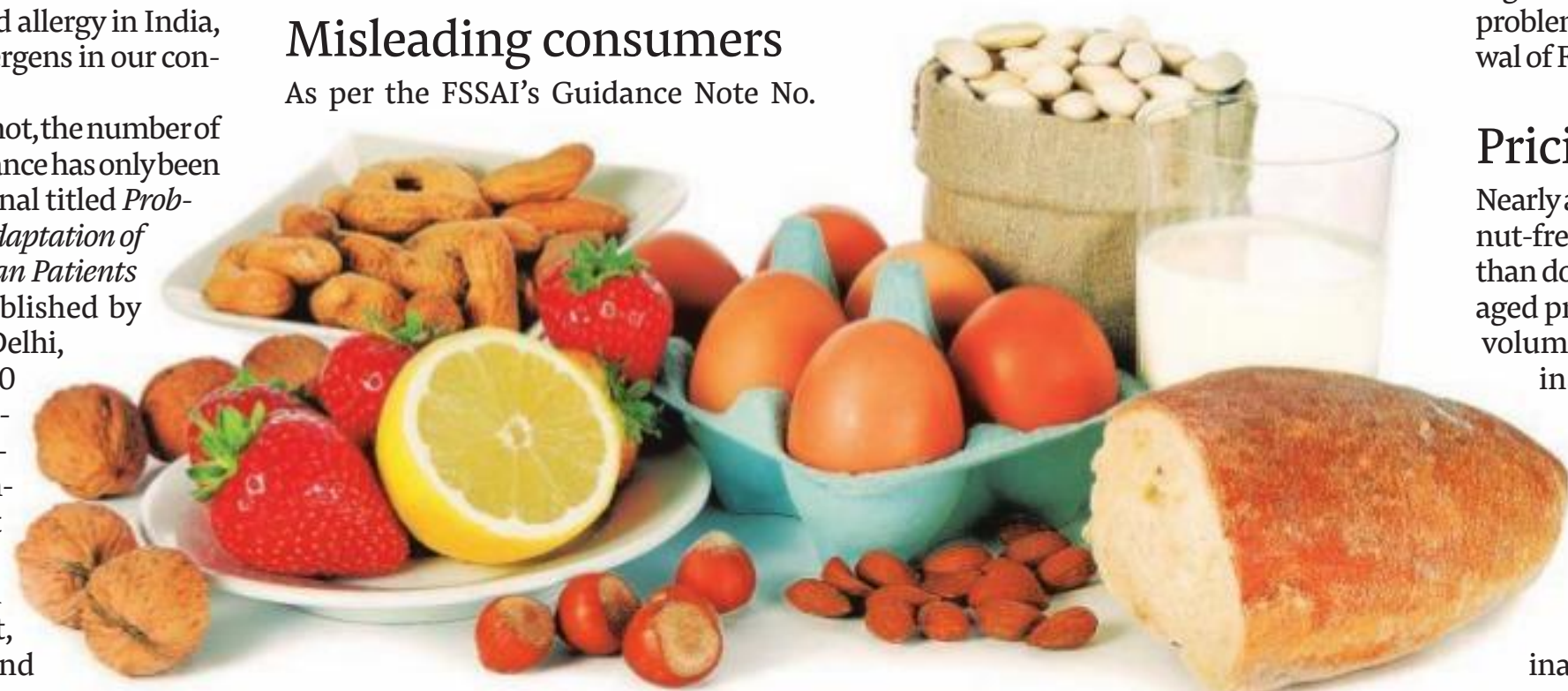
As a result of increasing instances of people with food intolerance, the demand for specialised foods is increasing, albeit at a softer pace owing to poor awareness and pricing. Harinder PS Lamba, chief executive officer of Patiala-based Cheers Food and Beverages that manufactures gluten-free products under the brand name Wheafree, says their gluten-free flour, cookies, cake rusk and fresh bakery items are being widely demanded. Shuja Shaikh, chief operating officer and co-founder of Raw Pressery, says there has been a steady demand for their lactose-free almond milk.

Misleading consumers

As per the FSSAI's Guidance Note No.



Though the market is flooded with allergen-free food, these products are available only at specialised stores and cost at least more than double of their regular variants



FOOD ALLERGY VERSUS INTOLERANCE

A food allergy causes the body to produce an immunological response to a certain food protein. Allergy to a certain food can make one feel itchy, have trouble breathing, pass out, and get an anaphylactic shock. In the case of food intolerance, one may be able to eat small amounts of the offending food without trouble



lack of adequate demand. Since awareness of food allergies-related disorders is relatively poor, there are not enough buyers and hence the market is tilted towards the supply side. Secondly, raw materials being used to substitute wheat or dairy are costly, due to which the final product is much more expensive than its regular counterparts.

"The price of almond milk and regular milk is the same abroad. But in India, almond milk is almost six times dearer than regular milk. Also, since it's considered stylish and a superfood, some people are willing to shell out whatever amount even if they don't need lactose-free food medically. Also, people are coming up with their own theories as to why they have a particular allergy or intolerance. A proper standard defining the conditions is missing. I think we need more regulation," says Parmeet Kaur, chief dietician, department of dietetics at AIIMS, New Delhi.

Manufacturers say increased demand should help bridge that gap. "The idea is to not only to serve a product that customers demand but also a product of great quality. While we cannot control the prices of nuts like almonds that we use to make lactose-free milk, with more adoption and increase in volume, we see that the production cost will come down to some extent and so would the selling price," says Shaikh. "However, there would still be a big gap between regular dairy milk and non-dairy almond milk, but one can expect more non-dairy milk options such as oat milk which will be priced more economically," he adds.

Clinical nutritionist Ishi Khosla, who is also founder of Whole Foods, adds that while there is a genuine increase in cost, a rise in demand would help. "When you try and substitute wheat in a food, you are at a loss of certain binding properties. If you are substituting with potato starch or some gum, they are definitely pricier. That is a genuine increase in cost," she says, adding, "The testing cost of these foods is also really high, and there is no bulk production for now. As a manufacturer, I can tell you that distributors say it upfront that there is no such great market for specialised foods. I think things will get better once the volume picks up and the food industry also starts making more of these products."

Lamba, on the other hand, says the retail margins on specialised products such as those devoid of allergens are as high as 40% due to market trends. "There is a trend in the retail market that such products come at high margins and where distributors are ready to work at 10-15% margins on general products, for products free from allergens, they demand margins of 25-40%," he says. "Besides, there is no support from the government. They know that a celiac patient is on a lifelong diet of gluten-free products, yet they give no concession to the patients. Cookies being taxed at 18%, savouries at 12% and flour at 5% are other factors that make these products expensive," he adds.

Some say the government can take cues from other countries that have successfully devised ways to tackle the food-allergy crisis. "Why cannot the prescription of celiac patients be linked to Aadhaar card through which direct GST subsidy can be given to the patient, thereby avoiding giving them to manufacturers or retailers to avoid misuse?" asks Lamba. "The UK, Italy, USA have different models to offset the high cost of gluten-free food products," he points out.

09/2018, only foods that contain 20 mg gluten per kg or less can be labelled 'gluten-free'. Yet, a lot of manufacturers irresponsibly certify their products as gluten-free. Information regarding the kind of facility the gluten-free product was created in is almost never present. "I think more than the government it is the manufacturers' moral obligation to clearly spell out allergens, and we are seeing an increasing number of brands adopting this practice. I am positive that these actions will further streamline the packaged food industry and become more label-compliant," feels Raw Pressery's Shaikh. Another issue is that testing requires a lot of money and manufacturers are often hesitant to walk that extra mile in the absence of stricter government controls. "Manufacturers do not spend money in lab infrastructure to install Elisa Plate reader and recruit professionals to test the allergens in their products and even general manufacturers who might have a gluten-free product like besan refrain from labelling their products right due to high chances of cross-contamination," says Wheafree's Lamba.

"The ministry of health and agriculture has to sit together to understand the sensitivity of allergens and see how crops can be segregated at agriculture markets and do not get cross-contaminated. In Italy, the farms are separate, the produce is kept separately and also processed in dedicated gluten-free plants. The government has to be more sensitive which is missing at the moment," he adds. This kind of carelessness cannot be adopted in case of food intolerance that can result in dire and lifelong consequences. Studies conducted in this domain have highlighted that consumption of gluten by a celiac disease patient can result in chronic inflammation, which can take the form of cancer at a later stage. The patient also becomes increasingly prone to metabolic diseases such as diabetes, heart disease and arthritis. Prolonged consumption of gluten despite the body's intolerance has also been known to cause infertility among women.

Besides, mental health disorders such as schizophrenia and bipolar disorders are being linked to a "leaky gut" that can be the result of consumption of an allergen like milk or nuts. Without proper awareness and labelling, many people with food allergies have cited falling sick accidentally. "Restaurant and food service managers should also be trained to be aware of the serious nature of food allergies and to avoid cross-contact during food preparation and service. The FSSAI is already in the process of finalising the norms for labelling of allergens in its new regulation on labelling and display of pre-packaged foods. Once the regulation gets implemented, the above problem would be addressed," says Aggarwal of FSSAI.

Pricing barrier

Nearly all specialised foods — lactose-free, nut-free, gluten-free — are priced at more than double the rate of mainstream packaged products that are available in larger volumes. A loaf of gluten-free bread, for instance, costs anywhere between ₹100 and ₹150, a pack of biscuits weighing 400-500 gm costs anywhere between ₹200 and ₹300, and a 200-ml bottle of lactose-free milk is priced at ₹100 and above.

One of the major causes of this inappropriate pricing mechanism is

FSSAI is in process of finalising norms for labelling of allergens in its new regulation. Once the regulation is implemented, the problem would be addressed"

— PAWAN AGGARWAL, CEO, FSSAI

Food allergy is poorly recognised in India and many doctors do not even suspect it. We are seeing an increase in awareness, but only in minority. There is a dire need to study it"

— GOVIND MAKHARIA, PROFESSOR, AIIMS

Why cannot the prescription of celiac patients be linked to Aadhaar card through which direct GST subsidy can be given to the patient, and not to manufacturers or retailers?"

— HARINDER PS LAMBA, CEO, WHEAFREE



Son CM now, a look back at Bal Thackeray's days



IRYSTS AND TURNS
JULIO RIBEIRO

Uddhav doesn't preach fire and brimstone like the Senior Thackeray. His grandson is even more moderate. Their politics has moved away from the fascist tendencies shown by the older man, who had adopted them from *Mein Kampf*

IN October 1984, I was attending the Senior Police Officers' Conference in Pune when news of Mrs Gandhi's assassination was communicated to us. The Chief Minister, who was presiding, ordered us to return immediately to our own headquarters and ensure that the peace was not disturbed.

I drove straight to the Pune Police Commissioner's Control Room and talked to my own Control Room in Mumbai. I dictated my order to all police stations and officers in the city, to be conveyed in writing and by wireless, that all areas where Sikhs stayed, like Wadala, Sion and Vikhroli and places like Lamington Road where their businesses were concentrated, should be heavily guarded. If there was any attempt to assault any Sikhs or set fire to their shops or other property, the police should not hesitate to fire at the miscreants.

The exact wording of my order to the police was promptly transmitted to the Shiv Sena Pramukh, Balasaheb Thackeray, by his admirers within the police establishment. Bal Thackeray phoned me to find out whether the Commissioner



Bal Thackeray and Shiv Sena first became a headache to the authorities and later a political force that could not be ignored.

had the authority to issue such an order! In reply, I emphasised that the defining word in my order was a two-letter word: "if". The police would not use their

weapons "if" there was no attempt to kill Sikhs or destroy their property. The Shiv Sena chief was not amused but he got my message alright. We were singularly free of any violence in Mumbai city!

I had another run-in with the Shiv Sena leader earlier. I knew of the soft corners some of my Station House Officers had for the Sena. I warned these officers by asking them via the daily 'Police Notice' issued by my office, "Who is in charge of the streets of the city — the police or the Shiv Sena?" This was communicated to the supremo by his admirers in my force. Bal Thackeray wasted no time to phone me to remonstrate and I, in turn, did not hesitate to emphasise the duty of the State, as represented by the police on the streets of the city, as the law enforcers.

Even earlier, when I was a Deputy Commissioner in charge of the zone where Shivaji Park was located, our Intelligence Chief, who was my own batchmate in the IPS, learnt that the Sena was to attack a public meeting to be addressed by the fiery labour leader, George Fernandes. When the intelligence was shared with the Chief Minister, the latter said the police

need not interfere! Of course I ignored the wish of the Chief Minister and ensured that no disturbance occurred. But the unstated understanding between the Congress head in Maharashtra and the Sena to destroy the Left leadership was revealed to the police brass.

Since I wrote in my previous column that I had voted for his grandson in the recent state elections, I felt it appropriate to relate my own parleys with a political personality of the time who, like Bhindranwale was set up by Congress political planners in Punjab, was similarly encouraged by the Congress Chief Minister in Mumbai to tame the Communists who dominated the labour unions. As in Punjab, the experiment boomeranged. Bal Thackeray and his Shiv Sena (the army of Shivaji) became first a headache to the authorities and later a political force that could not be ignored.

Personally, I kept 'correct' relations with the Senior Thackeray and he, in turn, treated me with respect. When I was presiding over the opening of a new police station in the vicinity of his residence, he arrived at the venue with some

followers, and spoke kindly about my relationship with politicians of all hues! He admitted his disagreements with me, but also admired the fact that I dealt with his political opponents, including those in power, exactly as I dealt with him.

His son does not preach fire and brimstone like the Senior Thackeray. His grandson is even more moderate and modern. Their politics has moved away from the fascist tendencies demonstrated by the older man, who had adopted them from his reading of *Mein Kampf*.

When communal riots rocked Mumbai in 1984 during my tenure as Police Commissioner, I advocated keeping the Shiv Sena supremo out of jail. His arrest would spark off a conflagration. I arrested his 'Shakha Pramukhs', the 50-odd 'capos' without whom Balasaheb would be rendered powerless. This is what happened. The old man fell on his knees imploring the Chief Minister to release his men. The Chief Minister was inclined to make a political concession, but the Chief Secretary, Ram Pradhan, and I resisted till such time as our message was well and truly digested!

Far from the madding crowd



TOUCHSTONES
IRA PANDE

In the rush for modernity, much of our natural heritage has been lost. And one realised this only after a quiet retreat in the hills, this forced by the plunging air quality in the National Capital. Caught in a vicious cycle, aren't we?

DELHI'S frightening air quality through November prompted several people to run away if they had a chance. So we decided to seek refuge in our beloved Kumaon for a few days to escape the suffocating conditions. Late November is an excellent time to go up to the hills: for one, the tourists that clog up the hill stations in summer have vanished and there are no water scarcities or traffic jams to ruin one's holiday. The monsoons wash away the dust and litter left behind by the unruly crowds and pretty streams and springs, replenished by the rains, gurgle away happily once again. Above all, the Himalayas put up a spectacular darshan and each place — from Mukteshwar to Binsar, Kausani and Munsiyari — vies with the other to unfold its splendour and dazzle the eye.

Even if you are not fortunate to have a place of your own, a number of beautiful resorts are now available all over the Kumaon hills for a refreshing break. We went to one called 'Soulitude' situated in Gagar, a short hop away from Ramgarh and Mukteshwar. Huge picture windows with thoughtfully provided armchairs ensured that you saw the sun rise over the Himalayas and what a sight that is! From the first rays (Usha) when the peaks are painted a glorious gold, to pink, orange and dazzling white — Nature's palette has no equal. Hearty breakfasts and walks in the nearby forest (Gagar is on the bridle path that once connected Mukteshwar and Almora), a late lunch, another stroll and then back for tea and a fireside doze. Bonfires in the garden and the twinkling lights of settlements across the hills, a good book to read and deep sleep, what more could one wish for to rejuvenate the soul...

I have spent my childhood in this area and am familiar with its history and charms. Tagore, Mahadevi Verma and several writers and artists came here to soak in its vistas and write in peace. Tagore's cottage and Mahadevi's home are now run as writers' retreats. Ramgarh was also Kumaon's orchard country and had a charming food pro-



A prayer for Nature isrock

cessing factory that also ran courses in fruit preservation for local people. The town has grown considerably since the 1950s and many well-heeled plains-people own cottages and estates around it. The apple orchards are now more or less gone as monkeys (deported from the plains) have ruined them, but local villagers are now able to sustain themselves by supplying the new owners with gardeners and caretakers.

A short, scenic drive takes you to Mukteshwar, named after a famous local temple on a hill with a panoramic view of the Panchuli range. It was chosen in 1893 by the British to house a veterinary institute because its high altitude provided natural refrigeration, so necessary for the vaccines they developed here when electricity was unknown. Like Kasauli, where the anti-rabies vaccine was produced, Mukteswar was the pioneer in finding a cure for the dreaded foot and mouth disease that affected cattle and sheep and Ranikhet disease that destroyed poultry farms. Incidentally, both Ronald Ross (who isolated the malaria bacteria) and Robert Koch (who discovered the TB bacillus) worked here at some point. Today, most of its research work is carried out in Izatnagar (near Bareilly), but

the magnificent building, still beautifully maintained, has an impressive museum and dominates the town. Thanks to the foresight of its founders, it looks after the surrounding forest and has kept it pristine and green through almost 150 years. This in itself is no mean achievement.

As reading material, I had carried with me Jim Corbett's famous tiger tales of Kumaon. I have read them several times and am constantly struck by Corbett's knowledge of the local geography and his deep understanding of the people of this area. Today, when it is fashionable to expose the economic exploitation and loot of the British colonial rulers, we tend to forget how much they contributed to discovering and developing the remote areas of Kumaon and Garhwal. After the rule of the Gurkhas ended in 1837, the British established towns and settlements, planted orchards and ensured that modern education brought a new life to these remote areas. Their knowledge of flora and fauna and their meticulous records in the gazettes are even today among the only source of knowledge about the land and tribes of the hills. Corbett's books reveal paths and topography that he knew by heart, having walked all over the hills in search of game. The forest dak bungalows that offer the best views were unerringly chosen by these intrepid walkers. Today, people have forgotten to walk in the hills and we greet each new road and highway that mauls these delicate ecosystems with joy. Little do we realise how we have damaged forests and natural aquifers by blasting them with dynamite.

If we wish to preserve the beauty and grandeur of our Himalayan lands, we must stop such mindless development: let these regions remain unexploited by so-called development and nurture a lifestyle that we have lost forever in the plains. If these beloved hills and dales vanish, a vital part of our culture and heritage will be destroyed. How many tragedies like Kedarnath will it take for our intrepid developers to learn that Nature can destroy as easily as it can rejuvenate?

Marking McMahon Line



MILITARY MATTERS
LT GEN BALJIT SINGH (RETD)

NO passport to Tibet would sound a preposterous undertaking in the times we live in, but in 1913 that is precisely what Major FM Bailey (FB) had accomplished and lived to publish the narrative, retrospectively, in 1957. Unarguably, the enterprise was the brainchild of FB but its grand success was simply impossible without the unlimited enthusiasm of his companion, Captain HT Morshead (HM).

Both were born eight months apart in 1882: FB into an Army family at Lahore and HM at Devon (UK) to a family of jurists. FB, graduating from the Royal Military College, Sandhurst, joined the 32 Sikh Pioneers at Darjeeling in 1901 while HM was commissioned from the premier Royal Military Academy, Woolwich, and began his career in the Royal Engineer Corps at Agra in 1902. Two years later, FB's outfit would march out with Colonel Younghusband's 'Mission to Lhasa' and he would be engulfed inextricably by the spirit of exploration, become fluent in Tibetan dialects, head India's outposts in Tibet at Gyantse and Shigatse, be absorbed in the Political Branch of Foreign Department and become a close confidant of the 13th Dalai Lama!

As for HM, his scientific propensities would lead him to the Survey of India, Dehradun, become a lead map-surveyor of what is Arunachal today, earn the DSO in WW I, member of the first two Everest expeditions and much else.

Seized by the explorer's restlessness in 1912, FB travelled through Russia to Peking and, in the last leg, on foot from Chengdu to Sadiya. Even though this was a great accomplishment, he was censured for overstaying leave, fined two months' salary and summoned to Shimla to write a report of his journey. This was where he came to the notice of Sir Henry McMahon (Foreign Secretary), became his protégé,

and picked up whispers about the likelihood of an international treaty involving China, Tibet and India to delineate the boundary between Tibet and Assam.

FB was agast at such a treaty "while that border region remained unmapped". He got acquiescence from Sir Henry for duty in the Mishmi valley ostensibly to solve the mystery of the Tsangpo gorge falls, rumoured to be greater than Niagara. But this was a mere smokescreen because "the realisation flashed of getting through to Tibet from Assam side... but one problem presented itself, such an expedition could not be undertaken alone".

FB reached Mipi (today's Anini township) in February 1913, sought out HM and explained his intent to cross over to Tibet from Showa village (150 miles north of Mipi), then turning west, travel up-river in the Tsangpo valley, mapping all the while the Himalayan watershed ridge line up to the Assam-Bhutan junction and then turning southward back to Assam, make their way to Simla with the tentative blueprint of the mapped international boundary between Assam and Tibet!

Now, as regards the logistics and permission to enter Tibet, FB's fluency in Tibetan dialects, his friendship with and possession of photographs of the Dalai Lama and the Tashi Lama were to prove of talismanic properties. Besides, he knew the custom that when any Tibetan official travelled, he was furnished a document called the 'Lamyik', which "entitled him to call upon villages to supply food and lodging and transport up to the next stage of journey".

In five-and-a-half months they covered "...1,500-mile (2,414-km) journey on foot through un-surveyed and unknown country in Tibet.... the mystery of Tsangpo gorges was solved; the country forming the border between Tibet and Assam was mapped".

Once the data was transposed on map sheets as the McMahon Line, the duo was summoned ahead of the four-month-long negotiations between the representatives of India, Tibet and China. Ultimately, the Simla Convention on April 27, 1914 and the appended maps showed for the first time the McMahon Line as the acknowledged frontier between India and Tibet.

Lessons to draw from *tamasha* that gripped the nation



MUSINGS & MALEDICTIONS
KEKI DARUWALLA

On Constitution Day, 18 political parties boycotted the joint parliamentary sitting. The entire spectrum of political opinion seemed to be against the BJP. The party needs to take heed

THE Maharashtra crisis has been resolved in a manner that has gone against political intrigues of the lowest kind. That democratic forces have won is a matter of great satisfaction to people at large. That BJP as a political party, and Governor Bhagat Singh Koshyari, as a constitutional entity, have lost face is something they deserved. They fell into the pit of their own digging. But it must be said that the politico-constitutional narrative of our post-Independence history could have done without this *tamasha*.

It is surprising that a seasoned party like the BJP swallowed whatever Ajit Pawar told them. Everyone knew his record and the corruption cases against him when he was in charge of the Irrigation portfolio. (What incidentally has happened to the anti-corruption plank of the BJP?) And no one could forget Ajit Pawar's *bon mot* about what was expected of him, pissing in the reservoirs to replenish the water? Yet the lust for office prompted Delhi and Fadnavis to take recourse to this last straw, which blew away in the Sharad Pawar gale. Incidentally, Ajit is still in the party and will be a thorn in the side of the polity in Mumbai. In similar circumstances in



PHOTOS: AGENCIES

It's surprising that a party like the BJP swallowed whatever Ajit Pawar told them.

any other country, he would have been expelled from the party.

What lessons do we draw from these events? What nostrums and ideological planks have fallen by the wayside? Firstly, the idea that parties espousing similar ideologies walk hand in hand, till death do them part, needs to be re-examined. To the casual observer, the BJP and Shiv Sena were almost mirror images of each other, one ensconced in Maharashtra, the other spread all over the country. They

fell out over fishes and loaves of office. The BJP had reason on its side, they had almost twice the seats the Sena had won. But *real politic* has nothing much to do with either ethics or logic. Time will tell how far the parties go their separate ways.

It needs to be remembered that Shiv Sena considers the BJP as an interloper, which has snatched away the Sena constituents. It also feels that without the backing of its workers, the BJP would not have won so many seats.

Secondly, the idea or slogan of nationalism has taken a bad hit. The BJP tried to tell us that they held proprietary rights over nationalism. Some of it was faked, you need slogans to sway the masses, and nothing like nationalism to do the trick, as the Nazis found out in the 1930s in Germany. Both Sena and BJP have owned their own brands of this extra love for the nation. The Shiv Sena has been practising their Maharashtrian brand, meaning bullying non-Maharashtrians. That will be difficult now in a three-way coalition. The Gujarati brand, espoused by the current BJP, has been influenced by both the Savakarite philosophy of Hindutva, taken from Maharashtra, nuggets from the Gujarat riots

of 2002, and a blend of the two. Lately, they have added surgical strikes and Balakot. The tactics have worked. The General Election may have been won on the bedrock of Hindutva and aggressive nationalism, but regional forces come to the fore in state political calculations. In Uttar Pradesh, the Jan Sangh ethos of Hindi, Hindu, Hindustan was stymied through caste-based mobilisation by Mayawati and Mulayam Singh. That trend buckled under the Modi wave, coupled with covert attacks against secularism. Political battles between adversaries, dressed in an ideological veneer, seem to be the future.

Has the leadership recognised that on the Constitution Day, 18 parties boycotted the joint parliamentary sitting to commemorate the Constitution, and congregated at Ambedkar's statue to shout against what was happening in Mumbai? The Congress, Shiv Sena, Trinamool Congress, DMK, SP the Communist Party of India (Marxist) and the Indian Union Muslim League all shouted against the machinations of the BJP in Maharashtra. The entire spectrum of political opinion seemed to be against the BJP. The party needs to take heed.

The third major point to emerge is that the Supreme Court is the only watchdog of the Constitution. Both the executive and the legislative branches have failed miserably. The BJP's record as regards this has been dismal — starting from Uttarakhand, Goa, Karnataka and now Maharashtra. Governors have sided with the party unashamedly. Sometimes this is as blatant as Goa, with the leader of the BJP, with just 13 MLAs out of 40, being asked to form the government. Will the Supreme Court hold a scrutiny on the role of Governor Koshyari this time? The executive seems to be asking the judiciary to appropriate more and more space in the polity and governance of the country.

Details about the President being woken up at 4 am to revoke President's rule have leaked out. In lighter vein: what could have been the conversation between His Excellency and the man who serves him tea on the fateful morning?

The President's rule airlifts at five. The Butler's in a fix. Sir, shall I serve the morning tea? 'No, the swearing-in's at six!' 'So Uddhavji will soon be here?' 'No! Ajit and Fadnavis!'

SNAPSHOTS



Eating up CO₂
Scientists have engineered a strain of *E. coli* bacteria to eat carbon dioxide and grow rather than eat sugars and other organic matter. The report is published in the journal *Cell*. This is a breakthrough and can be used to make several organic molecules in the lab which can be used as biofuels or food.



Animal bridges
Animals such as penguins, carrying sensors could help humans monitor the oceans according to a study which assessed 183 species. When monitoring oceans, large areas still remain under-sampled, leaving gaps in our knowledge. Using animals can bridge this gap, the study found.



Amazon burning
The scale of fires in the Amazon rainforest drew global attention earlier. However, the concerns were countered by the Brazilian government's claims that the fires were of the "normal" amount. A new study by an international team of scientists says that the number of active fires in August was three times higher than in 2018 and was the highest since 2010.



Plant defence
Grey mould caused by fungus devastates soft fruit crops. A study published in *Nature Communications* found strawberry plants had a bacteria (*Streptomyces globisporus*) in its vascular tissues and pollen that rendered them immune. Pollinating bees gained by ingesting the pollen and helped spread immunity.

CCMB team uses *E. coli* to study bacterial cell wall development

The cell wall of the bacteria is made up mostly of one large molecule called peptidoglycan

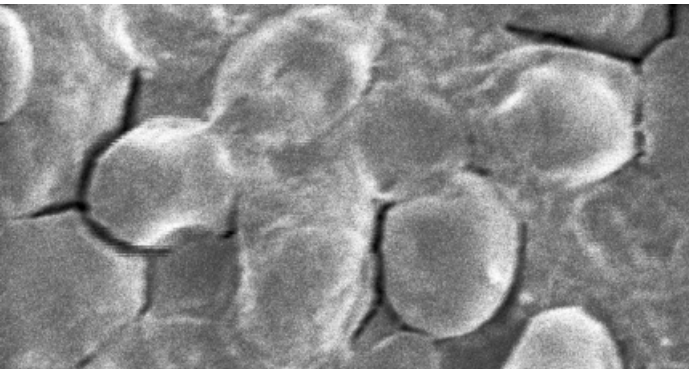
SHUBASHREE DESIKAN

Researchers from Hyderabad have identified an enzyme that plays a crucial role in the enlargement and growth of bacteria, by studying *E. coli*. The enzyme MepK helps in cutting a particular class of bonds that connect the peptidoglycan, which is a sac-like molecule that envelops the cell. This action allows more material to be added to the cell wall, making a larger compartment for the cell to reside in.

One of the most important features of a bacterium is its cell wall which protects it from external environmental conditions and also internal pressure and keeps it in shape. Harming the cell wall causes irreversible damage to the bacterium and eventually kills it.

Crucial factor
For example, *E. coli* are rod shaped bacteria often experimented with in the lab. The bacteria die when the integrity of the cell wall is destroyed. Its crucial role in maintaining the wellbeing of the bacterium makes the cell wall a target of study, especially by scientists interested in developing new drug strategies to combat the bacteria.

In this context, understanding how the bacterial cell wall deve-



Cellular damage: A scanning electron microscopic image of *E. coli* shows their cell walls ruptured hence losing the rodlike shape and dying. •CCMB

lops during growth and division of cells is an important question being addressed in Manjula Reddy's lab at the Centre for Cellular and Molecular Biology (CSIR-CCMB) in Hyderabad for a decade now.

In an earlier work, done in 2012, Dr Reddy's group showed that opening the cell wall by hydrolysing enzymes is crucial for the new material to be incorporated into it, leading to the cell's expansion and elongation.

The cell wall is made up mostly of a single net-like molecule (peptidoglycan). It encloses the bacterial cytoplasmic membrane very much like a jute bag. The

peptides connecting the baglike structure are cross-linked in several ways. Of significance to this work are the links between particular amino acid residues located on adjacent peptide chains. This is a rare component present only in bacterial cell walls and is known as mDAP for short..

Vital enzyme
In a paper published recently in the *Proceedings of National Academy of Sciences (PNAS)*, the group identified an enzyme (MepK) which helps in breaking down the bond between two mDAP residues. This leads to cutting the molecular mesh and thus aiding the growth (or enlargement) of the cell. "By cleaving

from the Chinese Academy of Sciences, said the evolution of the rodent's bones and muscles involved in hearing may have been driven by specialisation for hearing. They said the fossil clues provide solid evidence of the morphology and formation of the inner ear bones, which are fully detached from the lower jaw.

Unique configuration
According to the researchers, the bones reveal a unique configuration with more complete components than those previously reported in these creatures. The new fossil, they said, reveals

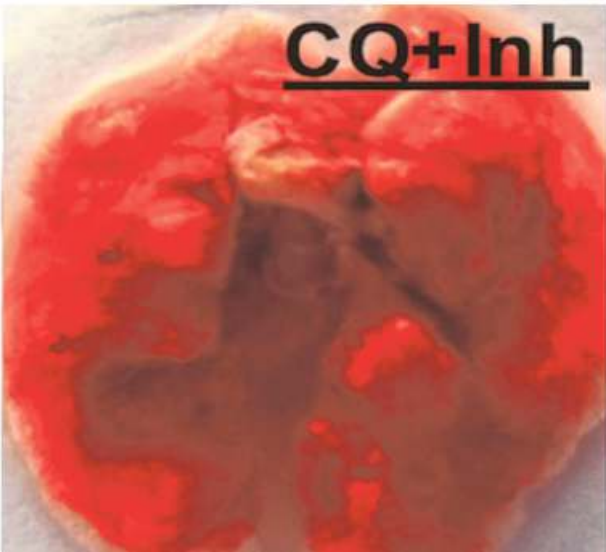
a transitional stage in the evolution of the surangular – a "reptilian" jawbone. Based on the new findings, the scientists speculated that in a class of extinct mammals, the joints connecting the middle ear to the eardrum, and those connecting bones in the cheek region to the lower jaw may have evolved in tandem, allowing a distinct jaw movement while chewing. They suggested that in these extinct mammals, the evolution of the middle ear may have probably been triggered by functional constraints on the bones and muscles involved in feeding.

these cross-links, MepK [along with other known enzymes] contributes to growth and enlargement of sac-like peptidoglycan... This emphasises the fundamental role of cross-link cleavage in bacterial cell wall synthesis," says Pavan Kumar Chodiseti, from CSIR-CCMB and the first author of the paper.

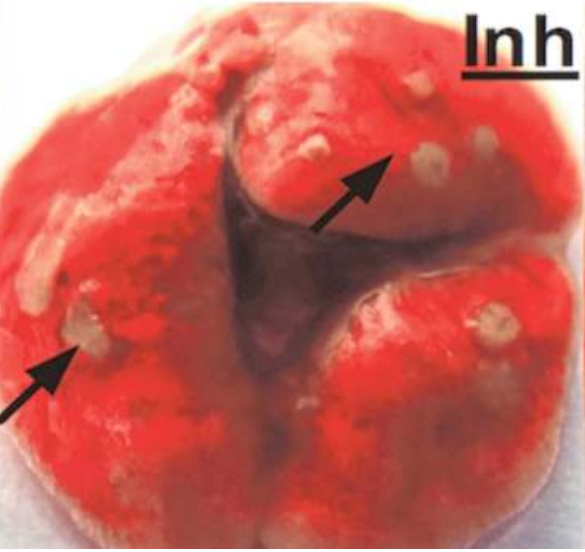
"The class of enzymes reported in this paper was not known earlier, and identifying this enzyme [MepK] gave us lot of excitement," says Dr. Reddy. "[The study] has higher significance in organisms like *Clostridia* and *M. tuberculosis* because cell walls of these bacteria have very high levels of mDAP-mDAP type of cross-links. Therefore, MepK-like enzymes will be very important for the growth of these bacteria."

These cross-links constitute approximately 10% of total cross-links in Gram-negative bacteria like *E. coli* and *Pseudomonas*. However, they are predominant in many Gram-positive bacteria such as *Mycobacteria* and *Clostridia* (occur up to 80% of total cross-links)

The next step according to Dr. Reddy is "identifying small-molecule inhibitors for this class of enzymes and also to understand the molecular mechanisms by which the cell wall growth is initiated".



Potent combination: TB lesions (white patches) are absent in lungs of mice treated with chloroquin plus isoniazid (left) while these can be seen in the lungs of mice treat with isoniazid alone (right) as indicated by arrows.



duce efflux pumps to expel antibiotics as an additional mechanism to reduce antibiotic efficacy. The drug-tolerant bacteria were found in macrophages that were more acidic (pH 5.8) while the drug-sensitive bacteria were seen in macrophages that were less acidic (pH 6.6). "We hypothesised that reverting the pH within macrophages to its normal state could probably make the bacteria sensitive to antibiotics," Prof. Singh says. "The chloroquine drug does just that – it neutralises the pH within the macrophages. This prevented the bacteria from inducing the mechanism to protect themselves from oxidative stress. So no drug-tolerant TB bacteria emerged." Once the pH is neutralised, the isoniazid drug was able to eradicate

Many times effective
In the case of *in vitro* studies using cell lines and mice macrophages, the ability of the combination drug therapy to reduce TB load was found to be three- to fivefold higher than when treated only with TB drugs. "Reduction in bacteria load was more when we combined chloroquine with isoniazid," says Mishra. "We observed threefold reduction when we combined chloroquine with rifampicin

and fivefold reduction when we used chloroquine-isoniazid combination." To determine TB relapse following treatment, mice infected with TB were completely rid of bacteria using the drug combination. Eight weeks later, the immune system of mice was suppressed using a drug. While all the five mice treated with only isoniazid relapsed with high bacterial load, three of the five mice treated with the combination drug showed very little presence of bacteria. "This shows that the drug combination reduces the chances of TB relapse," says Mishra. The work was carried out in collaboration with researchers from Bengaluru's National Centre for Biological Sciences and Foundation for Neglected Disease Research.



Question Corner

Light and shade in photosynthesis

Q *Is there less photosynthesis taking place in leaves on lower branches of a tree and in permanent shade from direct sunlight?*

A **ARUN K. SHANKER,**
CRIDA, Hyderabad

Yes, photosynthesis will be less in leaves that are in shade. Usually they will not be in permanent shade, there will some light falling on them at some time of the day, also due to wind the leaves will get light. The leaves in shade will adapt to shade. One of the adaptations of these leaves that are in shade is to have larger area to capture more light for photosynthesis. These leaves are thinner than the leaves that are open to the Sun. The shade leaves are dark green in colour and also the chloroplasts and the light harvesting complex moves within the cells to places where there can be more light interception. The shade leaves are more efficient in photosynthesis, the problem is that they lose more water by transpiration at the same temperature and humidity conditions. The shade leaves also have low dark respiration rates and hence fewer light compensation points

- which is the light intensity on the light curve where the rate of photosynthesis exactly matches the rate of cellular respiration - this is low for leaves in shade. These adaptations take place during the development of the leaves. Leaves in shade also have short and long term strategies to count fluctuating light intensity. The short term strategy is rearrangement of antennae system in photosystems in the leaves so that they can make use of the available light effectively. This is done by movement of the mobile pool of the light harvesting complex in the photosystems. The long term strategy of the leaves in the shade is to overexpress some of the genes of Photosystem I - psaA, psaB and Photosystem II - psbA.

This week's questions
How does a fully charged mobile phone lose its charge when left unused for several days together?

Why and how does the blue light of light emitting diodes affect sleep while yellow promotes sleep?

How do some aircraft avoid detection by radar? Can clouds hamper detection?

BHAVANI GIDDU,
New Delhi

These questions will be answered in subsequent weeks in this column.

Readers may send their questions / answers to questioncorner@thehindu.co.in

Oxygen bars are surely not a solution for pollution

No medical community has come forward to spread awareness on this captivating yet unscientific business

SUBHABRATA MOITRA

The popularity of packaged air began around four years ago when a Canadian company launched 'canned air' for people in China when air pollution in many cities became alarmingly high. The newer addition - oxygen-bar - a recreational parlour or cafe which serves 'pure oxygen' is becoming a more attractive destination, particularly in cities with dangerous levels of air pollution. At times, the oxygen comes in different scented flavours.

In cities with highly polluted air, the business of 'canned oxygen' or 'oxygen-bar' is flourishing. The recent launch of such a recreational oxygen parlour in Delhi amidst the city's infamously bad air condition has caught significant media attention. But how safe are they and are any benefits at all?

First, do we really need this extra oxygen? The simplest answer is no. Unlike conventional oxygen therapies used in respiratory conditions that is administered for a short or long period in hospital or at home, people take oxygen for an ultra-short period in these bars (30 minutes or less). As per the standard clinical procedure, oxygen supplementation can be administered only in case of hypoxemia (lowering of oxygen saturation in the arterial blood below 95%) and it does not have any consistent beneficial effect on non-hypoxemic patients.

Placebo, at best
It must and should be remembered that the oxygen level does not alter in the air even when the pollution level is high. The same applies to our health - oxygen saturation in blood remains unchanged in healthy people in normal conditions, and such recreational oxygen cannot provide any health improvement. It can at best have a placebo effect. Though users and proponents of purified oxygen claim several benefits such as relieving stress, headache and migraine, and help in achieving



New trend: A user breathes in oxygen mixed with perfume at an oxygen bar in New Delhi. •REUTERS

better energy and mood, there is no clinical evidence available so far in support of the beneficial effects of recreational oxygen use. Most importantly, the use of scented oxygen might not be safe. To add scent to oxygen, the oxygen is bubbled through a liquid containing scented additives or aroma oil. Users will seldom know the properties of the oils or the components of the additives used. Scented oxygen can be harmful to people, particularly to those with allergies and lung diseases. Fragrant materials very often contain aromatic hydrocarbons, many of which are potential allergens and can trigger asthma and allergic symptoms.

Moreover, the aromatization of oxygen generates ultrafine droplets of essential oils which, when inhaled with oxygen, get deposited in the lungs and accumulate in the alveoli leading to a respiratory condition known as "lipoid pneumonia". In this condition, deposited oil droplets can cause severe inflammation, damage alveolar septa (thin single cell lining between two adjacent alveoli) and interstitium (the area between an alveolus and its adjacent capillary) and lead to fibrosis. Long-term exposure to such exogenous oil substances may cause chronic lipoid pneumonia in which the patients remain asymptomatic and are often diagnosed at a very late-stage, and that too, incidentally, due to other illnesses. Among peo-

ple with a lung condition, even a short-term acute exposure to such exogenous fragrance or oils can be life-threatening. It must be borne in mind that oxygen-bars are sole-proprietorship ventures and are not legalised to administer oxygen for therapeutic purposes. These bars are not endorsed by local or federal healthcare systems and are not obliged to follow clinical bylaws, and thus cannot be held liable for any unwarranted health effect or an acute medical condition that occurs in the bars. Moreover, there are no statutory warnings or guidelines available at these bars about the potential adverse effects, particularly applicable to vulnerable population such as children, aged and person with allergies or lung conditions.


Captivating yet unscientific
It is unfortunate that no medical community has come forward to spread awareness among people for this increasingly captivating yet unscientific business with no known or established clinical benefit. It definitely calls for serious vigilance by the clinicians and policy makers to ensure the safety issues associated with recreational oxygen use, particularly flavoured oxygen in such bars, parlours and spas.

The writer is a European Respiratory Society Research Fellow at ISGlobal, Barcelona, Spain, and associate member of the Royal Society for Public Health, United Kingdom.
subhabrata2207@gmail.com

Firefighters under fire for fighting Amazon blaze

Four volunteers, who were fighting the Amazon fires, were arrested on charges of starting fires

SAO PAULO

 At the dawn on Tuesday, armed policemen arrived at the doors of four volunteer firefighters in the Alter do Chão area of Para State in the Amazon region. Bundled into the police cars, they were taken away without any arrest warrant. Then they were paraded on TV like criminals – dressed in prison uniforms, handcuffed, their heads shaved off, walking down the corridor of a notorious prison, where dozens have been hacked to death in two years. The same day, the police raided the office of Health and Joy, an NGO in the area, and took away their computers and papers, without a warrant.

The arrest of volunteers, who have been fighting the forest blaze

with minimum resources, on the charges that they were “starting fires and filming them to raise money from international donors” sparked an outrage across the country. “My son is a guardian of the forest. He gave up his comfortable life in Sao Paulo and chose to live in a wooden cabin with no fence because he loves the forest and believes in protecting it,” says Patricia Romano, the mother of Joao Vitor, 27, who was one of the four arrested.

Mr. Vitor worked as a producer of videos in Sao Paulo before moving to Para in 2016 and founded the volunteer force with three others from this city. Known as the Alter Brigade, the group works voluntarily to protect the forest and communities of Alter do Chão, a scenic place caught in the crosshairs of land-grabbers. Mr. Vitor’s mother Ms. Patricia, a pioneer of Indian classical dances in Brazil,

credits the influence of Indian culture for her son’s work. “I raised my children in a very Indian environment. From a young age, Joao used to meditate and chant mantras. His love for forest and animals also comes from those traditions,” says Ms. Patricia, who travelled to India first time in 1996 to learn Bharatnatyam and Mohiniyattam at Natyalaya run by Kalamandalam Sumathi in Perumbavoor, Kerala. “Joao and his colleagues risk their lives to defend the Amazon.”

The Amazon has been burning for months, with little being done to control the blaze. The arrest of Alter Brigade volunteers, which became an international headline in less than 24 hours, has exposed the deep fault-lines colliding in the world’s biggest ecosystem. Shaji Thomas, a post-doctoral researcher at the Federal University of Para who has lived in Alter do Chão for 10 years coordinating many social and environmental projects, blames the government for the crisis. “The government has



done practically nothing to curb the fires. There is a parallel government run by landlords and big companies who dictate what the state should do. The timber lobby here is so powerful that they even block the police action,” says the academic, origi-

nally from India, who last month released a book on the history of social movements in the region.

Conflict zone

Mr. Thomas, who lived on a boat with local people at Alter do Chão, describes how the picturesque area, which has a sweet-water beach, became a conflict zone between hotel developers and indigenous tribes. In the past 30 years, says Mr. Thomas, almost all the locals were displaced from the village as the tourist industry rolled in, causing the destruction of local communities who were helped by some NGOs. “The NGOs are seen as enemies of development by both businesses and the government. Now, criminalising these NGOs is part of the new government’s strategy,” says Mr. Thomas, commenting on the arrest of Alter Brigade volunteers.

When the Amazon fires caught the world’s attention in August, Brazilian President Jair Bolsonaro blamed it on NGOs, without offering any evi-


dence. With the Amazon situation getting worse, a group of Brazilian lawyers and a human rights group are seeking to indict Mr. Bolsonaro at the International Criminal Court for “encouraging genocide against Brazil’s indigenous people”. But that hasn’t stopped Mr. Bolsonaro from pushing his evidence-free narrative. On Friday, he accused Hollywood actor and environmentalist Leonardo DiCaprio of funding the Amazon fires, trying to link him up with the Alter Brigade volunteers who were ordered released by a Para judge on Thursday.

As they stepped out of jail on Thursday evening, the four men held hands, raised their fists and shouted “Amazônia Viva!”, before collapsing into the waiting arms of their families and friends. The volunteers are now back in Alter do Chão, resuming their work as fighters against the raging blazes even as Mr. Bolsonaro trends on social networks around the world as a meme for dragging DiCaprio into this Amazonian affair.

Ballots, billionaires and Bloomberg

The former New York Mayor is directing his own fortunes towards his presidential campaign

WASHINGTON

 “I’m running for President to defeat Donald Trump and rebuild America,” the former New York City Mayor, Michael Bloomberg, wrote as he launched his campaign a few days ago. “He [Trump] represents an existential threat to our country and our values. If he wins another term in office, we may never recover from the damage.”

Mr. Bloomberg, a businessman and philanthropist, is one of the world’s richest people, with a net worth of about \$55 billion. He is a moderate and a strong advocate for climate action and gun control. Mostly a Democrat through the years, Mr. Bloomberg ran as a Republican in the mayoral race in NYC in

2001, became an independent during his second term and later, returned to the Democratic fold.

In the past, he has helped build a strong political counterforce to the National Rifle Association (NRA), a powerful gun lobby in the U.S. In 2018, he was the largest external spender on Democratic mid-term races, giving some \$24 million to 24 House races, *The New York Times* reported. He has also given millions to Republicans, whose policies were aligned with his own.

Now, Mr. Bloomberg is directing his fortunes towards his own campaign, raising some tough questions. Last week, he bought an astronomical \$37 million in nationwide TV ads.

Independent Senator from Vermont, Bernie Sanders, and Democratic Senator from Massachusetts, Elizabeth Warren, both progressives competing for the Democratic nomi-



nation, have criticised Mr. Bloomberg for throwing his personal wealth into the campaign.

“Michael Bloomberg is making a bet about democracy in 2020. He doesn’t need people, he only needs bags and bags of money,” Ms. War-

ren said in Iowa on Monday.

“I’m disgusted by the idea that Michael Bloomberg or any other billionaire thinks they can circumvent the political process and spend tens of millions of dollars to buy our elections,” Mr. Sanders said.

Media ties


Mr. Bloomberg does not plan on taking any political donations or a salary if he wins, his principal adviser Howard Wolfson said. Mr. Wolfson said Mr. Bloomberg not taking contributions makes him “wholly independent of special interests”.

The announcement also raises important policy questions about how Mr. Bloomberg’s media ties will be addressed. John Micklethwait, editor-in-chief of Bloomberg News, has responded to the situation, saying that while the company would continue to report on the elections, conduct polls, etc., it would take a break from publishing unsigned editorials and would not investigate Mr. Bloomberg or his Democratic rivals.

Is Sri Lanka witnessing a shift in rainfall patterns?

The country has been alternating between droughts and floods over the past few years

COLOMBO

 The outcome of their November 16 presidential poll may have given Sri Lankans much to discuss in the fortnight since, but many of them are invariably discussing another topic – the intensity of the recent spells of rain.

Even as Sri Lanka’s scheduled northeast monsoon is kicking in, the volume and force of the rainfall over the past week, almost every evening in many parts of the island, have drawn everyone’s attention.

Especially so, with the Disaster Management Centre predicting 100-150mm rainfall every day in many parts, including the north and the east that are prone to floods during heavy bouts of rain.

In a tropical country like Sri Lanka, it invariably rains at least a few days every month. Whether it is schoolchildren or office-goers, they are seldom deterred by the rain. They brave bad weather with practised ease and go about their daily routine. If the recent heavy spells came as a surprise to some locals, could there be a shift in the pattern of rainfall?

“Usually the end of November marks the onset of our second main [north-east] monsoon season. Some parts of the north and the east may be prone to flooding on days with very heavy rainfall, but the season is considered a favourable monsoon,” said Anusha Warnasooriya, Director at the Department of Meteorology. At the same time, the rainfall recorded in August and September was above average, she said.

Pointing to global phenomena

such as the El Nino, the Indian Ocean Dipole (IOD) and the La Nina – in which sea-surface temperatures tend to oscillate [rise or fall] depending on certain natural conditions – Ms. Warnasooriya said shifts in rainfall are being observed globally. “Such phenomena could either enhance or reduce our monsoon or inter-monsoon spells in Sri Lanka as well.”

Around the same time last year, flash floods wreaked havoc across the northern districts of Kilinochchi, Mullaitivu, Mannar, Vavuniya and Jaffna, affecting tens of thousands of people. In September this year, one person died and nearly 50,000 were affected when several parts of the island’s Southern and Western provinces flooded with up to 200 mm rainfall recorded in certain areas.

The instances of floods come two years after Sri Lanka experienced its worst drought in 40 years. In 2017, Sri Lankan farmers’ paddy cultivation took a severe beating, even raising concerns over food security. Of

the 8,00,000 hectares of paddy that Sri Lanka had hoped to cultivate that year, about 50% was damaged due to the drought. Over a million people were badly affected in the rice-eating country.

While subsequent monsoon brought some relief, the respite was short-lived. Ahead of last year’s northern floods, officials shifted from distributing drought relief to flood relief in a span of few weeks, as they tried addressing one crisis after another. While climate experts are yet to speak of any drastic departure from the usual rainfall patterns, the changes apparent are not insignificant, they say.

‘Being prepared’

Lareef Zubair, principal scientist at the Kandy-based Foundation for Environment, Climate and Technology (FECT), analysed data on climate captured over more than a century. “Colleagues in other countries and I found that this is the fifth occurrence of the Indian Ocean Dipole in 150



years,” he said.

Rather than using “monsoon” and “inter-monsoon” that are commonly used to connote seasons of rainfall in Sri Lanka, Dr. Zubair prefers to go by the Maha (October to March) and Yala (April to September) agricultural

cycles that are linked to rainfall.

Much of Sri Lanka receives 50% of its annual rainfall in the three months beginning October. In case of the north and the east, the period from October to December accounts for almost 70% of the rainfall.

“We used data to study how the IOD impacts the Maha season and predicted a shift,” he said, referring to a collaborative research publication that he was part of.

As of Saturday evening, the Disaster Management Centre’s situation report said as many as five people had died and nearly 1,500 affected in the recent bout of heavy rain. The Centre has also issued a warning to residents, asking them to stay indoors.

Given that there is widely shared concern over a potential shift in patterns, are authorities prepared to tackle the changes around harvesting seasons and for water management? “The short answer is that a lot more could be done in terms of preparedness,” Dr. Zubair said.

The rise of red tourism in China

Showcasing the revolutionary past is helping govt. promote the legitimacy of the Communist Party

LOUSHANGUAN

 Red Tourism, which attracts tourists in hordes to sites that showcase China’s revolutionary past, is beginning to breed prosperity in the countryside.

State planners have methodically developed a robust ecosystem, energised by carefully choreographed stories of how the founding father of Red China, Mao Zedong, and his comrades battled for the communist revolution in 1949.

The tales woven around prominent locations – markers on the path that led to the emergence of Red China – are now being leveraged for tourism. In turn, the glorification of the Chinese revolution is having a major downstream impact. Not only is red

tourism helping the authorities in eliminating rural poverty, but also promoting the legitimacy of the Communist Party of China (CPC). China’s millennial and Generation-Z, especially, are being expertly bloodied into the patriotic mainstream as framed by the CPC.

The Long March, the epic escape of the rank and file, as well as the leadership core of the CPC, in the face of almost certain annihilation by forces led by Chiang Kai-shek’s Kuomintang (KMT), is today at the heart of China’s flourishing red tourism industry.

Logging almost 9,000 km, in the face of natural and human adversity, Mao’s forces, adopting guerilla tactics, and pursuing great acts of deception, managed to escape a massive siege laid by a far more powerful enemy.

For 370 days beginning in October



1934, the Red Army, starting from eastern China’s heavily mountainous Jiangxi province, and then wading through rivers, marshes and snow-capped mountains, broke out of the KMT’s deadly encirclement. Finally, the Long March ended in northwest

China’s Shaanxi province, at Yanan, which subsequently became the crucible of the revolution, accomplished in 1949.

“Adventure, exploration, discovery, human courage and cowardice, ecstasy and triumph, suffering, sacrifice and loyalty, and then through it all, like a flame, an undimmed ardour and undying hope and amazing revolutionary optimism of those thousands of youths who would not admit defeat by man or nature or God or death – all this and more seemed embodied in the history of an odyssey unequalled in modern times,” wrote Edgar Snow, the American writer who chronicled a detailed account of the Long March in his famous classic *Red Star Over China*.

In the story of the Long March, the city of Zunyi, in southwest China’s Guizhou province, is a pivotal landmark. Following a nearly catastrophic military setback on the banks of the Xiang river, it was during a review conference in Zunyi, that Mao

stamped his leadership on the party.

Currently, crowds of tourists, donning the Red Army’s grey uniforms, throng the elegantly pillared two-story building, where the three day Zunyi conference was held from January 15, 1935.

Besides this star attraction, people surge to a nearby museum, exhibiting turning points along the Long March. Built four years ago, it is an icon representing the renewed focus on the revolutionary past on the watch of China’s current President, Xi Jinping.

‘Truly inspiring’

Within an hour’s drive from Zunyi is the Loushan pass – another major site along the Long March route. The successful capture of the Loushan pass was critical in preventing the Red Army’s entrapment in Zunyi city.

“The story of the Loushan pass battle is truly inspiring. It helps us to recognise our red genes and makes us ready to accept any challenge,”

says Xie Shixue, a post-graduate student of psychology. “We learn about the Long March and even our daily news through a dedicated mobile phone App,” she says.

It is at the village of Loushanguan, on the edge of the famous battleground, that the fusion of red tourism and China’s assault on rural poverty gets magnified.

“My business has doubled since the red tourism began,” says Ma Yi, a former migrant worker, who has returned home to launch a state-backed start-up, turning around his family’s traditional bamboo and rattan furniture business. A zero per cent loan from the local rural credit cooperative bank, supplementing his personal savings, had fed into Mr. Ma’s grassroots business.

Mr. Ma Yi’s enterprise is also part of Alibaba, China’s giant e-commerce network. “I was recently in Shanghai for the import expo looking for overseas customers, as we have decided that our humble business must now go global.”



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