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New global order (or disorder)

IT'S A time for the world to come together. But it's a time when the world is falling apart. It's a time for global institutions to have a loud voice. But it's a time when they are most feeble. It's a time for cooperation and trust, so that local and global action can be decisive and meaningful. But it's a time when partisan, divisive and hurtful politics are ruling—across nations and within nations. Just think. All the crises we see before us today—from air pollution to climate change, from coronavirus to locust attacks that are now destroying the fields of farmers—are about pollutants and viruses that know no boundaries. The virus—today's corona—jumped from animals to humans in some wet market in China. But no longer is that market in China part of the shadowy, secretive world. The virus has moved so fast that within some six months, the entire world has been infected; over 10 million cases and counting, and no country has been spared. The contagion has already claimed over 500,000 lives.

Worse, when you think of the prospects in the future, it is clear that countries will remain connected and live in air bubbles—closing boundaries to travelers other than “safe” countries—which will be difficult to sustain. Already, we have seen this in the US, where gains made by states like New York in containing the virus were lost as the infection load jumped elsewhere. It's the same in India; it will be the same everywhere. Bubble-wrapping countries to fight the contagion will be, at best, a short-term solution. In the long-run, the world needs to come together to get rid of this virus, or at least contain it.

India's locust problem—and it is severe and crippling for farmers—is a direct result of climate change impacts, where weather has turned weird and extreme. The frequency and intensity of cyclones has intensified; rainfall has become variable; and, as a result, breeding grounds for this desert critter have expanded. It is fast turning into a Biblical-scale scourge. But here again, India can do little to control the problem on its own. The most fertile breeding grounds of locusts are today in the Horn of Africa, where governments are struggling with lack of finances and equipment to control insect numbers. These will then fly with the changing wind patterns—literally—and make new homes in our world. We need regional cooperation—between countries of eastern Africa, Arabian Peninsula, Iran, Pakistan and India. We need global institutions with heft and credibility to drive this agenda—bring countries together and provide financial and technical assistance to contain the insect.

Fixing weaknesses in democracy is not about less, but more democracy

Here, I don't even need to explain the imperative of global action on climate change—it is a no-brainer. The atmosphere is one; emissions of greenhouse gases know no boundaries. I want to stress the need for global cooperation—and trust between nations. The agreement to act will be built on nations doing what is best in the common interest of the world. This only happens when they know that the agreement is equitable, fair and proportionate. So, trust is crucial. Yet, this word is so *passé* that it is hard to even write about it. But trust is where effective action boils down to—people have to trust their governments and institutions and then take the harsh actions that are being mandated for say, control of COVID-19. Otherwise, it will not work.

We are at a crucial point in world history. The key global institution is the United Nations (UN) that was set up after World War II. It then spawned many agencies and agreements. But over the years, it has made fatal mistakes—never standing up to power and death by bureaucracy and money. Just think how the UN Framework Convention on Climate Change has decided to postpone critical discussions on what is today's, and tomorrow's, most catastrophic global challenge till end of next year end of 2021. What an absolute abdication of its role and responsibility. We also have the powers in a dog-cat-fight for global domination—China versus the rest. It is not about trade alone; it is also about the new global order (or disorder). Let's not beat about the bush on this. It is clear that China has made massive inroads into the world's economy—and this is across the poor and rich world. It has also no qualms about using fear and coercion as the means to achieving its ends. Already, we know with COVID-19, there is the growing view that effective control on the virus only comes with strong-arm tactics and not weak-kneed democracy.

The answer, I hope, will be clear: fixing weaknesses in democracy is not about less, but more democracy. It means investing in the local on the one hand, and global community on the other. It is about that compact that will keep the world safe; but most importantly, will keep democracy and the rights of human beings and the environment at the centre of our universe. Nothing less should be acceptable. Not now. Not tomorrow. **DTE**

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Vol 29, No 4; Total No of Pages: 96

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◀ Cover design: Ajit Bajaj

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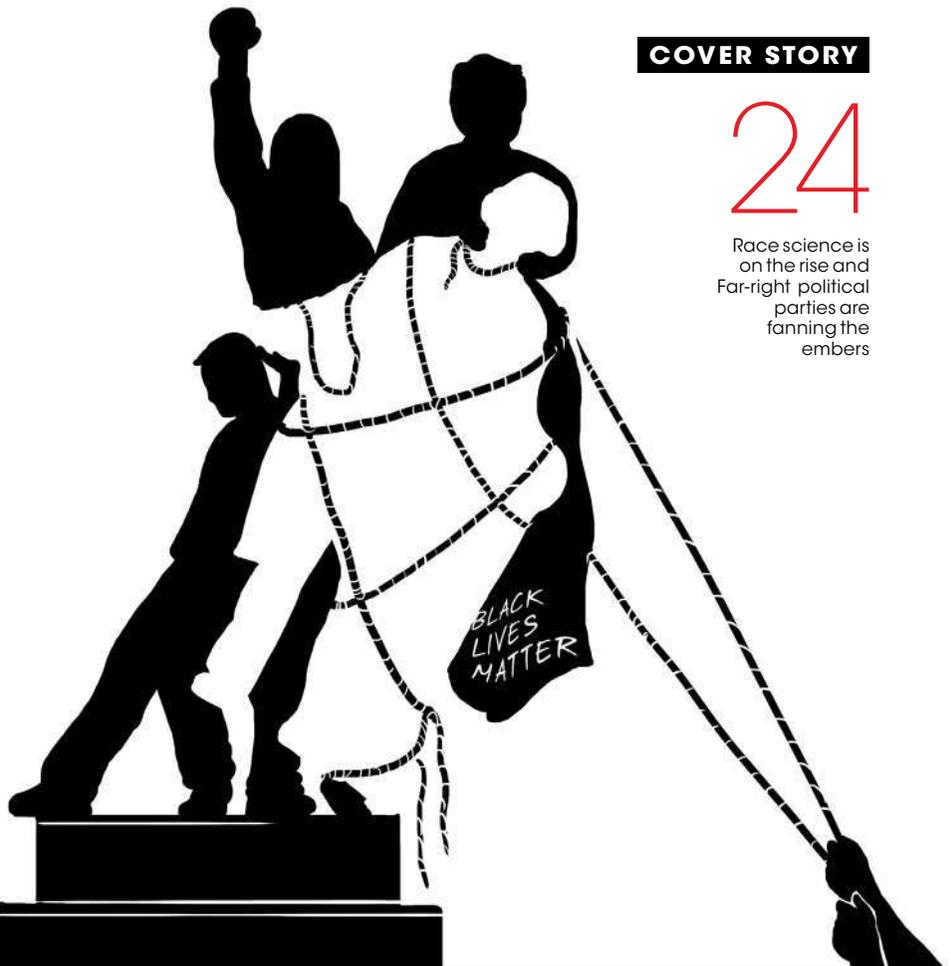
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The past six months mirror our ignorance about the rules of democracy

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Race science is on the rise and Far-right political parties are fanning the embers



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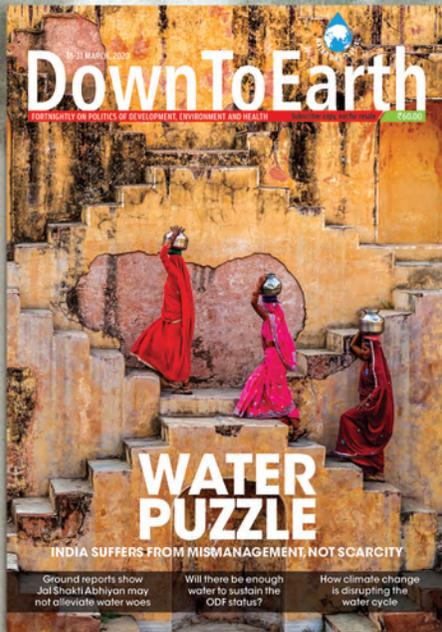
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Engage



PHOTOGRAPH: JAYANTA BASU

Who do our leaders represent?

This is in reference to the editorial “Multiple crises: the cost of wasted time” (1-15 June 2020). Even as the poor, which means a very big majority of us in the developing world, get repeatedly pummelled by each new climate change-induced disaster, the political response (unlike the one we are seeing to the pandemic) is inaudible as only a few whimpers are made here and there. World over, it is non-profits and civil society organisations that are at the forefront of recognising, facing and cobbling workable responses to climate change on the ground and among the people. Governments, if and when they do make some noise at the international fora, like the Conference of Parties, have so far ensured that nothing collectively gets done. This brings us to the recurring question: who do our parliamentarians represent? Certainly not the millions of forced penniless migrants trampling across contemporary history or those battered and set back a whole generation (if not more) by the recent cyclones and their mismanaged aftermaths.

VINAY
VIA EMAIL

↘ The editorial is a great eye-opener for experts in the fields of safety, health and climate change mitigation. The effectiveness of all the methodologies being adopted through the multilateral implementation agencies after their integration into the objective of reducing greenhouse gas emissions is not happening in a big way. Instead, nature is taking care of these with its own corrective mechanism.

SATISH GUPTA
VIA EMAIL

Good to be prepared

This is in reference to your article, “Locust attack: Bihar conducts mock drills, launches awareness campaign”, published online on June 10, 2020. These would be good if the measures prevented locusts from entering Bihar. Farmers are extremely poor here. But beating drums has had no effect on coronavirus. How will it be effective on locusts?

RAK
VIA EMAIL

Involve them in decision making

This is in reference to “How people-centric public health surveillance can help control COVID-19”, published online on May 11, 2020. If you want to hire great people and retain them, you have to involve them in decision making. You have to run by ideas and not hierarchies. The best ideas have to win, otherwise good people don't stay.

ANUSHKA
VIA EMAIL

Just ban plastic

This is in reference to “My plastic etiquette during COVID-19”, published online on May 21, 2020. The article is



Nations managing COVID numbers?

By June 12, over 0.4 million have died of COVID-19 but the World Health Organization says the number could be



much higher. The discrepancy has arisen because there is no standard way of counting COVID-19 deaths. Russia, for instance, excludes a heart patient from the COVID-19 fatalities list who may have acquired COVID-19 but died of a cardiac arrest, but the UK does not.

WHO restarts HCQ trials in COVID-19

On June 3, the World Health Organization (WHO) resumed trials of hydroxychloroquine (HCQ) in treating COVID-19. Global attempts to use the drug in COVID-19 treatment were paused after an article in *The Lancet* raised concerns about its safety.

92 lion deaths in Gir since January

Ninety-two Asiatic lions have died in Gujarat's Asiatic Lion Landscape since January 2020, as per a Union environment ministry committee report. While some died of infighting, others had the Canine Distemper Virus.



quite informative. The government should work out a plan to ban production of plastic and its use in poly bags, grocery packaging and the like.

SUNIL KUMAR AGGARWAL
VIA EMAIL

Hot weather won't protect from corona

This refers to the article "COVID-19: North Africa most affected in entire continent with 68% of all deaths", published online on April 8, 2020. The rising cases of COVID-19 in northern Africa are an indication that hot climate has no effect on this virus. Various countries in that part of the continent are hot, but COVID-19 cases are increasing, along with a rise in the number of deaths.

CHAITANYA AGARWAL
VIA EMAIL

Help each other to tide over the crisis

This refers to the video "COVID-19: How a Delhi group is feeding the hungry mouths", published on May 13, 2020. The way the group came forward to offer *anna seva* through their personal kitchen for the greater good of the community is inspiring and noble. Humans have such capability, sense and feeling for fellow beings in crisis and distress! This is a great message to the world—where there is goodwill, love and care, life



is divine. It simply makes us realise our responsibility and role during this struggle against the novel coronavirus pandemic. Keep inspiring and best of luck.

JAYANTA TOPADAR
VIA EMAIL

How to redress damage from brick kilns?

This is in reference to "Brick Kilns: A case for promoting rural industries in the future", published online on May 19, 2020. How does one take care of degradation and defacement of land (often good agricultural land) from the brick kiln industry? Not mention its effects on local biodiversity and human health, and the air pollution it causes.

ABHIK GUPTA
VIA EMAIL

Glacial lake outbursts can be catastrophic

This is in reference to "The curious case of rapid melting in the Himalayas", published online on May 14, 2020. It was a good article, but it would have been better if it included the issue of Glacial Lake Outburst Flood. Avalanches or moraine breaks due to rapidly melting ice can have severe floods downstream. The devastation would be catastrophic.

DEEPAK
VIA EMAIL

No religious profiling

This is in reference to "Refrain from religious profiling of COVID-19 cases: WHO in context of Tabligh", published online on April 7, 2020. The observation made by Mike Ryan, executive director of World Health Organization's Health Emergencies Programme, is absolutely correct.

Y JAYA RAJU
VIA EMAIL

Down To Earth welcomes letters, responses and other contributions from readers. Write to Sunita Narain, Editor, Down To Earth, 41, Tughlakabad Institutional Area, New Delhi - 110062 or send email to editor@downtoearth.org.in

DATA CENTRE

India's warmest decade

2010-19 was India's warmest decade on record, with the average annual temperature at 25.85°C. 11 of the 15 warmest years have been between 2005 and 2019.

Denied first diet

Only 44.4% newborns get breast milk within the first hour of birth, while only 42.2% infants (under six months) are exclusively breastfed. Only 43.9% children aged 20-23 months are breastfed in the country.

8 mln COVID cases globally

The number of people infected with COVID-19 in the world was 7,597,347 in 213 countries and territories, as of June 12.

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Digest



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How a non-profit is helping tribal communities fight COVID-19 **P12**

Athirapally hydro project is an ecological disaster without any economic sense **P13**

Excess monsoon rains in central India might lead to local outbreaks of locusts **P14**

1,000 WORDS VIKAS CHOUDHARY



People watch the cremation of their relatives at Nigambodh Ghat in New Delhi. Bodies are diverted to the crematorium when the Punjabi Bagh cremation ground, reserved for COVID-19 funerals, crosses its capacity. The national capital has witnessed more than 15 per cent of all COVID-19 deaths in the country

FOR MORE PHOTOS, SCAN



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Dispelling myths

MY PHONE would just not stop ringing in the first few weeks of the lockdown that started on March 24," recalls Vishnu Jaiswal who volunteers for Synergy Sansthan, a non-profit working in Madhya Pradesh's Harda district, which is dominated by Korku and Gond tribal communities. Most calls were from people whose family members had migrated for work. Clearly, they were afraid.

The non-profit, run by Ajay Pandit, recruited Jaiswal and 17 other volunteers to speak with the distressed families and understand how the COVID-19 outbreak was affecting them. A peculiar problem was that quacks and occult practitioners had started fooling people with the false promise of saving them from the disease. To end this, the volunteers attended the World Health Organization's training for partner platforms and gave access to doctors to dispel myths about COVID-19. The volunteers carried out widespread awareness drives and sensitised people on the virtues of regular handwashing and introduced them to the practice of wearing masks. "Our volunteers have received over 300 calls where people have asked questions from how the virus spreads to how to combat depression because of the lockdown," says Pandit. One of the cases, he adds, was of a tribal girl who was afraid that her family would force her to get married after the school closes.

Soon after the lockdown was imposed, people started running out

A non-profit in Madhya Pradesh is helping tribal people fight COVID-19

RAKESH KUMAR MALVIYA

of money and grocery stores in remote areas stopped receiving fresh stock of even essential products. "We realised that at least 1,000 families needed immediate relief," says Jaiswal. The non-profit tried to crowdsource funds but could collect only ₹1,000. It even approached the district administration but did not receive help. Wipro Foundation donated ₹9 lakh, which was just half of the funds they needed to support the families. With the limited money, the non-profit bought food items and created kits with supplies enough to last a month. The kits were given to 120 urban and 880 rural families in the district.

The face of the crisis changed in the second phase of the lockdown as the migrant population started returning home. They had walked from far off places like Nagpur, Indore and Mumbai, but the administration had little to offer. Forget about screening, the local administration at several places did not even provide water or food to the returning migrants, claims the non-profit. It adds that its volunteers arranged medical screening of a few people from the district who had attended the Tablighi Jamat congregation in New Delhi, where several people got infected by COVID-19.

The current crisis is that the migrant population, whose income supports most tribal households, is back home and jobless.

The non-profit is hoping that some of the pressure will be relieved by the Centre's flagship Mahatma Gandhi National Rural Employment Guarantee Act. For the rest, it is reaching out to funding agencies.



Ajay Pandit,
Synergy Sansthan

Kerala approves hydro project in Athirapally

K A SHAJI

KERALA HAS agreed to build the controversial Athirapally Hydro Electric Project on the Chalakudy river in Thrissur district. While clandestinely issuing a no-objection certificate to the project for seven years, the state government has asked the Kerala State Electricity Board (KSEB) to start work after obtaining an environmental clearance from the Centre, according to leaked papers.

The government gave its nod despite knowing that the statutory clearances obtained earlier for the 163-MW project had expired. It was initially mooted by KSEB

in 1996 and has been in limbo over environmental concerns, says S P Ravi of Chalakudy River Protection Samithy. The project will be the seventh dam along the 145-km river course and sound the death knell for what remains of endemic species of flora and fauna in the Athirapally-Vazhachal region. Former principal chief conservator of forest in Kerala, T M Manoharan, who also headed KSEB under three different chief ministers, had opposed the project citing the harm it could cause to the environment.

A report of the Kerala State Biodiversity Board,



headed by environmental scientist B S Vijayan, also pointed out in 1997 that the power project would affect the ecology of the fragile river ecosystem at Athirappilly. The project will also affect the vital elephant corridor between the Parambikulam sanctuary and Pooyamkutty forests. Apart from being home

to hornbills, tigers and leopards, the forests also host the Nilgiri langur, the lion-tailed macaque and the rare Cochin forest cane turtle.

On the tourism front, the project would wipe out the majestic Athirapally and Vazhachal waterfalls, which draw 0.6 million domestic and foreign tourists every year.

RELATED STORY

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'WE NEED A MASS MOVEMENT TO PROTECT FORESTS'

M K Prasad, the architect of India's first environmental movement in 1970 that saved the ecologically vibrant Silent Valley in Palakkad district of Kerala, talks about the problems with the new hydro project



How do you see the Kerala government's decision to allow construction of the hydropower project?

I am sad that the Silent Valley protest failed to evoke the desired environmental literacy in my home state. Kerala's developmental agenda is not inclusive and devoid of the key elements of justice.

Can we compare the crisis that precipitated the Silent Valley protest with the current situation?

In Silent Valley, the issue was purely environmental as the project was planned deep inside forests. In Athirapally, the issue is both environmental and social

as a number of families of the primitive tribe Kadar face displacement. The dam will also affect irrigation and tourism possibilities in the downstream part of the Chalakudy river. The advantage here is that the Kadar community is leading the agitation along with ecologists. It will not be easy for the government and the dam lobby within it to go ahead with the project.

Do you think setting up a hydropower project on a river that already has half a dozen dams and projects makes sense?

The Madhav Gadgil-led Western Ghats Ecology Expert Panel clearly points out that the river does not have much water to generate the expected amount of power from the new dam. Climate change is heavily impacting the Western Ghats stretch extending from Athirapally to Valparai in Tamil Nadu. As a result, the Chalakudy river is in distress.

On completion, there will not be enough water in the river system to sustain the project. In addition, the project will adversely affect the majestic waterfall and tourism activities in the region.

Good rains now bring bad news

Excess rainfall in central India and frequent urban floods are the new normal as India grows warmer. This can also make locust attacks a perennial problem

SNIGDHA DAS, ISHAN KUKRETI & AKSHIT SANGOMLA

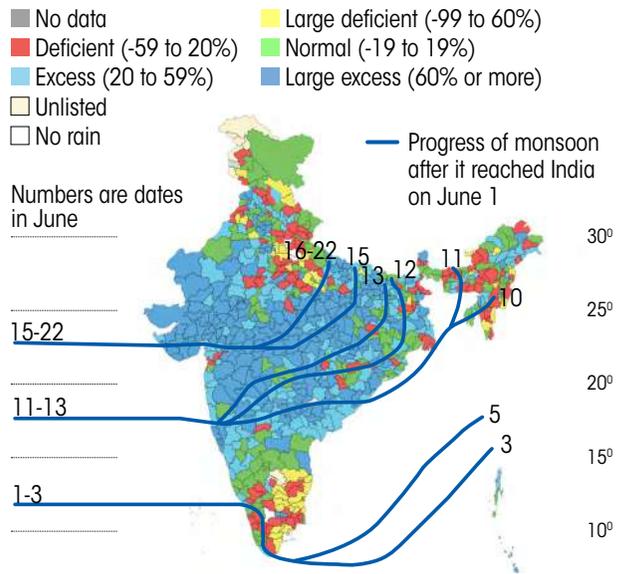
THIS YEAR the southwest monsoon season in India appears to be progressing as per schedule after its onset over Kerala on June 1. However, several southern states have received significantly deficit rainfall, while central states have received excess or large excess rainfall (see 'Central problem'). One reason for the difference could be the occurrence of cyclone Nisarga which formed in the Arabian Sea around monsoon onset and pulled the moisture inland into central India.

According to the first climate change assessment report for India published by the Union Ministry of Earth Sciences on June 17, this is clear sign of a warming world. The report, Assessment of Climate Change over the Indian Region, says the country's average temperature has risen by 0.7°C since 1901. It will increase to 4.4°C by end of the 21st century, relative to the recent past (1976-2005 average). Even the summer monsoon rainfall has decreased over the country since 1950, particularly over the Indo-Gangetic plains and the Western Ghats. However, the frequency of localised heavy rain occurrences has significantly increased over central India, says the report, adding that extreme rains are concentrated around urban India. Climate models also suggest increase in the frequency of extreme rainfall events all over India and delayed monsoon retreat dates.

Such a pattern can throw agricultural activities into disarray and make locust attacks a perennial problem. Locusts usually arrive at the scheduled desert area (see 'Locust sweep') during the summer monsoon season for breeding and leave around October-November. This year, they arrived earlier and have since then, spread eastwards to regions that received ample rainfall between March and May. Till June 19, they had invaded over 60 districts in seven states. With monsoon rains sweeping across the newly invaded states, entomologists fear some swarms may not return to their traditional breeding area and lay eggs wherever they find sandy or loam soil, resulting in localised outbreaks. Worse, huge swarms developing in the Horn of Africa are likely to arrive in Gujarat and Rajasthan by early July. If the monsoon retreat gets delayed, they will extend their stay, just like last year, and might cause a locust plague by the end of the year.

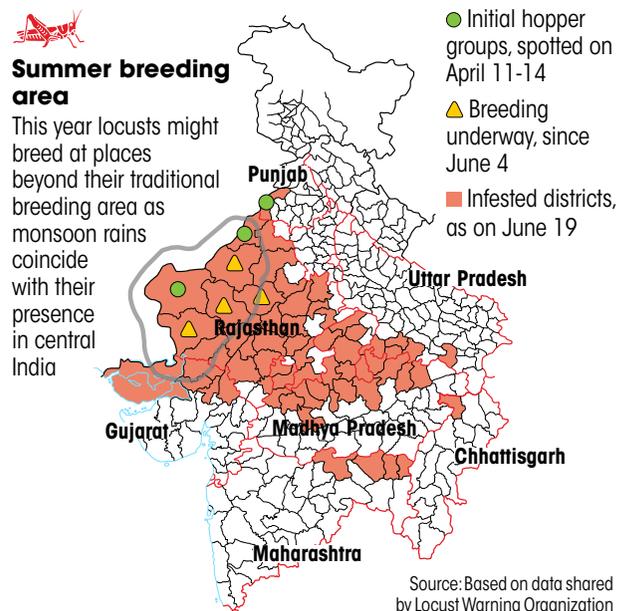
Central problem

States in central India have received excess rains so far. India's first climate assessment warns more extreme rainfall events in the future



Locust sweep

Locust swarms reached Rajasthan early this year and have invaded over 60 districts in seven states since then



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Pride under threat

WHEN PRIME Minister Narendra Modi announced on June 10 that India's Asiatic lion population recorded a historic increase of 151 in the past five years, he hid a worrying fact. The country has lost 92 Asiatic lions since January 2020 and nearly 40 per cent have died in May alone. The omission of the information seems deliberate as the death figures are from a Centre-appointed committee which had submitted its

Is the government deliberately downplaying the deaths of 92 Asiatic lions this year?

ISHAN KUKRETI
NEW DELHI

findings just days before the prime minister's statement. Even the historic increase claim is not completely correct as the new numbers are based on a routine monthly assessment carried out by officials of the Gir Reserve Forest in Gujarat, whereas the population figures of 2015 are based on the 14th Asiatic lion population estimation, which happens once every five years. In fact, as Modi made the tall claim, the Press Information

Bureau (PIB) released a statement saying the 15th Asiatic lion population estimation, scheduled for June 5-6, has been postponed due to the COVID-19 outbreak.

India is currently witnessing such a high incidence of lion deaths that it prompted the Ministry of Environment, Forest and Climate Change (MOEFCC) to set up an expert committee on May 29. The committee members visited the Gir reserve, the only home to Asiatic lions in the world, between May 31 and June 1 and submitted its draft report in the first week of June. The findings are worrying.

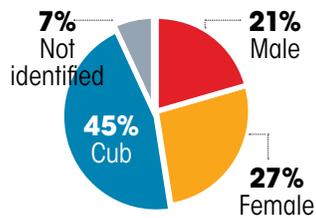
“India is witnessing one of the worst outbreaks of canine distemper virus which was the reason behind most of the deaths. Even the two sick lions that the committee was shown suffered from the disease,” says an MOEFCC official who has read the report that is yet to be released. He adds that 59 lion deaths were recorded at the Gir east division, which was the epicentre during the last outbreak of canine distemper virus in September 2018 (see ‘Another outbreak’). The numbers also suggest the current outbreak is more lethal than that of 2018 when 26 lions died within a month.

Yet, the Gujarat forest department, like the Centre, maintains nothing is amiss. “There are no canine distemper virus cases at Gir. It is a media versus government thing and there is no truth in the news,” says D T Vasavada, chief conservator of forest, Junagarh wildlife circle at Gir reserve. The state numbers are also different from that of the committee. It claims 46 lions have died since January this year, which is exactly half of the committee figures. Of them, 13 died in May and 15 in April. Only 18 of them were sick.

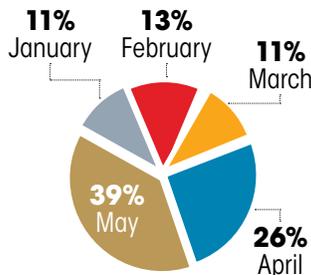
Another outbreak

Over 92 lions have died since January. Most deaths are due to canine distemper virus

WORST HIT: CUBS



WORST MONTH: MAY



April and May account for **65 per cent** of the deaths. **70 per cent** of them are **cubs** and **female lions**

WORST DIVISION: DHARI

59	13	5
Gir East division* Dhari	Gir West division Junagarh	Junagarh division Junagarh

6 Shetrunji wildlife division, Palitana

7 Sakkarbaug Zoo, Junagarh

2 Bhavnagar division, Bhavnagar

* Was the epicentre of the 2018 canine distemper virus outbreak
Source: Draft report by Centre-appointed committee

The remaining died of old age, due to drowning, snakebite or electrocution. “We have sent samples of 20 lions to our laboratory at the Sakkarbaug Zoo and to a veterinary lab in Junagarh. The results are awaited,” says Vasavada.

The PIB release says the new lion population numbers are based on the findings of Poonam Avlokan (counting done every full moon) conducted by the Gujarat forest department on June 5 and 6. The department has been conducting this routine monthly counting since 2014 to get a rough estimate and it has never been promoted as an official figure of the government before. “The committee report was with the government by the time this month’s Poonam Avlokan started. So the Centre decided to hype the Poonam Avlokan numbers to divert attention from the rising lion deaths,” alleges a senior state forest official while maintaining that a bigger conspiracy is at play.

Ravi Chellam, conservation biologist and expert on Asiatic lions, says the government has always been apathetic towards lion conservation. He adds that in April 2013 the Supreme Court had ordered the relocation of some Asiatic lions from Gujarat to Kuno Palpur wildlife sanctuary in Madhya Pradesh. In April 2013, an expert committee was set up to complete the translocation within six months. “It has been over seven years and the government is still delaying the process,” says Chellam. The demand for translocation peaked again in September 2018 after the canine distemper virus outbreak. “This could be the reason the Centre and the state are colluding to downplay the crisis,” he says. [DTE](#) [@ikukreti](#)

Paddy puzzle

As Haryana once again attempts to curb area under paddy to save groundwater, farmers point out flaws in its efforts

SHAGUN KAPIL KURUKSHETRA

A UNIQUE tussle has been going on between the Haryana government and the state's paddy farmers for quite some time now. After encouraging farmers to grow paddy for more than 50 years since the Green Revolution, the government now wants them to shift to other crops. It says paddy, being a water guzzler, is responsible for the rapid decline in groundwater across the state. Between 1966-67 and 2018-19, the area under paddy across Haryana has increased by 654 per cent; by comparison the area under wheat has increased by 244 per cent, oil seeds by 194 per cent and total food grains by just 29 per

cent, [according to the Economic Survey of Haryana 2019-20](#). During the same period, between 1974 and 2018, the state reported an average water table drop of 10 metres. The decline has been steep in paddy-rich districts like Kurukshetra, Kaithal and Fatehabad where, [as per the Ground Water Cell of the state agriculture department](#), the average water table has dropped by 30 m, 23 m and 19 m respectively.

For the past two years, the government has been announcing lucrative schemes ahead of kharif season to encourage farmers in paddy-rich areas to grow less water-consuming crops like maize and pulses. But they



have not shown much interest.

Last year, the state launched [Jal Hi Jeevan Hai scheme on a pilot basis in seven blocks](#), each in a different district, where the water table dropped by 12 m between 1999 and 2018, says the Ground Water Cell. The aim was to wean off 50,000 ha of the 87,900 ha under non-basmati paddy that have huge appetite for water. It offered the financial assistance of ₹2,000 per acre (0.4 ha), free maize seeds, crop insurance and assured procurement at minimum support price (MSP). Yet the scheme received a lukewarm response. “We received a request for 40,000 ha but crop diversification happened in just 12,000 ha,” says Suresh Gahlawat, the state’s additional director of agriculture.

On May 9 this year, the government relaunched the scheme under a different name, Mera Pani Meri Virasat, and increased the incentive amount to ₹7,000 per acre. Though any farmer in the state can benefit from the scheme, the government is targeting eight paddy-rich blocks—Ratia in Fatehabad district, Siwan and Guhla in Kaithal, Pipli, Shahabad, Babain and Ismailabad in Kurukshetra, and Sirsa in Sirsa district—where the groundwater level has dropped to below 40 m. The Central Ground Water Board classifies these blocks as “dark zones”. As per the scheme, farmers in these blocks will be eligible for the benefits only if they restrict paddy cultivation to 50 per cent of the land and grow less water-consuming crops on the remaining.

The order spurred agitations and protests. In Fatehabad, some 3,000 farmers staged a tractor march. Leaders of the opposition Congress party took on the government for the decision when farmers are already under distress

Government’s reason for push

- Haryana’s **groundwater depletion rate is** among the **highest** in the country. Of the 128 blocks, 80% are overexploited, critical or semi-critical
- Most farmers in the state grow **non-basmati paddy, a water-guzzler**
- **Irrigation water productivity** of paddy in the state **is 1.2 kg/m³, lowest** in the country
- Paddy crop residue is linked to **stubble burning**

Why farmers are unwilling

- Selected blocks have **clay soil, not suitable for maize and pulses**
- Fields get waterlogged in monsoon. **Only paddy can survive this**
- 1 ha yields 4,474 kg of paddy, but 2,500 kg of maize. Thus the average **gross return for paddy is ₹28,897/ha**, compared to ₹19,689/ha for maize
- Government has an established procurement mechanism for paddy, under which **100 kg of the grain is purchased at MSP of ₹1,868 to ₹1,888**, depending on the grade. There is no procurement system for maize. MSP has been fixed at ₹1,850/100 kg, but farmers in Kurukshetra say they get ₹700-800 at mandis

due to the COVID-19 pandemic.

This forced the government to soften its stand and issue a clarification that the order was just an “advisory”. However it maintained that in blocks with water table 35 m below the ground, paddy cultivation will not be permitted on panchayat agricultural land.

RELUCTANT FARMERS

One common narrative across Kurukshetra and Kaithal, where six blocks have been targeted under the Mera Pani Meri Virasat scheme, is that any crop other than paddy has less chance of survival in the area. “Every monsoon, most of Kaithal receives continuous rainfall for four to five days. That’s the time no other crop but paddy survives,” says Prashant Anand, farmer from Siwan village in Kaithal. “Besides, maize requires 21°C for germination and 32°C for growth. Here the temperature goes up to 40°C. The plant might grow in such high temperatures but will yield poor grains,” says Anand, who owns 5 ha.

Explains Yudhveer Singh, a technical assistant at the Kurukshetra agriculture department: “Soil here is clay which leads to water-logging in case of a good rainfall. But maize and pulses require sandy loam soil. Maize is, in fact, sensitive to stagnant water, particularly during the early stages of growth. It does not survive if water stagnates for over 48 hours.”

This is the reason that farmers who opted for Jal Hi Jeevan Hai last year failed to benefit from it. Singh says some 150,000 kg of maize seeds were sown on 7,490 ha last year. But three days of incessant rain destroyed most of the crop. Harvesting could be done from only 235 ha. Shashi Pal Sharma, sub-divisional agricultu-

ral officer in Kurukshetra, acknowledges the limitation of the scheme. Pulses are lucrative crops and require even less water than maize, but they grow better in sandy soil.

Some of the farmers who have attempted to grow maize despite the risk say it only incurs them losses. "There is neither any established market for the crop in the region nor any arrangement for procurement. The *arthiyas* (agents) and traders at the mandi refuse to buy it. Those who buy offer ₹700-800 per 100 kg instead of the MSP of ₹1,850," says Manish Mehta from Siwan village. This April he sowed maize on one-tenth of his 16 ha land but harvested it early and sold the stalks as fodder to dairy farms.

In Bajidpur village of Pipli block, sarpanch Balkar Singh also tried his hand at maize last year. "I grew it on 1.2 ha but could barely get ₹30,000 per ha against an investment of ₹50,000," says Balkar Singh, who plans to stick to paddy that offers him assured income (see 'Why farmers are unwilling', p19). The problem is the moisture content of corn needs to be reduced within 12 hours of harvesting. Else, it can catch fungus and get spoiled. But people here do not have mechanical grain dryers, says Singh, adding that farmers in Bajidpur have asked the authorities to install the dryer at the *mandi* or in the village.

Till June 23, the government has received registration for crop diversification on over 86,000 ha from across the state. Only 9,315 ha or 10 per cent of the land is from the targeted eight blocks. While some farmers in these blocks plan to grow maize, most have opted for horticulture. In Sirsa and Ratia, several have shifted to cotton.

Jasbir Singh, sarpanch of Begpur village in Kaithal, however, says, this shift has got little to do with the Mera Pani Meri Virasat scheme. In the absence of agricultural labourers, who have left for their villages in other states following the COVID-19 lockdown, farmers have opted for crops that are less labour-intensive.

"Everything needs planning," says Vikas Chaudhary, a farmer from Taraori village in Karnal who is president of a farmer producer organisation. If the government really wants a shift to maize, it should come up with a policy to promote it and put a procurement system in place. Besides, the crop needs to be promoted in areas that receive less rainfall. The government should also establish a market for the crop

OVER THE YEARS HARYANA HAS MISMANAGED ITS WATER RESOURCES AND RAINWATER. ITS TRACK RECORD IN PROMOTING MICRO-IRRIGATION IS BEHIND TARGETS

by setting up industries like starch manufacturing plants. According to Chaudhary, if farmers realise that maize has a market, they will swiftly shift to it.

TIME TO DIVERSIFY PLAN Studies have established that Haryana farmers' obsession with paddy is not the only reason for the state's groundwater woes. "Over the years, Haryana has mismanaged its water resources and rainwater. The track record of the government in promoting micro-irrigation is behind its targets," says [Partik Kumar, convenor, Water Working Group, Revitalizing Rainfed Agriculture Network](#). In 2018-19 alone,

the state had to bring 20,000 ha of farmland under the sprinkler system and 2,000 ha under drip irrigation. But the Economic Survey of Haryana for 2018-19 shows that it has achieved only 33.7 per cent and 27.45 per cent of the targets.

The state's recent flip-flop on rice shoot policy also does not inspire much confidence among farmers. The policy provides surplus water in the Yamuna and Bhakra canal systems during the monsoon season to paddy growers in the command area through temporary opening of water channels for which farmers pay an annual fee. But in an order on June 3, allege farmers, the government issued a notification increasing the fee. It also mentioned that connections will be provided to only those who diversify at least 25 per cent of the land for less water consuming crops. Within a week, it issued another notification, cancelling the June 3 order.

Officials in charge of implementing Mera Pani Meri Virasat are, however, hopeful. Gahlawat says Jal Hi Jeevan

Hai failed last year as the scheme was launched late due to elections. "By the time we launched the scheme farmers had already prepared the nurseries for paddy crop. Then we received 300 mm of rain in just one month. This will not happen every year." This year, Gahlawat says, the announcement is timely and has been made in an organised manner. Officials from the irrigation and horticulture departments have been roped in for mobilising farmers. The government also plans to provide 1,000 recharge borewells which help water percolate into the ground, but they will start functioning only next year. **DT**

 @shagun_kapil

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Save water



- Repair leakages
- Install low-flow showerheads or take bucket baths
- Turn off the faucet in between washing dishes, brushing, bathing, car wash, etc.
- Harvest rainwater

Save nature



- Planting more trees help keep the Earth cleaner and greener. More trees mean improved air quality, climate, and biodiversity
- Renewable sources of energy are constantly replenished naturally. Sources such as solar, hydroelectric, or wind energy, to name a few, can drastically reduce carbon footprint

Reduce, Reuse, Recycle



- Say NO to plastic. Avoid using plastic bottled water and carry eco-friendly shopping bags
- Segregating waste and using organic waste as compost helps improve soil quality
- Donating or recycling electronic gadgets helps conserve natural resources, avoids air and water pollution, as well as greenhouse gas emissions
- Purchase reusable items instead of disposable ones

Pale and drawn

Contrary to rumours, the *tiranga* disease in tomatoes is no way linked to COVID-19, but has stirred up similar panic and helplessness among farmers in Maharashtra

G K MAHAPATRO
PUNE

IN APRIL, as countries were struggling to contain the novel coronavirus disease (COVID-19), farmers in Maharashtra were losing sleep over another mysterious disease. Across Pune, Satara, Ahmednagar and Nashik, dubbed vegetable basket of the country, tomatoes were turning abnormally yellow, ripening prematurely and getting mushy and deformed. While most growers reported crop loss of 50 to 60 per cent, some suffered up to 90 per cent loss due to the disease, which they called "*tiranga*", literally tricolour, for the infected tomato crops displayed patches of brown, yellow and green.

In the face of a price crash at

mandis and export limitations due to the nationwide lockdown, the disease dealt a double blow to the farmers, who grow the crop throughout the year. Most, in fact, grow hybrid varieties to cater to the export demand. Worse, the lockdown prevented scientists from visiting the field and identifying the infection. When news spread, some linked it to COVID-19, adding to the panic among farmers and consumers.

The dust began to settle around mid-May, when the Mahatma Phule Krishi Vishwavidyalaya in Ahmed-

Tomato growers of Maharashtra have suffered 50 to 60 per cent crop loss due to a new viral disease, which they call *tiranga*



nagar collected samples from Satara district and sent those for testing to the Indian Institute of Horticultural Research (IIHR), Bengaluru, a premier institute of the Indian Council of Agricultural Research. A week later, the Indian Agricultural Research Institute (IARI), Pune, whose virus research laboratory is exclusively engaged in research on virus and virus-like diseases of fruits and vegetables, also received samples from Pune.

Findings of the institutes show *tiranga* is a case of multiple viral infection. While both the institutes detected cucumber mosaic virus, groundnut bud necrosis virus and tomato mosaic virus in the samples, IIHR reported the presence of three additional viruses—tomato vein distortion virus, tomato chlorosis virus and tomato leaf curl (New Delhi) virus. Likewise, the samples with IARI were infected with two other viruses—pepper mottle virus and potato virus Y.

Both IIHR and IARI cite high temperatures during fruit ripening as a possible trigger for the attack. According to IARI, high temperatures followed by last year's prolonged rainfall in Pune region may have led to a proliferation of insects that transmit plant viruses. This might have gone unchecked as at several places farmers missed management interventions due to the lockdown.

VIRUSES TOO MANY

Tomato growers are not new to virus attacks. Some 136 viruses infect and harbour in tomato crops. By comparison, potato gets infected by 54 viruses and brinjal by 44. The presence of so many viruses in tomato crops is partly due to their susceptibility to Begomovirus, a group of 400-odd plant virus species. The other reasons include inten-

sive breeding, which may have narrowed the genetic base for viral disease resistance in tomato cultivars, and mono-cropping under controlled environment that may have led to conducive conditions for the spread and survival of viruses and their vectors, making the viruses more virulent and vectors endemic.

Over the recent years, several viral diseases, including tomato yellow leaf curl virus (TYLCV) and pepino mosaic virus (PEPMV) have emerged in tomato crops grown in greenhouses. These are impacting tomato production worldwide now. Tomato brown rugose fruit virus (TOBRFV) is another such newly identified virus that has spread to China, Mexico, Jordan, Italy and

INTENSIVE BREEDING AND CULTIVATION UNDER CONTROLLED ENVIRONMENT MAY HAVE CREATED IDEAL CONDITIONS FOR THE SPREAD OF VIRUSES AND THEIR VECTORS

Germany since it first appeared in Israel in 2014. It also remains prevalent in glasshouses. Fruits infected by TOBRFV develop chlorotic marbling or wrinkled patches, and lose market value.

So far, TOBRFV has not been reported in India. But IARI scientists fear its introduction in near future as tomato growers usually buy their hybrid seeds from private companies or unconfirmed sources. They, therefore, call for planned a survey and careful surveillance of TOBRFV and all other re-emerging viruses.

One major way of doing this is maintaining strict surveillance of their vectors—sap-sucking aphids, whiteflies and thrips. The cultivat-

ion practice is changing in India, particularly in Maharashtra, where more areas are now under protected (greenhouse) condition, with frequent and indiscriminate insecticidal treatments and injudicious use of fungicides and antibiotics. International trade and travel have compounded the vector problem, with new species and strains emerging in the area. In Pune, Junnar and Nashik areas, a few solanaceous crop fields (includes tomato, potato and brinjal) show seasonal replacement of silverleaf whitefly (*Bemisia tabaci*) with a different, somewhat smaller whitefly, *Aleurothrixus trachoides*. Though it was once considered a non-virus vector by the European and Mediterranean Plant Protection Organization, [a recent research by IARI scientists shows *A trachoides* can transmit begomovirus](#) to tomato, potato and bell pepper.

Similarly, aphids and thrips are changing their species-spectrum and vector-virus relation. *Thrips palmi*, prevalent in the onion belt of Nashik and Pune, might be getting more active in tomato crops. An in-depth study into these aspects is the need of the hour.

However, in the absence of antivirals, prevention is the only way out. Farmers must adopt good management practices. They must buy seeds from reputed sources, procure healthy seedlings, maintain plant spatial distance, judiciously use fertilisers, antibiotics, fungicides and water, and responsibly dispose of infected tomatoes and old crops. But above all, efforts must be made to create a hygienic environment for all crops, not just tomatoes. **DTI**

(G K Mahapatro is head of Indian Council of Agricultural Research—Indian Agricultural Research Institute Regional Station, Pune)

 @down2earthindia

RACE RESURGENCE

Race was ingrained in science from the very beginning, and it brought discretionary policies in an evolutionary world. But the rise of the Far-right parties worldwide today is not only promoting race science like never before, but has also made the racial battle even more deadly



BY ANGELA SAINI

WE HAVE known for many decades that race is not a biological reality. The racial categories we use today were invented quite arbitrarily many centuries ago, and they map very poorly into real human variation. There are no “black” genes or “white” genes! Almost all the genetic variation we see between humans is at the individual level, from person to person, but not at the population level. In fact, there is far more genetic diversity within populations than between them.

But Western science, for many centuries, has been dominated by elite white men for the simple reason that even at the time of the Enlightenment in the 18th century, there was a common assumption that women and other “races” were incapable of the same intellectual feats. This racism was baked into science from the very beginning, and formed the basis upon which Western scientists studied human difference for centuries. They invented “race science”, and this “science”, pseudoscientific though it was, was used to justify colonial occupation, slavery, genocide, and the mistreatment of millions, as we are now witnessing with black people in the US. Now, it has become so ingrained in our systems of thinking that we still live with its devastating effects each day. Though most scientists have, for the last 70 years, affirmed that there is only one human race—and that we are incredibly homogeneous as a species—there are



still some who bang that old drum and believe there is some meaning to our racial categories.

That's because scientists often struggle in dealing with legacies of great scientists—whose scientific, political and moral views—as we now know, were utterly objectionable. In the 19th century in Europe, it was quite common to believe that humans could be divided into subspecies, and many famous scientists were racists by modern standards. What is appalling is that racists have been tolerated even in the 21st century. It took decades for many respectable scientists to finally call out American biologist James Watson, the Nobel prizewinner, who was openly and unashamedly racist for many years. Great work can be done by many people—we don't have to accept racists into the scientific establishment just because they happen to have done great work.

MOMENT OF RECKONING?

Yet, it's hard to say if this moment—when anti-race protests have become widespread across the world—is a time for change? Because we've been here before and not witnessed the deep, long-lasting course corrections that society has needed. But it certainly feels different. For one thing, institutions and corporations are responding clearly and unequivocally. Governments, of course, are another kettle of fish, but hopefully here too, we will see a change in the ballot box in the coming elections worldwide.

That's because power imbalances that underlie racism in some parts of the world are also being seen in other parts of the world—where they play out in casteism, in classism, in sexism, and in countless ways. I looked at caste in my book, *Superior*, because, like race, and it is a deep-rooted basis for social prejudice, and I have no doubt this prejudice plays out in the way Indians are treated every day.

Black Americans, for instance, have a lower life expectancy than white

Americans because of their long histories of disadvantage and oppression, which deeply affects health. In the UK, where I live, Indian-origin doctors have been dying in disproportionately larger numbers than other doctors, not because they are genetically different, but because of the countless subtle ways in which racial disadvantages affect health. We are not born different. It is society that makes us different.

Some lives are seen as more dispensable than others. Here, the Far-right would like us to believe that the racial inequalities we see in society are natural, rather than the product of historical factors. That's why they continue to push the outdated 19th century line that races are biologically real, and that there are profound differences between them. Mainstream science is not on their side, but the Far-right is incredibly manipulative, as well as active online. My advice to those who encounter these people on the social media is to ignore them. One of their tactics is to stir up online conversations, to give the illusion that there is a scientific debate around these issues, when there is not.

The truth is science is affirming every day the basic fact that we are one single human species. We are more homogenous as a species than any other primates. Even some communities that were once thought to be genetically distinct, because of their geographical and cultural isolation, have been revealed to be not so different after all. But of course, these facts mean nothing if we can't move beyond the prejudices in our minds. Race and caste were social inventions, but they have enormous power on how we think about each other. This is the moment of truth to set right our preconceived notions about how we look at the "other"—each other.

(The author is a British science journalist and author of Superior: the Return of Race Science)

In black and white

Every myth propagated by race science has been debunked over decades. But today, the rise of the Far-right parties is giving race scientists a new tonic to fuel hatred, writes **SS Jeevan**

THE CHANGING colour of skin is part of an evolutionary process. But that's not the most important discovery a recent landmark study revealed on skin colour diversity. Tracing the evolution of genes and how they travelled around the world, a team of international scientists found that a large proportion of African origin people had gene mutations that are responsible for lighter skin. Two genes, *HERC2* and *OCA2*—associated with light skin, eyes and hair in Europeans—arose in Africa, says the study published in the *Science* journal. In fact, people in Africa have almost every skin colour on the planet—from deepest black in South Sudan to beige in South Africa. Developing skin colour is also a biological process. This evidence should have come as the last nail in the coffin, especially for those practising and propagating the science of race



and spreading race in the name of colour.

But it did not. The chain of brutal killings of black people by the white US police officers—including George Floyd who was choked under the knee of the white police officer—has shocked the world and ignited an unprecedented wave of anti-racist demonstrations. In the US, protesters clashed with the police in many states and the National Guard was called in; many states declared “police-free” zones in public areas; and, now police reform bills are being debated in the US Senate.

As he began his campaign for re-election this month, US President Donald Trump called the black protesters “anarchists, looters and other lowlifes” triggering racial tensions. Similar statements during his 2016 election campaign had set in motion an avalanche of racial conflicts that helped him to consolidate his core “white” vote-bank.

Not just USA, these incidents have triggered protests worldwide. In Germany, Spain and the Netherlands, people flouted lockdown rules and flooded the streets demanding justice for people of colour who died in police custody in their own countries. In Paris, police repeatedly clashed with angry anti-racism protesters. In the UK, activists pulled down the statue of a 17th century slave trader and this had a ripple-effect across nations of

pulling down the statues of their own “luminaries” who defended slavery/racism. In Belgium, around 10,000 people shouted in one voice: “Black Lives Matter”. Importantly, in most places, protesters did not leave the streets for four weeks in a row.

At the same time, protests against anti-race demonstrations are also gaining ground, in the US and elsewhere. “I fear a racist backlash to the current anti-racism movements,” says Angela Saini, a British science journalist and author of *Superior: the Return of Race Science*. And this has always been a ticking bomb since time immemorial. But each time a turning point was

in the making—as it is this time—it was pushed back not just by policymakers, but also by the scientific establishment. That’s because the science of race is as old as slavery and colonialism.

Even today, news entirely based on false science is being spread in the name of truth. And this has become the hallmark of the growth of Far-rights across the world. The only difference is that the Far-rights are now more vocal—than they have been in the past—and taking decisions based on bogus science. In other words, race may be a social construct in the scientific world, but for the Far-right, it has become a political ideology, which is spreading fast and hedging its bets on hate politics.

Across Europe and in the US, anti-immigrant groups have become more visible and more powerful. Trump’s former chief strategist, Steve Bannon, addressing Far-right nationalists in 2018, said: “Let them call you racist, let them call you xenophobes, let them call you nativists. Wear it as a badge of honour.”

According to whistleblower, Chris Wylie, Bannon is closely linked to Cambridge Analytica, which used racial differences to target African-Americans and decipher how to stir up support among whites during the

SCIENCE HAS ESTABLISHED THAT A LARGE PROPORTION OF AFRICAN ORIGIN PEOPLE HAVE GENES RESPONSIBLE FOR LIGHTER SKIN. IN FACT, PEOPLE FROM AFRICA HAVE ALMOST EVERY SKIN COLOUR ON THE PLANET

BACK TO CONTENT



2014 mid-term elections. He once even said that black people shot by the police “might have deserved it”.

FAR-RIGHT, FAR AND WIDE

It’s the Far-right season across Europe too. In Poland, nationalists are surging ahead with a slogan: Pure Poland, White Poland. Italian politicians are promising to deport “illegal” immigrants to win popularity ratings. Germany’s Far-right, Alternative für Deutschland, got more than 12 per cent of the vote in the federal elections in 2017. Little wonder then that black people and other disadvantaged communities are bearing the brunt of the Far-right majoritarian onslaught.

“We exist in parallel universes. As a black person, you internalise not making white people uncomfortable. But living in the white suburban bubble of San

Francisco made me realise how oblivious America is to the trauma of its black citizens. Or, to put it another way, how systemically racist it is. Monoculture in the US is suffocating; the social rejection painful; and, the isolation crushing,” says Mark Karake, head of Impact Africa Network, a non-profit.

Even during the COVID-19 pandemic, more people belonging to ethnic minorities in the US and Europe contracted the disease and died in larger numbers. “There are also structural issues around discrimination and racism,” says Devi Sridhar, a professor of Global Public Health at Edinburgh University, the UK. “In hospitals, ethnic health workers were put onto longer shifts, and in riskier positions. These positions don’t have much access to PPE (personal protective equipment),” she adds. Moreover, ethnic

COLOUR THE CONSERVATION OF RACE



Today's conservation is how tourists can come on holiday, local people forbidden from hunting for food in places where foreigners hunt for sport, and the original custodians not allowed to live on their ancestral lands

BY FIORE LONGO

YOU ARE walking through the rainforest with your best friend. Sunlight sparkles through the leaves and the two of you are chatting and laughing. Birds tweet, monkeys hoot, and perhaps that was the sound of a forest elephant you heard in the distance. Suddenly you hear the crack of a rifle: your best friend collapses, crumpled, and you fall to your knees to catch them as their blood pours over your hands and stains your clothes.

Your best friend has just been shot by an anti-poaching squad. Does that change how you feel about their murder? According to certain animal lovers, when a person is unlawfully killed “to protect an endangered species, “the appropriate response is to celebrate their death because it helps keep ‘our’ precious rhinos, tigers or elephants safe”. Apparently, “the preservation of these endangered species is more important than preservation of the lives of some worthless peasants”.

Armchair environmentalists proudly declare how readily they would sacrifice brown bodies halfway across the world to save an animal they may only ever have seen on TV or in a zoo. Extra-judicial killings of innocent people, including children, in Africa and Asia, are airily dismissed as merely collateral damage in a “battle for nature.” If a white American student on their gap

years was killed for picking plants in a conservation zone, there would be international outcry, yet when this exact thing happened to Mbone Christian, a 17-year-old-boy in Democratic Republic of Congo, it barely created a ripple.

For a lot of conservationists, it seems like black lives don't really matter. “They see Baka as animals, they don't see us as humans,” a man from the Baka people of Congo Basin told *Down To Earth*. In the name of “conservation”, agents supported by world-renowned international nature groups have tortured and murdered dozens of innocent people, including children, the elderly and people with disabilities. Eco-guards, park rangers, and even government officials have variously burned down villages, bulldozed houses, gang-raped women, stolen possessions, beaten people up and maimed them for life.

Indigenous and tribal people have been gaslighted for the past 30 years because people don't believe this is happening and because they cannot fathom how cuddly-panda conservationists could possibly be guilty of racism and violence. International environmental agencies are aware of these atrocities that they continue to fund, equip and train the perpetrators. When confronted with evidence, the conservation giants simply arrange cover-ups.

Conservation suffers from the racist delusion

that non-white people in Africa and Asia do not know how to look after their own lands and cannot be trusted with the animals that live there. My colleague, Mordecai Ogada, author of *The Big Conservation Lie*, says, “The message is that African wildlife is in danger, and the source of the danger is black people, and that people from the US have to come and save wildlife from these black people.” Vast areas of land have been stolen from tribal people and local communities under the false claims that it is necessary for conservation. The stolen land is then called a “Protected Area” or “National Park.”

First created in the US in the 19th century, they are predicated on the notion that nature is “untouched wilderness” until white people “discover” it. According to Luther, chief of the Sicangu and Oglala Lakota tribes: “Only to the white man was nature a ‘wilderness’ and only to him was it ‘infested’ with ‘wild’ animals and ‘savage’ people. To us it was tame.” The superiority complex of the colonisers blinded them to the fact that thousands of native American people were not “just” living on the land, but actively using, shaping and nurturing it. They were playing a vital part in these ecosystems and possessed a deep understanding of them, yet were perceived, racially, as no more than an “inconvenience” to be “dealt with” just like the inhabitants of African and Asian protected areas are today.

National Parks in the US today are still seen as places where white people go to “get back to nature”. Between 88 and 95 per cent of all visitors to public lands are non-Hispanic white people; they make up 63 per cent of US population. In her book *Black Faces, White Spaces*, cultural geographer Carolyn Finney says: “The narrative of the Great Outdoors in the United States is explicitly informed by a rhetoric of wilderness conquest...it is informed by a legacy of Eurocentricism and the linkage of wilderness to whiteness, wherein both become naturalized and universalized.”

THE RACIST
CONSERVATION
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CANNOT BE

The legacy of colonialism not only means that many American people of colour don't feel comfortable exercising their right to enjoy nature in their own country, it also explains how their wealthy compatriots still feel entitled to do whatever they like in other people's lands. Mass tourism, trophy hunting and “sustainable” logging, mining or other resource extraction are often welcomed in areas where the original inhabitants have been evicted and forbidden from using the land themselves.

Today, in America and in much of Africa and Asia, “conservation” means that the original custodians cannot live on their ancestral lands, but tourists can come there on holiday. Local people are forbidden from hunting for food in

places where foreigners hunt for sport. Indigenous communities are banned from using resources they depend on to survive, but we'll find a way to justify cutting down trees because we could use some fancy new lounge furniture as the stuff we have looks a bit dated.

The idea that indigenous peoples don't understand how to care for their environment is simply cultural imperialism. Tribal communities, who live mostly without money and get all they need from the forests, rely on the expert knowledge of their environments to be able to

make a living as hunter-gatherers or subsistence farmers. The fact that 80 per cent of the planet's biodiversity is today in tribal territory is a testimony to their ability to maintain ecological equilibrium and healthy wildlife populations. Anyone who truly cares about the planet must stop supporting any form of “white conservation” which wounds, alienates and destroys indigenous and tribal communities. It's time for conservations to recognise them as senior partners in the fight to protect their own lands—for tribes, for nature, and for all humanity. [DTE](#)

(The author works with Survival International, a global movement for tribal peoples' rights)

minorities generally live in housing conditions—which are in poor and more crowded areas—that expose them to more risks daily.

Racial discrimination, in fact, comes in various forms in different countries. On the one hand, there are reports how people from the Northeastern states are regularly targeted in northern Indian states, and on the other hand, we constantly hear news about how people belonging to lower caste communities suffer each day, and more so during a crisis. During the world's longest lockdown, the Far-right Indian government boasted of carrying out the largest-ever evacuation of Indians stuck abroad in the world—they were affluent and who could pay. Yet the government shamelessly watched millions of migrants from marginalised communities literally walk thousands of kilometers from cities—where they had lost their livelihoods—to their villages. Once back in their villages, they were put under quarantine for endless days and had to experience untouchability, caste and race bias, once again.

This social discrimination persists even though B R Ambedkar—who wrote the Constitution of India after Independence—rejected the idea that “untouchable’s place in society was determined by their supposed racial inferiority”. Instead, Ambedkar argued that untouchability was a cultural problem that could be fought and eradicated. “Race is a state of mind,” he said, adding that the people of the Indian subcontinent were “a mixture of Aryans, Dravidians, Mongolians and Scythians”, and this made racial differences irrelevant as “ethnically all people are heterogeneous”. “Rather



than relying on language and customs, Ambedkar emphasised on the mental and psychological aspects in the construction of identities such as race and caste,” says a paper, *B R Ambedkar, Franz Boas and the rejection of racial theories of untouchability*, published in 2018.

Yet political analysts will tell you that those parties promoting the Far-right agenda will continue to rule the roost in times to come. This will once again resurrect the long history of battles between humanism and racism, backed by race science. Now, the Far-rightists are stalking people everywhere, including in the social media, with the conjectural question: “who’s superior?”

"WHO'S SUPERIOR?"

Science based on race was always scripted into public discourse and public policy by the class hierarchies, as it enabled them to discriminate against non-whites. As early as in the 1700s and early 1800s, European and US scientists had begun to study “race science” with a premise that humans can be divided into separate and unequal races. In the 18th century, Swedish naturalist Carolus Linnaeus categorised humans into four groups—European, American, Asiatic and African. In the mid-1800s, US anthropologist Samuel George Morton measured skulls from across the world and surmised that intelligence is linked to the size of the brain—whites have larger skulls than other races, and, therefore “superior”.

Scientists who disagreed were either ignored or marginalised, and this “popular” science became fashionable to the “whites” who had built their empires with the labour of slaves. Worse, race was even used to justify heinous crimes. For instance, in 1869, the Australian government enacted a law, wherein children born with a mixed heritage were forcibly taken away from their parents and raised in dormitories only to be used as cheap labour after the age of 14. Here, the story of Sarah Baartman is bone-chilling. She spent most of her life in “freak shows” because she had enormous buttocks and elongated genitals. Even when she died in 1815, her body parts were dissected and presented to the French Academy of Sciences. It was kept on display at the Museum of Man in Paris for another 150 years. Only after the intervention of Nelson Mandela, her remains were finally returned to South Africa for burial.

Astonishingly, renowned thinkers and writers over the ages have drawn conclusions between black African primates theorising that they are the “missing links” in the evolutionary chain. Charles Darwin, who gave us the concept of evolution, said that no one could agree on how many races there actually were—the range being between 1 and 63. Other major proponents of the ideology of race inequality were German philosopher Immanuel Kant, French philosopher Voltaire, Scottish philosopher, historian David Hume and the influential American political philosopher Thomas Jefferson.

The belief that differences between races are “genetic” began to decline, albeit very slowly, only after World War II, when the atrocities of the

EVEN TODAY, NEWS ENTIRELY BASED ON FALSE SCIENCE IS BEING SPREAD IN THE NAME OF TRUTH. RACE MAY BE A SOCIAL CONSTRUCT, BUT FOR THE FAR-RIGHTISTS, IT HAS BECOME A POLITICAL IDEOLOGY

holocaust united many. Moreover, the civil rights movement in the US in the 1950s and 1960s further enabled black Americans to get civil rights.

The findings of the Human Genome Project should have given a quiet burial for the proponents of race science. The DNA research study—conducted between 1990 and 2003—to decode human ancestry with genetics found how extraordinarily identical all human beings are: 99.9 per cent. Of course, there exists that 0.1 per cent, but then it only reflects the differences in our environments and other external factors, but not our core biology. Further research also proved that the Neanderthals were not necessarily more intelligent just because they had larger skulls, debunking myths that persisted.

SYSTEMATIC CAMPAIGN

The response was lukewarm among race scientists to these breakthrough findings. A new series of campaigns were launched to set parameters to propagate racial differences. One of them was that of intelligence—black people fare worse than white people because they are naturally less intelligent. But scientific excavations point to the contrary, and those studying this evidence, like South African archaeologist Christopher Henshilwood, say modern intelligence and creativity existed even in pre-historic sub-Saharan Africa. Around 70,000 and 100,000 years ago, biologically modern humans were blending paint by mixing ochre with bone-marrow fat and charcoal, fashioning beads for self-adornment and



making fish hooks, arrows and other sophisticated tools. “We’re pushing back the date of symbolic thinking in modern humans—far, far back,” says Henshilwood. It is important to understand that physical changes involve only a single gene mutation, but can spread throughout a populace within a brief evolutionary timeline. Intelligence, on the other hand, involves a complex interaction of thousands of genes, and which can take at least 100 millennia to evolve. Yet, there is little scientific research on the cognitive growth of humans even today, and importantly, on whether there is a specific gene for intelligence. There is also little evidence that there are genetic differences in intelligence among populations.

So the next strategy for Far-right scientists was to claim that different IQ levels in populations have a genetic link. This claim was riding on an essay written in 2005 by three anthropologists from the University of Utah, USA, who said high IQ scores among Ashkenazi Jews—including other groups of Jews—was because they evolved faster than any other community. The researchers were banking their theory on the perception that IQ tests are a measure for “unchanging” intelligence.

This theory too is embedded with flaws. IQ scores can increase with learning and by other forms of practice. For instance, a study by Swiss researchers in 2008 found students who practised a memory-based computer game increased their IQ levels than those who did not practice. New Zealand-based IQ researcher, Jim Flynn, says that different averages between populations are entirely to do with environmental factors, not genetic. Moreover, a study of Kenyan children between 1984 and 1998 found that increase in IQ levels was due to improved nutrition, health and parental literacy. So nurture, and not nature, holds the key to increasing IQ levels. “Intellectual qualities... cannot be measured as linear surfaces are measured... and giving IQ too much significance may give place to illusions,” said Alfred Binet, who invented IQ testing in 1904.

Yet our understanding of race science will always be trumped by vested interests. During the anti-race protests in the US, Tech giant IBM announced it would stop supplying facial recognition software “mass surveillance and racial profiling”. The software might have been used by the rich and powerful Far-right, whose useless banter today occupies every space of our lives, including our news and social space. For instance, *Fox News* aired a feature in June this year that compared the death of black men to gains made in the stock market. Subsequently after protests, it apologised and said the story “should not have been aired on television”. The *National Geographic* seemed more honest about how it has historically reported on race issues. “For decades, *National Geographic’s* coverage was racist. It’s time we acknowledged it,” says Susan Goldberg, the magazine’s editor-in-chief, who is planning a series of articles, including a special issue, to undo the damage. There is no scientific basis for race, it said. It’s largely a made-up label. **DTE**

FOX NEWS AIRED A STORY THIS JUNE THAT COMPARED THE DEATH OF BLACK MEN TO THE GAINS MADE IN THE STOCK MARKET. ON THE OTHER HAND, THE EDITOR OF THE NATIONAL GEOGRAPHIC, SUSAN GOLDBERG, APOLOGISED THAT THE MAGAZINE'S COVERAGE WAS RACIST FOR DECADES

 @jeevan11



Workers prepare a bed at a recently constructed quarantine facility for COVID-19 patients in Mumbai

SO, HOW FAR FROM THE END?

Unless something very different happens in the southern hemisphere, coronavirus may never go away and the disease may ultimately not be containable

AFTER SIX months of the COVID-19 infection outbreak, almost all its impacts have been assessed, but the question that still remains unanswered is: when will the pandemic end? In a pandemic, this is a question of utmost desperation, but we cannot put an end date to it. The world raised this question in early March with a certainty that the modern world would tackle the pandemic effectively and unlike in the past, curtailment would be faster. But the situation does not support this.

As dozens of simulated situations, plotted in graphs, make the rounds with the forecast of the next five to seven months as the probable end of the pandemic, the world is asking yet another question: is it containable? This is a question that reflects people's surrender and acceptance to the invisible virus that has been living up to its genetic trait: to colonise human hosts as fast as possible and thrive. For the virus, the present

PHOTOGRAPH: REUTERS

situation is turning out favourable since it jumped into the human host somewhere in December last year. More and more countries are in phases of unlockdown, thus breaking the barriers of physical distances much needed to stop the spread.

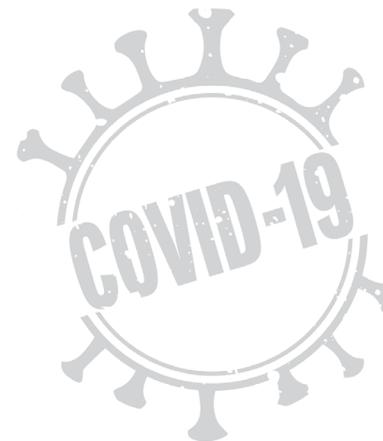
As already mentioned, many scenarios have been simulated. On June 22, a study by the Indian Institute of Technology (IIT)-Kharagpur said the pandemic would not end before October 2020 in India. For a country that has been reporting increasing number of infections every day and becoming the fourth most impacted country in the world, this is bad news. There will be more than 700,000 COVID-19 cases when the disease outbreak nears its end in the country, according to projections from a logistical model deployed for the study by Abhijit Das, a computer science and engineering faculty at IIT-Kharagpur. The calculation, keeping the seven-day rolling average of cases, said, Maharashtra—the state affected the most by COVID-19—was expected to have its peak in June. The expected number of cases in the state would be more than 160,000 till the pandemic ends, the study said. Delhi will overtake Maharashtra and cross 250,000 cases, with the pandemic expected to end in the state by November. For Tamil Nadu, the end may come by October with nearly 130,000 cases. Uttar Pradesh, which currently has nearly 16,000 cases, is expected to proceed towards the end by November with more than 40,000 cases. Madhya Pradesh and West Bengal may see the end of the pandemic in September and October, with more than 13,000 and 30,000 cases respectively.

The projections, however, were not completely stable and reliable due to limitations in modelling, warned Das. The study cited considerable changes in the spread of the disease in the country over time. “This may be attributed to various causes, like different mobility patterns of the Indian people in different phases of lockdown, large-scale migration of labourers, change in diagnostic facilities, evolution of the SARS-COV-2 virus that causes COVID-19, and so on,” said the study. These causes are beyond the control of the logistic model (or any other prediction model). Future projections may, thus, change with time. T Jacob John, a paediatrician who has more than 25 years of experience in microbiology and virology, told to *Down To Earth* earlier: “As much as 60 per cent of the Indian population would be infected in a year’s time because the infection would be seeded well. The reason why I put such a number is the fact that unlike mosquito- or water-borne infections, this is a respiratory infection.”

Elsewhere, countries are already talking about or confirming a second wave of the pandemic, extending the period of the crisis. South Korea officially declared on June 22 that it was witnessing a “second wave” of the pandemic. Its capital Seoul reported fresh cases. Before making this declaration, Korea Centers for Disease Control and Prevention (KCDC) made the claim that the country’s first wave, in fact, never ended. The uncertainty of forecasting an end to the pandemic or even declaring an end of the infection in immediate terms is turning out to be true. South Korea earlier claimed it predicted the second wave only in autumn or winter. This means the second wave happened much earlier. Jeong Eun-kyeong, director of KCDC, has been quoted in media: “Our forecast turned out to be wrong. As long as people have close contact with others, we believe that infections will continue.”

Pandemics are known to come in waves, often each wave with its own level of severity not comparable to earlier one. In the last week of May, the World Health Organization (WHO) warned that the countries reporting declining rate of infection—a situation of flattening the curve of infection rate—could experience resurgence or officially termed as “immediate second peak” if they opened up or diluted lockdown-like measures. Mike Ryan, head of emergencies in WHO, says,

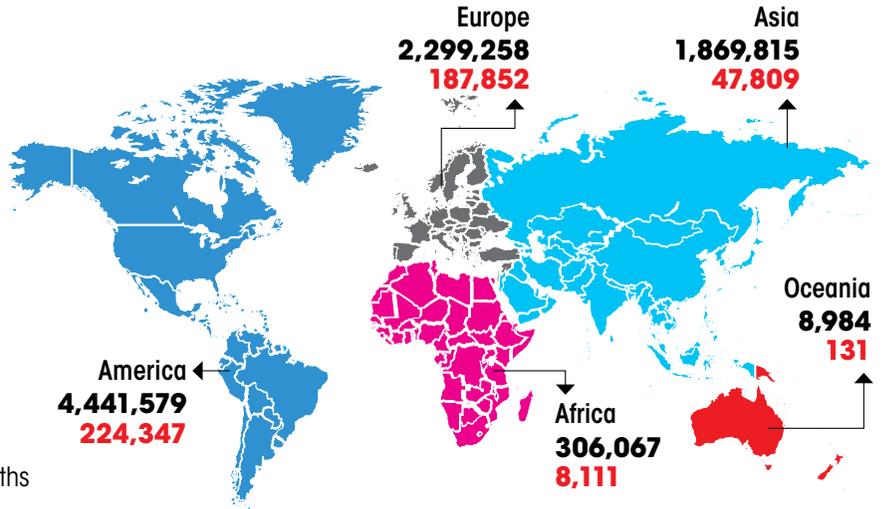
THERE WILL BE MORE THAN 700,000 COVID-19 CASES WHEN THE DISEASE OUTBREAK NEARS ITS END IN THE COUNTRY, SAYS A STUDY BY IIT-KHARAGPUR



MAD RUSH

While countries with high COVID-19 burden recklessly try to reopen, countries that have contained the outbreak play it safe

00 Confirmed cases; 00 Confirmed deaths



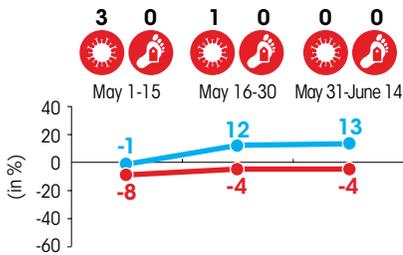
GOOD

BAD

UGLY

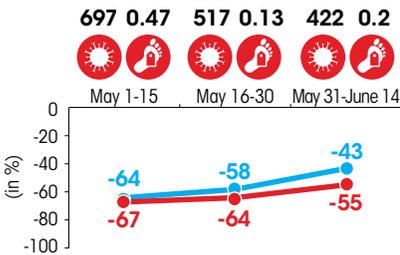
Vietnam

With 0 deaths so far, it leads the race as economies reopen in Southeast Asia



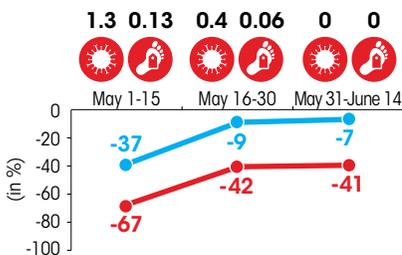
Singapore

Resuming activities slowly to reboot economy while keeping infections low



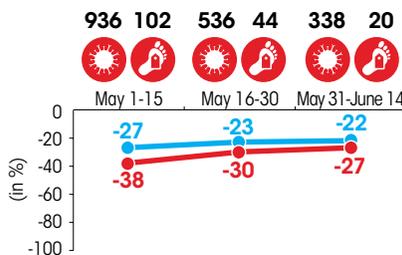
New Zealand

Despite sobering economic forecasts, it waited to become covid-free to open up



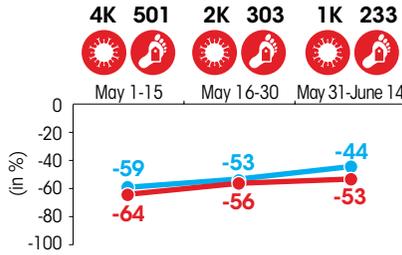
Germany

Regarded as success story in EU, localised outbreaks hinder its path to recovery



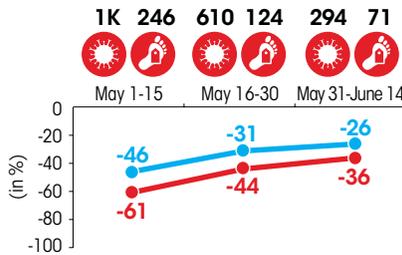
United Kingdom

Its rush to reopen economy despite high loads of new cases, deaths could backfire



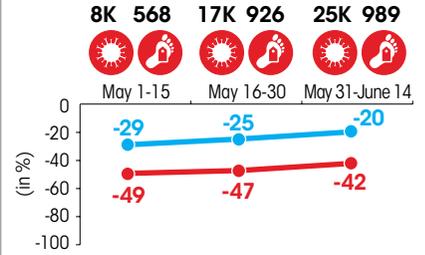
Italy

Diluted guidelines for safe reopening of businesses to revive economy



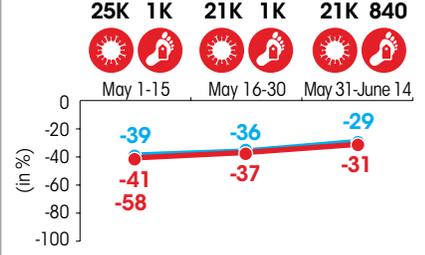
Brazil

Records second highest death toll as it opens up amid politicisation of the crisis



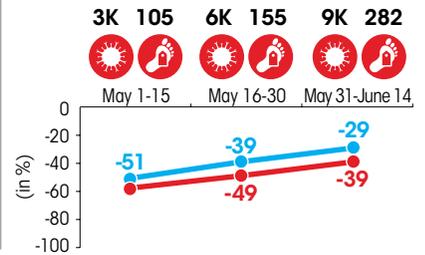
United States

Cuts down testing to give a false sense of victory to lure people to work



India

In a rush to open economy as cases and death toll hit new highs every day



% change* in visits and lengths of stay at

— Workplace (15-day average) — Public transport hubs (15-day average)

☀ 15-day average of daily cases
☠ 15-day average of daily deaths

Analysis: Rajit Sengupta, Snigdha Das | *Change calculated from the median value, for the corresponding day of the week, during Jan 3-Feb 6, 2020

Sources: COVID-19 Community Mobility Report by Google and European Centre for Disease Control and Prevention Disease Control and Prevention Disease

BACK TO CONTENT

IN MAY END, WORLD HEALTH ORGANIZATION WARNED THAT COUNTRIES REPORTING DECLINING RATE OF INFECTION COULD EXPERIENCE RESURGENCE IF THEY DILUTED LOCKDOWN-LIKE MEASURES



“When we speak about a second wave, classically what we often mean is there will be a first wave of the disease by itself, and then it recurs months later. But we need to be cognizant of the fact that the disease can jump up at any time.” South Korea is a case for instance, even though it hit the situation faster. In May, Ryan famously predicted that the pandemic would come back to countries towards the end of this year where cases or the first wave has ended. “There was also a chance that infection rates could rise again more quickly if measures to halt the first wave were lifted too soon,” he said.

For the over 200 countries with COVID-19 infection, and in various stages, it is emerging as a major focus area to ascertain whether there would be an end to the pandemic or the virus would just be around keeping the infection cycle intact. On March 17 in an article on *Down To Earth* website, Marc Lipsitch, a professor of epidemiology with the Harvard University, stated: “I think the likely outcome is that it will ultimately not be containable.” We tend to believe so. When asked by *Time* magazine, Bruce Aylward, a senior adviser to the director-general of WHO and a reputed epidemiologist, whether the virus would vanish from the Earth, his answer is something that currently the world must take note of. “What it looks like is that we’re going to have a substantial wave of this disease right through basically the globe unless something very different happens in the southern hemisphere. And the question then is: What’s going to happen? Is this going to disappear completely? Are we going to get into a period of cyclical waves? Or are we going to end up with low level endemic disease that we have to deal with? Most people believe that that first scenario where this might disappear completely is very, very unlikely, it just transmits too easily in the human population, so more likely waves or low level disease.”

Ryan also implied that we have to live with the virus, with its episodic attacks, even though its future fatality rate is yet to be ascertained. “It is important to put this on the table: this virus may become just another endemic virus in our communities, and this virus may never go away,” he said. We have an experience like this—HIV is also a pandemic and we continue to live with it. A new way of living with the virus has evolved and, over time, its spread has also been controlled. **DTE**

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PREVIOUS EDITIONS ON COVID-19
CLICK TO DOWNLOAD



India has about 100 million migrant labourers who have lost livelihood due to the lockdown



CASH, ON DELIVERY

India has employed its direct benefit transfer system to help people tide over the ongoing health and economic crises.

Its real test will begin when the crises deepen

SHAGUN KAPIL

WITHOUT ANY cash or work, how will I survive? That was my first thought after reaching my village,” says Ram Kewat, a 60-year-old daily wage labourer.

It’s a journey of 450 km from Delhi to his village on the outskirts of Jhansi, one of Uttar Pradesh’s southernmost districts. Kewat covered that distance on foot in just five days, walking, on average an excruciatingly tiresome 90 km a day to reach his village on March 29. After the government announced a [three-week nationwide lockdown](#) to prevent the spread of COVID-19 on March 24, Kewat knew that he would be out of work and food, and decided to walk to his village since there was no other mode of commute.

Upon reaching his village, he survived on food provided by a local non-profit for a week and was out of sorts when, on April 7, he received a message on his phone informing of a ₹2,000 deposit in his bank account under the [Pradhan Mantri Jan Dhan Yojana](#) (PMJDY). “I had completely forgotten about this account that I had opened last year,” he says. “I didn’t receive any money in 2019. The money credited this



year is a blessing,” he says. PMJDY was launched in 2014 to provide universal access to banking services. In 2019, when the government announced the [Pradhan Mantri Kisan Samman Nidhi](#) (PM-KISAN) scheme—an income support scheme for farmers—Kewat registered to receive cash support of ₹6,000 a year in three instalments. He opened his PMJDY account using his Aadhaar number, and his mobile phone was also seeded to this account.

Over 12 million tonnes of foodgrain has been supplied to 810 million people in the past three months through the public distribution system as part of direct benefit transfer

Kewat is one of India’s 100 million migrant workers—a number estimated by the [United Nations Development Programme](#) (UNDP)—many of whom have left cities for villages because they can no longer pursue their livelihoods. In his case, one can see the importance of the government’s ability to provide life-saving support during crises. As per a submission made by the government to the Supreme Court on March 31, over 0.6 million people

who were on the roads had been stopped and provided accommodation, while over 22 million were provided ration. The numbers are likely to rise and people would need support in the form of cash as well as food for at least three months before the situation normalises.

There are millions others in cities and villages who would need support. Identifying them and providing them assistance is the government's biggest challenge, especially because economy has come to a standstill due to the lockdown. As per [State Bank of India's \(SBI's\) Ecowrap research report](#) released on April 16, almost 70 per cent of India's economic activities have stopped. What makes the situation worse is that the states with the most number of COVID-19 cases—Maharashtra, Tamil Nadu and Delhi—are also the biggest contributors to the country's economy.

According to an HDFC Bank press release in April, these three states account for 30 per cent of India's GDP. Similarly, the cluster of Uttar Pradesh, Rajasthan, Andhra Pradesh, Telangana and Madhya Pradesh, where COVID-19 cases are rising fast, accounts for 34 per cent of India's manufacturing activity. This makes resumption of economic activities difficult in the near future.

DBT dose for COVID-19

To help people tide over the lockdown, finance minister Nirmala Sitharaman, on March 26, announced a ₹1.70 lakh crore [direct benefit transfer](#) (DBT) package for 800 million, or two-thirds, of India's population under [Pradhan Mantri Garib Kalyan Yojana](#) (PMGKY). On May 12, Prime Minister Narendra Modi announced an economic recovery package worth ₹20 lakh crore. Between May 12 and May 17, Sitharaman held four press conferences to give details of the ₹20 lakh crore recovery package, including the ₹1.70 lakh crore.

CURRENTLY, 427 SCHEMES ACROSS THE COUNTRY ARE DELIVERED THROUGH DBT. OF THESE, 67 ARE "IN-KIND" SCHEMES WHILE THE REMAINING ARE EITHER CASH SCHEMES OR A MIX OF CASH AND KIND

The DBT package includes support in cash and kind. Under cash support, ₹500 will be transferred to all 200 million women with accounts under PMJDY and ₹2,000 to 87 million farmers under PM-KISAN. This is an advancement of two months for the first instalment in the new crop cycle and the amount that Kewat received in his account. A government release on June 3 said 420 million people have been provided a financial assistance of ₹53,248 crore under PMGKY. This comes to an assistance of ₹1,267 per person.

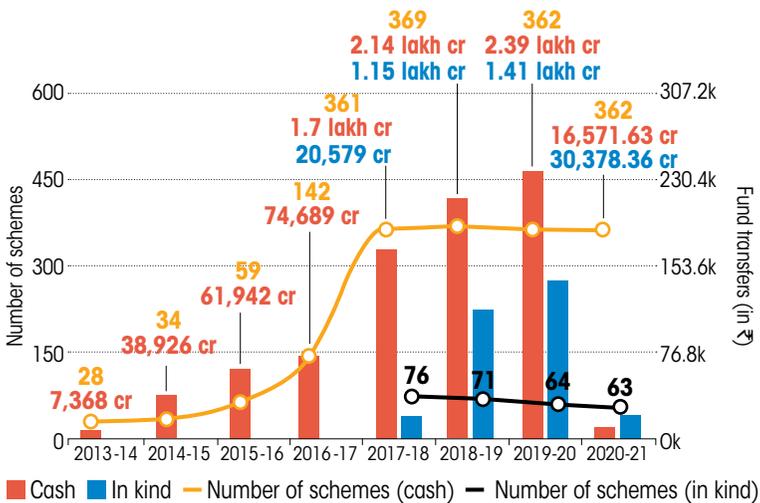
The cash component of the relief package also includes the increased wages under the [Mahatma Gandhi National Rural Employment Guarantee Act](#) (MGNREGA)—from ₹182 to ₹202 a day—for 136 million beneficiary families.

The support in kind is for three months and is being provided through the Public Distribution System (PDS). It includes free supplies of 5 kg wheat or rice per head per month, 1 kg of preferred pulses per family per month and three refills of LPG cylinders under the [Pradhan Mantri Ujjwala Yojana](#) (PMUY). Till June 4, nearly 10.3 million tonnes of foodgrain has been provided to 2,060 million people over a three-month cycle (680 million people a month), claims the government. (STOP PRESS: On June 30, Modi announced that his government has extended the support by another five months and will continue to provide free foodgrains to 800 million people till November 30. This will cost the national exchequer ₹90,000 crore.)

State governments, too, have started sending cash to stranded migrant workers. *Down To Earth*-Centre for Science and Environment Data Centre estimates that five states declared cash support of up to ₹1,000 to 1.5 million workers by April 25. Some 15 states also declared their own support schemes for people impacted by the COVID-19 pandemic.

Preferred mode

Year-wise fund transfers show how the government increasingly relies on providing benefits directly to people



Source: Direct Benefit Transfer Mission

However, going by experts, these efforts might not be enough. The Ecowrap report puts the total loss in income to India's 373 million workers (self-employed, casual and regular workers) during the lockdown at around ₹4 lakh crore (or 2 per cent of GDP) and clearly states that the relief package is not adequate. "We believe that to enable these sectors to grow at the same pace as they would have grown in normal times, a fiscal package of at least ₹3.5 lakh crore is needed. Our estimates also suggest that given a labour and capital income loss of around ₹3.60 lakh crore, the minimum subsistence fiscal package must be scaled up by ₹3 lakh crore, over and above the incremental ₹73,000 crore that was unleashed in the first phase," the report states. What this means is that in the ₹1.7 lakh crore package, only ₹73,000 crore were fresh announcements and the rest were already budgeted for in the [Union Budget 2020-21](#). For example, the payments under PM-KISAN were accounted for in the budget and have just been given in advance and also counted as part of the recovery package.

Moreover, arranging for and delivering the benefits is a gigantic task and there have been huge lapses. In a webinar organised on May 2, 2020, the Institute of Human Development (IHD), a Delhi-based non-profit, estimated that relief measures introduced in the wake of COVID-19 have reached only a third of the country's total migrant workers.

Take the case of Kamla Prasad Verma, a farmer from Uttar Pradesh's Shravasti district. He should have received ₹2,000 under PM-KISAN and ₹500 in his mother's Jan Dhan account, but neither amount was credited till mid-April. "I took the phone and my wife's Aadhaar card details to the village pradhan and he checked. No amount has been credited till mid-April," Verma says. Same is the case with Narottam Baiga, a 45-year-old wage labourer from Madhya Pradesh's Umaria district. His village has 107 households and all have Jan Dhan accounts, says Vrindavan Singh, a social activist who works in the village. Nobody has received any money.

What these cases highlight is that implementation of DBT will be the real test for the government. Data shows that the COVID-19 relief programme is the biggest, widest and longest of the government's relief operations in the past 100 years. At its best, it is also the quickest. The arrival of ₹2,000 in Kewat's account weeks after the government announced the scheme is testimony to the speed at which the DBT infrastructure can work. "Relief through DBT will be of utmost importance," says Santosh Mehrotra, professor at the [Centre for Informal Sector and Labour Studies, Jawaharlal Nehru University](#). The speed at which the benefits are delivered could be the game changer.

Evolution of DBT

Currently, 420 schemes across the country are delivered through DBT. Of these, 63 are "in-kind" schemes while the remaining are either cash or a mix of cash and kind schemes. But the mechanism was not

always so widespread and has evolved over two decades.

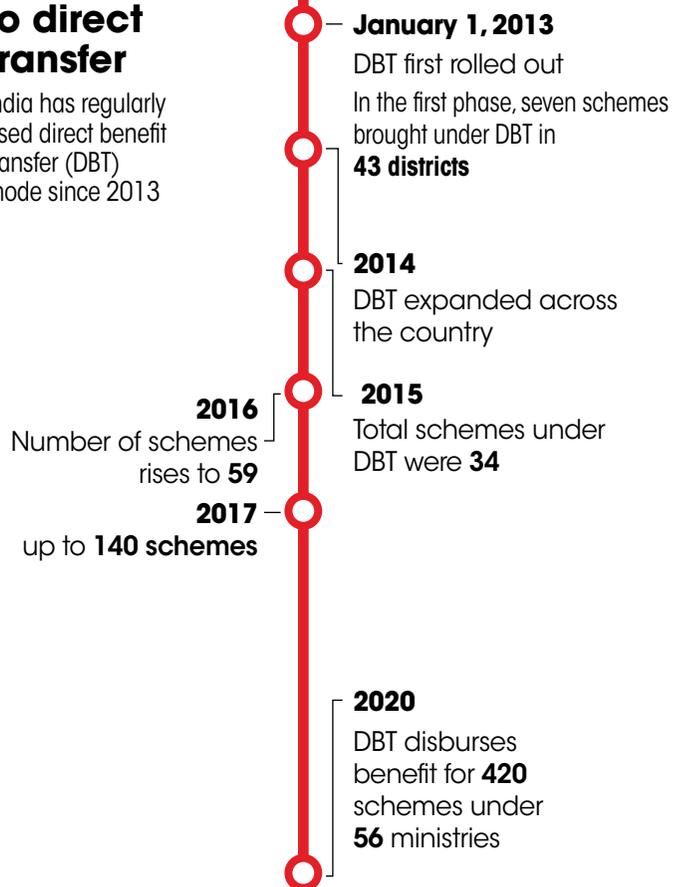
The erstwhile Planning Commission made the blueprint for the cash transfer method in 2011. Mehrotra, the then director general of Planning Commission's Institute of Applied Manpower Research, prepared the paper titled "Introducing Conditional Cash Transfer in India". The paper stated: "India has had a long history of untargeted or poorly targeted subsidies, which are in need of replacement, especially because the fiscal burdens of these subsidies have become increasingly unbearable after the multiple fiscal stimuli post-2008 economic crisis." The idea of DBT was triggered by the expensive way of delivering these schemes. To provide one rupee of development, India spent ₹3.65 in delivery in 2000, according to official estimates.

The [Economic Survey of 2010-11](#) for the first time propounded the transition to a complete DBT mode with more unconditional cash transfer schemes. In the Union budget of 2011-12, the government declared a taskforce led by entrepreneur Nandan Nilekani to explore ways and means to implement DBT, particularly for subsidies. On January 1, 2013, India for the first time shifted seven Centrally-sponsored schemes into DBT mode (see 'Route to direct transfer'). It set up the DBT Mission under the erstwhile Planning Commission.

The real push to DBT came during the first tenure of the National Democratic Alliance government (2014-2019). The [Economic Survey of 2014-15](#) proposed [JAM trinity](#)—a Jan Dhan bank account, Aadhaar as the verification tool, and mobile phone as the personal operating system. This created the basis for delivering benefits of schemes under DBT. This also had to do with the prime minister's strategy of delivering government programmes directly to the beneficiary, both for governance and also as an electoral strategy. In his first term, he directed DBT to 220 million people with

Route to direct transfer

India has regularly used direct benefit transfer (DBT) mode since 2013



Source: Media reports

an aim to deliver all the basics at the household level: housing, employment, subsidised foodgrain, toilet, electricity, health insurance, farm cash support and insurance. Later he added piped water to the list as well. By now, at least one of these has reached directly into the bank account of one of the family members.

In the past seven years, DBT has become the accepted way of delivering development schemes (see 'Big schemes and DBT' on p52). India has delivered some 450 schemes to over 900 million people through this mode (see 'Target beneficiaries' on p47). Since 2014, the government has disbursed a whopping ₹8.22 lakh crore—close to 60 per cent of



welfare and subsidies budget of the Union government—directly to the bank accounts of the beneficiaries, as per the DBT Mission website. In 2019-20, the total transfer under DBT was ₹3.81 lakh crore. This is a 40-fold increase from ₹7,368 crore transferred in 2013—the first year of DBT rollout (see ‘Preferred mode’ on p44). The budget allocation to schemes under DBT constitutes around 81 per cent of the total agriculture budget of 2020-21, which indicates the volume of direct cash transfers. The government says DBT has not only made delivery precise but also helped save money by stopping pilferage and administrative costs. The savings, as of June 2020, stood at ₹1.7 lakh crore, says the DBT Mission website—an amount same as the first COVID-19 relief package.

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The Pradhan Mantri Ujjwala Yojana has over 80 million registered beneficiaries and is considered a direct benefit transfer scheme by the government

Benefits in kind

Of the 63 “in-kind” schemes, the most prominent ones are subsidised ration (provided under PDS in 34 states and Union Territories), supplementary nutrition programme through anganwadi services, mid day meal schemes, fertiliser subsidy [Pradhan Mantri Fasal Bima Yojana](#) (which provides insurance cover against crop failure), [Ayushman Bharat](#) and Ujjwala. Under “in-kind” schemes, the government or its agency incurs internal expenditure to procure and provide goods to targeted beneficiaries at free or subsidised rates. For example, the Food Corporation of India is the government agency responsible for procurement, movement, storage and distribution of foodgrains to Fair Price shops under PDS.

Beneficiaries, exclusions

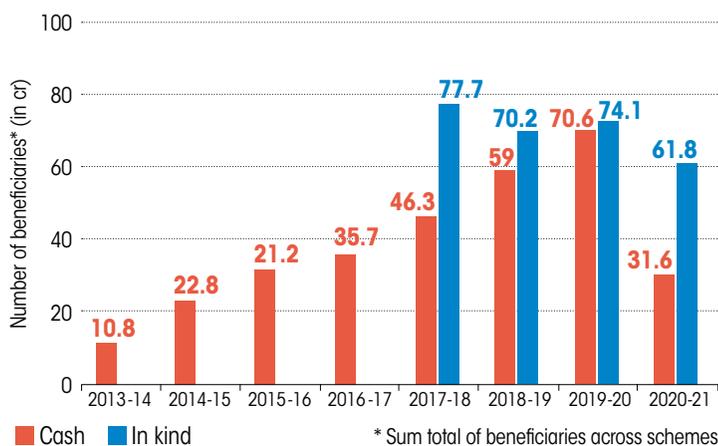
The most fundamental, and troublesome, aspect of DBT is identification of the beneficiaries. Most of the DBT schemes are managed by states, except a few like MGNREGA, PM-KISAN or PMUY, where money is transferred to beneficiaries' accounts directly by the Centre. For each DBT scheme the government has a different criteria, beneficiary list and delivery channel. For example, MGNREGA has 90 million workers registered; the [National Food Security Act](#) (NFSA) has 810 million; PM-KISAN over 140 million; and PMUY over 80 million. The problem is that during a crisis, the government randomly selects beneficiary lists to transfer benefits, which leads to exclusions.

In many cases, the lists are not properly targeted or exhaustive. Take the case of PDS. In the early 1990s, India made its PDS targeted and delivered subsidised food grains to below poverty line (BPL) families. The country had its first BPL survey in 1997. After that, no such list was prepared, says Umi Daniel, director, migration and education, [Aide et Action International](#), an international non-profit. Since there is no recent BPL list, the list of beneficiaries identified for NFSA is now used for PDS. The first NFSA list was prepared in 2011-12. "It is updated every year and many transfers at the Central and state levels through JAM trinity are based on the NFSA list," says Daniel.

Exclusions also mar PM-KISAN—India's largest cash income support scheme. Since its inception in 2019, there have been glaring gaps between its identified beneficiaries and those who have received the support. For this scheme, the government has used the number of landholding as a proxy for the number of beneficiaries. The initial estimate of beneficiaries under the scheme was 140 million. It was later reduced to 87 million because of low registration under the scheme. These 87 million farmers have been promised ₹2,000 as an upfront payment under PM-KISAN in the COVID-19

Target beneficiaries

Number of people getting assistance through the direct benefit transfer mode has increased almost 15 times between 2013 and 2020



Source: Direct Benefit Transfer Mission

relief package. "India has around 140 million landholdings and these many people might have been counted as total beneficiaries. But only 87 million beneficiaries must have been able to provide updated land records. Land records of the rest might not be complete," says Pratap Singh Birthal, professor at the [National Institute of Agricultural Economics and Policy Research](#), New Delhi. Also, tenant farmers are not considered for benefits and neither are people with livestock. "There is too much exclusion," he says.

"We have to link the existing databases. Unless we have a database where different components—like a beneficiary's occupation and land profile—are available and linked to Aadhaar and bank account, it will not serve our purpose," says Shweta Saini, senior consultant (external) at the [Indian Council for Research on International Economic Relations](#), a non-profit policy think-tank based in Delhi. "But currently there is no effort to link the lists of beneficiaries," says Ravi Srivastava, director, Centre for Employment Studies, [Institute of Human Development](#), a Delhi-based non-profit. In a crisis like the current one, the government should have

identified beneficiaries using both MGNREGA and NFSA lists, instead of targeting only Jan Dhan account holders. These lists have the highest number of beneficiaries with bank accounts, even more than those with Jan Dhan accounts.

In 2017, the Centre decided to use [Socio Economic Caste Census \(SECC\)-2011](#) data, instead of the poverty line, to identify beneficiaries and to transfer funds for social schemes in rural areas. Mehrotra says the SECC database is a good starting point for bringing uniformity into these lists and for identifying beneficiaries correctly, but it requires to be crosschecked on the ground because the database is old.

Currently four-fifths of Indians receive benefits in cash or kind. This huge volume also makes implementation of DBT a daunting task and leads to exclusions.

Informal not counted

Still, at least the agriculture sector has a list of target beneficiaries. “There is no database for labourers in the informal sector. Identification in the informal sector in urban areas is a huge challenge and they are completely left out of any benefits,” says Saini. “In the present crisis, there will be a lot of exclusion among the urban poor, the homeless and the destitute. There are ‘seasonal’ migrants who get excluded from the state they migrate to because one has to run around to get covered under different schemes. Often, their families also get excluded,” Srivastava adds. That is the reason the government has waived ration card as a condition to avail free foodgrains as an emergency and temporary measure. The second PMGKY package announced on May 14 included an expenditure of ₹3,500 crore to supply free foodgrain through the PDS network to around 80 million migrant workers who are non-card holders for the next two months.

Universalising PDS might appear to be the answer but in many cases it is not. Take the case of Bihar. “We feel that universalising the PDS in rural areas and

urban slums may not seem like an urgent matter since PDS coverage in Bihar is already supposed to be close to universal (84 per cent),” economist and social activist Jean Dreze wrote in his letter to the Bihar chief minister in 2016. “However, the actual coverage is barely 70 per cent, because of population increase since 2011, ignored by the Central government,” he added. “Even if only one-third of the excluded 30 per cent consists of households vulnerable to hunger, this would mean that 10 per cent of the population of Bihar (about 13 million persons, based on projected 2019 population) is exposed to hunger at this time,” he wrote.

Officials say the first instalment of ₹500 for April has been transferred to all 200 million women Jan Dhan account holders

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In February 2018, Jharkhand, which has been experimenting with direct cash transfer of foodgrain subsidy under PDS, witnessed protests by beneficiaries. The protestors named their agitation “Ration Bachao” or save the public distribution system. Under DBT, started on a pilot basis in October 2017 in Ranchi’s Nagri block, beneficiaries had to collect their food subsidy in cash from the bank before using it to buy rice from the ration shop at ₹32 per kg. Whereas they were able to buy rice from the ration shop at ₹1 per kg earlier.

In January 2018, a survey organised by civil society organisations and coordinated by Dreze was conducted in 13 randomly selected villages of Nagri to assess public view. The findings were startling. The survey found that the DBT system was a big inconvenience and that 97 per cent of PDS cardholders surveyed were opposed to it. Nearly half of intended beneficiaries had been deprived of their food rations in the preceding four months because they had to spend on an average around 12 hours to collect the subsidy amount and then buy food from the concerned public distribution shop. Banks are located on an average 5 km away from the respondents’ homes and at least 70 per cent of respondents had no way to find out if their DBT money had been credited without going to the bank.

Gaps in JAM, banking

The Jan Dhan account was targeted at people without access to financial institutions and to make sure that cash transfers for various subsidies are done effectively. But there have been a lot of problems. For instance, the eligibility criteria for opening such accounts is vague which resulted in a large number of people having multiple accounts. “Jan Dhan accounts were for the rural and urban poor who do not have an account.

IN THE PRESENT CRISIS, THE GOVERNMENT SHOULD HAVE IDENTIFIED BENEFICIARIES USING BOTH MGNREGA AND NFSA LISTS, INSTEAD OF ONLY JAN DHAN ACCOUNTS, SINCE THESE LISTS HAVE THE HIGHEST NUMBER OF BENEFICIARIES WITH ACCOUNTS

But this could not be verified and people opened multiple accounts. They thought the government would deposit ₹15 lakh in each account,” says Srivastava.

Since the basis of delivering direct benefits is JAM, the government’s focus was on strengthening this mechanism by not only expanding enrolment but also stringently making all benefits conditional to this trinity. In 2014-19, the government issued over 1,257 million Aadhaar cards. This was followed by opening Jan Dhan accounts using [Aadhaar](#). The trinity’s third crutch of internet mobility also took root, with 200 million active internet users in rural India, 97 per cent of whom accessed it through mobile phones. But ever since the DBT Mission started transferring money, gaps in JAM emerged. For instance, the linking of bank accounts with Aadhaar is still not foolproof or complete.

Responding to a query in Parliament in February, the minister of state for finance said that 85 per cent of the current and savings accounts were linked to Aadhaar as of January 24, 2020. This means at least 15 per cent of the Indians still do not have their bank accounts linked to Aadhaar. This turns out to be 160 million Indians.

Worse, 23 per cent of the poorest 40 per cent in India do not have an account with any financial institution, as per 2019 data of the [Reserve Bank of India](#) (RBI). Most of them are likely to be migrant workers. “The government has to identify these 23 per cent who do not have bank accounts,” says Mehrotra. “The exclusion errors in JAM are too many. The government has to make sure every family is included,” says Srivastava.

The large number of inactive accounts is another area of concern. Of the total accounts of the poorest in India, around



About 23 per cent of the poorest 40 per cent in India do not have an account with any financial institution and cannot avail direct transfer benefits

45 per cent are inactive as per [“Report on Trend and Progress of Banking in India 2018-19”](#), released by RBI in December 2019. These people are likely to be left out of the relief measures. A case in point is the money transferred to construction workers in Uttar Pradesh in the first week of April. Of the 2 million labourers registered with the labour department, money could be deposited in only 0.59 million accounts, Salil Srivastava, Uttar Pradesh State Programme Manager, Tata Trusts Migration Programme, told *Down To Earth*. The trust works in coordination with the labour department. “Money could not be deposited in the rest of the accounts because they were inactive or had incorrect details. The labour department has issued a WhatsApp number for those who did not get the money to send their account details again,” says Salil Srivastava.

Similarly, a large number of Jan Dhan accounts are inactive. As per a reply given by the minister for state for finance Anurag Thakur to Parliament on August 3, 2018, over 60 million Jan Dhan accounts were inactive, as of July 11, 2018. “Many such accounts have been sequestered by the banks,” says Ravi Srivastava. However, government officials say the first instalment of ₹500 for April has been transferred to all 200 million women Jan Dhan account holders. “If there is any issue of inactive accounts, it will be sorted out,” says L R Ramachandran, Chief General Manager, Department of Financial Inclusion and Banking Technology, [National Bank for Agriculture and Rural Development](#).

There is no doubt that banks are the epicentre of this gigantic relief operation and will decide if cash transfer is effective. But there is a shortage of banking centres. The government has around 126,000 bank mitras or bank correspondents to deliver branchless banking services in rural areas and provide last-mile

FOR DBT TO WORK, FINANCIAL INCLUSION AND LITERACY, AND REAL TIME ACCESS TO THE CASH TRANSFERRED ARE PREREQUISITES. AVAILABILITY AND ACCESS TO THESE FACILITIES ARE VASTLY DIFFERENT IN THE COUNTRY

connectivity. The government has issued travel passes to them so that they can move freely even during the lockdown. The role of bank mitras is all the more important because India has 0.42 million un-banked centres and social distancing and lockdown has made access difficult. Also, the digital financing services infrastructure is dismal in rural areas. An all-India survey by NABARD on financial inclusion in 2017 highlighted that less than 2 per cent of the rural population relies on mobile and internet banking. Mobile internet is common in rural India, but net banking is not. People need cash for their basic needs in this time of crisis.

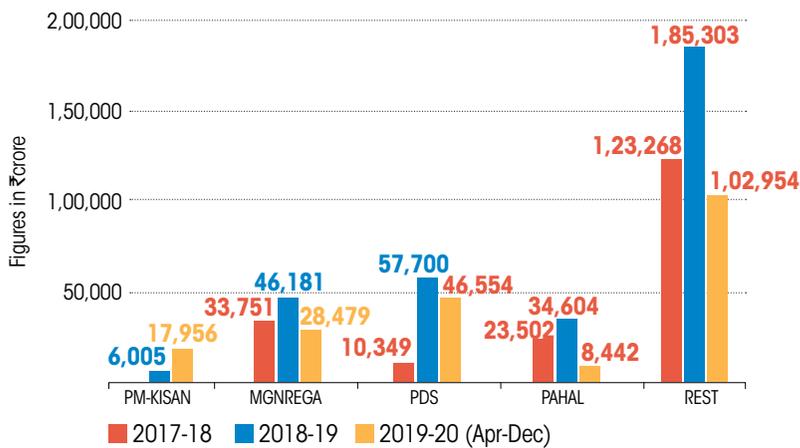
Ramesh Prasad Pandey, a farmer of Pakara village in Madhya Pradesh’s Rewa district, says he received a message that ₹2,000 had been credited to his account, but wasn’t able to withdraw because the bank branch was 13 km away. “The police are patrolling. No one in the village has gone to the branch,” he says.

Another major challenge in banking is the lack of digital infrastructure in rural areas. Of the total 232,446 ATMs in the country in 2019, only 19 per cent are in rural areas. At this time, when banks have been asked to carry out only basic work, maintaining ATMs and ensuring people get the transfer on time could prove to be difficult. Ramachandran, however, says there are no issues and that RBI has provided adequate funds to banks.

For DBT to work, financial inclusion, financial literacy, and real time access to the amount are prerequisites. Availability and access to these are vastly different in the country. In case of cash-for-food transfers, Saini and her team did an analysis of 26 states and Union Territories in 2017 and found that all states are not equally ready for DBT and do not have the infrastructure for cash

Big schemes and DBT

The government is using direct benefit transfer in many major schemes to cut implementation costs and to ensure timely, accurate delivery



Source: Direct Benefit Transfer Mission

transfers. Remote areas of Odisha and Jharkhand, for instance, are not ready for cash transfer as there is no banking facility. There should be dedicated bank correspondents for these areas or the government should use non-profits, anganwadi workers and panchayati raj institutions here to carry cash. This entire database is with the NITI Aayog.

MGNREGA wage hike

The COVID-19 package talks of increasing daily wages under MGNREGA from ₹182 a day to ₹202. The flagship employment generation programme was already proving to be insufficient in the face of an increase in demand for work because of widespread drought in the country. With the ongoing economic crisis and workers returning to their villages, rural India is set to see a further increase in demand. The Union rural development ministry recently clarified that to keep social distancing norm intact only individual works like levelling of farm, farm ponds construction and other such works that involve two to three persons at a time will be undertaken under MGNREGA. But the persistent delay in wage payment—one of the problems to be solved by DBT—has

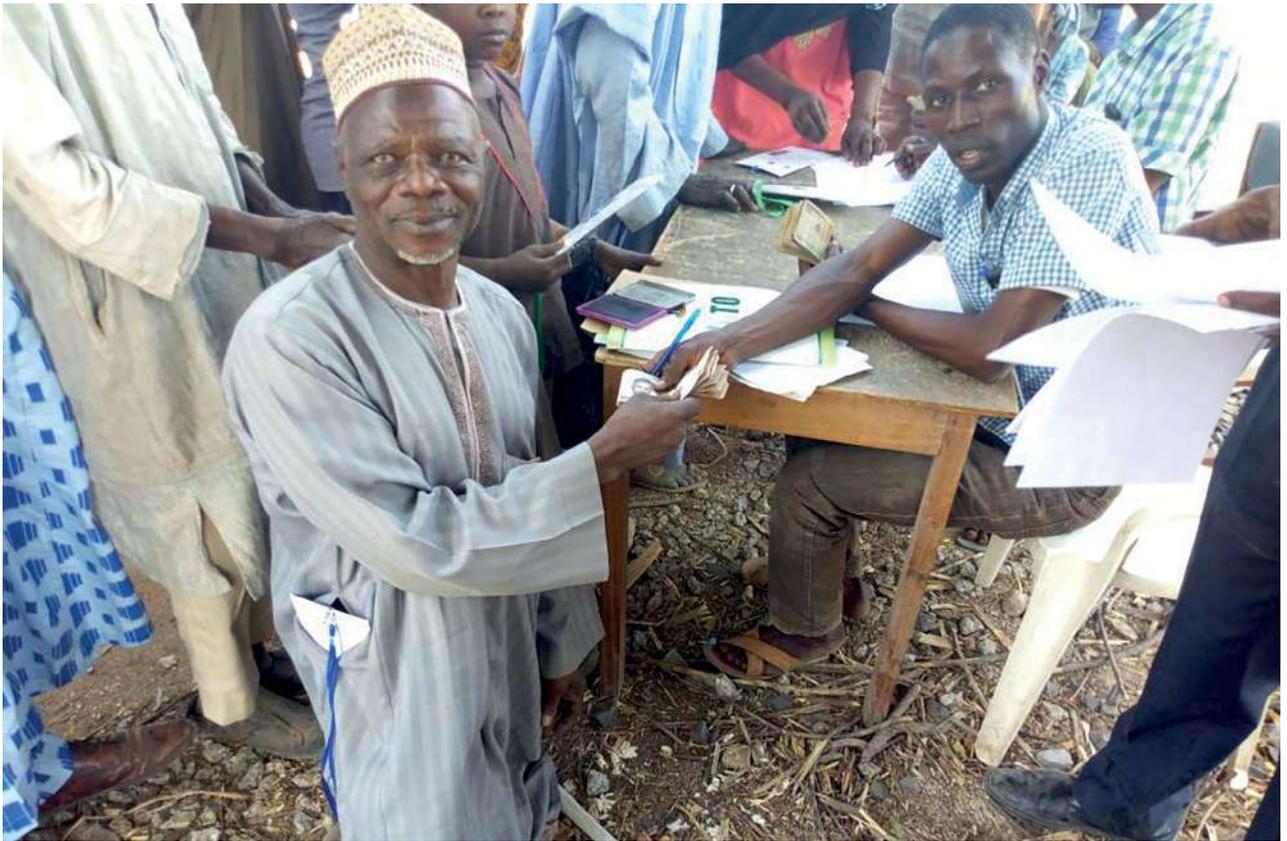
been a cause behind not many opting for employment under this scheme.

In order to streamline fund flow and ensure timely wages, the [National Electronic Fund Management System](#) (NeFMS) was implemented in 2016. Under the system, the Central Government directly credits the wages of the MGNREGA workers, on a real time basis, to a specific bank account opened by the state governments. NeFMS is implemented in 24 states and one Union Territory. As a result, e-payment under MGNREGA has increased from 77.34 per cent in 2014-15 to 99 per cent in 2018-19. Currently, close to 100 per cent wage is disbursed through DBT. In May, the finance minister said the government had cleared all pending MGNREGA wages amounting to ₹11,000 crore in April. But experts say this is insufficient. “MGNREGA workers should be given an unconditional allowance, since no work is happening right now,” says Srivastava.

DBT to stay

Despite issues, DBT is the best platform available at the moment simply because it gives one direct access to money. If the government has to send food, it has to create a logistical chain, procure food, hire trucks, and store it in ration shops. Transferring cash is administratively easier. Whether DBT or cash transfer would offset the economic damage caused by the COVID-19 pandemic is a subject of debate. But currently across the world there is a rush to rollout or strengthen DBT schemes to provide immediate relief to billions. Balazs Horvath, chief economist, UNDP, Asia-Pacific, says, “If a large part of an entire generation loses its livelihood, with no social safety net to catch it, the social costs will be unbearably high. Economic instability will follow.” According to him focus has to be on the informal workers—estimated at 1.3 billion people or two-thirds of the Asia-Pacific workforce—as well as migrants, with 100 million dislocated, in India alone.

The [World Bank](#) and the [International](#)



[Labour Organization](#) have been monitoring launches of various countries' social protection schemes. As of March-end, 84 countries introduced or adapted social protection and jobs programmes in response to COVID-19. This is an 87 per cent increase since March 19, 2020 with a total of 283 programmes currently in place. Among classes of interventions, social assistance is the most widely used (including a total of 150 programmes), followed by actions in social insurance (91) and supply-side labour market interventions (42).

Within social assistance, cash transfer programmes are clearly the most widely used intervention by governments (over one-third of total programmes, and 65 per cent of social assistance schemes). A total of 58 countries have those programmes in place, with 35 of them representing new initiatives introduced specifically as COVID-19 response. Countries tend to leverage not only flagship programmes, but multiple schemes simultaneously. Overall, 97 targeted cash transfer schemes have been launched worldwide and 50 are

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Across the world there is a rush to rollout or strengthen direct cash transfer schemes to provide immediate relief to billions

new initiatives introduced specifically as COVID-19 responses in countries like Ecuador, Peru, Iran and Italy.

Real test ahead

If the current crisis deepens, which is a likelihood, and the number of beneficiary spikes, India's DBT structure would be further tested. There already are glitches. There is also a debate over the volume of the assistance provided. "In the last few days, I spoke to 40 to 50 beneficiaries in Uttar Pradesh and Bihar who have Jan Dhan accounts and are getting the money," says Anjani Kumar, former principal scientist with the [Indian Council of Agricultural Research](#) and currently a research fellow with the [International Food Policy Research Institute](#). "The amount announced is not adequate. It should have been more," says Kumar, who has been tracking how the COVID-19 relief package has helped people.

More than the amount, the accuracy and speed of delivering the assistance will decide DBT's success. 🇮🇳

[@shagun_kapil](#)

SHORT-TERM MEASURES, LONG-TERM BENEFITS

As countries respond to COVID-19 crisis with digital payments, they must ensure that people without access to technology are not left out

**BY MICHAL RUTKOWSKI, ALFONSO GARCIA MORA,
GRETA L BULL, BOUTHEINA GUERMAZI AND CAREN GROWN**



GOVERNMENT-TO-person (G2P) payments have never been more important, as governments worldwide seek for ways to respond to the economic and social consequences of the COVID-19 pandemic. Eighty-four countries have reported changes to their social protection systems in response to the pandemic; 58 countries of these are scaling up cash transfer schemes. During this current crisis, many governments are considering direct financial transfers to households and small businesses as well, outside of traditional social protection mechanisms. In many developing countries, the scale of these payments is unprecedented; in Argentina, Pakistan and Peru, new programmes cover one-third of their populations; in the Philippines, more than 70 per cent of households will receive emergency transfers. For the 656 million people worldwide living in extreme poverty, immediate cash support can be lifesaving.

The challenge of making these massive payouts to the poor and informal sector workers is highlighting the differences between the G2P payment ecosystems across countries. Countries with advanced G2P payment ecosystems are able to push transfers out with lightning speed. In Chile, the national ID-linked basic account—Cuenta Rut—which covers most low-

income people will allow April payments of the “Bono COVID-19” directly into the bank accounts of more than 2 million vulnerable Chileans. In Peru, the authorities are leveraging earlier successes in channeling G2P through accounts to increase payments to old and new beneficiaries during the emergency, and are expanding the set of financial service providers—to include private banks and mobile money providers like BIM (Billetera Móvil)—to reach additional beneficiaries.

Taking advantage of Peru’s widespread retail agent networks will be critical to the success of these new models. Thailand’s recent reforms allow it to send payments to bank accounts through its fully interoperable PromptPay system in the context of a rapidly emerging digital payments ecosystem that also reduces the need to cash out. These countries have the added advantage of digital ID systems that uniquely identify recipients, which allows them to determine eligibility and deposit directly to the account the beneficiary has linked to their ID. Importantly, both countries were also able to quickly rollout substantial cash transfer programmes to mitigate the impact of COVID-19 on informal workers. More broadly countries with greater adoption of digital financial services (DFS) will find it

relatively easier to ensure continued access to financial services and take advantage of and support digital economy developments like e-commerce, tele-medicine and distance learning.

In countries where investments in payment infrastructure and DFS have not yet been made and where regulations have not been modernised, scaling up G2P and continued access to financial services will be more difficult. Recognising how critical these functions are during the COVID-19 crisis, many governments are finding creative ways to distribute cash safely to expanded numbers of people. But there are limits to what is possible, particularly when physical interactions are discouraged. However, there are countries, that can easily enable large-scale infrastructure by making basic regulatory changes, such as allowing existing non-bank e-money providers to provide cash-out services. Further, countries that are fairly advanced in regulatory reforms can fast-track the entry of new players (for example, money issuer licensing to mobile network operators) with the adequate regulatory frameworks and enabling inter-operability.

As countries proceed, emphasis must be placed on ensuring that the digitalisation of payments does not lead to exclusion of vulnerable populations, such as those without access to technology, the elderly, the disabled, and people living in remote areas. Problems with technology should not lead to denial of critical welfare services; all G2P programmes should proactively address any barriers that may happen as a result of transitioning to digital payments.

We understand that it is not

possible to create entirely new payment ecosystems from scratch in the midst of a crisis, and in many countries, this will be the reality. The only recourse in the short-term will be measures that mitigate the public health and financial sector impacts of existing payment mechanisms. In some cases, however, the crisis may represent an opportunity to fast-track changes already in the works in areas such as inter-operability and mobile money adoption and DFS in general.

Cash transfers will be critical to supporting recovery, rebuilding livelihoods and preparing for future challenges. They can also produce long-term benefits including financial inclusion, a key driver of resilience in the face of economic shocks, as well as the economic empowerment of women. This is especially important for women as having an account in her name with predictable deposits can provide her with more independence



and control over household spending. These benefits arise when recipients get payments in a fully functional transaction account and have a clear understanding of how to use the account, including for domestic and international remittances, spending at local shops or paying school fees. This digital payment ecosystem—the objective for creating an environment that fully supports financial inclusion in normal times—is now more beneficial than ever in the light of the need for social distancing to stem the pandemic and keep individuals healthy. Likewise, as this digitalisation accelerates, it is even more important to build strong institutional,

gender and data protection, aimed at improving G2P payments at scale for inclusion and empowerment in a comprehensive, cross-sectoral and responsible way. The initiative is now adapting quickly to ensure that it can help government social protection programmes address the new reality emerging from the pandemic.

Whether in a time of crisis or otherwise, getting cash transfers right requires a whole of government approach, bringing together government ministries. The World Bank is ready to support countries in the scale-up of modern G2P payments.

This crisis calls for an effective, comprehensive and immediate response. At the same time, governments worldwide will need tools that support long-term resilience and recovery. As social protection programmes adapt and scale up G2P cash transfers, we encourage them to consider how they can improve outcomes both for recipients and the government. While we do not expect this scale-up to be easy, we are confident that any challenges can be addressed through coordination and collaboration. We look forward to working together with all our partners to create the cross-sector, cross-government momentum required to change the G2P payments paradigm to support both the crisis response and long-term financial inclusion and empowerment goals. **DFE**

(Michal Rutkowski is global director for social protection and jobs at World Bank; Alfonso Garcia Mora is global director, finance, at the World Bank Group's Finance, Competitiveness & Innovation Global Practice; Greta L Bull is chief executive officer of the Consultative Group to Assist the Poorest; Boutheina Guermazi is director of digital development at World Bank; Caren Grown is senior director for gender at the World Bank Group)

EMPHASIS MUST BE PLACED ON ENSURING THAT DIGITALISATION OF PAYMENTS DOES NOT LEAD TO EXCLUSION OF VULNERABLE POPULATIONS, LIKE THOSE WITHOUT ACCESS TO TECHNOLOGY, THE ELDERLY, DISABLED AND PEOPLE IN REMOTE AREAS. PROBLEMS WITH TECHNOLOGY SHOULD NOT LEAD TO DENIAL OF WELFARE SERVICES

legal and technical safeguards for data protection and privacy.

Modernising G2P payments is a long-term priority for the World Bank Group since before the crisis teams working on social protection and the financial sector have been addressing this with country clients, with support of partners such as DFID (the Department for International Development) and SECO (the Swiss State Secretariat for Economic Affairs) over the last few years. In early 2020, recognising that we can maximise impact by bringing together different parts of the World Bank Group, we launched a new initiative G2Px in partnership with Bill & Melinda Gates Foundation. This brings together expertise across social protection, financial sector, governance, digital development,

GIVE THEM GUARANTEED BASIC INCOME

Had a minimum income guarantee scheme been in place, it would have required only a ramping up of the transfers to protect the poor

BY SANTOSH MEHROTRA



AMID INCREASING joblessness and household indebtedness since 2012, as demonstrated by the National Sample Survey, a minimum standard of living for the country's poor is under threat. Unfortunately, recent schemes inspired by the Universal Basic Income (UBI) debates seem to be designed more to garner votes than address their vulnerability. Rather than adopting a quasi-UBI as suggested in the Economic Survey of 2017 and doing away with many existing developmental programmes, this article argues a case for, and presents the design of, a much better method of targeting cash transfers as a supplement. The shock of COVID-19 to the incomes of the poor has made the case of a minimum income guarantee (MIG) more urgent.

India's unemployment situation, which was 30 million or 6.1 per cent of the country's labour force in 2017-18, will worsen as the economy goes into a recession in Financial Year 2021, primarily due to COVID-19. Even the Prime Minister's Economic Advisory Council warns that unemployment will rise by 40 to 50 million. This will exacerbate the pre-existing problems of the lowest (poorer) deciles of our population, which continue to remain unaddressed. For instance, the All-India Debt and Investment Survey of NSSO for 2013 shows that 51.9 per cent of the 90 million farmer households

were indebted that year. Worse, most loans were for consumption purposes, and not for production.

Social conflicts will rise if no action is taken to supplement incomes at this point. But current methods of cash transfer have proven extremely weak. A survey by the Stranded Workers Action Network (SWAN) during the first 21 days of the lockdown showed cash transfers or free foodgrain supply under the public distribution system (PDS) hardly reached anyone: 98 per cent of the 11,100 migrant workers surveyed reported they had received nothing. Another survey 32 days later showed only a slight improvement.

A separate survey of 4,000 workers from various states showed that half from rural areas and one-third from urban areas had not received cash transfers from the government. Almost 37 per cent of them said that having lost their livelihoods they had to take loans to cover expenses during the lockdown, mostly from money-lenders or friends and families.

This level of vulnerability calls for massive job creation in industry and services. But that is unlikely for quite some time post COVID-19. Even before COVID-19, job generation had fallen with more youth, now better educated than before, looking for work. India's poor desperately need a cash transfer mechanism, as social assistance, at this time of dire need.

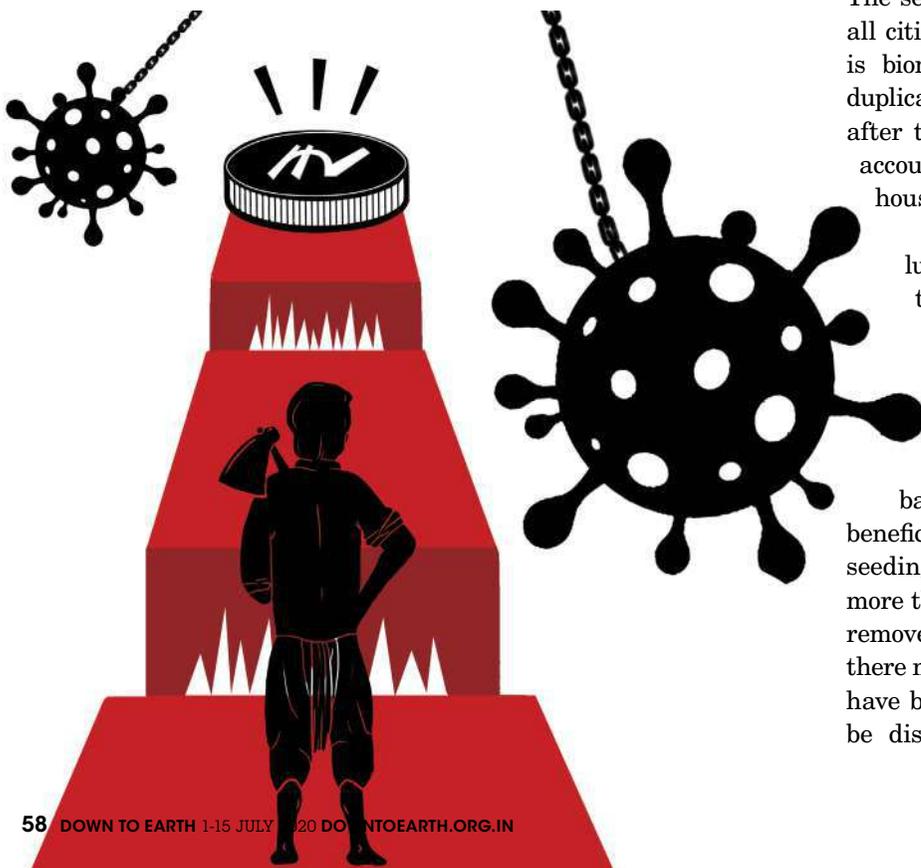
TIME RIFE FOR MIG

Three cash transfer schemes have been initiated since late 2017: Rythu Bandhu by the Telangana government, KALIA by the Odisha government and PM-KISAN (Pradhan Mantri Kisan Samman Nidhi) by the Centre. What's common in all three is that they offer cash transfer to farmers and that they were started in rapid succession. Each scheme was introduced months before state or national elections and each returned the incumbent party to power. But there have been issues with their design. First, they target farmers, leaving out the million other vulnerable people and even excluding several categories of farmers. Second, governments seem to have decided that the way out of the crisis in agriculture, where rural distress and farmer suicides keep rising, is cash transfer. They are also being perceived as a way out of farm loan waivers, which many governments have adopted in the country without necessarily relieving rural distress. Third, they exclude significant

parts of the universe they seem to be trying to benefit, and in doing so may end up worsening some inequalities that already pervade rural areas. Fourth, they suffer from problems with identifying the beneficiaries in a situation where land records are poor, rarely updated and the quality of data is highly variable among the states.

What's clear, none of the programmes can be seen as addressing the real issue of poor consumption capacity of the poor. While MIG can address this gap, the country at present has all the infrastructure ready to make it a success. To make cash transfers a success in India, at least three requirements should be fulfilled: correct identification of the poor; biometric identification of the beneficiaries; and bank accounts for them. Since 2018 these three preconditions exist, which can enable India to introduce a credible targeted cash transfer programme. The Socio-Economic and Caste Census 2011-13 (SECC) correctly identifies beneficiaries based on verifiable criteria. The second condition, is possible since all citizens have Aadhaar card, which is biometric-based and should avoid duplication and ghost benefits. Finally, after the opening of over 300 million accounts under Jan Dhan Yojana, all households have bank accounts.

Some issues still need resolution. SECC is seven years old and the lists need to be revalidated by gram sabhas. This way, unjust exclusions and unfair inclusions can be eliminated. Second, Aadhaar numbers must be seeded into bank accounts to eliminate "ghost beneficiaries appearing". Third, once seeding is done, any household with more than one bank account should be removed from beneficiary lists. Fourth, there may still be households that don't have bank accounts; they will have to be discovered through gram sabhas



and *mohalla sabhas*. Finally, since bank branches are present at a frequency of one per four-five villages, the number of banking correspondents will have to increase.

SO, WHO GETS HOW MUCH?

For this, we propose a design. There are 109 million, or 60.65 per cent of rural households that need to be included as MIG beneficiaries. Those not eligible for MIG are the 70.7 million “automatically excluded households” or the better-off households that include those paying income tax and owning a vehicle.

Those who should be given highest priority for income transfers include rural households falling under SECC’s “automatic inclusion criteria”. These usually belong to one of the five categories: households without shelter; households living on alms, destitute; manual scavenger households; primitive tribal group households; and legally released bonded labour households.

There are 107.4 million rural households that have one or more of the seven deprivations, who should also receive MIG. The criteria are: landless households deriving major part of income from manual casual labour; households belonging to Scheduled Castes or Scheduled Tribes; households with no literate adult above 25 years; households with only one room with *kuchcha* walls and *kuchcha* roof; households with no adult member in the age of 16 to 59; female-headed households with no adult male member between 16 and 59 years; and households with disabled member and no able-bodied adult.

For urban areas, given the fact that full SECC data has not yet been released, identification based on deprivation cannot be ascertained. Hence, only households in urban slums are targeted for MIG. By SECC data, these account for 20 per cent of the urban households in the country. In addition to slum-dwellers as beneficiaries, elderly households, differently abled

households, and female-headed households should also be categorised as eligible for MIG.

We propose that the money to be transferred should be directly proportional to the deprivation suffered by households. Automatically included rural households with greatest vulnerability, should be eligible for ₹8,000 per household annually; rural households with multiple deprivation should receive

MONEY TRANSFERRED SHOULD BE DIRECTLY PROPORTIONAL TO DEPRIVATION SUFFERED BY HOUSEHOLDS. RURAL HOUSEHOLDS WITH GREATEST VULNERABILITY SHOULD BE ELIGIBLE FOR ₹8,000 PER HOUSEHOLD ANNUALLY

₹6,000 annually; rural households facing just one criteria of deprivation to receive ₹4,000 annually; while rural non-excluded households considered for deprivation, not reporting deprivation and facing least level of deprivation should be offered ₹3,000 annually. In the case of urban slum households, they should receive ₹3,000 annually.

We propose that MIG covers 70 per cent of rural households and 20.12 per cent of urban households (urban slums) at a cost of ₹56,900 crore or 0.28 per cent of India’s GDP as on 2019-20. The additional coverage of 21 per cent of other vulnerable urban households at the cost of ₹10,628 crore will cost an additional 0.05 per cent of India’s GDP (2019-20). This would bring 41 per cent of the urban households in this proposed scheme. Overall the proposed scheme would cover 70 per cent of rural households, and 41 per cent of urban households, at a total cost of ₹67,528 crore, or just 0.33 per cent of India’s GDP. Given that PM-KISAN costs ₹60,000 crore in Financial Year 2021, it can be replaced by the proposed MIG. [DTE](https://www.downtoearth.org.in)

(Santosh Mehrotra is professor of economics, Centre for Informal Sector & Labour Studies, Jawaharlal Nehru University, New Delhi)

COVID-19 TO DOUBLE POVERTY IN INDIA

A transfer of at least ₹750 per person a month for six months will help them recover from economic damage wrought by the pandemic

BY SHWETA SAINI AND PULKIT KHATRI



IN THE second week of April, UN's International Labour Organization (ILO) said that about 400 million workers from informal sector in India are likely to be pushed deeper into poverty due to COVID-19. There is no dispute that poverty will worsen in the country, but the question is by how much? We try and answer this in the article using data with the National Sample Survey Office (NSSO) and the erstwhile Planning Commission.

Through quinquennial surveys, NSSO offers estimates of monthly per capita consumption expenditure (MPCE) of households. This data, which is taken as proxy for income, was the basis of estimating poverty levels by the Planning Commission. Latest data in this regard is available for 2011-12 (2017-18 NSSO report is pending for release) and that year 21.9 per cent of the country's population, or about 270 million people, were estimated to be living below the poverty line. Using NSSO's MPCE data and Planning Commission's state-level poverty data as our base, we simulate the impact of income shock due to COVID-19 on the country's poverty level.

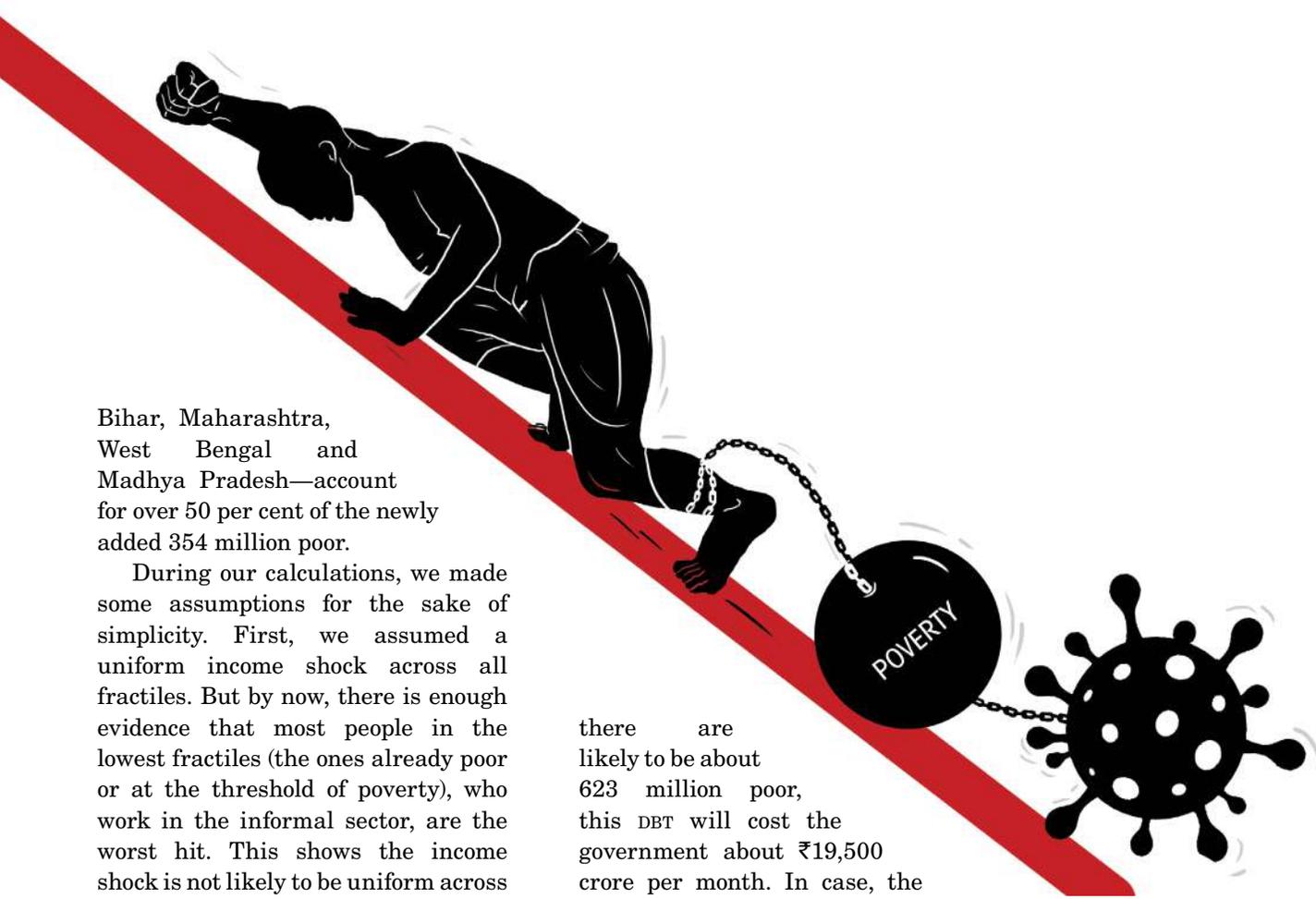
We simulate an income shock scenario, where individuals suffer a loss for three months, implying a loss of about 25 per cent in average MPCE for the year. We assume a uniform shock across the fractiles (based on MPCE, NSSO distributes population into

12 fractiles or cut-off points) and that incomes would return to pre-COVID-19 levels after the disruption from March to May.

Let's illustrate our calculations using the example of Uttar Pradesh. In 2011-12, poverty threshold levels (per person per month) for the state were ₹768 for rural areas and ₹941 for urban areas. Based on this, the state's poverty ratio, or the percentage of people living below the poverty line, was estimated to be 29.4 per cent. When we introduce the income (MPCE) shock of 25 per cent and measure it against the poverty line, the state's poverty ratio becomes 57.7 per cent. Upon applying this new ratio to the 2019-20 population estimates, we find that 71 million more people are likely to be pushed into poverty in Uttar Pradesh because of COVID-19 shock.

Using the same method for all the states and Union Territories, we find that in case of a 25 per cent income shock across all fractiles, India's poverty rate rises to 46.3 per cent, which is more than twice the 2011-12 levels and higher than even the 1993-94 levels. This means India will have an additional 354 million poor, taking the total count of country's poor to about 623 million.

At the state-level, we find that the shock increases poverty by more than double in 27 of the 35 studied states and UTs. Five states—Uttar Pradesh,



Bihar, Maharashtra, West Bengal and Madhya Pradesh—account for over 50 per cent of the newly added 354 million poor.

During our calculations, we made some assumptions for the sake of simplicity. First, we assumed a uniform income shock across all fractiles. But by now, there is enough evidence that most people in the lowest fractiles (the ones already poor or at the threshold of poverty), who work in the informal sector, are the worst hit. This shows the income shock is not likely to be uniform across all fractiles. Second, in our worst-case scenario we assumed a shock of 25 per cent in income. Sadly, there is growing and widespread evidence of job losses, majorly among low-income fractiles, indicating a likely income shock much greater than 25 per cent. Third, our assumption about incomes eventually recovering to pre-COVID-19 levels after three months is overly optimistic. Income levels in the coming months will be determined by how the economy recovers and lost employment is regenerated. Nevertheless, above exercise is extremely useful as it gives us at least a base estimate and we can infer that due to COVID-19, poverty will grow and inequality will worsen.

We use our MPCE analysis to propose a solution. Our calculations show that if the Union government makes a direct benefit transfer (DBT) of ₹312 per person per month to its poor, then most people in most states can return to pre-COVID-19 levels of MPCE. The fact that economic situation of the country was not so bright even in pre-COVID-19 times, is another matter. Given that

there are likely to be about 623 million poor, this DBT will cost the government about ₹19,500 crore per month. In case, the government increases the transfer amount to ₹750 per person per month then it will not only help the poor recover from economic damage resulting from the pandemic but also help them assuage poverty. This DBT would cost the government some ₹46,800 crore a month. The government may want to consider transferring the DBT amount at least for the next six months in addition to other benefits like increased entitlements under the public distribution system (PDS) and subsidy on LPG cylinders.

This pandemic is not just a social and economic crises. It is also a humanitarian crisis. Considering the uncertain future that lies ahead of us, a self-sufficient and better prepared poor can prove to be the best weapon against the deadly virus and DBT can go a long way in ensuring this. [DTI](#)

(Shweta Saini is senior consultant, external, at the Indian Council for Research on International Economic Relations, New Delhi; Pulkit Khatri is research assistant at Bharat Krishak Samaj, New Delhi)

Smoke and mirrors on COVID drugs?

IT IS getting really difficult to be optimistic about the likelihood of vaccines and drugs to treat COVID-19, much less the hope of securing equitable access. True, there has been strong endorsement of Costa Rican President Carlos Alvarado Quesada's proposal to create a voluntary patent pool to share the rights to all technologies useful in detecting, preventing, and controlling the COVID-19 pandemic. But as long as it remains voluntary, it is likely to remain a pious wish.

What is happening instead is a brutal fight to corner the successful outcome of research. Governments are openly using money power to grab the first rights to promising vaccines and therapies, in a strategy that is based on the ability to fund companies the most in the final lap of research. In a pandemic it seems all is fair, especially if you are the US and have plenty of money (\$ 1 billion and more) to throw at pharma companies which are frontrunners in the race to develop vaccines and treatments. But no less distasteful is the way the drug industry and research institutes have been manipulating the markets to keep investors happy. No data or peer-reviewed research is published, but press releases are released at calibrated intervals to keep the stories of imminent success always in the news. It keeps the money tap flowing.

If the early scuffles over getting priority supplies of tests and critical equipment like ventilators and personal protection gear for medical workers have been unseemly, the brazen attempt to corner the vaccine production—although not a single candidate has yet proved its efficacy in clinical trials—is proving to be sordid. The US' attempts in

this regard have been notorious and egregious. Starting with an attempt to woo a German company in March, the Trump administration has not flagged in its efforts to make its money talk despite outrage from the Europeans. In April, it almost succeeded in corralling French pharma giant Sanofi's leading vaccine candidate by providing it a generous amount. But CEO Paul Hudson had to retract after EU leaders accused the company of being soulless and disloyal for forgetting the tens of millions of public funding it had received from the European governments. Hudson was also given a personal dressing down by the French President who said that any vaccine it produced should be a "public good for the world, not subject to the laws of the market".

Drug firms leading the race for COVID-19 drugs do not publish data or peer reviewed research yet their market value soars

If Sanofi was chastened enough to promise that no country would get preferential access, it has not stopped the US from following

the same strategy with other firms.

Perhaps, some would argue that there is nothing wrong in Trump using its money muscle to protect its citizens who have been the worst hit by the pandemic. But how does one excuse the questionable tactics adopted by the drug companies and researchers to keep the money flowing in? For instance, Moderna of the US and the Oxford Group issue periodic press releases that hype their progress without providing data or any scientific review. Leading newspapers publish their claims and instantly market valuations soar while governments pour in more funds. Whether the vaccine works or not is all in the future but right now hype has also helped a few company officials to make as much as \$ 29 million in stock sales. The pandemic is good for some. **DTE**

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Palette



WHAT'S INSIDE

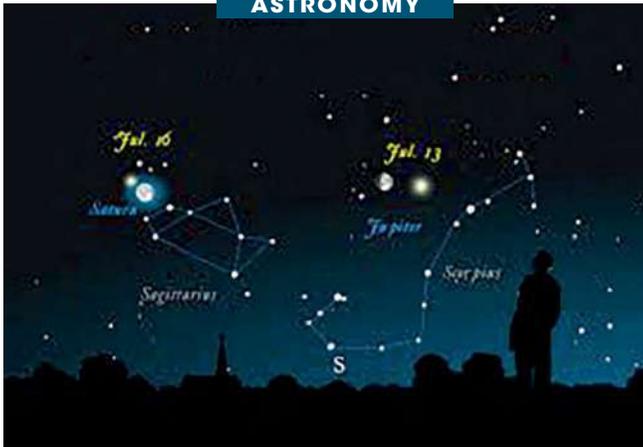
Are conservation efforts biased towards charismatic species? **P64**

Field beans have inherent nutritious properties **P68**

COVID-19 shows people's power in democracy is a myth **P74**

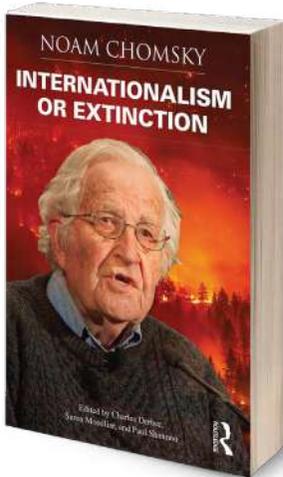
RECOMMENDATIONS

ASTRONOMY

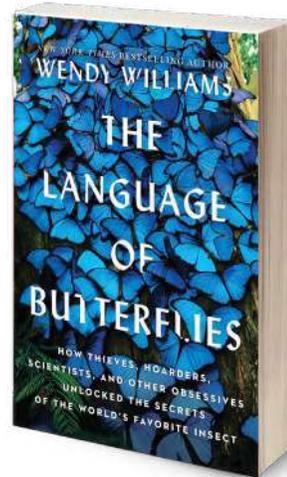


It is touted to be the astronomical event of the year. The two bigger planets in our solar system—Jupiter and Saturn—will be the closest to us in mid-July, than they have ever been at any orbital point in years. Yes, these planets can be seen with the naked eye—as well as with the help of telescopes—as they will shine side by side and will appear brighter. Jupiter can be seen from July 14, and Saturn from July 20.

BOOKS



Noam Chomsky is back in the spotlight. In his new book, *Internationalism or Extinction*, he analyses the dual existential threats we face today—of climate change and nuclear weapons—and how these threats can interact with one another and bring about an extinction. In an era when corporate global power has overtaken the ability of a country to control its future, Chomsky underlines the importance of popular movements, and how they can force governments to meet the civilisation's greatest challenge—that of survival.



We may run after butterflies, but new science is flying high. Consider this: some harmless Amazon butterflies mimic the colours of toxic species to protect themselves; the blue butterfly relies on a rare lupine to complete its breeding cycle; and, the Monarch butterflies migrate thousands of kilometres from Canada to Mexico each year, and it is a ritual. In *The Language of Butterflies*, Wendy Williams documents key events in their history of butterflies—spanning the geologic records to current population declines. The book also chronicles conservation successes to bring back endangered species of butterflies, back to life.



WHY SHOULD ONLY JUMBOS MATTER?

THE OUTRAGE OVER THE DEATH OF A PREGNANT ELEPHANT IN KERALA HIGHLIGHTS OUR SKEWED NOTION OF BIODIVERSITY AND ITS CONSERVATION

RAJKAMAL GOSWAMI

THE DEATH of a pregnant elephant in Palakkad district of Kerala, close to the Silent Valley National Park, on May 27 after eating a pineapple stuffed with explosives, has evoked an anger and grief rarely witnessed in the country. Forest officer Mohan Krishnan, whose emotional eulogy triggered the widespread outrage, blamed some “selfish men” for its death instead of the incompetence of his department, which could not tranquilise and treat the injured elephant despite locating it on May 23. Like most other outrages over conservation-related issues, the



(Left) *Apis dorsata* bee is the largest producer of wild honey. Yet, about 30 hives, housing 10 to 30 million *A dorsata*, are destroyed in a day in Bengaluru between January and June, their peak nesting season. (Below) In 2016, Bihar declared blue bull and wild pigs as vermins and allowed their culling to protect crops from large-scale damage



choices, actions and conveniences (*read inconveniences*) of the urban dwellers who have been appalled by the death of the elephant.

This raises a vital question: why does the accidental death of a single individual of one species, which is unlikely to cause any immediate threat to its population, cause so much outrage whereas the routine murder of millions of individuals of several other species in urban landscapes does not even cause a ripple? Understanding this is important to assess the conservation discourse in the country.

The need for biodiversity conservation is guided by two broad schools of thought: one that upholds intrinsic value of life and represents an *ecocentric view*, meaning all life has inherent value and there is no hierarchy within it; and the other that represents an *anthropocentric view*, meaning species with greater use for human will have greater conservation value. Considering both the views, the death of thousands of individuals of *A dorsata*, an important pollinator and largest producer of wild honey, should have yielded far greater outrage than the death of an individual elephant. But it did not. Then what drove such spontaneous outrage?

The answer lies in the way conservation is predominantly practised, whereby a few species and their landscapes hog the largest share of the scarce attention and resources. The top species in this hierarchy is tiger; elephant is the second. Since both these species require large intact habitats to thrive, we have outsourced most of our conservation concerns and demands to “remote” forests, particularly the protected areas (national parks, wildlife sanctuaries and tiger reserves). All the conservation burden, costs and guilt are borne by those who live in

noise around this incident too emerged from urban centres, with many blaming the farmers who had laid the explosive snare to protect their farms from crop-raiders. Surprisingly, around the same time when two large beehives of *Apis dorsata* (Indian Rock Bee) were removed from the fifth floor of our apartment building in Bengaluru, there was no outrage. The preemptive strike obliterated the hives, built, nurtured and used by over 250,000 bees over several months. Tens of thousands of the bees killed were in their larval stage, akin to the elephant foetus.

That day, the team smoked out 10 more hives of *A dorsata* from eight other buildings in Bengaluru. Crude estimates show about 30 hives, housing 1 to 3 million

A dorsata, are destroyed in a day in Bengaluru between January to June, their peak nesting season. According to Rajani Mani, who has been researching urban human-bee conflict since 2018 for her documentary film [Colonies in Conflict](#), the actual scale might be much higher as most apartments prefer calling pest control agencies and kill the entire brood by spraying pesticide. The numbers assume scary proportions when one takes into account the bee removal operations across the country. Yet, the deaths of these millions of bees represent just the tip of the iceberg. Every day thousands of wild birds, mammals, reptiles, amphibians, fishes, insects, plants and grasslands die within our cities, directly or indirectly driven by the

In April 2020, the National Board of Wild Life allowed Coal India Limited (CIL) to conduct open-cast mining in the Dehing Patkai Elephant Reserve in Assam. According to media reports, CIL was carrying out mining in 57 ha of the 98 ha reserve forest. The fresh recommendation extends the area by another 41 ha



these forests and depend on them. This conservation outsourcing is riddled with problems. It limits our focus to a few charismatic fauna and protected areas, as if biodiversity and wilderness cease to exist beyond them. In India, the Wildlife Protection Act (WPA) of 1972 has perpetuated and institutionalised these ideas in such a way that it has almost become part of our DNA. This is a major reason destruction of biodiversity outside the protected areas happens with so much impunity.

Conservationists might argue that protected areas have allowed India to retain a healthy amount of biodiversity despite the huge population, rapidly expanding middle class and the associated culture of consumerism. But it is

HYDROPOWER AND MINING PROJECTS IN BIODIVERSITY HOTSPOTS WILL DESTROY MILLIONS OF ANIMALS, PLANTS, FIELDS AND PONDS. BUT URBANITES REMAIN NUMB TO THE REALITY

also true that WPA has alienated many generations of people, both urbanites and forest dwellers, from their biodiversity. Today, our knowledge about wildlife is mostly contributed by nature documentaries and films. Sadly, even these seem to be perpetuating the myth that people and biodiversity do not belong together.

Such conservation outsourcing and the resulting alienation also enables the state to push for developmental projects in forests and grasslands, many of which are far richer in biodiversity than most tiger reserves and have high cultural, spiritual and material values. Approval to several mega-projects related to hydropower, mining of coal, bauxite, limestone, petroleum and renewable energy in biodiversity hotspots of the Eastern Himalayas, Northeast Indian hills, Western Ghats, Eastern Ghats and the Deccan Plateau grasslands bears testimony to this. These projects, whose biggest beneficiaries will ultimately be the cities, are slated to destroy millions of animals, plants, uproot people, their homes, hearths, fields, ponds,

gods and their heaps of knowledge carefully created and transferred across generations. But the righteous and compassionate urbanites remain comfortably numb to these realities. They remain ignorant of the fact that with huge carbon and ecological footprints, their liberal economy model is a far bigger threat to biodiversity, which includes their tigers and elephants, than any farmer or any tribal person setting up the next snare to protect their crops or fill their hungry stomachs.

For a change, let's ask the urban conservationists to practice what they preach to farmers and forest dwellers: co-exist with wildlife or make way for them. To begin with, urban dwellers must first allow the millions of bees, whose old trees they uprooted to fulfil their own aspirations, to thrive in their city homes. **DTE** *(Rajkamal Goswami is postdoctoral researcher at Ashoka Trust for Research in Ecology and Environment. He studies conservation and ecology of human-forest interfaces with interdisciplinary twist)*

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STATE OF INDIA'S ENVIRONMENT 2020 IN FIGURES

The annual **e-book edition** are the end result of analysing tons of data on India's environment and development, and using cutting edge tools to process them into sharp infographics.

Each and every dataset here is a stand-alone verdict on a specific subject/ development. Each and every one is a 360 degree annual assessment. With each dataset, we have tried to tell the complete story, in a secular manner but with lots of data wisdom.

Just to put on record, each data that you go through here is preceded by 12 months of careful tracking to not just make sense of the big data involved but also to make a credible statement.

The bean stock

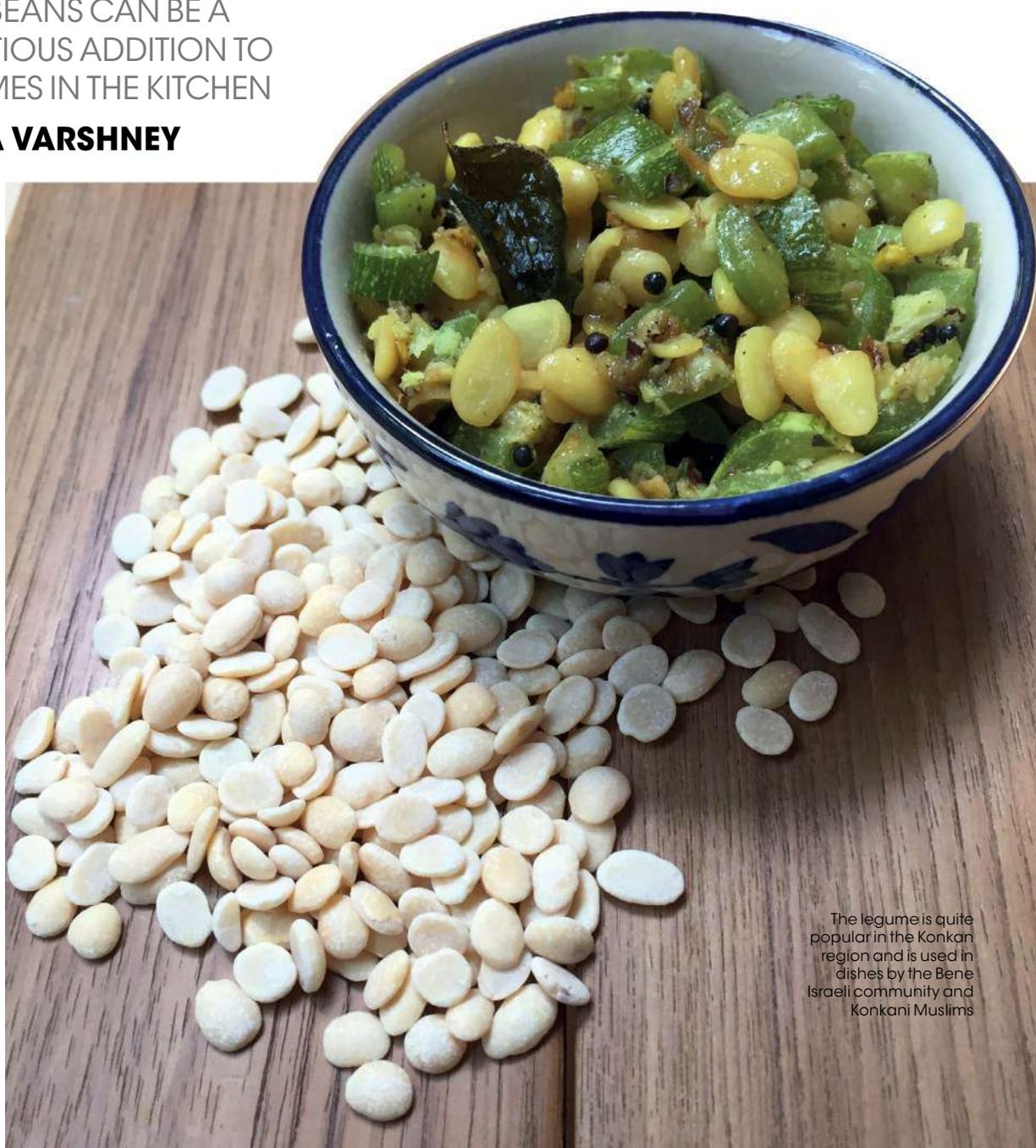
AS THE lockdown kept extending, I was glad I had a stock of food ingredients collected from across the country to experiment with and add variety to the plate. During a trip to Nagpur, Maharashtra, a couple of years ago, I had purchased a few unfamiliar legumes. Their local names were printed on the packets. One had shiny, brown seeds of a legume called *kadve val* while another, called *dal val*, had

cream coloured split seeds.

Kadve val is the seed of *Dolichos lablab* while *dal val* is the split form of the same legume. Popularly called field beans, this is a multipurpose crop grown across Karnataka, Tamil Nadu, Andhra Pradesh and Maharashtra. “*Kadve val* has a distinct texture and smell,” says Saeed Koranne-Khandekar whose recent book, *Pangat, a Feast: Food and Lore from Marathi Kitchens*,

FIELD BEANS CAN BE A NUTRITIOUS ADDITION TO LEGUMES IN THE KITCHEN

VIBHA VARSHNEY



The legume is quite popular in the Konkan region and is used in dishes by the Bene Israeli community and Konkani Muslims

has a few recipes for this legume. She has shared a vegetable dish, *padwal dalimbi*, with *Down To Earth* (see recipe).

The split form, which is also called *vaalachi dal*, is often used as a substitute for sprouted legume in preparing *usal*, a thick curry made from the sprouts, onions, spices and curry leaves. It can also be cooked with gourd or used to prepare *aamti* (spicy, sweet and sour *dal*).

The legume is quite common in the Konkan region, says Koranne-Khandekar. Konkani Muslims use these seeds and coconut milk to prepare a curry known as *hiddi*. Members of the Bene Israeli community observe Birdyaancha Roja to mark the saving of Jews from persecution and consume a few raw beans to break the fast, following it up with a dish called *birde* which also uses the legume.

EAT EVERY BIT

All parts of the *dolichos* plant can be consumed. While young immature pods are cooked like vegetable, mature beans are sprouted before being consumed or turned into split *dal*. Young leaves can be used raw in salads and older leaves are cooked like spinach. Flowers are eaten raw or steamed. The large starchy root tubers can be boiled or baked.

The dried seeds need to be boiled or soaked in water for two hours before being cooked since they contain cyanogenic glucosides and can cause vomiting and convulsions. Sprouting also reduces this toxin. Unfortunately, the first time I cooked the seeds, I was not aware of the toxins and cooked them without boiling, soaking or sprouting. Fortunately, the extremely bitter taste limited the consumption.

Later, I followed the correct recipe and enjoyed the mildly bitter taste. The reason behind my mistake was the confusion about the names of the beans. M Byre Gowda from the department of genetics and plant breeding at the University of Agricultural Sciences, Bengaluru, has worked extensively on the legume and says the plant is known by hundreds of names. Many different genus are clubbed under the common name field beans. To end the confusion, it is now called *dolichos* beans.

THE KARNATAKA LINK

The bean is more popular in Karnataka than in Maharashtra and is called *avarekalu*. Legend has it that the 12th century Hoysala king Vira Ballala II lost his way while hunting and came upon a hut where an old woman offered him cooked beans (*benda kalu*). He named the area Bendekaluru—town of boiled beans—which corrupted to Bengaluru.

Karnataka is also its major producer, cultivating about 90 per cent of the country's bean. Till last year, a fair to promote the bean was held in Bengaluru, but the authorities did not permit it this year. Versatile recipes, such as *avarekai dosa*, *avarekai vada*, *avarekai honey jalebi*, *avarekai idli* and *avarekai kodubale* (a savoury snack) were sold at the fair.

The bean is rich in protein and said to have anti-diabetic, anti-inflammatory and analgesic properties. It is also rich in iron and used to treat anaemia. A study in the journal *Nutrients* in October 2018 says it can reduce symptoms of irritable bowel syndrome. Another study in the same journal in September 2018 says it reduces obesity caused by high fat diet.

RECIPE

PADWAL DALIMBI

INGREDIENTS

Dal val: 1/4 cup (soaked for 2 hours)
Snake gourd: 2
Green chillies: 2 (chopped)
Curry leaves: 8 to 10
Ginger: 1/2 inch piece (grated)
Goda masala: 1 tsp (a spice mix)
Oil: 3 tsp
Mustard seeds: 1 tsp
Asafoetida: 1/4 tsp
Turmeric powder: 1/2 tsp
Jaggery: 1/2 tsp
Fresh coconut: 2 tbsp (grated)
Fresh coriander: 2tbsp (chopped)
Salt to taste

METHOD

Cut the gourd, discard seeds and loose flesh. Chop into half centimeter pieces. Heat the oil in a pan and add mustard seeds, asafoetida, turmeric, green chillies, ginger and curry leaves. Saute. Add the soaked beans after discarding the water. Mix well and add 1/4 cup of water. Cover and cook for four to five minutes. Add the gourd, salt, spices and part of fresh coriander. Cover with a plate and cook till the beans are soft. Add jaggery, coconut and garnish with fresh coriander. Eat with *poli* (sweet flat bread), *bhakri* (millet flat bread) or white rice.

The plant also finds mention in *Flora Indica* by William Roxburgh, a Scottish botanist who worked in India under the East India Company. He describes its seven varieties, of which five were cultivated and two were wild. There are two schools of thought on the origin of this plant. One says it originated in India because its wild forms are found here. The other says it originated in Africa and then came to Asia. Dual centres of origin could also be a possibility. **DTE**

 @vibhavarshney





A house built under the Pradhan Mantri Awas Yojana-Urban in Goa. There is a demand for 11.2 million houses under the scheme in India

Housing for a crisis

THE LOCKDOWN HAS MADE US REASSESS THE LIVABILITY OF STRUCTURES BUILT UNDER GOVERNMENT HOUSING SCHEMES

MITASHI SINGH AND RAJNEESH SAREEN

IN PUSHING us indoors, the COVID-19 lockdown has made us take note of our habitat, the safety and comfort it provides, and the impact it has on our health. The exodus of workers during the lockdown was a good reminder of the clamour for homes in our cities. State governments, like in Delhi and Odisha, had to request landlords to waive off or defer rent.

The situation showed that there was a need of not just state-run housing schemes but also of more affordable rental housing schemes, which our policies and schemes were perhaps not capturing. The [Pradhan Mantri Awas Yojana-Urban](#) (PMAY-U), which was launched in 2015 to provide houses to all by 2022, does not focus on rental housing. It is only after

witnessing the distress of labourers and their sheer numbers in the cities, that the Centre decided to include affordable rental houses under PMAY-U. So far, the [Mumbai Metropolitan Region Development Authority](#) has started building around 0.25 million rental housing units under public-private partnership model, but such examples are few and far between.

Rental housing is generally not lucrative to the private sector as it requires innovative financing mechanisms or a strong push from the government in terms of incentives to pull market interest. In 2015, the draft [National Urban Rental Housing Policy](#) (NURHP) was released to address this challenge. It suggests various models to improve the segment's economic

feasibility, like the rent-to-own scheme, under which the beneficiary gets a housing unit on lease for a fixed duration. The beneficiary pays a monthly instalment that contains a certain percentage of rent and the rest as thrift. When the amount paid reaches a certain percentage (around 10 per cent or as decided) of the total unit price, the house is registered in the beneficiary's name. Full ownership is on 100 per cent payment. The benefit of this scheme is that the tenants feel secure because the landlord is the government and there is no obligation to buy the unit

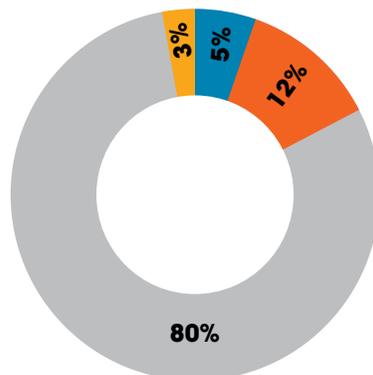
Chandigarh has implemented a rent-to-own scheme and Andhra Pradesh is attempting to promote one. Another good practice is in Odisha, where the government has built dormitories for migrant workers using funds collected as labour cess. COVID-19 has brought to surface the need to shift from static policies and cater to the evolving and dynamic demands. While the detailed guidelines are yet to come, the Centre's decision on PMAY-U has come right in time.

HEALTH FACTOR IGNORED

In 2012, the Technical Group on Urban Housing Shortage under the Union Ministry of Housing and Urban Affairs (MOHUA) estimated that [80 per cent of the nation's housing demand is due to congestion](#) or overcrowding in houses. A house is defined overcrowded in India when a married couple does not have a separate room. In current times, when social distancing needs to be practised, crowded dwellings can be a big threat to health. Still health is not considered a factor in housing demand (see 'Demand trigger'). The results of this approach are visible in informal settlements. For instance, majority

DEMAND TRIGGER

Factors that contribute to housing demand in India



- Congestion (overcrowded house)
- Homeless-ness
- Non-serviceability (*kutchra* house)
- Obsolescence

Source: Report of the Technical Group on Urban Housing Shortage (TG-12) (2012-17), Ministry of Housing and Urban Poverty Alleviation

of early hotspots in Delhi, such as Sangam Vihar and Nizamuddin Basti, were crowded and unplanned areas. Well-being of such areas must be ensured by gauging demand based on sound, qualitative parameters like health.

DECENTRALISE SERVICES

The World Health Organization and studies say that [COVID-19 can be present in the water cycle](#). In such scenario, centralised services, such as sewage treatment, bear a risk of spreading the disease. Similarly, unscientific disposal of solid waste, especially bio-medical waste, may exacerbate the situation. This fear is already there in people. For instance, the [Brihanmumbai Municipal Corporation's](#) workers have refused to collect garbage from the containment areas.

Decentralised environmental services such as rainwater harvesting, on-site wastewater and

solid waste treatment using nature-based techniques can help overcome these issues. They are low-impact and cost-effective in the long run. However, as per an investigation by Delhi-based non-profit [Centre for Science and Environment](#) (CSE), environmental services are not being adequately implemented in the new housing stock. Site layouts need to be designed in a way to accommodate these services. For this, housing guidelines or buildings byelaws need to be worked at, followed by stringent implementation.

IMPROVE SUSTENANCE

The lockdown has underlined the need for a neighbourhood to be able to sustain its inhabitants. The contemporary planning that promotes gated communities is furthest from self-sufficiency. The reason is absence of basic supplies in and around the society. For instance, in Gurugram, gated societies had resorted to hire a third party to buy and provide essential goods on their behalf.

Even under PMAY-U, under which there is a demand for 11.2 million houses, as per MOHUA, there is no mechanism to ensure access to essential services. Rather, affordable housing is coming up in peripheral locations 20-25 km away from the town, shows the CSE study. PMAY-U requires earmarking of land in a city's master plans for affordable housing. In theory, this should allow cities and towns to ensure that the distance and cost of daily commute of lower-income population is at a minimum.

However, 76.2 per cent of the 7,953 Census towns in India do not have a master plan. To fulfil the PMAY-U requirement, most towns are preparing or amending their master plan in an ad hoc manner. There are good examples such as Ahmedabad, where requirements



Studies show that houses with adequate sunlight, wind and humidity offer better protection from COVID-19

like public transport connectivity and proximate livelihood opportunities have been internalised in the master plan. Such practices should be explored.

THERMAL COMFORT MUST

Every year, heat waves take a toll on human lives across the globe. The problem is aggravated by our development practices, wherein the green spaces are diminishing and the design and material choice of the buildings are unsuited to the climate zone. This heat stress hikes energy consumption as people switch to air conditioners or other mechanical cooling devices. The world is addressing this challenge through energy efficiency interventions. However, the COVID-19 lockdown has shown that we need to depart from this approach and start using designs and materials suitable to the climate zone.

The scientific community has started highlighting that structures that bring in adequate sunlight, wind and humidity reduce exposure to the COVID-19 virus by not allowing it to sustain. In this scenario, thermal comfort becomes important.

Thermal comfort in a structure

is defined by temperature, ventilation and relative humidity, as per the [National Building Code](#). When not addressed properly in a structure, these physical parameters can prove detrimental to an occupant's health. The worst hit are the lower income population who are either exposed to poorly-designed structures or forced to invest in cooling appliances to achieve thermal comfort.

CSE believes thermal comfort and health must form the foundation of new development, instead of energy efficiency, because it factors in equity. Since India is focusing on fast-paced construction under PMAY-U, it is crucial to investigate how these houses fare on these parameters.

CSE simulated sample PMAY-U housing for thermal comfort and daylighting, as per the National Building Code and evaluated

WE NEED TO START USING HOUSE DESIGNS AND MATERIALS SUITED TO THE CLIMATE ZONE TO ACHIEVE THERMAL COMFORT, INSTEAD OF ENERGY EFFICIENT COOLING DEVICES

energy performance with respect to [Eco-Niwas Samhita](#), the energy conservation building code for residential structures. [The study](#) found dwelling units of the existing design can achieve thermal comfort from 74 per cent to 85 per cent of the year in their native climate. The heat ingress is minimum when the longer façade of the building faces the north-south direction.

Similarly, daylight analysis showed that the day-lit area is 47 per cent of the total living area when other buildings are not shading the structure. Where the buildings are mutually shading each other, day-lit area is only 15 per cent. This has a huge implication for layout and orientation in mass housing.

It is evident that houses under PMAY-U and other schemes can improve in both thermal comfort and daylighting. For this, the criteria for thermal comfort needs to be established in respective climate zones for different building typologies. This may incur additional cost due to design and non-conventional building materials, but the benefits will far outweigh the expense. [DTE](#)

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Lesson from the pandemic

PANDEMICS HAVE a history of teaching a lesson or two that define our very existence. The Spanish flu of 1918-19 convinced us that pandemics were not meteorological events or god's curse, as was previously believed. This led to the recognition of the virus and development of anti-viral treatments and vaccine. Governments also started talking about public health investments. The most recent pandemic—the H1N1 outbreak of 2009—was limited in spread, but made us realise that such events are going to be frequent and wider in impact. It led to a global agreement on the need for pandemic monitoring and management. This was the first time the provisions of the 2005 International Health Regulations (IHR) were activated.

So what are the lessons from the current pandemic? We can see four distinct phases of public-government interface and resultant changes in policies: hesitant way of recognising the threat; a stringent crackdown on people to keep them indoors purely as a law and order condition; claims of a grand plan/strategy to medically approach the crisis; and finally, leaving it to "others" to just endure it out because the strategy didn't show results. These responses were crafted around a broad strategy that we know as "flattening the curve". Remember that India recorded, and continues to do so, the steepest growth rate in infection during the national lockdown and during the evolution of the governments' strategies to fight it.

Presently, we are in a situation where any mention of a plan to curtail the pandemic faces widespread resistance. We want "normalisation" and reflection of this situation is visible in our drawing rooms, in newspaper headlines, in public discourses and in governments' public dealings. People are approaching courts to allow large

religious gatherings; state governments are facing public protests over curtailment of movement; and suddenly our international borders have started making news with heavy casualties of soldiers. In the second half of June, there were more protests over Chinese products flooding Indian markets than for anything else. Self-reliance has become the socio-politico-economic buzzword and one wonders how it got traction even while we were overwhelmed by COVID-19.

What lessons the pandemic will leave also depends on how much we as a people want to seek them. Without going into what experience it leaves us with of a health emergency, the pandemic has definitely shown that we are relatively powerless as a people operating the world's largest

The pandemic has shown that we are relatively powerless as a people operating the world's largest democracy

democracy. No longer there is any talk about the systemic weaknesses that made this pandemic deadly: abandonment of

public intervention in the health sector. Governments are not being held accountable on why the health expenditure is declining which directly resulted in a feeble and inadequate public health infrastructure. Similarly, there is no discussion on the growing inequality among us in terms of employment and wealth distribution, which left millions of workers in the informal sector on the road without any support system. As a society we have failed to build pressure on the governments to result in any tangible policy change.

The workers' crisis did lead to a few relief measures, but this is not a systemic change in the governance machinery that would fix things. Time will tell what lesson COVID-19 leaves us to seek, but in these six months, it has only mirrored our ignorance about the rules of a democracy. [DTE](#) [@richiemaha](#)

BACK TO CONTENT



ONLINE GLOBAL TRAINING PROGRAMME

FAECAL SLUDGE MANAGEMENT IN RURAL AREAS

COURSE DURATION 15 hours (2 weeks) between 29 July and 12 August 2020

BACKGROUND

Will construction of toilets in numbers end our quest for sanitation utopia? Certainly not. Countries will now have to wake up to fresh challenges of disposal of the massive quantities of solid and liquid waste generated by the new toilets we have built.

How do we prevent this waste from

turning into an unmanageable health hazard by seeping into our groundwater and water bodies like lakes and rivers. These challenges are intensified in rural areas, where on-site containment is the only solution. Out-of-the-box thinking on safe containment and management is needed in such areas.

The recent Joint Monitoring Progress report flags issues of safely managed sanitation services. The report stresses the need for hygienic toilets and safe management of excreta at each step of the sanitation trajectory from containment and emptying to conveyance, treatment and, most importantly, reuse.

ABOUT THE TRAINING PROGRAMME

Centre for Science and Environment (CSE) is organizing a training programme to educate participants on the key topics of faecal sludge management in rural areas. The course comprises of self-study, learning tools such as presentations, audios and videos, featuring case studies. Wherever required, the training will provide online forums for discussion. Quizzes and assignments will be part of this programme. The course will facilitate online interaction of participants with experts. A webinar will also be organized to discuss the subject threadbare.

KEY TAKEAWAYS

- Knowledge of safe, adaptable and sustainable technologies for managing toilet waste
- Understanding of decentralized technologies to manage grey and black water
- Training on how to reuse wastewater and faecal sludge
- Guidance on the use of Information, Education and Communication (IEC) material effectively for safe disposal and reuse of faecal sludge
- Connecting water to toilets how to make usage of toilets sustainable

OPEN TO

Government officials, elected representatives, academics, researchers, students, consultants, waste management practitioners, and members of non-profits and CSR agencies

COURSE FEE

US \$100

for international participants

₹3500

for Indian participants

25 PER CENT EARLY BIRD DISCOUNT AVAILABLE
TILL 7 JULY 2020 (BOTH FOR NATIONAL AND
INTERNATIONAL PARTICIPANTS)

SPECIAL FEATURE

Five top-performing participants will be invited to an advanced course at CSE's residential training centre (AAETI) in Alwar, Rajasthan. Boarding, lodging and training fees will be waived off for them.

TO REGISTER, CONTACT

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