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**On Gautam Navlakha's Jail Transfer**

People's Union for Democratic Rights (PUDR) is aghast at the National Investigation Agency (NIA) surreptitiously whisking away Gautam Navlakha from Tihar Jail to Mumbai on 25 May 2020, without informing his lawyers or his family. Navlakha, who is 67, was arrested by the NIA in the Bhima Koregaon matter, the infamous case that has become the vehicle to arrest human rights activists, journalists, academicians and lawyers critical of government actions. Navlakha had surrendered on 14 April and was lodged at Tihar jail since 25 April 2020.

This secretive action by the NIA reeks of mala fide intentions. The happenings over the last few days bear this out.

(i) On 22 May, the High Court of Delhi heard an interim bail application by Navlakha made in the context of his ailments, health issues and age, and the growing fear of the spread of COVID-19 in the jail. The court had directed the prosecution to submit a status report by 26 May. The Tihar jail superintendent was also directed to furnish a separate report on his health situation and the matter was listed for hearing four days later on 27 May, upon request by the NIA counsel. The NIA had assured the court that all necessary measures would be taken to keep Navlakha safe in the prison.

(ii) On 23 May, when Navlakha's judicial remand period was coming to an end, the NIA applied for a further judicial remand of one month, and Navlakha was remanded to Tihar jail custody till 22 June.

(iii) On 24 May, Navlakha informed his family that he had been given a single cell in Tihar jail in keeping with his medical condition.

(iv) On 24 May itself, which was a Sunday, the NIA obtained from the special court at Greater Mumbai, without informing Navlakha or his lawyers, an order for his production at Mumbai. The application made by the NIA before the court is not available and it cannot be ascertained whether the Mumbai Court was informed of the interim bail matter to be heard on 27 May in the context of his health and the ongoing COVID-19 pandemic. The

order was sent to the Tihar jail superintendent for further action.

(v) Early on 25 May, a gazetted holiday, the NIA Special Court in Delhi allowed the email request sent from Tihar jail for permitting the transfer of Navlakha to Mumbai. It is unclear whether this email request mentioned the pendency of the bail matter before the high court or the concerns regarding his health, even though the Delhi High Court had directed Tihar jail to file a medical report given Navlakha's high blood pressure and other ailments.

(vi) After the conduct of these one-sided proceedings for 48 hours, Navlakha's family received phone calls on the afternoon of 26 May stating that he had been brought to Mumbai by train and produced before the NIA Court there. Navlakha informed his family that he had been given all of five minutes to pack up and leave the previous afternoon. He also stated that the process of being transferred to Mumbai in an overnight train without being allowed to contact his lawyer and family affected his health and that his blood pressure had shot up alarmingly.

(vii) The proceedings at the Mumbai Court also took place in the absence of his lawyers. Navlakha was directed to be sent to Taloja jail in Navi Mumbai, where at least one death has occurred due to COVID-19.

(viii) News reports state that the Taloja jail superintendent had said on 26 May that they would keep Navlakha in a quarantine centre at Gokhale High School at Taloja for 14 days.

The account provided above makes it amply clear that this action of undue haste by the NIA to transfer Navlakha to Mumbai can only be viewed in the context of his interim bail plea that was to be heard on 27 May. The hastiness finds no basis since neither was his presence required before the court in Mumbai in any proceeding on any forthcoming date, nor did the police require him for custodial interrogation. And this action effectively renders Navlakha's bail application meaningless.

The NIA also acted secretly by keeping him and his counsel completely in the dark. Additionally, it remains unclear whether the information of the pending hearing at the Delhi High Court was even shared with the judge who issued the

production warrant at Mumbai, or the judge in Delhi who allowed the request to transfer Navlakha to Mumbai. Finally, despite an undertaking before the high court to the contrary, the NIA has put Navlakha's health at risk by subjecting him to unwarranted exposure and transferring him to the state and city that is facing the COVID-19 crisis in the most serious manner. His communication with his family does not suggest that he received necessary prescription and medicines for his travel to Mumbai.

PUDR expresses grave concern regarding such actions by a top investigation agency of the country. We express hope that judicial authorities will take cognisance of such unethical and malicious actions by the NIA and pass necessary orders to undo the wrong and to prevent such violations in future. We call upon all democratically minded people to express their opposition to these reprehensible actions.

**Radhika Chitkara, Vikas Kumar**  
Secretaries, PUDR

## Structuring Bailouts during COVID-19

With the COVID-19 pandemic, economic stimulus packages are in vogue, more like they are the need of the hour. It comes as no surprise that the opening up of economies in the post-lockdown era would take several years of resilience to recoup, restore and reconstitute the cost of these stimulus packages to the benefits of society. While most of these new pandemic relief funds are to bolster a tapped-out small- and medium-sized enterprise segment and further facilitate clinical and medicinal facilities deluged by infected patients, in some parts, these are also being used for keeping afloat the unemployed citizens, providing free foodgrains and cooking gas and keeping up with other similar domestic market demands.

India with its insidious problems of the poverty-ridden and vulnerable population suffering from multiple economic and social deprivations, particularly the migrant workers, who are majorly engaged in informal and unorganised sectors (employing a predominant percent of workforce), along with the health sector marred by a myriad of exigencies—seeks

to attenuate the effect of the lockdown on its economy. With a lockdown of more than 30 days, the economy has come to a standstill, exacerbated by the already existing public debt piling up. The soaring government spending and disrupted economic activities may not revive completely any time soon in the near future to gain momentum in full swing. The loss of revenue on account of the lockdown is likely to take the combined fiscal deficit of the central and state governments for this fiscal year well beyond 10% of the gross domestic product (GDP), as against the budgeted estimate of 6.5%. At 70%, India's debt-to-GDP ratio is certain to increase, as debt rises and nominal GDP contracts. This leads to an obvious question of how to finance the economy in order to keep it sustainably afloat wherein authorities may attempt to dither and incompleteness shall be rendered by any monetary union without fiscal policy union or a word of caution.

Theoretically as well as empirically, for a country like India to run a budget deficit, it must resort to financing through public debt issuance, and generate a higher interest rate, which, in fact, will again run into a deeper budget deficit. The problem of moral hazard (popularly coexisting with the “no bailout principle”) and overspending by irresponsible governments will not help break the cycle of debt creation. It is the support and protection to the private sector from governments that might help achieve the initial ambitious growth rate of 3.5%, which has been slashed to 1.9% by the International Monetary Fund (IMF) amid the pandemic. Also, ostensibly, allowing each state to be responsible for its own debt with no guarantee from the centre is an option open to exploration; however, the level of political consensus required to make this happen is hard to implement, and is tantamount to a “nothingburger.” What is more, policymakers delve into different options to find the most socially acceptable, politically feasible and economically efficient one, and markets keep pushing for a solution.

Nevertheless, the basic ideology and global experience state that credit lines must not be extended to those over whom no control can be exerted to curtail their spendings, so that the commitments can be expected to be honoured. Alternatively, bursaries may be made out from consolidated sinking fund (CSF) and guarantee redemption fund (GRF); however, considering the amount of bail-outs rolled out by the various countries, especially in the form of callable bonds, depleting funds may not be the right approach as opposed to raising money from bonds and auction treasury bills. Another critical aspect is the power of the central government to seek solace under the shelter of the Fiscal Responsibility and Budget Management Act, 2003: the “escape clause,” under Section 4 sub-clause (2) read with Section 5 of the said act, provides flexibility for the central bank to enter into primary markets to subscribe government bonds during exogenous reasons pertaining to national security, war, emergency, calamity, inter alia. Earlier this year, the limit was relaxed to 3.5% of the gross state domestic product for fiscal year 2020.

To put it succinctly, as contended by many, precluding the premonition of COVID-19, a global health emergency, from accelerating itself into a sovereign financial crisis is quintessentially morphing the situation to be included into Sustainable Development Goals. A range of attributes needs to be prioritised and kept in mind while designing practical solutions to this confounding problem of funding for the dual COVID-19 and financial crisis.

**Ayush Arora**, NEW DELHI,

**Parul Garg**, BENGALURU

## Corrigendum

Some corrections have been made in the article “Crossroads and Boundaries: Labour Migration, Trafficking and Gender” by Indrani Mazumdar and Neetha N (*EPW*, 16 May 2020).

The errors have been corrected on the *EPW* website.

*The errors are regretted. — Ed.*

## EPW Engage

The following article has been published in the past week in the *EPW Engage* section ([www.epw.in/engage](http://www.epw.in/engage)).

(1) Digital Surveillance Systems to Combat COVID-19 May Do More Harm Than Good—*Kritika Bhardwaj*

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## Employment Insecurities in the Service Sector

*Employers' strategies of pushing lay-offs and labour reforms intensify the precarity of employment.*

The global scale of the economic impact of the pandemic has cut across sectors and industries, sparing none, leading to widespread lay-offs and retrenchments in the country. In the Indian context, the migrant labour and working poor employed in the informal sector were the first to bear the brunt of the lockdown in terms of jobs and income losses. But, the pandemic has worsened the already existing employment crisis in the country, wherein there were about 30 million unemployed persons as per the Periodic Labour Force Survey, 2017–18.

Amidst the lockdown, the contraction in the services sector that employs about 144.4 million people has also led to an unprecedented rise in cuts in salaries or instances of deferred payments, lay-offs, termination of contracts, retrenchments, and a freeze in hiring new employees. The Nikkei/IHS Markit Services Purchasing Managers' Index, which plummeted from 49.3 in March 2020 to 5.4 in April, however, rose to 12.6 in May. But, this indicated a drastic contraction of the sector since the first survey 14 years ago. According to the Centre for Monitoring Indian Economy, the number of salaried employees reduced from 86 million in 2019–20 to 68 million in April 2020, while there was no reported increase in salaried jobs, with the number marginally declining from 68.4 million in April 2020 to 68.3 million in the month of May. This has caused considerable insecurity not just among the blue-collar workers but also white-collar workers and professionals, especially in sectors such as aviation, tourism, hospitality, e-commerce, media, retail, logistics, real estate, and information technology (IT) sectors.

The predicament of employees in the \$190 billion IT services industry is a case in point. This sector merits special attention as India has established itself as a major player in the IT sector that had expanded at an unrivalled pace over time. The sector emerged as one of the largest earners of foreign exchange for the country and also helped in the expansion of other allied sectors. In India, several companies in the IT sector across the country have started to downsize by terminating employees, and many more are reported to be in the process of laying off their staff in the coming months, in order to optimise and rationalise costs in the short term, adversely affecting

those employed in the IT, IT-enabled services, business process outsourcing, and knowledge process outsourcing sectors.

The tech start-ups have also been facing a decline in revenues due to the pandemic. According to the National Association of Software and Services Companies (NASSCOM) survey of 250 start-ups conducted in April, around 62% suffered a revenue decline of over 40%, while 34% faced a revenue decline of over 80%. A majority of the lay-offs have been in the venture capital-backed tech start-ups and small and medium IT firms dependent on a few large clients, even though large firms are also reported to be resorting to the lay-offs or have furloughed workers. However, it is to be noted that in India, as well as globally, not all technology companies have been equally affected by the pandemic. In addition, according to industry experts, the IT companies are in a better position to absorb the adverse impact on cost, given their high utilisation level of employees and low bench strength of reserve employees who are not deployed in any projects.

However, amidst this ever-worsening unemployment situation, overall demand slowdown and business disruptions, NASSCOM has also been pushing forth labour reforms in the sector that would benefit domestic as well as multinational companies. NASSCOM has requested the state governments of Uttar Pradesh, Madhya Pradesh, Maharashtra and Gujarat to amend the existing labour laws that, according to the association, would ease business conditions and help cut expenditure. Specifically, NASSCOM has sought permission to furlough employees, lay-off of surplus employees, relax daily and weekly work-hour limits, allow women to work at night from home, and grant employers a self-declaratory model to comply with the government rules, encouraging companies to use the pandemic as an opportunity to transform their digital transformation journeys.

The request to state governments by NASSCOM has come at a time when multiple complaints have already been made to the state governments by the employees' unions regarding illegal lay-offs and salary cuts by IT firms during the lockdown, apart from allegations of perpetuation of unfair labour practices. The push for amending labour laws pertaining to the information technology sector by NASSCOM also follows the amendments to labour laws made by some states, which apply to factories and

the manufacturing sector. Such policies, according to the association, are also expected to facilitate investment in technology, specifically in technology services and engineering solutions, by improving the ease of doing business as the pandemic has also catalysed innovations in digital and automation technologies. Weakening labour protection, however, would not necessarily bring about more private investment. Moreover, the costs of these companies' strategies, to a disproportionately large degree, fall on their employees.

The pandemic is also being used to safeguard the interests of the companies at the expense of the employees by infringing upon the existing labour laws and facilitating the "ease of doing business" in the time of the lockdown imposed during the pandemic. The states' attitude of unequivocally taking the side of the interests of capital over that of labour not only reflects the power of employers' lobbies, but also deepens the sense of insecurity among labour in general and employees in the service sector in particular.

## Migration Commission

*The Migration Commission must listen to the workers' voices and their concerns.*

The Prime Minister announced in a Mann ki Baat broadcast recently that he was considering setting up a Migration Commission for the employment of migrant labourers. It would work towards mapping the skills of these labourers. He also spoke of providing self-employment and setting up small-scale industries in villages. The Uttar Pradesh government too had announced a migration commission to provide jobs and social security to the workers returning to that state.

These are laudable aims and would help in reducing distress migration to a great extent since opportunities would open up at the local level. What is imperative, however, is that the authorities must listen to their voices in framing guidelines meant to protect them from exploitation. The concept of the Migration Commission must be debated, discussed and nuanced widely to ensure that the migrant workers' concerns, issues and experiences are reflected predominantly. This would mean that their voices are institutionalised and the government is, thus, held accountable in fulfilment of the aims and objectives of the commission.

But, ironically, several states have changed their labour laws (some changes have been rescinded), which hardly bodes well for these workers. The rationale behind these changes is that industries need to get back on their feet after the slump during the lockdown, and labour laws only make this difficult (a number of articles in this journal have shown how fallacious this logic is). These changes only weaken the workers' capacity to bargain for their rights and just remuneration for their labour. The announcement of a Migration Commission in such a situation does not generate the confidence that the workers' interests will dominate its objectives.

The migrant workers also seem to be buffeted by not only the circumstances beyond their control but also by the attitude towards them by both, the states of their origin as well as the destination ones. There was talk by the state, which sends out the largest number of migrants, that its permission would be needed before "our" workers are taken by "other" states. This received a prompt reaction from forces in the destination states, saying that the workers would have to seek permission to enter these states. Surely, these workers enjoy constitutional

rights like any other Indian citizens to move freely in the country without seeking permission from either state government. In a couple of other industrial states, the state governments were reluctant to let the migrant workers leave during the lockdown. When media reports clearly showed that this was at the behest of industry bodies in these states, which were worried about the lack of labour, and this led to a public uproar, they relented. What comes across is the utilitarian view towards these workers who are expected to exercise no agency of their own in choosing their methods of livelihoods and how to go about it. This was also amply demonstrated right from the time of the first announcement of the national lockdown through all the phases until the present.

The media has begun reporting that sections of migrant workers want to go back to states where they were working. More importantly, there are reports of various industry bodies in several states that are paying for flights and buses to bring back these workers from their homes. The agricultural economy's none too healthy state has been responsible in the first place in a large measure for these workers seeking jobs in faraway cities. According to reports in May 2020, 4.89 crore persons from 3.44 crore households sought work under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) works, well above the number at the same time last year.

Undoubtedly, Indian metropolises, cities and towns have benefited hugely by the labour of the migrant workers. It is harrowing, therefore, to note that at none of these sites across the country did they feel "at home" or secure enough to stay on. Nor were measures taken immediately to ensure that they could go to their home states comfortably much before the pandemic took on huge proportions. If the states of origin must ensure that their citizens get decent work and are not forced to migrate and work in abysmal conditions, then the destination states too must ensure that these workers are not made to feel like helpless "outsiders." The objectives and aims of the Migrant Commission at the national as well as state levels must take all these factors into account. Above all, they must ensure that it is the voices of these workers that must be taken into consideration.



## Black Lives Matter

The brutal killing of George Floyd allegedly by a police officer has not only led to nationwide protests in the United States (us), but it also had a spillover effect in other cities of the world. The action of the police against the victim seems to be devoid of the procedural reason that shapes and regulates the criminal justice system. It can be designated as excess in reason, and hence is thoughtless. It seems to go beyond the ethical, as it defies the harnessing power of human emotions that has an arresting impact on the racial outrage. It is in this sense that the police action is also heartless. The police action suggests that reason as well as emotion seem to have lost control over the functioning of the police.

The police action seems to be lacking in procedural reason on the following grounds. First, as the images of the incident in the media show, such an action was not triggered either from aggressive or defensive resistance by the victim. Second, one could not hear Floyd casting derogatory or disrespectful comments on the police officer. In fact, he was making a desperate plea that he "can't breathe." Third, the police action seems to have resulted from the over-criminalisation of non-violent offences, such as alleged use of fake currency by the victim. However, was the police action really in proportion to the provisions and procedures given in the manual of the criminal justice system of the us? Finally, the police action leading to the instant death of Floyd necessarily throttles the due process of law that would guarantee justice to a victim of police excesses.

In the above context of reasoning, the absence of adequate procedural reason for the police action did not treat an ordinary offence with the ordinary means of law enforcement. On the contrary, it used extraordinary brutal power of the police officer's knees that, as the autopsy report suggests, suffocated the victim to death. It is ironic to see some of the police personnel on their knees, pleading with the protestors for peace and perhaps to express their collective guilt.

The police action demonstrated that those who are responsible for such a gruesome killing are heartless on two counts. First, the police officers in question did not allow moral reason to interfere with the brutal act of killing Floyd. Such reasons would force the cops to refrain from taking hasty action and would make some concession to harshness before resorting to action that may

have fatal consequences for the victim. Thus, the team of cops, particularly the main accused, could have seen in the victim's alleged attempt at using fake currency an element of compulsion that resulted from desperation caused by unemployment and aggravated helplessness of many like Floyd. Moreover, in the extraordinary circumstances when the whole of humanity is in the midst of death and struggling to save and perhaps celebrate life, the police are expected to consider that "Black lives matter."

Generally speaking, actions, particularly by bad cops, involve either humiliating or, in worst cases, physically eliminating those who are considered as the adversaries of law enforcement. In the us context, it has been observed by scholars that the relations between the African Americans and the police have been less congenial. In the current tragic incident, the police involved did not seem to be in the mood to listen to a sincere plea made by a white woman with an altruistic hope to protect Floyd from the excess police action. In fact, the cop did not look happy at such an intervention that would have saved a life, had it been taken seriously.

This compels us to raise two pertinent questions. One is of transcendental nature, while the other one is emotive. First, how does a society that has a rich intellectual tradition of philosophy of justice, multiculturalism and "egalitarianism" allow police malfeasance as well as racial profiling to thrive? It is against this kind of a life mired with a series of injustices that the current protests have an unparalleled moral significance. The protestors seem to assign a much higher normative value to the universal cause of justice that transcends much beyond the individual good and merges with the general good. These protests, thus, have another important layer of moral consciousness to stand on the side of justice; justice as a universal good to be shared by a person, irrespective of social background such as colour or creed. These protests appear to be equally significant particularly in the current COVID-19 crisis that poses a real danger to human life. The solidarity that is evident in the widespread protests indicates the consolidation of social consciousness that finds its determined articulation against injustice. Social consciousness represents an outcry against injustice, and moral consciousness represents the cry for justice.

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FROM 50 YEARS AGO

**ECONOMIC AND POLITICAL WEEKLY**

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### Rice Over Race

The overwhelming vote by which the United National Party (UNP) was thrown out of power on May 27 and replaced by a coalition led by the Sri Lanka Freedom Party (SLFP) reaffirms the flexibility of Ceylon's political system and the

sophistication of its electorate. Ceylon's political parties and institutions have shown a great ability to reflect social change and respond to new social demands.

In 1956, the SLFP came to power in response to the needs of the Sinhala-speaking majority who had till then been denied the levers of power by the English-speaking elite's control of the island's largest and best organised party till that time, the UNP. Instead of becoming disgruntled and obstructive in opposition, the UNP enlarged its following by espousing popular sentiments like veneration of Buddhism and

encouragement of the Sinhala language. In 1965, after a campaign in which freedom of the Press and protection of Buddhism from creeping socialism were the main planks of the UNP platform, the electorate opted by a small majority for a UNP-led coalition in which the main Ceylon Tamil party, the Federal Party, was the chief junior partner.

During its five years of power the UNP followed middle-of-the-road policies. The state corporations set up by the SLFP were expanded and new ones created although no outright measures of nationalisation were taken.

# Of Whales and Wheels

## Buddhist Lessons in Democracy

V GEETHA

There is a genre of tales in Buddhist narrative traditions that relates the ordeals of bodhisattvas who gave of themselves freely, to feed the hungry and bring succour to those in pain. Such giving was not merely metaphorical; often the bodhisattva consents to a dismembering of their body, or body parts. Whether ruler, ascetic, animal or plant, the bodhisattva's self-sacrifice establishes the importance of the quintessential Buddhist virtue of *maithri*, the connectedness of all life, such that what is sacrificed continues to live on, nurturing and nourishing life in another form.

One of the stories in this genre features a king who gets anxious when a soothsayer tells him that his kingdom will receive no rain for 12 years and consequently be devastated by hunger. The king consults his ministers and feudal lords about what might be done, and if the present stock of grain in the kingdom would help the population tide over a reasonable period of time, before hunger sets in. Sadly, it came about that the grain would not last for long, and predictably the kingdom is plunged into famine. The king decides that his duty is to assuage the great hunger on display, and resolves to give of himself. He asks of the universe that he should be allowed to die and be reborn as a giant fish on whose flesh the populace could feed. His wish is granted, and he dies and is born again as a whale. The creature willingly offers itself to the hungry, first turning on one side and then the other, till all of its gigantic body is eaten up and hunger kept at bay over a 12-year period (Ohnuma 2009: 18–19).

In this vision of the state and sovereign, authority is not to be actualised through regulating or securing the state's powers over the life and death of

its subjects. Rather, sovereign power is to be realised in and through the state's willingness to heed hunger and social suffering. Thus, a willing abdication of power, and a wilful taking on of pain and hurt in the service of the greater common good, characterise the ideal state. Importantly, the sovereign power that does this has recourse not to brave words or tantalising rhetoric; rather it acts, endures pain and death, is transfigured into a being that serves the subject, and the results are consequential, in a visceral sense.

### Wheel of the Dhamma

It was perhaps this Buddhist sense of what a state might yet do that propelled B R Ambedkar to examine its virtues and limits in one of his last writings, *Buddha or Karl Marx* (Ambedkar 1987). He argued that the state, even if it were to act at the behest of the poorest, would still need to ensure that in doing so, its authority does not settle into permanent coercion. This was to be achieved not so much through a system of checks and balances that regulates state power, rather it had to emanate from the state adhering to an ethics of restraint and a sense of *maithri*. This ethics, Ambedkar was convinced, was embodied in the Buddha's dhamma. However, it was not enough to expound the latter or assume that once the wheel of the dhamma, so to speak, was set in motion, nothing further needed be done, except proclaim its singularity. Rather, the dhamma had to be periodically renewed, in other words, its eternal wheel had to move, both in keeping with the spirit of the past that had given birth to it, and the needs of the ever-changing present.

Ambedkar made clear that such renewal must heed an important first principle; above all, the state had to attend

to the problem of poverty. If that was not done, the very fulcrum of existence stood to be dislodged and the world thrown out of gear. Significantly, Ambedkar called attention to the long causal line that connected destitution to the collapse of the social order. Quoting and paraphrasing from the “Cakkavatti Sihanada Suttanta” (part of the *Digha Nikaya*) Ambedkar noted:

from goods not being bestowed on the destitute, poverty ... stealing ... violence ... murder ... lying ... evil-speaking ... immorality grew rife. Among (them) brethren, three things grew ... incest, wanton greed and perverted lust. (1987: 458)

The state, then, has to act decisively, and with a keen sense of ethical duty. For it to be able to summon ethical force, it has to be responsive to civil suffering and heed the qualms of public conscience. Ambedkar set great store by the latter, since he viewed it as a necessary condition for state action to be effective. Speaking in the Rajya Sabha in 1954 on the occasion of the tabling of a report on the state of the Scheduled Castes by the commissioner in charge, he noted with regret that the report was incomplete, and its narrative did not appear to be seized with a sense of ethical urgency (Ambedkar 1997: 895–99).

He was being cautionary as well as critical in this context: if the state failed to heed social suffering with the gravity it deserved, such suffering was bound to continue, and no amount of pious rhetoric was likely to rectify the situation. The question, of course, was: How might one render the state ethically accountable?

Ambedkar located the state's sovereign power in the general will, to borrow a term from Rousseau, and this latter, meanwhile, could be effective to the extent that it cultivated a nuanced and democratic sensitivity to social suffering. Aware as he was of class and caste interests that would thwart the emergence of a general will, he yet imagined that the practice of democracy, in a molecular sense, and the schooling of the social order into the “associated life,” could create conditions for its emergence. He assigned premier role to thought, to

the labour of thinking rather, in building such a democratic universe.

### Ethics of Accountability

During his student days at Columbia, he was witness to the phenomenon of knowledge, contained in the social sciences, being pressed into service to address and solve social problems, posed by unbridled capitalist growth. Those who upheld the claims of such knowledge were driven to do so, in their own words, by ethical qualms that could not abide the vast inequality that characterised American society in the so-called gilded age and after. Besides they were shocked by a mounting wave of strikes and the growing assertion of labour. Responding to the latter, these men, known in American intellectual history as the “progressive,” adumbrated an ethics of accountability, which they argued, ought to animate state responses. Significantly, many amongst the progressives stopped short of conceding the political and ethical claims of socialism (Ross 1991: 98–142).

Ambedkar was clearly not anxious about socialism, as some of his mentors at Columbia were. Nevertheless, he appreciated the ethics that animated progressive thought worlds, as he did their earnest desire to deploy knowledge to address social concerns. However, he put by their insistence that such knowledge could only be urged forth by the “expert” and instead argued for knowledge and its wide dispersion, as well as for such knowledge to be understood in broad ethical terms. It was not knowledge of this or that subject that alone ought to be made available for public use, though this was important, but learning and thought ought to inform public and political debates.

Referring to the changed nature of politics in India after M K Gandhi’s advent into public life, he observed:

In the age of Ranade a politician, who was not a student, was treated as an intolerable nuisance, if not a danger. In the age of Mr Gandhi learning, if it is not despised, is certainly not deemed to be a necessary qualification of a politician ... The fate of an ignorant democracy which refuses to follow the way shown by learning and experience and chooses to grope in the dark paths of the mystics and the megalomaniacs is a sad thing to contemplate. (Ambedkar 1989: 352)

As for state accountability, as we saw, there was no doubt in his mind that the modern state had to be made accountable and in more ways than the progressives had imagined such accountability. In this instance, he was perhaps influenced by British labour intellectuals, who held that the state ought to ensure “social well-being” and not merely economic justice. Richard Tawney, whom Ambedkar read closely, argued that the state had to guarantee not only “opportunities to ascend,” but “a high level of general culture, and a strong sense of common interests.” For

Civilisation is not the business of elite alone, but a common enterprise which is the concern of all. And individual happiness does not only require that men should be free to rise to new positions of comfort and distinction; it also requires that they should be able to lead a life of dignity and culture. (Tawney 1952: 111–12)

The breadth and depth of democratic schooling and practice thus had to be expansive and deep-rooted in order to render the state capable of both acknowledging and realising the obligations that Ambedkar imposed on it.

To renew our democratic life appears more fraught than ever in the India of today. For we have a state that temporises with social suffering, and is aggressively nonchalant, as it offers bureaucratic and unimaginative solutions to the hugely human problems that the pandemic has foregrounded: of hunger, homelessness, deep sorrow and death on the one hand, and avarice, contempt for the working

poor, and exultant state power on the other. We ask for bread, and are not even given stone in return, rather we are served with words that have ceased to mean because there is nothing to hold them in place, except the mechanics of control and obedience.

The parables of the giant whale, and the dhamma chakra point to the imminent collapse of state and society, should the notion of the sovereign good, so crucially linked to the liberty and well-being of citizens, is lost sight of. And history has many examples of how states go down, dragging their citizens into deep and sorrowful hell.

In all this, the onus is on us to be ethically and imaginatively alert, as we look to reimagine our lives in fear and desperation, clinging on to the possibility of human worth and goodness of maithiri.

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# Digital Global Warming

SEKHAR SARUKKAI, SUNDAR SARUKKAI

Throughout history, creation and consumption of goods have resulted in the problem of waste. Today, our most valued goods are digital, and we are producing an enormous amount of “invisible” digital waste.

The 50th Earth Day has just passed but it was special in that it occurred in the midst of the COVID-19 pandemic. While this pandemic has to be urgently dealt with, the world is already immersed in a more long-standing crisis of global warming. It is interesting to see many commentators who have explicitly tied these two together in a larger narrative of how unthought exploitation of nature has major consequences for human communities. However, there is another lurking crisis waiting to happen in a replay of the earlier climate crisis. This crisis is catalysed by our addiction and immersion into the digital world, a phenomenon that we see as being quite similar to global warming. We refer to this phenomenon as “digital global warming.” This term reflects a state of living in an uncontrolled smog of digital waste, digital data and exhaust generated by technologies of today. Just as the by-products of industrialised societies, like the exhaust from cars, have contributed to global climate warming, the by-products of using billions of digital devices and applications are ushering us into the era of digital global warming.

The cause and effect of the invisible digital by-product that accompanies every digital transaction can be understood through the framework of waste. There are many types of by-products ranging from human sewage, automobile exhaust and invisible chemicals, which have seeped into the air and earth, that constitute waste. Human civilisation could well be a chronology of how we produce, and then manage, waste. But waste is not merely dirty or something to be discarded; it ultimately defines the character of our societies. For instance, the existence of physical waste produces ideas of cultural waste that make societies reject communities within themselves. From early attempts at managing human sewage to managing air, and water pollution today,

the degree of social progress is defined by the response to waste. Although hidden and invisible, waste can affect us globally in terrible ways: it causes medical epidemics, poisons the air, makes water undrinkable, and contributes to physical and mental disorders. One can even argue that naturally occurring coronavirus strains are the result of poor handling of waste in wet markets (as in COVID-19) and other human–animal interaction points (such as in H1N1 and avian flu).

## Culture of Waste

One’s waste is another’s fortune, as the mafia in Italy or Mumbai can testify. By controlling the entire waste cycle and dumps, the Cammaro mafia in Naples makes an annual turnover of more than \$6 billion (this is estimated at \$2 billion for Mumbai). Waste itself leads to new cultural forms, which could be called as cultures of waste.

In addition to carelessly strewn digital waste across the visible web, the accumulation and feeding of digital discards into data dumpsters (that we call “dampsters”) forms the underbelly of the Internet accessible through the dark web. By some estimates, this dark web content—not indexed by search engines such as Google, but accessible to the public—is estimated to be four times larger than the visible web, literally forming the largest virtual landfill imaginable. Websites like Pastebin, and thousands of dark web dampsters in this vast dark side of the web creates an environment for the digital mafia to control and trade on sensitive digital information, such as financial records, pornography, stolen credentials, credit cards, private information of individuals such as sexual or political orientation, digital DNA signatures, and plenty of other artefacts that can be monetised or misused. This dumpster is populated by cyberattacks that breach data from the visible (or deep) web, or from the collection of callously strewn litter and data dumped by hackers and malware into dampsters. Unlike the physical world where garbage is removed from one location to another, in the digital

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world, data is not moved but repeatedly copied, traded or resold, and stored indefinitely outside normal jurisdictional controls. Hence, once someone taps into your digital discard, there is no stopping its exponential proliferation.

Unlike the cultures of waste—which are special cultural ways of dealing with waste—certain cultures create excess waste as a product of their ways of living. Many rich countries are prime examples of cultures that promote excessive waste. As an example, the United States (us) produces more than 250 million tonnes of garbage a year, which works out to greater than 1,500 pounds of garbage per year per person. Excess digital waste, on the other hand, is a global problem—leaving behind or hoarding digital data is cheap (and many times free for the individual) and encourages a wasteful culture. A measure of the amount, and growth, of digital footprint per capita (much like carbon footprint) is a good indicator of digital waste produced by each country.

Social media sites lead the way in encouraging a wasteful culture since it suits their business model. Built upon practices that foster addiction, which hook users into an endless stream of music, video, and games, it results in keeping individuals within their platform that delivers these services to their users while continuously capturing exhaust from their activities to influence user behaviour, which, in turn, fuels their businesses, and the non-strategic and un-monetisable discards fed to the highest bidder.

### Personal Sphere

Not all waste that leads to digital global warming can be traced back to uncontrolled exhaust alone. The digital world is full of litter, voluntarily strewn around by users without regard to the cost of the waste created and deposited for eternity. A recent example is contact tracing applications developed by various governments and technology companies to identify people who may have been exposed to individuals with COVID-19. They are critical in addressing the pandemic, but simultaneously expose the perils of sharing personal data that if left open can be used for unintended purposes by third

parties. This accumulated stream of data is a gold mine for artificial intelligence technologies that could be used to train new models without our consent to uncover secrets hidden in the data. As an example, researchers at Massachusetts Institute of Technology in 2019 used public YouTube videos to train a neural network model that correlates vocal features to facial features in these public videos. When the system is fed a new sound sample, it can predict how the person speaking is likely to look like. Needless to say, several YouTubers in the database were not pleased with their unexpected starring role in the demo videos.

Technology, through personalised digital applications, has become so indispensable to our digital-first daily lives that many already find it impossible to navigate their daily existence without it. With the ubiquitous presence of sensors and technologies that can cheaply store and analyse oceans of data residue in the cloud, even our physical actions are accounted digitally. For example, Facebook has been collecting “off Facebook activities,” which are activities an individual has performed anywhere outside of Facebook. This allows Facebook to create a profile of every single individual—whether or not they have a Facebook account.

Even bio markers, long considered the holy grail of identifying what is uniquely personal about individuals, are now free radicals in the digital smog. The impact of the culture of digital waste has not left behind the realm of historically guarded mental states and our unvoiced thoughts, either with the emerging big tech around “psychographic” profiles or the emotion analytics market. The cost that this unmitigated collection of digital intelligence can have on the larger society can be seen by analysing trends, such as social credit scores, deep fakes, and emerging embedded bio-sensor technologies. Today, this intermingled digital stream of personal data with varying degrees of sensitivity is handled much like how sewage was handled in early civilisations: with no effective sorting, channelling and disposal of the vast amounts of waste that accumulate to the detriment of the society.

### Regional Impact

For the citizens of Los Angeles (LA), 8 July 1943 marked an important day as they woke up to a circus like atmosphere when a surprise attack of a mysterious thick grey fog descended on LA streets. It left kids with teary eyes, a confused population, and confounded speechless politicians. There was rampant speculation on the cause, with many believing that it was a chemical attack by the Japanese! It took another nine years and plenty of face mask sales and dead-end theories about the cause, of this recurring “smog” before this phenomenon was tied back to automobile exhaust by Caltech professor Arie Haagen-Smit in 1952. In hindsight, this connection should have been obvious—after all LA was the largest car market at the time.

Smog, while not anticipated, heralded the success of Ford’s mass production of automobiles more than 50 years after its founding. The very instrument that enabled people to conquer distance, to stay connected with friends and family, shop, travel and find new opportunities of earning a livelihood was also a silent killer that contributed to localised smog and, over time, global warming.

It took another 20 years for any serious regulations in the us to help mitigate a catastrophic health crisis in the making. While regulations have reduced smog in LA significantly over the last four decades, the impact of the exhaust from automobiles is in stark view even today in large cities in China, India, and in many other countries around the world where regulation continues to take a back seat to economic progress and convenience.

What happened with cars earlier is now happening with new devices and applications that have overrun the world. Just like the gasoline engine converts gasoline into physical motion, these digital technologies are the engines that convert the telemetry of our every move into economic gain. Not only are these devices more widely used than cars and vehicles (for example, the number of cell phones in use in the world is expected to cross 5 billion by this year), but they also create a flood of uncontrolled digital exhaust. There are over 2 billion laptops in use today, more than 400 million closed-circuit

television (cctv) cameras watching our communities, 400 million iPads, 200 million voice-activated devices like Alexa and Google Home, hundreds of millions of smart televisions, 50 million smart homes, and much more. Today, in aggregate, the number of digital devices in our lives significantly outnumbers the population of this earth, not counting the multiple (at least 10 on an average) applications per device.

Each one of these devices and applications generates a continuous stream of data that can be used for collective or aggregate analytics that can shape cultures and regions. We have seen this have a profound impact on social behaviour, such as in Xinjiang province in western China, or in the vast surveillance camera network in Chicago, or use of digital DNA databases to tackle unsolved crimes. All of which is possible only with a collection of sensitive data easily accessible in the cloud.

### Global Dimensions

Digital technology is ubiquitous and is available in the richest and poorest areas across the world. Thus, it is impossible today to merely talk of technology in the digitalised West and ignore the rest of the world. China and India are already the two leading users of mobile technologies and are also the fastest growing economies of the world. There are major digital payment and other economic revolutions in Africa. By bringing these societies into the consciousness of the technological world, we can map the global effects of the impending digital global warming.

With increased global use of digital services comes increased opportunity for cross-border intelligence gathering from dampsters. State-sponsored espionage is not necessarily motivated by financial gains but by the need to glean persistent strategic advantage. In May 2019, a German researcher, Adrian Zenz, doggedly dived into multiple dampsters to find construction requests for proposals, geo-spatial maps, and other data in obscure corners of the Chinese internet that revealed a security build-up in China's remote Xinjiang region pointing to mass detention and policing of Turkic Muslims. This is just one example of the

vast treasure trove of discarded data that third parties can mine from these dampsters.

A combination of these data dumps in conjunction with advances in artificial intelligence has proven to be a deadly concoction for cross-border offences. In the 2016 US election, exhaust from Facebook users that took the form of a user's profile, a user's friend network, and other inferred metadata about a user's preference (by some accounts Facebook has more than 29,000 data points for each user) and interests was leveraged by Russia to create a divide among the US population. A similar story repeated itself in countries around the world and is expected to be the new norm in democratic elections going forward.

Additionally, countries have become increasingly aware of the sensitivities of allowing their citizens to share their data with foreign companies. For example, US intelligence issued a warning to citizens of the US about the use of TikTok, a popular social app hosted and developed in part by the Chinese government due to evidence of spying. India took it a step further and banned the TikTok app temporarily. Social media apps are not the only means for regimes to seed surveillance technology across the globe. CCTV manufacturers from China, for example, have flooded Latin American countries at (or below) cost as a way to gain a feed of surveillance data that can be controlled and processed across jurisdictional boundaries from China.

So, is there no escape from this eventuality? We should not expect this kind of self-imposed restrictions on import of digital data anytime soon, since there is only a nascent emergence of understanding among nations of what constitutes personal digital ownership rights, and what constitutes appropriate digital waste. This is complicated in a scenario where nations may want access to another nation's digital exhaust as they may view it as an untapped intelligence asset. Over the last few years, the cost of storing digital exhaust indefinitely has reduced dramatically with cheap storage, while simultaneously, data mining technologies using artificial intelligence and machine learning have improved significantly. This combination of cheap storage and maturing data mining technologies makes it more likely for many willing consumers of this digital waste to extract strategic advantage over competition, both domestic and foreign. In 2019, 187 countries agreed to add plastic into the Basel Convention, a treaty that regulated movement of hazardous material from one country to another. Perhaps, it is not too premature to add digital exhaust as well.

One could argue that digital capitalism is a different form of capitalism in that waste is an intrinsic economic product of great value. Digital waste itself becomes a prime product for this form of capitalism. And uncontrolled growth of this invisible digital waste is the next step to digital global warming.

## EPWRF India Time Series Expansion of Banking Statistics Module (State-wise Data)

The Economic and Political Weekly Research Foundation (EPWRF) has added state-wise data to the existing Banking Statistics module of its online India Time Series (ITS) database. State-wise and region-wise (north, north-east, east, central, west and south) time series data are provided for deposits, credit (sanction and utilisation), credit-deposit (CD) ratio, and number of bank offices and employees.

Data on bank credit are given for a wide range of sectors and sub-sectors (occupation) such as agriculture, industry, transport operators, professional services, personal loans (housing, vehicle, education, etc), trade and finance. These state-wise data are also presented by bank group and by population group (rural, semi-urban, urban and metropolitan).

The data series are available from December 1972; half-yearly basis till June 1989 and annual basis thereafter. These data have been sourced from the Reserve Bank of India's publication, *Basic Statistical Returns of Scheduled Commercial Banks in India*.

Including the Banking Statistics module, the EPWRF ITS has 20 modules covering a range of macroeconomic and financial data on the Indian economy. For more details, visit [www.epwrfits.in](http://www.epwrfits.in) or e-mail to: [its@epwrf.in](mailto:its@epwrf.in)

# Locked in a Crisis

## Concerns of Rural Women

SEEMA KULKARNI

This article is based on the documentation of the issues faced by women farmers across 14 districts of the Vidarbha and Marathwada regions of Maharashtra. More than ever, the present pandemic has exposed the critical weakness of public systems, since consistent expenditure cuts in the social sector have led to poor infrastructure in public health, the public distribution system, water and sanitation, and shelter homes for violence survivors, among various other facilities. This, along with the depletion of scarce natural resources, has added to the burden of women's unpaid work.

The COVID-19 pandemic context foregrounds the question of women's unpaid labour more than ever. With depleted and scarce public resources like food and healthcare, the demand on women's labour is increasing, forcing them to provide for care on the one hand and generate incomes to compensate for the losses incurred during the lockdown on the other. If these women are not supported in the immediate and medium term, the burden on their health and well-being would become unbearable.

Among the large sections of informal sector working women who face this situation, women farmers too are included. They comprise cultivators, wage labourers, the landless, and those engaged in poultry, livestock, forests, fisheries, etc. They belong to various socio-economic and religious groups. Most among them have no assets and little voice and recognition as workers or as farmers in their own right. Women farmers' voices have been less documented in terms of how the lockdown constraints at home and outside have affected them, and what they expect from governments in this regard.

In Maharashtra, the Mahila Kisan Adhikaar Manch<sup>1</sup> (MAKAAM) has been responding to the COVID-19 crisis while documenting a range of effects on rural women engaged in farming and allied activities. This is towards proposing short- to medium-term strategies for reviving livelihoods, and seizing the opportunity to suggest a paradigmatic shift in the way we understand rural women linked with agriculture and allied activities. The author, along with colleagues in MAKAAM, has initiated conversations from the last week of March 2020 onwards with women farmers across 14 districts of the Vidarbha and Marathwada regions of Maharashtra to document concerns and suggest ways forward. While the concerns discussed

here are faced by women farmers at some level in pre-lockdown times, the pandemic and the subsequent lockdown have aggravated the situation and precipitated a crisis.

### Looming Hunger

The Pradhan Mantri Garib Kalyan Yojana (PMGKY) did bring some relief to the poor, although it was woefully inadequate in both scope and implementation. A promise of 5 kilogrammes (kg) of free rice, and 1 kg of dal was made for the existing beneficiaries (listed as priority households, Annapurna and Antyodaya Anna Yojana) under the National Food Security Act (NFSA) 2013, excluding those without ration cards or with problems associated with its verification. With no cash in hand, women could not buy ration even as the public distribution system (PDS) demanded that they pay for their quota upfront. The 5 kg of free rice announced under the PMGKY arrived late and, adding fuel to the fire, Food, Civil Supplies and Consumer Protection Department, Maharashtra government issued a letter stating that the free rice quota could only be availed after purchase of the regular quota dated 31 March 2020 (Government of Maharashtra 2020). While the government proposed this "first buy one, then get one free" model to the poor during an unprecedented crisis, the promised and much required *tur dal* never arrived.

Exclusion from the PDS continues since large numbers of single women, particularly vulnerable tribal groups (PVTGs), and Denotified and Nomadic Tribes (DNTs) are without ration cards. Women from farm suicide-affected households and single women living in separate homes continue to be documented in the joint family ration cards and are also left out. Of the 700 single women that MAKAAM extended relief work to, 200 (30%) did not have separate ration cards and, therefore, could not access the PDS. With no cash in hand to buy from the open markets, and onerous documentation required to access the PDS, the reality of looming hunger confronted several of them. The old infirmities around ration cards resurfaced in a virulent form in the present

The author acknowledges the insights and experiences shared by Mahila Kisan Adhikaar Manch (MAKAAM) partners across 14 districts of the Vidarbha and Marathwada regions of Maharashtra. She also acknowledges the comments of the anonymous reviewer.

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pandemic, exposing the failure of a targeted PDS (MAKAAM 2020).

### Inaccessible Cash Transfers

Cash transfers were made under the PMGKY to about 20 crore Pradhan Mantri Jan Dhan Yojana (PMJDY) women account holders, but since about 23% of the PMJDY accounts were inoperative until 2018, many rural women would have been excluded from this benefit. Those who did receive these and the *ex gratia* pension amounts, could not access the cash as banks were inaccessible during the entire period of the lockdown. Sakhubai, a widowed woman from the Kolam tribe from a remote village in Yavatmal district, complained that the closest bank is about 40 km away so she was unable to go and collect her cash. If measures such as bank *mitra* or bank correspondents were in place to ensure that cash transfers reach their hands rather than stay in the banks, poor vulnerable women would have been able to partly tide over the crisis. The Andhra Pradesh model of village volunteers would have been useful in delivering cash to the poor when they needed it the most (*Print* 2020).

No additional allocation was made under the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), but an advance of ₹2,000 was made. Even this inadequate amount is inaccessible to women farmers, tenant farmers, and landless labourers engaged in agriculture, since the scheme is linked to ownership to land.

The period of the lockdown coincided with the lean season when the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) works are most needed. With effect from 25 March 2020, all works on these sites across the country came to a complete halt, affecting a huge number of workers. As per the 2020–21 MGNREGA data, of the total 2.2 crore enrolled workers, only 53 lakh were active workers<sup>2</sup> employed on these sites in Maharashtra (MGNREGA 2020).

As per the MGNREGA website, in Maharashtra, 71 lakh person-days of work was generated in April 2019, as against only five lakhs person-days generated in April 2020, which is a 14-fold reduction. This amounts to a saving of close to ₹150

crore for the government, which should be utilised along with an additional allocation to pay for at least 30 days of the lost wages of the 53 lakh active workers in the state. MGNREGA is an important employment opportunity for women, with around 45% to 50% of MGNREGA workers being women.

### Erosion of Livelihoods

Rukminitali is a single woman tenant farmer from Savner taluka of Nagpur district in Vidarbha. She pays rent for a small piece of land and purchases water, cultivating vegetables and Bt cotton to make ends meet. This year was different for Rukminitali as she was unable to harvest her cotton fully and sell what she had; now she has no cash to invest for the upcoming season. There are no buses to take her vegetables to Nagpur city, forcing her to largely destroy her produce. She is being severely harassed by the neighbouring farmers who withdraw water going to her farm, or provoke the landowner into discontinuing her lease, or delay her produce in reaching the market.

Rukminitali's story exemplifies the travails of women cultivators, while highlighting the differential impacts they face during lockdown. Cotton growers, soya bean and vegetable growers from farm suicide-affected districts of the state have been unable to fully harvest their produce, and those who have harvested are unable to sell it. Woman-headed households often do not own private vehicles, and depend on private agents for marketing their produce, as they are willing to procure their produce from their homes. Government markets have been inaccessible to them not just due to distances, but also because of burdensome documentation required and inordinate delays in payments. These women have, thus, never been part of the minimum support price (MSP) scheme of the government, preferring private agents at the cost of losing out on better prices offered by the government. Negotiating with private agents, however, is fraught with its own set of pitfalls and calls for compromises on several other fronts, which include obliging to "favours" outside of the "market relationship." The lockdown, however, has meant that

these private agents have not been able to reach their homes to collect their produce. Similar stories were narrated from across Maharashtra whether with mango growers, cashew growers or soya bean cultivators.

As on 2018, across the country, 49 lakh women were reported as being part of dairy cooperatives, most of them being smallholders (Department of Animal Husbandry 2019). Dairies are a big economic support for women in most parts of rural Maharashtra as well. With the disruption in transportation, dairies were shut, and closure of tea shops and restaurants meant that even small-time sale of milk was not possible for these women. Some converted the milk into curds or buttermilk and tried to sell it within villages. But, like in the case of vegetables, local markets for milk too became saturated, resulting in wastage and income loss for women.

Poultry was particularly affected due to imaginary fears of it being the reason for contagion, leading to a sharp decline in the demand for eggs and chicken. Women managing backyard poultry had to sell chicken at prices as low as ₹5 to ₹10 per kg, although the cost of production was around ₹60 to ₹70 per kg.

Tribal women, engaged in collection of non-timber forest produce (NTFP), reported that despite advisories to district magistrates, the procurement of *mahua*, *charoli* and other produce was not being initiated. Collection of *tendu patta* and other forest produce, being in process now, requires immediate attention towards auction and procurement.

Several of these women are also engaged in agricultural labour and some are entirely dependent on it. Due to the lockdown, all wage work stopped, including that on the MGNREGA sites, and for those who depended entirely on wage work, a looming, daily hunger was a reality. Sugar being categorised under essential commodities, cane cutters were forced to stay on and work under unhygienic conditions. Among them, the pregnant and lactating women could not access health services, and had to continue with their 15 hours work schedule in addition to the unpaid domestic labour. Distressing tales by sex workers,



and DNTs lacking any documentation and voice, are yet to be fully told.

Even as women were coping with food insecurity and widespread economic impacts, they were faced with violence and harassment in domestic and public spaces. State machinery ensured through physical violence that they did not enter into public spaces to sell their produce. They were forced to pawn the little gold they had to make ends meet, most did not have any cash or other assets and some were reduced to begging or depending on the goodwill of fellow villagers or civil society support. Impacts on mental health have also been severe, and outreach of health facilities has been totally inadequate.

### Urgent Steps Required

More than ever, the present pandemic has exposed the critical weakness of public systems, since consistent expenditure cuts in the social sector have led to poor infrastructure in public health, PDS, water and sanitation, and shelter homes for violence survivors, among various facilities. Withdrawal of public resources and depletion of scarce natural resources inevitably add to the burden of women's unpaid work.

Keeping in view this context exacerbated by the lockdown, certain measures requiring immediate action have been outlined here. Prompt actions by various existing programmes and schemes of the departments of agriculture, rural development, tribal development, forests, and women and child development must be converged towards developing an economic package for women farmers.

**Expanding PDS:** It is important to re-emphasise here the persistent demand across the board to universalise PDS, as an immediate as well as long-term policy. As per the Food, Civil Supplies and Consumer Protection Department of Government of Maharashtra, as on September 2018, the total number of beneficiary ration cards holders under the NFSA 2013 in Maharashtra are 1.57 crore (Government of Maharashtra 2018). Considering population projections for 2020 (12.2 crore), NFSA coverage for Maharashtra would be in the range of just 57%

(Scroll 2020). States like Tamil Nadu and Chhattisgarh have been able to reach around 80% PDS coverage with several innovative measures; Maharashtra, being a rich state, should also invest in increasing PDS coverage above what the centre allocates. If Maharashtra, in this unprecedented crisis, decides to provide ration to 80% of its population for six months, we would require about 5.8 million tonnes, which is just 7.5% of the available stocks in the godowns (FCI data for March 2020). This would cover most of the vulnerable and disenfranchised sections of the population who are badly hit by this pandemic (Sinha 2020).

Further, for timely procurement at MSP, the government procurement system needs to adopt new models enabling procurement at the village level without any delay in payment. This would have a positive impact on women farmers' access to fair markets.

**Seeds and agricultural inputs:** Preparations for the upcoming kharif season would start soon. Women farmers across the state are concerned about the choice of crops, availability of seed and marketing of the produce. Those who grew Bt cotton are hesitant to grow the same crop, since the rabi cotton remains unsold. In our series of telephonic interviews, some of the women farmers said they would prefer to grow jowar, bajra and other food crops instead of cotton, to ensure food stocks that enable them to withstand disasters, such as the present one. While many of the single women we spoke to want to make careful choices and prioritise food crops over cash crops, while reducing the cost of cultivation with lower chemical and fertiliser inputs, they need support to make informed choices. The agriculture department, along with the Krishi Vigyan Kendras (KVKs), which are presently not providing such support, need to send advisories and hold consultations, especially with women farmers, and provide agricultural inputs accordingly.

**Making women creditworthy:** For rural women engaged in multiple livelihood activities without ownership of assets, access to institutional credit is difficult. They depend largely on self-help groups

(SHGs) for small loans, or increasingly now on microfinance institutions (MFIs), which often offer loans at high interest rates ranging from 24% to 36% (Parth 2020).

Most rural livelihoods programmes, including the National Rural Livelihoods Mission (NRLM), focus on improving women's creditworthiness by forming them into SHGs, thereby evading the question of improving their access to institutional credit. As workers in their own right, women's access to credit should be a priority, irrespective of their asset holding, especially in the present situation. Many women are looking to invest in seed and other agricultural inputs, and livelihood assets, but cannot go to banks for loans. The loan waivers have not been implemented, and so fresh loans cannot be availed.

The PM-KISAN scheme and the interest subvention scheme for institutional credit excludes women farmers, tenant farmers and the landless who constitute a major part of the agricultural economy. The present crisis is an opportune moment to expand and enhance PM-KISAN to include all those who are engaged in rural livelihoods, who should be given at least ₹15,000 annually per household. However, at this time, more than availability of loans, women require financial support to cultivate their farms.

**Re-imagining MGNREGA:** Single women and women farmers from farm suicide-affected households have a major concern regarding the lack of enrolment in MGNREGA. Of the 700 women across 14 districts of Maharashtra to whom MAKAAM extended COVID-19 relief, only 27% reported having a job card. For such women, it is imperative that job cards are issued with immediate effect, which is especially feasible since no documents are needed for enrolment for job card under MGNREGA.

While maintaining physical distancing and other COVID-19-related precautions, MGNREGA works related to building of productive assets on individual farms could be initiated with immediate effect. These should mainly be related to soil and water conservation works, which are crucial for ensuring availability of water in the peak summer. For

landless labourers, including single women, these works could be started on community and forestlands, for soil and water conservation and collection of forest produce, to mention key areas.

With returnee migrants, more family hands will be available for farm labour, thereby reducing the need for wage labourers in farming. Keeping in view the single women whose livelihoods largely depend on wage labour, a reimagined MGNREGA would need to be employed by introducing works, such as making of soaps, masks, compost and biopesticides, thus providing essential goods and services to the rural sector.

To compensate for the loss of work during the lockdown period, an additional 100 days of work per family should be provided, covering returnee migrants as well as women and other wage labourers.

**Mobilising local institutions:** Maharashtra has a vibrant civil society, including networks of SHGs, farmer producer organisations (FPOs), panchayats and their committees. Various social organisations and non-governmental organisations (NGOs) are also active in the state. Participation of such local groups is essential for a robust response in the short-, medium- and long-term period. Village water and sanitation committees, MGNREGA, and watershed committees could come together to prepare plans for works that could help build individual and community assets for assured incomes, and water supply FPOs should be encouraged by the government to consider doorstep procurement.

### Structural Change

Despite their wide-ranging presence in agriculture, women have been deprived of voice, recognition and entitlements in this sector. This historical marginalisation has been exacerbated during the present pandemic and lockdown situation, with a range of implications discussed in the article. As the first step, the state needs to expand and improve responsiveness of a range of social and economic protection measures immediately, to minimise this exclusion of rural women and other deprived sections.

However, the epidemic situation also opens a window for reimagining and restructuring various forms of social security and protection, along with developing decentralised models for promotion of sustainable rural livelihoods and ecological agriculture, with women across socio-economic groups kept in focus. It provides an opportunity to bring nutrition and food security at the centre of agriculture with the promotion of food crops, millets, using traditional knowledge around seed and cultivation practices. This would also call for reorienting markets and procurement policies.

The current crisis has demonstrated that it is not a crisis of production alone, but that of social reproduction of the life-producing activities. The economy was brought under a lockdown to ensure life and safety of the people, but at the huge cost of the unpaid and underpaid labour of essential workers and women. The pandemic provides an opportunity to correct these anomalies.

### NOTES

1. MAKAAM ([www.makaam.in](http://www.makaam.in)) is a national network with a presence in 22 states of the country and is committed to giving voice, recognition and entitlements to women farmers.

2. Active workers are those workers who have worked on MGNREGA sites at least once in the past three years.

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NEW

## EPWRF India Time Series

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### Wage Rates in Rural India

The **EPW Research Foundation** has added a module on Wage Rates in Rural India to its online database, EPWRF India Time Series (EPWRFITS).

This module provides average daily wage rates, month-wise, in rupees, for various agricultural and non-agricultural occupations in Rural India for 20 states starting from July 1998 (also available, data for agricultural year July 1995–June 1996). Additionally, it presents quarterly and annual series (calendar year, financial year and agricultural year), derived as averages of the monthly data.

The wage rates for agricultural occupations are provided for ploughing/tilling, sowing, harvesting, winnowing, threshing, picking, horticulture, fishing (inland, coastal/deep-sea), logging and wood cutting, animal husbandry, packaging (agriculture), general agricultural segment and plant protection.

The non-agricultural occupation segment presents wage rates for carpenters, blacksmiths, masons, weavers, beedi makers, bamboo/cane basket weavers, handicraft workers, plumbers, electricians, construction workers, LMV and tractor drivers, porters, loaders, and sweeping/cleaning workers.

The data have been sourced from *Wage Rates in Rural India*, regularly published by the Labour Bureau, Shimla (Ministry of Labour and Employment, Government of India).

*With this addition, the EPWRFITS now has 20 modules covering both economic (real and financial sectors) and social sectors.*

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# What Is So Wrong with Online Teaching?

SAUMYAJIT BHATTACHARYA

A university teacher assesses what is wrong in visualising the online space as a place for regular education. In the context of the pandemic, the situation is even worse, not better, for the suitability of online teaching as a surrogate. It also has a particularly heinous effect for women, both female students and female family members. Given the grossly unequal burden of domestic work that women share at home, often the female students would have to take up additional domestic responsibilities during lockdown. In a different situation, enforced carving out of silence and privacy in the cramped domestic space may imply that the mother adjusts her own work-time and domestic schedule silently.

Ever since classes were suspended in the universities of India due to the COVID-19 pandemic, online teaching using various platforms like Zoom is the new buzzword. Initially, the directives that came from my university were both more vaguely and cautiously worded. Providing e-resources and staying available online during class timings was advised. Gradually, the discourse shifted, without any explicit directive, to online teaching using various platforms. The university and college administrators as well as many motivated teachers were all suddenly full of the Zoom experience, and, at last, it seemed as if a solution to this extraordinary standstill had been found. Though the Government of India's cautionary against the use of Zoom seemed to be a spanner in the wheel of this new-found marvel, it did not dent the faith in this marvel at all—neither for the government nor the initiators—and it merely meant a shift from one platform to another, as if such threats to data privacy cannot be present on the other platforms.

## Mode and Access

However, data or information threat is not the real issue at all. The crux of the problem is the mode of online teaching itself and the access to it. First, let us come to the issue of access. Access does not merely imply the availability of internet. The mobile phone on which most students access the internet is not the most suitable medium to conduct a class; a laptop is the more suitable device. It is difficult to concentrate on a lecture on the phone, to stare at a small screen for over an hour or two with a reasonable degree of concentration. A recent survey done by the University of Hyderabad in the wake of the COVID-19 crisis shows that only 50% students had access to laptops and about 45% could, at best, access internet infrequently and further

about 18% did not have internet access at all (UoH Herald 2020). This is the state of reality in a central university. Indeed, the speed of the internet and its fluctuations have seen major problems in many metro cities, let alone rural or small-town India, where many of our students are under the lockdown.

In a lockdown condition, stuck within home, there are many corners of one's living space where data signal is weak. Further, many students do not have unlimited Wi-Fi plans, and have limited size data packs. Several classes in a day can be a substantial cost for many students in the low income bracket. We know of several instances where students go out of their home in open street corners to access the internet or free Wi-Fi in normal times; even such ironical possibilities are, of course, closed during a lockdown.

Thus, however keen they may be, many students are simply not enabled with the infrastructure to take part in an online teaching and learning process. A related point, perhaps less discussed, is the issue of enablement in a broader sense. To mimic a class situation, a student does not only need a gadget and internet connectivity, the sheer physical space around them is also so crucial. The minimum one needs is a quiet and isolated space, where one is not disturbed by others' presence. We know for sure that many of our students, even in the University of Delhi, do not have such conditions at home. They may be cramped for space in a small apartment or dwelling, where carving out a silent private space may be physically impossible. The issue is not only about their own private space; it is as much about their family members' privacy. Further, if there are two students at home, then space has to be created, often simultaneously, for both of them! This may be a handicap even in an urban middle-class apartment, let alone for an economically weaker family. In a small dwelling, an hour-long class may imply all other members of the household adjust all their work and maintain a hushed silence.

This has a particularly iniquitous effect for women, both the female students and the female family members. Given, the grossly unequal burden of domestic work that women share at home, often the

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female student has to take up these additional domestic responsibilities during the lockdown; she may not have the flexibility to attend an online class when she is supposed to carry on some inflexible domestic task. In a different situation, the enforced carving out of silence and privacy in the cramped domestic space may imply that the mother adjusts her own work-time and domestic schedule silently.

The fact that our education administrators and many well-meaning, eager teachers can totally ignore the domestic space, is a deeper sign of our most gendered behaviour. The home is always secondary; it can, of course, be a great refuge, metaphorically or really (as the flood of migrants in their bid to return home shows). However, primacy must be given to the productive spheres—of work and productivity. When the sphere of work is disturbed, the “residual” domestic sphere has to mimic it and turn productive. The feminine world of domestic work must always adjust to the supposed “impersonal” masculinity of the world of “productive” work. That world of work will not adjust to the needs of domesticity; it is almost a sin to think the other way round, whatever stress you may be under.

One connected point here is that we have almost forgotten why this lockdown and social distancing is there in the first place. It is a time of an unprecedented pandemic. For many, stress and anxiety levels shoot up in such situations; staying home does not imply that people are necessarily having a vacation. Somebody in the family may have got the infection; you may yourself be in quarantine. Apart from that, family members suffering from other illnesses are more stressed; in the event of an emergency, the normal access to a doctor or a hospital is now jeopardised. To expect that all students will attend online classes smoothly under these circumstances is to assume away the very situation that created the context itself.

### Qualitative Difference

I have been told by well-meaning friends that these concerns are overstretched. Yes, some students will miss the classes, but do students not miss classes otherwise, the argument goes, do you ever get

full attendance? Well, the difference between the two situations is immense, and furthermore, it is a qualitative difference. First, to miss a class in normal times is an act largely of the student's own volition; second, to miss an online class due to lack of access is not an exercise of choice. One who is not at all keen to miss may be forced to do so. There is a qualitative aspect too, apart from the issue of choice and rights. The university space gives access to all students to come from their very different particularities of domestic space to a common homogenised space of a class-room. Without romanticising that space and being fully aware of its inherent inequalities, it still brings the students to a space of formal equality and away from the particularised domestic constraints.

This difference will obviously be much greater for economically and socially disadvantaged students, who do not have access to the privacy of well-endowed domestic spaces, and these are precisely the students who also have the most difficulty in accessing online lectures. So it is a double whammy for them. The students who need the physical university space much more for studying (often long hours in the library) are the ones who are deprived of it in a double sense when the alternative online access is also so shaky for them. That many well-meaning teachers and administrators refuse to acknowledge the deep inequality in online teaching is baffling to say the least, but may signal how deep our class and caste biases are in the arena of the teaching–learning process.

Now, let us come back to the issue of online teaching itself. Can it be a surrogate for or surpass real time physical teaching in class? The issue may be of crucial importance, even though many may agree that it is merely a temporary stopgap measure and such anxieties are misplaced. That is because, for quite a few years now, online teaching is being advocated as the future of higher education in India by our education planners. Various documents and statements of the high functionaries of the Ministry of Human Resources Development (MHRD), University Grants Commission (UGC) and NITI Aayog have advocated the greater

use of online teaching and committing resources for that (*Businessworld* 2020). There is also an explicit idea, reiterated often, to advance online teaching as a means to increase India's gross enrolment ratio in higher education (MHRD 2019). The pandemic, like in many other fields, is a perfect opportunity to introduce measures that are otherwise difficult to introduce in normal times (UGC 2020). The UGC chairman, in a recent statement on promotion of online education, has been quoted to have said,

We are seeing at this time of COVID-19 and even later when all of this over, to give a push to online education. It is important for improvement in the gross enrolment ratio (GER) in the country. (*News18 India* 2020)

Thus, once introduced in this manner, online teaching may become a permanent feature of the university education structure in the future.

The issue of the efficacy of online teaching should be discussed independently, quite apart from the issues of general accessibility and particular, suitability in this unprecedented conjuncture.

Does the virtual space have completeness to be a teaching–learning space? Sure, there are many online courses, which are interesting and of great value. Students or the public in general can access those or learn from those. However, to confuse and conflate such online courses and curricula with teaching in the physical space does the greatest disservice to any meaningful discourse on education, particularly in the context of the immense transformatory potential that university education has for the deprived sections of India. The physical space of the university, in general, and the classroom, in particular, are not merely a space for the transaction of knowledge that can be surrogated in other transactional forms.

A large number of our educational “experts” seem to have a view like that. There are obvious issues, such as laboratory-based courses. We hear about the possibilities of virtual labs. These are fancy ideas without any base, often proposed by people who have no idea about what goes on in a lab. Are the chemistry experiments going to be virtual, without handling the chemicals at all? This is like learning driving on a simulator

without ever touching the actual steering wheel of a car. However, much more fundamental to such serious logistical issues is the fact that the classroom by itself is a radical and transformatory space for many. It creates an alternative sociality; it is often a space for lasting friendship; it has the potential to break the bonds of the social givens, particularly if nurtured consciously in that direction by the teachers. It is also a space, if nurtured with care, which encourages one to speak out and question.

The gains are not only for the less-enabled; those from endowed classes also get exposed to a larger sociality of their co-students from varied backgrounds. It is, thus, the space of the class that

enables one not only to learn but also to share, question, laugh and develop deep intersubjective relations. All this is terribly lacking in the virtual space of online teaching. Even if the jokes are mimicked and question-answers incorporated in the virtual space, the relationships are largely ephemeral, lacking the concreteness and durability of relationships in a physical space.

It is, thus, when all the strands of argument developed above are brought together that one comprehends what is so wrong in visualising the online space as a place for regular education. In the context of the pandemic, the situation is even worse, not better, for the suitability of the surrogacy of online teaching.

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## COVID-19 Pandemic and Racism in the United States and India

NEHGINPAO KIPGEN

The novel coronavirus or COVID-19 pandemic has changed the world in many ways. Among the several implications for humanity, is the lesser talked-about issue of racism that has inherent psychological impacts. This article examines the rise of racial discrimination in the two largest democracies of the world—the United States and India. It argues that the stigmatisation of a certain race triggers racial division and hinders the collective fight against the pandemic, and can be as deadly and dangerous to humanity as the virus itself.

The author thanks the anonymous reviewer for their comments.

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The novel coronavirus (also known as COVID-19) pandemic changed the world in many ways. Of the several implications for humanity, the issues of health concerns and the rapid decline of economy has undoubtedly taken centre stage. With many countries declaring lockdowns and/or social distancing due to the virus outbreak, there were several instances of racial discrimination across the world, including verbal and physical attacks. While the virus itself had given tremendous hardships to humanity, the stigmatisation of a certain people was quite unfortunate. This article analyses racial discrimination in the two largest democracies of the world—the United States (us) and India—following the outbreak of COVID-19 virus in late 2019, and argues that the stigmatisation of a certain people triggers inherent racial division and hinders the collective fight against the pandemic. It also argues that racism can be as deadly and dangerous to humanity as the virus itself.

The us and India are examined in this article for three reasons. First, the us and

India are the two largest democracies of the world grappling with racism. Second, there were evidence of increased racial discrimination and stigmatisation in the two countries following the outbreak of the virus. Third, both countries are diversely populated, having a sizeable population of the racial group in question—the Mongoloid. This article, however, does not mean to suggest that there were/are no other forms of discrimination towards other racial or ethnic groups in the two countries. For example, in the us, there are different levels or forms of racism against the blacks and the Hispanic population. Similarly, in India, there are several forms of discrimination against people of lower castes, particularly the Dalits, or even anti-Muslim sentiment across the country following the alleged spread of the virus from an Islamic seminary (Gettleman et al 2020). There were also reports of racism against the Chinese and other Asians elsewhere around the world. This article examines only the spike of racism or discrimination against the Chinese and other Asians of the same Mongoloid group in the us and in India following the outbreak of coronavirus in December 2019 and the spread of the disease across the globe (Page et al 2020). Moreover, the analysis and argument of this article is based on data available from news media reports, commentaries, statements from government leaders and/or civil

society organisations, as well as the author's own observations.

### Racism

Camara Phyllis Jones in her work "Levels of Racism: A Theoretic Framework and a Gardener's Tale" presents a theoretical framework for understanding racism at three different levels—institutionalised racism, personally mediated racism, and internalised racism. Institutionalised racism is manifested in societies where there are different levels of access to goods, services, and opportunities, and it may sometimes be legalised or institutionalised and become an "inherited disadvantage." Personally mediated racism is the assumption about others in terms of their abilities, motives, intentions based on their race, and it "can be intentional as well as unintentional, and it includes acts of commission as well as acts of omission." Internalised racism is the acceptance of negative messages by the stigmatised race and it "involves accepting limitations to one's own full humanity, including one's spectrum of dreams, one's right to self-determination, and one's range of allowable self-expressions" (Jones 2000: 1212–13).

There are also situations where individuals may deny racism or the practice of it, but acknowledge that some or many members of the group or even the entire group do not have the same tolerance towards other ethnic or racial groups. And the act of denials can also come in different forms—explicit, implicit or pre-emptive. Some may intentionally or unintentionally engage in racial slurs but deny that there are any negative connotations to them. Some others may also use racial inferences without directly targeting any particular individual or individuals (Dijk 1992). Similarly, there can be "aversive racism" in which the racists recognise and believe in egalitarianism and do not want to be seen as prejudiced, and therefore, would not engage in discriminatory activities when things are too obvious to themselves and others (Dovidio and Gaertner 2000, 2004). The concepts of "personally mediated racism" and "aversive racism" are helpful in understanding coronavirus-related racism in the us and India.

The novel coronavirus outbreak in Wuhan was officially reported to the World Health Organization (WHO) country office in China on 31 December 2019. The WHO declared the virus as a public health emergency of international concern on 30 January 2020 (WHO 2020). China confirmed its first coronavirus death on 11 January 2020. China imposed strict lockdown on 23 January 2020 in Wuhan. And on 5 February 2020, the Diamond Princess cruise ship carrying more than 3,600 passengers was quarantined off the coast of Yokohama in Japan. On 11 February 2020, the WHO re-named the novel coronavirus as COVID-19, and the Centers for Disease Control and Prevention (CDC) confirmed the first case of suspected local transmission in the us on 26 February 2020. Subsequently, the first death was reported in the us on 29 February (Schumaker 2020). At the time of writing this article, the cause of the virus was still something the scientists were working hard to understand, especially how the virus passed on from animals to human beings. Stephen Turner, head of the department of microbiology at Monash University, said that most likely the virus originated from bats (Readfearn 2020).

### Outbreak in the United States

The us confirmed the first coronavirus case on 21 January 2020 and subsequently on 29 January, the White House formed a task force to help monitor and contain the spread of the disease. Just a day after on 30 January, the us confirmed its first case of human-to-human transmission. Then on 31 January, the us government announced that it would deny entry to any foreign national who had visited China in the last 14 days, which the Chinese government accused Washington of spreading fear by enforcing travel restrictions. A 60-year-old American national died in Wuhan on 6 February. The National Institutes of Health had begun a clinical trial of the virus on 25 February, which was followed by President Donald Trump nominating Vice President Mike Pence in charge of the government's response to the pandemic on 26 February. On 11 March, the Trump administration restricted travel from

Europe for 30 days in an attempt to fight against the virus, and on 13 March the government declared a national emergency to free up \$50 billion to combat the virus. On 18 March, Trump signed a coronavirus relief package, including free testing and paid emergency leave. On 27 March, Trump signed a stimulus package of \$2 trillion, which was one of the most expensive relief measures passed in the history of the us Congress. And on 3 April, the Trump administration recommended all Americans to wear face masks, which it previously said was not necessary for people who were not sick (CNN Editorial Research 2020).

### 'Chinese Virus' and Racism

With the surge in coronavirus cases in the us, racism against the people of Chinese-descent and other Asians had also increased. The use of the term "Chinese virus" by Trump had apparently contributed to racial attacks against the Asian Americans. Instead of trying to stop racial discrimination against the Chinese and other Asian Americans, Trump defended the use of the term "Chinese virus" during his White House press briefing on 18 March. Though health officials advised against using the term which had caused dozens of biases against the Chinese Americans, Trump defended his position and said, "It's not racist at all" and that he wanted "to be accurate" because the virus "comes from China." The White House justified the President's remarks by saying that a number of past pandemics were also known by their places of origin or where they were believed to have originated, such as the Spanish Flu, West Nile Virus, Zika and Ebola. Not only the president but his close associates, including the

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Secretary of State Mike Pompeo used the term “Wuhan virus” (Mangan 2020).

Many had condemned Trump’s use and defence of the term “Chinese virus.” On 10 March, the director of the CDC, Robert Redfield, said, “It’s absolutely wrong and inappropriate to call this the Chinese coronavirus” (Tucker 2020). The executive director of WHO’s emergencies programme, Mike Ryan, said:

Viruses know no borders and they don’t care about your ethnicity, the color of your skin or how much money you have in the bank ... So it’s really important we be careful in the language we use lest it lead to the profiling of individuals associated with the virus.

Former Vice President Joe Biden had earlier tweeted in response to Trump that “A wall won’t stop a virus. Racism won’t stop a virus. Do your job” (Mangan 2020). Charissa Cheah, a psychology professor at the University of Maryland—Baltimore County—who had conducted a survey on coronavirus-related discrimination, said,

[Trump is] essentially throwing his American citizens or residents of Chinese and Asian descent under the bus’ by ignoring the consequences of the language he uses ... He’s fueling these anti-Chinese sentiments among Americans ... not caring that the people who will truly suffer the most are Chinese Americans and other Asian Americans, his citizens whom he’s supposed to protect. (Chiu 2020)

A China expert at the Center for Strategic and International Studies, Scott Kennedy, said,

The use of this term is not only corrosive vis-à-vis a global audience, including here at home, it is also fueling a narrative in China about a broader American hatred and fear of not just the Chinese Communist Party but of China and Chinese people in general. (Rogers et al 2020)

Though Trump and his administration officials denied any intention or inclination of racism, many were apparently emboldened by the administration officials’ remarks which were manifested in several verbal and physical attacks across the country (Chiu 2020). On 9 March 2020, a 26-year-old Chinese woman, Yuanyuan Zhu, was shouted at and spat on by a middle-aged man because she was a Chinese American or because of being from the Mongoloid racial group. Other Asian Americans from Korea,

Vietnam, the Philippines, Myanmar and other countries also came under threat either because they were thought to be Chinese Americans or because they could not be differentiated from the Chinese. During the third week alone in March 2020, nearly two dozen Asian Americans who were interviewed, said that they were afraid of going out for grocery shopping or travelling alone in subways or buses (Tavernise and Oppel Jr 2020). Jeni Erbes-Chan, an architect in New York, was shouted at on the subway on 10 March by a man saying: “You people brought the virus. Go back to China” (Loffman 2020). In one incident in the state of Texas, racial discrimination against the Chinese and other Asian Americans turned into hate crime and violence when a man on 14 March stabbed and attempted to murder an Asian American family including a two-year-old girl and a six-year-old because the attacker thought that “the family was Chinese, and infecting people with coronavirus” (Melendez 2020).

Another report by *Stop AAPI Hate* documented that in the third week alone in March, there were over 650 cases of discrimination against Asian Americans. One among them was a Korean American, Kari from Seattle, Washington state. While she was in the grocery store in mid-March, another shopper told her child that she could not be in the same line because she would get them sick. A week later, Kari said a cashier at a grocery store refused to check her out. Another report released by the Asian Pacific Policy and Planning Council (A3PCON) and Chinese for Affirmative Action said that there were several instances of Asian Americans being coughed at or spat on, and told to leave stores. Many were also refused pick-up by Uber and Lyft transportation services. There were also several instances of on-line and verbal harassment and physical violence or assault against the Asian Americans. Earlier data collected by Russell Jeung, professor of Asian American Studies at San Francisco State University, showed a widespread occurrence of anti-Asian incidents. The data, which was based on media reports, revealed that during 28 January to 24 February when

the first coronavirus cases were reported in the US, there were more than 1,000 cases of racism and xenophobia against Asian Americans. The president and executive director of the civil rights group called Asian Americans Advancing Justice (AAAJ), John C Yang, believed that the rise in racial discrimination against Asian Americans was encouraged and incited by Trump’s tweet on 16 March calling it a “Chinese virus.” Yang said,

We have seen people associate the virus with Chinese people as they are assaulting them. It’s outrageous for any elected official to have been dismissive when the evidence of racist attacks continues to climb. Words matter and they often hold more weight when spoken by our politicians. (Kandil 2020)

### Racism against People from the North East

Racism against people from this part of the country is not a new phenomenon, but the spread of COVID-19 had once again flared up racial discrimination and stigmatisation of people from the region. The discrimination of people from the North East is a combination of both ignorance and intolerance towards people of another racial group (Kipgen 2020). Duncan McDuie-Ra in his work “‘Is India Racist?’ Murder, Migration and Mary Kom” writes that

North East communities are frequently cast as being outside the boundaries of the Indian nation owing to their membership of a segment of the population identified by a racialised physicality. The appearance of someone with so-called “chinky” features marks them as peripheral, and external to the hierarchies of caste, region and language that make up an established order—far from a just order to be sure—within the mainstream population; this is a position that some challenge and others embrace. Furthermore, there is the connotation of a connection to China, a connotation protestors used to punctuate their outrage. (McDuie-Ra 2015: 308)

Some scholars posit that people from the North East India are “non-recognized and misrecognized, mirrored back by the wider Indian society as foreigners, hailing from such places as China, Nepal, Thailand, or Japan and on a visit to India, or as ‘lesser Indians’ rather than as equal citizens” (Wouters and Subba 2013). One scholar from the North East in his work “North-east and Chinky: Countenances of Racism in India” writes

that “There is a propensity amongst many fellow Indians outside the regions to perceive the regions to be dominated by people with Mongoloid features. Many Indians from outside the regions deridingly associate Mongoloid Indians with Chinese” (Samson 2017: 24). Another writer from the region says that racism faced by people from North East in mainland India is “much more in-your-face, because of observed ethnic/racial appearance in the form of different skin colour and looks, language, cultural barriers and alien-sounding, difficult-to-pronounce names” (Ngaihte 2014: 15). While recognising the existence of several instances and/or forms of racial discrimination and attacks on people of the North East India, this article discusses the spike of racism in the context of the coronavirus outbreak.

### Coronavirus and Racism

There were several instances of racial attacks on people from the North East in different parts of India following the outbreak of the coronavirus. On 22 March 2020, while a 25-year-old woman, Rameshwari, from Manipur went out for grocery shopping in Delhi, she was racially abused. Describing the incident, the woman said,

It was quite a deliberate attack. He slowed down near me, spat at my face, called me corona and left. I was too shocked to react ... he didn't just spit on me because I'm a woman. I was attacked because I'm a north-eastern woman from Manipur with Mongoloid features.

Two days earlier on 20 March, another woman from Manipur was called “gandi virus” meaning dirty virus by a group of men in Delhi. The victim's sister said they were often asked by the autorickshaw drivers whether they were from China and were infected with the virus, and they had to convince the drivers first that they are also Indians before they were being allowed the ride (Bose 2020).

A report titled “Coronavirus Pandemic: India's Mongoloid Looking People Face Upsurge of Racism” by Rights and Risk Analysis Group (RRAG), a non-governmental organisation, that was released on 26 March 2020 documented that racial discrimination took place in some popular

restaurants and reputed educational institutions, including the Kirori Mal College of University of Delhi, the Tata Institute of Social Sciences, Mumbai, and the National Council of Educational Research and Training (NCERT), an institution which is responsible for preparing syllabus for students up to Grade XII under the Central Board of Secondary Education. The report also stated that racial discrimination was observed across the country, including places like Gujarat, Delhi, Tamil Nadu, Punjab, West Bengal, and Maharashtra. Suhas Chakma of RRAG said,

Apart from being called “Corona”, “Chinese”, “Chinki”, India's Mongoloid looking people were spat on and called “coronavirus”, forcibly quarantined despite showing no COVID-19 symptoms because of their looks, denied entry into the apartment complex, forced to leave the apartment, threatened with eviction from their apartment, forced to leave a restaurant to make others comfortable, none wanting to share transport with them. (Karmakar 2020)

In another incident, two shopkeepers in Hyderabad were denied entry at a supermarket because they looked like foreigners. The two were denied entry even after showing a government-issued identity cards proving that they were Indians (Pandey 2020). A 24-year-old woman in Kolkata was reportedly refused treatment for a urinary tract infection (UTI) because workers at two hospitals insisted that she had to undergo COVID-19 treatment first before getting treatment for the UTI. She was finally treated at the third hospital but ended up at an isolation ward in the second hospital after a first information report was filed against her to the police allegedly for running away from COVID-19 screening. The woman, who was from Sikkim from the North East, said, “I tried to explain to them that I had no symptoms ... I felt like I was being treated like a dog. I was hungry and in pain so I asked the nurse for medicine, but she just ignored me.” The doctor who came to check on her asked if she was from China. And on 28 March, a 20-year-old student from Nagaland and some of his friends were denied entry in a grocery shop because the staff thought they were foreigners because of their “Mongoloid” features

(Colney 2020). A group of students from the North East—Manipur and Nagaland—were also allegedly attacked and beaten in Kolkata on 22 March by their neighbours demanding that they leave their rented house. As they left their house, the attackers shouted “Go corona go” (Sirur 2020).

### Response from the Leaders

Some may argue that the spike of racism against the Chinese and other Asian Americans in the US was largely due to the use of racially charged language by Trump and some of his administration officials and supporters. While there was some truth behind this argument, the President himself clarified that his use of the term “Chinese virus” did not have any racist intent or inclination. In fact, following the spike of racial attacks across the country, Trump on 23 March 2020 tweeted that the spread of coronavirus in the US was not the fault of Asian Americans. Trump's tweet said,

It is very important that we totally protect our Asian American community in the United States, and all around the world ... They are amazing people, and the spreading of the Virus (...) is NOT their fault in any way, shape, or form. They are working closely with us to get rid of it. WE WILL PREVAIL TOGETHER! (Vazquez 2020)

Nevertheless, there was sufficient empirical evidence that Trump's use of language had contributed to and/or incited racial discrimination against the Chinese and other Asian Americans of the Mongoloid features.

Empirical evidence had also suggested that while there were people who held prejudice against people from the north-eastern states, the Government of India did not endorse or support such a view. In fact, following several instances of racial remarks against the people of North East, Kiren Rijju, Minister of State

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of the Ministry of Youth Affairs and Sports and Minister of State in the Ministry of Minority Affairs, on 18 March 2020 raised the issue with the concerned people in the Ministry of Home Affairs (MHA). The complaint of Rijiju, who himself belongs to Arunachal Pradesh from the North East, had led to the government issuing advisory on 23 March to all states and union territories to take action on individuals or groups who engage in discriminatory activities, including racial harassment with regard to COVID-19. The MHA advisory said, "It has come to the notice of the Ministry that people from the North East have been facing harassment after the occurrence of COVID-19 in the country. There have been cases where people from the North east, including athletes and sports persons, have been harassed by linking them to COVID-19. This is racially discriminatory, inconvenient and painful to them" (Hindu 2020).

### Conclusions

While there have been cases of racism in both the us and India for quite a long time, the outbreak of coronavirus has rekindled it. The spread of the virus led to the stigmatisation of a certain minority group of people because of the origin of the virus. However, there was no sufficient or strong evidence to suggest that the kinds of racism in both countries were of institutionalised discrimination. They fitted more into personally mediated racism as put forward by Jones, or "aversive racism" theorised by Dovidio and Gaertner. There were individuals, groups of people, or many people across the society who held a xenophobic view towards people with Mongoloid features just because the novel coronavirus was known to have originated in Wuhan, China. But, not all forms of racism were explicit and straightforward. Sometimes, people engaged or expressed racism in more subtle ways, such as posting messages on social networking sites without involving directly in verbal or physical attacks (Mani 2020). However, racism in both countries were neither endorsed nor supported formally or officially by Washington and Delhi. But undoubtedly, the stigmatisation of one particular group

of people had caused a huge psychological impact and deep racial division within the society.

The authorities, including the law enforcements of both countries had taken certain measures to deal with the surge of racism, such as accepting a complaint or making an arrest (Scroll 2020). But, the continued incidents were the proof that such steps were not enough to deter or stop racial attacks (Campbell and Ellerbeck 2020). It was evident that more robust and comprehensive steps were necessary to address the larger issue of racism, including but not limited to more awareness campaign and sensitisation of the virus and the importance of unity in racial diversity, implementation of zero tolerance policy against racism, and stricter actions against the perpetrators, including heavy monetary fine and jail terms or both.

If strong measures are not implemented, the virus of racism will inherently remain in the mindsets of people, which can be a threat to peace, stability and solidarity of the society and the larger humanity.

Leaders should be more sensitive with the kinds of language they use when it comes to matters that can hurt the sentiments of people, especially in diverse and democratic societies like the us and India. Leaders and the general public who stigmatise people of a certain race should realise that viruses such as COVID-19 do not have race, nationality, or boundary.

The stigmatisation of a certain race triggers racial division and hinders the collective fight against the pandemic. Racism and racial attacks can be equally deadly and dangerous to humanity as much as the virus itself. In a globalised world, it needs the cooperation and collective efforts of individuals, civil society groups, governments and international institutions to fight against the invisible deadly viruses, including the coronavirus. It is unlikely that coronavirus or COVID-19 will be the last pandemic that humanity will have to face.

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# Insights into the Condition of Elderly in India

TULIKA TRIPATHI

**W**e no longer have what our previous generation had, which was an intergenerational living arrangement with many children in the same vicinity, if not house, to care for/share the care of the elderly. Yet, the Indian policy for the aged remains optimistic about the role of the family in providing necessary support to elders. Till quite recently, the research on ageing was centred around demographic changes, and the dependency ratio and activity status of elders. *India's Aged: Needs and Vulnerabilities* breaks this conventional straitjacketed analysis of elders and is a significant contribution on the needs and vulnerabilities of the aged in India. As the title of the book suggests, the needs and vulnerabilities of the aged are fittingly addressed in various chapters on economic dependence, health and disability, healthcare cost, role of family in utilisation of healthcare and satisfaction of the elderly. The book is a collected volume of 10 research papers by academics working on various aspects of ageing and the aged in India.

Though the book is not divided into sections, for the ease of understanding, it can be broadly classified as addressing two sub-themes. The first part consists of five papers dealing with economic activity, dependency and household health spending. The second part deals with the role of family, living arrangements, well-being and satisfaction of the elderly. While setting the tone of the book in the introduction, Udaya S Mishra and S Irudaya Rajan have aptly identified two factors—individual identities and social and family factors—as critical in shaping the needs and vulnerabilities of the aged. These two factors remain the central point of inspection to understand the needs and vulnerabilities of the aged in subsequent chapters.

## BOOK REVIEWS

**India's Aged: Needs and Vulnerabilities** edited by Udaya S Mishra and S Irudaya Rajan, *Orient Blackswan*, 2017; pp xiii + 254, ₹895 (hardcover).

Declining fertility and longer life expectancy mean the number of older adults is growing faster than the number of children and there is a rapid increase in old-age dependency ratio. Generally, population ageing is associated with physical and economic dependency, and falling labour force participation and income. However, the paper by T R Dilip suggests that during 1983–2010 the work participation rate (WPR) of the elderly has substantially increased, leading to the decline in the old and inactive group to 9.3%. As a result, the contribution of the elderly to the household has also increased manifold since 1983. While economic contribution by males has increased, females are providing domestic support to the household.

The paper further argues that the presence of an older person in the household will put extra stress on existing resources, which will lead to a reduction in overall household and individual welfare. Further increase in the WPR of the elderly is also seen as a lack of social security and economic support to the elderly (Alam 2006: 140). Therefore, the study on economic contribution of the elderly should also look at health status and working conditions of the working elderly. It will give us a better interpretation of their WPR and well-being. Further, the dependency-led argument of ageing should be studied by rebalancing their economic and domestic contribution to the household.

### Economic Dependency

Ageing comes with higher incidence of activities of daily living (ADL) and instrumental activities of daily living (IADL),

leading to the specific requirement of long-term care. According to Building a Knowledge Base on Population Ageing in India (BKPAI) data for seven states of India around 3.7% of the elderly suffer from any ADL limitations, 34.7% from any chronic morbidity, 34.7% from any locomotor disability and 49.6% from any IADL limitations, which requires long-term care. In this context, the major problems of disability are vision, hearing, and mobility impairment (UNFPA 2013). Rajan and Anjana A, based on an interesting longitudinal study (Kerala Ageing Survey) of four rounds, show that disability rises with age. They argue that an older person was expected to live 15 years with disability in 2004, which rose to 17 years in 2010. The conditions are much worse for female elderly; their chances of life expectancy with disabilities are higher than their male counterparts.

Syam Prasad has done a detailed study of dependent elders among various subgroups to identify the most vulnerable group. This study shows that the most vulnerable are the urban elderly women, who are dependent on others for their basic needs. To further understand dependency, individual relative deprivation and group relative deprivation are analysed. The elderly from the households that are deprived within their social groups have a higher probability for being economically disadvantaged and dependent; however this varies among various socio-economic status (SES) categories. Individually deprived elderly persons are more likely to be weak and dependent across any SES identity.

### Health Expenditure

By 2030, the elderly will bear nearly half of the total disease burden in India. The elderly are more exposed to non-communicable diseases and chronic diseases, especially to cardiovascular disease and chronic pulmonary disease, diabetes, and cancer, requiring multiple health visits to outpatient departments and for hospitalisation. In this context, the paper by Sanjay K Mohanty and Akanksha Srivastava provides estimates and projected cost of healthcare for 2026. They

estimated an increase in inpatient cost by 148% and in outpatient cost by 67% over 10 years. This will have severe implications for older persons and households in the absence of weak pension and health insurance coverage along with already weak health centres in India, on meeting existing goals. Applying “need standardised distribution” of healthcare utilisation, William Joe points out the pro-rich bias in healthcare utilisation. Poor elderly with greater needs are not utilising healthcare services.

From the existing debates, it needs to be noted that the health and well-being of the elderly can be achieved with the full coordination of family, society, and health institutions. However, increasing nuclear family living arrangements and female employment outside the home and high youth outmigration have created a severe challenge for the elderly, particularly in situations requiring long-term physical support (Carmichael and Charles 2003: 782; Viitanen 2005: 12; He Daifeng and McHenry 2013: 19–20, 24).

### Living Arrangements and Family

In the case of India, it is mostly family members who are the primary financial and physical carers; approximately 90% of the elderly are receiving help from their family. Most of them live in inter-generational settings. Of the family members, mostly daughters-in-law provide care followed by spouse and son. Besides, we should not overlook the 5% elderly living alone and 12% living with their spouses. This group must be in desperate need of physical and financial support. It would have been interesting to have some papers on this group in this book.

Two very interesting papers by Joe and Shalini Rudra argue for a revitalisation of the role of the family in elderly caregiving and well-being. These studies have shown that good health status and utilisation of healthcare services are better for elderly living with family members, and more precisely with their spouse. Despite the limitations of self-rated health data, with careful analysis and examination of results (self-rated health given in the National Sample Survey Office rounds on morbidity and healthcare utilisation), Rudra argues that family is

the most critical determinant of better self-rated health of the elderly. The elderly living with their children and spouse rated their health better than those living alone or with extended relatives across any SES group. These two papers present a strong case for various incentives to the families taking care of the elderly. It also establishes the role of health systems whereby the elderly from the eastern region are more likely to report poor health than the western region of India. Across regions, the elderly living with their family members are better off than those living alone.

However, there are other papers in the book that look critically at multigenerational living arrangements of elderly. There is no data on the experiences of elderly living in a multigenerational family, although, with the help of a hierarchical linear regression model the link between living arrangements and health was explained by the contextual factors in the paper by Tannistha Samanta. The paper explains that the level of urbanisation and proportion of elderly in a district leads to better health outcomes of the elderly, which means access to better household sanitation and healthcare services are effective factors in reducing disease burdens of elderly, irrespective of their living arrangement. Thus this paper establishes the crucial role of

household wealth in explaining the link between living with family and the health of the elderly. In a nutshell, all these studies look to the critical role of the family, for the care and well-being of the elderly. A few of the contributions also shed doubts on the role of family, and consider other essential factors like wealth possession and employment. However, in the absence of data on these issues, they conclude with a strong case for social and economic support to the elderly and the families taking care of them.

The last chapter by Anil Kumar looks at a totally neglected theme in elderly research, that is, role and requirement of nutrition for elderly health. When we have child undernutrition at roughly around 40% (IIPS and ICF 2017: in ref. 7), then the elderly might very well be suffering from lifelong undernutrition; the consequences of which start to roll out in old age. In countries like India, where people grow old with lots of dietary restrictions, it becomes challenging to make them follow the required diet. It gets further complicated for the poor elderly, where the household relies on them for economic support.

### In Conclusion

The best part of the book is that it addresses quite a large audience. Researchers need to note the innovative methods of

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data use despite limited data available on the subject in India. Since ageing was always taken as a problem of the global North and it was never assumed that India would face this problem, we do not have data on this issue. The available data are a by-product of household and health surveys with different motivations, such as consumption pattern, living standard, reproductive health or health expenditure, and provide limited information about the needs of the elderly. To fill this gap, elderly-focused studies should be funded and supported more.

Further, the authors of the papers in the book have also used innovative analytical tools to figure out individual- and social-level effects, forecasting of health

expenses, etc, which can be a great learning tool for students of health economics. It is also relevant for policymakers as it informs the “vulnerabilities” and needs of the elderly for policy purposes. It is essential for non-academic readers in their 30s and 40s to understand the economic, physical, and personal support their elderly need from them, and the preparation of the same for themselves.

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## Women in the Puranas

ARSHIA SATTAR

In this volume, Monika Saxena takes us by the hand and valiantly leads us on a guided path through the massive compendia of Hindu stories and practices that coalesced in the classical period (300 CE to 1100 CE). She does this via the Vishnu, Markandeya, Matsya, Agni and Bhagavata Puranas. Choosing five early and late Puranas from among the 18 texts designated as Maha Puranas, Saxena uses them to explore and track the developments in Hindu orthopraxy and orthodoxy in places and times shadowed by the spread of Buddhism. In this rigorously annotated volume, Saxena does well to remind us that the Puranas are far more than naïve collections of sectarian myths.

### Myth and History

The Puranas proffer an eccentric and idiosyncratic mix of myth and history, a fact that leads to some rather specious arguments about the status of myth as chronicles of real events and even as “truth.” Saxena avoids these troubled waters as she unpacks the contents of the Puranas, focusing on how women are depicted as goddesses in stories and how they become increasingly constrained

**Women and the Puranic Tradition in India** by Monika Saxena, *Oxon and New York: Routledge, 2019; pp xvii + 288, ₹1,495.*

by codes of idealised behaviour as wives and as members of upper-caste society. As Hinduism was asserting itself through a new theology and through increasingly stratified, systematised social categories, Saxena suggests that the Puranas were directed at women, giving them a new role alongside (but never equal to) men in both religious and secular spaces, inside the home and outside as well.

This was enabled through new versions of older myths, which introduced a set of radically individualised ritual practices: *vrata* (vow), *tirtha* (pilgrimage) and, of course, *bhakti* (devotion to a chosen god), itself. She makes the point that however inclusive these new practices appear to be, the resurgence of (what we now call) Hinduism was led by Brahmins, and so the mores and the social arena they delineate remain, essentially, conservative. The early Puranas were being compiled around the same time as the Dharma Shastras, texts that are dominated by concerns about purity and pollution. It should come as no surprise

to us, then, that the Puranas hover anxiously around the behaviour of women and around the dangers of *varnasamkara*, the mixing of castes, that is, miscegenation.

### Female Divinities

In attempting to understand their hybrid nature and identify sources for the diverse materials that the Puranas gather into themselves, Saxena points to how much (stories and characters most obviously so) was absorbed from local cults in the different regions of the subcontinent where the Puranas were composed and redacted. Given her project, Saxena points us to local female divinities who are mythologised and thereby transformed into pan-Hindu goddesses. However, the most fundamental questions about why the so-called folk narratives favour the female energy, divine or otherwise, remain. Is it simply the fact of agrarian cultures being profoundly aware of the cycles of the fertile and the fecund? Were localised religious and social traditions inherently less patriarchal, allowing, therefore, the burgeoning of independent and powerful female entities? Although the preferred construct of the female divine in the Puranas is the domesticated wife (Sri/Lakshmi and Saraswati, for example), what contrary impulse allows for a fierce Durga, unattached to any male god? Even when the pan-Hindu goddesses are

fully articulated as objects of worship and even after the appearance of the sectarian Puranas, the goddess does not get a Purana of her own—the Devi Mahatmya remains steadfastly a part of the Markandeya Purana to this day.

Like any other solid doctoral thesis, there is much in this volume about who said what and when about the Puranas, but besides such basic scholarly apparatus, Saxena treats us to an epilogue that she sweetly names “Some Parting Thoughts.” This is where her analysis lies and—I wish that it had been a larger part of the book—integrated into the preceding chapters, which are almost entirely descriptive. Here is an example of what could have been said earlier since it had already been suggested, if not firmly stated. “One would be justified in concluding that the Purana composers were aware that they were in an ideological impasse.”

#### Accommodating Excluded Groups

Their primary concern was to protect their brahmanical (*sic*) values and heritage, but they were only too aware that some compromises had to be made in the face of the socioreligious churning all around them. If they did not accommodate at least some of the aspirations of the excluded groups then beginning to be articulated, the consequences would be severe. (p 247)

But, given that this is the thesis that underlies the entire book, Saxena should have shared with her readers the “socio-religious churning” that surrounds the composition of the Puranas and told us where and how the “aspirations of the excluded groups” were being articulated. In the same section, Saxena mentions that the “upper echelons of society” realised that the exclusion of women and Shudras from Vedic practice was driving them towards Jainism and Buddhism. However, this passing mention is not enough. As it is, the book leads us to think that the new ideology that the Puranas put forth was created in a largely Hindu context rather than in a time when heterodox positions both inside and outside the Hindu world view were hugely popular.

I would have liked to see Saxena talk more about bhakti, which, by the time of two of her selected texts, was a full-blown theology within Hinduism. In the ninth century CE, both the Agni and the Bhagavata Puranas make mention of Vishnu’s avatars; the latter, in fact, is dedicated entirely to Krishna’s life on earth. How did bhakti (explicitly mentioned by Saxena as one of the ways in which “others” were now included within a system of orthodoxy) impinge upon

the social and religious status of women—in the south, Andal’s lush poems to her beloved Krishna were surely well-known to the men who composed the Bhagavata around the same time and in the same region. I am also surprised that the Mahatmya gets as little attention as it does in a volume that revolves exclusively around women. A discussion about the patriarchy that circumscribes the lives of real women, even as it simultaneously creates a goddess of remarkable power and charisma, would surely not have been out of place.

When a doctoral dissertation is published as a book, it steps beyond its initial purpose (securing a degree). As it seeks to engage a larger world (which includes a wider academic circle), it must expand its previous remit and go past the constraints under which it was written. In this new incarnation, Saxena’s *Women and the Puranic Tradition in India* does not extend itself enough. What could have been a series of compelling hypotheses, which could have suggested new ways to think about the Puranas, remains but a thorough and useful guide to some parts of the Puranas.

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# Understanding Citizenship and Refugees' Status in India

PRACHI RAJ

This article seeks to argue that India's kindness for some refugee communities and ignorant behaviour for Muslim refugees has raised doubts on its way of refugee dealings, and has posed questions on the very secular face of the Indian state.

The health and stability of a modern democracy depends not only on the justice of its basic structure but also on the qualities and attitudes of its citizens. Democracy as a form of life rests upon active consent and participation, but it is interesting to note that citizenship is distributed according to passive criteria of belonging, like birth upon a piece of land, which is called *jus soli*; and ethnic belonging to a group of people, which has been called as *jus sanguinis* (Benhabib 1999).

The contemporary global scenario is marked by the emergence of new forms of identity and difference politics. With proceeding globalisation and fragmentation, a conflict between human rights and sovereignty claims has also increased. On the one hand, a worldwide consciousness about universal principles of human rights is growing; and on the other, particularistic identities of nationality, ethnicity, religion, race, and language along with the claim of sovereignty are also asserted. The right of a collectivity to define itself by asserting power over a bounded territory, creates a distinction between "us" and "them," that is, between those who belong to the sovereign people and those who do not.

Cross-border movements of population in South Asia are regarded as a serious issue, which is seen as affecting internal security, political stability, and international relations, and not only the structure and composition of the labour market; which has seized the attention of heads of governments in the region and have often been the basis for bilateral negotiations. The thrust of several state policies within the region is to close borders and to clearly define who is a citizen in a particular region. This has become a challenging task both for the citizen as well as for the state

because historically, borders were not clearly demarcated or did not exist, because of which people moved freely with little regard for national boundaries or legal notions of citizenship (Kymlicka and Norman 1994). For scholars like Myron Weiner (1993) the population flows across the boundaries in South Asia are driven by political and economic circumstances, by which they often diminish the ethnic heterogeneity of the origin country, and have made the countries of destination more heterogeneous. A politically driven model of international migration is a highly conflictual one both for the sending and receiving countries. Therefore, it has been argued that the disturbed zone of citizenship inside the nation state may not be resolved without resolving the contests beyond the nation state (Roy 2010). This article seeks to examine the ongoing debate over citizenship in a global era, and how the Indian state is dealing with the problem of refugees and immigrants.

## Citizens and Citizenship

A citizen is defined as someone who is a member of a national or political community and enjoys equal rights and responsibilities with all other citizens (Macfoy 2014). Citizenship has been viewed as a fruit of the modern state in which citizens are expected to be loyal to the cause of the state and willing to make all the sacrifices required, and in the same state, foreigners are suspected to be less trustworthy or even potential security risks (Hammar 1986). Citizenship is the legally acknowledged membership of a state and is thus not voluntary. It is commonly invoked to convey a state of democratic belonging or inclusion, yet this inclusion is usually premised on a conception of a community that is bounded and exclusive (Bosniak 2006). The targeting of non-citizens as undeserving of public benefits not only "jeopardised human rights of immigrants, it also reflects the existing and persistent devaluation of important families who experienced higher levels of hunger and food insecurity due to welfare reform" (Fujiwara 2005: 121).

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Citizenship as an idea and as an ideal institution has several regressions, incompleteness, contests, and often represent an axis of subordination, which have been seen as “discontents” by many scholars, and therefore becomes relevant in postcolonial societies like India, which has been marked by hierarchies of caste, class, race, religion, and gender. The principle of equality as an abiding feature of citizenship remains elusive and fettered. It is the civic community, which is often considered as an important goal of citizenship (Jayal 2013).

Part II of the Constitution and the Citizenship Act, 1955 define citizenship and prescribes several rules for its acquisition. Articles 5 to 9 of the Constitution define citizenship at its commencement. The mode of acquisition of citizenship through birth, descent, naturalisation and incorporation of territory, after the commencement of the Constitution is provided in Sections 3 to 7 of the Citizenship Act, 1955. However, it is unclear about the stateless individual who is recognised as a refugee by the United Nations High Commissioner for Refugees (UNHCR) and will be able to invoke citizenship for her child (Chaudhury and Samaddar 2015).

In the contemporary era of globalisation, citizenship is not confined to a single state but is virtually global in its extent, which has two aspects: first, emerging from normative cosmopolitanism it has an enduring cosmopolitan consciousness, which is superior to nationalism; and second, the globality of citizenship consists in the belief that globalisation has created the material conditions in which cosmopolitan existence may be possible (Roy 2010). Universal human rights transcend the rights of citizens and extend to all persons considered as moral beings. Therefore, citizenship has been defined as a divided concept in the era of liberal democracies in which it stands for both universalist and exclusionary commitments (Bosniak 2006).

### Who Is a Refugee in India?

International law defines refugees as persons who have been forced to flee the country of their origin and are unable or unwilling to return there due to the fear of persecution on account of their race,

religion, ethnicity, and political beliefs (Bhattacharjee 2008). Refugees are seen as threatening a host country's security by increasing demands on its scarce resources or threatening the security of regions by their sheer presence. They are different from other migrants or aliens because they are compelled to flee from their country, unlike the latter who legally or illegally voluntarily leave their home country for a host of reasons. Refugee flows have assumed heightened significance as potential triggers of international intervention. The claim that certain individuals pose a “national security threat” has been misguided throughout history to prevent political dissidents from entering countries and has led to the creation of categories of “unwanted” aliens (Benhabib 1999).

India has not defined clearly the category of refugees. Their status is predominantly determined by the extent of protection they receive from the Government of India, which in turn has often been influenced by political equations than by humanitarian or legal obligations. The largest single bilateral flow in South Asia took place in 1947 when the partition of the Indian subcontinent took place, and in 1971 when Bangladesh became independent. Nearly seven million Bengali Hindus had crossed the border into West Bengal, Tripura, and Assam to refugee camps built and sustained by the Indian government (Weiner 1993). Unlike the earlier population movements, the present international migration flows within South Asia are largely unacceptable, uncontrollable, and a source of conflict among countries of the region and often within the receiving country. On the one hand, certain refugee communities like Sri Lankan Tamils, Chakma, and Tibetan refugees have received sufficient protection by the Indian state. On the other hand, refugee communities like Bangladeshi Muslims, Afghans, Burmese, and many others following Islam have witnessed several discriminations by the same state. They have not ensured any kind of protection from the government as such. Chin refugees in Mizoram have assimilated into local communities and have not been recognised or acknowledged either by the UNHCR or the

Indian state. Due to which they are subjected to persistent harassment and abuse from their employers and police. This raises a question: How can the Indian state, which proudly declares itself as secular, have two kinds of treatments or measures to deal with refugee communities?

According to Myron Weiner (1993), refugees are not passive actors, and the political influence of refugees on the host government is enhanced by their ties to local ethnic kinfolk. For scholars like B S Chimni (2000: 244), in the era of globalisation,

humanitarianism present in the International law, which is mainly the ideology of hegemonic states, is causing the erosion of the fundamental principles of refugee protection and is transforming the very character of UNHCR, by manipulating the language of human rights to legitimise a range of dubious practices.

Unable to control entry, governments often attempt to influence the exit policies of their neighbours. Several strategies to deal with an unwanted and unacceptable entry have been applied by the government. Exercising diplomatic pressure on the sending country, armed intervention, border clashes, as well as violent attacks and abuses by the local elites of the receiving country have often been applied.

Jacques Derrida's (2005) idea of “unconditional hospitality” implies the welcoming of the foreigner before imposing any conditions on them, it must address the other. Enabling refugees to use the law and legal mechanisms to protect and advance their rights and acquire greater control over their lives could have important implications. The increasing significance of citizenship in social policy perpetuates a persistent devaluation of immigrant families. Therefore, legal empowerment has been regarded as

the potential to improve the administration of justice within refugee camps, to increase

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the accountability of host state authorities and aid providers, and to contribute to the achievement of durable solutions either by providing the skills and knowledge to facilitate resettlement or local integration or by empowering refugees to be actors in resettlement and transitional justice initiatives. (Purkey 2013: 260)

### Rohingyas and Statelessness

The 1954 UNHCR convention relating to the status of stateless persons defined a stateless person as someone who is not considered as a national by any state under the operation of its law. Rohingya refugees are a glaring example of a stateless community. In India, they have been represented as foreigners, suspected Bangladeshi nationals, and impoverished, and therefore a large number have been and continue to be arrested for violation of the Foreigners Act, 1946, and the Passports (Entry into India) Act, 1929 along with other legislation. The Rohingya Muslims who have been forcibly ousted from Myanmar are living precarious lives, and have fled mainly to India and Bangladesh. The military assault on them in Myanmar compelled a large number of them to flee the country in order to save their lives. They are mainly the Burmese Muslims, bilingual Bengali and Burmese speaking people. They fled in early 1978 as well when the Burmese government launched a movement to check on “illegal immigrants,” followed by several interventions made by the Burmese Army in the effort to end local insurgency in the Arakan region. They are mainly the descendants of agricultural labourers who had migrated from Bengal to the Arakan region when borders were not clearly demarcated. They were compelled to flee as they were lacking national registration certificates and thus were unable to prove their Burmese citizenship. They are now the world’s most persecuted minority without citizenship.

Because of their continuous fleeing due to persecution, and in search of livelihood they have been considered as the “boat people” (Chaudhury and Samadder 2015). In the latest round of citizenship verification process initiated in 2015, the Rohingyas in Myanmar were asked to identify themselves as Bengalis and

provide evidence of three generations of ancestry. They do not have access to government jobs or education. Under international law, they are considered as *de jure* stateless, that is, a person who is not considered as a national by any state under the operation of its law. To overcome the profound vulnerability that affects stateless people, the convention upholds the right to freedom of movement for stateless persons lawfully on the territory and requires states to provide them with identity papers and travel documents (UNHCR 1954). The 1961 Convention on the Reduction of Statelessness sets certain rules for the conferral and non-withdrawal of citizenship to prevent cases of statelessness from arising, by requiring states to grant citizenship to children born on their territory, or born to their nationals abroad, and by prohibiting the withdrawal of citizenship from states’ nationals. Despite such rules, there has been rarely any improvement in Rohingyas’ situation. Therefore, it can be argued that the use of legal citizenship status as a form of demarcation for entitlement to life-sustaining benefits further delineates immigrants and refugees as “outside” the social, political, and economic policy of the nation.

### CAA and NRC

The Citizenship (Amendment) Act (CAA), 2019, which was passed recently, updates the existing Citizenship Act, 1955, in order to provide Indian citizenship to minority communities fleeing persecution from neighbouring countries. It seeks to offer citizenship to Hindus, Parsis, Buddhists, Sikhs, Jains, and Christians from Bangladesh, Afghanistan, and Pakistan. The clear intention behind bringing it, is to grant citizenship to Hindus fleeing persecution in Muslim-majority countries neighbouring India, which was clearly mentioned in the election manifestos of the present ruling party. However, this initiative could be seen as one of the important Hindutva project, which has serious implications for both the Muslim immigrants as well as Muslims residing in India itself. The act has created a climate of tension in the country, as it violates the basic principles and secular values of the Constitution since it proposes

to club religion and citizenship together. The CAA and NRC were strongly opposed not only by the Muslim population of the country, but also sparked several protests across the educational campuses. Along with this, several states also passed resolutions against it.

Clearly, the initiative sparked a serious bifurcation between those supporting and opposing it. The NRC has been brought with an intention of preventing Muslim immigrants specially from acquiring certain rights and benefits in India. People were told to prove their descentance of Indian citizenship by showing legacy data and the lineage, in order to get registered on the NRC. This sparked another protest and a pan-India campaign with a slogan of “Kaagaz nahi Dikhayenge” (we will not show our papers). It can be argued here is that NRC and CAA have been used as a political tool to identify and harass Muslims residing in India, and was implemented immediately after the persecution of Rohingyas in South Asia, as the Indian state did not want to take the responsibility of providing shelter to Muslim immigrants.

The union home minister’s declaration regarding the implementation of NRC on a pan India level for identifying “intruders” is a good example to show the Hindutva agenda of the Indian right wing. His famous “chronology” of amending CAA first for providing citizenship to non-Muslim refugees, and then introducing NRC to identify intruders not only targets and excludes a huge chunk of Muslim population regardless of their ancestry by snatching their citizenship rights, but also enlarges the category of stateless people. It is unclear what will happen to them next, how to deal with their problems, as neither can they be deported to India, Bangladesh, Pakistan or to any other South Asian country due to lack of arrangements. Moreover, such identification will also intensify the persecution of already persecuted Muslim immigrants like Rohingyas, furthering their victimisation of statelessness.

### Refugees and the Constitution

The Constitution of India guarantees certain rights to all persons within India. Though the word “refugee” is not

mentioned as such, the outsider people or those who are not Indian citizens are termed as “aliens” in the Constitution. Hence, certain fundamental rights have been granted to the people seeking asylum in India. These rights are equality before law under Article 14 of the Constitution, which states that the state shall not deny to any person equality before the law or the equal protection of the laws within the Indian territory. Protection of life and liberty under Article 21 is another right, which states that no person shall be deprived of his life or personal liberty except according to the due procedure established by law. The Supreme Court of India further expanded this right in *Louis De Raedt v Union of India* (1991) and *State of Arunachal Pradesh v Khudiram Chakma* (1993) cases and included foreigners under the ambit of this law (Bhattacharjee 2008). The right to a fair trial has also been included in this right which is uniformly applicable to both citizens and aliens. Articles 245 and 246 gives power to the central government to frame laws with respect to matters that broadly fall under subjects relating to foreigners, aliens, and immigrants (Chaudhury and Samaddar 2015).

The legal framework to protect refugees in India has been often characterised by an eclectic interplay of administrative ad hocism and judicial assertion of constitutional rights (Bhattacharjee 2008). The Constitution provides certain fundamental rights that often have been further expanded by the Indian Judiciary. A glaring example for this argument could be the case of *National Human Rights Commission v State of Arunachal Pradesh* (1996), in which the Supreme Court of India restrained the forcible expulsion of Chakma refugees from the state. Further, the court directed the state government to ensure that the life and personal liberty of each and every Chakma residing within the state should be protected. However, the inconsistent and arbitrary government policies, which have been dictated more by political exigencies than by legal imperatives have often created an obstruction in accessing these rights and institutions.

### Need for the Refugee Law

India is one of the most prominent refugee receiving countries in the world. The Indian state has treated a few refugee communities reasonably well but has not formulated a well-defined refugee law. The absence of clearly defined statutory standards subjects refugees and asylum seekers to inconsistent and arbitrary government policies. The Foreigners Act of 1946 highlights the ad hoc nature of refugee law and practice in India. The Indian state lacks a national refugee law which can specify the rights of and govern the treatment of refugees. This lack has subjected different refugee communities to varying standards of protection. The Citizenship (Amendment) Bill, 2016 reflected this. Normatively, India seems to be committed to refugee protection, but practically she treats different communities differently. India has not signed either the 1951 United Nation's Convention Relating to the Status of Refugees or the 1967 Protocol. It has been argued by many that the reason behind India's refusal to sign the convention was that it was very Euro centric. Yet, India has recognised the right of refugees to non-refoulement and has maintained its basic commitment to humanitarian protection of refugees. In fact, India has signed numerous human rights instruments and is a party to the Universal Declaration on Human Rights 1948, International Convention on Civil and Political Rights 1966, etc, which demands an obligation to secure to refugees a right to status determination, and India did so.

### In Conclusion

It can be concluded that the Indian law and the state practice provide distorted and incomplete protection to refugees. In fact, initiatives like the CAA and NRC, which clearly discriminate against a particular community have created several problems among its own citizens. The lack of refugee laws and clarity regarding refugees has created several problems in accessing institutions for the sake of the protection of the refugee community in India. The Indian state's divisive way of treating certain refugee communities differently has resulted in a fear of persecution and helplessness

among them, which also poses a question mark over the secular nature of the former. The absence of a national law on protection, rights, and entitlements of refugees has resulted in the denial of basic protection and has further pushed them into a condition of vulnerability. This has also made the refugees dependent on the state and they have no recourse against systematic violations made by the state itself. The Indian law is inadequate to deal with the problem of statelessness. For stateless people like the Rohingyas, the Indian state neither offers protection nor avenues to legal residence in the country, due to which they are witnessing continued detention and arrests.

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# Use of Algorithmic Techniques for Law Enforcement

## An Analysis of Scrutability for Juridical Purposes

HANS VARGHESE MATHEWS, AMBER SINHA

The state has often sought to regulate the use of social media to prevent law and order issues or suspected criminal activities. In the light of the possibility of such state regulation and surveillance, the proposed use of the technique of sentiment analysis of social media data to guide actions of law enforcement agencies merits close scrutiny. What needs urgent attention is the existing legal standard that must govern the actions by these agencies, and how, if at all, may this standard be applied when the law enforcement action comes to be informed by the use of such techniques.

In July 2018, the Supreme Court of India agreed to hear a petition (Singh 2018) challenging the setting up of a social media communications hub by the Ministry of Information and Broadcasting (2018) to create digital profiles of citizens, ostensibly to gauge their opinions about official policies. Upon receipt of a notice from the Supreme Court and concerns raised by it about surveillance, the government withdrew the request for proposal and communicated its decision to not go ahead with the project (*Hindustan Times* 2018). However, there are several government agencies that already use social media analytics tools.

Over the last few years, a number of state and central government initiatives have been announced in India, which mandate the analysis of social media data for use by the police.<sup>1</sup> Social media labs maintained by law enforcement agencies shall perform “public sentiment analysis” to “identify behavioural patterns, influences and advocates, track the change and increase in chatter and generate alerts in real time,” to enable the police “to take suitable action.” The analysis will “generate tags to classify posts and comments on social media into either negative or positive according to a note by the National Police Mission on use of the tool for surveillance for police departments. It can also track users’ devices and their locations and send ‘alerts’ to authorities depending on the criteria set by the authorities” (Srivastava 2018).

The proposed use of sentiment analysis of social media data to guide actions of law enforcement agencies is the subject of this article. We consider the question of the explicability of the scoring routines used in such techniques to arrive at inferences about the affect and the attitude of individuals.<sup>2</sup> To put it simply, these conclusions about affect and attitude could then become the basis for law enforcement actions, if sentiment analysis becomes a prominent technique used by agencies or their technological partners. In this article, we look at the existing legal standard that must govern the actions by law enforcement agencies, and how, if at all, may this standard be applied when the law enforcement action comes to be informed by the use of techniques such as sentiment analysis.

We have tried to articulate legal complications for the juridical use of computational sentiment analysis first, and then tried to ground those complications in the learning algorithms themselves. Our strategy has been to examine a very simple but seemingly superior procedure for sentiment analysis—a

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Naïve Bayes classifier, technically considered—and to exhibit even there an aporia which would defeat any direct reliance on its output; and argue that such difficulties would only be compounded for more complex algorithms. The primary data in question when conducting sentiment analysis in this case are the posts, likes and other recorded behaviour by individuals on social media platforms. Social media platforms also collect a considerable amount of data about other online activities of individuals (hereafter “additional data on online behaviour”). This additional data on online behaviour might usefully augment the primary data, that is, the data from social media posts recorded on social media.

### Preliminaries

Judges relying on scientific evidence especially should consider both the extent and the stability of expert consensus on the fact in question, since advances in the scientific community are achieved often enough by practitioners seeking to confirm, falsify or modify substantially the claims of their fellows. To assess the extent and stability of expert consensus would be difficult in an empirical practice whose apparatus and experimental protocols are conspicuously changeable, as they often are in the life sciences for instance.<sup>3</sup> Where facts in question are things routinely at issue and have come to be decided by settled procedure in science or technology—for instance, the metallurgy and classical mechanics that a ballistics expert would rely on—it is easier for judges to elicit the state of consensus, and judicial precedents could sufficiently guide the due determination of a contested fact. But computational sentiment analysis is a novel thing, and not even its enthusiasts will claim that inferences to attitude and affect have come to be done in settled ways.

What follows is intended for the general reader, and some technical preliminaries would be in order here. We shall have to consider probabilities that are assigned, in the case at hand, to the possible values  $x$  of a discrete random variable  $X$ . It is usual to denote with “ $p[X = x]$ ,” the probability that  $X$  takes a particular value  $x$ , which we shall further abbreviate as  $\pi[x]$ . Given discrete random variables  $X$  and  $Y$ , we shall have to consider the conditional probability  $p[(Y = y) | (X = x)]$  of  $Y$  taking the value  $y$  given that  $X$  takes the value  $x$ —given by prior observation perhaps, or as supposition only—and we shall abbreviate that probability as  $\pi[y|x]$ . The symbol “ $\equiv$ ” put between two expressions in sequence serves to define the first in terms of the second.

The analogue of the apparatus that we refer to here would be the scoring routine. A scoring routine assigns to each item of suitable input one or other “pole” of the sentiment being analysed, or declares the item “neutral” perhaps or indicative of indifference. The analogue of experimental protocol would be the preparation and redaction of the “raw” data—the record of expression and the registry of action which are described above—to such input as the scoring routine expects. The conversion of raw data to expected input is generally termed feature extraction. Putting aside the additional data on online behaviour that sentiment analysts might use in tandem

with it, we shall mainly consider the extraction of features from recorded text, since that is the most common and available source of recorded expressions, or expressional raw data, as one might term it.

The primary data here is “unstructured” data: lingual elements and combinations evident to human readers are represented as strings of “alphanumeric” symbols recognisable to the machine. The task now is to select elements and combinations which are pertinent to inferring the particular attitude or affect expressed. Affect and attitude are inferred statistically. The scoring routine arrives at a rule which will assign probabilities to each of the discernible poles or states of mind leading to the data for every possible configuration of the expected input. This involves each lingual feature taken for a random variable. Its value is observed in a given passage of text as the count of its occurrences usually or in some cases its mere presence or absence, and ordering the features in some set way yields the random feature vector. The values of this random feature vector are the most common form of “structured” input to scoring routines in sentiment analysis. A random vector  $X = X_1, X_2, \dots, X_q$  has random variables  $X_k$  for its components: its values are vectors  $x = x_1, x_2, \dots, x_q$  now, where  $x_k$  is a value of  $X_k$  for  $1 \leq k \leq q$ , and the statement “ $(X = x)$ ” records the concomitance  $(X_1 = x_1) \& (X_2 = x_2) \& \dots \& (X_q = x_q)$  of the individual circumstances  $(X_k = x_k)$ .

### Learning Methods

The extracted features in  $X$  shall be lexical elements: substantives or adjacent pairs of substantive and qualifier, “stemmed” to discount inflection<sup>4</sup> and conjugation.<sup>5</sup> These variables may be affected by salient collocations of words, which depend on each other in some lingually definite and computationally discernible way. The “states of mind” here would be observed values of a random variable  $Y$ , and the training data for the scoring routine will be a collection of observed feature vectors, each of which has been assigned a “state of mind.” This is done by estimating for each such  $x$  and each such  $y$  the conditional probability  $\pi[y|x]$  of  $y$  given  $x$ , usually, or the converse  $\pi[x|y]$  otherwise. The relation  $\pi[y|x] \pi[x] = \pi[x \& y] = \pi[x|y] \pi[y]$ , called Bayes’ Rule, links these probabilities. Whether one should use  $\pi[x|y]$  or  $\pi[y|x]$  depends on what is being inferred, and with any luck the appropriate probability would be as feasible to compute as the other. Therefore, one crucial assumption in all this is that the training data is a sample which represents well enough the lingual expression of the affect or attitude being analysed.

We have so far very summarily outlined what is known as supervised scoring: where the routine is guided by the states  $y$  paired to the feature vectors  $x$  in the training data. However, this is not so in the case of unsupervised scoring. In these cases, feature vectors are assigned poles or degrees of polarity by assigning to each lingual feature some measure of polarity and then combining these measures in some plausible way. Thus, neither the “state-of-mind” nor any feature needs to be regarded as a random variable whose values or ranges of value must have definite probabilities, whether they are ascertainable or

not. The adequacy of measurement would be assessed by such means as linguists possess, presumably of securing their con- struals of lingual fact.

Sentiment analysts employ scoring routines of both sorts. However, neither forms of redaction of text to feature capture how syntax shapes locution and illocution.<sup>6</sup> In instances where the affect or attitude is ambivalent or ambiguous, the contrac- tion of a passage of text to feature vector would only serve to mask such ambivalence or ambiguity, and, more likely, con- found it with indifference should the raw data contain expres- sions of indifference. Even sanguine computational linguists would not contest that such representational coarseness is a defect. While one may make allowances for this defect when these techniques are used to guess consumer preferences, it is however another matter when sentiment analysis is used in ways that requires judicial scrutiny and oversight, and has a clear impact on the rule of law and the human rights of privacy, liberty and free speech.

### Sentiment Analysis in Law Enforcement

Even though its framers deliberately kept the words “due pro- cess of law” out of the Indian Constitution, subsequent years of jurisprudence have adopted some versions of the American constitutional law doctrines of “procedural due process” and “substantive due process” within the meaning of phrase “pro- cedure established by law” under Article 21 (*Maneka Gandhi v Union of India* 1978). In criminal law, statutes that define of- fences and prescribe punishments are considered “substan- tive,” while others which relate to matters of process are con- sidered “procedural.” It is now accepted law that a procedural law which deprives “personal liberty” has to be “fair, just and reasonable, not fanciful, oppressive or arbitrary.”

During investigations, as per the Code of Criminal Proce- dure, law enforcement officers can take certain actions on the basis of “reasonable suspicion”<sup>7</sup> and “reasonable grounds.”<sup>8</sup> In the life cycle of actions by law enforcement agencies and the courts, starting from the opening of investigation followed by arrest, trial, conviction and sentencing, we see that as the indi- vidual is subject to increasing incursions or sanctions by the state, it takes a higher standard of certainty about wrongdoing and a higher burden of proof. In the subject of immediate interest, actions taken by law enforcement agencies, such as surveillance or arrests based on the use of sentiment analysis would be subject to the standard of due process. However, there is no way to judicially examine the reasonableness of such an action if the process is not explainable.

The impact of sentiment analysis on law enforcement prac- tices is at the level of both investigations and judicial examina- tions, that is, how insights from such methods are acted upon by law enforcement agencies and how courts interpret them. In the context of investigations, it would be worthwhile to look at existing legal standards that could govern the use of such tools by the agency in question. Andres Ferguson (2017) has analysed the use of predictive techniques in the context of ar- eas where the police already uses “prediction” while arriving at “probable cause” or “reasonable suspicion,” and see how

predictive policing may reconfigure such concepts. In India, upon “reasonable grounds,” the police are allowed to conduct a warrantless search.<sup>9</sup> While this practice is common in other jurisdictions also, in India, the police can arrest a person with- out warrant<sup>10</sup> for cognizable offences<sup>11</sup> as well.

The standard for “reasonable suspicion” was articulated well by the Supreme Court when it held in *State of Punjab v Balbir Singh* (1994) that there must be a “reason to believe that such an offence ... has been committed and, therefore, an arrest or search was necessary.” Further, the police must have “acted in a bona fide manner” as borne out by the facts and circumstances of the case (*State of Punjab v Balbir Singh* 1994) and not merely subject to the subjective satisfaction of the officer (*Partap Singh v Director of Enforcement* 1985). There- fore, the requirement of reasonable suspicion demands acting in good faith. However, Indian courts stop short of elaborating on this standard in terms of how factors such as an informant’s tips<sup>12</sup> and profiling, which involve some level of prediction, measure against it. Therefore, use of techniques such as senti- ment analysis not only gives greater powers to the police to arrest people without warrants, but may require a judicial re-examination of the standard of “reasonable suspicion.”

In cases of law enforcement’s use of sentiment analysis, whether to arrest or investigate further, if online behaviour or speech of individuals are computationally inferred to disclose affect or attitude that suggests criminal intent, then any pro- ceedings on the basis of an opaque inferential procedure would have questionable legal basis. To proceed in such cases without demonstrable and articulable reasons would amount to acting in an arbitrary manner. It is worth asking if the mis- use of authority here can be mitigated by requiring that offi- cials act only upon statistically decisive results where the scor- ing routine returns values are extreme enough, within some likely distribution of such returns. However, any such attempts to devise measures of decisiveness for unsupervised scoring routines would have to be preceded by linguists devising com- putable ways of telling earnest speech from ambivalent or am- biguous speech. This would also involve the empirical calcula- tion of the likelihood of “dangerous” affect and attitude turn- ing into actual criminal acts. But expression need not end in action, and the inferential opacity would prevent human rea- soning of how social media expressions lead to official actions in any particular case, and render official decision arbitrary by its very nature.

### Supervised Learning

In this section, we provide an account of the inferential opac- ity of tools using sentiment analysis. Our example is taken from a recent text (Agarwal and Mittal 2016) which could serve interested readers as a primer on sentiment analysis. We give a bare account here, leaving details to the technical appendix (Sinha and Mathews 2020). We noted earlier that supervised algorithms use labelled training data, where each item of a recorded text or document has been ascribed one or other pole of sentiment usually: poles we shall term positive and negative simply, and denote with “+” and “-” from now on.

The preparation of the raw data here, for our supervised example, reduces each document  $D$  to an input vector  $x = (x_1, x_2, \dots, x_q)$  of zeroes and ones finally, where each  $x_k$  is taken as the value of a random variable  $X_k$  taking these two values only. We shall in due course look at how these Boolean predictors are constructed. The components of  $x$  are taken to record the presence or absence of the respective features now, with “1” recording presence and “0” recording absence, and each  $x$  comes tagged with a “+” or a “-” here, with the labels taken to record the values of a random variable  $Y$  taking two values only again, though neither affect nor attitude is plausibly binary. It is usual to call  $Y$  the response variable: the location is apt enough when the tagging is done by a random sample of human readers.

For ease of writing and reading, let  $Y(+)$  denote the circumstance that  $Y$  is positive and, likewise, let  $Y(-)$  denote the circumstance that  $Y$  is negative. Let  $o(x)$  denote the observed concomitance of the features present in  $x$ , ignoring absent ones. The algorithm seeks to estimate for each possible input vector  $x$ , the two probabilities  $p[o(x) \& Y(+)]$  and  $p[o(x) \& Y(-)]$ , now the chances that the features present are conjoined with  $Y(+)$  and  $Y(-)$  respectively. Let  $\pi[+]$  denote the probability that  $Y$  is positive and  $\pi[-]$  the probability that  $Y$  is negative: the total probabilities, it is usual to say, that the circumstances  $Y(+)$  and  $Y(-)$  obtain. The estimation proceeds by estimating the two conditional probabilities  $p[o(x) \mid Y(+)]$  and  $p[o(x) \mid Y(-)]$  first, which taken with  $\pi[+]$  and  $\pi[-]$  respectively give us

$$p[o(x) \& Y(+)] = p[o(x) \mid Y(+)] \pi[+]$$

$$p[o(x) \& Y(-)] = p[o(x) \mid Y(-)] \pi[-]$$

by Bayes Rule. For circumstances  $A$  and  $B$ , recall that  $p[A|B]$  is the probability of  $A$ 's obtaining given that  $B$  obtains—given by fact or supposition—and the conditional probabilities here should be interpreted thus. We write “ $s_+(x)$ ” for the probability  $p[o(x) \mid Y(+)]$  now, for ease of reading, and write “ $s_-(x)$ ” for  $p[o(x) \mid Y(-)]$  likewise. Then,  $s_+(x)$  is the chance of observing the features present in  $x$  on the supposition that  $Y$  is positive and, likewise,  $s_-(x)$  is the chance of observing those on the supposition that  $Y$  is negative.

In specifying  $s_+(x)$  and  $s_-(x)$ , the procedure makes the crucial assumption now that the random variables  $X_k$  become mutually independent on either prior supposition: that the value any one of them might thereupon take, in any particular observed  $x$  here would not depend on the value any other takes. Such assumptions of conditional independence can seldom be substantiated, on which account procedures employing them are said to use Bayes' Rule in a naïve fashion. To suppose so for predictors of affect or attitude that are constructed from lingual elements seems particularly careless—even if the standard estimates of correlation among such variables, however those are constructed, should prove negligible—because decided states of mind are least likely to make human beings use words as if one thing said had no bearing on the next. Just why this renders Naïve Bayesian inference opaque, in the case at hand at least, we shall try to bring out in a moment, for which

we must set out the scoring routine in the algorithm. The two joint probabilities  $p[o(x) \& Y(\pm)]$  are the respective products  $s_{\pm}(x)\pi[\pm]$  now, and the rule is simple:

(†) assign “+” to  $x$  whenever  $s_+(x)\pi[+] > s_-(x)\pi[-]$  by estimation, and assign “-” to  $x$  otherwise.

The calculated estimates of the products  $s_+(x)\pi[+]$  and  $s_-(x)\pi[-]$  will differ almost always, one assumes, for the inventors of the procedure do not bother to say how ties are to be handled.

### Inferential Opacity

But consider now that affect and attitude in individuals are much more likely to change than the ways of expressing or displaying them—more so in fluid and changeable situations—so the conditional probabilities  $s_+(x)$  and  $s_-(x)$  would be more securely estimated, generally, than the complementary total probabilities  $\pi[+]$  and  $\pi[-]$  could be. Suppose that the polarity of sentiment is being analysed in some fluid situation, then, and suppose it happens that for some particular input vector  $x$  we get  $s_+(x) > s_-(x)$  but find that  $s_+(x)\pi[+] < s_-(x)\pi[-]$  nonetheless. A careful approach may involve taking the document  $D$  redacted as  $x$  to be positive in sentiment now. But, individuals might be very much swayed however, in changeable circumstances especially, by what others say and do: and taking  $D$  to be negative in sentiment might prove more prudent altogether, despite the estimates of  $\pi[+]$  and  $\pi[-]$  being less secure than the estimates of  $s_+(x)$  and  $s_-(x)$ . Only examining  $D$  itself can decide the question here—not any scrutiny of  $x$ , or elaboration of the calculations—and the aporia sufficiently exhibits as consequence the opacity that attends a rule of inference even so simple and direct as (†) above. We had posited the occlusion of ambivalence and ambiguity as one cause of inferential opacity in the computational ascription of affect or attitude: occlusion results from the redaction of text to features we said. We turn to that next.

In the supervised procedure whose scoring routine we have just set out, the raw data is prepared by grouping extracted lingual features into clusters distinguished from each other by discrete degrees of polarity, with each feature being assigned to its cluster by considering the polarity of the documents exhibiting that feature.<sup>13</sup> With  $q$  clusters  $\Phi_1, \Phi_2, \dots, \Phi_q$  now, each consisting of a distinct subset of the extracted features, the raw documents are redacted to input vectors of uniform length  $q$  as follows. For every document  $D$ , take a vector whose each component is zero to begin with, and then for each  $1 \leq k \leq q$  change the  $k$ -th component to 1 if  $D$  exhibits any of the features in  $\Phi_k$ . The result will be our  $q$ -vector  $x = x_1, x_2, \dots, x_q$  of zeroes and ones representing  $D$ , and, as we saw, serving as input to the scoring routine just so.

The scoring method here requires, as we noted, that for each  $1 \leq k \leq q$  the value  $x_k \in \{0, 1\}$  computed so be taken, properly or not, for the observed value of any one Boolean random variable  $X_k$  defined on a probability space, whose elements are stretches of text produced in some specified discursive situation. The question of propriety arises because the process generating the numbers depends very much on a particular

sample of labelled documents. One must be confident that if another sample of documents, picked at random out of the same discursive situation and labelled in a cognate way were to be processed in precisely the same manner, then for each index  $k \in \{1, 2, \dots, q\}$  the resulting collection of values  $\{x_k\} \in \{0, 1\}$  would serve as observations of the same variable  $X_k$  again, even though the lingual features constituting the cluster  $\Phi_k$  might very well be different now, and, importantly, the measures of polarity assigned to the features might distribute themselves differently.

How the redacting vectors  $x$  are obtained is set out in the technical appendix (Sinha and Mathews 2020) and the details there would incline a cautious person to regard such confidence as misplaced. The considerations we advance should tell against predictors depending so closely on a particular set of sampled responses and whether that independence of conditioned events obtains now, which was required for the scoring, is another question. But one cannot argue with algorithmic success it appears, not in the business of artificial intelligence at least, and the circumstance that their procedure seems to outperform more complex ones seems to be what matters most to its inventors.

The benchmark supervised technique in sentiment analysis seems to be the Support Vector Machine that we mentioned in passing, which the Naïve Bayesian procedure has bested on standard collections of training data prepared in a seemingly optimal way.<sup>14</sup> But, the difference in accuracy here is not a striking feature. In case a recorded expression is declared positive by one and negative by the other, the matter could not be decided with any authority by simply referring to some minor statistical success one procedure had over the other, with the training data prepared identically. The matter cannot be decided so because the document may be using words that were not found in the training data. One should note now that the Support Vector Machine is designed, besides, to reduce generalisation error for some due allowance of training error: the first sort being, in the case at hand, the mistaken ascriptions of pole that must be expected when new documents come to be scored, and the second sort being such mistakes made on the labelled training data itself.

As learning algorithms, the first inferential procedure here is simple, while the second is very complex. The inference using Support Vector Machines is usually inscrutable, and the articulation of comprehensible rationales for their inferential results is an important project. The Deep Neural Network, often contrasted with the Support Vector Machine, will show less training error, but is subject to greater generalisation error. This makes the latter more reliable when, as is the case here, the training samples cannot be supposed to sufficiently exhibit the variation inherent in the process generating the data. But as we saw, algorithmic simplicity does not render machine inference less opaque, and the circumstance that very different sorts of opaque computation enjoy comparable predictive success in sentiment analysis is a good reason to deny their inferences any probative or evidentiary force in themselves.

## Unsupervised Learning

Sentiment analysts employ unsupervised methods also and B Agarwal and N Mittal (2016) look at those. Here, each extracted feature is assigned some measure of positive or negative polarity without relying on any given random sample of observations (except in semi-supervised procedures where the polarities of a few key terms are learnt through supervision). To the extent that these networks incorporate the lingual reflexes of competent speakers, the measures they yield will be more reliable than numbers anyhow devised from sample data. Documents are scored by summing the measures for the features they exhibit, after weighting the features, and classed as positive or negative depending on the parity of the sum. But, there would surely be more than one scoring scheme—varying according to how the context of an extracted feature is delimited for instance—and when two such schemes give contrary assessments of one document, the same aporia will result which we had set out for competing supervised methods. We shall summarily conclude then that, despite their superior incorporation of lingual competence, unsupervised methods of computational sentiment analysis do not enjoy any juridical advantage over their supervised counterparts.<sup>15</sup>

While we have relied on one primary text to reach our conclusions, we have looked at other texts, including a recent and comprehensive volume on sentiment analysis (Liu 2015),<sup>16</sup> to see that it does not contradict our claims. The cavalier attitude towards theoretical consilience exhibited here does not seem to have attracted any disapproval in the computational sentiment analysts' community. While we are unable to support this claim through any empirical data, we note that the text in question has been published under the imprint of the reputable technical publisher Springer Verlag, and as such, would have undergone due review by one or more among the professional peers of its authors.

We had earlier stated that additional data on online behaviour could augment the expressional data that is primary for computational sentiment analysis. Neither V Kecman (2005) nor B Liu (2015) talk of other additional data on online behaviour, however, and we have found mention of it only in the elementary primer (Dannemann and Hieman 2014), where action accompanying expression online is seen as species of the honest signal, liminal to communication, which American behavioural science seems to have successfully calibrated (Pentland 2008). Features extracted from additional data on online behaviour could be thrown into the mix of course, for the Naïve Bayes algorithm—which is the one supervised procedure that N Dannemann and R Hieman (2014) look at—and help improve their performance.

Such ancillary actions would not communicate affect or attitude, not how the liminal signalling measured in A Pentland's (2008) work would certainly, and that is a theoretical complication perhaps unlikely to garner too much attention from data practitioners using sentiment analysis. It is not possible to say based on publicly available information whether the calculations intended to be employed by law enforcement agencies in India have devised sentiment-analysing algorithms

that incorporate additional data on online behaviour. The very novel business of “explicating artificial intelligence” was mentioned at the beginning, and we must look at that now. After that, we shall touch in closing on the “purely detective utility” of computational sentiment analysis. The Support Vector Machine and the Deep Neural Network were particularly mentioned above as contrasting sorts of learning algorithm.<sup>17</sup>

### Use of an Explicative Scheme

A decidedly pragmatic approach is taken in C Guestrin et al (2016) which sets out a general scheme to provide, for any particular deliverance by a given learning algorithm, a locally linear and interpretable approximation to that answer or decision. There are two requirements here: first that the random vector  $X$  of which the inputs  $x$  are instances should contain interpretable real-valued components comprising a random vector  $X_i$  whose instances are interpretable counterparts  $x_i$  of the inputs  $x$ , and, second, that the input vectors admit a natural distance between them. Let  $u$  be some fixed input for which deliverance is to be explicated. Now for any input  $x$ , the algorithm will have proceeded on the basis of some computed scalar quantity  $f(x)$  of an objective function  $f$ , and in Guestrin et al (2016), the interpretable linear approximation to  $f$  near  $u$  is a vector of real weights  $\omega_{ui}$ , which, applied to all inputs  $x$  in a sufficiently large sample  $S$  randomly drawn from the general vicinity of  $u$ , will minimise a scaled sum of squared differences between each  $f(x)$  and its weighted counterpart.<sup>18</sup>

But one cannot take the vector of weights  $\omega_{ui}$  to explain how the algorithm arrived at  $f(u)$ , if only because a different algorithm and objective function may produce a similar interpretive vector; and Guestrin et al (2016) actually describe its general scheme as model agnostic. Why  $f$  scored  $u$  as it did would not be disclosed by  $\omega_{ui}$  either, unless one can assess how  $u$  itself contributes to  $f(u)$ , doing which would seldom be feasible for an algorithm whose success depends on learning some non-linear evaluating function. The scheme does not, moreover, consider how the effective output of the algorithm is got from the values of the objective function.<sup>19</sup> With regard to the computational ascription of attitude and affect from expressional data, certainly, the most that such an explicative scheme will be able to provide, very likely, is just so much. Human persons might be able to use a weighting like  $\omega_{ui}$  above to provide themselves some reason to answer or decide as the algorithm has. To claim any more than this would be risking too much, even if the weights in their relative sizes happen to mirror the subordination of interpretants, in accordance with relative importance, that human reasoning usually proceeds upon.

The explicative utility of “model agnostic explication” such as Guestrin et al (2016) propose would be limited to such retrospective adequation of algorithmic result to human answer or decision. This is so for any algorithm that using input derived from raw data, which persons themselves are able to reason with or act upon, attempts to answer a question or decide an action which persons do commonly or habitually answer or decide themselves and are commonly able to themselves explain

or account for; for any algorithm that replaces or displaces human doing in an interpretative practice, let us say, where individual doing is discursively accountable to peers. The automation of daily life that machine learning is facilitating depends on inferential and decisional algorithms of this simulative sort, on artificial agents that mimic individuals in their interpretive capacity.

Though we have only looked at sentiment analysis, and not at such interpretational artificial intelligence, our findings may suffice to lead to a conclusion that the state should resort to interpretational artificial intelligence for public functioning only where there are reliable means for the retrospective adequation of machine inferences to human reasoning. What we mean is that whenever inferences from machine learning algorithms inform public functioning, they may only do so if there is way for a human agent to look at the available data that may have informed the inference, and discursively arrive at the same conclusions.

Our proposed prohibition is stronger in effectively requiring prior explication, if opaque inference is to be acted upon. But unlike the EU General Data Protection Regulation’s right to explanation, it does not apply to as broad a range of activities, but only where public functioning is involved. More importantly, the right to explanation only requires that the “meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing” be shared (European Parliament and Council of the European Union 2018). This would translate into only the general algorithmic logic being made available. What it will not tell us is how a particular inference may have been reached.

### Conclusions

It would be necessary to distinguish interpretational from other kinds of artificial intelligence as there is an emphasis on machines “solving tasks that are easy for people to perform but hard for people to describe formally”—as a comprehensive primer on the Deep Neural Network by Y Bengio et al (2016: 1) put it—by solving “problems that we solve intuitively, that feel



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automatic, like recognising spoken words or faces in images.” The authors regard the adequate performance of such already automatic human actions as “the true challenge to artificial intelligence” rather than the resolution of “problems that can be described by a list of formal, mathematical rules.” The ongoing automation of daily life would be augmented by getting the machine to do what human beings do by reflex or instinct, without discursive mediation of any overt kind.

For such simulations of intuitive human actions, it may be argued that explanations of such algorithms may not hold as much importance, and they may remain as opaque as the working of the human autonomous nervous systems. Our recommended prohibition and demand for retrospective adequation may not be applicable to the use by the state for public purposes such as intuitive artificial intelligence. However, it would require further regulatory clarity on the nature of distinction between interpretational and intuitive modes of machine learning.<sup>20</sup>

If we apply the same to sentiment analysis, when the data that trains the procedure is the primary data, as defined earlier, then the algorithm would be interpretational. However, reflex and instinct may play a greater role in improvising expression, and an intuitional mode of machine learning might serve better in such cases. Additional data on online behaviour may serve as input less dubiously in the latter

situation, provided that questions concerning user privacy are adequately addressed. When it is available, the intuitional sentiment analysing procedure may possess a purely detective utility, as mentioned earlier. The Naïve Bayesian routine we examined in detail seems neither fish nor fowl now with regard to the sentiment-analysing Support Vector Machine that it seemingly betters.

We must mention that as per the paper itself, the explicative scheme of Guestrin et al (2016) employed on the output of such procedures seemed to fail to provide the adequation of machine inferences to human reasoning that our earlier position demands. While we do not know what kind of algorithms the law enforcement agencies in India plan to use, it is clear that the computational inference of affect and attitude is a novel and mutable thing. Therefore, it must be asked whether it is legitimate to use them for public functioning, particularly in cases which may lead to decisions affecting actions which may infringe upon their fundamental rights. The open questions about the reliability of these techniques remain not least because the redaction of expressional data to computationally tractable forms is distorting but also because the development of computational resource and technique is what changes about inferential procedure here rather than refinements in the representation and formalisation of expression.

## NOTES

- 1 In February 2016, it was reported that Indian National Security Council Secretariat had proposed the setting up of a National Media Analytics Centre. This centre's mandate would be to monitor blogs, media channels, news outlets and social media platforms (Ranjan 2016). Several social media labs have also been set up allied to the police in a few India cities which would monitor “social media platforms, blogs and other public forums for malicious, violent, deleterious discussion and sentiments which may lead to public disaffection, agitation, riots, etc” (National Police Mission 2016: 3).
- 2 In this article, we use affect to describe the experience of feeling or emotion, and attitude to describe a set of emotions, beliefs, and behaviours towards a particular object, person, thing, or event, as used in psychology.
- 3 We mean to employ the word apparatus in the way T Kuhn (1970) had in his now classic essay “The Structure of Scientific Revolutions,” and the protocols here are the prescribed ways of using the apparatus in experiments.
- 4 In grammar in most languages, inflection is the modification of a word to express different grammatical categories such as tense, case, voice, aspect, person, number, gender and mood.
- 5 In grammar, conjugation is the changing of a verb's form to express a different person, number, tense, aspect, or gender.
- 6 While locution refers to the semantic or literal significance of the speech, illocution refers to the intention of the speaker. While not discussed, perlocution refers to how the speech is received by the listener.
- 7 Section 49 (1) (a) of the Code of Criminal Procedure states as follows regarding when the police may arrest someone without a warrant: “(1) Any police officer may without an order from a magistrate and without a warrant,

arrest any person (a) who has been concerned in any cognizable offence, or against whom a reasonable complaint has been made, or credible information has been received, or a reasonable suspicion exists, of his having been so concerned” (India Code nd).

- 8 Section 165 of the Code of Criminal Procedure states as follows: “Whenever an officer in charge of a police station or a police officer making an investigation has reasonable grounds for believing that anything necessary for the purposes of an investigation into any offence which he is authorised to investigate may be found in any place with the limits of the police station of which he is in charge, or to which he is attached, and that such thing cannot in his opinion be otherwise obtained without undue delay, such officer may, after recording in writing the grounds of his belief and specifying in such writing, so far as possible, the thing for which search is to be made, search, or cause search to be made, for such thing in any place within the limits of such station” (India Code nd).
- 9 Refer to Section 165 of the Code of Criminal Procedure (India Code nd).
- 10 Section 41 (1) (a) of the Code of Criminal Procedure states as follows: “Any police officer may without an order from a Magistrate and without a warrant, arrest any person who has been concerned in any cognizable offence, or against whom a reasonable complaint has been made, or credible information has been received, or a reasonable suspicion exists, of his having been so concerned” (India Code nd).
- 11 Cognizable offences have been defined in Code of Criminal Procedure as follows—“‘cognizable offence’ means an offence for which, and ‘cognizable case’ means a case in which, a police officer may, in accordance with the First Schedule or under any other law for the time being in force, arrest without warrant” (India Code nd).
- 12 The law on veracity of tips in the United States was laid down in *Illinois v Gates* (1983). It was

held that “an informant's ‘veracity,’ ‘reliability,’ and ‘basis of knowledge’ remain ‘highly relevant in determining the value’” of the said tip; “Anonymous tips need to be detailed, timely and individualised enough to justify reasonable suspicion. And when the informant is known to be reliable, then his prior reliability may justify reasonable suspicion despite lacking a basis in knowledge” (George 2015).

- 13 How the clusters are got is detailed in Section 1 of the technical appendix (Sinha and Mathews 2020).
- 14 Details of the tests are provided in Section 3.4 of the technical appendix (Sinha and Mathews 2020).
- 15 The text (Agarwal and Mittal 2016) does not mention purely statistical unsupervised methods which might use expectation maximisation to assign poles for instance somewhat, as distinct common senses are assigned to polysemous words. The recent text by F T Hristea (2013) details a Naïve Bayes algorithm for unsupervised word sense disambiguation. The primer (Dannemann and Heiman 2014) mentions polarity measurement for extracted features using item response theory but we have not pursued that.
- 16 The author is an acknowledged authority in the field, we note, and an earlier version of his book is cited by our main text.
- 17 While J Diederich (2018) looks at explaining the deliverances of the first, W Samek et al (2017) review the state of things for the second. A general consideration of the matter, which consider the larger question of how “logic meets probability,” can be found in V Belle (2017).
- 18 The formula is set out in Section 2 of the technical appendix (Sinha and Mathews 2020).
- 19 The complication is detailed in Section 2 of the technical appendix as well (Sinha and Mathews 2020).

20 Here is one way of beginning, at least, the work of distinguishing between them: the running-state variables of the procedure—which serve as endogenous data in the course of a run, as distinct from the exogenous data supplied as initial input—those internal variables or indices would have to be constrained in a qualitatively different way for an interpretational learning algorithm than they might be for an intuitional one; and the burden of thinking now would be to characterise that qualitative difference.

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# The Naga Homeland Movement

## Historical Trajectory and Contemporary Relevance

KEDILEZO KIKHI

This article is a critical endeavour to situate the Naga homeland movement in the present context vis-à-vis the regional politics of the North East. It attempts to understand and (re)imagine the relevance of Naga homeland politics in the light of its expectations in the neo-liberal era. By revisiting and (re)defining the movement from the establishment of the Naga Club in 1918 to the Naga Peace Accord in 2015, it highlights the policies and procedures that have intensified existing issues and suggests that the nexus of politicians, bureaucrats, contractors and underground leaders operates by exploiting the Naga issue rather than solving it, while sustaining and reproducing systemic corruption.

North East India has witnessed many ethnic conflicts and insurgency movements that are inevitable given its ethnic diversity. Ethnic groups in the North East cannot be defined on the basis of geographical-territorial cartography alone, considering the fluidity of the population in the region over centuries amidst constitutional boundaries. Although there is no unanimity about the causes of the homeland movements or insurgencies, there is consensus that homeland movements are a political problem. In the beginning of the 20th century, the Assamese people opposed the British move to make Assam a part of Bengal because the Assamese were against Bengali domination. Later on, many tribal groups in Assam itself demanded autonomy, saying that the Government of Assam had neglected them. This led to the creation of the autonomous district councils in the hill districts (except the Naga Hills) under the Sixth Schedule of the Constitution. The Assamese language movement, which sought to make Assamese the official language, was opposed by the tribals, and this led to the formation of Meghalaya and Mizoram. These developments triggered off a series of ethnic movements like those of the Bodos, Karbis, Hmars, and other smaller tribes. Thus, ethnic movements in the North East are embedded in the very diversity of the region.

Although rooted in diversity, ethnic movements in the North East have arisen because of important historical reasons too. Ethnic groups lived in splendid and self-contented yet isolated existence from one another. The relationship between neighbouring ethnic groups was often one of enmity marked by a situation of domination and subordination. With the establishment of the colonial rule, a new trend towards integration began along with the spread of a market economy. But, such integration had not been realised with the decline of the colonial rule. Consequently, pluralism had not taken root in the North East at the time of Indian independence. Democracy turned out to be dominance by the larger groups, leading to a sense of deprivation among the smaller groups due to economic deprivation, discrimination in employment and political marginalisation. These deprivations are often exploited by leaders who have their own motivations. The worst form of deprivation is a threat to the very existence of an ethnic group as a distinct sociocultural community. Ethnic movements in the North East have taken different forms, such as demands for secession and independence from the Indian Union, demands for separate states, and the demand for autonomous district councils under the Sixth Schedule and Fifth Schedule of the Constitution.

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The means adopted ranged from “war” waged against the Indian Union, involving guerrilla tactics, to bandhs and demonstrations. Notwithstanding their form and means adopted, these movements are best understood as political movements (Pakem 1993). Hence, scholars of the region agree that only a political solution can bring peace and stability in the North East.

The Nagas live in relative isolation as “border communities” alongside the other North East ethnic groups. Given the socio-cultural sensitivities involved and anthropological histories of the different communities living within the cloistered protections of their respective tribes and clans, have these communities been able to cope with other ethnic groups and outsiders who have migrated to their regions as labourers, job-hunters and fortune-seekers? In the past, the experience of the people in this regard has not been pleasant, and the opaque and closed nature of these societies over generations has demonstrated their instinctive dislike for foreigners and “outsiders.” Presently, the people of Nagaland are confronted with the twin issues of the denial of progress and lack of infrastructure, industrialisation, development and job creation, and the loss of identity (or creation of new identities) that has emanated with changes in environment, ecology, means of livelihood, and expropriation of land.

### Conflict and Crisis

Given the current conditions, the Naga society seems to have arrived into a Weberian situation. Max Weber analysed conflict situations while contextualising the three related concepts of stratification, conflict and change, and subsequently developed the principles of conflict. Most of these principles can be found in his discussion of the transition from societies based on traditional authority to those organised around rational-legal authority, that generates conflict conditions from within, and wherein the roles of the leaders become crucial.

Most conflict theorists seek to find out the consequences of conflict. George Simmel did not view social structure as domination and subjugation (as Karl Marx did), but he held that it was an inseparable mingling of associative and dissociative processes, which are separable only in analysis. Thus, Simmel held an organismic view of the social world. This subtle organicism led Simmel to seek out the consequences of conflict for social continuity rather than change (Simmel quoted in Ritzer 2013). Drawing from this discussion, one can ask: Is the Naga society in a conflict situation, and if so, why? Is conflict an inevitable element in the case of the Nagas?

Weber argues there are three conditions why conflict becomes a crisis. And we can situate the present Naga context using the same conditions. One condition is a situation where there is a high degree of correlation between power, wealth and prestige, or incumbency in positions of political power (party), occupancy in advantaged economic positions (class), and membership in high-ranking social circles (status groups). This is a situation when economic elites, for example, are also social and political elites and vice versa. This group corresponds to the “Naga elites” of today constituting politicians, contractors and bureaucrats who have become capitalists of the state.

The general Naga public, who constitute the second group, resent the concentration of power, wealth and prestige in the hands of a few Naga elites and subsequently become receptive to conflict alternatives. Another condition is dramatic discontinuity in the distribution of rewards, or the existence of divisions in social hierarchies that give privileges to a few. Tensions and resentments emerge when only a few hold or hoard power, wealth, and prestige, and the rest are denied these rewards, leading to fight against the capitalists. A final condition encouraging conflict is the relative lack of social mobility. When those of lower rank have little chance to move up the social hierarchies or enter a new class, party, or status group, resentment starts accumulating. Those who are denied opportunities to increase their access to resources become restive and willing to challenge the existing system. The critical force that galvanises the resentments inhering in these three conditions is leadership. Leaders emerge to challenge the existing system and mobilise resentments over the hoarding of resources and the lack of opportunities to gain access to wealth, power, or prestige. This results in the beginning of a structural change (Turner 2011: 146–47).

The problem is further intensified with the impact of neo-liberalism. Neo-liberalism involves the priority of the price mechanism, the free enterprise, the system of competition and a strong and impartial state (Plehwé 2016). There is a transition from *laissez-faire* (that is, without the intervention of the state) towards a market economy under the guidance and rules of a strong state (Bonefeld 2017). In other words, the corporate elites or the tribal elites (as in the case of the Nagas) need the “state” to protect their wealth. I posit that a corrupted system involving a parasitic government and a subsequent parasitic society has been institutionalised in Nagaland with the advent of neo-liberal policies. Therefore, I ask: Who or what constitutes this state in Nagaland? What are the mechanisms by which it becomes an unjust apparatus? Is this condition a perfect Althusserian situation where the state is used by the elites as an oppressive apparatus to exploit the common masses? Furthermore, if the state is not self-reliant in terms of revenues, can it sustain such a parasitic economy, and if so, for how long?

Chasie (1999) views that even after decades of the Indo-Naga conflict everyone has heard about the “Naga insurgency,” little attempt has been made to provide the more-psychological underpinnings of the movement and the undercurrents that continue to play an important role in the conflict. Chasie (2017) has also argued how the Nagas have failed to realise the undercurrents that have been at work in the Naga society.

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Some of his points are—first, the Nagas have become disappointed with the failure of the Indo–Naga talks (referring to ceasefire talks). Second, most Nagas have realised that they need to defend whatever little protections they have under the Constitution. This is where Article 371A becomes so important for them. Also, while the state government is composed of Naga politicians, most Nagas have lost faith in them and cynically think all of them are there only for the money and would align with the central government as long as they get money. Third, taxation has always been a contentious issue in Nagaland. Taxation was responsible for the rise and sustenance of Naga nationalism, although other reasons were there too. *Ura Uvie* (loosely translated as “my home-it belongs to me”) encapsulated the basic idea behind their views on taxation. The new Indian law about attaching personal assets for failure to pay taxes would seem to give credence to this original fear of the Nagas. The Nagas have been vehemently opposing the forcible taxations imposed by the Naga political groups (NPGs) although the NPGs claim that they are fighting for the cause of the Naga people. The Nationalist Socialist Council of Nagaland’s (Isak-Muivah) (NSCN[IM]) manifesto about nationalising private property, particularly land, only gives rise to more apprehensions about their leadership. Land, particularly village land, gives identity to the Nagas, and without this, they would become non-entities (Chasie 1999, 2017 qtd in Kikhi 2017).

### Parasitic Government, Parasitic Public?

This section examines the position that a parasitic government and a parasitic society has been institutionalised in Nagaland. This has resulted in a regime of systemic corruption where the state government seems to have no vision to generate any revenue, relying on central grants that serve as pacifying packages to neutralise the Indo–Naga issue. These funds are appropriated by the so-called new Naga elites (politicians, bureaucrats and contractors in nexus with Naga underground groups’ leaders). Perhaps, the so-called Naga intelligentsia are failing to realise that this corrupt wealth or capital cannot be sustained while the common people are quiet about the corruption for now.

Furthermore, Naga identity has to be critically analysed in the context of neo-liberalism. Today, the state is needed by the elites to accumulate and protect their wealth, which ultimately results in wealth inequality. The pertinent question has to be amplified: Can we trust the state? “The state” instead of being the problem solver has itself become a problem, with an institutionalised corrupted system. In the absence of any mechanism to generate enough income for self-sustenance and self-sufficiency, what will happen when “our parasitic government” and “parasitic society” stop receiving the so-called “economic packages” from the central government?

There is no doubt that the movement for Naga identity started with good intentions but it has been reduced to a “bait,” intensifying the parasitic system and encouraging nexus among the elites. The state has turned into an Althusserian oppressive apparatus and the public has also become weak, both seeming to feed on each other. The masses have become too dependent

on the elites, or rather the elites have prepared the masses to act this way. Therefore, the need for the Nagas to realise the importance of self-reliance has to be channelised. The Nagas need to propose various areas that can be developed and improved upon to achieve the goal of self-sustenance like indigenous handicrafts, pottery, forest resources and agro- or forest-based industries apart from other prospects (*Morung Express* 2017).

### Question and Politics of Identity

This section attempts to understand how the conceptualisation of social identities helps us situate the Naga identity movement. In *The Power of Identity*, Manuel Castells (2010) argues that identity, as it refers to human beings in society, is “the process of construction of meaning on the basis of a cultural attribute, or related set of cultural attributes that is or are given priority over other sources of meaning.” Thus, an individual or a collective actor can have a “plurality of identities.” It is well-known that identities can originate from the dominant institutions of a society. However, they become identities “only when and if social actors internalise them, and construct their meanings around this internalisation” (Castells 2010).

Since social relations are also relations of power, the social construction of identity always takes place in a context marked by power relationships. There are three forms and origins of identity formation. First, there is legitimate identity that is introduced by the dominant institutions (groups) of society to extend and rationalise their domination vis-à-vis social actors. Second, there is resistance identity generated by those actors who are in positions or conditions devalued and/or stigmatised by the logic of domination, thus building trenches of resistance and survival on the basis of principles different from, or opposed to, those permeating the institutions of society. Third, there is project identity wherein social actors, on the basis of cultural materials available to them, build a new identity that redefines their position in society and, by doing so, seek the transformation of social structures (Castells 2010).

Although these forms are analytically different, in reality, identities that start as resistance may induce projects, and may also, along the course of history, become dominant in the institutions of society, becoming legitimising identities to rationalise their domination. For instance, the Naga identity is one movement that started as a resistance identity, became a project identity in the process and got transformed into a dominant-legitimised identity. It can be interpreted as a legitimised identity, when the Indian government more recently recognised it as a unique culture or identity.

However, one cannot solely depend on the state for resolving the inconsistencies and problems of power dynamics as the state itself is enmeshed in neo-liberal policies and ideology. Neo-liberal ideology works through the state promoting the market, rather than suppressing it. The state ensures that contracts are enforced by instituting a legal system, prevents theft and crime in the form of the police, and establishes uniform

systems of weights and measures, and currency. Without these arrangements, there would be no free market, no market forces and no resulting market society. Following from this logic, Neiphiu Rio (present Nagaland chief minister) or T R Zeliang (ex-chief minister of Nagaland) need the state to protect their wealth. State force defends a market society, capitalists and the political establishment in Nagaland equally in pursuance of power.

### The Naga Identity Movement

This section traces the history of the Naga struggle and argues that a fear of interference by plains people as well as the danger of infringement upon their “cultural autonomy” instigated the homeland struggle. It explores if the homeland movement is justified and lays emphasis on the need to introspect the very construction of the Naga society. It probes about the emerging challenges in the Naga society and the ways in which one could respond to those challenges.

**Pre-independence history of the Nagas:** There are two broad phases of the pre-independence history of the Nagas. First, there was a protracted period during which endemic head-hunting and warfare prevailed among different tribes in the Naga Hills area. The second phase began with the advent of the British who brought “local warfare, blood-feud and head-hunting” to a gradual end. To ensure peace, the British slightly modified the existing pattern of village political system and tribal leadership, formalised the judicial functions of tribal leaders, avoided altering the customary basis of law, and imposed their own administrative system only slightly at the top (Das 1993: 24). The Naga Hills district, then a part of Assam, was a “scheduled” district, which meant that it was excluded from the general operation of laws enforced in the rest of India. Later, the Naga Hills district was declared an “excluded area” within the Assam Province by the Government of India Act of 1935.

A major phenomenon which generated the Naga movement was the growing discontent among the Nagas on account of their inability to adjust themselves to the emerging socio-political situations on the eve of India’s independence and the impending withdrawal of British administration. The fear of interference and exploitation by the “plains people” and an assumed danger of encroachment upon their “cultural autonomy” were linked to a fear of losing their land and forests. After the withdrawal of the British Raj, the Naga movement got intensified at the political level (Das 1982, 1993: 33 qtd in Kikhi 2017: 599).

The origin of the Naga movement can be traced to the formation of the Naga Club in 1918, the first organisation of its kind that brought the various Naga tribes under its umbrella. When the Simon Commission visited Kohima, the Naga Club submitted a memorandum and requested that the Naga Hills should be kept outside the scheme of political reforms. It shows that a collective consciousness of Naga identity and solidarity had grown among the Naga tribespersons. The next landmark in the historical background of the Naga movement was the

formation of the Naga Hills District Tribal Council in 1945 whose title was changed to the Naga National Council (NNC) in 1946. The NNC is said to have given a sense of ethnic and geo-political unity to the Naga tribes. In 1946, the British government planned to carve out a trust territory comprising Naga Hills, the then North-East Frontier Agency area and a part of what was then Burma (now Myanmar) as a “crown colony” under the control of London. Coupland proposed joint responsibility of the British and independent Indian and Burmese governments for their territory after the transfer of power from the British. However, the NNC opposed this idea of extended British colonisation (Das 1982, 1993: 33 qtd in Kikhi 2017: 599–600).

The goals and objectives of the Naga movement from 1947 onwards had developed through a number of phases. From 1947 to 1954, the Naga Hills remained comparatively peaceful. In 1948, when Phizo was elected president of the NNC, its goals and temper had changed in favour of “independence.” Thus, in opposition to the Sixth Schedule of the Constitution, the 1951 elections, to constitute the district councils, and the general elections of 1952 were boycotted. However, it was in 1954 that violence became widespread. In March 1956, certain sections of the Nagas established a “Naga Federal Government” while a section of the liberal Nagas resigned from the NNC and sought to bring the conflict to an early end through peaceful negotiations. In 1957, the Baptist Church came out with a condemnation of the violence. As a result of these new developments, the All Tribes Naga People’s Convention was constituted.

The Naga struggle encompasses a unique history and an extensive track of ethnic–political mobilisation. The Nagas have argued that Naga nationalism is a political issue, and not an issue of economic egoism or internal economic colonialism. The demand for the change of status is political, and therefore, a political framework is required to resolve it. Ethnic nationalist movements, such as Naga nationalism, persist because their objective is to determine the future of ethnic communities, whether it be autonomy within states, or as a separate independent state. What is important is not the amount of power one has, but the limitation of power. Assertions or negations of this political power have motivated and sustained ethno-nationalist movements in many parts of the world.

**Naga nationalism in post-independent India:** The evolution of Naga nationalism after Indian independence has to be understood by exploring how the Indian government has managed the conflict (Lotha 2009, 2013). Thus, Nagas have been seen as a threat to Indian nation-building. India claims it inherited the Naga Hills from the British and considers the Naga conflict as a law and order problem led by misguided persons. From the beginning, India has approached the Naga issue with a colonial mindset towards minorities and ethnic groups and has perpetuated the conflict. From the nine-point agreement signed between the Government of India and the NNC on 9 June 1947 to the constitutional amendments, cease-fire political talks and the latest framework agreements, the Indian government has tried to manage the Indo–Naga conflict.

But, the question is: Has India been able to manage it correctly and successfully (Kikhi 2010: 149, 2017: 601–02)?

Both the Nagas and the central government have failed to understand or rather, have underestimated each other. On the one hand, bureaucrats in Delhi failed to appreciate the wishes and stand of Naga pioneers for separate regulation on the basis of its unique history and identity. On the other hand, Nagas misjudged Delhi's interpretation of its demands, whereby India sees Nagas as a colonial legacy and the Naga territory as an integral part of the Indian state. Before the Nagas realised what was happening, the struggle gave birth to the state of Nagaland, which was not agreeable to a majority of the Nagas. The state was Delhi's response to the challenge and crisis the Nagas presented to the newly established Indian republic. B K Nehru, speaking from his experiences as the governor of Nagaland, said that the state was hastily conceived. Today, both Delhi and the Nagas need the state equally, pending a settlement (Iralu 2009: 22–23).

**Ceasefire and its impact on the Naga struggle:** Ceasefire and ceasefire talks have brought peace in the state, and yet, ceasefire and extortion are intertwined today, discouraging private investment and development. Extortion has become a serious issue affecting the economy of every household. Statements like “they” are extorting from the “outsiders” or “non-locals” are not rational. No businessperson (irrespective of being an outsider or insider) is foolish to run their business at a loss but rather will have to revise the price of every commodity in their shop to make up the extorted money besides making profit. The question is: Who is actually paying for the extorted money? It is understood that ceasefire has “ground rules,” it legitimises the cessation of hostilities and gives dialogue a chance. But, does it serve any purpose and whose purpose does it serve? When the ground rules are not maintained, it appears like the Indian government is trying to buy more time or apply delay tactics to neutralise the issue or expecting it to die naturally. On the other hand, the underground factional groups should not use ceasefire as a means to openly extort money (Kikhi 2009: 358–59).

In the midst of the ceasefire, factions of the Naga struggle have been criticising one another through newspapers, carrying out mutual assassinations and ceaselessly collecting taxes, each group sequestered in their hate and their respective camps. The rest of the Nagas continue to wait and watch helplessly, not knowing how to transform these conflicts into honest conversations and dialogues to evolve the solutions they need. Because non-combatants are used to the traditional securities of their tribes, they are not transparent in their interactions with one another. Reaching out to one another across divides of distrust, uncertainties and ill-will to create the envisioned Naga identity is ineffective. Given that “the broad-based political package” offered by the Government of India, declared by then Union Home Secretary G K Pillai, seems to have vanished, we need solutions as soon as possible.

**Framework accord and new situations:** The latest “Naga Peace Accord” or the popular Framework Accord signed on

3 August 2015 after 80 rounds of talk between the Indian government and the NSCN(IM) has been stated as the beginning of a new future and an end to the Indo–Naga problem. This pact gives hope of a solution giving Naga identity a legitimacy, whereby both the Indian government and the group appreciate and respect each other's positions and difficulties. While some scholars have stressed that there is an urgent need to end the Naga problem, some scholars have raised questions on whether this pact has the best possible offer for both India and the Nagas.

The pact has not made it clear whether the agreement meets the demand of the NSCN(IM) for integration of all Naga-inhabited areas in the North East stretching across Manipur, Arunachal Pradesh and Assam. This claim has counterclaims, which eventually evoke deeply resentful responses from other ethnic groups in the North East. For that matter, Tarun Gogoi and Okram Ibobi Singh banked on the Assam and Manipur territorial integrity issue respectively as the main factor to garner support for their three consecutive chief ministerial terms. A group of Naga scholars are of the opinion that “integration” or “no-integration” should be decided by the people themselves through a plebiscite as in the case of Scotland voting for departure from the United Kingdom. In the words of V S Atem, there is no “Greater Nagaland or Smaller Nagaland.” He maintained that the Nagas were divided by “arbitrary orders” of the British government and subsequently, the Indian government, and called for returning the land belonging to the Nagas. On the opposition raised by the chief ministers of Assam, Arunachal Pradesh and Manipur on the integration of all Naga inhabited areas, the NSCN(IM) leader said the Nagas' problem could not be solved through “Manipuri interest or Assamese interest.” Atem added, “We are not trying to grab any Manipur land or Assamese land,” nor was NSCN(IM) infringing on the life of the Assamese or Manipuris or any other people, but “we (the Nagas) were fighting for our right” (*Nagaland Post* 2015).

There are other scholars who have argued that the journey of the Naga struggle is a difficult one and mention that sustaining the movement itself is a success. The Nagas, while striving for a unified Naga identity, had witnessed several shifts and changing phases. The procedure has spilled over to many other problems or, at the least, has intensified some existing issues. The Naga Hoho, the apex civil society body of the Nagas, and its constituent Forum for Naga Reconciliation (FNR) have been unsuccessful in bringing about a reconciliation among the several factions of Naga militias divided along the tribal lines or factional loyalties that override ethnicity. Much more than man-made lines on maps, the major challenge towards building a cohesive political unit is a fragmented identity engaged in internecine strife with bloodied consequences, which is in opposition to the larger Naga identity.

There are several models, both old and new, that could serve as examples on a comparable scale for political solidarity amongst geographically neighbouring people with similar but subtly varied cultures. Most of these cultures are also in a disadvantageous juxtaposition due to external impositions of state administrations and territorial demarcations, with serious

implications for the traditional homeland set-up of these ethnic groups. There are instances of affiliated ethnic groups and tribal clans seeking common ground for collective political goals. For instance, the six nations in North America, also called the *Iroquois*, was a confederacy of different Native American ethnic groups. Today this powerful super group has unified independent governance, and live both in the United States (US) and Canada. Like the *Iroquois*, the Nagas can form a common supranational or transnational structure that provides a common platform to their way of life and traditions (Goswami 2014).

In contrast to the success of the *Iroquois* was the Great Sioux Nation made up of several ethnic groups whose traditional homeland once spanned across thousands of square kilometres in the Great Plains of the US and Canada. The Sioux, being formidable warriors but divided along loyalties, lost a major chunk of their territories to the invading US military, including the Black Hills, which have been sacred grounds since ancient times for the Sioux and remains lost to them even today. Currently, they live in scattered reservations on the land of their ancestors. In 2007, a group of Sioux travelled to Washington DC to reassert their independence and sovereignty. More recently, the multinational struggle of the Kurds in West Asia (the Kurds of Kurdistan) is currently a nation in the making in a transborder conflict zone contiguous with Armenia, Iran, Iraq, Syria and Turkey. Bhutan, which has several ethnic groups with one dominant group controlled by the absolute monarchy, made a successful transition from monarchy to a constitutional democracy (Goswami 2014). Some of these models with further insightful research can be referred to as exemplary models for the Indo-Naga solution to bring permanent peace to this region of the North East.

### What Do Nagas Negotiate For?

The contents of the “framework pact” or what has to be negotiated needs to be thoroughly and critically examined. If the framework solution is bargained or negotiated with just

special economic packages, then the Nagaland government’s experience has not been good. For that matter, the closure of Dimapur Sugar Mill and Tuli Paper Mill in Nagaland clearly reflects that Nagas have failed to sustain or manage the small number of small-scale industries they had. More generally, one can question how many governmental projects could be sustained at present, and whether the state in Nagaland can adopt its own development models.

It is in this context that it is necessary to critically question the flow of money in the form of special economic packages earmarked for the state from the successive central governments. The state continues to decelerate despite several special economic packages, such as the ₹365 crore Peace Bonus Package by the National Democratic Alliance-1 government. These huge funds from the federal exchequer were pocketed by local elites who have emerged as the alternative competing elites. As stated earlier, this abundance of money injected into the economy without due accountability has created a regime of corruption that has institutionalised a corrupted system, engendering a parasitic government and a parasitic society (Kikhi 2009: 356).

The special economic packages have also affected the agricultural economy. Today, the Nagas have incorporated a culture of dependency in their everyday lives. The Nagas are told that their forefathers were very hard-working and that every family was self-sufficient. But are they self-reliant today? Many full-time farmers of the day are not cultivating enough to feed themselves for the entire year, let alone generating a surplus. Can the Nagas survive if food supplies coming into the state from the other states are clogged? Even if it survives, how long can it sustain? We cannot trust the state when it itself has become a problem. Given the situation, the common public and present youth seem to be frustrated with multiple issues that have manifested at several occasions. Nagaland urgently needs a vision for the public, especially the educated unemployed youth, and their future.

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# PM-KISAN and the Adoption of Modern Agricultural Technologies

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The Pradhan Mantri Kisan Samman Nidhi scheme aims to provide income support to farmers for easing their liquidity needs to facilitate timely access to inputs. This study, based on 1,406 farmers of Uttar Pradesh, uses a binary choice model to examine the targeting accuracy and correlates of the spending pattern of farmers. Triple difference with matching estimators is used to identify the differential impact of the scheme on the Krishi Vigyan Kendra beneficiaries. Results show that the scheme reached one-third farmers in the first three months of its implementation, and has significantly helped those who are relatively more dependent on agriculture and have poor access to credit. Moreover, the scheme has significantly stimulated the Krishi Vigyan Kendra's impact on the adoption of modern cultivars.

Adoption of modern technologies is one of the most promising strategies to increase farm incomes. Among the constraints in technology adoption, the most prominent ones are the lack of information and credit (Varshney et al 2019). Banerjee et al (2017) also show that access to formal credit significantly increased the investment in existing small businesses. In India, more than half of the farming households do not have access to formal credit. In such a situation, the introduction of a cash transfer scheme, namely the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) in December 2018, to ease liquidity constraints of farmers for procuring inputs, is quite salient. While the scheme is pitched as a general cash transfer scheme for the farmers, its role in the adoption of modern technologies remains an important research question that this paper addresses.

In general, the effects of cash transfers are well analysed on outcomes such as household consumption, educational attainment, and health (Gertler 2004; Fiszbein and Schady 2009; Adato and Bassett 2009). However, the impacts of cash transfers on the agriculture sector are comparatively less studied, including, importantly, its impact on technology adoption (examples include Sadoulet et al 2001; Gertler et al 2012; Haushofer and Shapiro 2016; Tirivayi et al 2016). In this context, PM-KISAN presents a natural experiment to assess the effects of cash transfers. For any intervention to provide long-term impacts, there must be some investments in productive activity. In this context, Gertler et al (2012) and Handa et al (2018) show that a small monthly cash transfers may lead to increased consumption, even after beneficiaries left the programme. Haushofer and Shapiro (2016) show that a large unconditional transfer to poor households may increase future earnings by encouraging investments in livestock. Sadoulet et al (2001) show the multiplier effect of cash transfers.<sup>1</sup> All these studies point towards a productive investment in the short run leading to sustained long-term impacts. How does PM-KISAN fare in this context?

Conceptually, cash transfer can encourage farmers to spend the amount in the productive activities for several reasons.<sup>2</sup> First, it may help in easing incumbent credit and liquidity constraint in purchasing agricultural inputs, extremely pertinent in India where more than 50% farmers rely on informal credit and one-fifth farmers purchase inputs on credit.<sup>3</sup> Adesina (1996) finds that access to credit encourages fertiliser use. Second, cash transfer increases the net income of farmers and thus, in turn, may enhance farmers' risks-taking capacity, leading to undertaking riskier but comparatively productive investments.

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Yet, cash transfer beneficiaries' investment in the productive activities may be limited in developing countries (Maluccio 2010). We attempt to capture this issue by examining heterogeneity in impact estimates.

Specifically, we ask whether farmers who have more information on investments related to productive activities respond differentially to direct cash transfer (DCT). It is likely that DCT would increase investment of comparatively informed farmers first. Studying heterogeneity in impact estimates of DCT in agriculture sector contributes to a small but growing literature on the heterogeneous impact of DCT (for example, see Galiani and McEwan 2013).

There are two main objectives of the study. The first is to analyse the implementation of PM-KISAN by examining its coverage and its targeting accuracy, also examining the spending patterns of the beneficiary farmers to assess the alignment of PM-KISAN with its objectives. Second, it examines the PM-KISAN's role in stimulating the adoption of modern cultivars for paddy cultivation among comparatively informed farmers defined in this study as Krishi Vigyan Kendra (KVK) beneficiaries.<sup>4</sup> Our analysis is based on the primary survey of 1,406 farmers in Uttar Pradesh (UP), India. The binary choice model is used to study the targeting accuracy and correlates of spending. The differential impact of the scheme is examined by the application of triple difference with matching (TDM) procedure.

Our implementation and coverage result reveals: (i) the scheme reached one-third farmers in the first three months of its implementation itself; (ii) there seems to be no evidence of selection bias in choosing the PM-KISAN beneficiaries based on attributes like caste and land size; and (iii) the spending patterns show that farmers more dependent on agriculture, and with relatively poorer access to credit are more likely to spend the DCT in the agriculture sector. Finally, the paper provides evidence that the scheme has augmented the KVK's impact in the adoption of modern cultivars. Note that the outcome assessed pertains simply to the choice of seed type, and not the final outcomes, that is, agricultural productivity and farmer's incomes, as the scheme is only recently implemented.<sup>5</sup>

This paper makes the following contributions. First, it is the incipient study to evaluate the implementation of the PM-KISAN scheme, and its association with spending patterns. Second, it captures the differential impact of cash transfers. Most importantly, it studies the impacts of cash transfers on the adoption of technologies that has received scant attention in the literature (Gertler 2004; Fiszbein and Schady 2009; Adato and Bassett 2009). Hence, the paper contributes to the literature that explores the mechanisms for income enhancement, consequently to cash transfers (Sadoulet et al 2001; Gertler et al 2012).

**PM-KISAN and its beneficiaries:** PM-KISAN, a central government-funded scheme, was launched in December 2018 to facilitate farmers in purchasing various agricultural inputs. The scheme started from February 2019. It provided to each eligible farmer's family ₹6,000 per annum in three instalments of ₹2,000 each.<sup>6</sup> Initially, farmers with less than 2 hectares of land were eligible.<sup>7</sup> Subsequently, from June 2019, it was extended to all farmers,

that is, an estimated 140 million farmers. Money is transferred directly to beneficiary's bank account.<sup>8</sup> According to government data, the scheme reached 50 million farmers by 15 September 2019.<sup>9</sup> Highest number of beneficiaries comes from UP (28%) followed by Maharashtra (10%), Andhra Pradesh (9%), and Gujarat (7%).

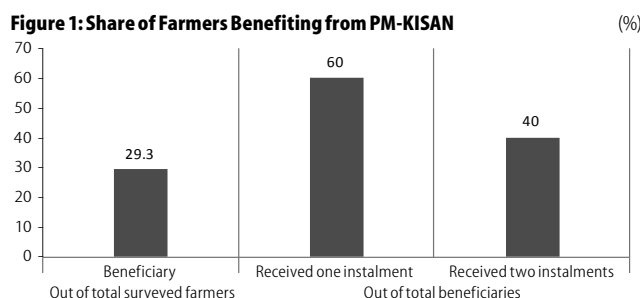
**KVK and its beneficiaries:** The KVK was launched by the Indian Council of Agricultural Research (ICAR) in 1974 in Puducherry district with the main goal to provide institutional support to agriculture and allied sectors with location-specific technologies through assessment, refinement, and demonstrations. KVKs are now available in every district of the country.<sup>10</sup> KVKs are financed fully by the ICAR,<sup>11</sup> with the mandate to (i) conduct "on-farm testing" (OFT) for the assessment of agricultural technologies across different farming systems, (ii) carry out front line demonstrations (FLDs) to demonstrate the implementation of frontier technologies, (iii) increase the capacity development of farmers and extension workers, and (iv) work as a knowledge and resource centre for the agricultural economy of the district.

The total budget of KVKs in India was only ₹686 crore in 2016–17. Gulati et al (2018) showed that India spends 0.7% of agricultural gross domestic product (GDP) on research, education, extension and training. Out of this, 0.54% goes for agriculture research and education, and a meagre 0.16% goes to extension and trainings. Varshney et al (2019) show that KVKs have huge local spillovers, and the KVK beneficiaries are more informed about frontier technologies that results in greater adoption of the technologies.

We conducted a primary survey in UP. With more than 200 million people, each farmer accounts for less than one hectare land. The major crops grown in the state are wheat (41%), paddy (24%), sugarcane (9%), pearl millet (4%), and maize (3%) (Varshney et al 2019). Wheat in UP is sown mainly in November in the rabi season, and the scheme was launched in December 2018 where the majority of cultivar choice decisions were already taken prior to the introduction of the scheme. In paddy, sowing starts in June and July, that is, after the introduction of the scheme. Therefore, we consider paddy for analysis.

Our sample comes from three agri-export zones (AEZs) of UP, namely the western plain, mid-western plain, and north-eastern plain. The survey was carried out between May to July 2019 by the International Food Policy Research Institute (IFPRI), New Delhi, and supported by ICAR. We include nine districts covering 10 KVKs of UP. Five districts were selected from the north-eastern plain, three from the western plain, and one from the mid-western plain. We selected villages randomly by stratifying them into two categories: the KVK and the non-KVK villages, with the former being where any type of intervention, such as FLDs or OFTs or training programmes were conducted by the KVKs. To select households, the complete household listing was compiled for each selected village.

The four quintiles based on total cultivable land were formed. From each quintile, five households were randomly selected. The total sample of size 1,406 includes wheat, paddy (723) and sugarcane farmers. Our household module includes household,



Data includes only those beneficiaries who received PM-KISAN benefits in the first three months of its implementation.

Source: ICAR-IFPRI Survey, 2019.

demographic, area, and production of crops for the reference year 2017–18, and the household's social mapping in the village.<sup>12</sup>

(i) **PM-KISAN**: It captures the farmers' access to PM-KISAN scheme and how they spend the benefits received under the scheme. Our survey can capture the disbursement of the benefits for first three months of implementation due to parliamentary elections in UP.

(ii) **KVK**: It captures the access of farmers to FLDS, OFTs, and training programmes conducted by KVKs about frontier agriculture technologies. Our survey considers only those villages where KVKs have conducted intervention in 2016–17 and 2017–18, but not for 2015–16 or before.

(iii) **Adoption**: It includes a recall-based information on the adoption of paddy cultivars from 2014–15 to 2019–20.

Table 1 summarises the timeline of the KVK and the PM-KISAN interventions across the KVK and the non-KVK villages.<sup>13</sup> The KVK villages had interventions since 2016–17 till 2019–20. Note that we have assigned the villages as KVK's intervention villages in 2019–20 where KVK visited in either 2016–17 or 2017–18 or 2018–19. It is done because once farmers get benefited from the KVKs, they are likely to get regular updates on new technologies from them. In case of the non-KVK villages, there was no intervention in either period. Regarding PM-KISAN, in both the sets of villages, PM-KISAN is implemented only in 2018–19 and 2019–20. The timeline of events forms the basis of identification strategy that we discuss below in methodology.

Table 2 presents the sample profile of all farmers (including wheat, paddy and sugar cane cultivators). Overall, three-fourths farmers are dependent on agriculture, and the majority of them are small and marginal landholders who have limited access to formal credit.

## Descriptive Results

Figure 1 presents the percentage of farmers who received the benefits from the PM-KISAN scheme till 30 April 2019, that is

**Table 1: Summary of Timeline of Event in Sample Villages**

Year	Intervention: KVK		Intervention: PM-KISAN	
	KVK Villages	Non-KVK Villages	KVK Villages	Non-KVK Villages
2014–15	No	No	No	No
2015–16	No	No	No	No
2016–17	Yes	No	No	No
2017–18	Yes	No	No	No
2018–19	Yes	No	Yes	Yes
2019–20	Yes	No	Yes	Yes

PM-KISAN is implemented in February 2019. The year 2014–15 starts from July 2014 and ends in June 2015.

Source: ICAR-IFPRI Survey, 2019.

within three months of its implementation.<sup>14</sup> Our result shows that 30% farmers received the benefits.<sup>15</sup> Before the implementation, the concerns were raised about the selection bias in choosing the PM-KISAN beneficiaries. We run a probit model to test for the factors associated with selection.<sup>16</sup>

**The PM-KISAN beneficiaries:** Table 3 presents the results, “without” and “with” district fixed effects, respectively. The

**Table 2: Sample Profile of Farmers, Uttar Pradesh**

	Statistics			
	Mean	Std Deviation	Minimum	Maximum
Male (Yes=1)	0.94	0.24	0	1
Age (Year)	42	12	18	78
Age square (Year)	1,921	1,065	324	6,084
Education (Year)	6.92	4.74	0	22
Scheduled Caste/Scheduled Tribe (Yes=1)	0.17	0.37	0	1
Hindu (Yes=1)	0.91	0.29	0	1
Cultivation (Yes=1)	0.70	0.46	0	1
Other agriculture activity (Yes=1)	0.20	0.40	0	1
Non-farm self-employment/salaried (Yes=1)	0.08	0.27	0	1
Other includes remittances/pension (Yes=1)	0.02	0.13	0	1
Below poverty line (Yes=1)	0.39	0.49	0	1
Land owned (hectare)	0.51	0.62	0	8
Household size (number)	5.63	2.40	1	25
Members involved in farming (number)	2.32	1.29	1	15
Kisan credit card (Yes=1)	0.43	0.50	0	1
Soil health card (Yes=1)	0.14	0.34	0	1
Crop insurance (Yes=1)	0.40	0.49	0	1
Number of observations	1,406			

Survey was carried out between May and July 2019.

Source: ICAR-IFPRI Survey, 2019.

**Table 3: Estimating Probit Coefficients for the PM-KISAN Beneficiaries**

	Beneficiary=1, and 0 otherwise (1)	Beneficiary=1, and 0 otherwise (2)
Male (Yes=1)	-0.385*** (0.144)	-0.388*** (0.144)
Age (Year)	-0.003 (0.020)	-0.010 (0.020)
Age square (Year)	0.000 (0.000)	0.000 (0.000)
Education (Year)	0.010 (0.009)	0.007 (0.009)
Scheduled Caste/Scheduled Tribe (Yes=1)	0.099 (0.101)	-0.001 (0.107)
Hindu (Yes=1)	-0.112 (0.131)	-0.122 (0.135)
Income source (others=1), base category		
Income source (cultivation=1)	-0.101 (0.291)	-0.093 (0.288)
Income source (other agriculture activity=1)	0.119 (0.295)	0.144 (0.295)
Income source (non-farm self-employment/salaried=1)	0.435 (0.306)	0.483 (0.306)
Below poverty line (Yes=1)	-0.134* (0.081)	-0.072 (0.091)
Land owned (hectare)	-0.158 (0.142)	-0.217 (0.150)
Household size (number)	-0.032* (0.019)	-0.029 (0.020)
Members involved in farming (number)	0.025 (0.033)	0.027 (0.034)
Kisan credit card (Yes=1)	0.223 (0.163)	0.201 (0.159)
Soil health card (Yes=1)	-0.023 (0.116)	-0.026 (0.121)
Crop insurance (Yes=1)	0.141 (0.159)	0.157 (0.157)
Distance from nearest branch of bank (km)	0.018 (0.012)	0.016 (0.013)
Distance from nearest branch of post office (km)	-0.039** (0.016)	-0.047*** (0.018)
Constant	-0.001 (0.561)	0.084 (0.573)
District fixed effects	No	Yes
Number of observations	1328	

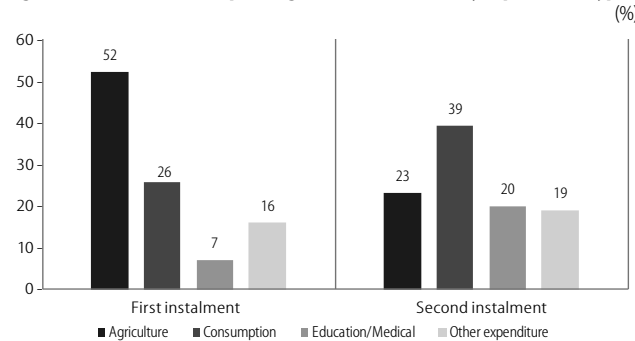
Left hand side takes value 1 if farmer is PM-KISAN beneficiary and 0 otherwise.

The analysis sample for this regression is those farmers who own less than 2 hectare of land.

Standard errors in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

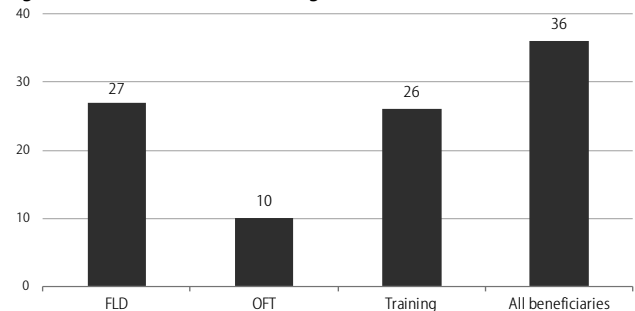
Source: ICAR-IFPRI Survey, 2019.

**Figure 2: Share of Farmers Spending PM-KISAN Benefits, by Expenditure Types (%)**



Other expenditure includes incidental expenses such as festival, marriages, etc. Source: ICAR-IFPRI Survey, 2019.

**Figure 4: Share of Farmers Benefiting from KVK Activities (%)**



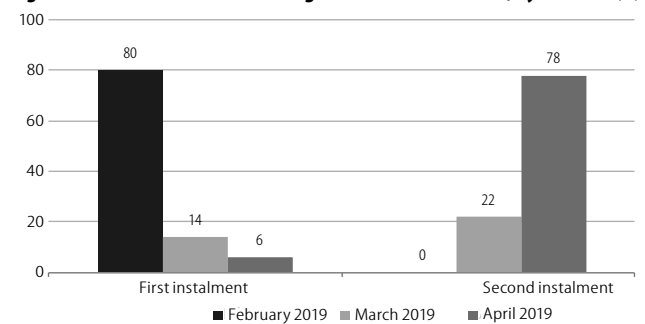
KVK Beneficiaries includes both direct and indirect beneficiaries. Indirect beneficiaries includes those by their own self-curiosity gets benefit in terms of knowledge of frontier technologies through KVKs and those who are benefited from KVK beneficiaries being in their social network. KVKs carry out FLDs to demonstrate the implementation of frontier technologies. OFT for the assessment of agricultural technologies across different farming systems, and also increase the capacity development of farmers and extension workers to create awareness about frontier technologies.

coefficients of social, economic, and agricultural characteristics are all insignificant, with an exception of male dummy.<sup>17</sup> Further, the variables (such as post office) that captures the farmer's access to formal system are correlated with the likelihood of receiving the PM-KISAN benefits. Further, the result shows that 93% of the non-beneficiary farmers have already applied to the scheme, indicating towards a general awareness among the farmers regarding the scheme.<sup>18</sup>

Figure 1 presents the distribution of farmers who received either one or two instalments, with 60% receiving one instalment and 40% receiving two. The spending pattern of the PM-KISAN beneficiaries, disaggregated by instalments, is presented in Figure 2. Our results show that 52% of those who received first instalment spent it on agriculture and 26% on consumption, 7% on education and health, and the remaining 16% on other incidental expenses (such as festivals, marriage, etc). The second instalment recipient spent 39% on consumption, followed by agriculture (23%) and education and medical (19%). Given a significant spending in the agriculture sector, we explore if this easing of liquidity constraints has implications for the adoption of modern technologies.<sup>19</sup>

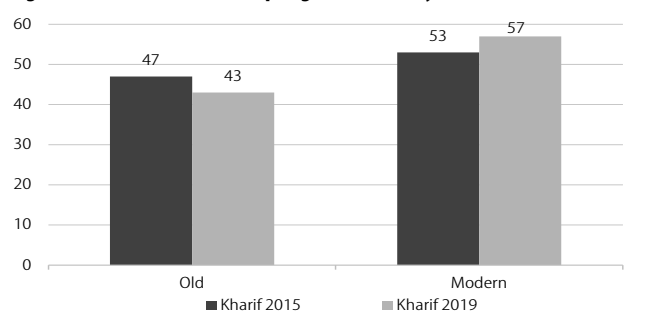
Land size, agriculture dependency, access to banks, and access to KVKs are correlated with the spending of the DCT on agriculture. PM-KISAN has likely eased credit and liquidity constraints for farmers. Also, farmers with better access to KVKs are more likely to spend on agriculture. Figure 3 presents the timing of instalments. Farmers receiving the PM-KISAN benefits in agricultural peak season are more likely to spend

**Figure 3: Share of Farmers Receiving PM-KISAN Instalments, by Months (%)**



PM-KISAN provides total financial benefits for each eligible farmer's family of ₹ 6,000 per annum in three instalments of ₹2,000 each. Third instalment is not disbursed by the time of primary survey. Source: ICAR-IFPRI Survey, 2019.

**Figure 5: Share of Farmers Adopting Various Paddy Cultivars (%)**



Modern cultivars are those which were released post-2005 and old cultivars are those which were release in 2005 or before. Source: ICAR-IFPRI Survey, 2019.

on agriculture; in the off season, they are more likely to spend on consumption.

**The KVK beneficiaries:** Figure 4 estimates the KVK beneficiaries (Varshney et al 2019). Survey data reveals that 36% farmers benefited from KVKs through FLDs (27%) or OFTs (10%) and training programmes (26%).

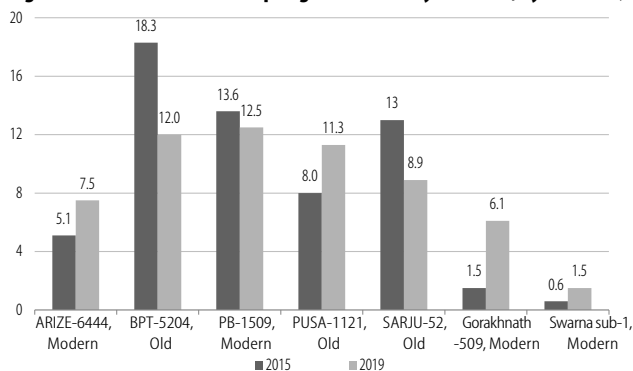
Figure 5 presents the adoption of paddy cultivars for the period between 2015–16 and 2019–20.<sup>20, 21</sup> We define the modern cultivars as those that were released post 2005. Our result reveals that the adoption of modern paddy cultivars has gone up from 53% to 57%. We also present the cultivar wise adoption patterns for the period 2015–16 and 2019–20. By cultivars, for modern cultivars like Arize-6444, Pusa-1121 and Gorakhnath-509 adoption rates have significantly increased from 5.1% to 7.5%, 8% to 11.3%, and 1.5% to 6.1%, respectively from 2015–16 to 2019–20. Whereas old cultivars like BPT-5204, or Sarju-52 have seen a significant decline their adoption rates from 18.3% to 12%, and 13% to 8.9%, respectively (Figure 6, p 53).

**Empirical Strategy**

PM-KISAN does not impose any conditionality on the farmers for receiving and or spending the benefits. However, the intended objective of the scheme is to augment farmers' income, and to ease credit and liquidity constraints for the farmers to invest in productive activities such as procuring agricultural inputs.

The existing literature on adoption of technology clearly points out that the availability of credit helps in the adoption

**Figure 6: Share of Farmers Adopting Various Paddy Cultivars, by Year (%)**



ARIZE-6444 is a hybrid cultivar.  
Source: ICAR-IFPRI Survey, 2019.

of modern technologies (Feder et al 1985; ICAR-IFPRI 2019). The cash transfer may also increase the net income of farmers and, hence, raise risk-taking ability of the farmers. Zimmermann (2015) tests that an increase in income consequent to workfare programmes may shift farmers' cropping choices towards riskier but higher return crops. Finally, cash transfer may also help in getting access to crop insurance as

**Table 4: Estimating Probit Coefficients for Farmers Who Spent Benefits Received under the PM-KISAN Scheme on Agriculture Sector**

	Benefits Spent on Agriculture=1, and 0 Otherwise (1)	Benefits Spent on Agriculture=1, and 0 Otherwise (2)
Male (Yes=1)	0.096 (0.266)	0.117 (0.293)
Age (Year)	-0.004 (0.042)	-0.029 (0.044)
Age square (Year)	-0.000 (0.000)	0.000 (0.000)
Education (Year)	0.026 (0.017)	0.013 (0.018)
Scheduled Caste/Scheduled Tribe (Yes=1)	0.314* (0.184)	0.072 (0.209)
Hindu (Yes=1)	-0.505** (0.232)	-0.600*** (0.231)
Income source (others=1), base category		
Income source (cultivation=1)	0.013 (0.630)	-0.030 (0.664)
Income source (other agriculture activity=1)	-0.232 (0.638)	-0.251 (0.677)
Income source (non-farm self-employment/salaried=1)	-0.151 (0.652)	-0.300 (0.694)
Below poverty line (Yes=1)	-0.190 (0.171)	-0.106 (0.188)
Land owned (hectare)	0.833*** (0.304)	0.815** (0.320)
Household size (#)	-0.032 (0.044)	-0.037 (0.044)
Members involved in farming (#)	0.430*** (0.083)	0.526*** (0.097)
Kisan credit card (Yes=1)	-0.082 (0.282)	-0.161 (0.299)
Soil health card (Yes=1)	0.134 (0.219)	0.088 (0.236)
Crop insurance (Yes=1)	-0.426 (0.283)	-0.500* (0.297)
Time of receiving benefits (February 2019=1), base category		
Time of receiving benefits (March 2019=1)	0.328 (0.233)	0.245 (0.232)
Time of receiving benefits (April 2019=1)	0.215 (0.296)	0.055 (0.298)
Distance from nearest input/output market (km)	0.066** (0.026)	0.043 (0.034)
Distance from nearest branch of bank (km)	-0.068*** (0.025)	-0.099*** (0.031)
Distance from nearest branch of post office (km)	-0.027 (0.032)	-0.031 (0.038)
Distance from nearest KVK (km)	-0.005* (0.003)	-0.008** (0.004)
Constant	0.065 (1.215)	0.774 (1.281)
District fixed effects	No	Yes
Number of observations	373	373

The analysis sample for this regression includes only those farmers who received the benefits of PM-KISAN. Left hand side takes value 1 if farmer spends PM-KISAN income support in the agriculture sector and 0 otherwise. Standard errors in parentheses.

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01.

a risk-coping mechanism, which, in turn, has implications for adoption.

To capture the impact of cash transfers, the outcome indicators can be classified into three: first, the primary outcome that captures changes in overall agricultural spending/investments; second, the intermediate outcome such as changes in investment in specific inputs such as seed, fertilisers, pesticides, labour, irrigation; and third, the final outcomes such as changes in production, yield and income. However, in this study, we are not able to capture the final outcomes due to data constraints.

**Identification strategy:** Our identification strategy exploits the availability of non-beneficiaries of PM-KISAN, non-universal coverage of KVKs, and the recall-based panel on paddy cultivars for pre- and post-intervention years (2015–16 and 2019–20). Although the PM-KISAN scheme is a universal scheme, it reached 30% farmers till April 2019 that enables the counterfactual group. At the same time, the decision on the type of cultivar (modern or old) by the farmers is taken subsequently in the month of May and June of 2019. Therefore, the study captures the immediate impact of PM-KISAN. In case of the

**Table 5: Unmatched and matched Characteristic of Paddy Farmers for Those Who Received KVK Benefits vs Those Who Not**

Covariates	Unmatched			Matched		
	KVK Beneficiary	Non-beneficiary	p> t	KVK Beneficiary	Non-beneficiary	p> t
Male (Yes=1)	0.97	0.94	0.16	0.96	0.98	0.18
Age (Year)	43	43	0.53	43	42	0.36
Age square (Year)	2022	1967	0.57	2028	1927	0.33
Education (Year)	8.03	7.13	0.04	7.88	9.39	0.00
Scheduled Caste/Scheduled Tribe (Yes=1)	0.08	0.14	0.04	0.09	0.09	0.92
Hindu (Yes=1)	0.91	0.88	0.28	0.91	0.70	0.00
Cultivation (Yes=1)	0.80	0.77	0.43	0.80	0.84	0.27
Below poverty line (Yes=1)	0.26	0.35	0.04	0.28	0.25	0.44
Land owned (hectare)	0.88	0.55	0.00	0.88	1.12	0.01
Household size (number)	6.07	5.79	0.21	6.13	7.07	0.01
Members involved in farming (number)	2.52	2.45	0.52	2.55	2.75	0.18
Kisan credit card (Yes=1)	0.66	0.47	0.00	0.65	0.77	0.01
Soil health card (Yes=1)	0.28	0.09	0.00	0.24	0.20	0.38
Crop insurance (Yes=1)	0.64	0.44	0.00	0.63	0.74	0.02
Soil colour (Brown=1)	0.22	0.17	0.18	0.21	0.17	0.30
Soil colour (Yellow=1)	0.04	0.08	0.09	0.05	0.02	0.11
Soil fertility (Low=1)	0.01	0.04	0.07	0.01	0.01	0.69
Soil fertility (Medium=1)	0.93	0.92	0.80	0.93	0.96	0.16
Soil type (Sandy loam=1)	0.22	0.23	0.77	0.21	0.18	0.40
Soil type (Loam=1)	0.65	0.51	0.00	0.65	0.75	0.04
Soil type (Clay=1)	0.11	0.23	0.00	0.12	0.07	0.11
Irrigation source (diesel tube well=1)	0.41	0.61	0.00	0.43	0.33	0.02
Irrigation source (canal/pond=1)	0.04	0.06	0.36	0.05	0.04	0.64
Distance from the input market (km)	5.54	5.10	0.14	5.32	5.76	0.12
Distance from the output market (km)	5.38	4.61	0.02	5.15	5.60	0.15
Distance from the agriculture department (km)	9.77	8.14	0.00	8.31	10.03	0.00
Distance from nearest bank branch (km)	4.68	7.00	0.00	4.90	5.00	0.73
Distance from KVK (km)	19.79	37.60	0.00	19.40	26.74	0.00
Number of observations	230	575		214	266	

Analysis sample includes KVK-beneficiaries from the KVK villages and non-beneficiaries from non-KVK villages. Summary statistics for matched KVK beneficiaries vs those who not are estimated using matching weights in the common support region.

kvk, its non-universal coverage enables the availability of the counterfactual. With pre- and post-intervention information on outcome variable along with the availability of the counterfactuals for both the interventions—PM-KISAN and kvk—the identification of differential impact of these is possible in a triple difference (TD) framework.

The TD approach identifies the differential impact if it satisfies the parallel trends assumption. If confounding factors are time variant, then parallel trends assumption may not be satisfied. One of the most prominent reasons is that the two groups of farmers are very different from each other in terms of characteristics (social, economic, and agricultural) and may grow with differential time trends. Table 5 (p 53) confirms that the unmatched characteristics of treatment and control group reveals that they are different in terms of plot characteristics such as soil fertility, irrigation source, and the location of institutions such as output market, agriculture extension department, bank, and kvk.

To address this concern, we employ TD with matching (TDM) where we match each treated farmer with a weighted combination of control farmers such that the predicted probability of receiving the benefits is similar in both (Heckman et al 1997). We then compare the outcomes for treatment with the weighted average of outcomes across matched control groups.<sup>22</sup> This ensures comparing in terms of the likelihood of being treated and makes it more likely that the identifying assumption holds. Table 5 reveals that matching the kvk beneficiary with the non-beneficiary farmer results in insignificant difference in social, economic, agricultural, plot and institutional characteristics.

Implementing the matching procedure essentially involves constructing the matching weights. This is done in the following steps. First, we define a common support region by dropping those beneficiary farmers whose propensity score is higher than the maximum or less than the minimum of non-beneficiary farmers, and vice versa. Then, we derive farmer-level matching weights using a kernel matching procedure (for more detail, see Caliendo and Kopeinig 2008).

We estimate the following triple difference specification.

$$Y_{idkt} = \gamma_0 + \gamma_1 PMK_{idkt} + \gamma_2 TIME_t + \gamma_3 KVKB_{idkt} + \gamma_4 (PMK_{idkt} * KVKB_{idkt}) + \gamma_5 (KVKB_{idkt} * TIME_t) + \gamma_6 (PMK_{idkt} * TIME_t) + \gamma_7 (PMK_{idkt} * TIME_t * KVKB_{idkt}) + \{\eta_k\} + \varepsilon_{idkt} \quad \dots (1)$$

where *i* stands for individual farmer, *d* for district, *k* for agro-ecological region, and *t* for year (either 2019–20 or 2015–16). *Y* is the adoption of modern paddy cultivar, and takes value 1 if farmer adopts modern cultivar and 0 otherwise. *PMK* is a dummy variable for being the PM-KISAN beneficiary, *KVKB* is a dummy variable for being kvk beneficiary and 0 otherwise, and *TIME* is a dummy variable for 2019–20.  $\{\eta_k\}$  represents agro-ecological region fixed effects, where it takes value 1 for eastern region and 0 otherwise.  $\varepsilon$  is the error term.

Estimating the specification (1) with matching weights in the common support region makes  $\gamma_7$  the triple interaction

term or the TDM estimator. The coefficient  $\gamma_7$  can be interpreted as the differential impact of PM-KISAN on the kvk vis-à-vis the non-kvk beneficiaries. The other coefficient  $\gamma_6$  is interpreted as the impact of PM-KISAN on non-kvk beneficiaries. And  $\gamma_5$  as the impact of kvk on non-PM-KISAN beneficiaries.

To test for identifying assumption, we test the assumption of parallel trends for the matched sample by looking at data from pre-PM-KISAN and pre-kvk years (2014–15 and 2015–16) and verifying that it holds during this period.

### Econometric Results

Table 6 presents differential impact of PM-KISAN and kvk on the adoption of modern paddy cultivar. The kvk beneficiaries saw 36 percentage point higher adoption of modern cultivar as compared to the non-kvk beneficiaries. The result is consistent with the adoption literature that talks about the complimentary roles of credit and information in the adoption of modern technologies (Feder et al 1985). In the context of conditional cash transfer (PROCAMPO) in Mexico, Sadoulet et al (2001) find that technical assistance to farmers raised the multiplier effect of conditional cash transfer through returns in productive assets.

We may also interpret the coefficient  $\gamma_7$  as the impact of kvk on the PM-KISAN vis-à-vis the non-PM-KISAN beneficiaries. The

**Table 6: Differential Impact of PM-KISAN and KVK Beneficiaries on the Adoption of Modern Paddy Cultivar, TDM Estimates**

	Main Regressions (2019–20 and 2015–16)		
	(1)	(2)	(3)
PM-KISAN, $\gamma_1$	-0.064(0.069)	0.188*(0.104)	0.190*(0.100)
KVKB, $\gamma_2$	0.003(0.049)	-0.095(0.094)	-0.071(0.090)
TIME, $\gamma_3$	-0.028(0.049)	-0.280***(0.124)	-0.280***(0.123)
KVKB*PM-KISAN, $\gamma_4$	0.007(0.105)	-0.223*(0.134)	-0.217*(0.130)
KVKB*TIME, $\gamma_5$	0.080(0.070)	0.321***(0.135)	0.321***(0.134)
PM-KISAN*TIME, $\gamma_6$	-0.057(0.097)	-0.290(0.179)	-0.290(0.183)
PM-KISAN*KVKB*TIME, $\gamma_7$	0.104(0.147)	0.359*(0.214)	0.359*(0.217)
Constant, $\gamma_0$	0.564****(0.034)	0.663****(0.086)	0.682****(0.088)
Region fixed effects	No	No	Yes
Matching	No	Yes	Yes
Number of observation	1,052	960	960
	Pre-intervention trends (2015-16 and 2014-15)		
	(4)	(5)	(6)
PM-KISAN, $\gamma_1$	-0.059(0.068)	0.058(0.111)	0.065(0.098)
KVKB, $\gamma_2$	-0.017(0.048)	-0.138*(0.081)	-0.057(0.074)
TIME, $\gamma_3$	-0.066(0.048)	-0.072(0.112)	-0.072(0.107)
KVKB*PM-KISAN, $\gamma_4$	0.073(0.102)	-0.034(0.138)	-0.015(0.126)
KVKB*TIME, $\gamma_5$	0.020(0.069)	0.043(0.124)	0.043(0.118)
PM-KISAN*TIME, $\gamma_6$	-0.005(0.097)	0.130(0.152)	0.130(0.137)
PM-KISAN*KVKB*TIME, $\gamma_7$	-0.066(0.147)	-0.189(0.192)	-0.189(0.177)
Constant, $\gamma_0$	0.630****(0.033)	0.735****(0.072)	0.801****(0.069)
Region fixed effects	No	No	Yes
Matching	No	Yes	Yes
Number of observation	1,052	960	960

Left hand side takes value 1 if paddy farmer adopt modern cultivar and 0 otherwise. PM-KISAN takes value 1 if farmer is PM-KISAN beneficiary and 0 otherwise. KVKB takes value 1 if farmer is KVK beneficiary and 0 otherwise. TIME takes value 1 for 2019–20 and 0 for 2015–16. Region fixed effects dummy takes value 1 for eastern region and 0 otherwise. Triple interaction (PM-KISAN\*KVKB\*TIME) measures the differential impact of PM-KISAN and KVK. Column 1 presents the regression without matching. Column 2 and 3 presents the regression incorporating matching weights in the common support region. Upper panel presents the main regression that compares treatment and control over the period 2015–16 and 2019–20. Lower panel presents the pre-intervention trends and compare the treatment and control over the period 2014–15 and 2015–16. All regressions are performed using specification 1 as described in the text. Matching is performed using covariates listed in Table 5. Regression Standard errors in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

result reveals that the PM-KISAN beneficiaries saw a 36 percentage point higher adoption of modern technologies when accessing KVKs. It reveals that the presence of PM-KISAN has magnification effects on KVK.

As noted earlier, the coverage of the KVKs is not universal. Our descriptive results reveal that only one-third of the farmers in UP have access to the KVKs. At the all-India level, Kumar et al (2019) note that there are less than 10% farmers having direct access to KVKs. Therefore, it is important to look at the impact on the non-KVK beneficiaries, which is given by the coefficient  $\gamma_6$ . Our results show an insignificant impact of PM-KISAN on non-KVK beneficiaries. Clearly, emphasising the role of both credit and information for the adoption of modern technologies. Thus, the magnifying impact of PM-KISAN can be realised by expanding the scope of public sector programmes such as KVKs and Million Farmer Schools (MFS) that improve farmers' awareness about frontier technologies.<sup>23</sup>

We also present the coefficient in Equation (1) which is interpreted as the impact of KVK on the non-PM-KISAN beneficiaries. There is a positive and significant (32 percentage point) impact of the KVK on the non-PM-KISAN beneficiaries for the adoption of paddy cultivars. Recall that 70% farmers are non-PM-KISAN beneficiaries in our sample. Positive impact of KVKs is also documented in a study conducted for all farmers for modern wheat cultivars in the same state (Varshney et al 2019). Internationally, Kondylis et al (2017) also show the positive impact of lab-to-farm extension design (similar to KVKs) for the adoption of modern technologies.

To sum up, the result reveals that PM-KISAN is significantly stimulating the impact of KVKs for the adoption of modern cultivars by easing both cash and liquidity constraints for the farmers. Lessons learnt from here suggest that the agricultural extension system (for example, KVKs) along with PM-KISAN can serve as a significant pathway to encourage farmers for making productive investments. Gertler et al (2012) also show that rural Mexican households saved part of their cash transfers in productive agricultural assets such as livestock and in turn saw an increase in agricultural income (10%). Conditional cash transfer (PROCAMPO) in Mexico, once gets complemented with the technical assistance, can result into the multiplier of 2.5 (Sadoulet et al 2001).

**Robustness checks:** As tests of robustness, we test for (i) identification assumption, (ii) choice of definition of outcomes, (iii) choice of matching algorithms, and (iv) treatment definition of KVK. For identification assumption, we test for the parallel trends for the treatment and control group. We assume 2014–15 as the baseline year and 2015–16 as the end-line year. Both these years experienced no intervention either related to the KVK or for PM-KISAN. Therefore, we run specification (1) to test for the parallel trend assumption for the differential impact of PM-KISAN and KVK. Table 6, column 6 shows that the coefficient  $\gamma_5$ ,  $\gamma_6$  and  $\gamma_7$  are insignificant. Hence, identifying assumption of no systematic trend in the treatment and control group holds.

Regarding the choice of definition of outcomes, we also consider the variety age,<sup>24</sup> and result broadly shows a similar pattern of result in terms of sign of the coefficient.

In terms of different matching algorithms, the results are robust to the nearest neighbour and radius matching methods.<sup>25</sup> With regard to treatment definition for the KVKs, we also define the treatment as those farmers who reside in the KVK villages (instead of KVK beneficiaries) and those who are not resident in the KVK village as the control group. The result reveals lower magnitudes compared to when we define the beneficiaries as the treatment group.<sup>26</sup>

## Conclusions

This paper had two major objectives. The first is to examine the implementation of the PM-KISAN scheme, and second is to explore spending patterns of beneficiaries. Next, the study examines the role of PM-KISAN in stimulating the impact of the KVK for the adoption of modern cultivars.

We find that the scheme has reached 30% farmers within three months of its implementation. The paper also tests for selection in choosing the PM-KISAN beneficiaries. Our results show no evidence of selection in terms of social, economic, and agricultural characteristics of farmer. Therefore, the concerns raised about the PM-KISAN scheme and its implementation is well addressed in UP, to begin with. Banking infrastructure created through Pradhan Mantri Jan Dhan Yojana (PMJDY) (Chowhan and Pande 2014), and the timely preparation of farmers' database by the state government, played a key role in the appropriate implementation of PM-KISAN. However, it is still early days and there is a need of more evaluations across states with complete rollout.

Our findings on utility of income support suggest that the spending patterns of farmers are well aligned with the objectives of the scheme. Evidence suggests that more than 50% farmers who received the benefits in agricultural peak season have spent



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their money in the agriculture sector, and more than 60% farmers who received the money in the off-season spent the money on consumption, education and medical purposes. Moreover, the result shows that spending patterns of farmers in the agriculture sector are correlated with their dependency on the agricultural sector, farm size, and to the poor access to credit facilities.

Our study establishes the evidence that PM-KISAN has significantly stimulated the KVK's impact for the adoption of modern paddy cultivars. In particular, the study shows that PM-KISAN has increased adoption of modern cultivars for KVK beneficiaries by 36 percentage points as compared to the non-KVK beneficiaries. Lessons learnt from this research suggest

that the agricultural extension system (for example, the KVKs) along with PM-KISAN can serve to encourage farmers for making productive investments in agriculture.

If farmers invest some part of its cash transfer in productive investments, it can have implications for permanent increase in income in longer term (Sadoulet et al 2001). From a policy perspective, the study establishes the evidence on the significant role of PM-KISAN in stimulating the adoption of modern technologies through KVKs, which in turn provides a pathway to encourage farmers for making productive investments in the agriculture sector. Therefore, PM-KISAN shows a potential to break the cycle of intergenerational poverty and low income of farmers through investment in modern technology.

## NOTES

- 1 The study estimated the multiplier of 2.5 for the conditional cash transfers of Mexico.
- 2 See section 5, for more detail.
- 3 Estimated using ICAR-IFPRI Survey, 2019.
- 4 KVK farmers have access to frontier technologies and about its implementation procedure.
- 5 It is done to capture the immediate impact of scheme the choice of seeds in the subsequent season after the implementation of the scheme. See conceptual framework in methodology section, for more detail on set of outcomes.
- 6 Family defines husband, wife and minors.
- 7 Institutional landholders, any member of family was a holder of the constitutional post, former or present minister or member of Parliament, etc, are excluded for receiving benefits.
- 8 It is about 0.6% of the total GDP of the country.
- 9 Data is accessed from 17 September 2019 from the PM-KISAN portal.
- 10 The total number of KVKs in India is 703. It is also important to note that the larger districts have more than one KVKs. Gorakhpur district in UP has two KVKs.
- 11 KVKs are attached to state agricultural universities, ICAR institutes, related government departments, and non-governmental organisations (NGOs) working in the agriculture sector.
- 12 Our household module gathers information on the relationships (friend, neighbour, and so on) for each farmer with the remaining 19 surveyed farmers of the same village. This approach provides a complete social mapping of each surveyed farmer among themselves. This forms the basis to capture the spillovers of information flows among farmers through social network channel, and the identification of network beneficiaries of KVKs benefits.
- 13 In the table, "Yes" indicates there was at least some beneficiaries in the village. "No" indicates there was no beneficiary in the village.
- 14 The scheme starts the implementation from 15 February 2019 in UP.
- 15 Our results are comparable with the government disbursement data that also shows similar pattern of results.
- 16 In the probit specification, left hand side variable takes value 1 if farmer received the PM-KISAN benefits and 0 otherwise. Right hand side variable includes social, economic, and agricultural characteristics of farmers. We also include village level variables in terms of distance that captures the access to banks and other government institutions.
- 17 Although, the male dummy is statistically significant but its economic significance is low as the share of the female head is only 5%.
- 18 According to government data, the scheme has reached to more than two-thirds beneficiaries till 15 September 2019.

- 19 Left hand side variable takes value 1 for those who spend in the agriculture sector and 0 otherwise. Right hand side variable includes social, economic, and agricultural characteristics of farmers, timing of receiving benefits, etc. See Table 4 for the complete list of variables. We run this regression only for first instalments but not for the second instalment recipients because of lack of sample size.
- 20 The year 2015–16 refers to kharif 2015.
- 21 The choice of year 2015–16 for comparison is taken as there was no intervention in any of the villages in terms of either KVKs or PM-KISAN.
- 22 We have conducted matching based on KVK beneficiaries versus non-beneficiaries.
- 23 MFS is a UP government intervention for provide training about frontier technologies to one million farmers.
- 24 The results are not presented for lack of space and may be available on request.
- 25 Same as note 24.
- 26 Same as note 24.

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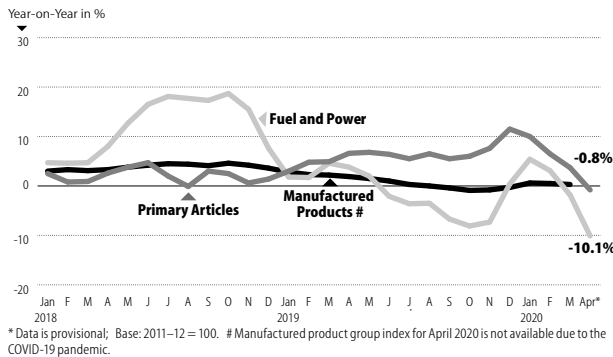
**Wholesale Price Index**

The annual inflation rate of wpi decreased to 1.7% during April–March 2019–20 from 4.3% registered during the corresponding period of the previous year 2018–19. The index for primary articles declined by (-)0.8% in April 2020 against 6.6% reported a year ago and 3.7% a month ago. The food index decreased by 2.6% compared to 6.4% recorded a year ago and 4.9% a month ago. The index for fuel and power fell by (-)10.1% against 3.8% registered a year ago. The wpi index for all commodities was not computed because of the non-availability of the index for manufactured products.

**Consumer Price Index**

The cpi-inflation rate increased to 5.9% in March 2020 from 2.9% registered a year ago, but was lower than 6.6% reported in February 2020. The consumer food price index rose by 8.8% against 0.3% reported a year ago, but was lower than 10.8% a month ago. The cpi-rural inflation rate stood at 6.1% and the urban inflation rate at 5.7% compared to 1.8% and 4.1%, recorded a year ago. As per Labour Bureau data, the cpi-inflation rate of agricultural labourers (CPI-AL) increased to 8.8% in April 2020 from 5.0% registered a year ago while that of industrial workers (CPI-IW) decreased to 5.4% from 8.3% reported a year ago.

**Movement of WPI Sub-indices January 2018–April 2020**

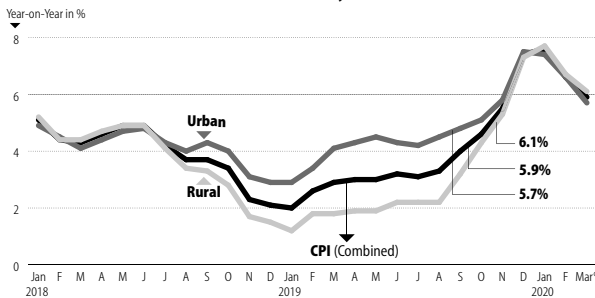


**Trends in WPI and Its Components April 2020\* (%)**

	Weights	Over Month	Over Year	Financial Year (Averages)		
				2017–18	2018–19	2019–20
All commodities	100	-	-	2.9	4.3	1.7
Primary articles	22.6	-0.9	-0.8	1.4	2.7	6.9
Food articles	15.3	0.7	2.6	2.1	0.3	8.4
Fuel and power	13.2	-8.2	-10.1	8.2	11.5	-1.7
Manufactured products	64.2	-	-	2.7	3.7	0.3

\*Data is provisional; Base: 2011–12=100; Source: Ministry of Commerce and Industry.

**Movement of CPI Inflation January 2018–March 2020**



**Inflation in CPI and Its Components March 2020\* (%)**

	Weights	Latest Month Index	Over Month	Over Year	Financial Year (Avgs)	
					2018–19	2019–20
CPI combined	100	148.7	-0.3	5.9	3.4	4.8
Consumer food	39.1	147.8	-1.3	8.8	0.1	6.7
Miscellaneous	28.3	143.8	0.1	4.4	5.8	4.4

**CPI: Occupation-wise#**

	Index	Over Month	Over Year	2018–19	2019–20
Industrial workers (2001=100)	329.0	0.9	5.4	5.4	7.5
Agricultural labourers (1986–87=100)	1014.0	0.7	8.8	2.1	8.0

\* Provisional; #April 2020; Source: NSO (rural & urban); Labour Bureau (IW and AL).

**Foreign Trade**

The trade deficit stood at \$6.8 billion (bn) in April 2020 compared to \$15.3 bn registered a year ago. Exports declined by (-)60.3% to \$10.4 bn from \$26.1 bn recorded a year ago. Imports decreased by (-)58.7% to \$17.1 bn from \$41.1 bn. Oil imports were lower by (-)59.0% to \$4.7 bn and non-oil imports by (-)58.5% to \$12.5 bn from \$11.4 bn and \$30.0 bn, respectively. During the financial year 2019–20, cumulative exports declined by (-)4.8% to \$314.3 bn and imports by (-)9.1% to \$467.2 bn from \$330.1 bn and \$514.1 bn, respectively, recorded in 2018–19.

**Index of Industrial Production**

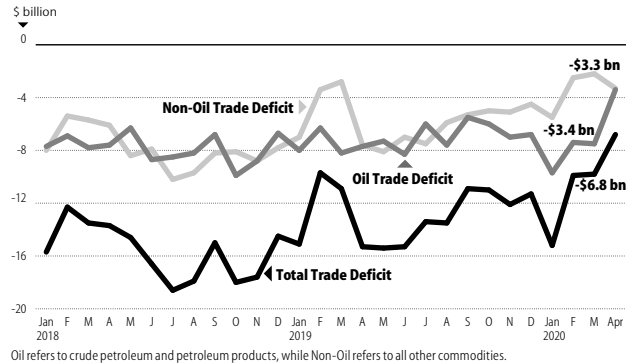
The year-on-year iip growth rate declined to -16.7% in March 2020 from 2.7% reported a year ago. The index of eight core industries declined by (-)38.1% in April 2020 against 5.2% registered a year ago. Growth in the production of coal, refinery products, crude oil and natural gas dropped to -15.5%, -24.2%, -6.4% and -19.9%, respectively, from their respective growth rates of 3.2%, 4.3%, -6.7% and -0.8%. Production of fertilisers, steel, cement and electricity generation declined by (-)4.5%, (-)83.9%, (-)86.0% and (-)22.8%, respectively, against their respective growth rates of (-)4.4%, 13.3%, 2.3% and 5.9%.

**Merchandise Trade April 2020**

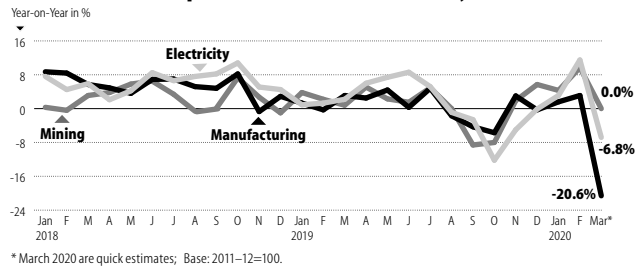
	April 2020 (\$ bn)	Over Month (%)	Over Year (%)	April–March (2019–20 over 2018–19) (%)
Exports	10.4	-51.6	-60.3	-4.8
Imports	17.1	-45.1	-58.6	-9.1
Trade deficit	6.8	-30.7	-55.9	-16.9

Data is provisional. Source: Ministry of Commerce and Industry.

**Trade Deficits January 2018–April 2020**



**Movement of Components of IIP Growth January 2018–March 2020**



**Growth in Eight Core Industries April 2020\* (%)**

	Weights	Over Month	Over Year	Financial Year (Avgs)	
				2018–19	2019–20
General index #	100	-10.0	-16.7	3.8	-0.7
Infrastructure industries	40.27@	-39.3	-38.1	4.4	0.4
Coal	10.3	-50.6	-15.5	7.4	-0.4
Crude oil	9.0	-5.6	-6.4	-4.1	-5.9
Natural gas	6.9	-11.2	-19.9	0.8	-5.6
Petroleum refinery products	28.0	-30.3	-24.2	3.1	0.2
Fertilisers	2.6	-13.5	-4.5	0.3	2.7
Steel	17.9	-80.6	-83.9	5.1	3.4
Cement	5.4	-83.6	-86.0	13.3	-0.9
Electricity	19.9	-14.4	-22.8	5.2	1.0

(Base: 2011–12=100); # March 2020; \*Data is provisional; @ The revised eight core industries have a combined weight of 40.27% in the IIP. Source: NSO and Ministry of Commerce and Industry.



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beneficiaries**

## **Securing Health, Securing Livelihoods**

**Health programme enabling a healthier & happier community**

DLF has established a series of Primary Health Centers that provide free medical consultancy, specialist treatment, free diagnostics and medicines to a large rural community

[www.dlffoundation.in](http://www.dlffoundation.in)

DLF Foundation is the philanthropic arm of DLF Limited, with a mission of empowering communities and creating opportunities for the underprivileged in areas of education, training and health.

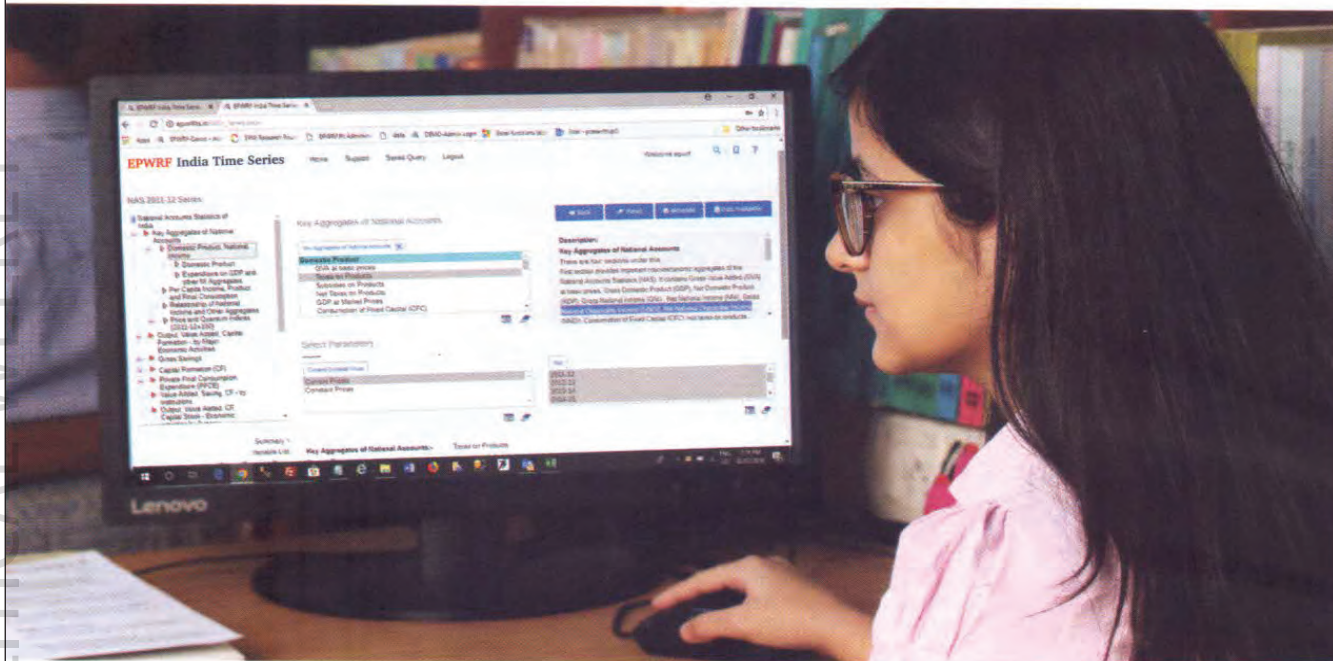
4th Floor, Gateway Tower, DLF Cyber City, Phase III, Gurgaon 122002

**Ph: 0124 - 4769200**

# EPWRF India Time Series

( [www.epwrfits.in](http://www.epwrfits.in) )

An online database on Indian economy developed by EPW Research Foundation, Mumbai.



- |   |  |
|---|--|
|  National Accounts Statistics of India |  External Sector Statistics*          |
|  Domestic Product of States of India*  |  Monetary Statistics*                 |
|  Price Indices**                       |  Financial Markets*                   |
|  Agricultural Statistics*              |  Banking Statistics**                 |
|  Wage Rates in Rural India**           |  Insurance Statistics*                |
|  Annual Survey of Industries*          |  Finances of the Government of India* |
|  Industrial Production Series**        |  Finances of State Governments*       |
|  Mineral Statistics*                   |  Combined Government Finances         |
|  Statistics of Mines*                  |  Health Statistics*                   |
|  Power Sector Statistics*              |  Educational Statistics*              |

\*Includes state-wise data \*\*Includes vital banking indicators for 702 districts #Also contains monthly data

## KEY FEATURES

- > Data availability in time-series format
- > Thirteen modules with state-wise data
- > Data updated timely
- > Easy downloading facilities with query options
- > Export data to Excel
- > Saves time spent on data compilation
- > Very economically priced



For further details, visit [www.epwrfits.in](http://www.epwrfits.in) | For subscription details, e-mail to [its@epwrf.in](mailto:its@epwrf.in)