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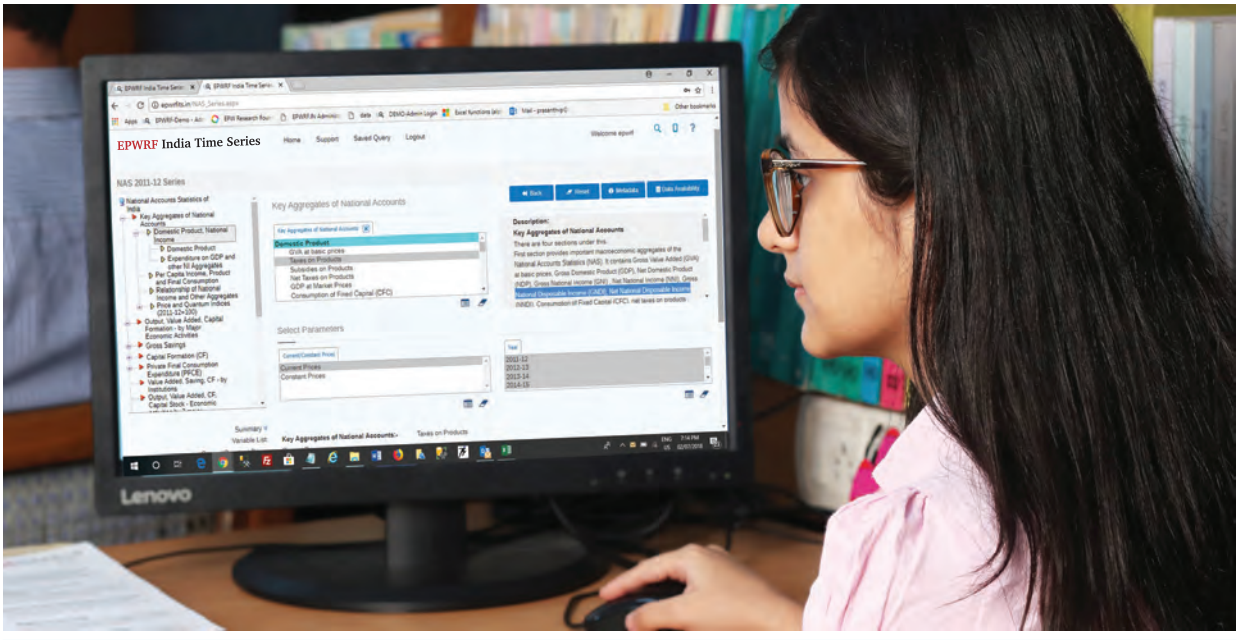

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SENIOR ASSISTANT EDITOR
INDU K

COPY EDITORS
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ROHAN DOMINIC MATHEWS
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EDITORIAL ASSISTANT
MALVIKA SHARAD

CHIEF FINANCE OFFICER
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PRODUCTION
SUNEETHI NAIR

CIRCULATION
KULDEEP NAWATHE

ADVERTISEMENT MANAGER
KAMAL G FANIBANDA

GENERAL MANAGER & PUBLISHER
GAURAANG PRADHAN

EDITORIAL: edit@epw.in

CIRCULATION: circulation@epw.in

ADVERTISING: advertisement@epw.in

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320–322, A TO Z INDUSTRIAL ESTATE
GANPATRAO KADAM MARG, LOWER PAREL
MUMBAI 400 013
PHONE: (022) 4063 8282

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DIRECTOR
J DENNIS RAJAKUMAR
C 212, AKURLI INDUSTRIAL ESTATE
KANDIVALI (EAST), MUMBAI 400 101
PHONES: (022) 2887 3038/41
epwrf@epwrf.in

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An Alternative Programme for Climate Conservation

While the recently concluded Glasgow summit has re-emphasised the urgency of checking climate change, at the same time, the inadequacy of the existing international response is also emerging clearly. Hence, here, a very different approach for curbing climate change is presented. This approach is based on a common programme for the entire world to be implemented as per the conditions of various regions and countries. This programme does not see checking climate change as an isolated activity but integrates it with resolving other serious problems as well as justice issues.

(i) All countries should agree to take measures to identify high-end luxury products used only by very few but involving high burden on nature and reduce them by about 90% within a decade. This will check other environmental problems and also reduce greenhouse gas (GHG) emissions.

(ii) Countries should agree to reduce all products that are harmful for health by 40% to 100% within a decade. The extent of reduction of various hazardous products will depend on the extent of harm and the policy options available. Products like alcohol and tobacco should of course be reduced but, in addition to that, there are several other products that need to be lessened. International cooperation of highly learned scientists and experts who have no conflict of interest should be encouraged for this.

(iii) All countries should carefully consider and implement, with community participation, steps to greatly reduce all waste (including waste of food), accumulation of waste, and transport of waste, aiming instead at the decentralised management with the goal of converting non-avoidable waste into resources.

(iv) Possible efforts should be made for energy, soil, and water conservation.

(v) Efforts to increase renewable energy should be made while trying to keep down any adverse impacts, and steps should be taken to include large and disruptive hydro projects as well as nuclear power plants as ecologically acceptable renewable energy.

(vi) Fossil fuels should be steadily reduced in all countries.

(vii) A world agreement for a future without wars should be reached as soon as possible. A plan for the elimination of all weapons of mass destruction should be drawn up. Military expenditure should be brought down similarly. All military jobs should be protected, but soldiers should be diverted to tasks like disaster prevention and rescue, ecological rehabilitation, and related activities.

(viii) Huge reductions made by cutting down heavily on all weapons and wasteful and hazardous products should be used to create an annual international fund of climate change adaptation and mitigation as well as disaster-time help amounting to at least $3,000 billion to start with. This fund is used for help entirely in the form of grants, not loans. These grants should be contributed partly by the richest countries and in part by some taxes imposed on all big businesses. About 15% of this grant will be spent in rich countries belonging to the Organisation for Economic Co-operation and Development and 85% in other countries, with special emphasis on small island nations and poorest countries. There will be a clear mandate to avoid big business profits in the use of this fund and to link this as much as possible with improving the livelihoods of small farmers and family farms, landless rural workers and urban workers, women facing economic distress, persons with disabilities, and other vulnerable sections.

(ix) There should be a worldwide programme to turn all farming into organic/natural farming, phasing down production of all chemical fertilisers, pesticides, herbicides, while genetically modified crops should be banned.

(x) Maximum efforts should be made to protect all remaining natural forests. At the same time, a huge programme for the regeneration of all degraded forest areas, pastures, wetlands, ponds, and traditional water sources should be launched with the involvement particularly of rural landless persons, providing them fair wages, livelihoods near regenerated forests relating to protection of forests and wildlife as well as rights related to non-timber forest produce.

(xi) Farmland should not be owned by corporate interests, and there should be a ceiling on the extent of ownership of land by individuals, rich landlords, and others.
(xii) Efforts should be made in the direction of resolving serious environmental problems simultaneously instead of emphasising only on one or two issues. The next decade should be declared the decade of protecting earth within a framework of justice, peace, and democracy.
(xiii) Manufacturing, farming, trade, and distribution networks should be improved in such ways that the basic needs of people are met as far as possible from sources close to them. Self-reliance of local communities should be strengthened. People should be able to cycle or walk down to obtain most of their necessities. Cycle rickshaws for the elderly unable to walk should be provided.
(xiv) Innovations and inventions for furthering this programme should be adopted as creative commons, while inventors and innovators should be rewarded with the help of an international fund.
(xv) A governance plan suitable for the proper implementation of such a programme should be developed using campaigns, education, taxation, and legislation.
(xvi) Voluntary, democratic ways of limiting population growth, having small families, strengthening family and community life, prioritising rural life, greening urban life, placing limits on the trends of consumerism and greed, avoiding overconsumption by human beings as well their animal pets should be encouraged.
(xvii) Needs of people of all countries should be respected on the basis of equality and equal rights, with special consideration for small island nations and the poorest ones.
(xviii) Efforts to reduce violence and conflict at all levels should be promoted along with ending injustice and exploitation as the root causes of these evils.

Bharat Dogra
NEW DELHI

Fertiliser Shortage in India

Fertilisers have acquired political overtones over the years, especially in recent times, as farmers have died by suicides due to the unavailability of fertilisers ahead of the rabi season in India. The agriculture sector still employs 60% of the population. A regular supply of fertilisers would help the government to ensure that a large chunk of the rural voters are satisfied, given that the general elections in five states (Goa, Manipur, Uttarakhand, Punjab, and Uttar Pradesh [UP]) are about to happen.

The government has been actively involved in the fertiliser sector over the years without which the objectives of ensuring food security and provision of fertilisers at affordable prices would fail. However, more than a year-long hike in international fertiliser prices, starting from June 2020, has created difficulties in ensuring the regular supply of fertiliser products to farmers. However, the government has been repeatedly arguing that there is no fertiliser shortage in the country. On the contrary, analysis using the Integrated Fertilizer Management System (IFMS) data from the Department of Fertilizer, Government of India for October 2021 shows a severe lack of fertiliser products.

India has typically two cropping seasons: kharif (April to September) and rabi (October to March). Assessed requirement of fertilisers (urea, NPK, diammonium phosphate [DAP], and muriate of potash) is finalised by the Department of Agriculture and Cooperation through conducting biannual zonal conferences before each cropping season. Such assessment is done after consulting with the department of fertilisers, state governments, fertiliser association of India, railways, companies, and other stakeholders. Based on the estimated requirements, the movement division of the department of fertilisers prepares the supply plan of various fertiliser products to different states.

The sales over requirement ratio, in percentage, of major fertiliser products in October show a severe shortage of DAP and MOP with the ratio 50.36% and 40.63%, respectively, for India as a whole. It implies that the country could not supply 49.64% of 18,08,786 metric tonnes of DAP and 59.37% of 3,43,460 metric tonnes of MOP products to the farmers in October. However, at the same time, India could supply 87.48% of 12,86,644 metric tonnes of nitrogen, phosphorous, and potassium (NPK) products and 140.27% of 36,80,488 metric tonnes of urea products to the farmers.

High fertiliser consuming states were affected severely by the shortage of DAP and MOP. For example, states like UP, Madhya Pradesh, Punjab, Rajasthan, Bihar, etc, face a severe fertiliser crisis. The government is substituting urea, which is largely available in India, to other fertiliser products to solve the problem. This substitution is scientifically not practical since the functions of different nutrients are varied.

Having said this, applying more nitrogen-content fertilisers (urea and NPK) leads to a more unfavourable NPK ratio in Indian soils, which has already deteriorated over the years due to the government's subsidy policies. The ideal nutrient balance ratio for NPK is 4:2:1, whereas in the Indian case, it was already 7.1:2.8:1 in 2019–20. Urea prices are significantly lower in India as it is highly subsidised. The market determines other products' prices with a fixed nutrient subsidy from the government. So, the farmers demanded more urea, which is available to them at cheap rates compared to other products. Under the present circumstances, less supply of phosphorous and potassic fertilisers will negatively impact the growth of plants as these nutrients help in root growth. Such a phenomenon ahead of the rabi season may decrease agriculture productivity since the shortage of DAP and MOP is expected to continue for months.

India is significantly and entirely dependent on imports for DAP and MOP, respectively. Shortage of these products and international price hikes will cause the government more subsidy burdens. However, the fertiliser sector has been criticised mainly for draining the country's fiscal health with a high allocation of fertiliser subsidies in each financial year. India needs to import more DAP and MOP products to meet the demands for the rabi season so as to not repeat the negative impact it had on agriculture productivity due to the unfavourable NPK ratio after the partial decontrol of the fertiliser sector in 1992. High imports may create a mounting subsidy burden, but it could reduce the farmers' distress and positively contribute to food production in the country.

Ajil Mankunnummal
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Lessons in Democracy

The government's retreat on farm laws cannot be seen in isolation from the farmers' commitment to democracy.

After Prime Minister Narendra Modi announced the rollback of the three controversial farm laws on 19 November 2021, the union cabinet in its recently held meeting has cleared the Farm Laws Repeal Bill, 2021 to be introduced in the winter session of Parliament. The Prime Minister's announcement surprised many, including those in the ruling dispensation, who, otherwise, have been opposing the farmers' protests, tooth and nail, resorting to abominable name-calling at times. Irrespectively, a rollback is a welcome development following sustained protests that saw more than 700 farmers losing their lives and many others bearing great suffering and peril in the face of a hostile government, inclement weather, and a pandemic.

The Samyukta Kisan Morcha (SKM), responding to the announcement in a letter to the Prime Minister, however, has decided to continue their protest until the three laws are actually repealed in Parliament and their other demands met. These include a minimum support price as a legal entitlement based on the M S Swaminathan Commission recommendations (C2 or total cost + 50% margin); withdrawal of the controversial Electricity (Amendment) Bill, 2021; and removal of penal provisions in the Air Quality Management in the National Capital Region and Adjoining Areas Act, 2021. Further, they have demanded that the multiple cases against the protesting farmers in different states be withdrawn, while demanding the removal from the union cabinet and arrest of the minister they hold responsible for the Lakhimpur Kheri massacre.

The usual spin, given by the establishment media circles, is intent on showing this as a "magnificent" exemplar of democracy, where the Prime Minister has graciously apologised and accepted the farmers' demands. However, in a sombre note—in their letter—the SKM, while welcoming the decision, also noted that the choice of a unilateral declaration instead of a bilateral consensus, after 11 rounds of talks, was unfortunate. Interestingly, the lengthy preamble in the Prime Minister's address—preceding the announcement of the repeal—indicated that despite the benefits of the laws and efforts to communicate, he was compelled to do this. Hence, according to the Prime Minister, the "burden" of democracy has trumped wisdom and reason. No doubt, the Punjab and Uttar Pradesh polls due in early 2022 have a bearing on this decision. However, to conflate this to political expediency and electoral arithmetic alone is to miss the point entirely. If the electoral process and voters demand accountability from a government in power, is not that so central to the articulation of the democratic will?

In fact, this moment is ripe with what democracies in their substantive sense must inhabit as an idea. While the government has decided to take this matter into a committee, the farmers have outrightly stated—more than a committee, they want a sincere commitment. The actions of the government have diluted a sense of commitment for too long, and yet the farmers continued to persist with this grammar of commitment in a substantive sense—as a moral requisite for them to engage.

Meanwhile, following *Rakesh Vaishnav and Ors v Union of India and Ors*, when the Supreme Court stayed the laws and formed a committee, requesting the farmers to peacefully continue their protest, the farmers in their wisdom were able to grasp the vein of the moment. Seeking direct engagement with the government, they refused to retreat into the machinations of another committee.

There is clearly a deep understanding of reality, political possibilities, and capacities that the farmers have demonstrated. In hindsight, with what happened during the Citizenship (Amendment) Act (CAA)–National Register of Citizens (NRC) protests—a different collective notwithstanding—the current movement has undoubtedly sustained a deep reflection at each instance. Following the events during the tractor rally on 26 January, the steadfastness with which the protest sites were retained must be acknowledged. While the CAA protest sites at Shaheen Bagh, among others, were a casualty of the lockdown—severely affecting their momentum—the farmers recognised the necessity to retain a "site" of struggle—a quotidian space of resistance, a base camp.

If the government is serious, then it must engage wholeheartedly with the farmers and not take respite in the formation of committees and repeat the same mistakes behind the current laws; consultation is urgent. There are lessons in the process, and yes, they are about elections and collective well-being. In their commitment to democracy, the farmers have given us lessons in building and constructing a grammar of collective resistance. Their commitment, which emerges from their subjective realities, continuously engages with their multiple distinctions and oppositions—as farmer and labourer—rooted in caste, class, and gender. A commitment to a vision of prosperity, not differential, but shared and collective. The economy is not a software that needs an updated version; it consists of people labouring, surviving, and building their lives. When half of your population is engaged in a particular occupation, to ignore their demands and wisdom is to commit moral perjury. If a "barrier-free" agricultural

economy sees farmers as the biggest barrier to growth, then there is something seriously wrong. The rollback reminds us of the fundamental crisis in the way we function as a democracy—a single unilateral announcement that holds greater power than the deliberations in Parliament. However, if this unilateralism continues to determine the "consensus," then it should also not surprise us if more ordinary citizens take upon themselves the task of conducting a live lesson in democracy.

The Debilitating Effect of School Closures

Innovative interventions are urgently needed to strengthen learning skills.

Various agencies have made substantiative attempts to assess the impact of the COVID-19 pandemic on different sectors of the Indian economy. However, one important area where such efforts have lagged behind is education. Though many studies have outlined the effect of the pandemic on learning at the micro level, no substantial attempts have been made to assess the overall impact of the pandemic on the education sector nationally.

Fortunately, this apathy of the union and state governments has now been remedied, at least partially, by the recent Annual Status of Education Report (ASER) 2021. The report, based on an extensive survey of rural households across the country, investigates the impact of COVID-19 on the enrolment patterns, incidence of tuitions, availability of learning material, and children's access to education. It highlights the debilitating effect of the pandemic on school education in rural areas.

A striking finding of the survey is that the pandemic has almost doubled the share of children not enrolled in schools in the rural areas to 4.6% in 2021. The largest fall in enrolment rates has been in the lower age groups and among boys. The fall in enrolment was also higher in the states of Telangana, Manipur, and Nagaland, where it moves up to double digits.

And there also has been a growing inclination of students from private schools towards government schools. This has reduced the share of children in rural private schools from around one-third to around one-fourth while that in the rural government schools has increased to 70%. The main reason for the large shift in students to government schools may be the cheaper educational services offered there. Parents, financially battered by the pandemic, would have no option but to shift their wards to government-run schools. The shift in enrolment pattern makes it amply clear that public sector education institutions are important not only because they help people absorb economic shocks but also because they ensure steady availability of a basic service like education even during exigencies.

It is also seen that higher enrolment in government schools was mainly spurred by the larger number of boys joining there. Although this has helped reduce gender disparities in enrolment in government schools, girl students still continue to outnumber boys. This makes it aptly clear that government schools are still only the second-best choice for male students. Another major consequence of the pandemic and closure of schools is the increase in private tuitions by a third to around 40%. What is surprising is that the increase in proportion of children taking tuitions in the lower divisions or classes is around double than that in the higher classes. This has almost levelled the ratio of children taking tuitions in all classes.

A statewide analysis shows that the share of students taking tuitions increased by almost 20 percentage points in the states of Jammu and Kashmir, Gujarat, Nagaland, Uttar Pradesh, and Mizoram during the pandemic. In contrast, the share of students taking tuitions in Kerala, which has been radically improving its public school system in the last few years, decreased by 10 percentage points.

The gender bias of enrolment in government schools and the incidence of tuitions also highlight important facts. One, the improved quality of education in government schools is the only way to end discrimination against girl students. Second, quality education in government schools can help substantially discourage private tuitions, which is normally an exclusive privilege of the rich.

The report also indicates that the number of households with smartphones has increased from around one-third in 2018 to around two-thirds in 2021. But while four-fifths of the children in private schools had access to smartphones, less than two-thirds of the children in public schools were not so privileged. And while half the children in Bihar had no access to smartphones for learning, more than 97% of the children had it in the states of Punjab, Kerala, and Himachal Pradesh. Clearly, the digital divide in learning is the worst in government schools and poorer states.

There were also wide disparities in the facilities for home learning across states. At the national level, almost two-thirds of the children depended on traditional methods for home learning, while one-fifth used the broadcast media and close to a quarter depended on online learning. While Kerala had the highest share of children using traditional sources (89%) for home learning, Jharkhand had the lowest (44%). In the case of broadcast facilities, the highest usage was in Gujarat (53.7%) and the lowest in Jharkhand (5.3%). And finally, the highest usage of online facilities for home learning was in Kerala (91%) and the lowest in Bihar (10.1%).

These sharp disparities in learning facilities indicate that the interventions required to compensate for the shortfalls in learning will vary substantially. The disruption of the linear curriculum during the pandemic has to be remedied now through innovative interventions that strengthen basic learning skills. This is important because, as the World Bank estimates, almost half of the 681 million children affected by the closure of educational institutions globally were in India. And this will cost the current generation of students $10 trillion in earnings globally. So, substantial policy interventions are urgently needed to help the students overcome the debilitating impact of the closure.

The Role of Trust in Democratic Politics

In electoral politics, the role of trust can be defined in the claims by political parties where they promise to provide the voters better options and alternatives than the party in power. The language of trust, thus, makes sense when it is used as a device to mobilise voters using anti-incumbency as a plank. Thus, the language of trust would constitute a rhetorical slogans such as the removal of poverty, or the more abstract slogan like a self-reliant India, or a promise of a vocal, efficient, and clean government. Thus, governmental power is conceived as trust both by parties seeking power and those voters who elect such parties into power. Trust, therefore, becomes a common moral framework within which both the ruled and ruler could be poised to create a "legitimate" political society.

However, in such political societies, the word "trust" also has its twin: betrayal. What was promised at the first instance during the election campaign in most cases does not get fulfilled by the parties in power. The betrayal of trust by the ruling party could be understood at least in two important respects.

First, political parties that are practising politics in a liberal society are forced the deploy the language of trust; trust that is used as a device to shift people's emphasis from the language of rights to the language of duty. The language of rights gets subsumed in the language of duty. Thus, it becomes the moral duty of the ruling party to not betray the trust that has been posed by the voters, in the first instance, during the election campaign. Those who are under the moral influence of the word "trust" may not say that it is their right to demand employment. Put differently, they may then conceive the "fulfilment" of such a demand as a favour done to them by the ruling party. Such deviation from the right to a duty then offers a greater breathing space for the corporate forces to accumulate profit without bothering too much about the growing inequalities.

In such a situation, the word "trust" acquires the function of inviting the voters to focus their attention on the ability of the ruling party and show confidence in it. They invest their hopes in the government's commitment to fulfil the promises. The role of profit-making corporate houses does not figure in the political judgment of the voters. Thus, the limits structured by corporate interests get subsumed in the moral language of trust.

Second, it is in this context, one may thus argue that the betrayal of trust is not the natural disposition or instinct of political parties. However, this is not to suggest that political parties do not work with instinct. In most contemporary politics in India, there are parties whose politics is quite instinctive. The conception of the world—for a politics based on instinct—is shaped by interests that are served by remaining recalcitrant and rigid through the instrumentalisation of others. In the recent case, the central government had to roll back the three farm laws not because they saw the merit in the farmer's protest but because of the growing public opinion that might minimise the ruling party's chances in the ensuing state assembly elections, which also include Uttar Pradesh. Such an instinctive will to survive by surveillance over others and seeking their servility, however, conceals this party's self-instrumentalisation at the hands of corporate interest. Such a paradox could be understood in terms of political parties willing and, hence, impelling subordination to corporate interests. There is no rational principle that is involved in its design for instinctive politics of certain political parties. Their instinctive politics shapes and maintains their particular parochial identity. However, when political practice is conceived exclusively in terms of manipulating the trust of the people, including ideological befuddlement with the help of "hired" media, the issue of trust need not feature prominently within the design of such parties or they can use trust only as the device of betrayal.

However, trust becomes a device that cannot be overused. It is not politically advisable to use the language of trust repeatedly or else people would stop trusting the very word "trust" or the designs of the party. Moreover, the betrayal of trust does affect the party leaders who tend to overuse the word "trust." Moreover, when the democratic procedures are in place and the regulatory mechanism is active, why does a party require the language of trust? Political credibility depends on the articulation of a commitment to follow the constitutional procedure. The edit on democracy and farmers' protest brings to our notice the importance of democratic procedures that cannot be flaunted or can be flaunted at the cost of the ruling party facing moral embarrassment.

Gopalpura

FROM 50 YEARS AGO

ECONOMIC AND POLITICAL WEEKLY

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Kerala: CPI(M)'s Miscalculations

The CPI(M) in Kerala has again been made aware that there are limits to the success of policies based almost entirely on exploiting differences among the parties constituting the ruling coalition. It did appear at one stage that the party might be able to pose a fairly serious threat to the government with the agitations over, first, the demand of the teachers in private colleges for payment of salaries directly by the government; second, the state government non-gazetted officers' demand for withdrawal of orders which they felt interfered with their trade union rights; and, third, the raising of passenger fares by the government-owned state transport services. The CPI(M) had hoped to build up the momentum of the agitations on these issues so as to make possible an impressive Kerala 'bundh' on November 10. The party's calculations about the support it was likely to get from other quarters, however, went wrong and when the date for the 'bundh' arrived, it was left with only the weakest of the three issues, the bus fare increase.

The strike of the teachers of private colleges was to begin with supported by the youth wing of the state Congress which actively participated in the teachers' strike as well as in the sympathetic strike by students.

India's Energy Policy
Need for Strategic and Futuristic Thinking

JAWAHAR BHAGWAT

Historically, India has been an importer of its energy needs. Only the United States (US) and China consume more energy than India. In addition, it is the consumer with the quickest growth in the world, consuming 813 million tonnes of oil equivalent in 2019 (MoPNG 2021). India's energy needs are projected to increase at the rate of 4.2% during 2017–40 (MoPNG 2020). On 1 October, India increased the price of domestically produced gas by 62%–69% based on the increasing international prices. Consequently, prices for consumers also increased (Chakraborty 2021). Approximately, 30% of India's energy needs are met by petroleum and natural gas, 55% by coal, 10% by hydropower, only 6.5% by renewable energy, and less than 3% by nuclear energy (NITI Aayog 2017).

India's Energy Dependency

According to the figures from the Ministry of Petroleum and Natural Gas (MoPNG) annual report, India's imports constitute 85% (82.1% in 2019) of its crude oil requirement and to the extent of approximately 52.7% (44.4% in 2019) in the case of natural gas (MoPNG 2021). India's crude oil production has continued to decline, and for 2019–20, it was 32.17 million metric tonnes (MMT) as against the production of 35.68 MMT in 2017–18—an average yearly decrease of about 5% (Table 1 and Figure 1, p 11). Import of crude oil during the financial year (FY) 2019–20 was 226.95 MMT valued at ₹7,17,001 crore in comparison to 226.5 MMT in FY 2018–19 valued at ₹7,83,183 crore, which marked an increase of 0.20% in quantity terms and 8.4% decrease in the value aided by depressed global oil prices. Natural gas production during 2019–20 was 31.18 billion m^3 as against the production of 32.87 MMT in 2018–19—a decrease of about 5% (Table 1 and Figure 1). The import of liquefied natural gas (LNG) during 2019–20 was 25.57 MMT valued at ₹67,383 crore as compared to 21.69 MMT valued at ₹71,867 crore during 2018–19, which marked an increase of 17.9% in quantity terms but a decline of 6.2% in value terms (MoPNG 2021). India relies heavily on varied energy suppliers, with most of its imports coming from West Asia and Africa. According to the International Energy Agency, India's oil and gas demand is expected to continue its upward trend and is expected to double by 2040 (NITI Aayog 2017). There is a need to examine the procedures and processes followed by other energy-hungry regions or nations like Europe, China, Japan, and Germany before formulating our long-term plans.

European Gas Crisis

Recent months have seen a phenomenal rise in gas prices in the European market. Notwithstanding the mainstream media hype that Russia has been manipulating market prices to obtain the German regulator's approval for the Nordstream-2 pipeline, the primary reasons for the galloping gas prices are that there have been a greater demand in Europe, minimal storage of natural gas to save on costs, and inadequate energy from renewable energy sources due to the vagaries of the weather. This has been accentuated by the diversion of the US supplies to Asia due to higher prices and greater demand in the Asian gas market. The European gas price crisis has also been aided by a reduction in the use of fossil fuels, lack of reliability of renewable energy, and transition away from nuclear energy. Overall, the European energy policy is heavily influenced by Green parties and commitments to climate change. However, questions remain as to the viability of such policies if it does not take into account the interests of consumers who have also been affected by the downturn in economies across Europe in the aftermath of COVID-19.

Strategic Energy Policy

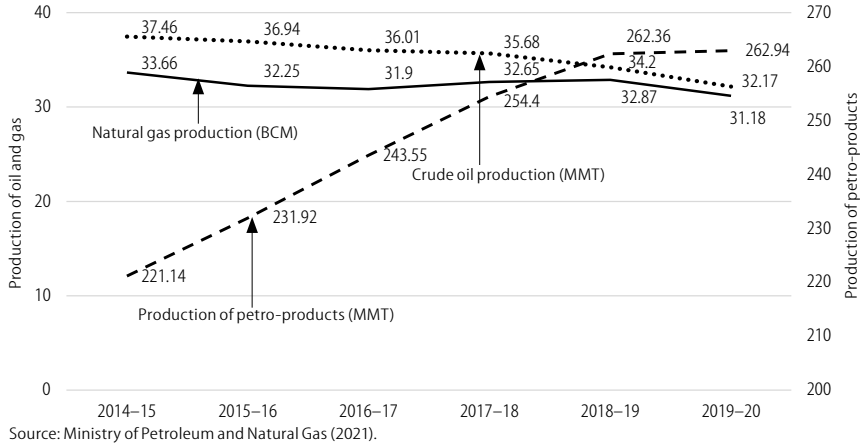
China has successfully met its energy needs by choosing a wide variety of suppliers to cater for its increasing energy requirements. Russia and China agreed on gas supplies via the Power of Siberia 3,000-km pipeline in 2014, when Gazprom and the China National Petroleum Corporation (CNPC) signed a 30-year contract to deliver 38 billion tonnes of gas per year by 2025 from Irkutsk and Yakutia (Deutsch Welle 2019). China is expected to become Russia's second-largest gas customer after Germany, which bought 58.5 billion m^3 of gas from Russia in 2018 after this pipeline becomes fully operational in 2025. Russia is now China's largest oil supplier too (Deutsch 2019). In addition, China significantly signed a long-term oil-cum-infrastructure contract with Iran on payment terms not linked to the dollar, sending a shockwave to the US,

Table 1: Declining Crude Oil and Gas Production

Year	Crude Oil Production (MMT)	% Growth in Crude Oil Production	Natural Gas Production (BCM)	% Growth in Natural Gas Production	Production of Petro-products (MMT)	% Growth in Production of Petro-products
2014–15	37.46	-0.87	33.66	-4.94	221.14	0.17
2015–16	36.94	-1.39	32.25	-4.18	231.92	4.88
2016–17	36.01	-2.53	31.9	-1.09	243.55	5.01
2017–18	35.68	-0.9	32.65	2.36	254.4	4.46
2018–19	34.2	-4.15	32.87	0.69	262.36	3.13
2019–20	32.17	-5.95	31.18	-5.14	262.94	0.22
2019–20 (April–December)	24.38	–	23.82	–	195.46	–
2020–21 (April–December) (P)	22.98	-5.72	21.13	-11.3	169.07	-13.5

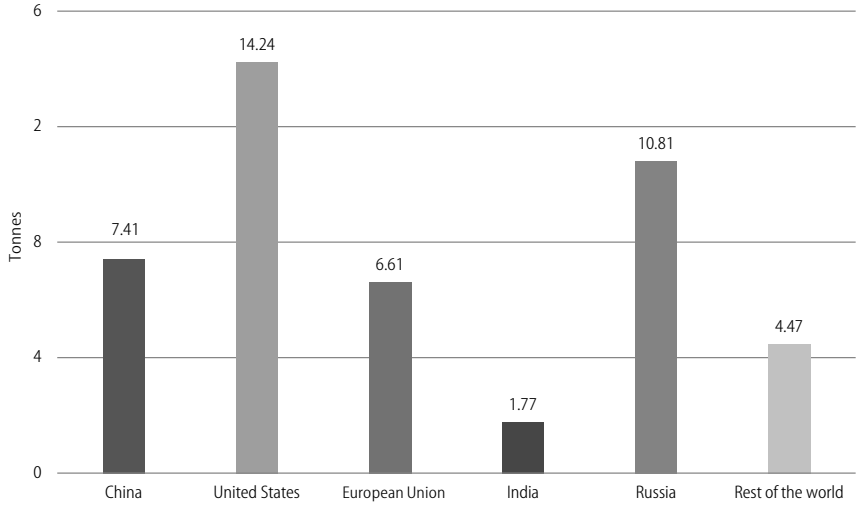
P: Provisional
Source: Ministry of Petroleum and Natural Gas (2021).

Figure 1: Crude Oil and Gas Production and Petro-products Production



Source: Ministry of Petroleum and Natural Gas (2021).

Figure 2: Per Capita Fossil Fuel Emissions, 2000 to 2018



Source: Global Carbon Project (2021), Hannah Ritchie and Max Roser (2020), and Bhardwaj (2020).

which called for a democratic alternative to the Belt and Road Initiative (Cohen 2021). India, unfortunately, sacrificed the Iran option favouring a strategic partnership with the US and linkages with Quad that did not bring tangible gains during standoffs with both China and Pakistan.

The MoPNG, India, and GAIL need to study the examples of Japan (the world's largest LNG buyer) and Germany, who though close security partners of the US, have continued their energy links with Russia despite the threat of US sanctions (Ryosuke 2019). Chancellor Angela Merkel retorted diplomatically, "we can make our policies and our own decisions (59)" in response to President Donald Trump's remark in July 2018, "Germany, as far as I am concerned, is captive to Russia because it is getting so much of its energy from Russia" (Karasz 2018). Sanctions against Arctic projects and Nordstream-2 are due to competing commercial interests since the US is the world's largest natural gas producer, whereas Russia is the world's second-largest natural gas producer (Salamah 2017). Interestingly, another trend that must be noted by the MoPNG and ONGC is that the US is importing Russian oil due to decreased shipments from the Organization of the Petroleum Exporting Countries and sanctions on Venezuela. This figure reached 8,48,000 barrels per day in June 2021 (Paraskova 2021). Russia is the second-largest exporter of oil to the US after Canada (TASS 2021). The US shale oil and gas industry is also facing increasing costs apart from possible future ill-effects on the environment that are presently being brushed aside for short-term gains. As of date, more Russian tankers are heading towards the East Coast of the US that is also battling with retail prices of diesel (RT 2021). President Joe Biden's directive for the release of oil from the strategic petroleum reserve in an attempt to curb oil prices is a reflection of the problems that the US is facing (White House 2021).

Transition to LNG and Renewable Energy

Natural gas is an economically efficient and environmentally friendly fuel. It is significant for reducing greenhouse gas emissions and could assist in implementing the provisions of the Paris Agreement on climate change. Natural gas could also aid in achieving sustainable economic growth. There is, therefore, a need for India to transit from fossil fuels to LNG and renewable energy. India aims to achieve a share of 15% (presently 6.3%) for LNG as part of the primary energy mix and achieve a target of 450 gigawatt in renewable energy by 2030 (MoPNG 2021).

However, renewable energy requires the use of rare-earth metals that are in short supply in India (NITI Aayog 2017). Presently, much of the equipment for renewable energy is also imported. In addition, renewable energy is presently subsidised not only in India but also in the world and may not be sustainable (Khokhlov 2017). A megawatt (MW) equivalent of renewable energy capacity will generate less than 50% of annual energy in comparison to the same MW capacity of a conventional technology power plant but will require more land (Sharma 2021). To cater for economic growth as envisioned in the draft energy policy, a 100% renewable energy-dependent scenario will need the diversion of forest and agricultural land that must be factored into our estimates for renewable energy (Sharma 2021). Recent first-time-ever pledges by the Prime Minister at the COP26 conference in Glasgow to reduce emissions to net-zero must be grounded in reality as India has limited energy resources, is energy-inefficient, and has one of the lowest per capita emissions among the leading economies of the world (World Nuclear News 2021). Therefore, a detailed cost–benefit analysis, including the impact on the common people, must justify the transition to renewable and other sources of energy.

India simply cannot allow runaway gas prices like in Europe, as it will have

catastrophic effects on an economy still recovering from COVID-19. Similarly, over-reliance on renewable energy without fallback options in terms of reserves of fossil fuels also could have a serious socio-economic effect. A suitable way to alleviate this is to completely rely on long-term contracts (preferably for 30 years) with reliable suppliers and a reassessment of renewable energy, taking into account indigenous solutions. However, another issue arises of the viability of growth to ensure equitable economic progress.

In 1972, the Club of Rome in its report "The Limits to Growth" predicted that economic growth could not continue indefinitely because of the limited availability of natural resources, particularly oil (Sharma 2018). The "World Conservation Strategy" advocated by the International Union for Conservation of Nature (IUCN) declared that survivability is not guaranteed if the affluent consume a majority of resources and the balance just about make ends meet (IUCN 1980). The United Kingdom government's erstwhile Sustainable Development Commission (SDC) in its report "Prosperity Without Growth?" declared that a high gross domestic product (GDP) growth rate cannot be pursued indefinitely. Estimates of environmental degradation costs were pegged at 8.5% of the GDP, according to a report by the World Bank and the University of Washington (Sharma 2019). The draft "National Resource Efficiency Policy" (NREP), 2019 states,

> the projected pace of economic development … may lead to serious resource depletion and environment degradation affecting the economy, livelihoods and the quality of life. (Ministry of Environment, Forest and Climate Change 2019)

This report has only minimal reference to the optimal utilisation of energy resources, which is a serious lacuna. In addition, the inter-ministerial committee constituted by the government to combat climate change does not include any experts, which is another serious lapse (Bhardwaj 2020).

Consumption of fuel may be 10 times higher in a city with a lesser developed public transportation system, according to a German policy paper (German Environment Agency 2017). This paper advocates rail transport vis-à-vis road transport and states that there should be no further development of the road network in Germany, widely known for its impressive road network and automotive technology. India's NITI Aayog and the states' transport authorities need to study this paper and follow the standards laid down in the European Union, Japan, and California for fuel efficiency, including for heavy vehicles and particulate emissions, respectively. There are also disincentives for diesel vehicles, including stricter fuel efficiency norms due to diesel vehicles creating more pollution. China also has introduced higher fuel economy norms. Similarly, when we consider nuclear energy, we must consider the long-term costs of reprocessing nuclear waste and the cost of fixed infrastructure, including special storage and health facilities, not excluding the tangible and intangible costs of being dependent upon foreign suppliers for the raw materials.

Energy Policy

The draft energy policy has been in the making since 2015 (NITI Aayog 2017). It needs to be revamped, taking into account the above-mentioned issues. More importantly, energy efficiency and the focus

on public transportation systems as enunciated in the integrated policy of 2006 needs to be given greater focus (*Down to Earth* 2007). An energy policy has to be given a time period, for example, unti 2040. In view of the frequent changes in global prices and technology, the policy needs to be reviewed every year by action taken reports.

The draft energy policy needs to be reviewed, and a futuristic plan based on a realistic assessment of our natural resources and indigenous technologies needs to be proposed. The draft energy policy needs to focus on energy efficiency across all sectors. It needs to be in synergy with the NREP.

The focus should be on long-term contracts (minimum 30 years) for petroleum products, including natural gas, and greater storage facilities should be established to cater for global crises and other unpredictable situations.

Furthermore, India's choice of country for imports needs to be focused only on reliability as a supplier and not on extraneous political considerations. Greater investment in nuclear energy needs to be reviewed given the environmental risks and our dependency on uranium supplies. Also, a comprehensive cost–benefit analysis of renewable energy must be carried out before committing further resources and subsidies. It should also be noted that the formation of roundtables, including experts to formulate policy and continuously review the action taken, is an important part of democratic governance.

In Conclusion

It is widely accepted by most experts that India needs a strategic energy policy and must avoid fuel inefficiency. However, inadequate attention has been paid to sustainable development, and the realisation that a growth-based economy also leads to higher consumption of energy and swift depletion of natural resources. There needs to be a focus on energy efficiency and prudent use of natural resources. India has a unique opportunity to take advantage of its position as the fastest-growing consumer economy to secure long-term energy contracts with key producers. Dependence on foreign suppliers for renewable and nuclear energy does not augur well for the overall state of the economy even if it may outwardly seem to be contributing towards reducing carbon emissions. Climate change pledges need to be grounded in the reality of our weakness as an energy-deficient and energy-inefficient nation. Our energy policy, which has long been in the pipeline, needs to take into account all these strategic necessities given the challenging state of the global economy and the imperative need to revive the economy for the social-economic development of the people.

Jawahar Bhagwat (*jawahar.bhagwat@gmail.com*) is an independent researcher on strategic affairs, defence, and the Arctic region.
He served in the Indian Navy for over 25 years and commanded the nuclear submarine INS Chakra.

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Degrading the Delight of Degree Education

RAVI RANJAN, ABDUL HAMEED P A

The merit-based undergraduate admissions in the University of Delhi got mired in controversies in the name of region and ideology to the extent of terming it as "marks jihad." After the first cut-off list of DU undergraduate admission 2021, many students with a perfect score of 100% got admitted, predominantly belonging to the Kerala board, thus provoking nepharious remarks of "marks jihad." The bottom-line argument was that admission in DU, a central university, should be merit-based and accesible to all. The National Education Policy has to suggest ways to accommodate a larger number of students to ensure quality undergraduate education. As a national university, DU needs to facilitate distinctive plurality by adopting more inclusive admission policies and making its teaching–learning more global.

Ravi Ranjan (*raviranjan@zh.du.ac.in*) and Abdul Hameed P A (*hamialpy@gmail.com*) teach at Zakir Husain Delhi College, University of Delhi.

Philosopher, psychologist, and educational reformer John Dewey argued that "education is not a preparation for life, education is life itself." More than a century ago, he understood education as a process of living and not merely preparation for future living (Dewey 1897). Amidst the admission season in the University of Delhi (DU), like every year, the idea of merit-based admission is under question again. However, in 2021, it has reached a new low of blame, and counter-blame and the admission process in a federal higher educational institution got converted into a culture of casting aspersions in the name of region and ideology.

Context of the Controversy

After the first cut-off list of DU undergraduate admission 2021, several courses of many campus colleges are closed despite the requirement of a 100% cut-off. As many students with a perfect score of 100% got admitted, predominantly such perfect scorers belonged to the Kerala board. So, the controversy started around many issues from politics of marking in different state/central boards of Secondary School Examination to respect and reward merit and to preserve the diversity and plural character of colleges in DU. After criticising the Kerala board marking system and the absurdity of high percentage, many are arguing for competitive entrance test without considering its pros and cons. When the issue was widely discussed in media after the controversial remarks of "marks jihad" of a DU professor, teacher and student groups of different political persuasions are confronting each other with a bottom line argument that being a central university, DU belongs to all India.

A DU teacher's recent remarks about students coming from Kerala seeking admission to the DU have unfolded a new controversy in the Indian higher education scenario. Though the teacher's statement—his allegation of what he terms "marks jihad" (Ghosh 2021)—has met with serious opposition, he does not feel the need to withdraw his statement or apologise for the same and insists that "marks jihad" is a leftist conspiracy.[1] Many teachers and students in the university belonging to various political affiliations, including members of the DU Academic Council and teachers' union, have come out with strong criticism of the professor's remarks.[2] The right-wing teachers' outfit of which the said professor is a member distanced itself from his statement (*Indian Express* 2021). Parliamentarians across party lines objected to the statement made by the professor through social media interventions and letters to the union education minister.[3]

Kerala's education minister and other political leaders from the state, too, demanded action against the professor for his statement (*Hindustan Times* 2021). Though the professor stood firm in his allegation about Kerala board students seeking admission in DU under the first cut-off for undergraduate admissions, the university on its part has issued a press statement on the completion of the first round of admission to its undergraduate courses where it unequivocally stated its true federal character. Clearing the clouds of speculations and aspersions cast, which seemed to dent its image, the press release from DU said the following:

> Being a central university, the DU equally and uniformly values the academic credentials of all the candidates irrespective of their states and school boards. This year too, an equal opportunity was maintained by accepting applications based on merit only. The DU strongly refutes and condemns the falsity of news that is being circulated regarding favouring candidates from a few boards. Being a prestigious central university with a long legacy of quality teaching and research, candidates across the country aspire to study in our colleges/departments/centres. It is our utmost responsibility to maintain justice and equity to all meritorious candidates coming not only from the Indian states but also from abroad.[4]

This timely intervention from the university administration has sent a message

of neutrality to all its stakeholders and relieved many aggrieved parties.

Higher Education in Kerala

Although the legal procedures are in place to give states control over educational expansion, our constitution gives asymmetric power to India's union government to regulate higher education and shape its expansion. Therefore, despite the criticism of the statement from many quarters ranging from intellectuals, students' body to political leaders, one may still find merit in the context of the statement. It is an undeniable fact that students from Kerala have been leaving soon after their school education to seek higher education outside the state, and the phenomenon has increased over the last many years. The real reasons behind this phenomenon explain the shortcomings of the undergraduate education system of the 21st-century India that needs deeper investigations much beyond the allegations of "marks jihad" or "leftist conspiracy;" hence, the arbitrary use of terminological barrage should not divert us from addressing the real issue, if there is any, and analysing the phenomenon itself as a category of academic investigation.

Time and again DU undergraduate admission process based on Class 12 merit has been questioned, when a few colleges asked for 100% or 99.75% in the best four subjects of Class 12 marksheet. For more than a decade now, there is a continuous increase in merit percentage because of the liberal marking system of almost all school boards and, most importantly, due to manifold rise in the number of applications across different categories of students seeking admission in any discipline of undergraduate courses. Globally, the demand for higher education has witnessed a significant rise and doubled in the last two decades as far as student's participation in higher education is concerned. In 55 countries, the average participation exceeds 50%; most national governments are of the view that higher education is a primary instrument of economic development and nation-building process. In this context, India being a federal country, we have to adjust the governance system to meet the challenge of higher education in a growing global competition (Carnoy et al 2018).

The central government needs to continue its search for an optimal model for the federal–regional relationship to strengthen the higher education system in India through policy measures like the National Education Policy (NEP) 2020. Updated curriculum, sound infrastructure, and the well-known faculties of a few central universities like DU and Jawaharlal Nehru University (JNU) are the points of attraction for students from different parts of the country. We do need to strengthen our central as well as state universities to contain the expanding regional disparity among Indian states. As we know, some of our state universities were established even before India became independent, we do need to adopt pragmatic federalism; it can be centralisation or decentralisation or a mix of the two.

While higher education is an important source of economic growth, it can also be a source of inequality in income and wealth if opportunities of higher education are not distributed equally. The All-India Survey on Higher Education (AISHE), 2019–20 suggests that with 1,042 universities, 42,343 colleges, 11,779 stand-alone institutions, and 38.5 million students, India has one of the largest education systems in the world. While Kerala has 1,417 colleges, the top nine states that have the highest number of colleges are Uttar Pradesh (UP), Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Gujarat, and Telangana (AISHE 2020). As regards urban districts, Bengaluru tops with 1,009 colleges, followed by Jaipur with 606 colleges; however, urban centres of poorer states like Bihar and Assam are still lagging.

The AISHE, 2019–20 report further argues that college density, that is, the number of colleges per lakh eligible population (population in the age group 18–23 years) varies from seven in Bihar to 59 in Karnataka, with average enrolment of 575 students in colleges. Kerala has a college density of 48 as compared to the all-India average of 30, and with 179 colleges, Delhi has a college density of merely eight colleges. The all-India average enrolment is 680 students per college, while Delhi has an enrolment of 1,620 students per college. Out of the total enrolments in higher education, 5.5% of the students belong to Muslim minority and 2.3% from other minority communities. The total enrolment in higher education has been estimated to be 38.5 million; the gross enrolment ratio (GER) in higher education in India is 27.1%, GER for Scheduled Caste is 23.4 and of Scheduled Tribes is 18%. Distance enrolment constitutes about 11.1% of the total enrolment in higher education. About 79.5% of the students are enrolled in undergraduate-level programmes, while enrolment in PhD is about 0.5% of the total student enrolment. Our higher education sector is expected to expand more, and given the favourable demographic dividend, it is expected that India will have the largest college-going population after the 2021 Census.

Comparatively, Kerala has a better schooling system, so, the state has the highest literacy rate in India.[5] As of 2021, Kerala holds a 94% overall literacy rate with a 96.1% male literacy rate and a 92.1% female literacy rate.[6] As per the latest School Education Quality Index (SEQI) of NITI Aayog, Kerala has the best school education system in the country.[7] From this, it is evident that Kerala has made a significant investment in basic school education compared to other states in the country; therefore, students from Kerala look for better opportunities to get quality higher education, which is sadly not available in the state. This competition has certainly resulted in a trend where schools are orienting their students to aim for central universities. Consequently, securing admission in undergraduate courses in central universities has become a matter of pride and quality statement for each school in the state. Delhi being the hub of education and DU being a central university with the maximum undergraduate courses, thus students coming from such a competitive school environment aim to enter this prestigious university.

There is also a noticeable shift in the focus of students aspiring for higher education in Kerala towards humanities and social sciences in recent years—a topic of interest probably for those in

the field of civilisational studies. This is a shift from a predominantly white-collar-focused, engineering–medical-driven higher education orientation that was prevalent among schoolgoers in Kerala. An ever-growing middle class across religious and geographical sections ready to invest more in their children's education beyond engineering–medical courses adds magnitude to this phenomenon.

The question then is, why in their search for quality institutions, many of these higher education seekers leave Kerala instead of staying back in the state and helping to further its educational potential? This leads us to explore the public-funded higher education opportunities available in the state. Here, one can observe that while Kerala has done exceptionally well in school education, its claim in the higher education sector is below the national average. A 2011 study on higher education in Kerala citing the National Sample Survey 1998 data argued that "higher educated population constitutes only 3.9% of the total population in the state, which is less than the national average of 4.2 and also as many as 15 states and union territories are ahead of Kerala in this regard. Interestingly, the proportion in Kerala is no better than that of UP" (Tilak 2001). In the last two decades, there is a constant increase in enrolment in higher education in Kerala, and the Government of India data[8] for 2015–16 shows 30.8% gross enrolment in higher education from Kerala (with male enrolment at 26.6% and female enrolment at 35%).

Kerala has only 19 of these with one central university, 15 state universities and three deemed universities.[9] Of these, till the end of the 20th century, only seven existed. From 2000 to 2010, one central university, one state university, and two deemed universities were established, taking the tally to 11. The remaining seven state universities and one deemed university were established between 2011 and 2020, with the latest two being in 2020. The University Grants Commission data shows 297 colleges in Kerala as of September 2021. As per the data from the Directorate of Collegiate Education, Government of Kerala, the state has only 75 government colleges[10] and the remaining are government-aided private management colleges. It is in this context that we need to look at the higher education dreams of 3,28,702 higher secondary school pass outs in 2021 from the Kerala board. Added to this are the qualified students from Kerala in other boards like the Indian Certificate of Secondary Education and Central Board of Secondary Education. There is a deficit in the demand–supply order in Kerala's higher education scenario. The fact that students from Kerala leave the state for higher education after their schooling does not require more explanation.

The state separated the administration of general and higher education at the ministry level only in 2016 with a minister of higher education appointed for the first time. Here, it is evident from the recent rise in the number of universities and colleges that Kerala started giving significant focus on higher education only in the last two decades, and the available institutions are neither of international standards, which top-ranking central universities offer, nor are well-established with a huge number of intake capacity. Of the 130 Institutions of National Importance, Kerala has only four.[11] There is something really at fault in its higher education vision. Though over the last two decades Kerala has tried to fill this gap by addressing the severe deficit of higher educational institutions, the supply is far from meeting the demand. Hence, to address the deficit of supply to meet higher educational demands in the state, Kerala needs to immediately double the number of colleges and universities available at present. The state should also ensure that the number of government-funded institutions are more in number and keep up to the national standards to ensure that its students do not feel the need to leave the state seeking higher education.

The Road Ahead

While DU and other central universities outside Kerala will continue to welcome students from all over the country, the onus is on the Government of Kerala to ensure that the meritorious products of its best-in-class school system do not have to seek higher education elsewhere. DU is the preferred institution for students from many northern and eastern states since the mid-1970s and the early 1980s apart from Kerala. Nearly, three generations of students already educated from DU belong to Bihar, Odisha, Assam, and many other north-eastern states due to poor higher education facilities in these states. Due to pressure from non-Delhi students, Ambedkar University was opened a decade ago for humanities and social science subjects to give preference to local Delhi students with 85% reservation for them only.

This demands a thorough investigation into admission policy on merit. The NEP 2020 has to suggest ways to accommodate a larger number of students to ensure quality undergraduate education. Cosmetic changes like announcing the return of the four-year undergraduate programme, may be necessary to allow the tiny percentage of elite students to join foreign universities seamlessly; however, such initiatives are insufficient to address the dearth of seats for millions of inspiring students, for which we do need to open new institutions, thus enhancing the capacity of the existing ones and upgrading them to international standards. Our university system is governed by a federal structure, and education is in the concurrent list. This necessitates policymakers and academicians to visualise policy implementations in central, state, deemed, and private universities in such a way that they can overcome the regional imbalances.

In the wake of the admission controversy at DU, it is high time to look into the structure and functioning of higher education federalism in India. Until now, studies on higher education systems have not paid much attention to explore the multilayer structures and federal governance of higher education system in India. Such governance always influences the access, equity, and quality of higher education and have consequential impacts on regional disparity in terms of material and human development across India. We do need to understand the inter-regional as well as intra-regional variations in accessing and acquiring higher education by relevant age groups of population in Indian states. Otherwise,

achieving GER of 50% by 2035, the target set by NEP 2020 may remain a distant possibility for many Indian states as more than half of our federal units have not reached 25% of GER as yet.

The debates on how higher education system is changing and how higher education should address the questions of funding, and on who will attend universities depend on the changing nature of higher education worldwide (Neubauer 2012). In consonance with the welfare states' ideal of India, higher education has been conceptualised as a public good, but the fast-changing nature of the higher education system has changed it into more of a private good.

In the era of globalisation with human face, where social policies occupy more space in policy arena, the focus on education can bring transformation gradually in the policy sector by reshaping the democratic state into an aspirational state where people have a lot of expectations from the state and better delivery is the benchmark for governance theories and practices (Barker and Wiseman 2005). The British Council's Publication "Going Global 2012" has published a report titled "The Shape of Things to Come: Higher Education Global Trend and Emerging Opportunities to 2020" on the global trend in higher education and has indicated the future growth trajectory and suggested its huge expansion in the coming days. The UNESCO Institute of Statistics referred that the global tertiary enrolments reached 170 million in 2009. Four countries alone—China, India, the United States (US), and Russia—have a combined share of 45% of the total global tertiary enrolments. Demographically, just four countries—India, China, the US, and Indonesia account for over half of the world's 18–22 population in 2020.

The Indian higher education system is suffering from suboptimal governance and problems of able leadership; it also lacks multidisciplinary universities and colleges. There is a lack of local presence in curriculum and pedagogy, and in theoretical and conceptual concentration, it is highly dominated by the Western education system. The senior secondary and college system links have not been studied properly; there is a need to synchronise easy shift from school to college. There is hardly a comprehensive comparative study of higher education among the Indian states, except the data generated through various surveys, and a more qualitative comparative study is required.

The Delhi High Court, in its recent hearing on the admission issue of DU, has dismissed the petition sought to give direction to DU related to the Kerala board admission and for scaling the marking system to ensure a level playing field. The court has categorically argued that the fixing of cut-offs was a matter of the university's admission policy, further considering that the matters of academic policy were best left to the university and the court would be slow in interfering with the same. As per the Delhi High Court, "The judgements of the Supreme Court make it clear that in matters of academic policy, a writ court is slow to interfere" (*India Today* 2021). After taking charge, the new vice chancellor of DU has assured that the university will adhere to the federal ethos of a central university and will adopt inclusive policies on undergraduate admissions and research activities so that distinctive plurality of DU as a national university can be celebrated by making its teaching–learning more global.

NOTES

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Migrant Children and 'Free' Education in India

VIJITHA RAJAN

Schooling of migrant children in India is compromised for various reasons, such as their mobility, disadvantaged backgrounds, and exclusionary experiences of schooling. Such contexts and experiences of migrant families and children are in stark contrast to how their aspirations and motivation are dominantly imagined by education functionaries of the state and the non-governmental organisations. Using narratives from the city of Bengaluru, this article throws light on the aforesaid discord, thereby highlighting the complex placement of migrant children with respect to inclusionary frameworks of schooling and education in India.

Muft ka chandan ghis mere Nandan (The sandalwood is free, keep rubbing it), a teacher in a non-governmental organisation (NGO) said to Vanitha, an eight-year-old migrant child, who was packing some extra food for home from the midday meal provision of the NGO school. Vanitha's family migrated to Bengaluru from Jaunpur district of Uttar Pradesh about three years ago, although her father had first migrated to the city seven years ago. Her father worked as a driver and mother as a homemaker. Before being enrolled in the NGO school, Vanitha was enrolled in another school in the city run by a charity trust. She had to drop out because the school did not permit her frequent absence necessitated by the mobility of her family back and forth between the village and the city.

Her family did not have money to enrol Vanitha and her two younger siblings in an English medium private school and was doubtful about the usefulness of enrolling them in a Kannada medium government school in Bengaluru. That was when she got enrolled into the bridging programme run by an NGO school in east Bengaluru where the policy is to mainstream children into English medium private schools and provide partial financial support to the parents towards paying the school fees.

The NGO bridging programme for the academic year 2017–18 was coming to an end, and for Vanitha's family, even half of the school fee, when calculated for all the three children in the city, was not affordable. Vanitha's mother asked the school for more financial support, but to no avail, as the NGO had to stick to its policy of funding only half of the school fees. The year before, Vanitha's elder sister too attended the same bridging programme but did not join a mainstream school and went back to live with her grandparents in the village. The teacher's words, *Muft ka chandan ghis mere Nandan,* were therefore not only in reference to the "free" food that Vanitha was packing home that day, but also her inability of getting mainstreamed into a regular school despite having accessed all the "free" facilities provided by the NGO throughout the year.

Vanitha is representative of many migrant children, for whose families, mobility is integral to livelihood. Schooling of migrant children is compromised for various reasons, such as their mobility, disadvantaged backgrounds and exclusionary experiences of schooling, not to mention unprecedented global crises such as COVID-19. Such contexts and experiences of migrant children are in stark contrast to how their educational aspirations and motivation are dominantly imagined by education functionaries of the state and the NGOs. This article discusses the above discord by using narratives from Bengaluru. It juxtaposes the placement of migrant children with inclusionary frameworks of schooling and education in India.

'Unwilling' Parents

Researchers in the Indian context have long critiqued the dominant myth of disinterest and the unwillingness of poor parents in their children's schooling (Balagopalan 2014; Drèze and Kingdon 2001; PROBE Team 1999; Sharma 2013; Tilak 2018; Weiner 1991). Balagopalan (2014) argues that the differential construction of poor parents' educational aspirations is integral to how the modern colonial apparatus has historically engaged with imaginaries of schooling for marginalised communities. She argues that the "schizophrenic" agenda of colonial state, while on the one hand attempted to expand schooling, on the other, restricted educational opportunities of labouring children under the pretext of parental disinterest and unwillingness. In light of the evidence regarding increasing parental aspirations and motivation, "lack of interest" cannot be understood as an "independent" factor affecting children's schooling (Tilak 2018). Yet, in case of migrant children in the city, the age-old saga of the lack of parental motivation persists. This is

Vijitha Rajan (*vijitha.rajan@apu.edu.in*) is a doctoral student at the Department of Education, University of Delhi as well as a Commonwealth Scholar (2018), funded by the Government of the United Kingdom, at the School of Politics and International Studies, University of Leeds, UK.

echoed in the following words of education functionaries:

> If they rent a house, they can bring children every day to school. In case of "shed" people (migrant families living in squatter settlements), they might vacate the place overnight. Local and settled migrant families take TC (Transfer Certificate) before they go to another place. "Shed" people do not. And when they are regularly absent, they will be marked as drop out. We can issue TC only when we know where they are going. Most often they give us wrong phone number, or someone else's number. I don't know if they are doing this deliberately. (Headmistress, Government school, Personal Communication, 31 August 2017)

> Government tries to make provisions such that they (migrants) stay in the village itself. There are more agricultural labourers in the village. When there is no rain, they will not have work. Parents come to the city for economic purposes and take children along with them. They will be a burden. Migrant children take time to adjust with the new circumstances and they fall back in studies because of this. Higher class people also migrate, but they settle down. When parents make home in one place and settle, then it is fine. The problem is that these parents, they will not be stable. They will not stay in one single place. Once work is finished here, they move to another place. Automatically children will get dropped out. When they go to a new place, they will not get time to search for a new school. (Cluster Resource Person [CRP], Personal Communication, 13 September 2017)

These state education functionaries held parents to be solely responsible for their children's dislocation from the village, frequent mobility and irregular attendance in the school. It is also perceived that educational inclusion means physical and material access to school, and that poor migrant families and children are interested in the "free" resources of school but not "real" education. Despite providing everything for "free," functionaries wonder why migrant "shed" children do not attend school regularly. Consider the following narratives for example:

> [Addressing a migrant child who came back from village after a few months to re-enrol in the school]
> See this boy. If you give him books and bag, he would stop coming to school from tomorrow. Last time he took all the facilities from the school, when he got enrolled in June and then stopped coming. What should we do with these "shed" children?
> (Headmistress, Government school, Personal Communication, 31 August 2017)

> When I ask them, "where did you go all these days?" they say that their parents did not send them. We are giving everything to you free, then what is your problem? They get money if they go for rag picking. Some children go back to their native place. Some of them continue till 5th or 6th standard. They are not interested to come to school. There are all the facilities in Government school. Akshaya Patra is there for mid-day meals. Uniforms are given free. Volunteers come and teach music and dance. They teach even English. There is drawing, painting, computer, football coaching and what not. Everything is there in government school also. I do not know why they are not coming. (Teacher, Government school, Personal Communication, 13 April 2018)

Along with such views of inclusion, educational functionaries assume that the system is "open to all" and provides optimal conditions for migrant children's education. Consider the following response of a CRP, when asked about government provisioning for migrant children:

> Whatever government is giving for regular children, same thing we are giving for migrant children. Another advantage for migrant children is that wherever you go, you get admission anytime from June to May. What else do they need? Nowhere we have put a board saying, "no admission for migrant children." Whichever time of the year they come, we give them food, books and all other benefits. We even admit children who are from another country. For example, in case of migrants from Bangladesh, we cannot know. There are many people from Bangladesh, we think they are from north India. They make all documents faster than everyone else. They make ration card and Aadhaar card faster than us. I still do not have ration card. We ask them later, then they say they are from Bangladesh. We discussed this in the district office. Then they said, "let them be from any country, now that they are here, we will give them education." We are giving everyone free education. From wherever they come, there is admission in government school. That is one big advantage for migrant children. Many teachers do overtime, participate in surveys, make friends with parents and try to get children to school. After we make the admission, the parents will not be here, they will move to another place.
>
> (Personal Communication, 13 September 2017)

The education functionary, here, assumes that the government school being "free" and "open to all" is a sufficient condition for migrant families to enrol their children in schools. The Right of Children to Free and Compulsory Education (RTE) Act, 2009 facilitates provisions, such as admitting children during any time of the year (Section 15), without documentary compulsion (Section 14) and to an age-appropriate class (Section 4). However, the actual modalities of migrant children's enrolment, attendance and retention in schools remain ambiguous and challenging (Chandrasekhar and Bhattacharya 2018). And ill-founded and prejudiced perceptions about parental interest and willingness not only ignore the structural conditions of migrant children's exclusion, but also how universal frameworks of "free" and "open to all" education contradictorily engage with migrant childhoods.

Perspective of NGOs

Most NGOs[1] (if not all) engage with migrant families and children with similar assumptions and beliefs about parental motivation, as reflected in the introductory narrative. Schooling is equated to an instrumental "give-and-take" transaction that involves incentivisation through material benefits, such as free food, clothes and school bags. Using tangible incentives to bring children to school is quite prevalent in the Indian education discourse (Sharma 2013). Incentivisation in itself does not appear to be a problem, but the manner in which it was unfolded in everyday spaces was so rigid that in one of the NGOs, several children were sent back to settlements if they came to school "only for food" (Field Observation, 13 February 2017). Older children in the settlements, who had huge learning gaps and several domestic responsibilities, would often come to the NGO school only during lunch hour, but were denied food because of their irregular attendance. In another NGO, conditional incentivisation, such as presenting "attendance gifts" to children who come to the school regularly, was used as a mechanism to encourage children to attend school (Field Observation, 19 April 2018). Similar to how in the former NGO, the rigid provision of incentivisation negatively affected children's access to food, many children in the latter NGO were often put in the spotlight and made answerable for their irregular attendance.

Many NGO functionaries thought that migrant families in the city are not "impoverished" as one might imagine. They are alleged to be extravagantly investing on food items, clothing, mobile phones and cultural events, instead of prioritising children's education.

> Though we assume that migrant children are vulnerable, at the end of the intervention, we feel that they are no longer vulnerable. They get everything free for their education. Migrant families also have their own system of survival and perceptions, their own decision making. They spend a lot during festivals and marriages. They buy smart phones and eat lot of non-veg food too. But when it comes to investment in their children's education, they are not willing. Sometimes we think poor are really poor, but they earn good amount of money. (Founder member of an NGO, Personal Communication, 30 June 2016)

> We provide all facilities to these families, free food, health check-up and many other things. Parents are carefree. They have everything actually. If you observe, all these children who come to my school are "chubby" looking, they are not "stunted/malnourished." (Principal of an NGO school, Personal Communication, 30 January 2017)

> These kids, you know, are so irregular. They come for two days, become absent for one day. Then again come for one day, then again absent. How do we make them understand? Today I teach something, and next day the child is not in class. What to do in such situations? Simply they will not come, this reason, that reason, stomachache and other silly excuses. Most often their parents are not sincere. Sometimes parents want their children to do their housework. They are not understanding that they are playing with their children's lives. They don't understand the value of education. Some people understand, and their lives become very different. (Teacher in an NGO, Personal Communication, 20 March 2018).

Differential construction of migrant families and children and the moral imperative of NGOs to reform the "shed" children is often done in a punitive and surveillant manner. During the fieldwork, NGO workers sometimes introduced the author as a police official who came to inspect if all parents were sending their children to school. Often, it was told to parents, in a rather condescending tone, that it was a punishable offence if they did not send their children to school. On the one hand, families are often reminded of their legal and moral responsibility to send children to school. On the other, their voices and agency in matters of children's care and education are taken for granted, as illustrated in the following instance.

In February 2017, one of the NGOs was partnering with the government in implementing the mass immunisation drive for measles and rubella vaccination meant for "schoolgoing children" below 15 years of age. Campaigns and debates were taking place across the city against the vaccination for the lack of information about the benefits and risks of the vaccination and the flouting of parental consent (Gunnupuri 2017). While there were various platforms for middle- and elite-class parents to raise concerns, awareness and consent of "poor" families were taken for granted. In an orientation programme, one of the government health workers said that the reason people question the vaccination was because it was given to them "free of cost," and if it was charged, they would accept all the dangers associated with it (Field Observation, 6 February 2017).

In the community meetings organised by NGO-1, to obtain parental consent for the vaccination, teachers were focused on obtaining signatures of consent from parents rather than providing proper information about the vaccination (Field Observation, 9 February 2017). One of the teachers took signatures from families who said they did not have children at home, as she was instructed to obtain consent from as many families as possible. This indicates how poor parents are expected to be reticent about "free" state provisions and that their actual awareness and accord do not matter. These narratives indicate how accountability is often perceived as one-sided, where poor parents are morally bound to educate their children but, at the same time, not entitled to receive adequate information or hold educational providers accountable.

Migrant children, on the one hand, are considered to be included in the education system by virtue of their "nominal" presence in the school registers (Srivastava and Dasgupta 2016). At the same time, their lifeworlds stretch across multiple locations (Mander et al 2019; Rogaly and Thieme 2012) and necessarily entail their absence in a sedentary system of schooling.

Navigating Presence and Absence

Similar to how migrant families are socially and politically disfranchised through the ideals of a sedentary citizen subject (Mander et al 2019; Roy 2016), migrant children are educationally disfranchised through the sedentary imaginaries of the modern schoolchild.

Rajan (2019) demonstrates how unanticipated events can further aggravate the informal and precarious conditions of migrant lives in the city and shape the educational possibilities of migrant children. An extreme example of this is the mass exodus of hundreds of migrant families and children from various Indian cities in the event of the COVID-19 pandemic and the ongoing nationwide lockdown. Various news reports observe that the pandemic is likely to severely affect the family income, health, education and well-being of migrant children, and it is essential to ensure their inclusion in source villages (Daniel and Ravindranath 2020; Rozario 2020). Despite migrant parents' willingness and aspirations for their children's education, their nowhere locations in the discourses of development and education place them at odds with the "free" and "open-to-all" framework of educational inclusion in India. Unless such marginal locations of migrant citizens and child subjects are acknowledged and addressed, the blame game of reproving "Nandan" for exploiting the abundantly (and ostensibly) available "chandan" will not only remain inoperable but also discriminating.

NOTE

1 The author did come across some NGOs in Bengaluru that reflectively and empathetically engaged with the marginal contexts of migrant families and children.

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India's Government Health Expenditure as the Ratio to GDP
Is It a Fallacy?

T R DILIP, PRATHEEBA J, SUNIL NANDRAJ

The appropriateness of the criterion that pegs the ratio of public health expenditure to the gross domestic product—which is volatile—needs a re-examination. The targets for allocation and expenditure of financial resources for health need to be based on indicators that can be monitored.

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T R Dilip (*diliptr@hotmail.com*) teaches at the International Institute for Population Sciences. Pratheeba J (*pratheebaj@gmail.com*) is a health economist and has worked on the National Health Accounts Estimates for India at the Ministry of Health and Family Welfare. Sunil Nandraj (*sunil.nandraj@gmail.com*) is a health researcher and has worked in the areas of health systems and financing.

COVID-19 has put the nation's focus squarely on India's healthcare system. India's diverse and mixed healthcare system is burdened with the issues of quality, accountability, access, equity, affordability, and provision of services to its citizens. The COVID-19 pandemic has exposed these challenges highlighting an underfunded and inadequate public health system and a lack of accountability of the mostly unregulated private sector. One of the main reasons for the poor condition of public health system is due to a long history of underfunding by the central and state governments. The existing healthcare system and its infrastructure has not been able to adequately and efficiently respond to the COVID-19 pandemic.

Historically, budgetary allocations for health have always fallen short of requirements. The proportion of revenue expenditure on health in the total revenue expenditure of the government remained below 4% between the 1960s and the 1980s, which even declined to below 3% in the early 1990s (Duggal et al 1995). The share of the government health expenditure (GHE) in the total government expenditure (TGE) was below 3% in the early 2000s, which marginally increased to above 3% in 2005–06 (Berman and Ahuja 2008). Since then the GHE has hovered around 4.4% of the TGE (MoHFW 2019a). The ratio of health expenditure to the gross domestic product (GDP) for the country was below 1% between 1975–76 and 2003–04 (Rao et al 2005) and since then it has been remained between 1.1% and 1.3% of the GDP (MoHFW 2019b).

Policy statements to increase the GHE to 2.5% to 3% of the GDP have been a mantra followed by the various governments in power, expert committees among others over the years. The National Health Policy (NHP) of 2002 sought to increase the share of GHE from 0.9% to 2% by 2010 (NHP 2002). The National Rural Health Mission also emphasised the need to raise public spending on health from 0.9% to 2%–3% of the GDP (GoI 2005). The NHP, 2017 envisages to increase health expenditure as a percentage of the GDP from the existing 1.15% to 2.5% by 2025 (GoI 2017). The Fifteenth Finance Commission has recommended increasing government spending on the health to 2.5% of the GDP in four years from 0.95% at present (GoI 2020). The *Economic Survey 2020–21* highlights that the share of out-of-pocket (OOP) expenditure in the total health expenditure in India will decline from 65% to 30% if there is an increase in the GHE from 1% to 2.5%–3% of the GDP (GoI 2021b). However, there has been no substantive evidence in policy documents on how the estimations have been arrived at of 2% to 3% of the GDP and who is going to fund it, whether the centre or states, and in what proportion.

The discussions, debates, and demands at the policy level have largely focused towards increasing the GHE as a proportion to the GDP to universalise access to healthcare services and reduce the high burden of OOP expenditures incurred by households. This article examines limitations in the use of GHE as ratio to GDP for setting targets for health spending in the country. It argues that this premise

may not be the correct way to determine the importance and sufficiency of funding to public health systems. It illustrates the need for alternative indicators to monitor allocation and expenditures on health. This article argues and suggests on the need for setting health expenditure targets in relation to the TGEs. It also examines the nature of increase that is required in annual budgetary allocation by the central and state governments in India in order to attain their health financing targets.

The National Health Accounts for 2016–17 estimates the GHE at 25.3% of the total health expenditure in India, out of which the state government spending was 15.8%, the central government was only 8.7%, and the local governments accounting for 0.8%. The OOP expenditure by households accounted for 68.1%, external grants 0.6%, insurance contribution from employers for their employees 1.8%, revenues from corporations 2.8%, and non-governmental organisations 1.4% (MOHFW 2019a).

In this article, the TGE is the sum of revenue expenditure and capital disbursements in the budgets of the central and state governments in a financial year. The GHE is the sum of health expenditure incurred by the central and state governments. It excludes expenditure on water supply, sanitation, and nutritional supplementation programmes carried out by ministries other than the Ministry of Health and Family Welfare (MOHFW). Here, the GHE constitutes the spending under all schemes and programmes funded and managed by the central and state governments, including quasi-governmental organisations and external donors in the case funds that are channelled through the government budgetary process. We have excluded the contribution of the local government in the GHE as data is not consolidated annually. The data on health sector financing by the centre and states prepared and released by the MOHFW between 2004–05 and 2017–18 was compiled and analysed.[1]

Table 1: Levels and Trends in the GDP, Total Government Expenditure, and Health Expenditure by the Central and State Governments

	2004–05 to 2006–07	2007–08 to 2009–10	2010–11 to 2012–13	2013–14 to 2015–16	2016–17 to 2017–18
			(₹ crore)		
GDP at market prices[1]					
Current prices	37,43,428	56,98,327	88,23,833	1,25,08,335	1,62,30,346
Constant prices (2011–12 base year)	60,14,138	73,44,237	88,06,598	1,05,81,134	1,27,40,364
Total government expenditure[2]					
Current prices	9,79,595	15,89,026	24,20,616	33,48,707	43,90,958
Constant prices (2011–12 base year)	15,75,072	20,43,740	24,17,029	28,32,120	34,48,402
Government health expenditure (central + states)[3]					
Current prices	34,374	56,956	95,852	1,40,031	2,18,697
Constant prices (2011–12 base year)	55,154	72,985	95,620	1,18,339	1,71,555
Health expenditure: central government					
Current prices	9,910	20,269	32,816	40,900	65,554
Constant prices (2011–12 base year)	15,852	25,952	32,802	34,619	51,296
Health expenditure: state governments					
Current prices	24,463	36,687	63,037	99,131	1,53,143
Constant prices (2011–12 base year)	39,302	47,033	62,817	83,720	1,20,259
			(figures in percentages)		
Average annual growth in constant prices					
GDP	NA	6.7	6.1	6.1	7.4
Total government expenditure	NA	8.7	5.6	5.3	7.9
Government health expenditure: centre + states	NA	9.3	9.0	7.1	14.9
Health expenditure: central covernment (CGHE)	NA	16.4	7.8	1.8	15.7
Health expenditure: state governments (SGHE)	NA	6.0	9.6	9.6	14.5
Expenditure as % of GDP					
Total government expenditure as % of GDP	26.17	27.89	27.43	26.77	27.05
Government health expenditure as % of GDP	0.92	0.99	1.09	1.12	1.35
Central government health expenditure as % of GDP	0.26	0.35	0.37	0.33	0.40
State governments health expenditure as % of GDP	0.65	0.64	0.71	0.79	0.94
Government health expenditure as % of total government expenditure	3.51	3.58	3.96	4.18	4.98
Distribution of health expenditure by central and state governments					
% central government	28.7	35.6	34.3	29.3	29.9
% state governments	71.3	64.4	65.7	70.7	70.1

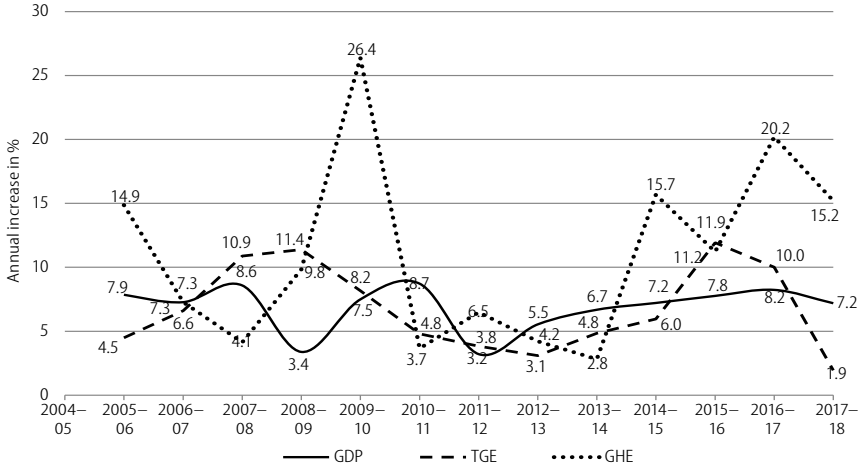
Sources and Notes:
1 GDP data from https://databank.worldbank.org/source/world-development-indicators#, viewed on 30 May 2021.
2 Total government expenditure sourced from *Handbook of Indian Economy* various years, available at https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+Economy.
3 Government health expenditure compiled from: (a) National Health Accounts: 2004–05, NHA Cell, MoHFW, Government of India, (b) Health Sector Financing by Centre and States/UTs in India (2011–12 to 2014–15), (2013–14 to 2015–16), (2014–15 to 2016–17), and (2015–16 to 2017–18), NHA Cell, MoHFW, GoI; GDP deflator used for converting budgetary expenditure data to constant prices.

GDP as a Denominator

At the global level, the expenditure on health as a proportion to the GDP[2] is used to facilitate a standardised international comparison of health expenditure across countries, time and space has been on comparative terms. Following global practices, Indian policy planners and researchers use this indicator to analyse public spending on health in the country. While it is believed that as the economy grows, the government spending also increases, which in turn impacts government spending on health. However, this does not get reflected in the Indian scenario. The annual rate of growth of the GDP has been highly fluctuating over the study period; it declined from 7.9% in 2004–05 to 3.4% in 2008–09 and suddenly increased to 8.7% in 2010–11 and reduced to 3.2% in 2011–12, again increased to 5.5% in 2012–13 (Figure 1, p 23). However, the growth in the GHE follows a completely different pattern and does not seem to be associated with the GDP growth rates (correlation coefficient 0.216 between changes in the GDP in a fiscal year and changes in the GHE between 2004–05 and 2017–18). Neither does the TGE growth rate seems to be following pace with the GDP growth rates.

The data (2004–05 to 2017–18) on the health expenditure incurred by the central and state governments and the GDP and TGE for corresponding years are presented in Table 1. The three-year average of the GHE, TGE, and GDP is presented

Figure 1: Annual Rate of Increase in the GDP, Total Government Expenditure, and Government Health Expenditure, 2004–05 to 2017–18 (2011–12 Prices)



here to account for the observed annual-level fluctuations in the rate of change in these indicators seen in Figure 1. The average annual increase in the GDP measured in real terms (that is, after adjusting for price rise) during this period ranged between 6.7% and 7.4% and for the TGE, the average annual increase varied between 5.3% and 8.7%. The average annual increase in the GHE varied between 9.3% during 2004–07 and 2007–10 and 14.9% during 2013–16 and 2016–18. Hence, the rate of increase is faster for GHE followed by the TGE and the GDP.

Between 2004–05 and 2017–18, when there was a nominal increase in the TGE as a percentage of the GDP from 26% to 27%, the GHE as percentage of the GDP increased from 0.9% to 1.3%. The GHE as percentage of the TGE increased from 3.5% to 5% during the same period. Despite a substantial increase in the GHEs during this period, it is much below the targets set for the GHE in the country. Hence, allocation for health sector needs to be increased considerably in order to move closer to the targets mentioned in the health policy documents.

As seen above, the main issue of concern when the GDP is used as a denominator, while setting targets for the GHE is the paucity of evidence on the association between the GDP and allocation of financial resources for health sector in government budgets. Targeting expenditure based on the ratio of two indicators that are distinct is unrealistic. The fact that there is a lack of association between the GHE and GDP is probably due to the fiscal federalism in the case of health sector in India where state governments contribute nearly 70% of the GHE as shown in Table 1, while the central government only accounts for 30%. The growth in the net state domestic product (NSDP) varies across states and will not be in line with growth in the national GDP. The GHE–GDP ratio that is often used for target setting for public spending on health is not sensitive to state-level variations in the NSDP.

The second issue in using the GHE–GDP ratio in setting health financing goals for the public sector arises out of the operational issues in implementing and monitoring such targets. The GDP/NSDP, as is known, gets estimated only after the end of the financial year, while financial allocation for health sector in government budgets is made before the start of the financial year. The governments at the central and state levels only have a forecasted estimate of the GDP/NSDP at the time of budgetary allocation for health sector nor is there a practice of referring to the GDP growth when the Ministry of Finance examines the proposal from the MOHFW for their share in the budgetary allocation. This nullifies any scope for using the GDP to monitor allocation for health sector in the central and state budgets.

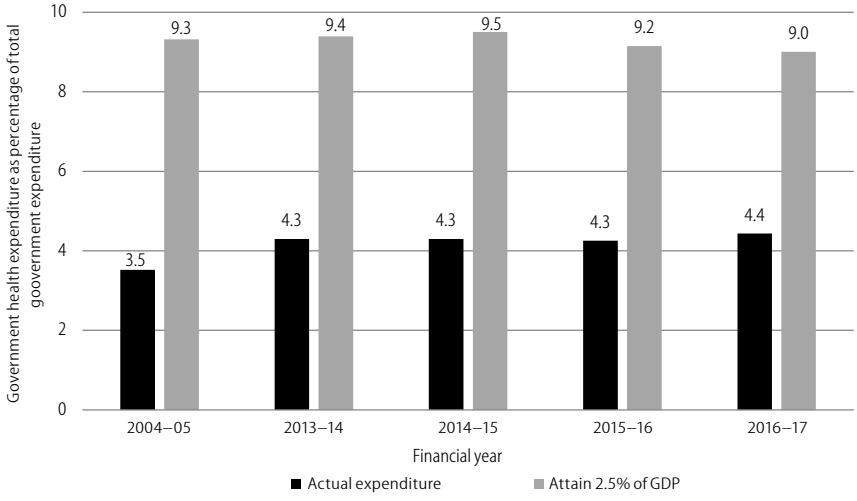
There are other reasons; first, the GDP is seen as a measure of economic output and not of welfare, whereas health expenditures are aimed at improving the health and well-being of the population. In that sense, the GDP appears to be a broad concept wherein it accounts for the spending by different groups that participate in an economy towards consumption, government spending, investments, and net exports, while the GHE is dependent on the revenues realised from governments' own taxes and not on the economic growth. Further, healthcare spending is sensitive to changes in prices, especially in low-income countries wherein a small cost variation for important healthcare products makes a vast difference in their demand (Esteban and Roser 2020). Moreover, the prices of healthcare are affected by productivity changes in other markets. Baumol's "cost disease" theory suggests that if the productivity of the healthcare industry increases slower than that of other industries, then prices in the healthcare sector are likely to grow faster than inflation and therefore, the share of health expenditure to GDP is likely to increase (Helland and Alex 2019).

TGE-based Targets for Health Expenditure

Planning and resource allocation and spending for health or any other sector requires an advanced foresight of the resources available for disposal at that particular point of time. In India, budgets get formulated towards the end of the third quarter and are finalised at the beginning of the fourth quarter. Although the growth in GHEs is not consistent with that for the TGE, it could be a better indicator for setting health financing targets. Here, we consider that the financial resources available with the government has a greater influence than the GDP during the annual budgeting for health sector in the country. This could enable timely monitoring of allocation as well as expenditures for health sector in the central and state government budgets. In addition, the replacement of the GHE–GDP target with the GHE–TGE target would streamline the government's accountability towards the GHE targets in the national health policies during pre- and post-budgetary discussions.

We examined the gap between the actual GHE and the national targets for the GHE reported in public policy documents mentioned earlier. We attempted to understand how much the governments—both centre and state—need to invest annually to attain the desired targets of GHEs. Figure 2 (p 24) represents

Figure 2: Share of the Government Health Expenditure Out of the Total Government Expenditure Required to Move Closer to the Policy Target of 2.5% of the GDP



the share of expenditure for health sector that is required from the central and state governments to adhere to the GHE targets. The five time point analysis from the different National Health Accounts estimates for India indicate that in the present scenario, the GHE as a percentage of the TGE needs to be increased to 9% (against 4.4% at the current levels) to reach up to the target level of 2.5% of the GDP mentioned in the NHP, 2017.

The above analysis highlights the fact that it is more realistic to monitor allocation of 9% in annual budget as against monitoring the allocation and expenditure of 2.5% GDP in the annual budget wherein the amount of the GDP remains undetermined at the point of decision-making for allocation to the MOHFW sector and is an abstract figure. The policy planners need to debate and demand, during budget process, a pathway for increased demand for investments in health that allows the government to allocate and spend 9% and determine the allocation ratios for the centre and states.

The debate on the GHE is incomplete until we highlight the changes in central and state governments' health expenditures. As per the Indian Constitution, health is a state subject where state governments are expected to implement healthcare programmes and services. The central government plays a key role in designing national policies and guidelines for healthcare and finance the centrally sponsored schemes. Constant price data indicate that there has been a threefold increase in both the central and state governments' expenditures on health between 2004–05 and 2017–18 as shown in Table 1. The average annual change in the central government health expenditure (CGHE) varied between 1.8% during 2010–13 and 2013–16 and 16.4% during 2004–07 and 2007–10, and the state government health expenditure (SGHE) varied between 9.6% and 14.5%. Changes in the CGHE is observed to be more fluctuating than in the case of the SGHE. The share of the CGHE in the GHE varied between 36% during 2007–10 and 30% during 2016–18, while the SGHE in the GHE varied between 64% and 70% during the respective time periods. Variations in the SGHE is less because most of it is spent on salaries, administration, and other recurring expenditure that are path-dependent and not flexible, while CGHE is more discretionary and is also linked to schemes that are being implemented.

In Conclusion

Evidence shows that the changes in the GHE and GDP are unrelated in the Indian context, and there is a need to use indicators that can be measured and monitored while setting targets for the GHE in the country. In fact, the GHE has grown at a much faster pace than the GDP growth rates in India over the last decade. Even the global data indicates that the health spending in the last two decades has been growing faster than the GDP across most countries (WHO 2019). Hence, we propose that health policy planners need to use an indicator that is measurable at the time of allocation of financial resources for the health sector in the national or state budgets for setting targets and monitoring expenditures over time. The proposed GHE–TGE-based indicator would assist in monitoring and tracking resource flows for health and that will enable central and state governments to identify additional resources and better operational mechanisms for increased health spending. The central and state

governments needs to be held accountable for the allocation, disbursal, and non-utilisation of funds. Allocating increased resources needs to be coupled with building the capacities of governments at all levels to utilise the allocated funds for health efficiently and in time. The fact that the government has larger influence on the TGE than on the GDP level is the main reason for recommending it as an indicator on government's commitment to allocate financial resources for health in the country. Therefore, we cannot continue to randomly propose a target for government health spending. The future public policy statements and policies need to have the GHE targets that can be monitored effectively and bring in accountability as well as transparency in the government's commitments to respective health spending; it can only be effective when we have an estimate of what we need to address as a priority health concern and how much resources it takes to deliver the required services.

NOTES

1 It is to be noted that the GHE estimates presented in this article using the MoHFW data also includes the expenditure incurred by the central and state governments for their dependents of government employees and their families and minor health expenditure incurred by central ministries and hence will be marginally higher compared to the estimates presented in other studies.

2 In India, contributions to the GDP are mainly divided into three broad sectors—agriculture, industry, and services. The GDP is measured over market prices, and there is a base year for the computation. The GDP growth rate is the most important indicator of economic health as it measures how fast the economy is growing. Nominal GDP is the value of all final goods and services that an economy produces during a given year; it is not adjusted for inflation. It is calculated using the prices that are current in the year in which the output is produced. Real GDP, in contrast, measures the total value of all final goods and services that the economy produced during a given year, after accounting for inflation. It is calculated using the prices of a selected base year. The GDP is calculated in India at factor cost and market prices. The GDP at factor cost assesses the performance of different industrial sectors in the economy, while the GDP at market prices encompasses all the domestic expenditures that are inclusive of the household consumption, net investments (that is capital formation), government costs, and net trade (exports minus imports).

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India's Withdrawal from RCEP
Deciphering Commodity-level Undercurrents

BIBEK RAY CHAUDHURI, DEBASHIS CHAKRABORTY

One major driver behind India's decision to embrace the "eastern" regional trade agreements during 2010–11 and graduate from the "Look East Policy" (1991) to the "Act East Policy" (2014) has been the urge to integrate the domestic manufacturing sector with "Factory Asia." The article analyses India's trade pattern through an endogenous structural break analysis with monthly data for 10 major sectors, involving the Association of Southeast Asian Nations, China, Japan, and South Korea separately. The analysis concludes that the recent stream of events in the aftermath of the COVID-19 pandemic offers India an opportunity to consolidate the domestic manufacturing sector.

Bibek Ray Chaudhuri (*rcbibek@gmail.com*) and Debashis Chakraborty (*deb.chakb@gmail.com*) teach at the Indian Institute of Foreign Trade, Kolkata.

In "India's Withdrawal from the Regional Comprehensive Economic Partnership," Biswajit Dhar (*EPW*, 16 November 2019) has argued that joining the Regional Comprehensive Economic Partnership (RCEP) would have resulted in major conflicts with the "Make in India" policy launched by the Government of India (GoI) in 2014. Through the analysis of India's trade patterns with regional trade agreement (RTA) partners (the Association of Southeast Asian Nations [ASEAN], Republic of Korea [ROK] and Japan) and the largest trade partner (China) over 2010–17, the analysis observed that India has largely remained unsuccessful to significantly exploit market-access opportunities in these export destinations. Apart from worsening the overall trade balance, growing imports in major subcategories like capital goods and intermediate products in general and even consumer goods for some partners in particular (for example, ROK) underlined the intensified competition faced by domestic manufacturing sector from the "east."

The current analysis supplements the core arguments of Dhar (2019) through the following exercises. The monthly trade data up to 2019 has recently been available in the key databases. First, through an endogenous structural break analysis with monthly trade data for 10 major sectors, the influence of India's participation in the "east" has been identified, by considering ASEAN, China, Japan and South Korea separately. The sectors considered here include: mineral fuels (HS 27), organic chemicals (HS 29), pharmaceuticals (HS 30), knitted or crocheted garments (HS 61), garments not knitted or crocheted (HS 62), gems and jewellery (HS 71), iron and steel (HS 72), machineries (HS 84), electrical machineries and equipment (HS 85), and vehicles and auto-components (HS 87), all of which are major contributors to production, employment, and exports in India. Second, the penetration of the RCEP countries in the domestic value added (DVA) content of India's export has been commented upon. Third, the aggregate trade balances of RCEP players are analysed over 2001–19. And finally, based on the observations, policy conclusions are drawn.

Structural Break Results

Countries sign trade pacts to enhance the cross-border flow of goods and services which otherwise would have been difficult to achieve. It is thus expected that such agreements, if successful, would change the course of international trade. Unfortunately for India, most of the studies show that trade pacts have at best increased trade deficits (RBI 2019; Sikdar and Nag 2011). In this article, we have used bilateral monthly commodity-level export and import data involving India and the select RCEP trading partners. To identify whether the trade pacts with these countries, except for China, did at all change the course of exports and imports for India, we have used multiple structural break analyses popularised by Bai and Perron (1998, 2003). The reason for expecting multiple breaks is that the period for analysis, 2007 to 2019, saw several changes, which have the potential to alter the trade structure multiple times.[1] The analysis has been conducted with GoI (nd) and United Nations (UN nd) data.

Bai and Perron (1998, 2003) extended the work of Quandt (1960) on single endogenous structural break. Their significant contribution was to allow for more than two endogenous structural breaks, which are possible for a data set having more than 100 observations. The method works through partitioning the data and checking whether the coefficients change across them. Ordinary least squares (OLS) is applied to perform the test subsequently. Thus, if the base equation estimation suffers from the problem of heteroscedasticity or autocorrelation, then the test for both number of breaks and identification of break dates can both turn erroneous. Andrews (1991) developed heteroscedasticity and autocorrelation consistent (HAC) estimators using weights

given by kernel function with automatic bandwidth section. Our empirical strategy thus was to first run the OLS for the chosen variable (for example, Indian export) for the trade partner (for example, ASEAN) on a constant to check for presence of heteroscedasticity and autocorrelation. If found present, we have used the HAC estimates given by Andrews (1991). To identify the number of break points, we have used information criteria which penalises the inclusion of any additional break in order for the process to converge towards the true value of the number of breaks (Jouini and Boutahar 2005). Modified Schwarz criterion (LWZ) (Liu et al 1997) has been used as a model selection criterion to identify the number of break points. Bai and Perron (2003) vouches for LWZ as a better criterion under the null of no structural break.

As India has entered into an RTA with ASEAN, Japan, and South Korea during 2010–11, it is expected that the structural breaks in sectoral trade would occur after the tariff preferences have been implemented. In contrast, as China and India do not have a "deep" formal RTA, structural breaks in bilateral trade pattern may not follow an explicitly observed policy shift. Conversely, the absence of structural break despite RTA

Table 1: Structural Break Analysis for Indian Exports to Select RCEP Partners over 2007–19

Code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Export to ASEAN											
27			M12			(M9)					
29			M11					~~(M2)~~		M12	
30				M3					M9		
61							M3				
62					M7						
71				M1							
72									M12		
84			M9			M2				M12	
85										M3	
87			M6							M8	
Export to China											
27										M10	
29			M9							M9	
30						NB					
61			M10			M10				M10	
62				M2			M12				
71			(M1)								
72						NB					
84			M10							M9	
85		M4							M1		M2
87				M1				(M1)			

Code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Export to Japan											
27			M1		M1		(M8)				
29				M5			M8				~~(M2)~~
30				M7							
61						M1					
62				M1							
71	(M12)										M1
72						NB					
84						M1					M1
85				M9							
87					M6			M10		M10	
Export to South Korea											
27						NB					
29			M10								
30						NB					
61				M12						M12	
62				M6						M12	
71					M9						
72						NB					
84								M12			
85											M2
87		(M1)								M3	

Source: Authors' estimation.

Table 2: Structural Break Analysis for Indian Imports to Select RCEP Partners over 2007–19

Code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Import from ASEAN											
27				M2				(M6)			~~(M2)~~
29			M2			M1		(M8)		M9	
30				M4							
61						M5		M7		M12	
62					M8			M12		M12	
71			M10							M2	
72							M6				M2
84						NB					
85				M4							M2
87			M6				M4			M7	
Import from China											
27	M12										
29			M5			M10				M12	
30			M5			M10					
61				M6			M7			M8	
62				M7			M7				
71						NB					
72							M5		(M4)		
84		M4		M5						M3	
85				M5				M7			
87		M6		M5						M6	

Code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Import from Japan											
27						NB					
29		M12									M2
30		M12									
61						NB					
62						NB					
71			~~(M7)~~		~~(M6)~~						M2
72		M8		M9					(M2)		
84				M4		(M4)					~~(M2)~~
85				M5		(M6)				M3	
87		M3									
Import from South Korea											
27						NB					
29		M12			M5		(M10)			M3	
30				M6							
61						NB					
62						NB					
71						NB					
72			M5							M7	
84			M3			(M7)					~~(M2)~~
85							M7				
87		M8									

Source: Authors' estimation.

participation may indicate either poorer competitiveness or trade pattern mismatch. The results for export and import series, by month of occurrences are summarised in Tables 1 and 2 (p 27), respectively.[2]

After identifying the breaks, we went back to the data to see whether the change is positive, negative, and in either case, was it a temporary spike or dip. A temporary spike (entries underlined, Tables 1 and 2) or a dip (entries with a bracket and strike through, Tables 1 and 2) may be a result of shock or policy change with a momentary impact. The rest are either structural trends in the positive direction or in the negative direction (in brackets, Tables 1 and 2). While positive structural changes dominate both exports and imports series, the frequency is visibly higher in the latter.

The following conclusions emerge from the results. First, while for ASEAN and Japan, a number of structural breaks in the export series occur around 2010–11, for South Korea, particularly in the technology-intensive sectors, the breaks have occurred after 2015, underlining India's modest entry performance. Second, Indian export success in RTA partner markets for several sector has been short-lived. For instance, HS 27 exports have declined in ASEAN and Japan after 2013 and 2014, respectively, while in Korea, there is no structural break. The presence of no structural breaks in pharma exports in South Korean market and iron and steel exports in Japanese and South Korean market deserve mention. Third, despite the absence of a formal RTA, exports have witnessed structural breaks, and therefore upward movement in China, barring the exception of HS 29, 71, and 87. Fourth, on the import front, the number of structural breaks signifying upward movement have been greater involving ASEAN and China, barring minor exceptions (for example, HS 72 from China). While a decline in import for certain sectors involving Japan and South Korea has been witnessed during 2013–16 (for example, HS 84), a subsequent revival is also noticed. The scenario is most apparent for China, where the multiple structural breaks indicate unceasingly rising imports. On the whole, in the RTA markets, India's export performance has been modest, while imports have sharply increased. Similarly, imports have increased from China at a much sharper rate than exports, as evident from the timeline of structural breaks. India's unfavourable trade deficit with the "eastern" RTAs can be clearly sensed from the result.

Trade in Value Added

One fallout of the sharper rise in imports has been witnessed in the displacement of the domestic producers of intermediate products across industries. The DVA content in sectoral exports, a measure of domestic industry's maturity, can be obtained from the Organisation for Economic Co-operation and Development's (OECD) Trade in Value Added (TiVA) database (OECD 2018). Table 3 summarises country-wise source of value addition in final Indian exports in percentage terms for six major commodity groups, namely base metals and fabricated metal products, chemicals and non-metallic minerals, machinery and equipment, computers, electronic and electrical products, textile, leather and footwear, and transport equipment. All these sectors are highly integrated with the Asian international production networks (IPNs). The proportional share of India reported in the table signifies the DVA content of exports. For instance, India's DVA content in machinery and equipment exports during 2005–15 have been 72.61 and 69.20%, respectively, underlining the country's growing relative dependence on imported parts and components.

A couple of interesting observations emerge from a look at OECD data. First, the DVA content of Indian exports has sharply declined after the tariff reforms since late 1990s, particularly after the deeper RTA participation from 2010 to 2011 onwards. The rising shares of ASEAN, China and South Korea in India's manufacturing exports underline its growing dependence on imported intermediate imports from these partners. For instance, policies to enhance

Table 3: The Domestic Value Added Content of Indian Exports (2005 and 2015)

Source Country for DVA (%)	2005						2015					
	Base Metals and Fabricated Metal Products	Chemicals and Non-metallic Minerals	Machinery and Equipment	Computers, Electronic, and Electrical	Textile, Leather, and Footwear	Transport Equipment	Base Metals and Fabricated Metal Products	Chemicals and Non-metallic Minerals	Machinery and Equipment	Computers, Electronic, and Electrical	Textile, Leather, and Footwear	Transport Equipment
Australia	5.15	0.81	4.00	4.71	0.41	2.57	2.99	0.68	1.79	1.89	0.31	1.20
China	1.80	1.12	1.73	3.02	1.91	1.62	3.75	3.34	4.43	6.53	3.82	4.17
Chinese Taipei	0.22	0.27	0.25	0.58	0.16	0.27	0.22	0.24	0.28	0.50	0.12	0.25
Hong Kong, China	0.13	0.10	0.14	0.21	0.35	0.16	0.11	0.08	0.11	0.12	0.23	0.13
India	67.19	67.39	72.61	65.36	84.69	74.62	63.56	67.27	69.20	63.76	83.61	73.64
Indonesia	1.34	0.40	0.57	0.58	0.30	0.49	2.96	0.78	1.19	1.03	0.44	0.90
Japan	0.90	0.67	0.96	1.49	0.58	1.09	1.01	0.59	1.04	1.07	0.46	1.01
Malaysia	0.64	1.80	0.52	0.75	0.49	0.53	0.46	0.42	0.49	0.66	0.21	0.38
South Korea	0.67	0.39	0.79	1.65	0.39	0.95	0.99	0.58	1.12	1.36	0.45	1.06
Singapore	0.25	0.32	0.32	0.82	0.26	0.40	0.30	0.43	0.34	0.59	0.35	0.41
Thailand	0.21	0.27	0.21	0.33	0.28	0.24	0.25	0.28	0.29	0.38	0.28	0.30
Vietnam	0.07	0.04	0.04	0.05	0.03	0.04	0.12	0.09	0.13	0.16	0.10	0.11
ASEAN	2.56	2.84	1.70	2.59	1.37	1.73	4.20	2.15	2.54	2.95	1.43	2.19
EU 28	5.59	3.15	5.18	6.05	2.56	5.37	3.93	2.76	4.31	4.88	2.16	4.02
US	1.83	1.60	1.90	3.02	1.18	2.09	3.16	1.72	3.47	4.38	1.22	2.89
OECD members	16.53	7.96	14.56	19.04	5.82	13.55	16.49	7.34	14.03	16.26	5.18	11.88

Source: Computed by the authors from OECD (2018) TIVA data.

Table 4: Intra-RCEP Average Trade Balance Scenario ($ billion)

Country	With RCEP				With India				With China				With ASEAN			
	2001–05	2006–10	2011–15	2016–19	2001–05	2006–10	2011–15	2016–19	2001–05	2006–10	2011–15	2016–19	2001–05	2006–10	2011–15	2016–19
Australia	1.20	18.52	45.23	29.20	2.11	8.95	7.71	5.62	-3.88	0.93	30.52	22.73	-5.77	-17.64	-17.84	-12.67
Brunei	3.42	7.47	7.20	2.08	0.30	1.32	0.42	-0.02	0.15	0.10	-0.13	-0.63	0.34	0.66	0.22	0.29
Cambodia	-0.99	-2.12	-5.22	-9.25	-0.01	-0.04	-0.10	-0.08	-0.26	-0.81	-2.65	-4.59	-0.57	-0.99	-2.25	-4.64
China	-52.48	-100.01	-86.03	-45.75	-0.58	12.22	34.05	53.44	–	–	–	–	-13.71	-10.33	36.66	59.95
India	-6.88	-39.67	-74.45	-98.00	–	–	–	–	-1.60	-17.69	-42.06	-54.88	-0.86	-6.23	-9.80	-16.56
Indonesia	15.74	14.30	-2.36	-6.49	1.04	4.28	8.71	8.65	0.60	-1.60	-9.13	-15.05	2.10	-4.89	-10.06	-1.32
Japan	-11.36	-7.82	-59.96	-32.57	0.09	2.19	2.75	4.54	-23.14	-15.87	-44.77	-34.75	3.02	1.44	-4.57	1.66
South Korea	-6.49	-4.82	50.43	57.44	1.27	3.18	6.05	9.19	13.58	26.41	53.25	41.60	1.40	6.47	27.14	37.80
Laos PDR	–	-0.01	-1.08	-0.32	–	-0.01	-0.01	0.10	–	0.04	-0.09	0.12	–	-0.07	-1.23	-0.38
Malaysia	4.10	15.03	20.61	11.29	1.69	3.71	4.89	2.78	-1.44	-0.49	-2.62	-9.28	6.49	9.53	8.11	15.54
Myanmar	–	0.42	-2.12	-3.54	–	0.80	0.84	-0.25	–	-0.70	-1.09	-0.67	–	0.44	-0.76	-2.65
New Zealand	-2.07	-2.98	-0.29	-1.41	0.00	0.17	0.24	0.00	-0.92	-2.09	-0.18	0.86	-0.45	-1.43	-2.40	-1.93
Philippines	-4.92	-6.88	-7.16	-38.39	-0.26	-0.31	-0.56	-1.21	0.14	0.57	-2.06	-12.64	-1.24	-5.37	-6.49	-16.72
Singapore	8.70	30.13	60.02	49.28	1.59	4.06	1.88	4.46	-1.29	-0.71	6.02	3.62	11.02	28.36	52.40	36.78
Thailand	-6.16	-5.13	-9.06	-5.30	-0.15	1.07	2.26	2.54	-1.14	-2.34	-10.96	-19.13	3.35	8.56	17.16	18.36
Vietnam	-5.40	-20.76	-38.75	-44.03	-0.38	-1.12	-0.50	0.71	-1.29	-9.61	-22.95	-25.13	-2.85	-6.85	-4.55	-5.12

For Brunei, Cambodia, Indonesia, Lao PDR, Myanmar, and Vietnam, the last period's average has been computed for 2016–18 due to the unavailability of 2019 data.
Source: Constructed from Trade Map (undated).

export competitiveness, for example, duty-free import of auto-parts reduced the DVA content. Second, the rising DVA content from the United States (US) in all product categories indicate that while India's IPN integration deepened with several RCEP partners, the "Western" participation in value chain is still important. Third, while India provides no RTA tariff preference to China, given the cost competitiveness, the dragon's share in India's value chain has increased sharply. In addition, Chinese manufacturing firms have also invested in ASEAN countries like Vietnam for ensuring duty-free access to Indian markets (Chaudhuri 2015).

Trade Impact

The cumulative outcome of these developments is reflected in the widening trade deficit reported in Table 4, which summarises the trade balance scenario for RCEP partners involving ASEAN, RCEP, India and China. The time period is divided in four ranges, namely 2001–05, 2006–10, 2011–15, and 2016–19, for understanding the dynamics in the trade balance more closely. The first period is marked by India's reliance on multilateral reforms for export promotion. In the second period, India started embracing RTAs, albeit cautiously. The third phase marks India's entry into a number of Asian RTAs along with the launch of "Make in India" (2014) and the "Act East Policy" (2014). Finally, the last period depicts the RCEP negotiation phase. The analysis has been conducted with Trade Map data (ITC nd).

A couple of interesting points emerge from the table. First, Brunei, Japan, South Korea, Malaysia and Singapore are enjoying trade surpluses with respect to both ASEAN and the RCEP. The observation, coupled with a favourable DVA content scenario in exports, underlines their interest for quick conclusion of RCEP negotiations. Second, China and Thailand experience trade surplus against ASEAN but deficit against the RCEP, signifying their adverse trade relations with the ASEAN+6 countries (that is, Japan and South Korea). Third, Australia is facing a trade surplus against RCEP partners, but deficit against ASEAN, which can be explained by the lower-cost advantages of the latter. Finally, eight economies, namely Cambodia, India, Indonesia, Lao PDR, Myanmar, New Zealand, Philippines and Vietnam are witnessing deficits with respect to both ASEAN and the RCEP. The average trade deficit has sharply widened for India since 2015. However, complementarity in production and sequential fragmentation in value chains among ASEAN members facilitated intra-bloc trade benefits in general and intra-industry trade (IIT) in particular (Cheewatrakoolpong et al 2013). This functions as a cohesive force in shaping their decision to move ahead for the RCEP, despite the trade deficit. Conversely, India's RCEP pull-out decision, viewed in light of low realised benefits, that is, worsening trade deficit (Dhar 2019) and poor expectations on future gains, becomes apparent.

The Future

One major driver behind India's decision to embrace the "eastern" RTAs during 2010–11 and graduate from the "Look East Policy" (1991) to the "Act East Policy" (2014) has been the urge to integrate with the IPNs of "Factory Asia." While the IPN participation deepened, adverse trade balance and potential displacement of local industries are at odds with the "Make in India" (2014) objectives. Only in the last couple of years, an increasing trend in the DVA content of exports has been noticed (OECD 2018). Nevertheless, the industry's reaction to the RCEP pull-out decision underlines their self-assessment on relative competitiveness (*Live Mint* 2019).

The evolving dynamics needs to be viewed in light of three recent developments. First, in the aftermath of the COVID-19 pandemic, the trade and supply chain disruptions and the rise in protectionist waves rule out India's participation in the RCEP in the immediate future. Second, India has launched the "Atmanirbhar (self-reliant) Bharat Abhiyaan" in May 2020, which can be interpreted as a conscious attempt to reduce import dependence in manufacturing, while facilitating exports of final products. Finally, in the aftermath of the stand off at Galwan Valley, imports of intermediate goods from China are likely to be discouraged.

Against this backdrop, the RCEP pull-out can be a blessing in disguise for Indian manufacturing, particularly the small- and medium-sized enterprise (SME) segment. The pandemic provides India an opportunity to look inward, which should be utilised for enhancing mid-segment competitiveness through a combination of credit and labour skilling policies. The RCEP misadventure indicates the perils of sending overtures for joining any trade bloc without sufficient competitive edge in no uncertain terms. If the appropriate lessons are not drawn, the recently discussed the US–India trade agreement and other opportunities in future, would likewise remain mere rhetoric.

NOTES

1 The changes include the tariff reforms resulting from the bilateral trade pacts (for example, India–ASEAN FTA and India–Korea CEPA in 2010; India–Japan CEPA in 2011), a series of domestic policy changes (for example, India's joining of global automobile safety standard UNECE 1998 in April 2006), global crises (US sub-prime crisis from 2008, Eurozone crisis from 2010), and the US–China trade war. This work, however, concentrates on trade pacts and other policies capable of impacting the bilateral with selected "east" partners.

2 The interpretation of results in Tables 1 and 2 are the following: (i) ordinary entries indicate structural breaks in the series, after which an upward trend is noticed; (ii) entries inside the bracket indicate structural breaks, after which a downward trend occurs; (iii) underlined entries indicate a temporary spike in the series, followed by a fall, signifying an inverted U-shaped scenario; and (iv) entries within brackets and strike-throughs indicate a temporary dip, and a rise afterwards, representing a U-shaped outcome.

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Religious Piety in Islam and Contemporary India

SHASHANK CHATURVEDI

BOOK REVIEWS

Religion and Secularities: Reconfiguring Islam in Contemporary India edited by Sudha Sitharaman and Anindita Chakrabarti, *Hyderabad: Orient Blackswan, 2020; pp 240, ₹795 (hardback).*

It should not be surprising that the rise of new forms of religious nationalism since the late 1970s and a renewed interest in revisiting the idea of secularism has been the central preoccupation of intellectuals interested in the study of religion. In continuity, religious nationalism of the Hindu Right has gained enough traction with the academic world. It has produced some of the most original insights to understand Hinduism, Hindu nationalism, and the everyday aspect of being a Hindu. On the other hand, while much has been written on Islamic revivalism and fundamentalism, the religious aspects of the everyday life of Muslims have yet to receive adequate attention. In a broader context, Peter van der Veer (1994) argues that to study the religious aspects of movements, everyday practices, and discourses one needs to shift the focus from the political scientist's viewpoint to the anthropologist's study of rituals and traditions.

Understanding Islam

As a timely intervention, in India and elsewhere in the world, there is growing interest in the anthropology of Islam. The book examines the problematic aspects of the studies on the everyday life of Muslims in India. The book attempts to fill the gap in the lack of ethnographic work on Islam in India. It critically examines the existing works in the anthropology of religion and puts concepts and categories, such as syncretism, communalism, and fundamentalism under the scanner. The introductory chapter lays out "four key areas in the anthropology of Islam," namely the debates on "Indian Islam," the critical examination of syncretic tradition within Islam, "an ethnography of the secular in contemporary India" (p 3), and debates on boundaries between religion and secular in the public sphere of India. The successive chapters in the book follow the above-mentioned key areas and try to address the pertinent challenge, that is, the "impossibility of understanding contemporary Islam outside the logic of modern, secular, liberal governance" (p 3).

Muslim in a Secular World

Aditya Kapoor's "Muslim Subjectivities, Embedded Identities" focuses on religious ideas and practices, which influence the complex interaction between the sacred and secular spheres. The essay also traces the fluidity of social boundaries and identities in the everyday life of Muslims (p 32). Central to this chapter is a quest, how does one be a Muslim in a secular world? The author further interrogates, "how are traditions interpreted and meanings constituted which inform everyday life" (p 32)? The following two sections of the chapter try to answer the questions, though not satisfactorily. While emphasising the polymorphic processes between the religious and secular domains of everyday life of Muslims, the essay ignores the pertinent question, why is the shrine one of the most important sacred sites for Muslims in eastern India? The answer to this question will possibly cast more light on the key findings of this chapter. Unfortunately, the introduction to the chapter fails to mention that it is a study of a shrine, and thus it is almost a revelation when one comes across it in the ensuing pages.

Aleena Sebastian's essay "State and Legal Reform" foregrounds the courtroom as the site of discursive practice to explore "the legal shifts that have taken place over the years in colonial and postcolonial Malabar concerning the matrilineal practices of the Mappilas." The essay underlines the complex relation between codified laws of the state and sociocultural pluralities and the limitation of a modern legal framework to ascertain the "strategic roles people enter into to sustain the coexistence of the 'supposedly antithetical' religious and cultural elements in their social organisation and inheritance pattern" (p 54). Through this exercise, Sebastian interrogates the dominant understanding of religion and law as universal conceptions. The essay successfully demonstrates the centrality of dialogue in negotiations of Islamic principles of family law in a matrilineal society. It further adds to our understanding of the "ways to accommodate matrilineal and religious elements within the purview of the Malabar law" (p 76). The dichotomous knowledge of social reality, a hallmark of modernity, has shaped the understanding of religion, gender, language, and culture in the postcolonial world. The author believes that the limitation of such accounts has created a void between the judiciary and the everyday practices of the local communities. The essay succinctly illustrates this fact by highlighting the absence of "an in-depth engagement with the customs and usages as practised by the Mappilas in their everyday life in colonial Malabar" (p 76). It would have been interesting to know in more detail how the Islamic reformist trend has brought changes in the attitude of young women of this region towards matrilineal practices.

Chapter 3 in the book, "Religion, Secularity, and Law," initiates a provocative debate around the idea of political secularism. The essay contradicts the view of both liberals and right-wingers that political secularism is a project of the modern state "to ward off the dangers of religious strife" (p 84). Sudha Sitharaman suggests that

> the modern state and political secularism, particularly the modern state's production and regulation of religious differences, have played a far more decisive role in transforming pre-existing religious differences, thereby producing new forms of communal polarisation

> and making religion more rather than less salient to Hindus and Muslims, alike. (p 84)

While the essay illustrates the point through the case of Baba Budhan dargah in South India, it misses the point that the Hindu Right in India has registered their discomfort with the project of political secularism as a project of the state. A more critical reflection on this aspect of the debate on political secularism in India would have strengthened the overall argument.

T Hasim's essay "Islamic Traditions in Malabar" is fourth in order and offers an analytical inquiry "that moves beyond the limits of the dichotomies of the secular liberal discourse" (p 117). Hasim examines the public debates among Mappila Muslim groups in Kerala on the practice of Islam, "which aims at deducing a set of practical rules of conduct to guide their members in revolving the mundane issues of daily life" (p 117). The essay draws upon Hirschkind's conception of the counterpublic to argue that the public sphere and religious deliberation and discipline are not necessarily opposed. One of the significant contributions of this essay is to open up the debate on the everyday life of Muslims in South India, which is otherwise at the margins in the existing academic writings on Islam in India. "Piety and the Civic" engage with the shift in Islamic "reformism" through critical engagement with the ideology and activism of the Solidarity Youth Movement of Kerala chapter of Jamaat-e-Islami Hind. In line with the theme of the previous essay, this one argues that discursive meaning-making processes lead to a re-imagination of the civil-religious binary on the one hand and transformation of the Jamaat-e-Islami on the other. Thus, the essay does not offer us any significant findings except that it brings in the vital point and highlights of the book succinctly in a different setting.

Suchandra Ghosh and Anindita Chakrabarti's essay draws attention to the complexities involved in the conception of justice in the context of personal law. The thin line of demarcation between rights and trust in personal laws is the crucial predicament on secularity. The extension of this demarcation translates into a "mutually exclusive choice between personal law and demands for a uniform civil code" (p 162). The essay argues that "it is only by drawing our attention to how the adjudication of personal law takes place in contemporary India that we can begin to think beyond this sharp binary" (p 162). R Santhosh's Chapter 7 in the essay "Religious Activism and Secular Ethos" revisits the secular-religious binary from the viewpoint of Islam's engagement with modernity. Through the Mujahid movement—a popular initiative for palliative care of all sections of people in Kerala—the essay showcases the debate on Islam and secularism and "explore(s) the processes through which Muslim communities in the different sociopolitical contexts negotiate with secularism and secularisation" (p 192). By bringing in health issues, the essay reflects upon the complex relation Islam negotiates with modernity in the realm of knowledge creation and dissemination. In short, it "opens up ways of thinking the fraught relationship between Islam and secularisation" (p 211).

Talal Asad in "The Idea of an Anthropology of Islam" writes that

> Islam as the object of anthropological understanding should be approached as a discursive tradition that connects variously with the formation of moral selves, the manipulation of populations (or resistance to it), and the production of appropriate knowledge. (Asad 2009: 10)

Religion and Secularities is an attempt in this direction. The book goes beyond the interpretation of behaviour and inquiry into the relation of practices and invites the readers towards what Asad calls "discursive tradition." The book reflects upon the everyday life of Muslims in India from the micro-sites of religious-secular interface vantage point. It makes a significant contribution to the more extensive debate on the complex relationship between religion and modernity.

Impact of Hindu Right

A glaring gap in the study is the absence of any reflection upon the rise of Hindu Right in India and its impact on the everyday life of Muslims. An understanding of how Islam and the everyday life of Muslims in India have responded to the ascendance of religious fundamentalism, of all hues and colours, would have presented a more comprehensive picture of the religious-secular divide in India. In addition, the questions raised by the editors of the volume in the introductory chapter, and taken up further by Kapoor's essay has not been answered satisfactorily. In other words, the book could have gone beyond the existing framework of anthropological understanding of Islam, evident in the scholarship of Talal Asad and Peter van der Veer. A more critical reflection on the theoretical problems that accentuate while studying Islam in contemporary times, must have been examined for those who wish to understand the anthropology of syncretic strands of Islam. In addition, the book could have taken up more case studies from North Indian states to provide a more comprehensive picture of the dilemma of being a Muslim in contemporary India.

Notwithstanding these limitations, this volume successfully conveys the argument that Islam in India, as elsewhere in the world, needs to be understood beyond the dominant religious-secular binary. For this exercise, insights from the everyday life and discursive practices are of immense value. The intrinsic significance of the book lies in bringing the anthropological viewpoint of Islam in India. The volume will be helpful to students interested in Islam in India, gender studies, history, politics, and culture studies and offer insights to grassroot level workers and legal practitioners engaged with issues concerning religion and Muslims in India.

Shashank Chaturvedi (*jnushashank@gmail.com*) teaches at the Centre for Development Practice and Research, Tata Institute of Social Sciences, Patna.

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Revival amidst Challenge?

RAJ SEKHAR BASU

Turbulent Transformations: Non-Brahmin Śrīvaiṣṇavas on Religion, Caste and Politics in Tamil Nadu by Katherine Young, *Hyderabad: Orient Blackswan, 2021; pp 399,* ₹*736.*

In the past two centuries, Tamil Nadu has witnessed tumultuous religious, social, and political changes that influenced the political understanding and cultural preferences of the Tamil-speaking people.

Beginning from the late 1910s, some of the articulate sections of the non-Brahmin community with the covert support of the colonial bureaucracy had constructed a non-Brahmin identity aimed towards gaining equality with the Brahmins. This non-Brahminism was propelled by the Brahmin cultural supremacy and dominance in the middle and lower ranks of the colonial administrative machinery. The majority of the non-Brahmin leadership comprised of the landed elite and a vast number of their followers were from the peasant castes. In the 1920s and 1930s, however, this constructed homogeneous non-Brahmin identity showed signs of whittling down because of the competition within the non-Brahmin communities, fuelled largely by their social and political aspirations. In this jostling for power and status, "non-Brahmin" identity gave way to caste-based generic identities. In this situation, sometimes different castes came together, but more often they were engaged in rivalries that were conditioned by the changing power equation in the society. The Hindu castes, whether "high" or "low," on many occasions were drawn towards Shaiva and Vaishnava affiliations. The millennial-old traditions of devotion certainly made this affiliation to one god somewhat of a common cultural experience throughout large parts of South India.

In her monograph, Katherine Young essentially deals with non-Brahmin Srivaishnavas, who are worshippers of Vishnu and his consort Sri. The Srivaishnavas belong to many castes and caste clusters where "clean peasant castes" coexist with the "Untouchable" castes. In Tamil Nadu, Srivaishnavas have often identified themselves as *bhagavatas* and have displayed their reverence for bhakti saints like Ramanuja through the adoption of names such as *Ramanuja Dasar* (servants of Ramanuja). In contrast to the earlier assertions, made by Michael Moffatt (1979) and Robert Deliege (1997), the author admits that the Dalits she interviewed did not seek to identify themselves outside the non-Brahmin or Srivaishnava nomenclatures. But, they did voice the problems faced by their communit(ies) and took pride in their roles within the Dalit organisations. Analysing the mental world of the Dalits in Tamil Nadu is itself a difficult task because apart from the adoption of jati nomenclatures, terms such as Harijans or Adi Dravidas are equally in vogue.

Writing the history of *sampradayas*, including the Srivaishnavas, remains a difficult intellectual exercise because of the paucity of written sources and authentic oral traditions. But, there is an overt reliance on oral traditions that are evident in the pages of the monograph. The question arises whether these oral narratives are to be taken as representations of the contemporary and hence bringing out the divergences rooted in the Srivaishnava philosophy. Nonetheless, a doubt will always remain whether non-Brahmin sampradaya histories vouchsafe a single jati experience or whether they bring out the solidarity of jatis or that of supralocal collectiveness.

Non-Brahmin Srivaishnavism

The esoteric as well as the fragile nature of non-Brahmin identity convinces many that contemporary Tamil cultural experience is an outcome of the changing social contours of localities or that of neighbourhoods. The Brahmin non-Brahmin divide is not always a matter, of course, of rustic vocabulary. Though the Tamil Brahmin population has been reduced to a minuscule number, Brahminism as a reference point remains important both in social and political discourses. It reaches great heights when Tamil Nadu goes to the polls and when politicians publicise stories of exploitation and discrimination of their own communities or that of the other communities. Brahminism has waned, but now the non-Brahmin identity too is on the verge of decimation. The devotion-oriented sects, who had radically opposed caste and ritual status, are slowly adopting some of the traditions of erstwhile Brahminism. The preference is only towards those particular philosophical discourses of Brahminism that would give the non-Brahmins some bit of respectability and honour (Harriss 2002; Fuller and Narasimhan 2010).

The supreme deity of Srivaishnavas has many names and forms; the common ones being Perumal, Narayana, Balaji, Vishnu, and Krishna. The supreme deity is set to not only possess royal power but also symbolises tenderness, grace, and beauty. Tamils have shown a remarkable reverence for Krishna, while the Telugus have been eloquent in their adoration for Balaji. These male gods do not have any importance until one identifies their consort. Sri, the goddess, therefore, lends an extra degree of honour to Vishnu—the supreme deity. The Srivaishnava scriptures include both Tamil and Sanskrit texts and incorporate the collective works of the Tamil devotional saints. There are 108 sacred places, including a few in northern India and Nepal, which are important places of pilgrimage for the Srivaishnavas. However, the ones that attract most of the pilgrims are Srirangam, Tirumala–Tirupati, and Kanchipuram. These places are also the intellectual centres of Srivaishnava tradition, bearing close connections with the Bhakti saints of great repute. Bhakti is subsumed within the tradition of *samasrayanam,* which includes the concept of *prapatti*—taking refuge in god by totally surrendering to him and also the ritual *pancha-samaskara* that represents the highest stage of renunciation (pp 14–15).

This Srivaishnava tradition has led to a curious, if not a strange, communication between the Brahmins and the Dalits.

While it is true that the temple cart processions are common in Tamil Nadu, attracting a large number of devotees, they also provide opportunities to Dalit temple servants to discharge their responsibilities. Dalits are not willing to be passive onlookers during these great shows but are more than willing to flaunt their active involvement in them. The series of caste riots in Tamil Nadu has led to further victimisation of the Dalits posing a challenge to the Srivaishnava model of inclusiveness.

Recognition and Social Change

The co-option of non-Brahmin religious *mathas* (religious institutions with orientation towards theology) within the institutionalised space of Hinduism in South India is well known. Brahminism for its own survival has opened its doors to non-Brahmin leaders for performing the initiation rituals, which previously were an exclusive Brahmin ritual linked directly to the notion of *moksha*. However, it is doubtful whether the same traditions of initiation have been extended to the Dalits. Young states that religious heads or priests attached to the rural mathas have recently extended these entitlements to the Dalits, possibly to bring down the incidents of conversion and for lessening the rural tensions (pp 60–74). The changing social equation is definitely an issue, but it also has much to do with the changing intellectual trajectories of the non-Brahmin Srivaishnava intellectuals, since the very last decades of the 19th century.

The Srivaishnava non-Brahmins challenged the Brahminical versions of Vaishnavism over a number of issues. Most important of these are related to an almost monopolistic hold of the Brahmins over the intellectual resources. Very often non-Brahmin Srivaishnavas encountered resilience from their Brahmin gurus in matters related to the transmission of Sanskritic knowledge. Many of the Srivaishnava texts were composed in *Manipravalam* (a combination of Tamil and Sanskrit), making mastery over Sanskrit an essential qualification. Young has succinctly brought out the distinctions inherent in the usage of terms "Tamil" and "Andhra," emanating from the non-Brahmin Vaishnava experience. Since most of the bhagavatas representing the intellectual audience of the Srivaishnavas were Telugus and not Tamils, there was a marked inclination to keep away from the literary mainstream (p 81). However, the Tamil followers of Srivaishnavism preferred to accept the Brahmins. This trajectory was visible in the cultural experiences of the Tamil Srivaishnavas,

particularly in their efforts to sometimes incorporate "godless" and sometimes "single-god" traditions within the early 20th-century Dravidian movement.

Young has interviewed a cross section of Srivaishnavas, who were undergoing training to officiate as village priests, as well as others engaged in different professions. Many of the interviewees were candid in their observations related to class, caste, and gender discrimination. Sometimes they also expressed their political preferences that were tilted towards the non-Brahmin political parties in Tamil Nadu. For example, there was an organisation that had 1,500 chapters scattered all over Tamil Nadu (p 136). Its main purpose was to highlight the social problems faced by the non-Brahmin communit(ies) and to bring them under the fold of Srivaishnavism. Incidentally, Srivaishnavism might have evolved as a religious philosophy, but it also had a practical side trying to resolve community discords, propelled by its motive to maintain a less differentiated social order (p 137). The other issue that has been raised is that Srivaishnava organisations deliberately avoided straightforward communication with political parties like the Bharatiya Janata Party or Hindu organisations like the Rashtriya Swayamsevak Sangh. The impression that one gets after reading the interviews is that Brahminism is no longer a strong religio-cultural force; rather its ideas have been redefined by non-Brahmin religious orders to create a new variety of South Indian Hinduism.

The other point that has been clearly spelt out is that despite the outward affection for Periyar's Self-respect Movement, identification with Dravidian atheism has shown a perceptible decline, thus giving place to different forms of Vaishnavism. But the question remains whether the "lower caste" Srivaishnavas would be actually able to keep distance from the "traditional" Hindu virtues like those of vegetarianism and frequent visits of Krishna temples and rather favour a more direct challenge to caste and patriarchy. The long tradition of beliefs in malevolent deities like Kali and Mariamman has not lost relevance; they continue to exercise a grip over the minds of the less privileged castes. Thus, the resentment against a carefully articulated Hinduised order can only lead to a social chaos, favouring the religious practices of the autochthonous groups. The casteless and classless vision of South Indian Vaishnavism remains a distant proposition, despite the strong criticisms of Vedic traditions.

Young emphatically states that despite the initiatives of the Srivaishnava *acharayas* and *jiyars,* discrimination continues within the premises of the temples. This continues to exist in some way or the other, while the supremacy of the Brahmins regarding the observances of rituals in the inner precincts of the battle is itself a part of the legal battleground in contemporary South India (pp 260–74). Beginning from the early 1920s, several legislations have been enacted, but they failed to keep the temples outside the purview of the law courts. The contestations over the *agamic* form of worship have rejuvenated the issue of caste and have inspired new forms of non-Brahmin assertions, be it cultural or political. But, it is not a one-sided conflict involving Brahmins and non-Brahmins. Rather, it also represents a struggle among the non-Brahmin castes, reviving the old logic of "purity" and "pollution."

Framing the Question

However, the question that is finally addressed by the author is how this Srivaishnavism fits into a situation differently defined by scholars influenced by functionalism, Marxism and postmodernism (p 279). It would not be banal to argue that South India can never be understood in terms of an intellectual schism involving modernism versus postmodernism. In fact, there are multiple "modernities" that can define the encounters between the past and the present. Tamil Nadu, like other parts of South India, has remained culturally vibrant where religion, atheism, devotional religious patterns, and notions of secularism can exist side by side with technological progress and modern urbanity. This monograph, like other research in contemporary times, raises the question whether castes are waning or whether they exist within the rubric of non-Brahminism. Despite enough evidence of non-Brahmins adopting the Brahminical lifestyle, it is still not certain whether this should be the reference point for scholars interested in contemporary Tamil Nadu. Political parties, whether the Dravida Munnetra Kazhagam or All India Anna Dravida Munnetra Kazhagam, have been finding it extremely difficult to reconstruct an egalitarian non-Brahmin past. The Srivaishnava philosophy stands at a crossroads in the face of the growing generic caste identities and caste-based political parties.

While doubts persist over the relevance of Srivaishnava philosophy, the author's attempt to interpret it as a social mechanism to keep caste dictions on hold encourages a new field of enquiry. The paradox lies in the fact that with social oppression showing no signs of abating the Srivaishnava experiment draws the more privileged of the peasant castes, rather than the Dalits. This issue, which is a vexed one, remains less discussed. The elite Srivaishnavas, in terms of caste and class, remain divided from their followers who are mostly drawn from "lower castes" and classes. Undoubtedly, by inversing the societal pattern, the author has tried to unravel the highly complicated and obfuscating networks of religion, caste, and politics that have reshaped the connectivity between the Tamil past and present.

Raj Sekhar Basu (*rajsekharbasu2001@gmail.com*) teaches at the Department of History, University of Calcutta.

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Life in a Special Economic Zone
Navigating the Transition–Transformation–Aspiration Continuum

BHARATH SUNDARAM, OVEE THORAT, VADIVEL CHINNADURAI

Special economic zones in India continue to be seen as vehicles for social and economic development. The article describes how resident communities of an SEZ in Sri City, Andhra Pradesh, experienced a series of livelihood transformations that were mediated strongly by capabilities and aspirations. Divergent social and economic outcomes were created for respondents living in and navigating through a transition–transformation–aspiration continuum. The SEZ creation legitimised precarity by engendering casual, insecure, and unprotected labour relationships. The article suggests that SEZ performance be evaluated by metrics that incorporate an explicit focus on the enhancement of capabilities.

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Bharath Sundaram (*bharath.sundaram@krea.edu.in*) teaches environmental studies, Ovee Thorat (*ovthorat@gmail.com*) is a postdoctoral fellow, and Vadivel Chinnadurai (*vadivelchsm95@gmail.com*) is a researcher at Krea University, Sri City.

Large-scale industrial infrastructure projects, such as free trade zones, export processing zones, and special economic zones (SEZs) create what Cross (2015) describes as an "economy of anticipation," an economy that thrives on balancing speculation with projected profit, but also one that creates hope, desire, anxiety, and fear within its willing, unwilling, or indifferent participants. Neveling (2015) writes how, throughout history, there have been several attempts to organise, reorganise, and re-form practices that shape the political economy through the modification of land–labour society relationships. Within the domain of institutional economics, the view on SEZs tends to be a mix of optimism and caution, arguing that these zones are new developmental enclaves that promise to boost manufacturing, production, and employment, while on a cautionary note, they also cite land alienation, speculative forms of real estate development, rentier capitalism, and the loss of government revenue as problems that could accompany the creation of these SEZs (Lakshmanan 2009).

Social Outcomes and SEZs

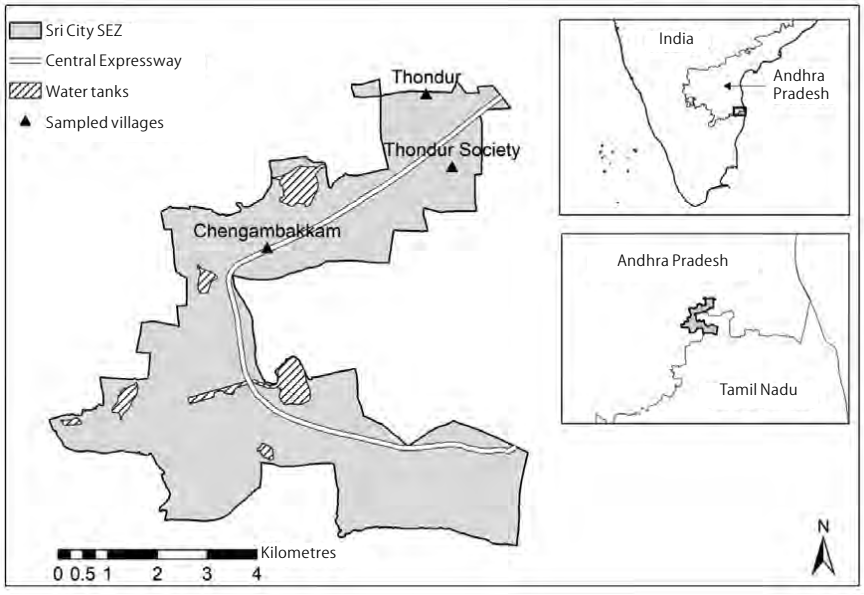
The social outcomes for resident communities of these unique economic formations, however, tend to either be aggregated under what are called developmental "spillovers" (World Bank 2017) or end up being ignored altogether (Alkon 2018). It is therefore not surprising that the critique of SEZs as vehicles of social and economic change has taken many forms.

Aggarwal (2006) shows how the rapid spread of SEZs globally between 1986 and 2003 was symbolic of a particular historical moment of capital seeking cheap labour, and that the creation of SEZs should not be considered as the only policy option for long-run industrial development due to their—sometimes overstated—economic and social goals. Sarma (2007) cites how land alienation that accompanies SEZ creation is inimical to the interests of small farmers and peasants and represents a particularly toxic form of rentier capitalism. Sampat (2008) brings attention to how SEZs affect local livelihoods and create a blighted social landscape of project-affected people. Sahoo (2015) questions the economic rationale of establishing SEZs, citing a Comptroller and Auditor General of India report that details significant losses to the government exchequer and general levels of non-performance or poor performance on indicators such as employment generation, investment, and export. Taken together, this scholarship indicates that the economic and social arguments in favour of the SEZ creation are not particularly strong.

To be sure, there are individual SEZs that are deemed quite successful in achieving desirable economic and social outcomes (Palit 2009). Their economic success is driven by incentivising certain forms of production, for example, through the application of customs law to encourage production of goods deemed valuable for the global economy, and their social success is usually measured via the quantum of job creation. However, if the perceived economic and social benefits of SEZs do not match with expectations, there probably is a need to rethink how expectations are created, perceived, and borne out, particularly for communities that reside within the SEZ. A specific calibration of outcomes for resident communities in turn could lead to different sets of variables used to benchmark SEZs. This is the gap that we hope to address through this article.

We describe the process by which transitions, transformations and aspirations evolve in communities living in an SEZ in Andhra Pradesh (AP). We frame SEZ-mediated social outcomes as arising from the lived experience of people

Figure 1: Study Area with Sampled Villages



navigating a transition–transformation–aspiration continuum. Our broad objective is to argue that transitions in land use, accompanied by transformations in livelihoods engender vastly differential—and constrained—aspirations. The resulting continuum is one where there is a wide variation in the way individuals perceive, experience, and participate in SEZs. We identify winners and losers, as well as willing, unwilling, and indifferent participants in the larger process of social transformation common to most peri-urban areas in India. We explore the congruence and incongruence of aspirations within individual households using past and current economic conditions, flux in livelihood status, gender, caste, and dignity as placeholders in our analyses.

Sri City SEZ

Since the introduction of the SEZ Act in 2005, AP has been granted the maximum number of approvals for new SEZs among the southern states of India, and countrywide next only to Maharashtra (Palit 2009). Our study area, Sri City, is one such integrated business city located on the National Highway 16 in AP. In 2008, a consolidated land parcel of 7,500 acres established Sri City as a multiproduct SEZ,[1] a domestic tariff zone (DTZ),[2] a free trade and warehousing zone (FTWZ)[3] and an electronics manufacturing cluster.[4] It is home to over 185 companies from 27 countries across the world. The state acquired land in 2006 through a state government undertaking, the Andhra Pradesh Industrial Infrastructure Corporation (APIIC). During establishment of the SEZ, landowners were compensated directly through the APIIC.

Most of the villages in Sri City used to be agricultural settlements prior to the formation of the SEZ (Figure 1). As in many other SEZs, the promise of permanent employment—to those who lost their land—through absorption in the formal organised sector was a factor when consolidating the Sri City land parcel. It was envisaged that this transition would be smooth and gradual, and that everyone in the village would be absorbed into the formal organised sector. The interview data indicated that several respondents bought into the initial promise offered by the SEZ formation, largely in the form of formal employment. After the SEZ formation, most lands transitioned into either space for setting up industries or remained empty plots. Agricultural activities were terminated, except for some who resisted. The change of a largely agrarian landscape into an industrial one led to a series of livelihood transformations, mediated strongly by aspiration.

Variations along the Continuum

We chose three villages for our study—Chengambakkam, Thondur, and Thondur Society (Figure 1). These villages were chosen as being representative of a diverse set of social structures, livelihood types,

Table 1: Village Profile

	Sampled Households	Major Livelihood Types		Caste Structure	Livestock Types	Agricultural Types—Crops and Cropping Patterns		Current Land under Agriculture*
		Before 2006	After 2006			Before 2006	After 2006	
Chengambakkam (n = 77)	20	Agriculture, wage labourer	Livestock-keeping, semi-skilled/unskilled labourer, security guards, and housekeeping staff	Idaiyar/Yadav, Scheduled Castes (Mala)	Buffalo, sheep, goat	Paddy, groundnut (mostly one harvest per year)	No activities	Not applicable
Thondur (n = 150)	6	Agriculture, wage labourer	Livestock-keeping, semi-skilled/unskilled labourer, security guards, and housekeeping staff	Scheduled Castes (Mala)	Cows	Groundnut, paddy, jasmine (mostly one or two harvests per year)	No activities	Not applicable
Thondur Society (n = 160)	9	Agriculture	Livestock-keeping, semi-skilled/unskilled labourer, security guards and housekeeping staff, agriculture (only on marginal scale)	Reddy, Scheduled Castes (Mala, Madiga), Scheduled Tribes (Yenadi)	Sheep, buffalo, goat, cows	Groundnut, paddy, watermelon, tapioca, jasmine, chilli, mango (agricultural activities throughout the year)	Groundnut, paddy, jasmine, watermelon, tapioca, chilli, mango (agricultural activities throughout the year but restricted to a few households)	Sample = 9 households; average landholding size = 1.44 acres; standard deviation = ± 2.59 acres

Where "n" is the number of households in each village.
* Total standard deviation in acres for the sampled households only.

and village sizes in Sri City (Table 1, p 37). After obtaining prior informed consent, we conducted detailed interviews with 43 people belonging to 35 households across the three villages. In eight households, we spoke to two members of the household, and in the remaining 27, with only the head of the household, usually a male member. The head of the household was a female member in one household. All names of respondents have been changed. Previously, all three villages were primarily agrarian (mainly rain-fed and occasionally tube well-irrigated rice, mango, and groundnut, but also crops like jasmine, watermelon, and tapioca). Milk production was largely for domestic consumption, rather than for commercial sales. During the dry season, men engaged in migrant wage labour, while women engaged in local wage labour and managed homesteads. After the official suspension of agriculture due to the establishment of the SEZ, livelihood patterns diversified. Some people adopted livestock-keeping for milk and meat production. Others opted for semi-skilled and unskilled labour, while some found employment as security guards, or as janitorial staff. Those resisting continued agriculture.

Chengambakkam and Thondur Society are spatially segregated on the basis of caste, with Dalits and people from the Scheduled Tribes relegated to the village periphery and upper castes in the village interior. Only a small proportion of residents (four households) engaged in entrepreneurial activities, such as those related to the construction industry, or opening small shops and restaurants.

Thondur is a Dalit village. The livestock in the village are mostly cows, as opposed to the prevalence of buffaloes and sheep in Chengambakkam. Officially, Thondur Society is part of Thondur village but spatially separated as an extended settlement (Figure 1). The inhabitants of Thondur Society are mostly resettled families from Sriharikota and others who migrated from Tamil Nadu in the 1970s and 1980s. Thirty households in this village continue to do agriculture. The land in which agriculture continues is of two kinds: the first is *patta* land, with clear tenure; the second, locally referred to as DKT land, *darakhast patta*, or "D" *khatha* land are government wastelands given to the landless poor for agriculture (Rajasekhar 2013). During the creation of the SEZ land parcel, owners of DKT land in this village were offered far lesser compensation. As a result, a few landholders have filed cases asking for more compensation.

In more than a decade of the SEZ's existence, life in the transition–transformation–aspiration zone took many forms. It turned out that despite official transition, SEZ land was not fully occupied by industries. Empty plots remained, as did areas set aside as de facto community commons where the villagers engaged in pastoral activities. Some of the households continued agriculture. At the same time, rapid transformations that occurred, such as the development of road infrastructure, the setting aside of service lanes for trucks, the arrival of social infrastructure in the form of educational institutions, apartments, and cafes are characteristics common to other peri-urban areas.

Aspirations were mediated and constrained by new realities created by transitions and transformations. There was resentment or even outright anger when residents were not all absorbed by the formal sector. Even for those who were absorbed, the contractual nature of a formal sector job came as a shock. Most of those who did agriculture earlier, now feel that it was better. During one of our interviews, Umamaheshwar—one of our respondents from Thondur—voiced this too, and his mother confirmed: "Right now there is no freedom." They mentioned that the uncertainty and insecurity of temporary jobs adds stress to their lives. Assurances of formal salaried employment were in themselves made with an assumption of everyone being equally eligible. The ground reality is that differences in educational attainment or perceived qualification, the skewed availability of gendered work roles (such as women in janitorial work, or men as security guards), resulted in extremely uneven livelihood outcomes. As a result, the three villages we worked in could best be described as not fully agricultural, neither primarily engaged in livestock-keeping nor fully employed in the formal sector nor being absorbed by the informal sector, but rather in context-dependent combinations of these categories.

Living in the Continuum

On the basis of our interviews with respondents from the three villages we worked in, we were able to derive four broad life categories of people. First, those older than 45 years, who tended to be poorly educated or uneducated, and engaged in unskilled wage labour, mainly road construction and maintenance, or waste management—similar to conservancy workers in cities or towns. In the absence of these options, this group relied heavily on natural resource-based livelihoods, particularly livestock-keeping. Second, those between 20 years and 40 years, largely male, who tended to be better educated, employed in a variety of formal sector jobs that were primarily contractual within the SEZ or immediately outside. They largely relied on livelihoods that were not natural resource based. Third, those women who were absorbed into contractual SEZ employment, primarily as janitorial staff. The final category consisted of those who resisted the SEZ by continuing agriculture in disputed or vacant land.

Livestock-based livelihoods: Amongst natural resource-based livelihoods, livestock-keeping is often romanticised as a traditional livelihood but comes with several riders related to unpredictability and precarity. For example, Balaji, after ceasing agriculture, started to depend on livestock for his livelihood as he did not want to work for anyone. He preferred to keep sheep rather than goats because of the availability of grass in the empty industrial plots and along roadsides within the SEZ. Sheep are easily maintained and more profitable when compared to buffaloes or cows. Although he would like to continue this livelihood, the fear of empty industrial plots being fenced off exposes him to precarity. Venkatesh, on the other hand, has been keeping livestock, mainly sheep and goat, for about 10 years now and wishes to expand his herd. He considers

livestock-keeping his primary livelihood. Satyanarayan's livelihood comes from milk production. He sells the milk to a private dairy unit in the nearby town of Tada. However, his sons are engaged as contractors in the construction business in and around the SEZ. For him, income derived from selling milk is supplemental, not primary. He prefers not to scale up milk production by adding more cows or buffaloes and is content with his current situation.

Lakshmi, a single woman, depends on livestock for her livelihood. She keeps livestock only because of the lack of other options. She would prefer to go back to farming as she considers farming to be far more profitable when compared to livestock-keeping and perceives livestock-keeping as a stopgap arrangement.

People considered livestock-keeping an activity that allows for quick entry and exit—livestock holdings can be dissolved when conditions are unfavourable and rebuilt when conditions improve. Overall, although people refer to the resilient nature of livestock-keeping, they simultaneously reflected on the transient, unpredictable, and suboptimal nature of their livelihood, mainly because they see the ownership of land assets as fundamentally different from livestock assets in terms of long-term value, but also because of the unpredictable nature of livestock-based livelihoods due to losses created by disease or the lack of forage.

Contractual formal sector employment: Precarity is a defining feature of contractual formal sector employment as well. For example, Umamaheshwar has been working as a facility supervisor for the last six years after giving up agriculture. He feels that the monthly salary is not enough to support his family as he has to buy everything from the market. He plans to venture into part-time business to earn extra income. Babu, a young MBA graduate, has a contractual position as an administrative staff in one of the establishments in the SEZ. He spent most of his adult life away from home for his education and does not have either the interest or the knowledge to pursue agriculture, even though his family possesses land. He is also a youth coordinator for a political party in his constituency. Due to the insecurity associated with contractual positions, he plans to move out of his village. He envisions himself as a successful entrepreneur in the near-term future and a successful politician in the long run. Previously engaged in farming, Jyothi and her husband now stay at home due to her husband's poor health conditions. Her family now depends on her third son's income who works as contract skilled labour at an industry in Sri City. He is distressed by the exploitative nature of contract labour with minimal job and health security. He is looking for a permanent position in and around the SEZ.

Another set of livelihood options in the SEZ come cloaked with gender and caste connotations. Three women respondents, Tulasi, Bhanu, and Usha work as janitorial staff in various institutions in the SEZ. Prior to this, they were engaged as agricultural wage labour locally. All three were satisfied with the regular income in the formal employment sector when compared to the uncertainties associated with their previous job. However, their common concern is that their monthly salary is insufficient to maintain household expenses. Payouts from

agricultural wage labour in the past came in the form of arrangements that included both cash and a fixed proportion of the crop, which lent more flexibility in terms of managing the household. Additionally, all three women professed discomfort, shock, and anxiety at having to do labour that they considered taboo for their caste, such as cleaning toilets, and cleaning dishes used by others. Informal conversations with managers of third-party agencies that provide housekeeping and janitorial services indicate that they hire only women.

Agricultural practices: In the SEZ, agriculture is representative of transition and transformation. While it represents resistance to the SEZ, it has also fundamentally changed as a practice. For example, linkages between agriculture and livestock-keeping changed fundamentally after the establishment of the SEZ. Agricultural practices distinct to rain-fed agriculture limit livestock holding in general, with each homestead having small numbers of oxen, cows, buffaloes, and goats. Forage availability was a strongly constraining factor limiting livestock numbers. With the stoppage of most agriculture in the SEZ, and with progressive mechanisation of agricultural practices, oxen all but disappeared. Vegetation cover in the SEZ, in the form of shrubs and trees—a fundamental requirement for keeping goats—also reduced, forcing people to adopt sheep (which need grass, a resource that became more available with land clearing) as an alternative.

Ramesh is one among the resistors who continue to practise agriculture in his village. Unsatisfied with the price offered for his land, Ramesh refused to sell his land. He prefers to do agriculture over livestock-keeping. For him, keeping livestock is a temporary livelihood option, but land represents a permanent asset that can be transferred to his children even if lying fallow.

Mohan and Swathi, another couple who continue agriculture, sold only part of their land to the SEZ. According to Mohan, the soil in Thondur Society is more fertile than the other areas in Sri City and is suitable for cultivation throughout the year, a factor that prevented him from selling all his land. But for Radha and Kumar, the reasons for holding on to their land, and not giving up agriculture are twofold: first, their lack of education constrains their options for formal employment; second, their upper-caste identity will not allow them to work as janitorial staff. All the three respondents who resisted the SEZ by continuing agriculture, although owning livestock, considered livestock to be peripheral to their agricultural practice.

Constrained Capability

Historically, SEZs were established to be "islands" providing means for economic and social development embedded in a larger but indifferent policy landscape that was purported to be stifling economic and social growth (Hartwell 2018; Romer 2010; Palit 2009). Certain forms of development—SEZs in particular—but also more broadly, the kinds of development that are distinct to peri-urban areas in India, may be revealing the classical tension between means and ends within the capability approach (Sen 1990, 2005; Nussbaum 2003; Robeyns and Byskov 2020). Is SEZ creation an end in itself? Or is SEZ creation a means to more valuable social ends? Within a context, SEZs may be economically productive, but when this productivity is embedded within iniquitous nation states, the factors determining the translation of economic productivity need to essentially be linked with the capability approach. This approach takes into account notions of activities we are able to undertake ("doings") and the kinds of persons we are able to be ("beings"). In the context of our study, we find that various personal, sociopolitical, and environmental factors, referred to in the literature as conversion factors, prevent the set of means offered by the SEZ being mapped to functionings, or realised capabilities.

For example, Chittoor district, where the SEZ is mainly located, scores poorly in terms of education and health metrics for women (NFHS 2016). The National Family Health Survey (NFHS 2016) establishes the demographic basis to the gendering of employment opportunities for women in the SEZ. A third of the women sampled in Chittoor district were illiterate. Just around a third had 10 or more years of schooling, with barely 60% of girls above the age of six years ever attending school. Almost a third of women between the ages of 20 and 24 were married before they turned 18 years of age. A full 14% of girl children and women between the ages of 15 and 19 were already mothers or were pregnant at the time of survey. What these data from the NFHS (2016) imply is that the ability of women in the SEZ to convert perceived economic opportunities into a functioning (for example, a job that can provide well-being, not merely subsistence) are severely constrained by conversion factors, such as poor educational access and attainment, early marriage, and early childbearing.

Similarly, for livelihoods that are natural resource-based, such as agriculture and livestock-keeping, we find that a different set of constrained conversion factors come into play. The first is the shifting prioritisation of agricultural and natural resource-based livelihoods within SEZ residents. Our respondents perceive these kinds of livelihoods to be largely incompatible with land, and society transitioning from agrarian to industrial. Some respondents who were livestock keepers and farmers referred to the social disintegration resulting from the SEZ creation and believe that they have been socially and economically isolated. Their aspirations to keep livestock or continue agriculture rarely arises out of sheer desire to do so but is instead shaped due to their unwillingness to work in industries, or due to a lack of educational qualifications or skills. Lastly, even for those in the organised sector, we found functionings to be severely curtailed by precarity brought about by widespread contractualisation in employment, as reported elsewhere (Sofi and Sharma 2015; Jain 2017).

Concluding Remarks

Overall, the condition of people in the villages we studied exemplify the argument made by Cross (2010) that the SEZ model of development is unexceptional, and one that largely seeks to legitimise precarity, where the absence of regulation by state institutions is sanctioned as deregulation or re-regulation, and

engenders casual, insecure, and unprotected labour relationships. Additionally, the change in agricultural practices within the SEZ have been accompanied by peculiar agrarian transformations just outside the SEZ, a transformation that is defined by land speculation for real-estate development. Levien (2011) notes that non-productive economic activity in the form of land speculation leads to chains of rentiership that amplifies existing class and caste inequalities. Cross (2015) calls for a reflection on the diverse ways that people invest in the future while navigating through or adjusting to unanticipated or unrealised outcomes. Alkon (2018) found that SEZs in India have largely failed to produce socio-economic development spillovers that are meaningful. He found that rent capture by local elites undermines SEZ effectiveness. He then proposes an alternative set of criteria with which to evaluate the effects of SEZs—criteria that are explicitly focused on spillover effects. The first step is to identify key variables for monitoring, before SEZ establishment and also during SEZ operation. Alkon (2018) identified metrics related to labour (workers and non-workers, marginal workers, marginal households), social, medical, and educational infrastructure, and variables that reflect access to banking and financial services. The monitoring of these variables is likely to provide a more detailed understanding underlying the failure of SEZ-like forms of development translating to meaningful spillovers. While our study provides details of the hindrances to the realising of capabilities (such as constrained conversion factors and precarity), future work on possible interventions to enhance capabilities are required.

NOTES

1 A special economic zone (SEZ) is a geographically duty-free enclave that shall be deemed to be a foreign territory for the purpose of trade operations and duties and tariffs (Ministry of Law and Justice 2005). The SEZ in Sri City is spread across 2,700 acres.

2 A domestic tariff zone (DTZ) is a geographically exclusive area that caters to manufacturers who predominantly supply the Indian market. At Sri City, the DTZ is spread over 2,500 acres.

3 A free trade and warehousing zone (FTWZ) is a demarcated zone usually located within an SEZ catering to trading and warehousing (Ministry of Law and Justice 2005).

4 An electronics manufacturing cluster (EMC) at Sri City is an exclusive zone for companies involved in electronic research and development, design, manufacturing and assembly.

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What Ails Direct-selling Businesses in India?

PRIYA MISRA

The law pertaining to direct-selling businesses prevailing in India is in dire need of transformation. A critical examination of the definitions (related to direct-selling), the primary cause of concern, followed by the inept Direct Selling Guidelines issued in 2016 by the Ministry of Consumer Affairs is undertaken here. Focusing on the regulatory aspect of this business model, a case is made for a specialised regulator for direct-selling entities.

This work is in association with Strategy India.

Priya Misra (*priyamisra.nls@gmail.com*) teaches specialised areas of business law at an Indian university.

Direct-selling entails the sale of goods and services directly at the doorstep of the customer. The customer is, thus, absolved from the inconvenience of going to retail stores. While various models of direct-selling prevail in India, there are no set formats for the business models of direct-selling companies. This possibility of variation in the models has encouraged entrepreneurs to opt for direct-selling more often, resulting in a surge of profits recorded recently throughout the world (WFDSA 2019).

In India, direct-selling businesses (DSBs) have tapped into the potential of entrepreneurship. According to the Indian Direct Selling Association (IDSA), India's direct-selling industry was valued at around ₹1.3 million in 2018–19, growing at approximately 13% from ₹1.16 million in 2017–18 (IDSA 2019). As per the Global Direct Selling 2019 Retail Sales report, India was ranked 15th globally for its record sales via direct-selling (*Economic Times* 2020). These figures are encouraging and speak volumes about the acceptance of DSBs in India.

Since India is a labour-intensive economy, the availability of human resources at the perusal of businesses is abundant. A unique feature that sets DSBs apart from its counterparts is its ability to employ an otherwise untapped human resource, namely homemakers. Perhaps, this business model is the only model, as of now, that takes care of gender diversity more than any other. In the Indian context, where "around 53% of top Indian companies have a male to female employee ratio of 10:1 or worse and 70% of the top firms have less than 1% of employees with a disability" (*Economic Times* 2019),[1] DSBs are a ray of hope for nearly "74% of the sales representatives engaged in the direct-selling market were women" (Tighe 2021).

Similarly, elderly persons, who are usually retired and considered outcasts in terms of available labour force pool, get a second lease of life by participating in this business model. Undoubtedly, direct-selling balances the scales with a considerable margin by taking care of diversity, both in terms of gender and age.

Among the various benefits that DSBs bring to the table, a higher employment rate, "financial independence, development of personal and business skills, flexible timings and an improved ability to take care of families are few of the prime ones" (Tighe 2021). It has also been observed that "the industry contributes to the exchequer and generates taxes, and has the potential solution to several socio-economic challenges ..." (KPMG and FICCI 2016) that the country faces at present.

Challenges before DSB Model

Problems in defining DSB: The concept of DSB does not enjoy any universally accepted definition. So much so that Indian

legislations have only recently, as late as 2019, endeavoured to define a DSB. The Direct Selling Guidelines (henceforth guidelines), 2016 define direct-selling in clause 1(6) as

> (the) marketing, distribution, and sale of goods or providing of services, as a part of a network of direct-selling other than under a pyramid scheme ... provided that such sale of goods or services occurs otherwise than through a "permanent retail location" to consumers, generally in their houses or at their workplace or through explanation and demonstration of such goods and services at a particular place. (GOI 2016: 1)

As may be apparent from this definition, the term "direct-selling" has been used to define the concept of direct-selling or to build a definition, which does not seem prudent. It serves to confuse, not clarify.

The guidelines mandate a direct-selling organisation to be a "registered entity" under the laws of India. However, if an entity is a sole proprietorship, it does not require any registration nor does any law cater to a voluntary registration of sole proprietorship firms. So, these firms may find themselves in violation of the guidelines. Similar may be the case for traditional partnership firms who have chosen not to register (since registration is not mandatory under the Indian Partnership Act, 1932) but who will have to register (along with compliance with other requirements) in order to qualify as a direct-selling entity under the guidelines.

Weak definitions in guidelines: There are various parametres to adjudge a country's legal regime and its conduciveness to conducting businesses therein. These include fairness, accessibility, dispute resolution, entry and exit of players, etc. Among these, one of the most important tenets for encouraging business is the certainty of law. This, unfortunately, is found lacking in the area of DSBs, though there are, at any given time, more than 600 multilevel marketing (MLM) operations in India promoting products, along with more than 1,000 fraudulent schemes (Strategy India 2020a). There are no clear definitions, rules or regulations to ascertain whether a business is a genuine MLM business (a subset of DSB) or an unsustainable one. For instance, the guidelines provide a disorienting definition, wherein a pyramid scheme (an unsustainable business model/Ponzi scheme) is one which is not a DSB, and a DSB is one which is not a pyramid scheme (GOI 2016). The definitions, therefore, lead to confusion.

To add to the woes of enforcers and businesspersons, the Prize Chits and Money Circulation Schemes (Banning) Act (PCMCSB Act), 1978 prohibits any benefit or payment that is collected directly or indirectly from the recruitment of new participants/members. However, the guidelines finds those businesses as genuine, where commission/earnings are from recruitment as long as there is a sale of products. This blurring of the line between what amounts to a genuine transaction and what does not has caused much uncertainty.

Under the definitions, a pyramid scheme has been described in clause 1(11) (Keep and Vander Nat 2014; Strategy India 2020b), and the proviso to the definition guides the enforcer not to confuse a pyramid scheme with a genuine MLM or direct-selling operation. The guidance prescribes that the "definition of a 'pyramid scheme' shall not apply to a multilayered network of subscribers to a scheme formed by a direct-selling entity, which consists of subscribers enrolling one or more subscribers in order to receive any benefit, directly or indirectly, where the benefit is as a result of the sale of goods or services by subscribers" (GOI 2016: 2) and the scheme/financial arrangement complies with all of the conditions provided therein, some of which are problematic such as:

Clause 1(11b) mentions that it does not require the purchase of goods/services by participants at an exorbitant price nor a sale/consumption/resale that exceeds an amount that can be expected to be consumed by or sold or resold to consumers. Here, if the amount to be paid by the direct seller is unnecessarily high or the quantities to be sold are unreasonable in a way that burdens the direct seller, making the structure unsustainable, it would amount to a pyramid scheme. The clause does not specify what would amount to an exorbitant price, nor does it throw light on the period that must be taken into account to determine such exorbitant prices. It leaves the term open to interpretation.

Clause 1(11c) mentions that the scheme does not require a participant to pay any entry/registration fee or bear any cost for the sales demonstration equipment and materials or any other kind of fee relating to participation. This clause may attract litigation at a later stage because it does not clarify as to "when" it cannot be charged. For instance, if the price of the product sold to the direct seller were increased marginally to cover the fee that would have been otherwise charged, the scheme would easily pass as a genuine business plan while it is just camouflaging the participation fee in the form of the product's price and is actually a pyramid scheme.

Clause 1(11e) says that the scheme provides a reasonable cooling-off period to participate or cancel participation in the scheme. The word "reasonable" is subject to interpretation, and clarification in this regard is wanting.

Clause 1(11h) establishes a grievance-redressal mechanism for consumers. The usage of the word "consumers" excludes those participants who purchase specific quantities of products every month/periodically in order to earn/qualify for overriding commissions. In such cases where participants purchase products but do not use them, they are only "customers" and not "consumers." However, since this clause confines the availability of a grievance-redressal system only to consumers and not customers, a section of participants would not have any platform for raising their concerns/grievances and yet it would qualify as an entirely genuine business plan.

Inadequate guidelines: Other than the definitions itself, the guidelines too are fraught with perilous statements and several omissions. First, since the only basis of differentiation between DSBs and pyramid schemes in the guidelines is based on the definition of the latter, it should have been precisely defined at the least. However, many genuine DSBs may be tarnished in the wake of the current description. This is so because various schemes can be passed off as genuine under the current description, when fraudulent entities dangle a carrot before the participants by tempting them to an overriding commission

for the performance of their downline network, if they comply with extra (quantities that they will not be able to sell or consume) purchases/sales/resales, etc. However, they will not be captured by the current definition because the overriding commission is neither based on mere recruitment of the downline network nor based on the purchase of "unexpected" goods/services.

Need for Better Definitions

Legislators ought to introduce more precise definitions and organise awareness programmes for the public (including service providers who are engaged by direct-selling companies to provide services, such as preparing softwares, web designs, etc) on how to differentiate between genuine and non-genuine business models. The internet can be used as a medium, and large-scale workshops can be organised for police personnel to help differentiate between genuine and fraudulent business models, equipping them with different tools, including standard operating procedures and knowledge from various jurisdictions. If enforcement agencies are well trained to detect frauds and engage in proactive roles, the frauds in this sector will automatically diminish.

Various experts in the field have expressed their disappointment with the definition of "pyramid schemes" and DSBs. Pranjal R Daniel, a direct-selling expert, has emphasised that the basis of distinction between the pyramid scheme and the DSB should not be made superficially, as is the case with the guidelines (personal interview 2020). Instead, he is of the view that the litmus test for determining a scheme's identity is by going through its business plan. If a business plan is sustainable, it is a genuine scheme, but if it is unsustainable and likely to collapse in due time, it should be termed as a pyramid scheme. A cue can also be taken from the Federal Trade Commission (FTC), the regulator for DSBs in the United States (US), which considers this determination as fact-specific. According to the FTC (2018), in order to differentiate between genuine and deceptive MLM businesses, the following parameters should be used: (i) operation of the structure in practice; (ii) marketing representations; (iii) participant experiences; (iv) compensation plan; (v) incentives, as laid out in the compensation plan; and (vi) behaviour promoted by the said compensation plan. Only such a comprehensive analysis will yield the true nature of a business model.

This exciting aspect of detailed analysis can actually hold the key to the solution. A regulator, if in place, can, at the time of registration, evaluate the business model of the entity to find out whether it is sustainable or not, and the parameters for assessing sustainability can be issued as an advisory by the government. This preventive measure can be useful in three ways: (i) it will prevent large-scale frauds from taking place, by nipping them in the bud; (ii) it will help the monitoring agency in creating a central database for persons/entities attempting to register pyramid/money-circulation schemes, thus identifying delinquent offenders; and (iii) it will also help develop universally applicable parameters over a period of time.

Second, the scheme can also be confused with money-circulation schemes but no endeavour has been made to distinguish pyramid schemes and money-circulation schemes. Both are very different arrangements and ought to be defined more succinctly, so that the public at large and enforcement authorities have clarity on the concepts and can investigate and seek evidence accordingly.

Third, the guidelines do not define "customer" nor does it differentiate between "consumer" and "customer," which, at times, becomes very significant. While a customer is a person who purchases a good/service and pays a consideration for it, a consumer is one who consumes the good/service. It becomes often complicated as to who has the *locus standi* to sue, since there may be a situation where the customer is not the consumer. In such a scenario, a business entity can technically question the institution of the suit on the basis that the contract of sale was between the customer and the entity/vendor, and that the consumer was a third party to the contract and, therefore, not privy to it. Consequently, the consumer will not be able to sue the entity for damages because there was no contractual relationship between them. For instance, say a non-governmental organisation purchases air purifiers with negative ion generators, claiming to terminate the COVID-19 virus in the air, and it goes on to donate these purifiers to a hospital. In the case where the claims are false and the purifier does not perform any such function, the hospital will find it difficult to sue the manufacturer because it was the consumer, not the customer, and thus had no *locus standi* since it was not privy to the contract of sale.

Legislators must define and differentiate between the two to provide adequate remedies. The definition should be included, not in by-laws, rules, or regulations, but in the act itself, where other appropriate amendments should also be made to recognise the difference between the two terms and to provide effective remedies. A remedy to customers may not be the same as is for consumers. A customer would benefit from restitutio in integrum while the consumer may have to be compensated with exemplary damages.

Fourth, the guidelines—long-awaited by the industry, lawyers, and consumers—are but mere guidance for DSBs and the provisions cannot be enforced. It has been left to the concerned state governments to ponder over the matter and convert it into a binding law, for the guidelines are merely "guiding principles for state governments to consider regulating the business of 'Direct Selling' and Multi-Level Marketing" (GOI 2016: 1). However, in the internet age, where no business is circumscribed by geographical territory, state governments will find it extremely challenging to enforce these provisions, especially when the other state concerned may not have adopted the same binding law. The government should consider issuing by-laws, even if by virtue of rules, to make the guidelines enforceable for effective regulation.

Fifth, the guidelines put the onus on direct sellers to fulfill many obligations that they actually may not comprehend. One must not forget that DSB is one of the few business streams that allows persons of all ages and sexes, with or without any qualifications to do business and earn their living. So, an obligation, even if

enforceable, would require huge awareness campaigns on the part of the government and the direct-selling companies to educate direct sellers in this regard. As of now, neither are the stipulated obligations backed by any consequence, making them persuasive but not mandatory, nor have any monitoring/regulatory agencies been set up to find out whether the direct sellers are able to comprehend and effectuate the obligations under the guidelines.

In short, the guidelines leave much to be desired. However, that is just the tip of the iceberg. As of now, there are three main legislations (among others)[2] that have overlapping jurisdiction, whose territories are not clearly demarcated, brewing more chaos in the regulation of this business model.

Regulatory hustle for DSBs: India has witnessed some enormous frauds, where the perpetrators of the crime had used the MLM model of business to lure persons from all walks of life. Since "easy multiplying of money" is usually the undercurrent of a nefarious scheme and does not require any qualifications of its participants, one can imagine the extent of crowds it may attract if rightly manipulated and advertised. Whether it be the IMA scheme of Karnataka (*Times of India* 2019) or the Saradha scam of Kolkata (Arawatia and Pande 2016), the magnitude of the fraud, especially looting money by fooling people into investing their life savings and hard-earned money apart from exploiting the goodwill of individuals, the scams make us question why DSBs are not being regulated more effectively instead of waiting for frauds to take place. Especially so, in a developing country like India, where a significant section of the population is illiterate and below the poverty line and the economy suffers from high inflation. As often misunderstood, not all MLM models are tantamount to illegal schemes. The media has added to this confusion that often erroneously calls MLM businesses as equivalent to fraudulent schemes and uses these terms interchangeably.[3]

Although different regulators regulate the direct-selling model in different aspects, there is no dedicated regulator for these companies. The different regulators that regulate DSBs are as follows:

Ministry of Corporate Affairs: The business vehicle that carries the business of direct-selling, whether MLM or not, are usually companies or partnership firms, though limited liability partnerships and sole proprietorship firms exist too. Irrespective of the kind of business vehicle chosen, the regulator for them is the Ministry of Corporate Affairs. Dedicated legislation, therefore, will be the regulating guide for the companies, but only to the extent of forming an entity, raising finance, management, audit, and dissolution. While enactments such as the Companies Act, 2013 and the Limited Liability Partnership Act, 2008 do have restrictions on the kind of activities that cannot be conducted by these vehicles (outer limit), the acts do not regulate the actual business of the company. Thus, these statutes are not in a position to evaluate the business schemes of the entities, unless they are committing fraud and duping the public at large. However, the fraudulent activities captured by them are limited to frauds related to accounts, audit, finance, formation, etc, that is, limited to the aspects covered by them.

Ministry of Finance: If any scheme primarily deals with money or any instalment that has liquidity of less than one year, it is usually captured by the money market whose regulator is the Reserve Bank of India (RBI) and the overarching central government, that is, the Ministry of Finance. Along the same lines, if the transactions involve egress or ingress of foreign currency, the activities are monitored and regulated by the RBI.

Concerned state governments: Most pyramid schemes are often captured by the Banning of Unregulated Deposit Schemes Act, 2019, which has a pan-India presence, but the enforcement mechanism is in the hands of state/union territory governments, who have to appoint competent authorities to determine and take action against unregulated deposits. This has several drawbacks, which warrants discussion elsewhere.

Ministry of Consumer Affairs, Food and Public Distribution: Any business with consumer dealing is under the regulation of the Ministry of Consumer Affairs, Food and Public Distribution (MCAFPD), if it pertains to a sale of product or service, although the specialised nature of service/good may be under the radar of the industry-specific regulator. For instance, if an insurance company, providing insurance services, is found duping the public by not honouring their side of the contract, then complaints can be taken up by Insurance Regulatory and Development Authority of India in their capacity as the industry regulator as well as before the concerned consumer forum (depending upon the pecuniary value of the suit) established under the aegis of the MCAFPD.

Securities and Exchange Board of India: Only if a company is listed or performs a function that only listed companies are ordained to, then the Securities and Exchange Board of India (SEBI) has jurisdiction over them under Section 11(2A) of the SEBI Act, 1992. Other than these general terms, Sections 11A and 11AA also grant SEBI jurisdictions over particular subject matters, such as mutual funds and collective investment schemes. There exists a strong inclination in the market that SEBI should control all money-pooling activities because "currently, many entities may be pooling money from the public like collective investment schemes (without a license), but SEBI cannot catch them since they work in the name of chit funds or some other name, that fall under the state governments' jurisdiction. Also, there have been several instances where, due to the multiplicity of regulators and overlap of provisions, a clear action could not be decided and taken against illegal deposit taking firms" (Laskar and Upadhyay 2016), there has been no shift of power as of now.

Right Regulator, Not MCAFPD

Since the recognition of DSB, the MCAFPD has been tasked with regulating them. For a long time, no steps were taken towards making DSBs a safer venture for all stakeholders. It is only as

late as 2016 that the guidelines were introduced, after an intense pursuit by the industry. However, one must pause to wonder whether the MCAFPD (and more specifically, the Department of Consumer Affairs) is the appropriate branch of the government to regulate and govern DSBs?

First, direct-selling is a way of doing business/trade and is no different from retail stores and e-commerce platforms, among others. If these latter modes of businesses are regulated by the Ministry of Commerce and Industry (specifically, the Department for Promotion of Industry and Internal Trade), then what is the justification for DSBs to be handled by another branch of government? Even in the US, the FTC (nd), which maintains fair competition in the market (equivalent to the Competition Commission of India) and is authorised to adopt industry-wide trade regulation and rules, is given the baton of DSB not because consumer protection is one of its mandates, but because FTC handles both sides of the coin, that is, it handles players via antitrust laws (equivalent to the competition law in India) and protects interests of consumers via consumer protection laws. However, in India, the ministry that handles consumer protection does not handle trade regulation for industries, nor does it handle competition issues.

Second, the mandate of the MCAFPD is different from that required for the regulator of DSBs as a form of business. This is so because a regulator needs to have a balanced approach towards a business that can help promote trade and that mode of business. However, the mandate of the MCAFPD is consumer-centric, where consumers are the nucleus. As such, the ministry may find it challenging to create a balance between business interests and consumer interests, when statutorily it has been given the mandate of protecting only the interests of consumers. For that matter, it is worth noticing that every regulator (when formed as a regulator and not a ministry) is given an objective via a statute to balance the conflicting interests of different players in the economy/industry, as the case may be.

For example, a general regulator of the economy, such as the Competition Commission of India, has been given the objective to "promote and sustain competition in markets, to protect the interests of consumers, and to ensure freedom of trade carried on by other participants in markets, in India" (Competition Commission of India 2002: 18), whereas the SEBI has been entrusted with the objective "to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market" (SEBI 1992: 5). In contrast, the MCAFPD's responsibility is "to provide for the protection of the interests of consumers and for the said purpose, to establish authorities for timely and effective administration and settlement of consumers' disputes" (GOI 2019: 4). This absence catering to the interests of business entities/traders makes the MCAFPD inept to regulate DSBs or any other businesses as such, unless such a statutory mandate is given to the ministry. The primary objective of consumer protection is likely to cloud the interests of businesses in the absence of an express object to protect the latter's interests, resulting in not only lopsided but also inefficient regulation. On the contrary, if the ministry keeps the interest of the traders on the same pedestal as that of the consumers, their acts can be called in question before a court of law as well as in Parliament.

Third, as a regulator, the MCAFPD is not adequately equipped to cater to the interests of DSBs because the ministry is not in a position to make trade policies that can promote or facilitate the interests of direct-selling, neither does it hold tools to catch hold of the fraudulent ones nor to punish the ones in violation of the law. In the absence of efficient mechanisms in place, the ministry can neither promote direct-selling effectively nor regulate it efficiently.

Fourth, a DSB, unlike its counterparts (such as retail, e-commerce, etc), is unable to attract due attention from the MCAFPD, as a result of which they are far behind in attracting foreign direct investment,[4] have no dedicated trade policy (DIPP 2019), nor received any significant assistance, since inception, for boosting their growth. The crux of the matter is that direct-selling needs a proper regulator, not a ministry, to regulate its functioning. As often suggested, the mere registration of new entrants in DSBs will not weed out the foul ones. Instead, a robust review mechanism that can regularly keep a check on the ever-changing compensation plans of DSBs, product description, maximum retail prices and cost price, and the determinants of commission among other parameters, must be developed. The growth of a well-established and soundly footed DSB can be ensured by providing a conducive environment as well as constant checks and maintenance.

An ideal regulator also requires independence and impartiality at its core. A dedicated regulator, instead of a government department, would be an ideal match because it remains free from the formalities of the bureaucracy and is not meant to govern but to regulate.

Our recent experience has also taught us what an independent regulator must be capable of. Its ability to stand on its own in the face of substantial lobbying by vested interests or government interference is as vital as its constitution. The regulator should consist of experts on direct-selling instead of generalists, who usually lack in-depth knowledge of DSBs. The regulator must possess not only intrinsic knowledge of the subject matter but also an ability to distinguish it from other businesses, especially from fraudulent schemes that tend to dent the image of the direct-selling fraternity. The regulator should also be given powers to investigate into dubious businesses that claim to be DSBs and must have dedicated human resources to generate literature and research for all and sundry, for on-field enquiries and keeping tabs on the regulated ones.

The Way Forward

One cannot overemphasise the need for defining and distinguishing the terms to allow the free flow of genuine businesses in the market. The two significant challenges that face DSBs include fraudulent MLM operations disguised/misunderstood as DSBs, and fraudulent practices that direct sellers of sustainable DSBs indulge in. In order to overcome these, a two-pronged approach is needed: one, enforce laws with more clarity that resonate with the business community and address problems and scams that plague the industry; and two,

appoint an on-field regulator immediately and necessarily. In terms of formulating a law that caters to direct-selling companies, the focus must be to not only define and provide tools for identifying concepts but also to fill the gaps that exist in the current legal regime.

A dedicated and specialised regulator would be one who understands the nuances and integrities of DSBs, has in-depth knowledge of the functioning of DSB as a whole, and has the human resources to investigate into suspected businesses. The regulator should register all direct-selling entities along with its promoters and key managerial personnel, no matter what the form of business vehicle used. This way, the regulator will have a complete database and, over a period of time, can regulate them better. The compensation plans and constitutional documents should be a prerequisite for registration and should be deemed public documents for those interested to perform due diligence as and when they wish to become a direct seller for the entities. It will instill more accountability in DSBs.

The combination of a strong law with proper enforcement complemented by a dedicated regulator will go a long way in putting an end to the menace of fly-by-night operations. In this respect, a beginning can be made by plugging loopholes and fixing grey areas that are open to interpretation in the guidelines/rules.

The industry has shown great potential, and it is time that its real talent is tapped. The industry only needs a dedicated set of tailored laws and a regulator that can guide direct-selling companies to success and sustainability. At the same time, policies and laws must reflect, promote and protect the interests of all stakeholders, including consumers, direct sellers, customers, and society to develop holistically.

NOTES

1 The data of 300, of the top 500, BSE-listed companies in India was analysed for the study by Corporate Responsibility Watch, a think tank consisting of 14 civil society organisations.

2 These legislations include: (i) PCMCS(B) Act, 1978 along with the Money Circulation Scheme (Banning) Rules, 2013, (ii) Banning of Unregulated Deposit Schemes Act, 2019, and (iii) Consumer Protection Act, 2019. Then there are state-specific legislations, such as Tamil Nadu Protection of Interests of Depositors (in Financial Establishments) Act, 1997, Maharashtra Protection of Interest of Depositors (in Financial Establishment) Act, 1999, and Odisha Protection of Interests of Depositors (in Financial Establishments) Act, 2011, among others.

3 Regulators such as the RBI have themselves often erred in differentiating between genuine MLM businesses and pyramid schemes. A testimony to this fact is the warning issued by the RBI (2015) against pyramid schemes that promise easy money. The central bank used phrases such as "explaining the functioning of these entities, the Reserve Bank stated that MLM/Chain Marketing/Pyramid Structure schemes promise easy or quick money upon enrolment of members … (and) advise that members of the public should not be tempted by promises of high returns offered by entities running Multi-level Marketing/Chain Marketing/Pyramid Structure Schemes … (because) acceptance of money under Money Circulation/Multi-level Marketing/Pyramid structures is a cognisable offence under the Prize Chit and Money Circulation (Banning) Act, 1978." If one notices the language of the press note, one can easily comprehend the lack of differentiationin the mind of the RBI with respect to MLM and pyramid schemes.

4 DSBs are not given any separate treatment. However, that is not the case with retail trading, which attracted ₹14,161 crore in the financial quarter of January 2020–March 2020 and investment is allowed via the automatic route (RBI 2020).

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Regional Variations in Multidimensional Poverty
Evidence from Tripura

SALIM SHAH, NIRANJAN DEBNATH

Regional variations in multidimensional poverty and inequality are analysed for the two different administrative regions of Tripura—village committees under the Tripura Tribal Areas Autonomous District Council and gram panchayats under the panchayati raj institutions—using a primary survey. Special emphasis is laid on the deprivations of households with regard to health, education, and the standard of living across these two administrative regions as well as the rural development blocks. The level of multidimensional poverty and incidence appears to be higher in village committees than gram panchayats even though the average deprivation among the poor is around 40% for both the areas with robust between-group inequality.

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Salim Shah (*salimshah.tu@gmail.com*) teaches at and Niranjan Debnath (*n2n.nath@gmail.com*) is a research scholar at the Department of Economics, Tripura University.

Regional variations may be the result of natural, historical, geographical, economic, social, and even political factors. Such variations do have adverse social and economic consequences as well as dangerous psychological impacts on building social harmony. The coexistence of forward and backward regions in a geographically isolated state like Tripura leads to misallocation and underutilisation of resources as well as social conflicts (GoT 2018). Such disparities and social conflicts are not conducive to the development process of a region as they hamper normal economic activity (Stewart 2004). So, variation in human deprivation (or poverty) calls for genuine attention from researchers, planners, and policymakers working in the development field. Looking at the non-monetary, multidimensional characteristics of deprivation—that is, beyond monetary poverty—consisting of education, health, and the standard of living is therefore emerging as instrumental for developmental policy formulation.

The North East India region and each of its states are known for their diversity, with numerous ethnic and religious groups, varied languages, topography, natural climates, forms of governments, and uneven economic development (NEC 2008: 1). This calls for adequate attention from the researchers and planners in poverty measurements. The region as a whole and the state of Tripura in particular are also recognised as economically backward characterised by poor economic performance, lack of adequate health service facilities, insufficient road connectivity between and within states, and lack of basic amenities (GoT 2007, 2018). Considering this, a unidimensional measure of poverty is unable to capture all the dimensions of deprivation as well as the actual causes of backwardness of the region or any of its states. Thus, a multidimensional measurement of poverty, based on a capability approach, will more effectively reveal the actual problems of the North Eastern Region (NER) and its states.

Tripura, a tiny, hilly, and landlocked state in the NER of India shares its international border—856 kilometres (km) in length, that is, 84% of its total geographical border—with Bangladesh on its north, south, and west. The state shares a national border of 53 km with Assam and 109 km with Mizoram. The then princely state, Tripura, was merged with Indian Union on 15 October 1949, and became a union territory on 1 November 1956, and received statehood on 21 January 1972 by way of the North-Eastern Areas (Reorganisation) Act, 1971 (GoT 2014: 4; GoI 1971). The three-tier panchayati raj system was introduced in 1978 and towards an extensive grassroots'-level democracy, the Tripura Tribal Areas Autonomous District Council (TTAADC) was

set up in 1985 under the Sixth Schedule of the Indian Constitution (GoT 1993). The prime objective of constituting the TTAADC was to provide internal autonomy to the tribal population in protecting their social, economic, and cultural interests (GoT 2007; Mohapatra 2017). The state has a total geographical area of 10,491.69 square kilometres (sq km), of which 68% falls under the TTAADC—with eight districts, 23 subdivisions, and 58 rural development blocks (GoT 2018). Tripura is the second highest populated state in the NER (after Assam) with a population size of 36.74 lakh from varied social and religion groups as per the 2011 Census (GoI 2011).[1] As per the National Sample Survey (NSS) 68th Round—revised estimates from the modified mixed recall period consumption expenditure distribution—9.3 lakh, that is, 24.9% of the total population was below the poverty line (BPL) in 2011–12 (GoI 2014). Alkire et al (2018: 13) found that 20.1% people of Tripura were multidimensionally poor, with an average deprivation of 42.7% for 2015–16. Debnath and Shah (2020) observed that 15.8% of rural and 3.6% of urban population of Tripura were multidimensionally poor for 2015–16, with a poverty intensity of 40.8% and 38.5%, respectively.

It is in this context that India and its states, especially the states of the NER, have been facing major challenges in reducing poverty and unemployment and curbing inequality in spite of taking various redistributive policy measures and legislative interventions through the Planning Commission—by was of the five-year plans—and NITI Aayog since independence. The specific emphases on the NER states are realised in the formation of the Ministry of Development of North Eastern Region (MDoNER) and the North Eastern Council (NEC). The Government of Tripura (GoT 2013, 2018) has also made favourable budgetary allocation through rigorous social welfare schemes, such as the 25- and 37-points development programmes, especially meant for the welfare of the tribal population, with the goal of reducing poverty and inequality.

However, in spite of the concerted public efforts, Tripura has been facing huge unemployment pressure—to the tune of 19.7% in 2015–16—during the last few years along with the other NER states (GoI 2016; CMIE 2018). In fact, geographical isolation, limited scale of economic operations, growing unemployment especially among the educated youth, lack of alternative (other than public) employment opportunities with virtual non-existence of industries, limited scopes of private ventures, and growing population density are the major constraints for the economy of Tripura. The economic constraints of the state get reflected through its increasing regional and social disparity, conflicting coexistence of the various social groups (especially, tribal and non-tribal), and increasing social tensions (GoT 2018). The communal riots of 1980s (between tribes and non-tribes), the decade-long insurgency problems of the 1990s, and the rising voices for a separate tribal state in recent times were the manifestations of this growing disparity and social tension (Chakravarti 2001; GoT 2018).

Thus, investigative research is the need of the hour to find out the nature and extent of the problems of regional and social disparity and the appropriate policy responses. After 35 years of the constitution of the TTAADC, it is now imperative to examine the relative position of the village committees of the TTAADC (under the Sixth Schedule of the Constitution) and the gram panchayats (Fifth Schedule) in reducing multidimensional deprivations across areas and social groups and their role towards pragmatic policy formulation for balanced development of the state. In this regard, Debnath and Shah (2015)—in examining the relative performance of the village committees and gram panchayats—have found that the village committee areas are more deprived than those of the gram panchayats in terms of non-monetary multidimensional deprivation. However, that was a case study—in 2013–14—confined to only one rural development block, namely Kathalia, under Sepahijala district of the state, and thus unable to provide any general inferences. So, towards fulfilling this gap, the present study proceeds through a cross-sectional comparative analysis of multidimensional poverty at the household levels across the village committees and gram panchayats of Tripura by covering a large number of sample households from all the eight districts. The study estimates the multidimensional poverty index (M_o)—a product of incidence and intensity of poverty—as well as the variation in M_o and its individual components or indicators across regions to understand the nature and extent of deprivation essential for future policy designing.

Data and Sampling Design

A multistage random sampling method has been applied to select the sample households for the present study. In the first stage, one forward rural development block and a backward rural development block have been selected from each of the eight districts of Tripura, with the criteria of proportional share of the priority groups[2] within the rural development blocks, necessarily consisting of both gram panchayats and village committees. In the second stage, one gram panchayat and one village committee have been selected randomly from each of the selected rural development blocks. Finally, households were selected by random sampling method without replacement from each of the gram panchayats and village committees as per their population share. In aggregate, 846 households were surveyed from 16 selected rural development blocks using the formula $[n = N/(1+N*e^2)]$, where "n" is the sample size, "N" denotes total population size and "e" denotes the level of precision for the study following Yamane (1967), with proportional representation to the size using the 2016 population data provided by directorate of panchayats, Government of Tripura.

Measuring Poverty and Inequality

The Alkire and Foster (2011) M_o measure, also known as the adjusted headcount ratio—which is a comprehensive approach by combining the scheme of identifying the poor and a multidimensional extension of the unidimensional Foster–Greer–Thorbecke (FGT) class of poverty measures as introduced by Foster et al (1984)—has been used to estimate multidimensional poverty in the present case. Following Alkire et al (2015), the estimation method is outlined as under.

Let us consider $x_{ij} \in R_+$ be the achievement of each person $i = 1, 2, ..., n$ in indicator $j = 1, 2, ..., d$. Let z_j be the deprivation

cut-off and w_j be the weight of j indicator, such that $\sum_j w_j = 1$. Deprivation of person i in indicator j is considered as $g^0_{ij} = 1$ when $x_{ij} < z_j$ and $g^0_{ij} = 0$ otherwise. The deprivation score for each person is defined as $c_i = \sum_{j=1}^{d} w_j g^0_{ij}$. Let k be the poverty cut-off, which represents the proportion of minimum deprivation a person must experience in order to be identified as poor, such that $c_i \geq k$. The censored deprivation scores of identified poor are given by $c_i(k) = \sum_{j=1}^{d} w_j g^0_{ij}(k)$, where $g^0_{ij}(k) = g^0_{ij}$ when $c_i \geq k$ and $g^0_{ij}(k) = 0$ otherwise.

The incidence of multidimensional poverty is defined as the proportion of identified multidimensional poor, q to the total population n, given by

$$H_M = q/n \quad \ldots (1)$$

The intensity of poverty is defined as the average (weighted) deprivation among the multidimensionally poor, given by

$$A = \sum_i^n c_i(k)/q \quad \ldots (2)$$

The multidimensional poverty index (M_0) is the product of these two sub-indices:

$$M_0 = H_M \times A = \frac{1}{n} \sum_{i=1}^{n} \sum_{j=1}^{d} w_j g^0_{ij}(k) \quad \ldots (3)$$

The contribution of the individual indicator j ($j = 1, 2, \ldots d$) to multidimensional poverty (M_0) can be expressed as:

$$\text{Contribution}_j = [\sum_{j=1}^{d} c_j(k)/d \cdot M_0] \quad \ldots (4)$$

The M_0 measure has several convenient properties, such as dimensional monotonicity (if a poor person becomes deprived in an additional indicator, M_0 will increase); subgroup decomposability (enabling the computation of the subgroups' percentage contribution to overall poverty); dimensional break down (enabling the computation of the contribution of deprivations in each indicator to overall poverty); and ordinality (implies poverty values are not changed by the changes in the ordinal variables' scales). The Alkire–Foster method is more favourable for the purpose as it helps to identify the poorest people and the different aspects in which they are deprived. This method integrates different aspects of poverty into a single measure, reflecting intersections among deprivations. The effectiveness of the multidimensional poverty approach is that it could be used to monitor the state's poverty and allocate government funds towards proper development of the state. This would be useful for enlightening the state's deficiency and to provide adequate policy framework for curbing poverty and disparities in a particular region (say, Tripura).

It is a fact that resources and material deprivations are the key indicators of economic well-being, as they have far-reaching impacts for deprived persons in terms of non-achievement of physical health and educational attainment, as well as socio-emotional functioning (Duncan and Brookes–Gunn 1997; UNDP 1997). However, the converse is more serious because the non-achievement in health, education, and society leads to long-term sustainable poverty trap for the poor and deprived. So, the present study has chosen the health, education, and standard of living dimensions to measure multidimensional poverty, in tune with the Human Development Index, as instrumental to break this poverty trap (UNDP 1997, 2010).

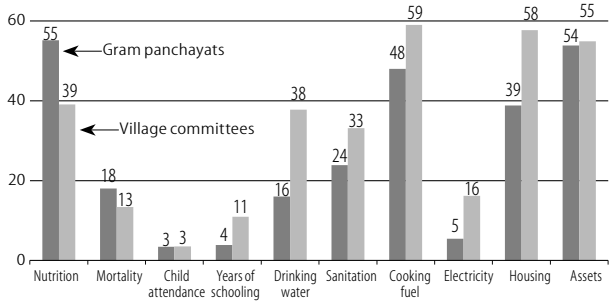
Both the intrinsic and instrumental value of these dimensions emphasise human capital and thus indicate the importance of each of the dimensions to income growth and human development. In terms of each individual dimension, education takes the indicators of school attendance (7–14 year age group) as reflections of the household's current and future knowledge and abilities to function in the society; and years of schooling (adult members above 14 years) as a proxy of knowledge and general understanding level along with their externalities (Basu and Foster 1998; Foster and Handy 2008). Health consists the indicators of mortality, as long and healthy life is a basic capability and prerequisite for human development; and nutrition, since nutritional deficiency can have lifelong impacts on the mental and physical development of the person. Standard of living includes six indicators—of which four are standard Sustainable Development Goal (SDG) indicators—namely access to electricity, drinking water, sanitation, clean cooking fuel,

Table 1: Dimensions, Indicators, Deprivation Cut-offs, and Weights for Multidimensional Poverty (M_0)

Dimension (Weight)	Indicator (Weight)	Deprivation Cut-off	Related to
Education (1/3)	Years of schooling (1/6)	Deprived if none of the household members (15–60 years) have completed primary level of education	SDG4
	Child attendance (1/6)	Deprived if any school-aged child (7–14 years) in the household is not attending school in the survey years	SDG4
Health (1/3)	Mortality (1/6)	Deprived if any member of the household has died during the last five years	SDG3
	Nutrition (1/6)	Deprived if any child having body mass index (BMI) for age below a -2 standard deviation from their median or any adult member having a BMI below 18.5 kg/m^2	SDG2
Standard of living (1/3)	Electricity (1/18)	Deprived if the household has no electricity connection	SDG7
	Drinking water (1/18)	Deprived if the household does not have access to clean drinking water	SDG6
	Sanitation (1/18)	Deprived if the household does not have an improved toilet or if the toilet is shared	SDG6
	Housing (1/18)	Deprived if the household has "kachha" house	
	Cooking fuel (1/18)	Deprived if the household cooks with fire wood, crop-residue, kerosene, or cow dung cake	SDG7
	Assets (1/18)	Deprived if the household owns any of the following assets: television, radio, telephone or mobile, watch/clock, bicycle, cart driven by animals; however, at the same time, the household does not own any of the following assets: refrigerator, motorbike, car, computer, washing machine, sewing machine, air conditioner, water pump, thresher, or a tractor	–

SDG refers to the United Nations Sustainable Development Goals. SDG 2–Zero hunger; SDG3–Good health and well-being; SDG4–Quality of education; SDG6–Clean water and sanitation; SDG7–Affordable and clean energy.
Source: Authors' construction following Alkire and Foster (2011) and UNDP (2015).

Figure 1: Percentage of Deprivations in Each of the Indicators—Across Gram Panchayats and Village Committees



Source: Calculation based on the Primary Survey, 2017–18.

housing, and asset holdings as a yardstick of social functioning of the households.

Following the international multidimensional poverty index (M_0), the study considers the total deprivation weights as "1," equally divided into the three dimensions—health, education, and standard of living. As explained above, both the health and education dimensions have two indicators each, and the standard of living dimension has six. Weights of indicators are assigned equally within each of the dimension of poverty index. Again, the value "1" is assigned for deprivation in an indicator and a value of "0" otherwise by following the deprivation cut-off corresponding to the respective indicator (Table 1, p 50). Therefore, the maximum sum of weighted deprivation score will be "1" and the minimum score will be "0." Following the United Nations Development Programme (UNDP 2015), a household (or all members of the household) is considered to be multidimensionally poor if the sum of weighted deprivation score is equal to the poverty cut-off or more, $k \geq 0.33$.

The study has used a general entropy measure to find out the severity of multidimensional deprivation and inequality. The generalised entropy measures, *GE(α)*, satisfy all the desirable properties, including within and between-group decomposability. One of the most extensively used inequality measure is the Theil index and the mean log deviation measure. Both the measures belong to the family of generalised entropy inequality measures, *GE(α)*. The values of *GE(α)* measures vary from "zero" to "infinity." If the value of *GE(α)* is zero, it indicates an equal distribution, and a higher value of *GE(α)* represents a higher level of inequality. The general form of the class of generalised entropy measure is given as

$$GE(\alpha) = \frac{1}{(\alpha^2 - \alpha)}\left[\frac{1}{N}\sum_{1}^{N}\left(\frac{y_i}{\bar{y}}\right)^{\alpha} - 1\right] \quad \ldots (5)$$

Where, $\bar{y}$ is the average income and α is the sensitivity parameter across the N number of populations. Measures from the *GE(α)* class are sensitive to changes at the lower end of the distribution for "α" close to *zero*, equally sensitive to changes across the distribution for "α" equal to *one* (which is the *Theil index*), and sensitive to changes at the higher end of the distribution for higher values. However, the study has concentrated on the generalised entropy measures for $\alpha = 1$, which gives the Theil index (T_0) of inequality. For applying the generalised entropy index in measuring multidimensional inequality across the poor, one needs to transform the formula in the following way:

$$GE(\alpha) = \frac{1}{(\alpha^2 - \alpha)}\left[\frac{1}{q}\sum_{1}^{q}\left\{\frac{(c_i(k)}{A}\right\}^{\alpha} - 1\right] \quad \ldots (6)$$

where, q stands for total number of multidimensionally poor, whose deprivation scores (c_i) exceed or are equal to the poverty cut-off ($k = 0.33$), and A denotes the average deprivation across the poor. If any individual/household's deprivation scores lie between 0 and 0.33, the individual/household will not be treated as multidimensionally poor. Thus, the deprivation scores, $C_i(k)$ for the poor individuals/households vary from 0.33 to 1. The Theil index (T_1) will be obtained for $GE(\alpha = 1)$ by following the formula:

$$T_1 = \frac{1}{q}\sum_{i=1}^{q}\left(\frac{c_i(k)}{A}\right) \times \ln\left(\frac{c_i(k)}{A}\right) \quad \ldots (7)$$

Therefore, the analysis of inequality of multidimensional deprivation across the poor has been considered to reflect the three aspects, or the "triple 1," of poverty that is poverty incidence, intensity, and inequality (Sen 1976).

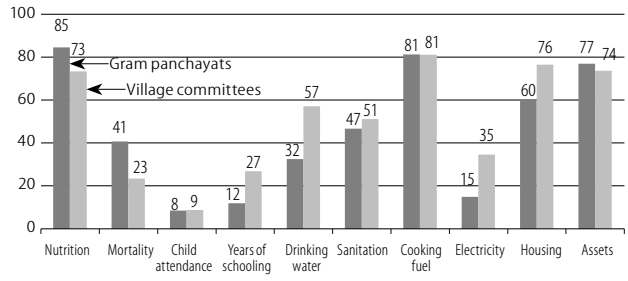
Proportion of Population Deprived

Here, special focus has been given to disparity in multidimensional poverty across the village committees and gram panchayats of Tripura for 2017–18 using the multidimensional poverty and inequality measures as discussed.

The non-monetary measurement of deprivation clearly observes that there has been large extent of variation in deprivation between the village committees and gram panchayats of Tripura for each of the indicators, except child attendance (Figure 1). The households belonging to the village committees are relatively more deprived than those of the gram panchayats in all of the standard of living indicators and the years of schooling indicator for the education dimension. However, the gram panchayats are relatively poorer in the health dimension. The percentage of people deprived as per the nutrition indicator appears to be higher in the gram panchayats (55%) than for the village committees (39%). Same for mortality in gram panchayats (18%) and village committees (13%). Both the gram panchayats and village committees are highly deprived in asset holdings (54% and 55%, respectively) and least deprived in child school attendance (only by 3% each). In contrast, the percentage of people deprived of access to clean cooking fuel is higher for village committees (59%) than for gram panchayats (48%) and also in the housing indicator (village committees: 58%, gram panchayats: 39%).

It is worth noting that the tribal habitations in Tripura are mostly in the village committees under the TTAADCs and are located in the interior hilly terrain, whereas the non-tribal people live in the plains—the gram panchayats under the panchayati raj institutions (PRIs)—in a majority of cases, which can be a reason for the standard of living deprivations among the tribes. Though most of the living standard indicators (like drinking water, sanitation, electricity, and housing) have been under government flagship programmes for a long time,

Figure 2: Percentage of Multidimensionally Poor Deprived in Indicators—Across Gram Panchayats and Village Committees (%)



Source: Calculation based on the Primary Survey, 2017–18.

their management is hard and costly for the interior and scattered tribal houses on the hills. For example, the sources of drinking water are usually far from their habitations, and there is a need for better resources and technology to manage the water supply. Besides, the hill tribes used to follow their traditional and inherited living patterns for housing, cooking, and so on. The low deprivation in child school attendance and years of schooling for both the village committees and gram panchayats is indicative of the expansion of the public education system throughout the state. Lastly, the tribal people that live in the village committees do have less deprivation in terms of health indicators in comparison to the gram panchayats, although the village committees are not endowed with effective healthcare facilities as compared to the latter. So, there may be further investigations whether relatively better health condition of the tribes of Tripura is owing to their heredity, lifestyle, and environment.

Multidimensional Poverty across the Gram Panchayats and Village Committees

The multidimensional poverty (M_o) and its components, namely incidence (H) and intensity (A) of poverty appear to be higher for the village committees than the gram panchayats, though the variation is not statistically significant (Table 2). Further, the proportion of multidimensionally poor is higher in the village committees (37.2%) than the gram panchayats (32.0%). However, the average deprivation among the poor is almost the same for both groups.

It has been observed above that there has been higher multidimensional deprivation for village committees compared to the gram panchayats. Accordingly, the higher proportion of multidimensionally poor in the village committees may well be considered as a result of this higher deprivation. However, the almost equal average deprivation or depth of poverty between village committees and gram panchayats implies that the poor in both the regions are equally affected or deprived.

Table 2: Multidimensional Poverty across the Gram Panchayats and Village Committees

Area	Population Share (%)	Value		Standard Error	95% Confidence Interval	
Gram panchayats	59.6	M_0	0.133	0.0119	(0.110,	0.156)
		H	0.320	0.0277	(0.265,	0.374)
		A	0.416	0.0371	(0.343,	0.489)
Village committees	40.4	M_0	0.159	0.0144	(0.131,	0.188)
		H	0.372	0.0323	(0.309,	0.435)
		A	0.429	0.0387	(0.353,	0.504)
Difference between gram panchayats and village committees		M_0	0.026	Statistically not significant		
		H	0.052	Statistically not significant		
		A	0.012	Statistically not significant		

Source: Calculation based on the Primary Survey, 2017–18.

Decomposition of Multidimensional Poverty

Decomposition of multidimensional poverty (M_o) reveals a marked variation between gram panchayats and village committees (Figure 2), where deprivation among the poor is relatively higher in the years of schooling indicator, and most of the standard of living indicators (except, assets holding) for the village committees, compared to the gram panchayats. However, the gram panchayats are more deprived in all the health indicators. Thus, standard of living is the prime policy concern for the village committees, while health is the policy concern for the gram panchayats. Further, multidimensionally poor people are more vulnerable in nutrition and most of the living standard indicators for both gram panchayats and village committees. Nutrition has registered the highest percentage of deprived people for gram panchayats and village committees (85% and 73%, respectively). The deprivation percentage is also high for access to improved cooking fuel (81% in each). Again, the multidimensionally poor in gram panchayats are more vulnerable with regard to deprivation in nutrition, asset holdings and mortality than in the village committees. In a clear note, multidimensionally poor are more deprived in nutrition, clean cooking fuel, housing, and assets holding, and the least deprived in child attendance.

Regarding relative contribution of the individual indicators to overall multidimensional poverty, health indicators appear to be highest with a large variation between gram panchayats (50.2%) and village committees (37.6%). The standard of living indicator also contributes highly for gram panchayats (41.7%) and village committees (48.5%), and education has the least contribution to overall multidimensional poverty (Table 3).

Taking into account the relative contributions of individual indicators to the overall poverty, health, and standard of living call for serious policy attention, among which nutrition, mortality, and clean cooking fuel are of particular importance.

Clustering of the Gram Panchayats and Village Committees

Clustering of the gram panchayats and village committees in accordance with their extent of multidimensional poverty (M_o) and incidence of poverty (H) will help in better policy

Table 3: Percentage Contribution to M_o across Gram Panchayats and Village Committees (%)

Dimension	Indicators	Gram Panchayats	Village Committees
Health	Nutrition	33.9	28.5
	Mortality	16.3	9.1
	Health dimension	50.2	37.6
Education	Child attendance	3.4	3.4
	Years of schooling	4.8	10.4
	Education dimension	8.1	13.9
Standard of living	Drinking water	4.3	7.4
	Sanitation	6.2	6.6
	Cooking fuel	10.8	10.5
	Electricity	2.0	4.5
	Housing	8.0	9.9
	Assets	10.3	9.5
	Living standard dimension	41.7	48.5

Source: Calculation based on the Primary Survey, 2017–18.

implementation. The values of M_o and H have been classified into four categories: low, moderate, high and extreme, taking one-fourth of the range as the class width. Clustering with respect to M_o reveals that the Hiracherra and Zaithang village committees are the most deprived, with extreme multidimensional poverty. However, none of the gram panchayats fall in the extreme poverty category (Table 4). For village committees, Simbukchak and Manaipathar fall in the high poverty group along with the Samrurpar, Rowa, Latiapura, and South Krishnapur gram panchayats. Further, the range of multidimensional poverty (M_o) varies to a large extent among the village committees (from 0.041 to 0.339) as compared to the gram panchayats (0.018 to 0.214).

Again, clustering with respect to H reveals that the same village committees, namely Hiracherra and Zaithang, fall in the extreme incidence group, and this group also includes the Samrurpar gram panchayat (Table 5). The incidence of poverty (H) has a large extent of variations among the village committees (from 11.8% to 72.6%) and gram panchayats (from 4.0% to 53.4%).

Table 4: Cluster of Multidimensional Poverty (M_0) across Gram Panchayats and Village Committees

Group	Village Committees	Gram Panchayats
Group–I Extreme poverty (0.241 and above)	Hiracherra Zaithang	–
Group–II High poverty (0.161–0.241)	Simbukchak Manaipathar	Samrurpar Rowa Latiapura South Krishnapur
Group–III Moderate poverty (0.080–0.161)	Sulthung Manu Premsing Orang Bijoynagar PurbaTulamura Noagang Golakpur Purba Sardakarkari Purba Mogpuskarini Paschim Takka Tulsi	Subhashnagar Dwarikapur Subhash Colony Boxanagar Pandabpur Bhabanipur Radhapur Jamjuri
Group–IV Low poverty (Below 0.080)	Kamalachara Dhupchara Kalidas Para	Dalura Garjeechara Avanga Kulai

Source: Calculation based on the Primary Survey, 2017–18.

Table 5: Cluster in Terms of Incidence of Poverty across Gram Panchayats and Village Committees

Group	Village Committees	Gram Panchayats
Group–I Extreme incidence (0.515 and above)	Hiracherra Zaithang	Samrurpar
Group–II High incidence (0.343–0.515)	Manaipathar Simbukchak Bijoynagar Premsing Orang Sulthung Manu	Rowa Latiapura Subhash Colony South Krishnapur Subhashnagar Bhabanipur Boxanagar
Group–III Moderate incidence (0.172–0.343)	Purba Tulamura Noagang Purba Sardakarkari Golakpur Paschim Takka Tulsi Purba Mogpuskarini Kamalachara	Dwarikapur Pandabpur Radhapur Jamjuri
Group–IV Low incidence [Below 0.172]	Dhupchara Kalidas Para	Dalura Garjeechara Avanga Kulai

Source: Calculation based on the Primary Survey, 2017–18.

Thus, pragmatic policy formulation towards poverty alleviation should consider the methods of clustering with respect to variations in multidimensional poverty (M_o) and the incidence of poverty (H).

Multidimensional Poverty across the Rural Development Blocks

The multidimensional poverty (M_o) and its incidence (H) also vary to a large extent among the select rural development blocks of Tripura (Table 6). Both multidimensional poverty (M_o) and incidence (H) are found to be maximum in the Gournagar rural development block in the Unakoti district and the lowest in Ambassa block in the Dhalai district of Tripura.

Table 6 clearly indicates that like variations in multidimensional poverty (M_o) and its incidence (H) between village committees and gram panchayats, there have been enormous variations in M_o and H between rural development blocks for Tripura. This calls for region-specific developmental policy designing. However, intensity of poverty (A) does not vary to that extent as it only ranges from 37.9% to 46.1%. It means that the poor across regions are equally affected and to be treated equally.

Inequality among the Multidimensionally Poor

Decomposition of inequality of multidimensional deprivation scores (Theil's index, T_o) across the poor reveals that between-group disparity is more robust than within group disparity for both gram panchayats and village committees. However, inequality between gram panchayats and village committees reveals to be less than the inequality within each, if the gram panchayats and village committees are clubs within themselves indicating lower difference between themselves. Similarly, between-group disparity in deprivation across the poor is less robust than the within-group disparity for the rural

Table 6: Multidimensional Poverty across the Select Rural Development Blocks, Tripura

Name of the Rural Development Block	Population Share (%)	M_0	H (%)	A (%)
Dukli	5.8	0.113	26.6	42.7
Old Agartala	4.4	0.061	14.8	41.5
Bokafa	5.2	0.153	36.2	42.4
Poangbari	2.8	0.107	27.3	39.1
Ambassa	6.2	0.045	11.7	38.9
Salema	5.5	0.111	25.2	43.9
Panisagar	7.5	0.176	41.2	42.7
Jubarajnagar	6.7	0.162	37.9	42.6
Boxanagar	4.7	0.135	35.6	37.9
Kathalia	7.3	0.165	42.6	38.9
Kalyanpur	5.3	0.156	34.3	45.5
Teliamura	7.6	0.147	34.2	43.1
Matabari	4.1	0.083	19.3	42.8
Kakraban	10.4	0.111	27.8	39.9
Chandipur	8.6	0.184	44.9	40.9
Gournagar	7.9	0.277	60.1	46.1

Source: Calculation based on the Primary Survey, 2017–18.

Table 7: Decomposition of Inequality of Multidimensional Deprivation Scores

Group / Category	Theil's index T_0	
	Within	Between
Gram panchayats	0.0095	0.0412
Village committees	0.0094	0.0653
Gram panchayats/village committees	0.0218	0.0022
Rural development blocks	0.0725	0.0204

Source: Calculation based on the Primary Survey, 2017–18.

development blocks of Tripura (Table 7, p 53).

Further, the population weighted inequality of multidimensional deprivation scores across the poor reveals to be almost equal for the village committees and gram panchayats. Though inequality of deprivation scores among the poor varies from 0.0123 (Old Agartala) to 0.0306 (Poangbari) for the rural development blocks of Tripura (Table 8).

Thus, inequality of multidimensional deprivation scores across the poor does not reveal any such distinct variations across village committees and gram panchayats as also supported by lower variation in intensity or depth of poverty. However, the actual difference between them lies in the multidimensional poverty index (M_0), primarily due to their differences in incidence of poverty (H). So, the incidence of poverty, particularly in the tribal-dominated areas needs to be properly addressed.

Table 8: Inequality of Multidimensional Deprivation Scores across Different Areas

Areas	T_0
Gram panchayats	0.0220
Village committees	0.0216
Overall	0.0219
Rural development block	
1 Dukli	0.0233 [5]
2 Old Agartala	0.0123 [16]
3 Bokafa	0.0230 [6]
4 Poangbari	0.0306 [1]
5 Ambassa	0.0258 [3]
6 Salema	0.0165 [12]
7 Panisagar	0.0163 [13]
8 Jubarajnagar	0.0250 [4]
9 Boxanagar	0.0144 [14]
10 Kathalia	0.0136 [15]
11 Kalyanpur	0.0268 [2]
12 Teliamura	0.0168 [11]
13 Matabari	0.0217 [8]
14 Kakraban	0.0192 [10]
15 Chandipur	0.0217 [9]
16 Gournagar	0.0221 [7]

T_0 indicates Theil's index (generalised entropy index for $\alpha = 1$); figures in the parentheses indicate the respective ranks of the rural development blocks in terms of T_0.
Source: Calculation based on the Primary Survey, 2017–18.

Conclusions

The deprivation in each of the non-monetary indicators reveals a large extent of variations between gram panchayats and village committees except in child school attendance. The levels of multidimensional poverty (M_0) and its incidence (H) appears to be higher in village committees than in the gram panchayats. However, the average deprivation among the poor is almost equal for both gram panchayats and village committees, which clearly indicates that the poor across areas are equally affected and need to be treated equally. Decomposition of multidimensional poverty shows that the standard of living indicators are serious policy concerns for the village committees, whereas health indicators are prime policy concerns for the gram panchayats. Particular policy thrust must be given to nutrition and most of the living standard indicators for both the gram panchayats and village committees as the multidimensionally poor are more vulnerable in these indicators. Further, between-group inequality among the poor is more robust across the gram panchayats, village committees, and rural development blocks of Tripura, mainly owing to the higher variations in incidence of poverty (H). Thus, with an end towards balanced regional development, there is a call for special policy attention to education and standard of living indicators in the village committees and health indicators in the gram panchayats.

NOTES

1 However, 33.50 lakh out of 36.74 lakh of the population reside in rural areas of the state as per the directorate of panchayats (2016). Of the total rural population, 591 gram panchayats of Tripura hold 57.1%—consisting of Scheduled Tribes (STs) (5.5%), Scheduled Castes (SCs) (24.2%), Other Backward Classes (OBCs) (31.9%), and general population (38.4%). The remaining 42.9% of people reside in 587 village committees under the TTAADC and comprise of STs (85.6%) as the dominant group, followed by SCs (5.3%), OBCs (4.6%), and general category (4.5%).

2 This is the number of households/families, who are living below the poverty line and treated as priority groups as per the gazette notification of the Food, Civil Supplies and Consumer Affairs Department, Government of Tripura dated 8 August 2016. The sample size was selected as per the data provided by the Directorate of Panchayats, Government of Tripura, 2016.

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Karnataka's 'Surya Raitha' Experiment
Lessons for PM–KUSUM

NEHA DURGA, TUSHAAR SHAH, SHILP VERMA, MANJUNATHA A V

Solar-powered irrigation has expanded in India at an unprecedented pace—the number of solar irrigation pumps—from less than 4,000 in 2012 to more than 2,50,000 by 2019. It has been argued that besides giving farmers an additional and reliable source of income, grid-connected SIPs also incentivise efficient energy and water use—critical for sustaining groundwater irrigation. The Surya Raitha scheme was the country's first, state-driven initiative for solarisation of agriculture feeders by replacing subsidy-guzzling, inefficient electric pumps with energy-efficient, net-metered SIPs. An early appraisal of Surya Raitha lauded the scheme as a smart initiative and argued that it could set an example for promoting solar power as a remunerative crop. However, the scheme was eventually executed as a single feeder pilot with some design changes in Nalahalli panchayat from 2015–18. The authors visited the pilot in 2017–18 and 2018–19 to assess if it had delivered the promises of Surya Raitha scheme. The results are a mixed bag and offer important lessons for implementation and scaling out of component C of the Government of India's Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan policy.

Neha Durga (*neha.durga@iitb.ac.in*) is a research scholar at Centre for Policy Studies, IIT Bombay. Tushaar Shah (*t.shah@cgiar.org*) is the Emeritus Scientist at the International Water Management Institute. Shilp Verma (*shilp.verma@cgiar.org*) is a researcher at Water-Energy-Food Policies, International Water Management Institute. Manjunatha A V *(manjublore@gmail.com)* is a director (evaluation) at Karnataka Evaluation Authority, Government of Karnataka, Bengaluru.

The Surya Raitha pilot was a pioneering attempt by the Government of Karnataka to solarise an entire electricity feeder by replacing 250 electric pumps with solar irrigation pumps (SIPs) installed in farmers' fields in 2015. The benefits and implications of grid-connected SIPs have been in discussion for quite some time. Several researchers have argued that solarising electric pumps and guaranteeing surplus electricity buy back, apart from greening the electricity as well as irrigation, could deliver multiple benefits such as better management of energy–water and improved climate resilience in agriculture (Kishore et al 2014; Roblin 2016; Shah and Verma 2014a, 2014b). Others have critiqued this idea and have emphasised the alternative mechanisms for groundwater management such as pro rata metering of electricity (Sahasranaman et al 2018). This paper presents a preliminary analysis of energy and water use in irrigation in the Surya Raitha experiment and the key changes in agriculture in the selected region. Given that electric pumps will be solarised at a scale in component C of the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM–KUSUM) scheme, the flagship scheme of the Government of India for solarising irrigation with an estimated outlay of ₹34,035 crore (Ministry of New and Renewable Energy 2020), this initial assessment provides useful lessons and insights for improving the implementation of the scheme and achieving the intended benefits.

The idea of solarising tube wells and buying back surplus solar energy from farmers was first picked up and aired by the late finance minister Arun Jaitley in the union budget of 2014. Soon thereafter, the Government of Karnataka announced the Surya Raitha scheme to be implemented state-wide. But eventually it was executed only as a single feeder pilot in Nalahalli panchayat in Ramanagra district of Karnataka. Harobele F2 feeder, supplying electricity to irrigation pumpsets in seven villages—(i) Harobele, (ii) Muthurayanapura, (iii) Rayappana Doddi, (iv) Kadle Doddi, (v) Nalahalli, (vi) Uyyamballi, and (vii) Doddahalahalli—was selected by the Bangalore Electricity Supply Company (BESCOM), the local distribution companies (DISCOM), and the nodal agency for executing the project. The feeder exclusively supplied electricity to 280 authorised irrigation pumps and 150 additional unauthorised pumps with a modal pump size of 5 HP and a total (actual) feeder load of 2.213 MW (BESCOM 2015a).

Background

In March 2015, BESCOM presented the approved design of the scheme (Table 1, p 56) with ₹102/kWp as the cost of the system.

An interest-free loan from BESCOM (of ₹155 Mn) to farmers and ₹1 out of feed-in-tariff (FiT) of ₹7.2, as payment towards surplus electricity sold, was approved. The SIPs replacing electric pumps were to be powered by 50% extra solar panel wattage.[1] Because of this oversizing, it was assumed that farmers will evacuate close to 30%–40% of the total electricity generated. Also, because the new (solar irrigation) pumps were doubly efficient as the earlier electric pumps (25%)[2] owned by the farmers, BESCOM expected that the farmers will not draw any electricity from the grid and hence will be virtually off the grid for them. Hence, it was expected that the loan will be repaid in 10 years partly through the savings in supplied grid electricity and remaining through the surplus electricity that would be evacuated by SIP farmers.

Table 1: Financial Design of Surya Raitha Experiment

Particular	5 HP Pump	7.5 HP Pump	Total Cost for 250 Pumps (Mn ₹)
PV capacity required by pump (kW)	4.8	7.2	
Oversizing factor	1.5x	1.5x	
Total system size (kW)	7.2	10.8	
Total cost of the system (₹)	7,35,000	11,03,000	
No of pumps	180	70	
GoK contribution (₹)	58,000	1,69,000	22
MNRE contribution (₹)	1,62,000	1,62,000	41
Interest-free loan from BESCOM (₹)	5,41,000	8,16,000	155
Farmer contribution (₹)	50,000	75,000	14
Total			23

Source: BESCOM (2015b).

The operational design of the pilot was significantly inspired by the International Water Management Institute's (IWMI) proposal that entailed paying farmers a tariff for the surplus solar power sold by them, organising farmers into a cooperative to sell surplus electricity, and enabling the farmer institution to distribute the payment as per the electricity sold by each farmer member. The IWMI had argued that a higher tariff would incentivise the farmers to economise energy and water use. Therefore, the tariff offered should be remunerative and not notional. Also, there was an emphasis on the capital contribution by farmers in acquiring SIPs to ensure their active participation in the process of energy transition (Shah and Verma 2014a). However, in Surya Raitha pilot, the financial contribution from farmers was nil[3] and therefore the tariff share offered was also very low (₹1/kWh).

Shah et al (2014) identified five major benefits from the Surya Raitha scheme, which could accrue to different stakeholders from the scheme:

> (1) Improve agrarian livelihood by providing farmer cash income for "growing" solar energy as a remunerative cash crop; (2) Conserve the environment through a built-in incentive to conserve groundwater and energy use in pumping; (3) Enhance the quality of irrigation by providing farmers reliable, uninterrupted, daytime power supply; (4) Reduce the carbon footprint of groundwater irrigation by reducing electricity and diesel use in pumping water; and (5) Improve finances of the power sector by liberating DISCOMS from the deadweight of farm power subsidies.

The current paper analyses if Surya Raitha pilot could deliver the promise of the Surya Raitha scheme as envisaged by Shah et al (2014a, 2014b) and if it could transform the vicious energy–irrigation nexus (Shah 2009) pervasive in the western and southern India.

Methodology

Primary and secondary data was collected in 2018–19 through fieldwork and survey in the Nalahalli panchayat with the help of the Institute of Social and Economic Change (ISEC) team. Out of the 10 villages in Nalahalli panchayat covered by the Harobele F2 feeder, Nalahalli and Harobele villages were selected as 80% (249 installations) of the total 310 solar pumps were installed in these two villages. Primary data related to agriculture and irrigation was collected by surveying 105 selected farmers from three groups: (i) Surya Raitha beneficiaries—35 SIP owners whose electric pump was solarised in the Surya Raitha experiment; (ii) electric pump owner—35 electric pump owners who owned the pump before and after the Surya Raitha experiment; and (iii) water buyers—35 farmers who did not own any pump but bought irrigation from neighbouring farmers. The year 2015–16 was considered as before the Surya Raitha pilot project and the year 2017–18 as after the Surya Raitha pilot project. The primary data was collected in August 2018. Table 2 shows the pumping capacity distribution in the sample.

Table 2: Pump Size Distribution in the Selected Sample

Size (HP)	SIP	Electric Pumps
5	15	12
7.5	20	14
10		9
Total HP	225	255

The electricity data for Harobele F2 feeder and the detailed project report (BESCOM 2015a) of the Surya Raitha pilot were provided by BESCOM. Feeder-level electricity usage data for 2014, that is, before the experiment was compared with feeder-level electricity usage data for 2017 for 249 SIPs, installed by the end of 2017. Energy generation in SIPs is estimated as per their installation date and water usage is estimated using the pump efficiency figures quoted in the detailed project report by BESCOM. For estimation of water usage after the experiment, the standard efficiency of SIPs in the market for the same brand is assumed.

Data and Analysis

Energy and water use: As the solar pumps got installed in a phased manner (Table 3), farmers started generating and using solar energy apart from grid electricity for pumping groundwater. By the end of 2017, there were a total of 249 pumps installed with a cumulative pumping capacity of 1,441.5 HP powered by 2,162.25 kWp of solar PV. But apart from this

Table 3: Installation of SIPs across the Years in the Surya Raitha Scheme

Year	2016	2017	2018
Number of pumps installed (no)	49	200	60
Total installed capacity (HP) in the year	290	1,151.5	350
Total installed capacity (kW) in the year	435	1,727.25	525
Unauthorised load (HP)		500	
Cumulative capacity (HP) till the year	290	1941.5	2,277.5
Cumulative capacity (kW) till the year	435	2,162.25	2,687.25

Source: BESCOM data.

authorised load, there was unauthorised[4] pumping load of 500 HP that only consumed electricity and did not contribute to any solar energy generation. Hence, the total energy was generated by 2,162.25 kWp, but electricity was consumed by a total load of 1941.5 HP.

Monthly solar energy generation is estimated in Table 4; the growing numbers indicate the phased installation, staggered across different months. The Harobele feeder was energised for three–five (three phase) hours every day between 9 am and 3 pm. The daily data for energisation hours[5] is used to calculate the monthly hours for which feeder was energised for solar PV energy evacuation. Maximum solar energy generation has been calculated considering peak energy production in the energisation hours. To compensate for clouding and lower energy production in the morning hours, 85% of energy production[6] is assumed. Using this calculation, we have arrived at total energy generated for pumping or evacuation to be 1.68 MU in 2017.

Table 4: Solar Energy Generation in Installed SIPs in 2017

Month	Number of Hours Feeder Was Energised (Hour)	SPV Installed in 2017 (kWh)	Total Operational SPV (kWh)	Maximum Solar Energy Generation (Could Have Generated) (kWh)	Generation Efficiency (%)	Energy Available for Pumping or Evacuation (kWh)
January	205.0	97.50	435.0	89,175	0.85	75,799
February	168.0	281.25	532.5	89,460		76,041
March	177.0	202.50	814.0	1,44,034		1,22,429
April	141.0	146.25	1,016.0	1,43,291		1,21,798
May	20.0	120.00	1,163.0	23,250		19,763
June	32.5	135.00	1,283.0	41,681		35,429
July	179.0	127.50	1,418.0	2,53,733		2,15,673
August	137.5	183.75	1,545.0	2,12,438		1,80,572
September	0.0	427.50	1,729.0	–		–
October	74.0		2,156.0	1,59,563		1,35,628
November	185.0		2,156.0	3,98,906		3,39,070
December	197.5		2,156.0	4,25,859		3,61,980
Total	1,516.5		2,156.0	19,81,389		16,84,181

Source: BESCOM Data and authors' estimates.

The SIPs are net-metered; hence, they could import and export electricity from and to the grid depending on multiple factors such as their water requirement, sunlight availability, solar energy generation, etc. The total useful energy consumed by the pump is calculated as the sum of the grid electricity imported and the energy utilised from solar energy generated in SIP. The surplus electricity, not utilised in the pumping, was sold as export. Hence, the total energy consumed by the SIP is calculated as:

Energy consumed in pumping = Grid electricity import + Solar energy generated – Solar electricity export

Grid energy consumed for groundwater pumping before Surya Raitha: The average monthly consumption by the Harobele F2 feeder for 2014 was 4,95,125 kWh, equivalent to a total annual consumption of 5.34 MU in 2014 for a total connected load of 3,225 HP (BESCOM 2015a). This translates into average annual electricity consumption of 1,342 kWh per HP in 2014 (BESCOM 2015a).

Grid energy consumed for groundwater pumping after Surya Raitha: As mentioned earlier, the Harobele F2 feeder was energised every day for three–five hours for enabling pumping and evacuation. For about 7–10 hours, a single phase of the feeder was energised to enable the operation of small non-pumping lighting loads every day. In 2017, a total of 1.09 MU of grid electricity was supplied. Assuming 10% technical losses and 10% domestic load, around 0.88 MU from the grid were drawn for pumping groundwater. Approximately 0.67 MU is deducted from this considering the average energy used by the unauthorised load (1,342 kWh). This translates into an average annual grid electricity consumption per HP of SIP of 146 kWh/HP in 2017 (Table 5).

Table 5: Grid Electricity Consumption in 2014 and 2017

Year		2014	2017
(a)	Total annual feeder consumption (kWh)	53,43,438	10,87,968
(b)	Total authorised and unauthorised load (HP)	3,225	1,941.5
(c)	Technical losses assumed (%)	10	10
(d)	Single phase consumption assumed (%)	10	10
(e)	Net annual agriculture usage (kWh)	43,28,185	8,81,254
(f)	Electricity consumption by unauthorised load in 2017 (kWh)		6,71,000
(g)	kWh/HP/year (grid power)	1,342	146

Source: BESCOM data and authors' estimates.

Solar energy consumed for groundwater pumping after Surya Raitha: Around 1.68 MU of solar energy was available with 249 farmers owning SIPs for pumping or evacuation in 2017. Deducting 10% technical losses, which is an overestimate as solar energy is produced near the load/pump and export (6,469 kWh), around 1.5 MU have been consumed in pumping. This translates into average annual solar electricity consumption per HP of 1,047 kWh/HP in 2017 (Table 6). Summing the grid and solar electricity, the average annual electricity consumed for pumping per HP was 1,231 kWh in 2017 compared to 1,342 kWh in 2014.

Table 6: Solar Electricity Consumption in 2017

Total solar energy generation (from Table 4) (kWh)	16,84,181
Technical losses assumed (%)	10
Solar energy exported to grid (kWh)	6,469
Total consumed electricity from solar PV generation (import + generation – export) (kWh)	15,09,294
Solar energy consumption per HP (kWh [only solar]/HP/year)	1,047
Total consumption by pump kWh/HP/year (solar electricity + grid electricity)	1,193

Source: BESCOM data and authors' estimates.

Water withdrawal for agriculture before and after Surya Raitha: The pump efficiency is used as a multiplier to convert the consumed energy to equivalent water withdrawal by the pumps. For calculating the water withdrawal in 2014, that is, before the experiment, the average efficiency measured and quoted in the detailed project report of BESCOM of the experiment has been used, which is 0.25. For calculating the water withdrawal after the experiment, the efficiency quoted by the respective solar pump brands has been used as 0.5.

The energy equivalent of water consumption for 2017 comes out to be 596.4 kWh compared to 335.5 kWh for 2014,

that is, 77% increase in equivalent energy for water or simply water withdrawal. We have been able to use energy consumption as a proxy for groundwater withdrawal because the groundwater table in the region did not change owing to the annual groundwater recharge by the Arkavathi river[7] in the command area of which the experiment has been carried out.

In the Surya Raitha pilot, it was not only the energy system that is, grid electricity, which was replaced with solar but the older inefficient pumps were also replaced with new efficient pumps. Therefore, the change in energy and water consumption are attributed to the daytime high-quality electricity and high efficiency in pumps. Also, ₹1, the FiT for evacuating surplus electricity to the grid, was never delivered to the farmers. Although all the beneficiaries were aware that the energy sale is priced at ₹1 per unit, none of the interviewed beneficiaries knew the process of getting this payment. Additionally, the Harobele F2 feeder emerged as a net electricity importer, that is, the farmers on the feeder consumed more electricity than the total electricity produced by all the SIPs together; the feeder consumed 146 kWh per HP more than what all the SIPs generated.

This seems to be a case of rebound effect,[8] also known as the take-back effect, which is observed when the gains that happen from increased efficiency are less than the expected gains (Roy 2000; Alcott 2005; Greening et al 2000). In the Surya Raitha pilot, it was expected that the water use will remain the same or reduce owing to the technology change but the water use increased post the experiment (Table 7).

Table 7: Groundwater Withdrawal in 2014 and 2017

Year	2014	2017
Energy consumed (kWh/HP/year)	1,342	1,193
Pump efficiency	0.25	0.5
Energy equivalent of water (kWh/HP/year)	335.5	596.4
Water withdrawal	X	1.77X

Source: BESCOM (2015a) and authors' estimates.

Agriculture and irrigation: SIP owners, who were electric pump owners before their pumps were solarised, were surveyed along with the electric pump owners and water buyers (who do not own any irrigation pump but buy irrigation from neighbouring farmers) to collect data about crops, irrigation, and yield before and after the Surya Raitha pilot.

Our analysis (Table 8) shows that there has been an increase in the total irrigated area for all three types of farmers with electric pump owners reporting the maximum increase of 14%. The difference between the increase in the irrigated area of SIP and electric pump owners is not significantly lower and hence it can be argued that the adoption of SIPs has not played any determining role in changing the irrigated area.

Table 8: Change in Total Irrigated Area (Acre) between 2015 and 2017

Type of Farmer	Before Surya Raitha (2015–16)			After Surya Raitha (2017–18)			Percentage Increase in Irrigated Area
	Total Operational Landholding	Total Irrigated Area	Total Unirrigated Area	Total Operational Landholding	Total Irrigated Area	Total Unirrigated Area	
Solar pump owner	112.8	92.1	20.8	101.8	96.6	5.3	13
Electric pump owner	133.6	108.3	25.3	113.8	107.8	6	14
Water buyer	32.8	30.6	2.3	34.8	32.8	2	1

Tables 9a and 9b present the differences in area, yield, and the number of irrigations for four major crops of the region, that is, mulberry as the annual crop, paddy, ragi, and groundnut as kharif or monsoon crops for three types of farmers. There is a significant increase in area under mulberry and a reduction in area under paddy, ragi, groundnut, and other crops. Share of mulberry crop (in the total area) increased the most for SIP owners. The increase in mulberry area is observed for electric pump owners and water buyers also. Consequently, the decrease in area under crops is more prominent in the case of SIP owners.

Table 9a: Change in the Total Irrigated Area (Acre) between 2015 and 2017 for Different Types of Farmers and Crops

	Crops	Before Surya Raitha (2015–16)		After Surya Raitha (2017–18)		Change in Cropping Pattern (%)
		Irrigated Area (Acre)	Percentage of Total Irrigated Area	Irrigated Area (Acre)	Percentage of Total Irrigated Area	
SIP owner	Paddy	16.25	16	7	7	-9
	Groundnut	18.05	18	0	0	-18
	Ragi	12.5	13	4.5	4	-8*
	Mulberry	34.5	35	73.05	72	37
	Others	18.5	19	17	17	-2
	Total irrigated area	99.8		101.55		
Electric pump owner	Paddy	17.5	15	14	11	-4*
	Groundnut	11	9	0	0	-9*
	Ragi	23	19	15.25	12	-7
	Mulberry	45.3	38	71.55	57	19
	Others	22.5	19	25.5	20	1
	Total irrigated area	119.3		126.3		
Water buyer	Paddy	1	3	0	0	-3*
	Groundnut	0	0	0	0	0
	Ragi	1.25	4	0	0	-4*
	Mulberry	28.3	93	32.8	100	7
	Others	0	0	0	0	0
	Total irrigated area	30.55		32.8		

* Statistically insignificant.

Table 9b: Change in Yield and Number of Irrigations for Different Crops for Different Types of Farmers between 2015 and 2017

Crop	Type of Farmer	Before Surya Raitha (2015–16)		After Surya Raitha (2017–18)		Change in Yield (%)	Change in Number of Irrigation (%)
		Yield (Kg for Cocoon, Qtl for Others)	Number of Irrigations per Crop	Yield	Number of Irrigations per Crop		
Mulberry (cocoon)	S	306.23	42.32	365.12	43.73	19	3
	E	298.45	39.65	345.28	42.33	16	7
	WB	411.17	38.33	623.32	40.37	52	5
Ragi	S	9.68	10.54	9.33	10.40	-4	-1*
	E	9.17	13.73	13.11	14.10	43	3*
	WB	12.00	13.50	–	–	–	–
Paddy	S	16.80	33.46	22.43	33.25	34	-1
	E	20.97	31.91	20.07	32.92	-4*	3
	WB	20.00	32.00	–	–	–	–
Groundnut	S	6.32	10.44	–	–	–	–
	E	4.64	9.60	–	–	–	–
	WB	–	–	–	–	–	-

S: SIP owner, E: electric pump owner, WB: water buyer.
* Statistically insignificant.

The productivity of mulberry increased for all three types of farmers but it was maximum for water buyers. Interestingly, the number of irrigations were the least for them compared to SIP and electric pump owners as they bear the highest cost of irrigation. Also, there is some increase in the number of irrigations by all three types of farmers for the mulberry crop but the increase is not significant. Given that the mulberry crop is more water-intensive than other crops, an increase in its irrigated area and number of irrigations by SIP owners indicate a higher use of groundwater by them compared to not only from their peers but also from their earlier practices.

Discussion

Rebound effect is studied under Jevon's paradox, which states that at times due to demand changes, the resource is not saved but consumed more if the efficiency of the technology/machine is improved (Alcott 2005). In the case of the Surya Raitha pilot also, we observed that because the pump efficiency was improved, instead of savings in water, estimates show that more water is used. This paradox is also often observed with other "efficient" water-saving technologies like drip irrigation where by switching to drip irrigation from flood irrigation, their overall water demand remains the same or increases because the area under cultivation increases and/or irrigation practices change (Dumont et al 2013).

It was expected that the surplus electricity buy back guarantee at ₹6–₹9/kWh, the salient feature of the Surya Raitha scheme will incentivise farmers to economise energy-groundwater use and at the same time generate climate-proof income. But water consumption increased and despite a 100% increase in the pump efficiency (0.25 for earlier used electric pumps to 0.50 for SIPs), the electricity consumption reduced by merely 10%. The low and non-operational FIT share for farmers meant that instead of behaving efficiently, the SIP owners behaved like electric pump owners having free, daytime, uninterrupted farm power supply with the only purpose of withdrawing groundwater. This reinforces the concern of multiple researchers who have been arguing that mushrooming SIPs without any incentive for economising on water use will lead to water overuse (Shah et al 2017; Verma et al 2019; Gupta 2019). It is therefore important to design strategies to avoid such an externality. The Surya Raitha scheme was deemed as one such smart policy by Shah et al (2017). However, the design and execution of the Surya Raitha pilot ignored the most critical aspect, that is, the "remunerative feed-in-tariff," thus compromising its central attribute.

In the current business model, it was envisaged that the evacuated electricity charged at ₹6.5/kWh will be used to repay the loan taken by BESCOM in about 10 years if one-third of the total solar energy generated is evacuated. But there was no evacuation and the feeder ended up importing electricity. If such pumping behaviour continues, the loan would never be recovered. However, there have been significant savings in supplied electricity. The grid electricity consumption in the Harobele F2 feeder reduced by 87.7% and has resulted in an annual saving of about 4 million units, much higher than the expected 2.5 million units. If this saving is accounted towards loan repayment, BESCOM will be able to repay its loan in much earlier than 10 years. Considering the savings, the financial model could have been tweaked to offer farmers a higher and operational share of FIT for adequately incentivising them for economising energy and water use.

Overall, the finances of the Surya Raitha pilot showcase it as a clear winner in reducing the subsidy burden of the government. Farmers also got daytime hassle-free green electricity that enabled them to grow and irrigate more without adding to the carbon emissions. Therefore, it boosted the political capital associated with farm power and earned a good name for the government and BESCOM in the feeder villages. But by compromising on the effective FIT for farmers, it was unable to achieve the promise of efficient and sustainable groundwater use. The results derived in the Surya Raitha

pilot are largely because of the efficient pumps and not because of solarisation of irrigation, which invariably decentralises electricity generation giving more control in the hands of the farmer to decide and plan energy use towards irrigation and evacuation. It puts to question the assertion by BESCOM and Sreedharan et al (2020) that Surya Raitha is a demand-side management intervention.

The experience of Harabole F2 feeder offers a critical lesson for the design and execution of PM–KUSUM, particularly its "component C," which envisages solarisation of 10 lakh grid-connected agriculture pumps. It shows that merely commissioning solar pumps on farmers' fields and connecting them to the grid is unlikely to change farmers' pumping behaviour and unlock the range of benefits the model can result in. The conceptualisation and field execution of a remunerative FiT offered to farmers for their surplus solar energy will be crucial in determining whether this can become a key component of India's larger groundwater demand management strategy. Further, results from pilots in Gujarat (DSUUSM 2019) suggest that the additional income from the sale of surplus solar power is significant—almost as much as the income from crops; and therefore, "growing solar power as a remunerative third crop" can contribute to the Government of India's mission of doubling farm incomes. In the Surya Raitha pilot, however, such an opportunity for creating a counter-climatic source of income for farmers, which would also lead to improved climate resilience, was completely missed. In the recent assessment of the Government of Gujarat, the experiment of solarising feeders under the Suryashakti Kisan Yojana, Shah and Rai[9] also indicate that an operational FiT holds significant potential in governing farmers' pumping behaviour. More work is needed to ascertain how to operationalise and utilise this opportunity. Also, there are other factors that explain pumping behaviour of farmers such as crop choice, landholding, and groundwater table[10] and hence incorporating them in planning solar irrigation expansion will be useful in achieving the intended benefits.

NOTES

1 The 5 HP pump was to be powered by 7.2 kW and 7.5 HP was to be powered with 10.8 kW to ensure surplus power generation and good water discharge in case of cloudy condition.

2 The data on efficiency of electric pumps was gathered by SunEdison by conducting field tests and was mentioned in the detailed project report, they had prepared for BESCOM for the Surya Raitha pilot. SunEdison was the implementing agency for Surya Raitha pilot initially but later on Refex Energy took over as the implementing agency.

3 Farmers did not pay towards the capital cost but they gave a parcel of their land for installing the solar panels; hence, their contribution is not nil.

4 The grid electricity for agriculture is free in Karnataka but still some farmers do not have official connections, and they tap/hook the feeder to run their pumps. BESCOM is largely aware of this load and term it as unauthorised load. Despite knowing the total unauthorised load, it is difficult for BESCOM to identify the specific farmers and stop them from doing so therefore, the load was accepted in the system for calculations.

5 Feeder energisation is essential for energy evacuation or even for pumping operation. In the absence of it, even if the energy is generated in SIPs, it cannot be evacuated or used in pumping. Therefore, in the Surya Raitha pilot, significant amount of solar energy, which could have been generated, was not generated.

6 The feeder was energised in the daytime from 8–9 am to 3 pm capturing the majority of the equivalent sun hours. But to take in account for the clouding, 85% of the total feeder energisation hours have been taken as equivalent hours in which rated energy was being produced.

7 One of the reasons to carry out the experiment in this region, as told by the SunEdison people in a personal communication, was that the threat of groundwater exploitation was less owing to good recharge by the Arkavathi dam and river.

8 Rebound effect is calculated as: Rebound effect [%] = 100 * (calculated savings – actual savings)/calculated savings.

9 In the recent assessment of the Government of Gujarat's experiment of solarising feeders under Suryashakti Kisan Yojana, Shah and Rai also indicate that an operational feed-in-tariff (FiT) holds significant potential in governing farmers' pumping behaviour. More work is needed to ascertain how to operationalise and utilise the opportunity (Shah and Rai 2021 Preprint).

10 Groundwater table monitoring in areas where solar irrigation is expanding is a good measure to ensure adaptive management.

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Wholesale Price Index

The year-on-year (y-o-y) WPI inflation rate surged to 12.5% in October 2021 from 1.3% registered a year ago and 10.7% a month ago. The index for primary articles increased by 5.2% compared to 4.3% reported a year ago. The inflation rate of food articles decreased to -1.7% from 7.1%, while the index for fuel and power increased by 37.2% against -11.1% registered a year ago. The index for manufactured products rose by 12.0% compared to 2.2% reported a year ago.

Consumer Price Index

The CPI-inflation rate decreased to 4.5% in October 2021 from 7.6% registered a year ago and 4.3% a month ago. The consumer food price index decreased by 0.8% compared to 11.0% reported a year ago. The CPI-rural inflation rate decreased to 4.1% and urban inflation rate to 5.0% from 7.8% and 7.3%, respectively, registered a year ago. As per Labour Bureau data, the CPI for Agricultural Labourers (CPI–AL) stood at 2.8% in October 2021 against 6.6% a year ago and the CPI for Industrial Workers (CPI–IW) at 4.4% in September 2021 compared to 5.6%.

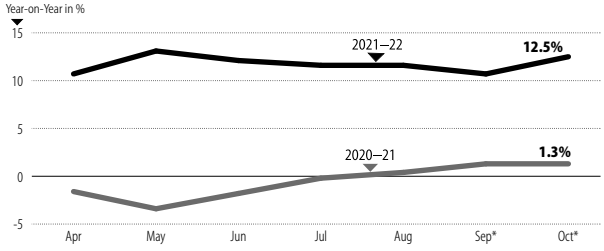
Foreign Trade

The trade deficit widened to $19.7 bn in October 2021 from $9.2 bn registered last year. Exports increased by 43.1% to $35.7 bn and imports by 62.5% to $55.4 bn from $24.9 bn and $34.1 bn, respectively, reported last year. Oil imports stood higher at $14.4 bn and non-oil imports at $40.9 bn compared to $6.0 bn and $28.1 bn, respectively. During April–October 2021–22, cumulative exports increased by 55.1% to $233.5 bn and imports by 78.2% to $331.4 bn compared to their respective values of $150.5 bn and $186.0 bn registered during the same period last year.

Index of Industrial Production

The y-o-y growth rate of IIP rose to 3.1% in September 2021 from 1.0% registered a year ago with growth rate in manufacturing segment increasing to 2.7% from 0.4%. The index of mining production increased by 8.6% and that of electricity generation declined by 0.9% compared to their respective growth rates of 1.4% and 4.9% reported a year ago. As per the use-based classification, production of capital goods increased by 1.3% and infrastructure goods by 7.4% against -1.2% and 4.0% a year ago. Growth rate of consumer durables segment declined to -2.0% and of non-durables to -0.5% from 5.3% and 2.4%.

Movement of WPI Inflation April–October



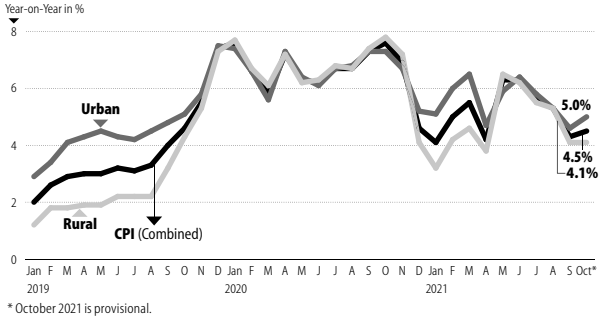
* Data is provisional; Base: 2011–12 = 100.

Trends in WPI and Its Components October 2021* (%)

	Weights	Over Month	Over Year	Financial Year (Averages) 2018–19	2019–20	2020–21
All commodities	100	2.3	12.5	4.3	1.7	1.3
Primary articles	22.6	3.1	5.2	2.7	6.8	1.7
Food articles	15.3	5.0	-1.7	0.3	8.4	3.2
Fuel and power	13.2	8.7	37.2	11.5	-1.8	-8.0
Manufactured products	64.2	0.8	12.0	3.7	0.3	2.8

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

Movement of CPI Inflation January 2019–October 2021



* October 2021 is provisional.
Source: National Statistical Office (NSO); Base: 2012=100.

Inflation in CPI and Its Components October 2021* (%)

	Weights	Latest Month Index	Over Month	Over Year	Financial Year (Avgs) 2019–20	2020–21
CPI combined	100	165.5	1.4	4.5	4.8	6.2
Consumer food	39.1	166.9	2.6	0.8	6.7	7.7
Miscellaneous	28.3	161.0	0.6	6.8	4.4	6.6
CPI: Occupation-wise						
Industrial workers (2016=100)#		123.3	0.2	4.4	7.5	5.0
Agricultural labourers (1986–87=100)		1081.0	1.3	2.8	8.0	5.5

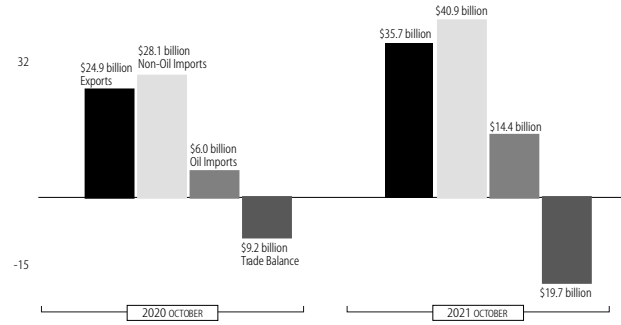
* Provisional; # September 2021; Source: NSO (rural and urban); Labour Bureau (IW and AL).

Merchandise Trade October 2021

	October 2021 ($ bn)	Over Month (%)	Over Year (%)	April–October (2021–22 over 2020–21) (%)
Exports	35.7	5.5	43.1	55.1
Imports	55.4	-1.8	62.5	78.2
Trade balance	-19.7	-12.7	115.5	175.9

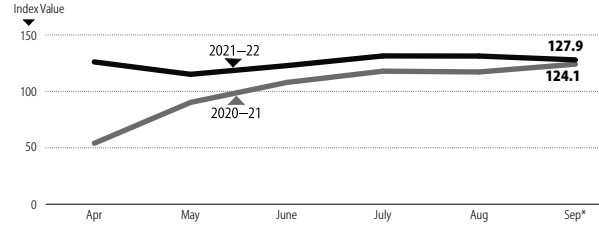
Data is provisional. Source: Ministry of Commerce and Industry.

Components of Trade October 2020 and October 2021



Oil refers to crude petroleum and petroleum products, while non-oil refers to all other commodities.

Movement of IIP April–September



* September 2021 are quick estimates; Base: 2011–12=100.

Industrial Growth: Sector-wise September 2021* (%)

	Weights	Over Month	Over Year	Financial Year (Avgs) 2019–20	2020–21
General index	100	-2.6	3.1	-0.8	-8.4
Mining	14.4	-8.4	8.6	1.6	-7.8
Manufacturing	77.6	-0.5	2.7	-1.4	-9.6
Electricity	8.0	-11.0	0.9	1.0	-0.5
Industrial Growth: Use-based					
Primary goods	34.0	-7.9	4.6	0.7	-7.0
Capital goods	8.2	0.5	1.3	-13.9	-18.6
Intermediate goods	17.2	-2.0	4.9	9.1	-9.4
Infrastructure/Construction goods	12.3	-2.1	7.4	-3.6	-8.7
Consumer durables	12.8	6.7	-2.0	-8.7	-15.0
Consumer non-durables	15.3	-0.9	-0.5	-0.1	-2.2

*September 2021 are quick estimates; Base: 2011–12=100.
Source: NSO, Ministry of Statistics and Programme Implementation.

Comprehensive current economic statistics with regular weekly updates are available at: http://www.epwrf.in/currentstat.aspx.

India's Quarterly Estimates of Final Expenditures on GDP

₹ Crore | At 2011–12 Prices	2019–20 Q1	Q2	Q3	Q4	2020–21 Q1	Q2	Q3	Q4	2021–22 Q1
Private final consumption expenditure	2024421 (7.6)	2019783 (6.5)	2173139 (6.4)	2104358 (2.0)	1494524 (-26.2)	1793863 (-11.2)	2112186 (-2.8)	2160413 (2.7)	1783611 (19.3)
Government final consumption expenditure	392585 (1.8)	434571 (9.6)	359174 (8.9)	355412 (12.1)	442618 (12.7)	332582 (-23.5)	355547 (-1.0)	455997 (28.3)	421471 (-4.8)
Gross fixed capital formation	1233178 (13.3)	1125882 (3.9)	1164138 (2.4)	1207218 (2.5)	658465 (-46.6)	1029574 (-8.6)	1194243 (2.6)	1338227 (10.9)	1022335 (55.3)
Change in stocks	39608 (-37.8)	39414 (-40.0)	38146 (-40.0)	41217 (-40.8)	26611 (-32.8)	40726 (3.3)	40701 (6.7)	46238 (12.2)	38817 (45.9)
Valuables	43887 (-5.5)	44242 (-12.3)	37119 (-16.4)	39279 (-22.1)	3059 (-93.0)	42253 (-4.5)	41092 (10.7)	81381 (107.2)	17012 (456.1)
Net trade (Export–Import)	-170515	-129409	-95372	-95230	34071	6502	-80299	-131715	-62084
Exports	706991 (3.0)	710581 (-1.3)	707760 (-5.4)	701307 (-8.8)	552524 (-21.8)	696182 (-2.0)	682938 (-3.5)	762743 (8.8)	768589 (39.1)
Less imports	877506 (9.4)	839990 (-1.7)	803132 (-7.5)	796537 (-2.7)	518453 (-40.9)	689680 (-17.9)	763237 (-5.0)	894458 (12.3)	830673 (60.2)
Discrepancies	3544 (-89.2)	27048 (-42.1)	-68714	181145	36074	51218	-39203	-54206	16858
Gross domestic product (GDP)	3566708 (5.4)	3561530 (4.6)	3607630 (3.3)	3833400 (3.0)	2695421 (-24.4)	3296718 (-7.4)	3624266 (0.5)	3896335 (1.6)	3238020 (20.1)

India's Overall Balance of Payments (Net): Quarterly

Item	2020–21 ($ mn) Q1	Q2	Q3	Q4	2021–22 ($ mn) Q1	2020–21 (₹ bn) Q1	Q2	Q3	Q4	2021–22 (₹ bn) Q1
Current account	19058	15250	-2235	-8161	6497	1446 [3.7]	1134 [2.4]	-165 [-0.3]	-595 [-1.0]	479 [0.9]
Merchandise	-10990	-14816	-34602	-41745	-30716	-834	-1102	-2552	-3043	-2266
Invisibles	30048	30066	32367	33583	37213	2280	2236	2387	2448	2745
Services	20758	21086	23237	23485	25812	1575	1568	1714	1712	1904
of which: Software services	20774	22021	23470	23475	25136	1576	1638	1731	1711	1854
Transfers	16974	18386	19258	18842	18937	1288	1368	1420	1373	1397
of which: Private	17217	18619	19494	19108	19222	1306	1385	1438	1393	1418
Income	-7685	-9405	-10128	-8743	-7536	-583	-700	-747	-637	-556
Capital account	1376	15943	34141	12261	25766	104 [0.3]	1186 [2.5]	2518 [4.6]	894 [1.6]	1901 [3.7]
of which: Foreign investment	114	31422	38597	9959	12298	9	2337	2847	726	907
Overall balance	19846	31568	32483	3389	31870	1506 [3.9]	2348 [5.0]	2396 [4.4]	247 [0.4]	2351 [4.6]

Figures in square brackets are percentage to GDP.

Foreign Exchange Reserves

Excluding gold but including revaluation effects	12 November 2021	13 November 2020	31 March 2021	Variation Over Month	Over Year	Financial Year So Far 2020–21	Financial Year So Far 2021–22	Financial Year 2016–17	2017–18	2018–19	2019–20	2020–21
₹ crore	5064710	4545431	3935032	-50626	519279	712749	598034	25300	353270	68050	668976	590416
$ mn	680351	609125	538180	764	71225	100740	69487	10160	53217	-14168	56831	94535

Monetary Aggregates

₹ Crore	Outstanding 2021	Variation Over Month	Over Year	Financial Year So Far 2020–21	Financial Year So Far 2021–22	Financial Year 2018–19	2019–20	2020–21
Money supply (M_3) as on 22 October	19915804	348308 (1.8)	1980950 (11.0)	1134891 (6.8)	1071226 (5.7)	1469479 (10.5)	1367897 (8.9)	2044615 (12.2)
Components								
Currency with public	2879130	48616 (1.7)	241443 (9.2)	287938 (12.3)	127302 (4.6)	292497 (16.6)	297539 (14.5)	402079 (17.1)
Demand deposits	2109705	188828 (9.8)	493869 (30.6)	-121856 (-7.0)	114585 (5.7)	142801 (9.6)	111179 (6.8)	257428 (14.8)
Time deposits	14879087	110720 (0.7)	1239413 (9.1)	965658 (7.6)	828808 (5.9)	1026348 (9.6)	952412 (8.1)	1376263 (10.9)
Other deposits with RBI	47882	144 (0.3)	6225 (14.9)	3150 (8.2)	531 (1.1)	7835 (32.8)	6765 (21.3)	8844 (23.0)
Sources								
Net bank credit to government	6171255	46822 (0.8)	455186 (8.0)	755707 (15.2)	320881 (5.5)	387091 (9.7)	571872 (13.0)	890012 (17.9)
Bank credit to commercial sector	11876051	155483 (1.3)	796501 (7.2)	40905 (0.4)	207584 (1.8)	1169004 (12.7)	655926 (6.3)	629822 (5.7)
Net foreign exchange assets	4944726	-23068 (-0.5)	443729 (9.9)	699961 (18.4)	365880 (8.0)	148545 (5.1)	730196 (23.8)	777810 (20.5)
Banking sector's net non-monetary liabilities	3103521	-168987 (-5.2)	-284781 (-8.4)	361875 (12.0)	-176501 (-5.4)	235395 (10.7)	590557 (24.2)	253595 (8.4)
Reserve money as on 12 November	3721940	2769 (0.1)	408505 (12.3)	283728 (9.4)	121959 (3.4)	351702 (14.5)	259225 (9.4)	570274 (18.8)
Components								
Currency in circulation	2993087	40547 (1.4)	215698 (7.8)	330077 (13.5)	139324 (4.9)	307423 (16.8)	310541 (14.5)	406451 (16.6)
Bankers' deposits with RBI	680965	-38199 (-5.3)	186679 (37.8)	-49602 (-9.1)	-17902 (-2.6)	36444 (6.4)	-58081 (-9.6)	154979 (28.5)
Other deposits with RBI	47888	421 (0.9)	6128 (14.7)	3253 (8.4)	537 (1.1)	7835 (32.8)	6765 (21.3)	8844 (23.0)
Sources								
Net RBI credit to government	1243979	102115 (8.9)	221043 (21.6)	30744 (3.1)	144293 (13.1)	325987 (68.5)	190241 (23.7)	107494 (10.8)
of which: Centre	1233671	100061 (8.8)	232140 (23.2)	11790 (1.2)	137326 (12.5)	326187 (68.8)	189268 (23.6)	106604 (10.8)
RBI credit to banks & commercial sector	-812226	-111772 (16.0)	-298935 (58.2)	-312398 (155.5)	-442869 (119.9)	89478 (141.2)	-353744 (0.0)	-168464 (0.0)
Net foreign exchange assets of RBI	4591672	-62009 (-1.3)	333155 (7.8)	668114 (18.6)	392272 (9.3)	87807 (3.2)	741815 (26.0)	608997 (17.0)
Govt's currency liabilities to the public	27441	148 (0.5)	901 (2.8)	193 (0.7)	528 (2.0)	235 (0.9)	460 (1.8)	566 (2.1)
Net non-monetary liabilities of RBI	1328925	-74288 (-5.3)	-152342 (-10.3)	102925 (7.5)	-27734 (-2.0)	151805 (16.7)	319547 (30.2)	-21683 (-1.6)

Scheduled Commercial Banks' Indicators *(₹Crore)*

(As on 5 November)	Outstanding 2021	Variation Over Month	Over Year	Financial Year So Far 2019–20	Financial Year So Far 2020–21	Financial Year 2017–18	2018–19	2019–20
Aggregate deposits	16048797	293044 (1.9)	1645485 (11.4)	835820 (6.2)	935285 (6.2)	1147722 (10.0)	993720 (7.9)	1546020 (11.4)
Demand	1973114	186779 (10.5)	478092 (32.0)	-121981 (-7.5)	111921 (6.0)	141004 (10.3)	105716 (7.0)	244190 (15.1)
Time	14075683	106265 (0.8)	1167393 (9.0)	957801 (8.0)	823364 (6.2)	1006717 (10.0)	888005 (8.0)	1301830 (10.9)
Cash in hand	98094	-1337 (-1.3)	12577 (14.7)	-1744 (-2.0)	7346 (8.1)	14811 (24.7)	12385 (16.5)	3487 (4.0)
Balance with RBI	670135	32590 (5.1)	219278 (48.6)	-85329 (-15.9)	127443 (23.5)	40021 (7.6)	-29521 (-5.2)	6506 (1.2)
Investments	4687219	-2093 (-0.0)	210557 (4.7)	729313 (19.5)	224693 (5.0)	62603 (1.9)	366292 (10.8)	715177 (19.1)
of which: Government securities	4685928	-2301 (-0.0)	210693 (4.7)	736539 (19.7)	224296 (5.0)	61595 (1.9)	359694 (10.6)	722936 (19.3)
Bank credit	11163570	150112 (1.4)	744299 (7.1)	48410 (0.5)	214061 (2.0)	1146298 (13.3)	599138 (6.1)	578648 (5.6)
of which: Non-food credit	11086703	135653 (1.2)	751064 (7.3)	16543 (0.2)	198449 (1.8)	1146676 (13.4)	588984 (6.1)	569158 (5.5)

Capital Markets

	18 November 2021	Month Ago	Year Ago	Financial Year So Far Trough	Financial Year So Far Peak	2020–21 Trough	2020–21 Peak	End of Financial Year 2018–19	2019–20	2020–21
S&P BSE SENSEX (Base: 1978–79=100)	59636 (35.0)	61766	44180 (9.7)	47706	61766	27591	52154	39714 (12.4)	29816 (-21.8)	49009 (63.7)
S&P BSE-100 (Base: 1983–84=100)	18117 (39.3)	18800	13001 (8.6)	14482	18800	8180	15462	12044 (9.1)	8693 (-25.2)	14689 (68.2)
S&P BSE-200 (1989–90=100)	7729 (42.1)	8025	5440 (9.4)	6136	8025	3416	6520	4987 (7.1)	3614 (-25.1)	6211 (71.1)
CNX Nifty-50 (Base: 3 Nov 1995=1000)	17765 (37.3)	18477	12938 (8.9)	14296	18477	8084	15315	11923 (11.1)	8660 (-24.3)	14507 (67.9)
CNX Nifty-500	15303 (44.5)	15886	10588 (9.5)	12024	15886	6638	12765	9805 (5.3)	7003 (-26.3)	12149 (73.7)

Figures in brackets are percentage variations over the specified or over the comparable period of the previous year. | (-) = not relevant | - = not available | NS = new series | PE = provisional estimates

■ Comprehensive current economic statistics with regular weekly updates are available at: http://www.epwrf.in/currentstat.aspx.

Prisoners of Conscience

Reel and Real

A Twelve-Year Night is a compelling piece of art about the undying spirit of resistance in the face of authoritarian regimes.

CSMCH FILM CLUB

"Prison" exists to confine the human body to a limited space; limiting the space is to torture the body along with the physical violence, and this has ramifications for an individual's mental and physical health—the inevitable result of incarceration and torture. Naturally then, turning the opponent and dissenter into a political prisoner is an old-fashioned political technique to grab power and gain political dominance over a certain ideology or a section of society.

But art, as a medium, carries within it the potential to propagate ideas of resistance that those in power find difficult to neutralise even with the coercive state machinery at their command. The Spanish language film *A Twelve-Year Night* (2018) by Alvaro Brechner is an evocative piece of art that is dedicated to the undying spirit of resistance against the oppression of fellow humans. This Uruguayan feature film is based on real events in the lives of three political prisoners, who were active in the revolutionary movement in the country. It starts with a quote from a Franz Kafka story: "The man looked at the convict and asked the officer: 'does the prisoner know his sentence?' 'No,' said the officer; 'he will experience it in his body.'" This quote from the 20th-century story "In the Penal Colony," has been revisited on the screen by way of a 21st-century film to capture the poignancy of the torture unleashed on left revolutionary political prisoners by the Pinochet-led Uruguayan military regime in the 1970s, and the portent of the same for the political future of the country.

Whether in Kafka's story, Brechner's film, or under the current authoritarian regime in India, as political prisoners, they are all "prisoners of conscience"

After this quote fades out from the screen, followed by a short description of military dictatorship in Uruguay during 1972 to 1984, the very first scene sets in a sense of dread by bringing home for the viewer the brutality of the military regime. Military personnel are shown getting handcuffed prisoners out of their cells, beating them up mercilessly, and pulling them up into a military truck. The truck then sets towards an unknown location with the faces of the three lead characters being hooded; they are being shifted to another prison without their knowledge nor with their families being informed.

This scene finds parallels with the situation in contemporary India where Muslims, Dalits, human rights activists, journalists, academics, writers, ordinary workers, and peasants—virtually anyone speaking up against the government's policies and its duty to uphold peoples' constitutional rights—are threatened or put in jail. Sharjeel Imam, a student activist who participated in the protests against the Citizenship (Amendment) Act (CAA) in Shaheen Bagh, Delhi, has been a political prisoner for close to two years with bail applications rejected repeatedly. He was arrested on 28 January 2020 from his hometown Jahanabad in Bihar under the Unlawful Activities (Prevention) Act. He was moved to Guwahati one month later without the knowledge of his lawyer and his family. Like Imam, several other dissenting students, minority rights activists, scholars and political activists have been arrested over the last few years—G N Saibaba, Meeran Haider, Gautam Navlakha, Siddique Kappan, Gulfisha Fatima, Sudha Bharadwaj, Natasha Narwal, Anand Teltumbde, Umar Khalid, Devangana Kalita, and Father Stan Swamy. These are some names that we have heard and read about in the last two years, but there are hundreds of others who have been languishing in jail and many have died after being denied medical care. How many will be remembered by our future?

A Twelve-Year Night illustrates how the incarceration of the three left activists during the military dictatorship in Uruguay was done in order to isolate them and repeatedly torture them, driving them to a point of insanity, instead of killing them point-blank. The military head conveys it to the prison guards and forbids them from even talking to the prisoners. This inhuman treatment is accompanied by a degrading way of providing food and water, hatred-filled gazes and a denial of all sources of a "normal" human life—squeezing them till they are just short of death. We see this in one particular scene where the guards shut off the one small source of light in the prison cells when they see a prisoner enjoy a moment of fleeting happiness. The film is clear in its portrayal of this inhumanity: "as we cannot kill you, we will make you go mad." It should come as no surprise then that one of the protagonists develops mental illness—delusions and auditory hallucination, probable symptoms of psychosis or schizophrenia.

Mental health in general, and especially of political prisoners, has historically been seen as a chemico-biological health issue, and the government shirks responsibility by depoliticising the issue. However, it is evident that the socio-economic and political environment in which we live affects

our mental health. Public policy—small or big—has repercussions. And those communities and people whom the government is targeting, and who are already marginalised, are more vulnerable and at greater risk—political prisoners who are also Muslim or Dalit—in the case of India. Gulfisha Fatima, a human rights defender and student who was arrested after being involved in a women-led protest against the CAA in north-east Delhi, has spoken out against the mental and emotional harassment by jail authorities at a court hearing: "They call me 'educated terrorist.' They tell me, 'you die inside, outside you have orchestrated riots.'"

The current regime is doubling down on all voices of dissent but especially those that come from communities and groups that challenge and are a threat to the right-wing idea of an upper-caste, Hindu India. Political prisoners in India are resisting this at great personal cost and through severe turmoil. Though there can be variations in their political thought—in their regional, racial, ethnic, religious, caste, or gender identities—under dictatorial regimes, the identity of all persons incarcerated for their dissenting views and opposition to oppressive policies is the same. They are all political prisoners. Whether in Kafka's story, Brechner's film, or under the current authoritarian regime in India, as political prisoners, they are all "prisoners of conscience." We are living at a time, and through moments of resistance, whose outcome shall define what India stands for, for our future generations. This is also the time when the need for a fight against the brutal oppression of any form of democratic dissent, essential human liberties, and violation of human rights could not be any more important. This is a resistance and a fight that is important and needs to stem from all walks of life—political, social, economic, and in the fields of art and culture. *A Twelve-Year Night* captured the life of three political prisoners, incarcerated and tortured for 12 years in Uruguay, one of whom became the 40th President of the country, with the other two continuing the fight to consolidate democracy in the country as writers and journalists. Will we do right by the many, many people imprisoned for trying to uphold the democratic and secular ideals of our Constitution? Is there light at the end of the tunnel for India?

CSMCH Film Club (filmclubcsmch@gmail.com) is a student body at the Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi, formed to discuss sociopolitical issues of health through cinema.

Psychologist as Survivor

Empathising with COVID-19 Trauma

A psychologist reflects on his experience of being a COVID-19 caregiver, juggling survivor's guilt and a fear of infection.

KUMAR RAVI PRIYA

The trust- and empathy-based relationship between a healer (or "therapist" in modern psychology parlance) and their client forms the foundation of healing. It helps the client formulate an enabling meaning in life through cultural discourses about self and well-being and develop a sense of community or solidarity in understanding and addressing structural inequalities. As a psychologist passionate about healing psychological trauma, I have been studying and researching post-disaster mental health rehabilitation of disaster survivors in India for two decades. Interestingly, for me, there has been no clearer lesson in understanding survivors' trauma and healing than my own struggle to come to terms with and facilitate medical care for my parents, sister, and brother-in-law as they fought moderate COVID-19 symptoms in April–May 2021. In disaster- or trauma-related literature, a "survivor" is not only a person who undergoes injury, illness, or torture but also a person who has witnessed such traumatic incidents closely. I am a survivor in the latter sense. My experiences as a person and a psychologist have also empowered me to empathise with the survivors' overwhelming fear of infection while providing care, and survivor's guilt, realising the need for collective healing of the underprivileged survivors of the pandemic in India. Writing about these feelings of guilt makes it resurface in my consciousness, and this has not been easy for me. But that guilt is exactly what many survivors of the pandemic go through.

Healing survivors' trauma begins with the listener's readiness to visit one's own illness, distress, or guilt and possibly address such difficult feelings by locating these within relational and sociocultural contexts

For the period of three days that I was there with my family in Noida as a caregiver, I was constantly reminding myself that I needed to remain healthy and uninfected so that I could provide care while also not infecting my wife and kids when I returned to Kanpur. In protecting myself to keep others safe, I was overcome by compulsive behaviour of having quick interactions with each patient three to four times a day; staying on a separate floor of the three-storeyed house in Noida; sanitising everything. For any caregiver, keeping vigil for an extended period of time often leads to physical and

mental fatigue. I can now empathise with this fatigue, as I too had fever, body ache, and gastrointestinal problems three days into caregiving. Naturally, I wondered if I had caught the disease too, but my RT-PCR test returned negative. My fear and compulsive behaviour had reduced a bit upon returning to Kanpur from Noida, but not my survivor's guilt—I was fine but others in my family were suffering.

There were two sources of my guilt about surviving amidst others' suffering: one was being prepared for any eventuality and the other was having "unholy" dreams. Unless I remained prepared for managing any worsening of symptoms, I could not be of much practical help to my family. But, the thought that I could even think of hospitalisation or worse was excruciating. Several interactions with my students, fellow psychologists and psychotherapists gave me the space to regroup my energies towards "doing" something for the rehabilitation as well as prevention of pandemic-related suffering. In one such interactive session organised for discussing pandemic-related suffering, coping and healing, when one participant asked about the guilt of surviving while facing death all around, I was reminded of how, in the *Mahabharat*, Arjun realises (in his interaction with Lord Krishna) that he has to continue doing his karma despite clearly visualising the impending death of near and dear ones in the Kurukshetra war. I knew then where the shoe pinches for me and so many others providing care to COVID-19 patients.

My other source of guilt was dreams with sensual images. How inappropriate or "unholy" of me to have such dreams in the face of a humanitarian crisis? Coupled with the stress of managing a crisis at home and my own guilt about having thoughts of any eventuality, distress started mounting on me. Besides obsessively checking my own vitals (including symptoms of a loss of smell or taste) throughout the day, I had dreams involving sensual images including those of my own body. Suddenly, I realised that my body was becoming a site of survival in a manner that I had never felt earlier—that life needed to prevail and counter the glaring possibility of death every moment, through the mind as well as the body. The desire for life (Eros) wanted to counter the drive of death (Thanatos).

Meanwhile, listening to a lecture by one of my teachers on responding to the mental health challenges of the pandemic made me realise that the process of healing survivors' trauma begins with the listener's readiness to visit one's own illness, distress, or guilt and possibly address such difficult feelings by locating these within relational and sociocultural contexts. Research on trauma posits that experiencing such disturbing dreams or images may either be about survivor's distress or the ways in which their nervous system may address it to reduce stress. Healing or therapy based on such insights may help the survivors manage distress and orient them to better engage in roles and responsibilities related to work, family, and social relationships during a disaster.

Reflecting on my experience, I realise how lucky and privileged my family and I were to have timely access to medical and other resources, enough space for quarantine, and support in recovery. But what about those survivors faced with decades of structurally induced marginalisation, whose condition is further aggravated by survivor's guilt and fear in the face of a public health collapse in the second wave of the pandemic?

As many social scientists and mental health professionals have emphasised, and the COVID-19 pandemic has reflected, it is structural inequalities, and not so much personal circumstances or biology that contribute significantly to individual mental health problems and the overall state of our mental healthcare system. How can a healer build trust in their relationship with their client when in the face of such structural inequality? Therefore, caregivers, society, and the government must acknowledge and work towards recognising structural inequality and challenging the systems that further this inequality, rather than merely "treating" the psyche of the oppressed.

Kumar Ravi Priya (krp@iitk.ac.in) teaches psychology at the Indian Institute of Technology Kanpur.

'Kaalia'

Much before the cell phone, the ubiquitous black rotary dial telephone sparked the imaginations of children in 1980s' India.

DEVASHISH MAKHIJA

Our bogie was being shunted from the Coromandel Express to the Bangalore Mail. Except for those in this one wagon, all the other passengers' journeys terminated here at Madras. Seeing that we had not moved for over three hours now, I got restless and asked mama for our black telephone so I could call *Nani* and ask her to send some *gulab jamuns* here. "If our train never starts, we'll never get to Bangalore tomorrow," I protested, "and Pinkoo will eat all of them." A Marwari lady, travelling with her little daughter, was in the adjacent seat. Seeing mama in a bit of a quandary, she fished out some paper soap to amuse me. I had never seen anything like it before. "If your fingertips are not clean when you dial *Nani*'s number, she won't be able to hear you," she said to me and smiled gently. I used up nearly half her pack at the wash basin near the door. By then, the bogie had been appended to the new train and we were moving. The sight of the Campa-Cola guy made me forget the *gulab jamuns*.

When our black rotary dial telephone had entered my life, it made me believe in magic

When our black rotary dial telephone had entered my life, it made me believe in magic. With it, I could hear the voices of uncles and aunts who lived on maps on the other side of the spinning globe in our living room. All I needed to reach out to someone was a magic code—a five-digit number. So, I thought nothing of assuming that the black box was capable of more. That I could see the people I spoke to if I closed my eyes and concentrated. And that I could send letters to them by slipping them under the telephone. And that I could ask for it on a train journey, and it'd be there for me to dial a number on.

Nearly 20 years later, I had locked myself in my boss's cabin at the advertising agency I was a copywriter at, having sworn to not emerge until I had a headline for a press advertisement to announce the launch of cell phone services in Bihar. I had been in there for over a day, way past the deadline, feeling desperate, weak, and fidgety—when there was a soft rap at the door and a sheet of fax paper slid in underneath it. On it was a roughly drawn rectangle under a scrawl—"our competition's campaign." Inside the rectangle was an instantly familiar graphic of my black telephone. And next to it, in grungy Hindi font was the famous quote from *Sholay*: "Ab tera kya hoga Kaalia?" ("So what do we do with you now, Kaalia?")

I remember suddenly cramping with a helpless craving for *gulab jamuns*.

(Note: Bangalore has since changed to Bengaluru, Madras to Chennai, and Kaalia is now a hard-to-procure prop for "period" film shoots.)

Devashish Makhija (nakedindianfakir@gmail.com) is a Mumbai-based writer and film-maker who has made the short films *Agli Baar* and *Taandav*, the feature length films *Ajji* and the National Award winning *Bhonsle*. He has authored the award-winning YA novel *Oonga* (2021).

LAST LINES

Sameeksha Trust

An Appeal

For more than half a century, the ***Economic and Political Weekly*** (***EPW***) has been a major presence in India's intellectual space. It has been a crucible for ideas and a forum for debate, which has created a journal of international repute that has become a virtual institution. EPW provides a multi-disciplinary platform for academics and practitioners, researchers and students, as well as concerned citizens, for critical engagement with economy, polity and society in contemporary India.

It has always been a struggle to ensure *EPW*'s financial viability and sustainability. The resource constraint has been exacerbated by our conscious decision to abstain from receiving direct government grants and donations from abroad, to preserve the autonomy and independence of the journal.

With the Covid-19 pandemic and the consequent nationwide lockdown, *EPW* is now experiencing an unexpected and drastic drop in revenue from retail sales (as most of the newsstands are still closed) and advertisement income (as advertising has contracted sharply with the crisis in the economy), resulting in an acute financial crisis. This is not unique. Most of India's print media organizations are going through a similar predicament leading to closures, large-scale retrenchment of staff, and salary-cuts.

It was our endeavour not to resort to such drastic measures in *EPW*. In the first two months of the lockdown, full salaries were paid to all *EPW* staff. The Editor and his team adopted drastic austerity measures and cut expenditure to the bone. In spite of this, there was a large operational deficit every month, which could aggravate further if the problems associated with the lockdown persist. If this excess of expenditure over income had gone unchecked, a stage would have come when we would no longer be able to keep *EPW* alive.

The situation became so critical in the month of June 2020 that there was no other choice but to implement a temporary measure of reducing staff salaries from July 2020. The financial situation of *EPW* is being reviewed periodically and the salary cut is being reduced gradually. The situation, however, still continues to look grim.

In these difficult and troubled times, an institution of *EPW*'s stature and credibility is needed more than ever before. Well-wishers of *EPW* have been reaching out and urging us to do whatever necessary to ensure *EPW*'s sustainability.

We therefore appeal to the community of readers, contributors, subscribers and well-wishers of *EPW* to come forward and make donations to the extent each one can so as to ensure that *EPW* continues to perform its historic role. This is urgent. And it is of utmost importance. We hope you will join us in supporting *EPW*.

Trustees, Sameeksha Trust and Editor, *EPW*

How to make donations:

We welcome donations from Indian citizens as well as from non-resident individual Indians and Persons of Indian Origin (PIOs), but only in Indian currency and through regular banking channels. Donations in foreign currency and from political parties are not accepted. Donations can be made in one of the following ways:

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Those making donations through channel 2 and 3 mentioned above, will need to send us a covering letter, clearly stating your Permanent Account Number (PAN) and that "this donation is to the corpus of the Sameeksha Trust" in order to receive the Income Tax rebate under Section 80G of the Income Tax Act.

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For further information, please email to **donation@epw.in**

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