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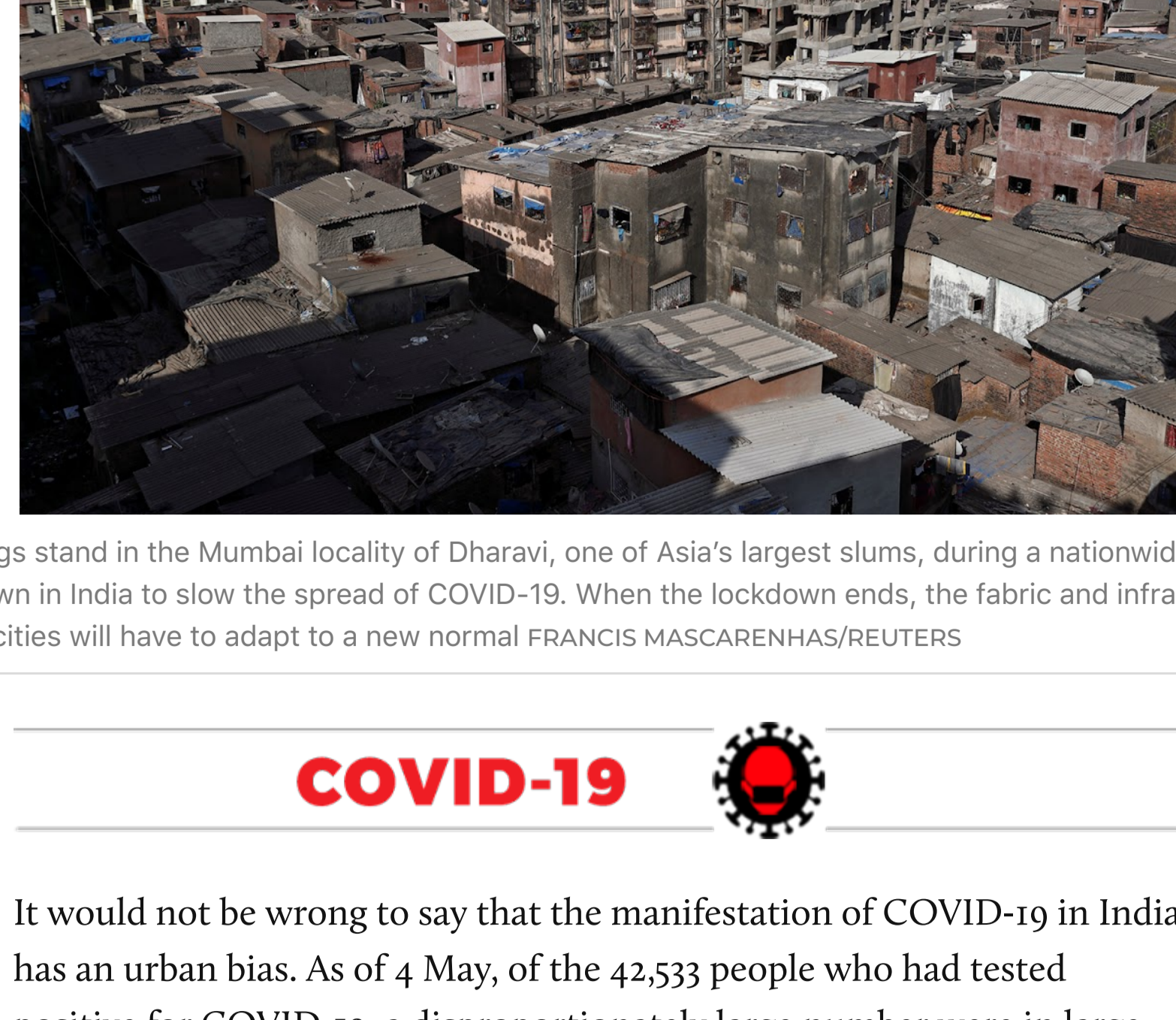
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Why COVID-19 can—and should—change how our cities are designed

COMMENTARY / HEALTH

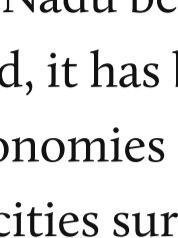
NIA PULIVEL

04 May 2020



Buildings stand in the Mumbai locality of Dharavi, one of Asia's largest slums, during a nationwide lockdown in India to slow the spread of COVID-19. When the lockdown ends, the fabric and infrastructure of our cities will have to adapt to a new normal FRANCIS MASCARENHAS/REUTERS

COVID-19



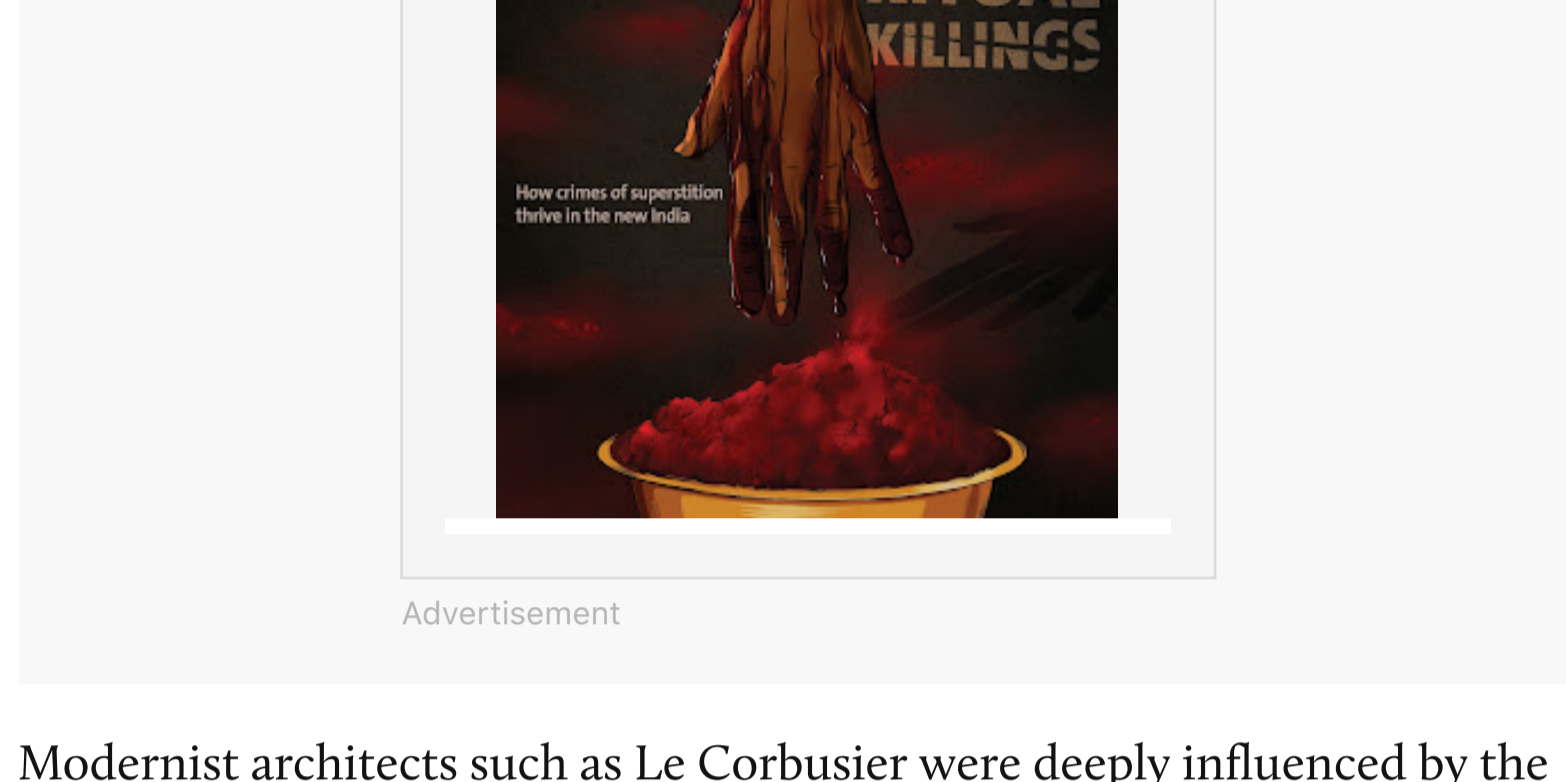
It would not be wrong to say that the manifestation of COVID-19 in India has an urban bias. As of 4 May, of the 42,533 people who had tested positive for COVID-19, a disproportionately large number were in large cities. Mumbai alone had 8,800 cases, while the National Capital Territory of Delhi had 4,549. In most states, major cities were the epicentres of the pandemic, with 472 of the 1,082 cases in Telangana being from Hyderabad alone and 1,458 of the 3,023 cases in Tamil Nadu being from Chennai. Since the lockdown measures were enacted, it has been easy to slip into catastrophic thinking about cities. The economies of cities have ground to a halt. It seems natural to ask: will Indian cities survive this onslaught?

Health and the spread of disease are very closely linked to how we live and how our cities operate. The good news is that cities are incredibly resilient. Many cities have experienced epidemics in the past and have not only survived, but prospered. Before the rise of modern medicine, disease spread was often addressed by changes to the urban environment through infrastructure, better designed buildings, sanitation and decongestion.

During the lockdown, government efforts are rightly placing emphasis on vaccines, physical separation and emergency healthcare. When the lockdown ends, however, not everything will go back to the way things were—the fabric and infrastructure of our cities will have to adapt to a new normal. What lessons can we learn from the past about how cities have adapted their architecture and infrastructure after epidemics? What can we apply to make cities even more healthy and liveable?

The nineteenth and early-twentieth centuries saw devastating outbreaks of cholera, typhoid, typhus and influenza in European cities. Physicians such as Jon Snow, from England, and Rudolf Virchow, of Germany, saw the connection between poor living conditions, overcrowding, sanitation and disease. A recognition of this connection led to the replanning and rebuilding of cities to stem the spread and severity of epidemics. In the mid-nineteenth century, London made major infrastructural changes to combat the spread of cholera, a disease that constantly harrowed the city. London's pioneering sewer system, which still serves it today, was built as a result of the understanding that clean water and better sanitation can stop the spread of cholera.

Alongside an efficient sewerage system, cities also recognised the importance of decongesting residential areas and creating green spaces. Parks became a mainstay of urban design. New York's famous Central Park is an example of this. Built in 1857 to function as the "lungs of the city," it created green open spaces where city dwellers could breathe clean air. Before antibiotics appeared, the only recommended treatment for tuberculosis, a disease common in cities, was being outdoors. There was a mass exit of people from cities to sanatoria—places where there was fresh air and green space available. Sanatorium design reflected this with balconies, roof terraces, patios and covered outdoor-seating areas. The physician Esther M Sternberg echoes this in her book *Healing Spaces*. "Just as the sanitation movement of Victorian times stopped epidemics of infectious disease, so should urban design incorporate features that encourage exercise and healthy living and control the modern epidemic of obesity," she writes. "The new movement of sustainability, green architecture and urban planning is helping to do just that."



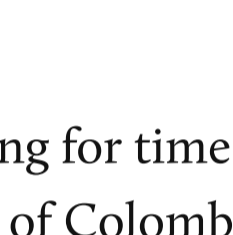
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Modernist architects such as Le Corbusier were deeply influenced by the design of sanatoria. Not just their adherence to the aesthetics of sterility, cleanliness and clean lines, architectural elements such as flat, extended roofs for shading, terraces and balconies became prominent in modernist design to let in fresh air and light.

Epidemics also helped to reshape cities in South Asia. In 1898, two years after the bubonic plague ravaged Bombay, the Bombay City Improvement Trust was established. The trust was formed to decongest the overcrowded old town through slum-clearance drives, improve ventilation and sanitation, and to provide housing to the poor. Le Corbusier is famously known for designing the city of Chandigarh. While the style he applied to the city is from later in his career, he retained some architectural features from sanatoria, such as extended shading structures and terrace gardens. There remains a strong emphasis on parks, landscaping and views of greenery.

The COVID-19 lockdown has also led to a further restriction on public spaces, which are essential for health. The lockdown has ensured that most parks have shut down and people who are outside of their houses are frequently questioned or mistreated by authorities. Being outdoors however, is measurably good for people's physical health, mental wellbeing and overall immunity. A paper presented in the University of Essex argued that outdoor exercise particularly in green spaces demonstrably reduced stress improved moods and raised self-esteem. The paper argued for the opening up of public spaces as a central goal for public-health policymakers. Another paper, authored by Cynthia Aranow, a rheumatologist based in the United States, argues that a lack of Vitamin D, usually acquired by spending time outdoors and in the sunlight, can weaken the immune system. This would suggest that outdoor activity is critical during a pandemic.

Some cities in the United Kingdom, such as London, are already attempting to allow a limited amount of outdoor activities during the lockdown. However, globally, many of the denser cities have been struggling to balance letting people be outdoors while still maintaining the stipulated six-foot distance that is advised to stem the spread of the coronavirus.



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One possible solution to allowing for time outdoors in congested cities comes from Bogota, the capital of Colombia. The Ciclovía started out as a mass recreational event, with vehicular traffic banned once a week and a 120-kilometre stretch of streets turned over to bicycles. This inspired cities around the world. Huge swathes of land have already been built as roads. Converting this from vehicular to pedestrian and cycle space allows people to be outside, exercise and get around. Since people occupy less space than cars, there will still be plenty of room between them to comply with physical distancing.

As Europe's cities emerge from the coronavirus crises, they are looking to similar measures to reduce the dependence on cars and change transit habits. After the lockdown ends in Italy, the centre of Milan will be partly remodeled to give over thirty-five kilometres of road space to bikes and pedestrians. The restricted numbers of cars that are allowed in the centre have to maintain a low speed. Brussels has implemented similar measures for active travel, increasing bike lanes and discouraging cars.

Indian cities would also profit by encouraging such pedestrianisation. Precedents for such urban redesigning already exist in India. Mumbai had tried a similar citizens' initiative before the lockdown, called Equal Streets, where a three-kilometre stretch of Linking Road is closed to traffic on Sunday mornings. Past events have been hugely successful, with people turning out to play cricket, dance, skate and reclaim a road usually dominated by cars. The move towards citizen-driven urban redesign is visible in other parts of Mumbai too. Mumbai's Bandra Bandstand promenade, a 1.2-kilometre walkway on the coastline, is one of the few pedestrian-only areas in the city. It was developed on a landfill site in a landmark initiative by the locality's residents' trust and funded through the MP Local Area Development Scheme. The residents' trust has maintained the promenade for the last 18 years.

When roads cannot be given over completely to pedestrians and cyclists, some cities are thinking about simpler measures to widen their pavements to at least six feet. With a wider pavement, pedestrians can maintain more distance between each other and comply with social distancing, reducing the spread of disease. In India, most cities have poorly constructed, under-maintained and narrow footpaths. Bengaluru has been pioneering a different approach in the country, with their TenderSURE framework for the construction of urban roads. TenderSURE addresses how roads are built, including planning and laying utilities. A major objective of the TenderSURE guidelines is to prioritise pedestrians by designing wider footpaths and walkable roads. The idea was conceptualized by a non-profit platform of architects and urban planners, and later adopted by the municipal and state governments.

Parks and promenades are wonderful as lungs for cities. But the lockdown has closed public access to these spaces. In lieu of that we need more private outdoor space—in dense cities, that could be balconies or terraces. In Mumbai, according to the Development Control Rules, which were amended in 2018, balconies are counted as part of a building's floor space. Since floor space is limited and expensive, developers are increasingly leaving balconies out on new buildings while people enclose the ones they have for more precious outdoor space.

We desperately need more breathing space in our houses, for the next time we are asked to shelter in place. Apartment sizes in seven of India's cities have shrunk on average by nearly 17 percent between 2014 and 2018, with the size of apartments in Mumbai shrinking by 27 percent. The effect of balconies and windows with views of nature has a massive effect on our health. In a 1984 study published in the *Journal of the Royal Society*, it was found that having a hospital room with a view to greenery could positively influence recovery times for patients. In the study, 23 surgical patients assigned to rooms with windows looking out on a natural scene had shorter postoperative hospital stays, received fewer negative evaluative comments in nurses' notes and took fewer potent analgesics than 23 matched patients in similar rooms with windows facing a brick wall.

Another aspect of urban life that contagion has forced cities to address is commutes. Cities like Milan have promised to address overcrowded public transport after the lockdown with measures such as providing alternative transport, staggering work hours, reducing ridership, marking the floors of metros and buses to indicate correct distance and temporarily shutting entrances when passenger numbers are exceeded. Public-transport options such as the Mumbai local train, with so many people packed into a tiny space, have raised significant fears about their role in spreading contagion. But for many in the city, there is no other option to navigate their long commutes. In response to similarly long commutes in other parts of the world, urban planners in Melbourne, Ottawa, Detroit and Paris are moving towards an urban planning concept called "15 minute city." The idea is to move back to shorter commutes. History suggests that, in the past, most urban dwellers lived within a fifteen- or twenty-minute commute to their place of work. While the envisioning of this concept was unrelated to the COVID-19 pandemic, it could prove crucial in future cases of contagion.

Currently in Indian cities, retail zones are kept far away from business, educational, and residential zones. We end up crossing the city to get to work and our commute times spiral. The average Indian city dweller spends nearly seven percent of their day just getting to work and back home. In 15-minute cities, the city is broken into self-sufficient neighborhoods with work, study, and recreation all in the same region. This has multiple advantages. There is less reliance on private vehicles and public transport. People can choose to walk or cycle to work or school, and can be safer while doing it. This is environmentally more sustainable. When less of the population is traversing the city, it can also help to reduce the spread of disease.

Alongside the rezoning of urban areas, public transport needs to change too. Since we are going to need more space between us when travelling, trains, buses and metro trains which are less full are required. This can be achieved by increasing their frequency. Cities would benefit from diversifying their means of public transport so that commuters have more options. This often works out cheaper than building more roads. The proposed Mumbai coastal-road project—an eight-lane expressway across the Mumbai Seaboard—carries just six percent of commuters of Line 3 of the Mumbai Metro, and costs around fifty percent more per kilometre to build than the metro.

I work on healthcare-architecture projects, and increasingly in hospital design there is an ongoing conversation about holistic well-being. Without shifting importance away from curative science-based medicine and cutting-edge medical technology, the approach also includes catering to physical, mental and emotional health. This is achieved through design where nature, cleanliness, exercise, nutrition, natural light and a pleasant physical space become the environment for healing. It is almost as though the sanatoria of the past have been coupled with modern medical science. Indian cities need to take a similar approach. By incorporating what we know about healthy physical spaces and city design, we can build the more pandemic-resilient cities of the future.

NIA PULIVEL is an architect and urban designer based out of Mumbai.

KEYWORDS: COVID-19 coronavirus lockdown urban planning Mumbai

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READER'S COMMENTS

Anjali Malhotra
06 May, 2020
I feel like this is a bit of a utopian dream here in India until people's attitudes change. Most parks and outdoor spaces in Mumbai have been crowded even before the lockdown. Where people gather, social distancing seems impossible. Plus, there will be beggars, chawallis, channawallas etc. One has to only look at the first day of the relaxed lockdown on 5 May when liquor shops were allowed to open to see the way society operates here.

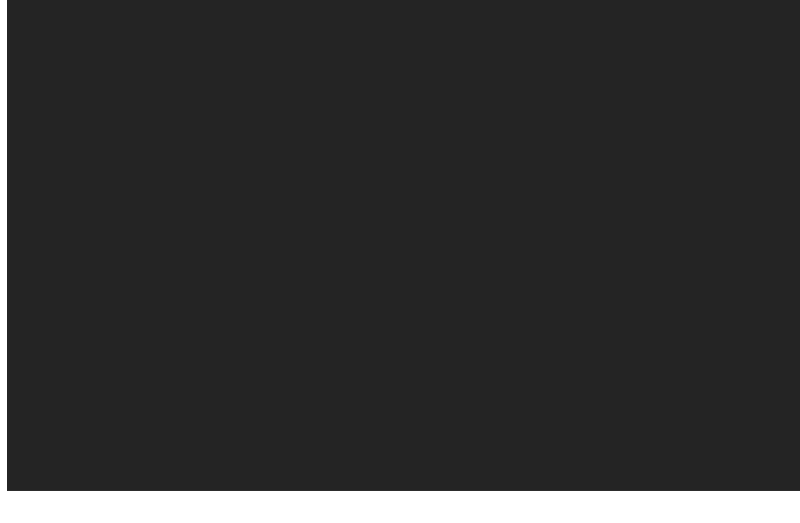
Aneesh Arora
05 May, 2020
It would be lovely if we learn from this and redesign our cities to be more resilient to future pandemics at the same time giving people access to better sanitation and more open spaces. For this to happen though I feel like we will need relentless activism just after when the devastation of the pandemic is fresh in people's minds otherwise all will be forgotten

Basel Ernest
05 May, 2020
Very relevant to the times post Covid 19. The dynamics of the city will change once again forever. These are few steps that need to be implemented & carried out before some normalcy returns into our lives to take pattern of daily living.

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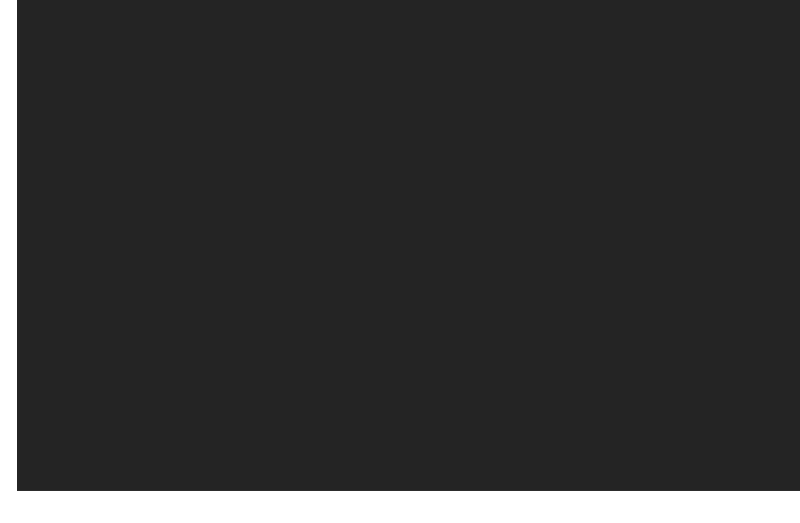


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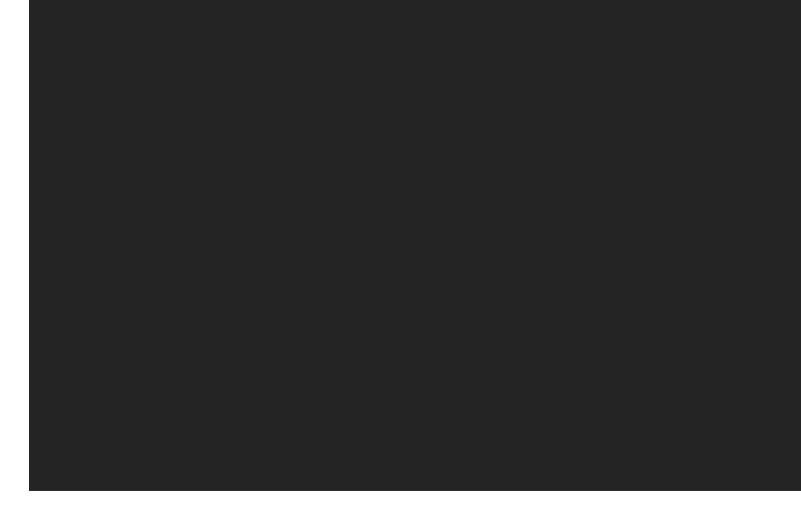


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Vicky: How the COVID pandemic quashed a migrant labourer's dreams

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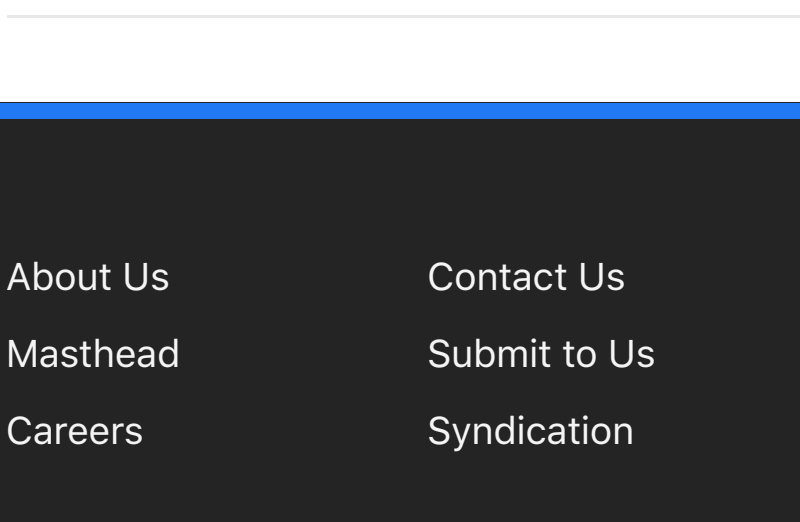


VIDEO

Vicky: How the COVID pandemic quashed a migrant labourer's dreams

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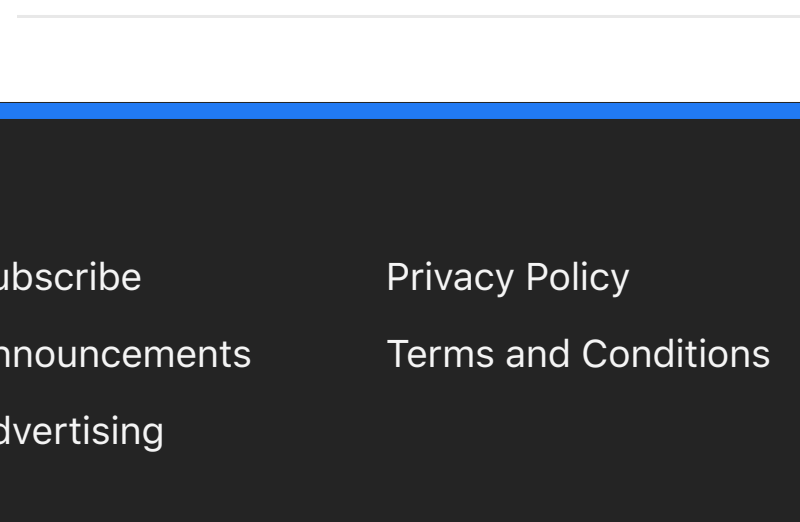


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CHAHAT RANA

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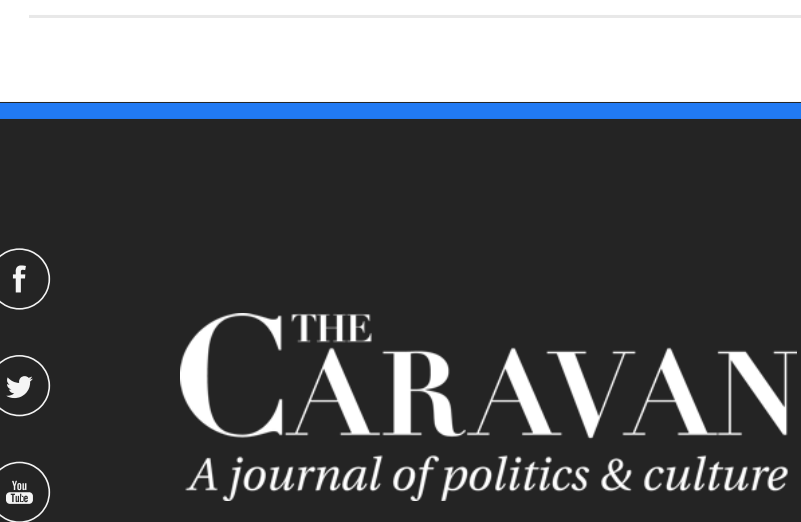


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