



Killing the chills

The malaria vaccine must see speedy implementation from the lab to the field

The triumphs of science are best appreciated when they make human lives easier or safer, or simply, offer hope. The first ever World Health Organization (WHO)-approved anti-malaria vaccine must count among those triumphs. The approval marks a milestone in a timeline that records a long and laborious process to grapple with malaria, and somehow make it less of a killer. The vaccine that WHO has approved – RTS,S – has been used in pilot programme participants (children and infants) in Africa from 2015 after it got a nod for this specific use from the European Medicines Agency. This triumph comes at a time of great scientific endeavour, yes, but also notably at a time when it was feared that the progress against malaria was flagging. With this vaccine, which will significantly reduce the severity of cases and prevent deaths, hope has sprung anew that humankind might retard in its tracks a pathogen that has stalked sub-Saharan Africa and several other parts of the world for years now. WHO Director-General Dr. Tedros Adhanom rightly termed it as a historic moment, achieving a breakthrough not only for malaria control but also child health and science itself. The malaria vaccine, RTS,S, which has been in the making for nearly 30 years, acts against *P. falciparum*, believed to be the most deadly malaria parasite globally. As per WHO, in 2019, nearly half the world's population was at risk of malaria, while most cases and deaths occur in sub-Saharan Africa. There were an estimated 229 million cases in 2019, and malaria deaths stood at 4,09,000, with the WHO African region carrying a disproportionate burden – 94% of cases and deaths. Children under five are the most vulnerable group affected by malaria; in 2019, they accounted for about two thirds of all malaria deaths.

WHO said it was making a recommendation for use based on the key findings of pilot projects implemented in child health clinics in Ghana, Kenya and Malawi over two years. Data and insights gathered from these studies showed that the vaccine was not only feasible to introduce but that it also improves health and saves lives. Remarkably, it facilitated equitable access to malaria prevention, even during the COVID-19 pandemic, helping reach even hitherto unreached populations. While further steps are taken to manufacture, fund and roll out the vaccine to nations affected by malaria, maintaining equity of access is key. Dr. Tedros emphasised in his press conference that as the work towards providing vaccination continues, nations may, by no means, relinquish their routine malaria prevention activities, including providing insecticide-treated bed nets. While the world now has a way to kill the rigors – the chills characteristic of the infection – the next step should be speedy and meticulous implementation of the scientific miracle from the lab to the field.

Handling complexity

The Physics Nobel winners have developed tools to get a handle on complex systems

Bringing to a close speculation about the winner of the Physics Nobel prize this year, the Nobel committee decided to award a trio of researchers. One half went to Syukuro Manabe of Princeton University, U.S., and Klaus Hasselmann of the Max Planck Institute for Meteorology, Hamburg, Germany, for their work in climate science. In the long line of researchers who estimated the warming of the atmosphere due to gases in it, Syukuro Manabe's modelling, in collaboration with others – and over decades – is a classic work that showed, even in the 1960s, that the atmosphere would undergo another 2.3° C warming with the doubling of carbon dioxide content. Klaus Hasselmann identified a way of treating the random noise-like variations of the weather, devising a method to generate useful "signals" on the scale of the climate. Of interest was the way these models could show the effect of human activities on the climate. The other half of the prize, to Giorgio Parisi from the Sapienza University of Rome, Italy, is for developing a method to sensibly study complex condensed matter systems called "spin glasses" – an outstanding feat in both mathematical and physical innovation. The idea to break what is called "replica symmetry", seen in a spin glass, in a consistent manner, which was his contribution, led to a method to study one of the simplest models of a genuinely complex system. His work has helped solve problems in mathematics, biology and neuroscience; for instance, how memory is stored in networks of nerve cells.

What ties together the seemingly disparate works – the climate science work by Syukuro and Hasselmann on the one hand and theoretical condensed matter physics work by Parisi on the other – is that both describe complex physical systems. Physics is often thought of as a science of simple systems, and it is mostly celebrated and sometimes chided for this. Even rocket science, which inspires awe for its grandeur and accuracy, is mostly the study of so-called simple systems. Complexity arises when there are many, many interacting pieces in the system, with each moving in an independent way. The deceptively easy-looking problem of water rushing out of a tap is notoriously difficult to understand as to when it makes a transition from simple streamlined flow to a complex turbulent flow. The Nobel winners this year have handled such complex systems and developed tools to get meaningful, quantitative results out of them. Notable in this is the climate scientists' work, which makes it obvious where science stands on the issue of global warming and estimates the human fingerprint on climate change. With the COP26 summit drawing close, the Nobel committee's decision only underscores the need to take this into account.

The Congress is at the crossroads

A revised ideological line combined with an organisational revamp can bring the party back in the reckoning



ZOAYA HASAN

The judgment by contemporary writers of Congress leader Rahul Gandhi's leadership is almost uniformly harsh and unforgiving. It is common to contrast the strength of the formal organisation and leadership of the ruling Bharatiya Janata Party (BJP) with the deterioration and decay of the Congress party, especially the central leadership's failure to reverse this downside. The contrast between the Congress and the BJP is stark, not in terms of decision-making which is centralised in both cases, but in terms of overall political management.

The Congress party faces three major challenges – it has to elect a leader capable of keeping the party united, reconstruct its organisational structure across the States, and project and propagate a clear alternative ideological narrative to the BJP. These challenges are more apparent after the 2019 debacle in the general election and the leadership vacuum following Mr. Gandhi's resignation as president and the party's abject failure to elect a president to replace him.

Signs of changes

The fallout of Navjot Singh Sidhu's resignation as State Congress chief in Punjab almost 72 days after he was 'undeservingly' appointed to that post has exposed the fault lines in the party. While criticism by the media, the BJP and other Opposition politicians was on predictable lines, the absence of debate and consultation in the party regarding leadership change in Punjab just months ahead of the next Assembly elections (early next year) is a matter of wider concern.

Even though there is no percep-

tible effort to rebuild the organisation and institute formal leadership at various levels, there is a noticeable effort to revive the party through ideological changes pushed by Mr. Gandhi. Ideologically, he wants to take the Congress in a left-of-centre direction. Despite reservations within the party and outside to his unremitting critique of the Prime Minister, Mr. Gandhi has readily advanced ideological criticism of the Hindu right at every juncture. Additionally, he has pointedly attacked cronyism, which according to him has favoured a few corporate entities. He has also taken up the welfare and economic concerns of the poor.

The recent decision to induct two feisty critics of Hindutva, Kanhaiya Kumar and Jignesh Mevani, into the party's fold is an indication of this shift. This shift follows from Mr. Gandhi's widely reported statement in July to workers of his party's social media department (in an online event), "There are many people who are not scared, but are outside the Congress. All these people are ours. Bring them in," he had said, adding, "And those scared within our party should be shunted out. They are RSS people and they should go, let them enjoy. We do not want them, they are not needed. We want fearless people. This is our ideology. This is my basic message to you."

The left turn

This is not the first time the Congress has turned leftward. Indira Gandhi turned a series of measures after the 1969 split in the party, which later included the nationalisation of banks, abolition of privy purses and nationalisation of general insurance, dramatically appropriated the left platform. The second left turn happened under Congress president Sonia Gandhi's leadership when the United Progressive Alliance (UPA) which formed the government in 2004 with the support of the Left Front went on to implement the



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rural employment guarantee scheme and other rights based legislations. The circumstances that made these ideological shifts possible was the fact that Congress was in power in the Centre and in most States which enabled it to implement these policies. Effectively, the party has relied on the state to promote such policies. The third left turn is taking place under Mr. Gandhi when the Congress is in the Opposition, which makes the task more difficult except in these circumstances.

To regain and reconfigure

The current strategic shift indicates an attempt to regain ideological coherence and reconfigure the traditional social base of the party. Historically, as a party of consensus, the Congress had always come to power on a centrist platform reflecting its varied social base, including, most notably, its support from the lower sections of Indian society. Centrist and consensual politics, which explained its early success, do not seem to work in a divided polity. A party which once famously claimed to represent everyone seems to have lost the support of most groups in India's deeply polarised polity.

The party no longer enjoys Dalit support, competing for their vote with regional parties and the BJP; it has lost the support of upper castes who prefer to vote for the BJP; it has no support from the Other Backward Classes (OBC) ex-

cept in some States such as Rajasthan and Chhattisgarh thanks to State leaders; and the Muslim vote has drifted to regional parties or whoever can offer an alternative to the BJP.

The appointment of Charanjit Singh Channi, a Dalit, to replace Captain Amarinder Singh, a Jat Sikh, as Punjab's Chief Minister or supporting OBC Chief Minister Bhupesh Baghel over his rival T.S. Singh Deo in Chhattisgarh is an attempt to reconstruct its social base. It signals a message to the non-upper castes that they can hope to wield power through the Congress, which traditionally has had the upper castes dominate its leadership structure.

This demonstrates once again the power of ideology as an instrument of political mobilisation. But appointment of people with appropriate credentials is not enough. The Congress has to spell out and narrativise the ideological change such as it is. Ideology and organisation, moreover, are interconnected; both need to be taken on board in the party's overhaul. The ideological message needs to be communicated to the people. In the 2019 campaign for the general election, Mr. Gandhi pushed Nyuntam Aay Yojana (NYAY) – a minimum income guarantee scheme – but the party failed to communicate this scheme to the people; eventually it was overtaken by the PM Kisan scheme (or the Pradhan Mantri Kisan Samman Nidhi plan, a central scheme to augment the income of the small and marginal farmers) and the Balakot air strikes on targets in Pakistan (2019).

Programmes versus reform

In any case, radicalisation without institutionalisation is not sustainable. The strategic shift must involve a reordering of the institutional structures of the party. But very little has been done in the realm of organisational restructuring to broad-base the party and revive intra-party democracy. This is

partly because the focal point of the leadership of the Gandhis was not and has not been on party building. Doubts about party regeneration in the past had led to a greater reliance on the government and welfare programmes for winning support than on reforming the party to mobilise the electorate. The response of the leadership to most fundamental issues was generally governmental rather than political. The lack of organisational heft was a severe limitation hampering its ability to reap the political dividends that could have accrued to the party from the unprecedented welfare spending by the UPA government. Organisational decline has impeded its capacity to engage with mass politics. This remains unchanged even when the party is in opposition.

The faultlines

Nearly two and a half years after its second consecutive defeat in parliamentary elections, the party still remains without a full-time president. That is the crux of the problem. It does not have a properly constituted Congress Working Committee (CWC) for institutionalised deliberations and decision-making. Even the Core Group formed by Sonia Gandhi in 2004 is invisible as power is concentrated in the Gandhi triumvirate. Rahul Gandhi is calling the shots without holding any formal position. Not surprisingly, many of the decisions taken today seem ad hoc and do not appear to be part of an overall plan on how to move forward. Yet, we cannot write off the Congress which has roots all across the country. The revised ideological line combined with an organisational revamp can bring the Congress back in the reckoning.

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Seeding a data revolution in Indian agriculture

But technology fixes and agri-business investments alone will not be enough to improve farmers' livelihoods



JAYAHARI K.M. & A. ARUNACHALAM

In June this year, two significant documents relating to the Indian agriculture sector were released. The first is a consultation paper on the India Digital Ecosystem of Agriculture (IDEA) from the Ministry of Agriculture and Farmers' Welfare (MoA&FW) and the second on Indian Agriculture: Ripe for Disruption from a private organisation, Bain and Company. The first talks about a digital revolution in the agriculture sector and later predicts a revolutionary investment growth in agri-logistics, offtake, and agri-input delivery by 2025; these are, surprisingly, highly complementary. The fact is that every segment of present-day life is data-hungry. The MoA&FW report describes creating data to fuel the growth predicted by Bain and Company.

The forecast

The Bain report is a data-based prediction on agri-business scenarios, anchored to the agricultural set-up at present and predicting its future trajectories in another 20 years. It includes targeting the production of alternative proteins, and food cell-based food/ingredients and initiating ocean farming, etc. The report has a 'today forward- future back approach' and predicts a drastic investment opportunity development by

2025. The agriculture sector (currently worth \$370 billion), is estimated to receive an additional \$35 billion investment. The two enabling conditions for such investment opportunities are the changes in the regulatory framework, especially recent changes in the Farm Acts and digital disruption. The report argues that benefiting from the huge investments into the agri-ecosystem, doubling farmers' income targets can be achieved in near future.

The idea of integration

The IDEA-consulting paper is based on the Task Force and Working Group report constituted by the MoA&FW to design the blueprint of "digital agriculture" – which is similar to the digital disruption mentioned in the Bain report. Eventually, the farmer and the improvement of farmers' livelihood is the aim of the IDEA concept and it is proposed to happen through tight integration of agri-tech innovation and the agriculture industry ecosystem to farming and food systems. To be precise, the IDEA concept profounds the creation of second enabling conditions (which is described in the Bain report). The IDEA principles explicitly talk about openness of data, which means open to businesses and farmers, indicating the kind of integration it aims at.

Value-added innovative services by agri-tech industries and startups are an integral part of the IDEA architecture. Beyond the architecture, these services listed in the document (to be available on the platform) are equally important data for farmers and businesses. The Indian agriculture sector



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in future will encompass farm to fork and pave the way for a single national market with a national platform with better connection between producer and consumers. Through their work, the management experts, Parijat Jain, Prashant Sarin and Shalabh Singawane (the authors of the Bain report) have depicted the agricultural reforms announced by the union government as a game-changer in the agriculture sector.

A thread of digital disruption

The IT industry has opposition to IDEA mainly due to the ethics of creating a Unique Farmer ID based on one's Aadhaar number and also the potential for data misuse. Beyond the news coverage about the prospects of achieving the goal of Doubling Farmers Income on which the present government has almost lost its hope, the Bain report has not been widely discussed – at least in the public domain. The assumptions used by authors of the Bain report, especially for its 'future back approach', need more or less focusing on widespread food production in controlled environ-

ments. No doubt, the emission, energy, and other resource footprints and sustainability issues around these techniques must be carefully studied to confirm the projected trajectory (which is not a part of the report). However, the report has convincingly demonstrated the business opportunity available in supply chains between farm to Agricultural Produce Market Committee (APMC) *mandi* and *mandi* to the customer, which can be realised with the support of digital disruption and the latest agriculture reforms.

Both these reports heavily rely on digital disruption to improve farmers' livelihoods, without discussing how much farmers will be prepared to benefit from these newly emerging business environments. Hinting that the Union government is serious about this digital support to the agriculture sector – the Union Minister of Agriculture and Farmers Welfare, Narendra Singh Tomar, has emphasised the significance of the farmer's database being prepared and has sought the support of States.

An unconvincing 'how'

However, the fact is that a majority of small and marginal farmers are not technology-savvy. That most of them are under-educated for capacity building is ignored amidst these ambitious developments. The Bain report relies on the general assumption that more investments into the agriculture sector will benefit farmers; 'but how' has not been convincingly answered. Similarly, how the technology fix will help resolve all the nine issues of Indian agriculture listed at the

beginning of the report is unclear in the IDEA concept. Together, the two reports look forward to benefiting from the recent agriculture legislature changes without perceiving the capacity-building required at a farmer's end. Politically, these two reports ignore the protest of farmers against the reforms without considering it as a barrier or risk factor resulting in a repealing of these new farm laws.

Focus on the farmer

While agreeing on the fact that a data revolution is inevitable in the agriculture sector, given its socio-political complexities, we cannot just count on technology fixes and agri-business investments for improving farmers' livelihoods. There need to be immense efforts to improve the capacities of the farmers in India – at least until the educated young farmers replace the existing under-educated small and medium farmers. This capacity building can be done through a mixed approach – preferably building the capacities of individual farmers or coping with the new situation by establishing support systems, through FPOs and other farmers associations where technical support is available for farmers. Considering the size of the agriculture sector of the country this is not going to be an easy task but would need a separate programme across the country with considerable investment.

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LETTERS TO THE EDITOR

Letters emailed to letters@thehindu.co.in must carry the full postal address and the full name or the name with initials.

'Save a life' incentive

The 'Good Samaritan' scheme to ensure a better response to intervene and save the lives of road accident victims could be a game-changer. But it is possible that many a Good Samaritan, true to their nature, may not be that willing to collect a reward. To reduce road accidents, strict enforcement of traffic rules and regulations is key. It should be 'ABC' (Always Be Careful) on the road.
C.G. KURIKOSSE,
Malippara, Kothamangalam, Kerala

I am a regular highway and city driver since 1967. Accidents that are routinely and conveniently attributed to "speeding" have their cause elsewhere: heavy vehicles habitually hog the extreme right lane, forcing motorists and others to overtake from the left, or pass from the extreme left lane; most trucks driving at night have inadequate or non-working tail-lights. Reflectors are not an alternative; tail lights of trucks, even when working, are obstructed with heavy

metal strips, supposedly to protect them from damage; trucks are often carelessly parked without the mandatory warning lights. What we need is a thorough check of tail lights at least at every inter-State checkpoint, and vigorous patrolling.
PHIROZE B. JAVERI,
Mumbai

Common school system

As someone who teaches in a public school, one has every reason to confirm the fact of a huge increase in admissions in such schools in

the aftermath of the financial distress among a section which has been forced them to withdraw their wards from private schools. It is also to be noted that many private schools, especially the unregistered ones, have closed down. This too has contributed to the increase in public school enrolment. There are some lessons: one, we need to have a robust public school system whose schools ought to be sufficiently funded, staffed and equipped to cater to the needs of all children in their

respective neighbourhoods. Two, it is the people who must come together to demand such a system of public education, for governments are increasingly uninterested in creating or sustaining the public system, including that of education. An unfortunate consequence of this sudden rise in the number of students in public schools is that most schools are not ready to handle the emerging situation. Not only do they suffer from a lack of infrastructure and other resources but there is also a

shortage of staff which is only getting exacerbated by the mindless deputation of teachers on non-academic duties. After all, children of the powerful and the well-off do not study in these schools. This brings us to the final lesson – people would not have suffered such a distressing situation had there been a common school system ensuring equitable education.
FIROZ AHMAD,
New Delhi

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