

Opinion

SATURDAY, AUGUST 26, 2017

Dishonest to downplay pollution's impact

It is inexplicable that the government should say there is no conclusive link between death and air pollution

IT IS ODD that the Union environment ministry should claim, in an affidavit submitted to the Supreme Court, that there is “no conclusive data available to establish direct correlation of death exclusively with air pollution”. The Environment Pollution (Prevention and Control) Authority had earlier submitted two reports to the apex court as part of the comprehensive action plan to fight air pollution in the national capital region that the SC had ordered. In its Report no. 71, under the section titled “Guiding principles for the comprehensive action plan”, EPCA had noted that “public health risk from air pollution is grave and growing”, citing Global Burden of Disease estimates for 2017 that show that early deaths related to PM2.5 pollution in India are the second highest in the world and ozone-related deaths are the highest in the world. A 2012 study conducted by the Central Pollution Control Board (CPCB) and the Chittaranjan National Cancer Institute (CNCI), Kolkata, shows that one in three children in Delhi had suboptimal lung function—sputum of Delhi’s children had four times more iron-laden macrophages, indicating pulmonary haemorrhage, than those from cleaner environments. Also, there was higher prevalence of severe lung impairment in Delhi’s school children (7.3%) than in the control group (2.2%).

To be sure, when the environment ministry refutes an “exclusive” link between early deaths and air pollution, that may be true given many other factors do cause lung impairments that result in death. But the evidence is clear and mounting that pollution remains a strong factor, and especially so in the national capital. A 2008 CPCB-CNCI epidemiological study, among adults in Delhi and a control population in West Bengal found that lung function was impaired in 40.3% individuals of Delhi, compared with 20.1% in the control population. Delhi residents showed greater prevalence of all three forms of lung function impairment than the control group. Chronic obstructive pulmonary disease (COPD) was nearly five times more common in the national capital compared to the control group regions. While the conditions themselves can result from both infective (pathogens like virus or bacteria) or other non-infective factors, a 2014 study by researchers at the Vallabhbhai Patel Chest Institute shows that environmental pollution accounts for 10% of the cases of acute exacerbation of COPD (AECOPD), while pathogens are behind nearly 75% cases. This means among the non-infective factors of AECOPD, environmental pollution could account for one of the largest number of cases. Although the ministry acknowledges that the “higher the level of air pollution, higher is the risks to lungs”, by contending that linking air pollution to early deaths on the basis of data from international organisations, “without proper validation of data with reference to Indian conditions” portrays the “wrong image of the country”, it displays misplaced priorities in thinking and intellectual dishonesty. With the government itself taking such a stand, chances are the fight against air pollution and the resulting harm to citizens will be lost even before it begins.

Cops go digital

CCTNS police portal is a big step forward in justice-delivery

THE FACT THAT citizens of the country will be able to register FIRs online and even access seven public delivery services like person/address verification of tenants and servants or reporting lost and found articles, is undoubtedly a big thing, but is probably the least of what the recently inaugurated Crime and Criminal Tracking Network & Systems (CCTNS) can deliver. Once fully operational, and stabilised, CCTNS will revolutionise the way the police works—given the cost of a mere ₹1,450 crore, it is unimaginable that the project, conceived by P Chidambaram when he was home minister after the 26/11 attacks, was not implemented all these years. Policemen arresting a suspect in one part of the country will, for instance, now be able to immediately get any history of arrest in another part or time spent in various jails and on what charges; fingerprints can be sent to forensic laboratories quickly and can be searched for in extensive databases. Even courts will be able to make use of the database.

The project will, in one place, integrate various organs of the criminal justice system such as the police, courts, prisons, forensic laboratories, juvenile homes etc. Of the 15,398 police stations in the country, 14,284 are already using the CCTNS software; of the latter, all FIRs in 13,775 police stations are only being generated online. The database already contains seven crore records which include 2.5 crore FIRs. The software, home minister Rajnath Singh said while launching the Digital Police Portal, a part of the CCTNS, offers a Google-type advanced search engine and analytical reports. This then, Singh said, “will provide investigator the complete record history of any criminal from anywhere across the country...and the portal offers 11 kinds of search and 44 types of reports”. The software was, for instance, recently used to trace few mentally challenged women from Tamil Nadu in Uttarakhand and reuniting them with their families. The integration of CCTNS with e-courts, e-prison data bases and its access to the judiciary, police and prisons through a desktop dashboard will undoubtedly expedite informed decisions and investigations. Along with the critical public services like online registration of FIRs, complaints against erring police officials, tracking of cases, and quick police verification, its domain could be extended further to the databases like vehicle registrations. But the success of this potential game-changer project will depend on data accuracy, and its judicious utilisation, and this is where the government needs to be extremely careful while going ahead on the creation of this national backbone for the justice system.

PainBARGAIN

Lenders in NPA cases at NCLT will have to prepare for deep haircuts; or worse, foregoing the entire debt

FOR THE LENDERS of Synergies Dooray Automotive, the writing on the wall is clear—expect precious little from the insolvency proceedings for the company at the National Company Law Tribunal (NCLT). As per a *Business Standard* report, they will have to take a 94% haircut on the ₹900 crore that the company owes them—the principal alone is ₹215 crore, with interest, statutory dues and payments making up the rest—and will get just ₹54 crore back. The recovery may seem a pittance, but the hard fact is if the company’s assets were to be liquidated under the current liquidation process, creditors would have received a paltry ₹7 crore. The worry is that there could be more like Synergies in the list of over-200 cases that are before the NCLT, under the Insolvency and Bankruptcy Code (IBC). Just 12 of the largest parties at NCLT account for a quarter of the total NPA burden—and just three, Essar Steel, Bhushan Steel and Electros-steel Steels, owe more than ₹90,000 crore to lenders. Lenders may not end up having to take as deep haircuts in these cases—though the Odisha government that had issued letters of intent for mining leases to Essar and Bhushan has also clarified that the mines can’t be shown by the companies as assets—but even a moderate-size haircut would mean significant capital erasure.

RBI in June had asked banks to set aside 50% of the loan amount as likely losses from the cases referred to the NCLT, and had asked for 100% provisioning for cases that don’t get resolved under the IBC process and where liquidation remains the only option. In the case of Kingfisher Airlines, the total exposure of 14 banks, including the largest lender, SBI, stands at ₹5,000 crore, excluding interest, and statutory dues. An internal document of SBI, in June, had said that the bank would have to forego nearly ₹900 crore of exposure of over ₹1,200 crore. Recently, Jindal Steel had offered just ₹2,222 crore for Monnet Ispat while the total debt ask of the company was ₹8,944 crore. These instances may make recovery seem like a painful pinch, and the Synergies case goes to show that lenders may indeed have to forego even the entire principal due.



UNEQUIVOCAL NO TO RACISM

Trump's economic adviser Gary Cohn

This administration can and must do better in consistently and unequivocally condemning these (white supremacist) groups and do everything we can to heal the deep divisions that exist in our communities

● CHLOROPHILE

TRADE HAS RECOVERED AFTER THE CENTRE'S 'NO TRADE FOR SLAUGHTER' RULE WAS STAYED, BUT EXTORTION BY VIGILANTES AND, NOW, POLICE IS ADDING TO TRANSACTION COSTS

Extortion hurting UP cattle trade

THE PASHU PENTH, or animal market, at Laxmi Nagar, about 8 km from the Yamuna Expressway on the road to Mathura is a jumble where everything seems to happen at the same time, with purpose mediating the disorder. Since it is summer, farmers start arriving at 4 in the morning; by 11 am, about a 1,000-1,500 buffaloes and calves would have been bought and sold. The 15,000 sq m expanse of dirt, dung and plastic litter, surrounded by shops and shacks, comes alive every Saturday. Things seem to have changed little since trading began here in 1935.

Three months after the environment ministry notified rules for animal markets that forbade trading in cattle for slaughter, brisk business has resumed thanks to the Supreme Court extending to the whole country the Madras High Court stay on the Centre’s notification. For a couple of weeks after the May 23 notification, there was hardly any business at the *penth* as traders, almost all of them Muslim, turned risk-averse. But the transaction costs have risen sharply.

Sandeep Gupta, whose extended family owns the plot, says members of the Vishwa Hindu Parishad and the Barjang Dal as well as small-time local journalists did the rounds of his markets for 4-5 weeks after the rules were announced. They would charge ₹5,000 from each truck driver to guarantee safe passage. The registration numbers of the trucks were passed on to the police at Raya crossing, about 12 km away, he said. But the practice has been stopped after he forbade them from entering the premises.

Raya in Mathura district and Iglas in Aligarh district are two police posts that have become extortion centres, traders say. It is hard to find any trader who has not had to pay. Cattle sold at

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Views are personal



markets in Kosi, Gowardhan, Oal near Fatehpur Sikri and Nagar in Rajasthan have to pass these posts on way to slaughter in Aligarh or for sale to cattle grazers in eastern Uttar Pradesh and Bihar. “Yesterday, the police took ₹70,000 for seven trucks loaded with buffaloes,” said Dhaula of Mahavan in Mathura district, when spoken to on 19 August. “If we do not pay, they seize the trucks and hand over the cattle to villagers.” Getting the trucks released through the courts takes time. Getting the cattle back is even more difficult. Those given custody of the animals do not return them on various pretexts or demand stiff charges for feeding them in the interim.

“Sometimes, I have to pay ₹1,000, sometimes ₹2,000,” says Ammu Chaudhary of Raya. “Earlier, we did not have to pay.” He has bought 20 buffalo calves which he will sell to grazers in Etah, where after being reared for about two years, they will be sold to dairy farmers.

“Dacoity is happening, our livelihoods have been hit,” says Mohammed Sharif of Iglas tehsil in Aligarh district. “We should be licensed. We are prepared to pay a tax to the government. But no one should harass us,” he says. Sharif buys 1-1.5 year buffalo calves for sale in Barabanki, Hardoi, Faizabad and Sitapur districts. Hindutva activists have been emboldened after Yogi Adityanath took over as chief minister of Uttar Pradesh in March, he says.

“The problem was so severe that business fell” after the rules were noti-

fied. “Even now it has not recovered. Traders and truck drivers are being harassed,” says Bhaiyya Babu, the Mathura zilla parishad-approved registration officer at the Laxmi Nagar market. He notes down the transactions and hands over passes, which are proof that the cattle have not been stolen but legitimately bought. He charges ₹100 per animal as market fee.

Farmers and meat consumers ultimately suffer because of the excesses of police and the vigilantes. Jagvir Singh of village Pachavar in Mathura’s Mahavan tehsil sold his lactating buffalo for ₹24,000. He was getting ₹28,000 in the village, he said. He had bought it a year ago for ₹40,000 but has had to sell owing to financial difficulty and rising cost of feed and fodder.

“I have received no complaints regarding cattle trade or police harassment,” said Arvind Malappa Bangari, who took over as collector of Mathura district in April. This is his first posting. Bangari said he meets the public daily and while there are complaints about overloading, no police extortion cases have been brought to his notice. He suggested speaking to Senior Superintendent of Police Swapnil Mangain, who agreed to talk but did not take calls.

The environment ministry has said

it will amend the rules. The ones that were notified prescribed so many facilities that they would make the markets unviable. For instance, the area has to be covered. Provision has to be made for feed and fodder. The flooring has to be non-slippery. “Bedding” must be provided. There should be separate enclosures for sick and dead animals. There should be onsite facilities for evacuation and disposal of dung and urine.

In addition, elaborate paper trails have to be maintained of the animals brought for trading so that they are not sold for slaughter. The definition of cattle has been extended to buffaloes as well. At the Laxmi Nagar penth most of the adult buffaloes are bought for slaughter.

The notified rules ignore ground reality. At the Laxmi Nagar fair, the business is over by noon. No animals are left behind. While toilets should be provided, and provision made for water and fodder, the prescriptions regarding flooring, bedding, roofing, enclosures, ramps and waste treatment are superfluous. All it takes is a few workers to collect the dung and keep the place tidy because these

are weekly fairs.

The notified rules were based on the recommendations of a panel headed the Director-General of Sashastra Seema Bal, the force guarding the India-Nepal border. (He was given the charge because the Supreme Court was hearing a petition against smuggling of cattle to Nepal for animal sacrifices). It had generous inputs from animal rights activists but there was no consultation with farmers, cattle traders and those engaged in the meat industry. Little wonder, the rules are bizarre.

Raya in Mathura district and Iglas in Aligarh district are two police posts that have become extortion centres, traders say. It is hard to find any trader who has not had to pay

Scary drive for perfect children

Innovation in genetic engineering is moving faster than ethical discussions about parents’ choices

THERE IS A lot of innovation going on in China these days, but perhaps not all of it is good. Chinese fertility centres are going well beyond American practices, using genetic diagnosis to influence how children conceived through in vitro fertilisation will turn out. On one hand, the potential for improving human health is enormous. On the other hand, I am uneasy at the prospect of the power this gives parents. I don’t trust people to take so much control over the future of human nature.

Sometimes you hear it argued that the complex nature of genes will prevent major feats of genetic engineering. That may be selling short future advances in Big Data and biomedicine, but even minor changes in genetic diagnosis and selection could have significant effects. Maybe you can’t choose to have a child who will be happy, but you might be able to lower the chance of your kid having depression or social anxiety by some small amount. Over the course of generations, that will exert great influence over the nature of the human experience.

One risk, of course, is that parents will opt for some apparently desirable qualities in their children, and then the experiment will backfire, due to unforeseen genetic connections. Maybe we’ll get happier kids, but they will be less creative, or less driven, or they might care less about others. Those are valid concerns, especially in these early days of genetic engineering. But I have a deeper worry, namely that things can go badly even when parents get exactly what they want.

If you could directly alter your kids’ genetic profile, what would you want? It’s hard to know how the social debate would turn out after years of back and forth, but I was dismayed to read one recent research paper by psychologists Rachel M Latham and Sophie von Stumm. The descriptive title of that work, based on sur-

vey evidence, is “*Mothers want extraversion over conscientiousness or intelligence for their children*”. Upon reflection, maybe that isn’t so surprising, because parents presumably want children who are fun to spend time with.

Would a more extroverted human race be desirable, all things considered? I genuinely don’t know, but at the very least I am concerned. The current mix of human personalities and institutions is a delicate balance which, for all of its flaws, has allowed society to survive and progress. I am not looking to make a big roll of the dice on this one.

It is also not difficult to imagine parents wanting children who are relatively well-behaved. The same research paper found that mothers, after extraversion, preferred the trait of “agreeableness” in their children, again over both intelligence and conscientiousness.

I was struck by a recent Chinese report that some parents are asking for children who are able to drink socially, for business purposes, and thus trying to avoid some genes that make it difficult to process alcohol. *Caveat emptor*.

Another risk is that parents may be too risk-averse. Especially if a family has only one or two kids, there may be a strong tendency to try to “play it safe” in terms of personality traits and cognitive abilities. Yet a greater diversity of human types may serve the greater good and perhaps offer intrinsic value too, by making the world an aesthetically richer and

TYLER COWEN

Bloomberg



more diverse place. Unfortunately, it is not hard to imagine a world where many parents opt against prospective children labelled, if only statistically, as “too nerdy”, “too temperamental” or “too hard-working”.

Parents’ choices, and their eventual public unveiling, may have harmful effects on social norms. What if it becomes known that a high percentage of parents opted for children with paler skin or straighter hair or a greater chance of being heterosexual? That knowledge could boost stigmas and social divisions, even with stringent anti-discrimination legislation. The parental choices could end up being seen as, in essence, the final court of public opinion.

We might expect that the regulators will say no to the most dangerous applications of genetic engineering, but can

we be so sure? The techniques will be available in many different countries, and over time the more lax standards will have greater influence, if only through “genetic engineering tourism”. Parents are also a potent voting bloc, and if they really desire such choices, they may end up getting their way.

In China, these techniques are already about one-third as cheap as in the US, interest in them is growing rapidly, and there is talk of having them covered by national health insurance programmes. There is plenty of justified worry about greater discrimination these days, but we are hardly talking about the biggest threats.

A greater diversity of human types may perhaps offer intrinsic value too, by making the world an aesthetically richer and more diverse place. Unfortunately, it is not hard to imagine many parents opting against prospective children labelled “too nerdy” or “too temperamental”

LETTERS TO THE EDITOR

Right to privacy is a landmark SC ruling

We rejoice that the right to privacy has been unambiguously and emphatically declared as a fundamental right by the Supreme Court. It easily ranks as one of the most significant rulings of the country’s top court since January 26, 1950. Thanks to the verdict, the right to privacy is now inalienable, paramount and inviolable. We are overwhelmed by the prospect of great changes it will bring about in our country to make it more humane and caring. The right to privacy may appear to be “amorphous”, but it is inherent in almost all the rights and freedoms guaranteed by the constitution. “The right to be left alone” or “the right to choose solitude if I want solitude or the freedom to socially cohabit, that is, if I want it”, to borrow from Justice DY Chandrachud is now made sacrosanct. Most importantly, it redefines the relationship between the state and the citizens and keeps others out of one’s kitchen and bedroom and pre-empt the emergence of a totalitarian state or a tyranny. Surveillance and invasion of privacy will be the last things to have constitutional or legal sanction. Now we don’t have to share the details of our health, marital ties, sexual orientation and proclivities, beliefs and what food we eat, what books we read and what films we watch and so on and so forth against our wish and will. The ruling does not come in the way of delivery of benefits to the impoverished people through welfare schemes. It does not dispense with the Aadhaar scheme and PDS, but requires the government to put in place a robust data protection mechanism in order to prevent the misuse of biometrics and personal details collected from the common people to qualify to be beneficiaries of government schemes in this digital age.

— G David Milton, Maruthancode

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POWERING THROUGH

To plan, build, finance, operate and maintain the massive Smart Grid Network, Big Data tools and capacity building for simulation of scenarios are essential

Transformation through transmission

JYOTI ARORA & SK SOONEE



Jyoti Arora is joint secretary (transmission), ministry of power; SK Soonee is Ex-CEO & adviser, POSOCO (a government of India enterprise)

INDIA IS AMONGST the fastest growing economies and the 'power sector' is acting as a catalyst to this growth. The record capacity addition in the last couple of years raised the installed generation capacity to over 315GW, including 50GW from renewables. The peak demand touched 160GW last year, with daily electricity consumption of 3.5 billion units (BU). Electricity shortage is now history, heralding a new era of adequacy of power in India.

ity are taking place between India and Bhutan, Bangladesh and Nepal. A small beginning has been made with Myanmar, by supplying power through radial interconnection. To scale up global energy trade, policy on cross-border trade in electricity has been formulated by the ministry of power. The central electricity regulator has had a public consultation on draft regulations on cross-border trade in electricity. An orderly access to the Indian electricity market for international entities and vice-versa is being established. India was a net importer of power until March 2017, now it has become a net exporter to neighbouring nations.

Skewed distribution of resources-coal, gas, hydro and renewables-required for power generation and widely dispersed load centres necessitate long haulage of power through high capacity lines. But in the last three years, the augmentation in transmission infrastructure has surpassed 12th Plan targets by great measure.

Transmission systems require huge investment and a self-sustaining business model. The government is extending financial support through PSDF (Power System Development Fund). The policy notified in 2016 provides for 100% FDI under automatic route for transmission projects. Standard bidding documents (SBDs) have been updated for carrying out competitive bidding for procurement of transmission services in all time-frames. Transmission system is considered a common carrier with charges only for entry and exit, factoring distance, direction and quantum, avoiding panchacking of charges.

Indian grid has more than 3.7 lakh circuit km of extra high voltage AC transmission lines with a transformation capacity of 7 lakh MVA and interregional transmission capacity of 75,050MW. There are 125 numbers of 765kV lines, 1,475 numbers of 400kV lines and 3,900 numbers of 220kV lines. India has a record 11 HVDC elements and a couple of them are in the making.

A single-window mechanism for users at interstate level has been put in place. The uncertainty associated with high load growth and risks for merchant power stations have been levelled due to access to a large interstate market. Transmission system acts as one of the biggest insurance for all market players. India is also evolving its own general network access based on the experiments and the lessons learnt, as India moves from a small to a very large power system.

The philosophy of power system planning has undergone a shift from pursuit of regional self-sufficiency to optimal utilisation of resources on all-India basis. State and regional grids have been 'stitched' to form a large, meshed synchronous national grid that operates at a 'single frequency'.

Transmission is key to competition. There have been institutional rearrangements facilitating increasing private sector participation over the last couple of years. To ensure neutrality and avoid conflicts of interest, transmission is barred from trading and generation. Building transmission is now under competition and there are over 40 transmission licensees. The Electricity Act, 2003, mandates a central transmission utility (CTU) to undertake trans-

Besides seamless transfer of power from surplus to deficit regions, interconnected systems enable exploitation of diversity associated with time, weather, crop pattern, industrialisation, population density, economic growth, etc. Large synchronous interconnection helps achieve economies of scale by making it feasible to operate generating units of higher capacity and better efficiency. The ability to meet higher demand, reduced cost of cycling of thermal power plants, higher degree of reliability, sharing of generation reserves and economic interchanges, i.e. facilitation of electricity market, are other value additions.

A pan-India power market has been established, coupled by design and split by exception in case of congestion. Spot prices in power exchanges have seen a southward movement. The unbundling of utilities and implementation of open access has increased liquidity in the market and provided options to states to balance their

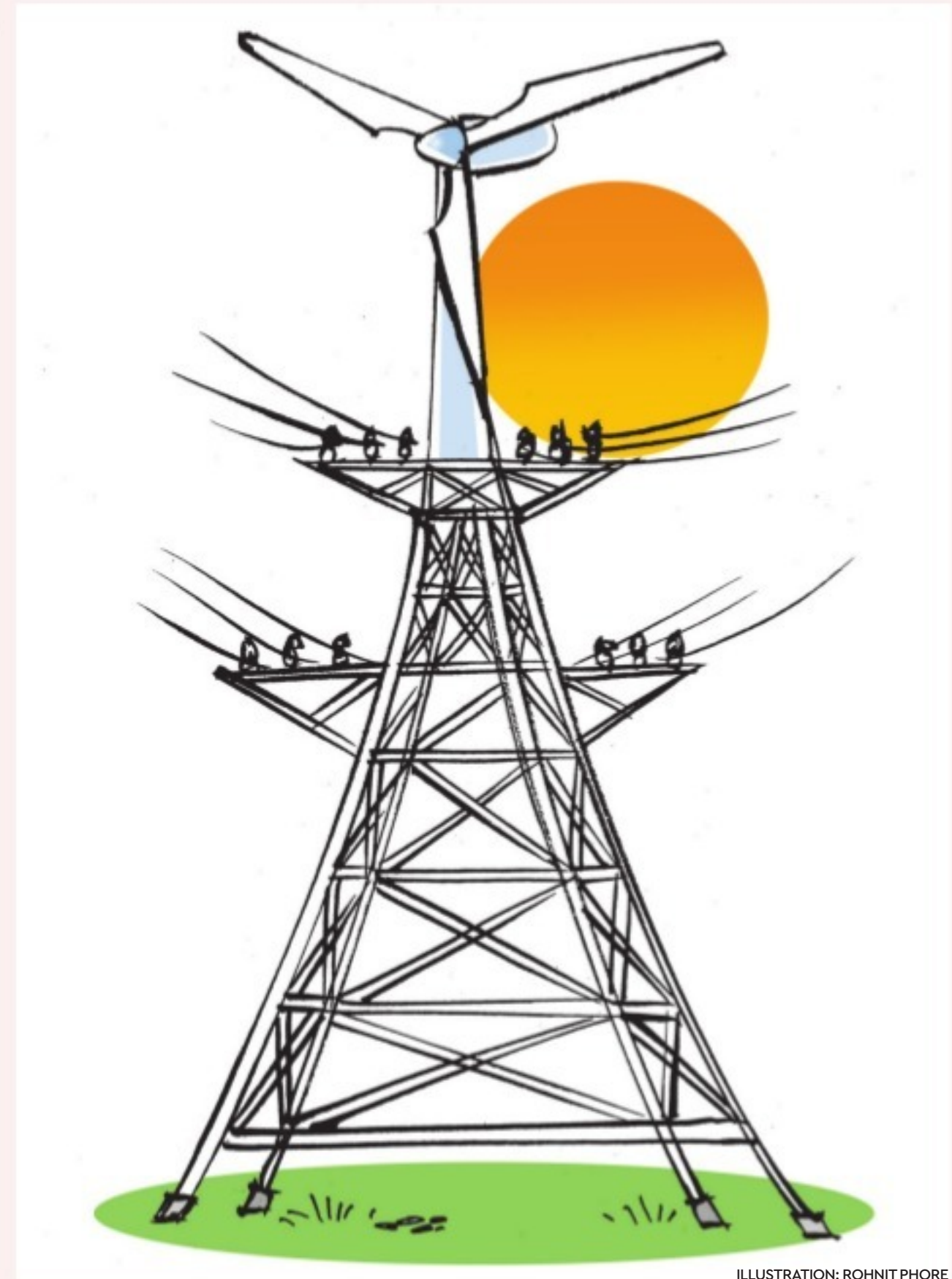


ILLUSTRATION: ROHINIT PHORE

mission through interstate systems and to discharge all functions of planning and coordination relating to interstate transmission with the stakeholders. The ministry of power has designated PowerGrid Corporation as the CTU, who has to ensure development of an efficient, coordinated and economical system of interstate transmission lines and provide non-discriminatory open access to transmission systems subject to availability of adequate margins.

portfolio in a cost-effective manner through bulk electricity market. On a daily basis, a quarter BU are transacted in the electricity market by over 3,000 participants.

A pan-India power market has been established, coupled by design and split by exception in case of congestion. Spot prices in power exchanges have seen a southward movement. The unbundling of utilities and implementation of open access has increased liquidity in the market and provided options to states to balance their

The average prices have reduced from ₹12-15 per unit to ₹2.4 per unit in 2016-17. This may be largely attributed to the strengthening of transmission network, leading to easing of congestion. Thus, transmission has been instrumental in converting the dream of "One Nation, One Grid, One Frequency, One Market" into a reality.

The physical life of transmission is half a century and the financial life quarter of a century. In this long life, any element would see high and low loadings as well as changes of flows. The usage of transmission changes with time. In the near term, there

is a need for regulation on transmission planning, with the concept of central and state transmission utilities and statutory bodies, insulated from the owner of the wire. Regulations would improve the security of the power system.

The institutional framework for an independent and non-discriminatory power system operation has been put in place, as mandated under the Electricity Act. In January, the Power System Operation Corporation (POSOCO), the national grid operator, was made operational as an independent government company. It ensures a level-playing field for all stakeholders and is facilitating power sector reforms through regular feedback given to the central regulator, authority and CTU on design and operational aspects.

Transmission is being made smarter through ICT. The National Smart Grid Mission, launched in March 2015, is hand-holding states for speeding up development of smart grid network. Subsequent measurement and monitoring to observe the dynamic behaviour of the power system across a wide area network has been initiated through synchrophasor technology. To plan, build, finance, operate and maintain such a massive system, Big Data tools and capacity building for simulation of scenarios are essential.

India is running the world's largest renewable energy expansion programme, with a target to increase capacity from 32GW in 2014 to 175GW by 2022. Flexible transmission plays a vital role for large-scale integration of renewables and other distributed energy sources. Green energy corridors consisting of high capacity transmission are under construction, crisscrossing renewable-rich states and connecting them with transmission superhighways. To promote renewable energy and energy security, 8% electricity consumption, excluding hydro power, has been targeted to be from solar by March 2022. Ancillary services have been implemented to support grid operation for integration of renewable energy.

A transmission system is analogous to arteries in the human body. The service provided by the system is a non-transferable, indivisible 'public service' like that provided by roads and railways. They are enablers as well as great levellers. It binds the power system and integrates the country. Considering the cybernetic nature of the system, it calls for regular review at policy and regulatory levels. Accordingly, mechanisms of monitoring transmission system availability and performance have been put in place.

New technology, modern construction methods and new operation and maintenance practices are leading to a better transmission infrastructure. Better designs such as multi-circuit towers have been made for higher capacity power transmission, reducing the need of Right of Way (RoW). Miniaturisation of equipment and substations to reduce the requirement of land and moving underground through gas insulated technology in metros and congested areas is a thrust area. Environmental care and health hazards are kept in mind to ensure safety, and to ensure security of supply, rings of transmission are formed to take care of sudden outages.

Apples have been launched to enable electricity consumers and government agencies to engage directly with service providers. For example, Grameen Vidyutikaran (GARV) app helps citizens track rural electrification, Viduyut Pravah provides real-time information of electricity price and availability, E-Tarang enables monitoring real-time status of transmission system, E-Trans for better price discovery, and DEEP (Discovery of Efficient Electricity Price) e-Bidding portal is a common e-bidding platform with e-reverse auction facility to facilitate nationwide power procurement.

Transmission and distribution infrastructure is vulnerable to extreme weather and natural calamities. In the recent past, when low probability, high impact events like Phailin, HudHud cyclones caused damage to local generation and distribution structures, the imbalance in the power pool was quickly absorbed by the other regions and power supply to the affected areas was restored.

But a lot of work remains at intrastate level. As the availability of reliable power supply improves, behind-the-meter distribution generation flourishes, the focus has to be on strengthening distribution systems, i.e. last-mile wire. With challenges evolving with the integration of renewables into power systems, increase in electrical energy demand, growth in the economy and changes in technology, regulations, market design, administration and management of the power system, greater responsibility lies with the stakeholders to nurture and treasure our "mother grid".

The last three years have seen many records broken and many firsts. There is a roadmap to achieve the vision of Ujwal Bharat-delivering 24x7 affordable quality power to every household, in an environment-friendly manner. Electricity makes us what we are today and what we will be tomorrow.

DATA DRIVE

THE STANDING COMMITTEE on Energy, reviewing the National Electricity Policy, has underscored the point that for increasing new generation capacities, appropriate technology may be considered. It highlighted that in case of hydro electricity, though the potential is 1,48,701 MW, the current installed capacity is 44,478 MW, or just 30% of the potential.

While overall installed capacity of power has increased, running of power plants at lower plant load factor—it has fallen from 77.1% in FY10 to 59.9% in FY17—will also escalate the generation cost. The committee has recommended that the government should make necessary provisions to increase the utilisation of power plants.

The panel has noted the fact that the substantive fall in solar tariff and its very low gestation period is posing a threat to economic viability of thermal power plants. "Presently, solar power is doing the same to thermal power what thermal power did to hydro power. Though growth in solar energy is a good sign for the country, nonetheless, thermal power has been the mainstay of power sector and due to various reasons it's importance is not going to end anytime soon. Therefore, the growth of this sector needs to be done in more balanced manner wherein various sectors of electricity complement one another," the committee noted.

The poor financial health of power distribution companies continues to be a big concern as their total outstanding debt in FY15 was over ₹4 lakh crore. The government launched the Ujwal Discom Assurance Yojana for the sustainable financial and operational turnaround of discoms. This is now expected to improve the situation.

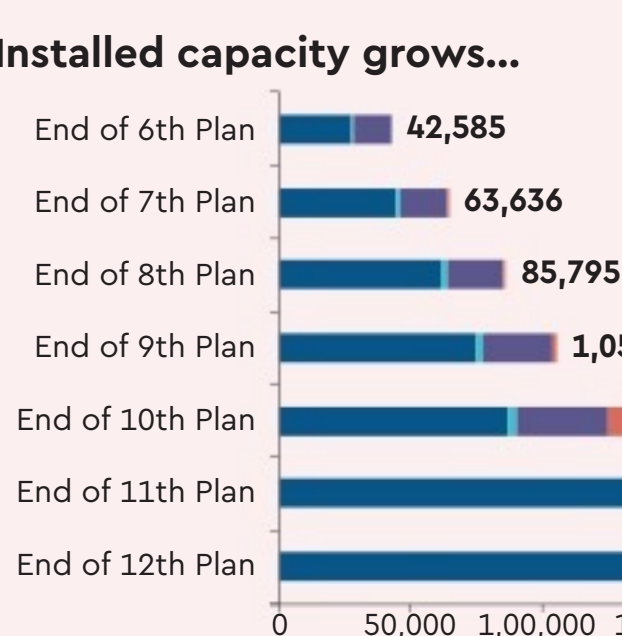


Table with 5 columns: (MW), Hydro capacity addition, installed hydro capacity, Total installed capacity, Hydro as % of total installed capacity. Rows for FY08 to FY17.

Balancing power

