The making of India's COVID-19 disaster: A Disaster Risk Management (DRM) Assemblage analysis

Peter McGowran [a, b, *], Hannah Johns [a], Emmanuel Raju [c, d], Sonja Ayeb-Karlsson [a, e]

[a] United Nations University – Institute for Environment and Human Security, UN Campus, Platz der Vereinten Nationen 1, D-53113, Bonn, Germany
[b] School of Social Sciences, Oxford Brookes University, Gibbs Building, Oxford Brookes Headington Campus, Headington Road, Oxford, OX3 0BP, UK
[c] Global Health Section, Department of Public Health & Copenhagen Centre for Disaster Research, University of Copenhagen, CSS, Øster Farimagsgade 5, 1014, København K, Denmark
[d] African Centre for Disaster Studies, North-West University, Private Bag X6001, Potchefstroom, North West Province, 2520, South Africa
[e] Institute for Risk and Disaster Reduction, University College London, London, UK

ARTICLE INFO

ABSTRACT

This article analyses the suite of policies and measures enacted by the Indian Union Government in response to the COVID-19 pandemic through apparatuses of disaster management. We focus on the period from the onset of the pandemic in early 2020, until mid-2021. This holistic review adopts a Disaster Risk Management (DRM) Assemblage conceptual approach to make sense of how the COVID-19 disaster was made possible and importantly how it was responded to, managed, exacerbated, and experienced as it continued to emerge. This approach is grounded in literature from critical disaster studies and geography. The analysis also draws on a wide range of other disciplines, ranging from epidemiology to anthropology and political science, as well as grey literature, newspaper reports, and official policy documents. The article is structured into three sections that investigate in turn and at different junctures the role of governmentality and disaster politics; scientific knowledge and expert advice, and socially and spatially differentiated disaster vulnerabilities in shaping the COVID-19 disaster in India. We put forward two main arguments on the basis of the literature reviewed. One is that both the impacts of the virus spread and the lockdown-responses to it affected already marginalised groups disproportionately. The other is that managing the COVID-19 pandemic through disaster management assemblage/apparatuses served to extend centralised executive authority in India. These two processes are demonstrated to be continuations of pre-pandemic trends. We conclude that evidence of a *paradigm shift* in India's approach to disaster management remains thin on the ground.

1. Introduction

Recent estimates, based on a calculation of excess deaths throughout the pandemic rather than simply COVID-19 related deaths [1], put the pandemic death toll in India far higher than official figures at between 3,710,000 [2] and 4,740,894 [3]. Either of these estimates would make India's pandemic death toll the highest in the world when calculated as excess deaths. India housing the biggest

population in the world can partly account for these exceptionally high excess death tolls.[1] However, it is difficult to avoid concluding that these figures provide evidence of shortcomings in India's pandemic response which warrant further scholarly investigation. This article will holistically review India's central government lockdown response to the COVID-19 pandemic, including *the impacts of this response*. In this vein, we find Kannabiran et al.'s [4]: 1) conceptualisation of the *pandemic-lockdown* in India a useful analytic as it refers to 'the twin effects of the public health crisis and the forced displacement of the worker population' as mutually reinforcing drivers of vulnerability and suffering. The review critically analyses the central government's response to COVID-19 by drawing not only on a range of academic literature but also by analysing official government communications, newspaper articles, grey literature, and other sources.

Besides a handful of other countries including South Africa and some other countries, approaching governmental responses to COVID-19 through apparatuses of disaster management appears to have been a relatively rare globally [5], where responses have largely been mobilised through (public) health departments [6]. However, India's Disaster Management apparatuses were central to its response to the COVID-19 pandemic. The directives, frameworks, and funding mechanisms which constitute India's disaster management apparatus/assemblage were combined with emergency power legislation dating from the colonial era, state-level policies and structures, health systems and heavy-handed policing to manage the pandemic [7]. The adoption of disaster management frameworks and logics is broadly in line with the UNDRR's Sendai Framework, to which India is a signatory. The Sendai Framework advocates policies to achieve risk reduction, health development, and resilience in the face of biological hazards [8]. The SFDRR's predecessor, the Hyogo Framework for Action 2005–2015, largely underpinned the creation of India's National Disaster Management Act (2005) [9,10]. India's approach, then, was in line with international frameworks that emphasise the preeminent role of science in decision-making for Disaster (Risk) Management and the need to prioritise and mainstream disaster management policy and practice across all areas of government [11]. We argue that despite the apparently science-led approach taken, India's disaster management-based approach did little to refute the well-established idea that disaster management is a political process and not immune or disconnected from ideologies, cultures, scientific uncertainties, and geopolitics [12,13]. The review investigates these (dis)connections as well as the relationships between the centralised disaster management authority with other central and state central government bodies and departments, as well as non-governmental institutions and actors. By positioning the review as broad and synthetic, we hope it can serve as an entry point for more granular and geographically specific research on the myriad interconnections identified and synthesised in this piece. Indeed, the authors are part of a research project which will produce exactly this kind of research. To summarise, the aims of this article are to.

- Critically analyse the Government of India's response to the COVID-19 pandemic, a response which ultimately failed to prevent millions of deaths and which undeniably created an internal migration crisis.
- Specifically, and of particular relevance to this journal and field, focus on the role of *disaster management* in the Government of India's response to the COVID-19 pandemic, and how it did or did not support effective response measures. To frame this specific aim, we ask: how did the Government of India's framing of the COVID-19 pandemic as *a disaster* shape their response to it?
- To further develop conversations between disaster studies, human geography, and assemblage-thinking.

The DRM Assemblage approach taken, discussed in more depth below, recommends considering disasters and attempts to manage them through the lenses of six broad and interconnected themes, detailed in[14]. With a view to condensing our discussion, we choose here to combine similar themes together to structure the main body of our analysis into three empirical discussion sections. These follow the next section which sets out our conceptual framework and the resultant parameters of the holistic review. The first empirical section focuses on the governmentality of the central government over the course of the pandemic and specifically the mechanisms behind and impacts of the lockdown. The second empirical section takes a chronological approach and engages with issue of hazard and risk assessment, the politics of scientific knowledge production and expert advice, and how these dynamics shifted over the 18-month period from the initial onset in 2020 through the Delta wave in 2021. The third empirical section of the main body also takes a chronological approach and analyses the socially and spatially differentiated impacts of the COVID-19 disaster, and particularly the values, ideologies, geopolitical tensions, and vulnerabilities which shaped these impacts. A synthesis of each of these thematic sections is then presented in which we speculate on areas for future research and the kinds of political changes needed if India's DRM Assemblage is to be re-assembled and re-coded by logics of risk reduction and justice. A brief conclusion ends the article.

2. Conceptual framework and review parameters

Studying a world with COVID-19 necessitates consideration of how uncertain non-human, material forces influence and are influenced by social, political, and economic processes. The relational, flat ontology of assemblage theory has recently been highlighted by scholars of disasters as a potentially useful way of doing this without resting on overly deterministic theorisations of the power of man over nature, and vice-versa [14,15]. Many scholars across a wide range of social science disciplines are concerned that assemblage-thinking depoliticises analysis by overlooking the importance of social difference and struggles to account for structural determinants on local processes [16–18]. Both of these points have been shown to be avoidable by combining assemblage thinking with an overt focus on geopolitical economies and how social differences come to matter in relation to many other sociomaterial relations [19–21].

---

[1] Based on estimates which account for undercounting. Officially this crown would be held by China but estimates that factor in undocumented residents and much faster growth rate than China tend to suggest that India now has the largest population. The Government of India, perhaps unsurprisingly, has been critical of these excess death estimates and attempted to block the WHO's report from being published.

Cutting across this review is the concept of *disasters-in-the-making*, an idea stemming from the concept of 'futures-in-the-making' [22] . Disasters-in-the-making are defined as both latent disasters made possible through human decision-making and emerging disasters themselves as they are reimagined and reconfigured by, for, and through different actors and geopolitical processes [23]: 1607). Disaster (Risk) Management is the process through which different actors, particularly governments, try to imagine disasters-in-the-making and put measures in place to prevent their materialisation. However, attempts to manage the emergence of disasters-in-the-making can intersect with other political, cultural, biophysical processes and in so doing can actually contribute to their materialisation and shape their spatially and socially differentiated impacts [24]. Here we use the idea of *disasters-in-the-making* to make sense of how imaginations of disastrous futures justified political interventions under a state of emergency in India, whilst also investigating how the actual COVID-19 disaster(s) was *made possible* by unfolding geopolitical economies and did not simply represent a natural, exogenous shock to a present system.

To achieve this, we mobilise a Disaster Risk Management (DRM) Assemblage approach in which we conceptualise the subject of this holistic review as India' DRM Assemblage: the interconnected apparatuses of power which attempt to manage disaster risk and their relationships to the more-than-human processes they seek—and often fail—to *manage* [23]. We interpret this definition of a DRM Assemblage as non-prescriptive in terms of the scale and scope of analysis, following [25's] theorisation of assemblages. India's DRM Assemblage is then both the dispersed practices and enactments of disaster (risk) management as well as the centralised and/or executive directives which influence the latter. Thus, we discuss disaster management policy in India as it relates to state-funded and public-private partnership-based healthcare systems, non-governmental organisations, India's court system, panchayats, the police, and more. Our focus on the national level responds to existing literature that rightly argues that disaster management in India has been deliberately designed as a centralised structure with power held primarily at the level of the central government [10,26]. Future work using a DRM Assemblage lens should not feel bound to stick rigidly to a national level focus but should respond to existing literature on disaster management in the place or country in question – assuming this literature exists. It is likely though, given the way disaster management is currently prescribed at through international policy frameworks [27], that these types of analyses will end up focussing on and ultimately critiquing centralised national disaster management structures. Some may view this flexibility as a limitation which affects reproducibility. We argue that it is necessary for this type of analysis to be able to be adapted to and ultimately be critical of the specific contexts and thus disaster management apparatuses in question.

3. Centralising India's response to the COVID-19 pandemic: the role of governmentality and biopolitics in India's pandemic response

The primary mechanism through which the central government initially mobilised its response to COVID-19 was the National Disaster Management Act (herein the Act).[2] The invocation of the Act served two main politico-legal purposes in the context of COVID-19. First, it allowed State governments to override existing state-level laws and policy subjects. Second, and relatedly, it removed much of the discretion states had over the implementation and enforcement of federal laws [28].[3] Thus, the invocation of the Act made it legal for state governments to implement central government measures that would have normally contravened existing civil liberties and federal structures. As a result, AK Singh [29] has argued that the imposition of the Act served as a mechanism through which the central government was able to impose a rigid, hierarchical, and centralised response to the pandemic – reflecting a 'command and control' approach to disaster management [30] which has its roots in civil defence [31]. In making a similar argument, Singh [29] points out that until the imposition of the lockdown through the Act, states such as Kerala had already implemented various restrictions and localised lockdowns. However, with the imposition of the national lockdown through the Act and the extraordinary powers this gave the central government, state governments were legally bound to enforce measures which were in line with central government recommendations. Despite this, states did have a limited amount flexibility when it came to the precise functioning of measures, and also the ability to go further than the central government recommended [29]: 289). In practice this meant that state governments were directed to deliver minor variations of the measures recommended by the central government to the many District Magistrate offices who then mobilised the panchayats and other line departments. Ultimately then it was often left to healthcare workers, teachers and perhaps most importantly the police, to deliver, enforce, and administer these measures on the ground [32]: 4–5]. Evidence from the health sector suggests that when faced with overwhelming demand and limited flexible support, front-line health professionals had to improvise and often work in poor conditions to provide any kind of healthcare response – the multiple negative impacts of which often fell disproportionately on women [33]. Some states who had prior experience of responding to epidemics and other hazards such as cyclones and flooding were often better placed to implement and adapt the fairly rigid resources provided to them [32]. This was because these states, such as Kerala, have historically invested in state capacities in healthcare, welfare, and disaster response, giving rise to an associated bank of institutional knowledge and experience in these bureaucratic structures [34,35]. The latter has been posited as creating a greater level of trust and cooperation between state, civil society, and public [36] – or a more embedded and resilient assemblage of more-than-social contracts [37]. These appeared to be lacking in other Indian states [38]. Nonetheless, even those states with these greater systemic and institutional capacities were ultimately hampered by the centralised and rigid DRM Assemblage imposed on them by the central government [39]. Thus, in the end, states like Kerala which started off with a less draconian response were pursuing a security-focussed approach by the time the second wave took off [40].

---

[2] The hierarchical structures of India's Disaster Management apparatus, accounting for differences between imagined and practiced institutional pathways and hierarchies at different levels, has been illustrated and explored in depth through empirical analysis by Ref. [26].

[3] Also see Chapter XI, section 62 of the National Disaster Management Act.

The centralisation of resources and power during the pandemic also constrained civil society and/or non-governmental responses to the pandemic, primarily due to the creation and imposition of the "Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund" (PM-CARES fund) on March 27, 2020. The PM-CARES fund, now a permanent component of India's DRM Assemblage, has been criticised due to the lack of transparency and scrutiny afforded to who was donating money and how money was being spent [41,42]. Furthermore, established donors and large NGOs reported overt and covert coercion to redirect funds being allocated to small NGOs responding to the pandemic at the grassroots level to the PM-CARES fund instead [44]. This left those smaller NGOs—arguably filling gaps in the state response—with instant funding shortfalls and a resultant rolling back of their efforts [43]. These funds are instead now being channelled into government finances and again through state bureaucracies to the people who were previously being supported by the aforementioned grassroots-level NGOs [44].

3.1. The disaster politics of ex-gratia payments

On March 14, 2020, nine days prior to the lockdown announcement, the Government of India decided to partially modify the 'norms of assistance' in the National and State Disaster Response Funds (N/SDRF) framework with a view to containing the COVID-19 virus in India.[4] There are only certain expenses which can be claimed through these funds. In an apparent 'U-turn' [45], the government retracted an earlier statement that suggested the families of those who died of COVID-19 would receive a 400,000 INR ex-gratia payment through this channel, as was originally written into the SDRF mechanism prior to the pandemic[5]. Such payments have been a politically contentious issue for many years in India, notoriously contingent on the political context of the time and the precise relationship between state, centre, and bureaucracy in specific spatial and temporal contexts [46]. In the later, consequential statement and official directive the ability of state governments to claim ex-gratia payments of 400,000 INR per victim through the SDRF was removed [47]. The modifications did however open up a wider range of measures that could be funded through the SDRF, mostly relating to purchasing medical supplies and the means through which distancing and quarantine measures could be enforced (camps, surveillance, administration etc). What these modifications indicate is that at least nine days before the first lockdown the government may have anticipated that the COVID-19 pandemic would lead to significant loss of life and government revenue – ex-gratia payments being one of the main ways the former would lead to the latter.

In September 2021, under pressure from a range of groups and bodies, most notably the Supreme Court, the central government reinstated these ex-gratia payments which could also be claimed retrospectively, though these were substantially less generous at 50,000 INR – eight times smaller than the original amount [48]. Furthermore, these payments were only available to families of victims whose cause of death was *certified* as COVID-19. This would no doubt have proven problematic for families of victims who died as a result of the variety of causes associated with the chaos of the first lockdown and/or those who may not have received an official death certificate. In response to a Supreme Court Order, on September 25th, 2021, the National Disaster Management Authority provided the following justification for the contraction in funding:

> '***COVID-19 is a disaster that has not abated***. *The total number of deaths continues to rise. There is uncertainty about new variants of the virus and likely future waves. Therefore, it is not possible to ascertain the total final financial burden emanating from ex-gratia assistance. Financial prudence demands that we plan in a manner that assistance can be provided to larger number of people should the number of deaths rise*' [49]: 1).

As a disaster-in-the-making, COVID-19 was deployed here as an uncertain, unfolding event that could lead to many deaths in future. The COVID-19 pandemic unsettled the contractual expectation held by citizens that the state will compensate their families in the event of their deaths. At the time of writing in 2022, there have been roughly 522,000 COVID-19 deaths *recorded* in India.[6] Multiplying this by the original 400,000 INR ex-gratia payment allowance gives a total of roughly 209 billion INR, roughly 2.75 billion USD. Whilst these numbers appear astronomical, they are not so extraordinary when considered in the context of a population of over 1.3 billion and the amounts spent by the government on other areas of the pandemic response.[7] It is difficult to avoid linking this reconfiguring of the state-citizen contract with the right-wing political and economic vision held by the BJP [46,51–53].

The events and processes outlined in the above section reflect the historical tendency towards centralisation and the concentration of executive power in India's federal government [54], especially when faced with *(E)emergency* situations [53,55]. The Indian Government's invocation of the National Disaster Management Act operated as a mechanism to restore—and in this case extend—centralised power through the COVID-19 pandemic. The production of scientific knowledge about the virus by both national and international actors was central to this process.

4. Hazard assessment, scientific politics, and COVID-19 in India

The virus first arrived in India on the January 30, 2020 when a student returned from their university; located in the epicentre of the virus, Wuhan, China, to their hometown of Thrissur, Kerala [56]. The same day, the Director-General of the World Health Organisation (WHO) declared the outbreak of the novel coronavirus a public health emergency of international concern [57]. Five days be-

---

[4] These funds are mechanisms within the National Disaster Management Act that allow state governments to draw from their State Disaster Response Funds which are in turn funded through the federal National Disaster Response Fund (NDRF), triggered by the central government officially defining an event as 'a disaster'.

[5] For example, see this communication from the MoHA's Disaster Mgmt division in 2015 http://wbdmd.gov.in/writereaddata/NW719485.pdf.

[6] The actual total is likely to be far greater than this but the unrecorded deaths would not have figured in the assistance given and thus for the purpose of this argument, the official figures are most useful. This issue discussed in more depth towards the end of this paper.

[7] For example, the 20 trillion INR (260 billion USD) stimulus package announced in late May or the relief package announced in March to assist migrant workers through cash transfers, totalling 1.7 trillion INR (22 billion USD) [28,50]: 17).

fore this, India had taken a precaution to do temperature screenings of people arriving in India from China. This did not prevent the virus coming into the country. By the 3rd of February another two cases had been confirmed, also Indian students returning to Kerala from Wuhan [56]. At that stage, the nature of the virus was uncertain. Despite cases being reported in several countries outside China [58], the WHO did not brief states that there was evidence of human-to-human transmission in Wuhan, China until the 27th of January and did not publicly brief that there was evidence of community transition outside China until the 14th of February [59]. This uncertainty was in part a result of the Chinese authorities' attempts in early January to subdue reporting on the virus domestically [60,61][8]. It is worth making the obvious point that the characteristics novel viruses are, by definition, uncertain – particularly in the early days of emergence. Making the correct scientific assessment, let alone policy decisions, was incredibly difficult at this stage of the pandemic. Nonetheless, decisions made throughout this stage of the pandemic—within and outside of India—shaped the disasters-in-the-making that were to come.

4.1. SARS-Cov-2, scientific uncertainty, and the first wave of infections in India

Most of the early pandemic response recommendations emanating from the WHO were underpinned by an understanding of the virus spreading through droplets from coughs and sneezes of infected people settling on infected hands and nearby surfaces or *fomites*—infection carriers such as clothes, utensils, groceries, or furniture—within a radius of 1–2 m [62–64]. Throughout the pandemic, scholars across a wide range of health-related disciplines have critiqued the simplistic distinction between virus particles as either airborne *aerosols* that are suspended in the air for extended periods, or *ballistic* droplets which settle on fomites [65]. In reality it is likely to be a mixture of both [66], with some arguing the airborne route of transmission is dominant [67]. Despite early signs that airborne transmission is common for COVID-19 [68,69], the default assumption that viruses spread through the settling of ballistic droplets on fomites within a radius of 1–2 m was and arguably remains the dominant theory applied to scientific understandings of COVID-19. These false dichotomies and misunderstandings of droplet transmission informed most of the public health recommendations made by the WHO and subsequently adopted by hundreds of countries including India [70,71]. As a result, the mitigation measures put in place, such as outdoor physical distancing, were not as effective as they might have been at reducing the hazard potential and may have in fact exacerbated the overall risks—associated with COVID-19 and a wide range of other issues—posed to people living in conditions of vulnerability [72][9].

A more diverse system of scientific knowledge production and advice would start from an acknowledgement that superimposing responses and scientific findings from pervious virus outbreak events such as SARS, MERS, and tuberculosis is only tangentially useful. It would also recognise that any recommendations for Non-Pharmaceutical Interventions (NPIs) that involve disrupting people's lives, such as physical distancing recommendations, 'clearly require revisiting in the context of specific pathogens, environments and infectious doses' [66]: 8) – not to mention their social, economic, and political contexts [37]. Pertinently, measures which include enforcing physical distancing and 'working from home' have drastically different health and wellbeing implications for wealthy office workers in Delhi, Mumbai, and Bengaluru compared with informal migrant workers living in small shared homes within informal settlements with limited sanitation facilities in those same cities [71]. Questions must be asked about the costs and benefits of implementing such measures in settlements such as these – especially when decisions are based on uncertain evidence [73].

4.2. Expert advice, power, and uncertain exceptionalism: the making of the delta wave in India

As the virus spread throughout India during the first lockdown the Government of India's focus shifted from policing international border crossings to *flattening the curve* domestically [74]. Citizens became recast as 'biological entities' whose bodies and behaviour had to be controlled to prevent community transmission [6]: 19). One of the most integral parts of developing measures to achieve this control was the collection of data about virus transmission, people's behaviour, and case rates which in turn fed the statistics of daily cases and the basic reproduction number or 'R' number/rate. Throughout the first lockdown, India's testing capacity surged to meet this need for data [75], though this data was thought to be far from representative [76]. To incorporate this new data into the processes of assembling the COVID-19 epidemic as a bounded, national problem, The Government formed an advisory committee to guide the country's response at a national level [6]: 67). Additionally and amidst the first wave in late May 2020, the Department for Science & Technology commissioned the 'COVID-19 India National Supermodel': 'one model for the entire country that will be subjected to rigorous tests required for evidence-based forecasting' [77]: no page number). The model relied 'only on the data that is relevant to COVID-19', and included 'an adaptive built-in component to learn from the newer trends in the data' [77]: no page number). The model was described as being inspired by 'India's history of using mathematical models for disaster management planning of *meteorological events*' [77]: no page number, my emphasis)[10]. Expertise was pooled from this field alongside experts in mathematical modelling and computer science. Qualitative social scientists appear to be lacking in the government's scientific advisory committee [78]. The supermodel was to be used by the policymakers in India and the rest of the world alike to *overcome* difficulties in predicting the rate of spread of infection at a national scale [77]: no page number, our emphasis). Theoretically, this would produce a better understanding of the burden the national healthcare sector, which would theoretically then allow the (central) government to design measures to curb the epidemic. The model shaped and was shaped by the government's framing of COVID-19 as a short-term, singular, natural hazard-related disaster to be managed through the National Disaster Management Act under the leadership of the central government in New Delhi.

---

[8] They did later cooperate with the World Health Organisation.

[9] Measures which respond to airborne transmission started to permeate responses globally towards the end of 2020 and through 2021 [67].

[10] Presumably referring to India's relative and recent success in forecast-based action on cyclones such as Phallin and Amphan [9]; Walch, 2019).

In a response to critical comments on the academic article which was published to explain the model, the authors and representatives of the committee concluded that, despite critiques on the technical elements of the model [79], '*our model explains the pandemic in a simple and replicable way*' [80]: 205). This rationale was optimistic despite a major limitation of the model acknowledged by the authors: 'the non-availability of accurate data' [80]: 205). Nonetheless, the authors suggested that if the model *was* accurate.

- 'We may have reached herd immunity with about 380 million people already infected. However, personal protective measures remain crucial …
- If there was no lockdown, the number of active infections would have peaked at close to 14.7 million, resulted in more than 2.6 million deaths, and the peak would have arrived by June 2020' …
- The number of deaths with the current trends may be less than 0.2 million' [81]: 175).
- Most restrictions could be lifted and the epidemic should be controlled with some basic guidance on wearing face masks and isolating on receiving a positive test result [81]: 179)'

These recommendations were one component of a suite of advice available to the government at the time that included more cautious and critical views [82,83]. However, problematising a linear view of science-policy interactions, Professor Srinath Reddy, then president of the Public Health Foundation in India and a former member of the National Science and Engineering Research Board of the Government of India argued in an interview with The Guardian (29/04/21) that the political, economic, and cultural context in which the different strands of advice were heard largely determined which strands of advice which were acted on:

> "*There was some sense of urgency by the people in charge of the Indian economy, as well as industry leaders, to put it back on the rails … The politicians wanted to get back to their business, which is local elections and campaigning, the sportsmen wanted to get back to cricket tournaments … **people heard what they wanted to hear** [84]: no page number)*"

Amidst divergent expertise [85], the advice that coded interventions most strongly was the more optimistic imagined future provided by the supermodel which recommended minimal intervention beyond the existing recommendations of wearing face masks and limiting social interaction where possible [81]. Whilst the model creators acknowledged the significant uncertainty of these recommendations, this seems to have been tactfully dismissed and/or genuinely misunderstood through the process of translating the 'evidence' into decision-making. The supermodel shaped the Indian Government's mode of anticipation in a way that served to 'empty the future' and pre-empt political contestation [86] – presenting a pessimistic alternative to this optimistic and 'authoritative' prediction would be a political non-starter.

What the model and the decision-makers who acted on it failed to anticipate was the tendency of viruses to mutate and the possibility for multiple waves of infection. In a response to a similar critique of the model [143], the authors argued that—at the time of their writing—there were no noteworthy mutations and thus there was no scientific basis to factor mutations into their predictive model [80]: 205. A cursory consideration of the history of previous epidemics challenges this view, though it is admittedly difficult to superimpose such 'lessons from history' [87]. Besides history, evidence for caution and the need for investments in healthcare capacity could have been found in the experiences of countries around the world who months before the emergence of the Delta wave in India were several months into their own respective new variant-driven second waves. Of course, the extremely infectious nature of the variant which did emerge in India exceeded even some of the most pessimistic projections and undoubtedly was a major factor in defining the magnitude of the second wave [88,89]. Ultimately though, as Donovan [90]: 1) shows is relatively common in crisis contexts, the uncertain scientific advice that was provided to the government may have exacerbated disaster risk because it was misunderstood and/or misinterpreted by policymakers, the media and/or members of the public [76].

5. The socially and spatially differentiated impacts of the COVID-19 disaster: values, ideologies, and vulnerabilities

On the March 19, 2020, Prime Minister Modi addressed the nation to address the 'burgeoning crisis of Corona' and encouraged practising social distancing to prevent being infected and infecting others [91]. To this end The Government announced a '*Janata Curfew*' (people's curfew) which meant: 'a curfew imposed for the people, by the people, on the people themselves', though all state governments were advised 'to take leadership in *ensuring compliance* of this people's curfew' [91]. This was described by Prime Minister Modi as 'preparing *us* for upcoming challenges' [91]: hindsight indicates this was a trial run for the lockdown which was to be announced five days later. This televised address that called for the *Janata Curfew* encapsulates both the problematic implications of the misunderstanding of the virus' transmission outlined earlier and the beginning of what Sengupta and Jha [7]: 123) have described as the government's 'transference of responsibility of economic dislocation to individuals and communities'.

On March 24, 2020, The Government announced a 'lockdown' in response to the emerging first wave of COVID-19 in India, effective from the following day (25th). India's lockdown, one of the most stringent in the world at the time a [92], was underpinned by the central government's invocation of the National Disaster Management Act 2005 and subsequently by the central government directing states to invoke their variations of The Epidemic Diseases Act (EDA) of 1897. The EDA was first drafted by the British Government of India in response to a breakout of bubonic plague in Bombay in 1897 and has been described by historian David Arnold [93]:143) as 'one of the most draconian pieces of sanitary legislation ever adopted in colonial India'. The Indian Penal Code 1860 was also widely invoked at the state level.[11] Mobilising these colonial laws was recommended by the central government as the legal means through which state governments could 'take effective measures to prevent the spread of COVID-19 in the country' [96]. Guidance on these measures was detailed in the same press release [70] and was incrementally adapted throughout the lockdown as state

---

[11] Each state has slightly different versions of this with various amendments being made over the years at state level [94,95].

and central governments were periodically faced with new, emerging issues related to both the behaviour of the virus and their attempts to control it. The measures were focussed primarily on restricting and monitoring the circulation [97,98] of people within and between states. This involved measures such as legally enforcing physical distancing and quarantining, and the closing down of businesses, events, religious gatherings, and public transport.

5.1. Contractual conditions of vulnerability and the first wave of COVID-19 in India

Research into the pandemic in India[12] shows the hardest hit by the COVID-19 pandemic in India and the above responses to it have been those who fall into any of the following categories, with hundreds of millions of lives cutting across all four.

- **People dependent on informal labour markets** – This includes those directly employed in informal labour, those dependent on the latter, and also people whose formal labour and livelihood is dependent on informal labour markets [51,99,100].
- **People on the move** – Those living and working away from where they would identify as home and, crucially, where they might be registered as a resident [99–104].
- **People living in informal settlements** – This category is heavily populated by the previous two and covers those living in settlements that exist outside of official registers and officially recognised refugee camps and slums [71,101,104–106].
- **People living in poverty** – Perhaps the most influential driver of vulnerability. This is especially true of people in poverty who had no access to either food reserves and/or land on which to grow their own food [104,107,108].

The reasons why people's lives are this way are multiple, context specific, and usually a continuation or recalibration of existing political, economic, and material processes [99]. The key driver these processes in India has been its post-independence economic development—shaped largely by the experience of colonialism and contemporary processes of globalised capital accumulation—which has in turn generated spatial inequalities between and within states [109]. This has meant, since the 1990s particularly, that many people in poorer states and districts of India have turned to seasonal labour migration as a means to escape extreme poverty [51,110]. This is, to a large extent, a rural-to-urban migration pattern and has underpinned the rapid expansion of urban areas in India in recent decades [111]. Despite imaginations of the sprawling informal settlements of cities like Mumbai, Delhi, and Kolkata, this urban growth is now happening most rapidly in 'small cities' where informal settlements might be smaller but more numerous, dispersed, and sprawling into rural-urban peripheries [112].

The lives of the people who fall within the above categories are bound by the fact that their 'contractual' relation with the state [113] will be substantially different to those living in India who live in the place they are registered as a resident, who's homes are formally registered with the state, and who are in formal employment [109,114]. Because of the importance placed on having the correct formal documentation in order to receive welfare payments and take part in development schemes, their access, or entitlements, to welfare, political rights, compensation, and a host of other benefits are limited and, very often, non-existent [115]. These relational conditions of vulnerability—reflective of economic inequalities across India—were not outcomes of the pandemic but of course preexisted it [51,116]. That is, the living conditions of migrant workers prior to the pandemic were incredibly unjust, risky in their own right, and conditioned by entrenched but relational and contingent political, economic, and sociomaterial processes. The pandemic, as a *disaster-in-the-making*, has reterritorialized the pre-existing conditions of vulnerability that minority and marginalised groups lived in and related them to new, hazardous sociomaterial processes.

Whilst many did receive support from central and state governments and civil society actors, as will be discussed, these experiences were not uniform and were contingent on the intersections between the states, districts, and cities they found themselves in at the time of the lockdown; their caste status; gender; religion; occupation; skin colour; social networks; citizenship status, and undoubtedly countless other factors [100,101,103,108,117–119]. Throughout the pandemic, these traits came into relation with the different scientific, political, cultural, religious, and material assemblages outlined thus far. These relations then shaped the structure of mobility options available to socially differentiated bodies within societies [120]: 652), both revealing and creating new conditions of vulnerability, and tragically forcing people into positions of stigmatisation, violence, infection, and death [100].

Millions of people's mobility options were limited to walking hundreds of miles to their home villages, avoiding the main border checkpoints. Many found themselves unwelcomed; many found themselves stigmatised and quarantined in horrendous conditions for weeks [100]. Many did not survive the lockdown that was supposed to prevent virus transmission and keep people safe, often becoming *trapped in place* [121,122] without access to basic supplies, money, healthcare, or the ability to move away from these conditions of vulnerability. Causes of death for people both trapped and on-the-move include forest fires, snakebites, being hit by trucks, freezing in cold, heat exhaustion, starvation, and dehydration [123]. It is also clear that many must have died from COVID-19 – certainly more than the official figures will ever show [124]. According to official statistics, many migrant deaths did not happen, a fact used by the labour ministry to initially resist providing compensation to those affected [123,125]. Those who did not die were often subject to considerable violence and human rights abuses from police and others, with the spraying of returning migrant workers with harmful 'disinfectants' in Uttar Pradesh [126] representing a culmination of some of the worst aspects of India's pandemic response. This securitised and top-down approach exacerbated the marginalisation and persecution of minority groups who have been suffering for many years because of the ethno-populist approach the BJP have taken to taking and maintain power in India [127,128]. For example, conspiracy theories that Muslims were deliberately spreading the virus *went viral* on social media [129,130] and general anti-Islamic sentiments permeated both state and 'civil society' responses to the pandemic, meaning these marginalised groups suffered disproportionately through it [131].

---

[12] Published as of mid-2022.

5.2. The Indian Government's response to the impacts of their lockdown and the first wave of infections

Following several weeks of these terrible stories, on the 26th of March central government announced a funding injection of 1.7 Lakh Crore INR (US$22 Billion) titled the 'Pradhan Mantri Garib Kalyan Yojana' (PMGKY) (Prime Minister's Food Security Scheme for the Poor). This scheme was designed to offset the impacts of the pandemic and lockdown on the poorest and most vulnerable in India. The money would be divided amongst a number of smaller schemes which were delivered primarily through existing welfare mechanisms which, as has been shown thus far, lrelated citizens to the central government, with state governments acting mostly as funding administrators – these were after all "the Prime Minister's funds". One of the most substantive elements of this fund was delivered in the form of rations through India's Public Distribution Service (PDS). Whilst the PDS is certainly an impressive logistical achievement which performed relatively well during the pandemic given the circumstances [132], those without ration cards and/or those not eligible for rations in the state they happened to be in when the lockdown was announced often did not benefit from this funding. This highlights both the need for the 'One Nation One Ration Card' system which the Union Government and State Governments are trying to roll out but also thefar-from-perfect implementation of this scheme which appears to have left the most marginalised behind [133,134].

Another avenue through which the PMGKY funds were channelled was the Pradhan Mantri Jan Dhan Yojana (Prime Minister's People's Wealth Scheme) (PMJDY), a digital banking programme designed to alleviate poverty by widening access to digital financial services. Amongst other issues with this scheme's ability to reach the most marginalised groups, Pande et al. [135] found the channelling of funding through this scheme was likely to exclude more than half of poor women in India. Similarly, the wage provided during the Mahatma Gandhi Rural Employment Guarantee was also increased through the PMGKY. However, and as has been consistently shown, the benefits of these funds are limited primarily to the improvement of people's position within rural labour markets and do little to alter people's political relations with state actors which often structure conditions of vulnerability [136,137]. All of these issues are felt particularly by those represented by the aforementioned four broad categories of those who suffered the most in India during the pandemic. Thus, the PMGKY did little to alleviate the suffering of the most vulnerable during the pandemic. More broadly, these funds were relatively rigid in their functioning and thus the responses state governments were able to provide may not have responded well to the specific pandemic-related problems each state faced. These entitlement failures represented a continuation of pre-pandemic marginalisation — notably for women, the disabled, and the poorest migrant workers [104]. The human cost of the pandemic in India is a function of this reconfiguration, reproduction and strengthening of these pre-existing conditions of vulnerability during and because of the *pandemic-lockdown* [138].

5.3. India's centralised DRM assemblage and the second wave of infections

The lockdown was extended four times until June 2020 as cases continued to climb in spite of it. It was eventually lifted not in response to a drop in cases—they were rising at the time—but rather because the people of India and importantly the treasuries of India's state and central governments could no longer afford to maintain it [28][13]. When cases did begin to dissipate following a—recorded—peak of 90,000 per day in September, most people in India understandably enjoyed the return of familiar freedoms and activities, not least because of the religious holidays that coincided with them. The dissipation of cases and post-lockdown optimism soon gave rise to narratives of exceptionalism amidst rising cases elsewhere in the world [84]. The central government-commissioned 'supermodel' only confirmed these theories.

Another boon to the government's narrative of India's victory over the pandemic, thanks to its 'Corona warriors' [132], was its development and approval of a cheap, rapidly producible, and rapidly deployable vaccine. Not only was the vaccine development imagined as sufficient for India but also allowed Prime Minister Modi to engage in 'medical/vaccine diplomacy' [139]. Unfortunately, the delivery of vaccines to those in India was not as rapid as first hoped.[14] As it turned out, it was nowhere near quick enough to offset the emergence and rapid spread of the now notorious Delta variant from late 2020 [76]. Sharma [28] partly attributes this faltering vaccine rollout to a lack of continuous government support to India's pharmaceutical firms and problems with global supply chains. Bhardwaj [140] further argues these promises of vaccine exports should be seen within the context of inequalities in the global pharmaceutical markets and on-going geopolitical competition between India and China and their respective attempts at building diplomacy—or a relation of economic dependence—with other South Asian countries such as Bangladesh, Sri Lanka, and Nepal [141]. Other domestic factors also played their part in the lack of vaccine uptake, not least the persistence of populist politics on India's political discourse. Opposition leaders Rahul Gandhi and Akhilesh Yadav both questioned the safety and effectiveness of what they termed the 'Modi vaccines' and refused to get vaccinated, undermining trust in vaccine safety [28]: 21–22). Meanwhile, theories associated with AYUSH institutions and called the efficacy of vaccines into question whilst arguing alternative therapies may be of more use [142].

Another set of political process which contributed to the disastrous impacts of India's second wave was leaders across India's political spectrum prioritising political campaigning for the 2021 State Legislative Assembly Elections in May over responding to the emergent delta-wave [28]. The politically and religiously motivated decisions to initially allow large religious gatherings such as *Kumbh Mela* have also been linked to the accelerated rate of infection during the second wave [82]. None of these factors, though, can totally absolve the Indian Government of some responsibility for the failure to deliver more vaccines in the first place and their chronic underinvestment in health infrastructure over many years [76]. The latter also exacerbated the inequalities that shaped COVID-19 im-

---

[13] A handful of states did keep restrictions in place for some a couple more months.
[14] On the 3rd of January Modi promised the rollout would reach 300 million people in a matter of weeks.

pacts as private healthcare systems have far more capacity, centred around wealthy urban areas, than public healthcare systems in rural areas [143].

Early analysis of the second wave indicates that in the context of what was a centralised approach to the first wave, the central government's lack of action on the second wave created confusion and ultimately left sub-national government authorities in the difficult position of trying to mobilise limited resources and freedoms to respond to the novel risks posed by the pandemic [28]. States, districts, and municipalities were constrained in their ability to respond to the second wave by a highly centralised DRM Assemblage that was absent of any central government support or direction but nonetheless strongly territorialised, rigid, and legally binding. This in some ways explains the haphazard and inconsistent approach to management and risk communication—even amidst the surge in cases—which meant, by the time measures began to reappear, community transmission had exceeded the possibility of *management*. Partly a result of this central government inaction, many thousands of deaths went unrecorded [124]. Despite the exceptionally high death tolls indicated at the beginning of this review, it is still unlikely that the true extent of the second wave's impact—in terms deaths, long-term illnesses, mental health impacts, and socioeconomic costs—will ever be known [144,145]. Future studies will probably have to make the valid assumption that the impacts were much worse than the recorded figures show. From there, these studies should—and may have to—focus on investigating how this capitulation was *made possible* by political actions preceding the second wave, gathering qualitative data on people's experiences of the second wave and its politics, and critically analysing how power was restored and extended through it. In summary, *qualitatively* investigating *why* the pandemic was disastrous for so many will be just as—if not more—important than *quantitatively* establishing *how disastrous* the pandemic was.

6. Discussion

The recommendations emanating from the WHO and other hegemonic scientific institutions that advocated physical or social distancing dovetailed with the Indian Government's political framing of the pandemic. This framing was of the pandemic as a threat to national security which required policing—in practice exacerbating existing widespread intersectional discrimination endemic to policing in India [118,146]—and the extension of state authority, ahead of a health issue. This framing and action emerged in lieu of pre-existing social protection measures and greater state investments in healthcare capacity [7,147,148]. The lack of the latter was a result of a severely inadequate per capita investment in health services and infrastructure over many years, putting India's health development indicators lower than many of its poorer South Asian neighbours [109].[15] The securitised approach that emerged was also made possible by consecutive governments over many years not developing legal, political, and financial mechanisms that would allow rights-based, decentralised, consensual, and ultimately just approaches to pandemic and disaster management to emerge [38,94,95]. The policies underpinning the approach taken were rendered largely meaningless at the point of implementation. This was because the policies were underpinned by scientific evidence that was informed by lab-based research and speculative modelling that was not combined with a grounded understanding of the context of implementation. Rather, because the pandemic had been framed and thus governed as a national problem, the approach taken was imagined as universally applicable across the whole country if delivered in an efficient, centralised manner. India's experience of the COVID-19 pandemic, then, revealed the distinctions between and reassembled formal, real, invisible disaster governance arrangements [149] and in turn the different imagined, practiced, and real social contacts held between different people in different socio-spatial contexts [113,150].

Moving India's DRM Assemblage towards genuine disaster risk reduction and away from disaster management practices which at best do not tackle disaster risk and at worst exacerbate it should not be seen as a functional challenge that can be tackled with incremental policy changes and/or scientific and technological advances at the national or international level [26]. Rather, any paradigm shift from reactive disaster management to disaster risk management which avoids the accumulation of new risks will require a change in focus at the national level towards encouraging and fostering a bottom-up, situated approach to disaster management [132,151]. A useful starting point might be the allocation of more funding for research into qualitative research into the ways disaster risks are experienced and dealt with at the local level [105]. This might mean that research and ideally policy could be shaped more around the needs and priorities of those affected most by disasters [152,153]. The main barrier to this is the ceding of power and resources from an increasingly centralised government to states first and foremost, and then secondly from often centralised state assemblies to district and panchayat levels. However, as Dutta and Fischer [32] show, India's response to the pandemic which has centralised authority whilst transferring accountability for risk management to panchayats, societies and individuals has, in some places, emboldened these local actors who feel their importance to the central government achieving their political priorities has been exposed [107]. As is often the case with attempts to further territorialise power and authority, newly emboldened and popular local political actors may resist these power relations and contractual expectations with unexpected and unpredictable outcomes [154,155]. Research that investigates these more granular, local negotiations over responsibility for disaster management will help to identify the concessions that central and state governments need to make if effective and locally responsive disaster risk reduction and management is to materialise in India [32,154]. As it stands, and despite theories of disasters acting as potential catalysts for change [156,157], any evidence of often-aspired-to *paradigm shifts* in India's DRM Assemblage in the wake of COVID-19 continues to be thin on the ground [26].

---

[15] With states such as Kerala providing an exception to this and, thus, also in their pandemic response.

7. Conclusion

In this article, we have focussed on different elements of India's DRM Assemblage throughout the COVID-19 pandemic to evaluate its performance and speculate on areas where change is needed. The first section focussed on the political context in which this international and national scientific advice was translated into central government action by investigating the role of governmentality and the securitised logic of India's disaster response in the pandemic. We argued that the imposition of the National Disaster Management Act allowed the government to continue and even accelerate their on-going attempts to centralise power in India. The rigid, centralised approach left states with little option but to deploy anachronistic and often violent approaches to curbing infection. In many cases, the latter constituted human rights abuses and almost always made the lives of already marginalised groups worse. The second section explored the relationship between transnationally coproduced understandings of the virus and how this came to shape the policies enacted in India in response to the rise in COVID-19 cases. We argued that a one-dimensional and largely unrepresentative view of the virus and its potential impacts produced in powerful scientific institutions was translated into India's initial response to the pandemic. Amongst other things, this coproduced two of the main issues with India's pandemic response. First, that the measures were not as effective at limiting infection as they might have been if they had considered the possibility of airborne transmission. Second and more problematically, the scientific view of the virus was not challenged by other knowledge types or scrutinised in formal political spheres. This meant that the sociomaterial contexts of implementation were poorly factored into decision making and thus, as we went on to illustrate, lockdown measures often had significant negative impacts on health and well-being for vulnerable groups [104]. These impacts arguably outweighed the positive impact the reduction in virus transmission might have had on them [51,158]. The other half of the second section interrogated the scientific advisory process which emerged during and in response to the pandemic and specifically its contribution to the misapprehension of the virus' behaviour and thus the making of the disastrous second wave of infections. The third section of this review highlighted the disproportionate impact the pandemic and responses to it had on marginalised groups and critiqued the security-focussed response to the pandemic. We argued that this approach reflects long-term characteristics of India's national development which has consistently overlooked and underfunded health infrastructure, overtly focussed on enforcing security through policing, and done little to support the internal migrant workers on whom the Indian economy relies.

In response to the rhetorical question posed at the end of the introduction, we first conclude that the COVID-19 pandemic in India was a disaster that was made possible by decisions taken by the Government of India before and during its materialisation. We also conclude that framing COVID-19 as a disaster in India discursively underpinned and provided a legal basis for the centralised approach taken, and that the COVID-19 disaster continues to be reassembled in such a way that it justifies the Government of India's continuing authority over disaster management and the country. In this sense, our analysis echoes many of Bandhopadhay's [159] and Gaillard's [160] recent, comprehensive critiques of contemporary disaster management, whilst resolving that it remains important to work towards more just alternatives.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

Acknowledgements

References

[1] WHO, Methods for estimating the excess mortality associated with the COVID-19 pandemic, https://www.who.int/publications/m/item/methods-for-estimating-the-excess-mortality-associatedwith-the-covid-19-pandemic, 2022.

[2] H. Wang, K.R. Paulson, S.A. Pease, et al., Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020-21, Lancet 399 (10334) (2022) 1513–1536 https://doi.org/10.1016/S0140-6736(21)02796-3, Elsevier.

[3] WHO, 14.9 Million Excess Deaths Associated with the COVID-19 Pandemic in 2020 and 2021, https://www.who.int/news/item/05-05-2022-14.9-million-excess-deaths-were-associated-with-the-covid-19-pandemic-in-2020-and-2021, 2022. (Accessed 12 May 2022).

[4] K. Kannabiran, A. Hans, M. Mohanty, Introduction: migration, work, and citizenship: COVID-19 and the faultlines of Indian democracy, in: Migration, Workers, and Fundamental Freedoms, Routledge India, 2021, pp. 1–8.

[5] R. Djalante, R. Shaw, A. DeWit, Building resilience against biological hazards and pandemics: COVID-19 and its implications for the Sendai Framework, Progress in Disaster Science 6 (2020), 100080 https://doi.org/10.1016/J.PDISAS.2020.100080, Elsevier.

[6] S. Jasanoff, S. Hilgartner, J.B. Hurlbut, et al., Comparative Covid Response: Crisis, Knowledge, Politics, CompCoRe Network, Cornell University, Ithaca, 2021.

[7] S. Sengupta, M.K. Jha, Risks and resilience: COVID-19 response and disaster management policies in India, India Rev. 20 (2) (2021) 121–141 https://doi.org/10.1080/14736489.2021.1895568, Routledge.

[8]   E. Raju, Editorial, Disaster Prev. Manag. 29 (4) (2020) 421–423 https://doi.org/10.1108/DPM-08-2020-400, Emerald Publishing Limited.
[9]   A. Jha, R. Basu, A. Basu, Studying policy changes in disaster management in India: a tale of two cyclones, Disaster Med. Public Health Prep. 10 (1) (2015)
       42–46 https://doi.org/10.1017/dmp.2015.116, 10/19.
[10] R. Seidler, K.S. Bawa, Ancient risks, current challenges in the himalayas, Econ. Polit. Wkly. 51 (41) (2016) 63.
[11] A. Collins, H. Tatano, W. James, et al., The 3rd global summit of research institutes for disaster risk reduction: expanding the platform for bridging science
       and policy making, International Journal of Disaster Risk Science 8 (2) (2017), https://doi.org/10.1007/s13753-017-0123-z.
[12] A. Donovan, C. Oppenheimer, Volcanoes on borders: a scientific and (geo)political challenge, Bull. Volcanol. 81 (5) (2019) 31, https://doi.org/10.1007/
       s00445-019-1291-z.
[13] F. Krüger, G. Bankoff, T. Cannon, et al., Cultures and Disasters: Understanding Cultural Framings in Disaster Risk Reduction, Routledge, 2015.
[14] A. Donovan, Geopower: reflections on the critical geography of disasters, Prog. Hum. Geogr. 41 (1) (2017) 44–67, https://doi.org/10.1177/
       0309132515627020.
[15] T.J. Usón, C.S. Stehrenberger, A temporal device: disasters and the articulation of (De)acceleration in and beyond 1970 ancash's earthquake, Res Publica.
       Revista de Historia de las Ideas Políticas 24 (3 SE-) (2021), https://doi.org/10.5209/rpub.79245.
[16] E. Kinkaid, Assemblage as ethos: conceptual genealogies and political problems, Area 52 (3) (2020) 480–487 https://doi.org/10.1111/area.12600, John
       Wiley & Sons, Ltd.
[17] D. Mustafa, S. Talozi, Tankers, wells, pipes and pumps: agents and mediators of water geographies in amman, Jordan, Water Altern. (WaA) 11 (3) (2018).
[18] D. Wachsmuth, D.J. Madden, N. Brenner, Between abstraction and complexity, City 15 (6) (2011) 740–750, https://doi.org/10.1080/
       13604813.2011.632903.
[19] J. Dittmer, Putting geopolitics in its place: Gibraltar and the emergence of strategic locations, Polit. Geogr. 88 (2021) 102405, https://doi.org/10.1016/
       j.polgeo.2021.102405.
[20] E. Kinkaid, Can assemblage think difference? A feminist critique of assemblage geographies, Prog. Hum. Geogr. 44 (3) (2019) 457–472 https://doi.org/
       10.1177/0309132519836162, SAGE Publications Ltd.
[21] M. Ranganathan, Storm drains as assemblages: the political ecology of flood risk in post-colonial Bangalore, Antipode 47 (5) (2015) 1300–1320, https://
       doi.org/10.1111/anti.12149.
[22] B. Adam, C. Groves, Future Matters: Action, Knowledge, Ethics, Brill, 2007.
[23] P. McGowran, A. Donovan, Assemblage theory and disaster risk management, Prog. Hum. Geogr. 45 (6) (2021) 1601–1624, https://doi.org/10.1177/
       03091325211003328.
[24] A. Clark-Ginsberg, L.C. Easton-Calabria, S.S. Patel, et al., When disaster management agencies create disaster risk: a case study of the US's Federal Emergency
       Management Agency, Disaster Prev. Manag. (2021) (Emerald Publishing Limited).
[25] C. McFarlane, On context, City 15 (3–4) (2011) 375–388, https://doi.org/10.1080/13604813.2011.595111.
[26] A. Ogra, A. Donovan, G. Adamson, et al., Exploring the gap between policy and action in Disaster Risk Reduction: a case study from India, Int. J. Disaster Risk
       Reduc. 63 (2021) 102428, https://doi.org/10.1016/j.ijdrr.2021.102428.
[27] S. Briceño, Looking back and beyond Sendai: 25 years of international policy experience on disaster risk reduction, International Journal of Disaster Risk
       Science 6 (1) (2015) 1–7.
[28] S.D. Sharma, India's fight against the COVID-19 pandemic: lessons and the way forward, India Q. 78 (1) (2022) 9–27 https://doi.org/10.1177/
       09749284211068470, SAGE Publications India.
[29] A.K. Singh, Pandemic Governance in India: the ongoing shift to 'national federalism', in: Comparative Federalism and Covid-19, Routledge, 2021, pp.
       278–297.
[30] A.J. Imperiale, F. Vanclay, Command-and-control, emergency powers, and the failure to observe United Nations disaster management principles following
       the 2009 L'Aquila earthquake, Int. J. Disaster Risk Reduc. 36 (2019) 101099, https://doi.org/10.1016/j.ijdrr.2019.101099.
[31] D. Alexander, From civil defence to civil protection – and back again, Disaster Prev. Manag. 11 (3) (2002) 209–213 https://doi.org/10.1108/
       09653560210435803, MCB UP Ltd.
[32] A. Dutta, H.W. Fischer, The local governance of COVID-19: disease prevention and social security in rural India, World Dev. 138 (2021) 105234, https://
       doi.org/10.1016/j.worlddev.2020.105234.
[33] S. Krishnan, Exploring female frontline health workers' role and capacities in COVID-19 response in India, Int. J. Disaster Risk Reduc. 75 (2022) 102962,
       https://doi.org/10.1016/j.ijdrr.2022.102962.
[34] J. Chathukulam, M. Joseph, Management of the COVID-19 Pandemic in Kerala through the Lens of State Capacity and Clientelism, UNU-WIDER, Helsinki,
       Finland, 2022.
[35] M.K. Jha, Pandemic Precarity and the Complicated Case of Maharashtra, UNU-WIDER, Helsinki, Finland, 2022.
[36] S. Israelsen, A. Malji, COVID-19 in India: a comparative analysis of the Kerala and Gujarat development models' initial responses, Prog. Dev. Stud. 21 (4)
       (2021) 397–418 https://doi.org/10.1177/14649934211030462, SAGE Publications India.
[37] M. Pelling, H. Adams, G. Adamson, et al., Building back better from COVID-19: knowledge, emergence and social contracts, in: Progress in Human
       Geography, SAGE Publications Ltd: 03091325211059569, 2021, https://doi.org/10.1177/03091325211059569.
[38] R. Jeffery, Health policy and federalism in India, Territory, Politics, Governance 10 (1) (2022) 67–85 https://doi.org/10.1080/21622671.2021.1899976,
       Routledge.
[39] Z. Mahmood, A. Chakraborty, The Pandemic and the State, UNU-WIDER, Helsinki, Finland, 2022.
[40] J. Chathukulam, J. Tharamangalam, The Kerala model in the time of COVID19: rethinking state, society and democracy, World Dev. 137 (2021) 105207,
       https://doi.org/10.1016/j.worlddev.2020.105207.
[41] G.V. Bhatnagar, Why PM-CARES is a 'government fund' and well within RTI purview, Wire (2021) 6 October. https://thewire.in/government/reasons-why-
       pm-cares-is-a-government-fund-and-well-within-rti-purview.
[42] P. Khandelwal, PM CARES: Necessity of a Locked up 'Public Fund', 2020 *Jurist*, 23 July. https://www.jurist.org/commentary/2020/07/prateek-khandelwal-
       pm-cares/.
[43] A. Byatnal, in: India, Prime Minister's Relief Fund for COVID-19 Jeopardizes NGO Sector, Devex, New Delhi, 2020. https://www.devex.com/news/in-india-
       prime-minister-s-relief-fund-for-covid-19-jeopardizes-ngo-sector-97706.
[44] P. Chakravarty, S. Bose, The curious case of pm cares fund: corporate social responsibility and the suppression of civil society in India, International Journal
       of Social Science and Economic Research 6 (3) (2021) 1105–1119, https://doi.org/10.46609/IJSSER.2021.v06i03.025.
[45] H. Chandna, Hours after announcement, Modi govt makes U-turn on Rs 4L ex-gratia for coronavirus deaths, Print (2020) 14 March. New Delhi. https://
       theprint.in/health/hours-after-announcement-modi-govt-makes-u-turn-on-rs-4l-ex-gratia-for-coronavirus-deaths/381235/.
[46] V. Chhotray, Disaster relief and the Indian state: lessons for just citizenship, Geoforum 54 (2014) 217–225, https://doi.org/10.1016/
       j.geoforum.2014.01.013.
[47] MoHA, Items and Norms of Assistance from the State Disaster Response Fund (SDRF) in the Wake of the COVID-19 Virus Outbreak, Ministry of Home Affairs
       (Disaster Management Division), New Delhi, 2020.
[48] MoHA, Amendment in Revised List of Items and Norms of Assistance under State Disaster Response Fund (SDRF): No. 33-04/2020-NDM-I (25/09/21,
       Ministry of Home Affairs (Disaster Management Division), New Delhi, 2021. https://ndmindia.mha.gov.in/NDMINDIA-CMS/viewWhatsNewPdf-D627.
[49] National Disaster Management Authority, Guidelines for Ex-Gratia Assistance to Next of Kin of the Deceased by covID-19 (1ssued in Compliance to the Hon'
       ble Supreme Court Order Dated 30.06.2021 in WP (Civil) No. 539 and WP (Cvil) 554 of 2021), Government of India National Disaster Management Authority,
       New Delhi, 2021. https://ndmindia.mha.gov.in/NDMINDIA-CMS/viewWhatsNewPdf-D627.
[50] IMF, IMFO: POLICY RESPONSES TO COVID-19 (2022). https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19. (Accessed 8 April
       2022).
[51] J. Breman, The pandemic in India and its impact on footloose labour, Indian J. Lab. Econ. 63 (4) (2020) 901–919, https://doi.org/10.1007/s41027-020-

00285-8.

[52] C. Jaffrelot, Modi's India: Hindu Nationalism and the Rise of Ethnic Democracy, Princeton University Press, 2021.

[53] U.K. Singh, Federalism, democracy and the national security state in India, Territory, Politics, Governance 10 (1) (2022) 51–66 https://doi.org/10.1080/21622671.2021.1899975, Routledge:

[54] A. Choutagunta, G.P. Manish, S. Rajagopalan, Battling COVID-19 with dysfunctional federalism: lessons from India, South. Econ. J. 87 (4) (2021) 1267–1299 https://doi.org/10.1002/soej.12501, John Wiley & Sons, Ltd.

[55] Sinha Subir, 'Strong leaders', authoritarian populism and Indian developmentalism: the Modi moment in historical context, Geoforum 124 (2021) 320–333, https://doi.org/10.1016/j.geoforum.2021.02.019.

[56] Acaps, COVID-19 government measures dataset, https://www.acaps.org/covid-19-government-measures-dataset, 2021. (Accessed 1 June 2022).

[57] WHO, WHO Director-General's Statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV), 2020.

[58] WHO, Novel Coronavirus – Thailand (ex-China), World Health Organisation website. World Health Organisation, 2020. https://www.who.int/emergencies/disease-outbreak-news/item/2020-DON234.

[59] WHO, Key Planning Recommendations for Mass Gatherings in the Context of the Current COVID-19 Outbreak: Interim Guidance, 14 February 2020, World Health Organization, Geneva PP - Geneva, 2020. https://apps.who.int/iris/handle/10665/331004.

[60] Bbc, China Covid-19: How state media and censorship took on coronavirus (2020). https://www.bbc.co.uk/news/world-asia-china-55355401. (Accessed 31 May 2022).

[61] L. Zhang, H. Li, K. Chen, Effective risk communication for public health emergency: reflection on the COVID-19 (2019-nCoV) outbreak in wuhan, China, Healthcare (2020), https://doi.org/10.3390/healthcare8010064.

[62] WHO, Considerations for Quarantine of Individuals in the Context of Containment for Coronavirus Disease (COVID-19): Interim Guidance, 29 February 2020, World Health Organization, Geneva PP - Geneva, 2020. https://apps.who.int/iris/handle/10665/331299.

[63] WHO, Coronavirus Disease 2019 (COVID-19) Situation Report – 73, 2020. https://apps.who.int/iris/handle/10665/331686.

[64] WHO, Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19) (2020) Geneva. https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf?sfvrsn=fce87f4e_2. Geneva.

[65] N.R. Jones, Z.U. Qureshi, R.J. Temple, et al., Two metres or one: what is the evidence for physical distancing in covid-19? BMJ 370 (2020) m3223, https://doi.org/10.1136/bmj.m3223.

[66] K. Randall, E.T. Ewing, L.C. Marr, et al., How did we get here: what are droplets and aerosols and how far do they go? A historical perspective on the transmission of respiratory infectious diseases, Interface focus 11 (6) (2021), 20210049 The Royal Society.

[67] T. Greenhalgh, J.L. Jimenez, K.A. Prather, et al., Transmission of SARS-CoV-2: still up in the air – authors' reply, Lancet 399 (10324) (2022) 519–520 https://doi.org/10.1016/S0140-6736(21)02795-1, Elsevier.

[68] M. Liu, S.-Z. Cheng, K.-W. Xu, et al., Use of personal protective equipment against coronavirus disease 2019 by healthcare professionals in Wuhan, China: cross sectional study, BMJ 369 (2020) m2195, https://doi.org/10.1136/bmj.m2195.

[69] L. Meng, H. Qiu, L. Wan, et al., Intubation and ventilation amid the COVID-19 outbreak: wuhan's experience, Anesthesiology 132 (6) (2020) 1317–1332, https://doi.org/10.1097/ALN.0000000000003296.

[70] MoHA, Annexure to Ministry of Home Affairs Order No . 40-3/2020-D Dated 24.03.2020: Guidelines on the Measures to Be Taken by Minstries/Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities for Containmen, 2020. https://static.pib.gov.in/WriteReadData/userfiles/Guidelines.pdf.

[71] E. Raju, S. Ayeb-Karlsson, COVID-19: how do you self-isolate in a refugee camp? Int. J. Publ. Health 65 (5) (2020) 515–517, https://doi.org/10.1007/s00038-020-01381-8.

[72] J. Jimenez, L. Marr, K. Randall, et al., What were the historical reasons for the resistance to recognizing airborne transmission during the COVID-19 pandemic? (August 11, 2021), SSRN (2021), https://doi.org/10.2139/ssrn.3904176.

[73] Z. Barnett-Howell, O.J. Watson, A.M. Mobarak, The benefits and costs of social distancing in high-and low-income countries, Trans. R. Soc. Trop. Med. Hyg. 115 (7) (2021) 807–819 Oxford University Press.

[74] T. Lancet, India under COVID-19 lockdown, Lancet (London, England) 395 (10233) (2020) 1315 https://doi.org/10.1016/S0140-6736(20)30938-7, Elsevier Ltd.

[75] S. Thakur, V. Chauhan, S. Galwankar, et al., Covid-19 testing strategy of India–Current status and the way forward, J. Global Infect. Dis. 12 (2) (2020) 44 Wolters Kluwer--Medknow Publications.

[76] K. Thiagarajan, Why is India having a covid-19 surge? BMJ 373 (2021) n1124, https://doi.org/10.1136/bmj.n1124.

[77] Department for Science and Technology, DST Initiates COVID-19 India National Supermodel for Monitoring Infection Transmission & Aid Decision-Making by Policymakers, 2020.

[78] PSA, Experts for Research on COVID/Pandemic, Office of the Principal Scientific Adviser to the Government of India Website. New Delhi: Office of the Principal Scientific Adviser to the Government of India, 2021. https://www.insaindia.res.in/scroll_news_pdf/experts.pdf.

[79] Sinha Somdatta, Modelling the spread of SARS-CoV-2 pandemic - is this even close to a supermodel? Indian J. Med. Res. 153 (1 & 2) (2021) 201–206 https://doi.org/10.4103/ijmr.IJMR_4525_20, Wolters Kluwer - Medknow.

[80] M. Agrawal, M. Kanitkar, M. Vidyasagar, Authors' response, Indian J. Med. Res. 153 (1) (2021) https://doi.org/10.4103/0971-5916.307699, Wolters Kluwer - Medknow: 204.

[81] M. Agrawal, M. Kanitkar, M. Vidyasagar, Modelling the spread of SARS-CoV-2 pandemic-Impact of lockdowns & interventions, Indian J. Med. Res. 153 (1–2) (2021) 175 Wolters Kluwer--Medknow Publications.

[82] D. Ghoshal, Krishna N. Das, EXCLUSIVE Scientists say India government ignored warnings amid coronavirus surge, Reuters (2021) 21 June. New Delhi. https://www.reuters.com/world/asia-pacific/exclusive-scientists-say-india-government-ignored-warnings-amid-coronavirus-2021-05-01/.

[83] M. Gupta, S.S. Mohanta, A. Rao, et al., Transmission dynamics of the COVID-19 epidemic in India and modeling optimal lockdown exit strategies, Int. J. Infect. Dis. 103 (2021) 579–589, https://doi.org/10.1016/j.ijid.2020.11.206.

[84] M. Safi, 'We are not special': how triumphalism led India to Covid-19 disaster, The Guardian, 14 June (2021). https://www.theguardian.com/world/2021/apr/29/we-are-not-special-how-triumphalism-led-india-to-covid-19-disaster.

[85] J.E. Goldstein, Knowing the subterranean: land grabbing, oil palm, and divergent expertise in Indonesia's peat soil, Environ. Plann.: Econ. Space 48 (4) (2015) 754–770 https://doi.org/10.1177/0308518X15599787, SAGE Publications Ltd.

[86] C. Groves, Emptying the future: on the environmental politics of anticipation, Futures 92 (2017) 29–38, https://doi.org/10.1016/j.futures.2016.06.003.

[87] R. Peckham, COVID-19 and the anti-lessons of history, Lancet 395 (10227) (2020) 850–852 https://doi.org/10.1016/S0140-6736(20)30468-2, Elsevier.

[88] P. Asrani, M.S. Eapen, M.I. Hassan, et al., Implications of the second wave of COVID-19 in India, Lancet Respir. Med. 9 (9) (2021) e93–e94 https://doi.org/10.1016/S2213-2600(21)00312-X, 2021/20206/30. Elsevier Ltd.

[89] R. Ranjan, A. Sharma, M.K. Verma, Characterization of the second wave of COVID-19 in India, Curr. Sci. 121 (1) (2021) 85.

[90] A. Donovan, Experts in emergencies: a framework for understanding scientific advice in crisis contexts, Int. J. Disaster Risk Reduc. 56 (2021) 102064, https://doi.org/10.1016/j.ijdrr.2021.102064.

[91] Prime Minister's Office, Text of Prime Minister's address to the nation on combating COVID-19 (2020). https://pib.gov.in/PressReleasePage.aspx?PRID=1607254. (Accessed 13 June 2022).

[92] T. Hale, N. Angrist, R. Goldszmidt, et al., A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker), Nat. Human Behav. 5 (4) (2021) 529–538, https://doi.org/10.1038/s41562-021-01079-8.

[93] D. Arnold, Science, Technology and Medicine in Colonial India. The New Cambridge History of India, Cambridge University Press, Cambridge, 2000, https://doi.org/10.1017/CHOL9780521563192.

[94] P.S. Rakesh, The epidemic diseases act of 1897: public health relevance in the current scenario, Indian J Med Ethics 1 (3) (2016) 156–160.

[95] P. Rakesh, Implementing the epidemic diseases act to combat covid-19 in India: an ethical analysis, Indian journal of medical ethics 6 (1) (2021).

[96] MoHA, Order No . 40-3/2020-DM-I(A); Government of India, Government of India, New Delhi, 2020. https://archive.pib.gov.in/documents/rlink/2020/mar/p202032401.pdf.

[97] N. O'Grady, Securing circulation through mobility: milieu and emergency response in the British fire and rescue service, Mobilities 9 (4) (2014) 512–527 Taylor & Francis:

[98] M.B. Salter, To make move and let stop: mobility and the assemblage of circulation, Mobilities 8 (1) (2013) 7–19 Taylor & Francis.

[99] J. Jesline, J. Romate, E. Rajkumar, et al., The plight of migrants during COVID-19 and the impact of circular migration in India: a systematic review, Humanities and Social Sciences Communications 8 (1) (2021) 231, https://doi.org/10.1057/s41599-021-00915-6.

[100] S. Sengupta, M.K. Jha, Social policy, COVID-19 and impoverished migrants: challenges and prospects in locked down India, The International Journal of Community and Social Development 2 (2) (2020) 152–172 https://doi.org/10.1177/2516602620933715, SAGE Publications India.

[101] A.M. Auerbach, T. Thachil, How does Covid-19 affect urban slums? Evidence from settlement leaders in India, World Dev. 140 (2021) 105304, https://doi.org/10.1016/j.worlddev.2020.105304.

[102] A. Dandekar, R. Ghai, Migration and reverse migration in the age of COVID-19, Econ. Polit. Wkly. 55 (19) (2020) 28–31.

[103] A. Prakash, B. Hem, Pandemic precarity: life, livelihood, and death in the time of the pandemic, Econ. Polit. Wkly. 57 (5) (2022). https://www.epw.in/journal/2022/5/review-urban-affairs/pandemic-precarity.html.

[104] E. Raju, A. Dutta, S. Ayeb-Karlsson, COVID-19 in India: who are we leaving behind? Progress in Disaster Science 10 (2021) 100163, https://doi.org/10.1016/j.pdisas.2021.100163.

[105] M.A. Mathews, G. De Neve, S. Ayeb-Karlsson, Dimensions of wellbeing and recognitional justice of migrant workers during the COVID-19 lockdown in Kerala, India, Humanities and Social Sciences Communications 10 (1) (2023) 206, https://doi.org/10.1057/s41599-023-01687-x.

[106] V. Tandel, S. Gandhi, S. Patranabis, et al., Infrastructure, enforcement, and COVID-19 in Mumbai slums: a first look, J. Reg. Sci. 62 (3) (2022) 645–669 https://doi.org/10.1111/jors.12552, John Wiley & Sons, Ltd.

[107] D. Gupta, H. Fischer, S. Shrestha, et al., Dark and bright spots in the shadow of the pandemic: rural livelihoods, social vulnerability, and local governance in India and Nepal, World Dev. 141 (2021) 105370, https://doi.org/10.1016/j.worlddev.2020.105370.

[108] S. Kharang, R. George, T. Darji Bhutia, et al., Rapid Assessment of the impacts of COVID-19 on the livelihoods of rural communities in Darjeeling and Kalimpong Districts, West Bengal (2020). https://media-openideo-rwd.oiengine.com/attachments/f22859b9-c3ab-4a22-9f37-8cfc2c5e3b7d.pdf.

[109] J. Drèze, A. Sen, An Uncertain Glory: India and its Contradictions, 2013 (Penguin UK).

[110] A. Deaton, J. Dreze, Poverty and inequality in India: a Re-examination, Econ. Polit. Wkly. 37 (36) (2002) 3729–3748 Economic and Political Weekly. http://www.jstor.org/stable/4412578.

[111] C. Choithani, R.J. van Duijne, J. Nijman, Changing livelihoods at India's rural–urban transition, World Dev. 146 (2021) 105617, https://doi.org/10.1016/j.worlddev.2021.105617.

[112] P. Mishra, Urbanisation through brick kilns: the interrelationship between appropriation of nature and labour regimes, Urbanisation 5 (1) (2020) 17–36 https://doi.org/10.1177/2455747120965199, SAGE Publications India.

[113] S. Blackburn, M. Pelling, The political impacts of adaptation actions: social contracts, a research agenda, Wiley Interdisciplinary Reviews: Clim. Change 9 (6) (2018) e549, https://doi.org/10.1002/wcc.549.

[114] A. Sen, Development as freedom: an India perspective, Indian J. Ind. Relat. (2006) 157–169 JSTOR.

[115] A. Gupta, Red Tape : Bureaucracy, Structural Violence, and Poverty in India, Duke University Press, Durham, UNITED STATES, 2014. http://ebookcentral.proquest.com/lib/kcl/detail.action?docID=1173034.

[116] K. Coelho, Pandemic and the city, Econ. Polit. Wkly. (2022). https://www.epw.in/journal/2022/5/review-urban-affairs/pandemic-and-city.html.

[117] J.F. Cháirez-Garza, M.D. Gergan, M. Ranganathan, et al., Introduction to the special issue: rethinking difference in India through racialization, Ethn. Racial Stud. 45 (2) (2022) 193–215 https://doi.org/10.1080/01419870.2021.1977306, Routledge:

[118] S.Y. Rahman, 'Social distancing' during COVID-19: the metaphors and politics of pandemic response in India, Health Sociol. Rev. 29 (2) (2020) 131–139 https://doi.org/10.1080/14461242.2020.1790404, Taylor & Francis.

[119] K. Sampat, A.R. Chowdhury, G. Bhan, Recovery as resilience: domestic work and workers in the aftermath of COVID-19, Econ. Polit. Wkly. 57 (5) (2022).

[120] L. Tuitjer, Bangkok flooded: re(assembling) disaster mobility, Mobilities 14 (5) (2019) 648–664 https://doi.org/10.1080/17450101.2019.1586097, Routledge:

[121] S. Ayeb-Karlsson, C.D. Smith, D. Kniveton, A discursive review of the textual use of 'trapped' in environmental migration studies: the conceptual birth and troubled teenage years of trapped populations, Ambio 47 (5) (2018) 557–573, https://doi.org/10.1007/s13280-017-1007-6.

[122] M.C. Harasym, E. Raju, S. Ayeb-Karlsson, A global mental health opportunity: how can cultural concepts of distress broaden the construct of immobility? Global Environ. Change 77 (2022) 102594, https://doi.org/10.1016/j.gloenvcha.2022.102594.

[123] M. Rawat, Migrant workers' deaths: Govt says it has no data. But didn't people die? Here is a list, India Today, 16 September, New Delhi, 2020. https://www.indiatoday.in/news-analysis/story/migrant-workers-deaths-govt-says-it-has-no-data-but-didn-t-people-die-here-is-a-list-1722087-2020-09-16.

[124] P. Chatterjee, Is India missing COVID-19 deaths? Lancet 396 (10252) (2020) 657 https://doi.org/10.1016/S0140-6736(20)31857-2, Elsevier.

[125] S. Prabhu, No Data on Migrant Deaths, So No Compensation, Says Government: 10 Points, NDTV, 15 September, New Delhi, 2020. https://www.ndtv.com/india-news/parliament-session-no-data-on-migrant-deaths-so-no-compensation-says-government-10-points-2295513.

[126] BBC News, Coronavirus: Anger as Migrants Sprayed with Disinfectant in India, BBC News website, 2020, p. 31 March. https://www.bbc.co.uk/news/world-asia-india-52093220.

[127] A.P. Chatterji, T.B. Hansen, C. Jaffrelot, Majoritarian State: How Hindu Nationalism Is Changing India, Oxford University Press, 2019. https://books.google.co.uk/books?id=l3KfDwAAQBAJ.

[128] A. Prasad, The organization of ideological discourse in times of unexpected crisis: explaining how COVID-19 is exploited by populist leaders, Leadership 16 (3) (2020) 294–302 https://doi.org/10.1177/1742715020926783, SAGE Publications.

[129] D. Biswas, S. Chatterjee, P. Sultana, Stigma and fear during COVID-19: essentializing religion in an Indian context, Humanities and Social Sciences Communications 8 (1) (2021) 130, https://doi.org/10.1057/s41599-021-00808-8.

[130] F. Nizaruddin, Role of public WhatsApp groups within the hindutva ecosystem of hate and narratives of "CoronaJihad", Int. J. Commun. 15 (2021) (2021). https://ijoc.org/index.php/ijoc/article/view/16255.

[131] J. Bajoria, CoronaJihad is Only the Latest Manifestation: Islamophobia in India has Been Years in the Making (2020). https://www.hrw.org/news/2020/05/01/coronajihad-only-latest-manifestation-islamophobia-india-has-been-years-making. (Accessed 30 June 2022).

[132] Mishra PK, COVID-19, Black Swan events and the future of disaster risk management in India, Progress in Disaster Science 8 (2020) 100137, https://doi.org/10.1016/j.pdisas.2020.100137.

[133] Dalberg, Fulfilling the promise of One Nation One Ration Card: A frontline perspective from 5 Indian States (2022). https://policyinsights.in/report/fulfilling-the-promise-of-onorc/.

[134] B.K. Negi, S. Bathla, 'One nation one ration card' could have changed how the pandemic affected migrants, The Wire, 4 June (2020). https://thewire.in/rights/one-nation-one-ration-card-migrant-workers.

[135] R. Pande, S. Schaner, C.T. Moore, et al., A Majority of India's Poor Women May Miss COVID-19 PMJDY Cash Transfers, Economic Growth Centre, Yale University, 2020.

[136] G. Carswell, G. De Neve, MGNREGA in Tamil nadu: a story of success and transformation? J. Agrar. Change 14 (4) (2014) 564–585 https://doi.org/10.1111/joac.12054, John Wiley & Sons, Ltd.

[137] J. Drèze, R. Khera, Recent social security initiatives in India, World Dev. 98 (2017) 555–572, https://doi.org/10.1016/j.worlddev.2017.05.035.

[138] A. Hans, K. Kannabiran, M. Mohanty, Migration, Workers, and Fundamental Freedoms: Pandemic Vulnerabilities and States of Exception in India, Taylor & Francis, 2021. https://books.google.co.uk/books?id=i-8eEAAAQBAJ.

[139] K. Dodds, V.C. Broto, K. Detterbeck, et al., The COVID-19 pandemic: territorial, political and governance dimensions of the crisis, Territory, Politics, Governance 8 (3) (2020) 289–298 https://doi.org/10.1080/21622671.2020.1771022, Routledge.

[140] A. Bhardwaj, The second wave of death and disaster, Econ. Polit. Wkly. (2021). https://www.epw.in/journal/2021/22/strategic-affairs/second-wave-death-and-disaster.html.

[141] A. Gupta, S. Kohli, COVID-19 and market failure: an Indian experience, Econ. Polit. Wkly. 57 (8) (2022).

[142] A. Dutta, E. Raju, The covid-19 pandemic is a battle for science, Chakra: A Nordic Journal of South Asian Studies 1 (2020). https://www.sasnet.lu.se/research/publications/chakra-nordic-journal-south-asian-studies.

[143] S. Rajagopalan, A. Choutagunta, Assessing Healthcare Capacity in India, COVID-19 Crisis Response, Arlington, Virginia, 2020 Mercatus Working Paper. https://www.mercatus.org/publications/covid-19-policy-brief-series/assessing-healthcare-capacity-india.

[144] N. Dehingia, A. Raj, Sex differences in COVID-19 case fatality: do we know enough? Lancet Global Health 9 (1) (2021) e14–e15 https://doi.org/10.1016/S2214-109X(20)30464-2, Elsevier.

[145] L.V. Zimmermann, M. Salvatore, G.R. Babu, et al., Estimating COVID-19– related mortality in India: an epidemiological challenge with insufficient data, Am. J. Publ. Health 111 (S2) (2021) S59–S62 https://doi.org/10.2105/AJPH.2021.306419, American Public Health Association.

[146] S. Ganguly, India's democracy at 70: the troublesome security state, J. Democr. 28 (3) (2017) 117–126. https://muse.jhu.edu/article/664172.

[147] S. Ramani, M. Sivakami, L. Gilson, How context affects implementation of the Primary Health Care approach: an analysis of what happened to primary health centres in India, BMJ Glob. Health 3 (Suppl 3) (2019) e001381, https://doi.org/10.1136/bmjgh-2018-001381.

[148] S. Vyas, N. Sharma, Archisman, et al., Repercussions of lockdown on primary health care in India during COVID 19, J. Fam. Med. Prim. Care 10 (7) (2021). https://journals.lww.com/jfmpc/Fulltext/2021/10070/Repercussions_of_lockdown_on_primary_health_care.2.aspx.

[149] D. Hilhorst, K. Boersma, E. Raju, Research on politics of disaster risk governance: where are we headed? Polit. Govern. 8 (4) (2020) 214–219.

[150] A. Siddiqi, Canuday Jjp, Stories from the frontlines: decolonising social contracts for disasters, Disasters 42 (2018) S215–S238 Wiley Online Library.

[151] A. Ogra, The national disaster management plan, 2019, Econ. Polit. Wkly. 57 (3) (2022) 17.

[152] L. Gurung, P. McGowran, Local perspectives on landslide prevention and management in Kalimpong district, West Bengal, India, Disaster Prev. Manag. 31 (3) (2022) 193–201 https://doi.org/10.1108/DPM-02-2021-0056, Emerald Publishing Limited.

[153] P. Rai, V. Khawas, Traditional knowledge system in disaster risk reduction : exploration, acknowledgement and proposition, Jamba : Journal of Disaster Risk Studies 11 (1) (2019) 1–7 https://doi.org/10.4102/jamba.v11i1.484, AOSIS.

[154] H.W. Fischer, S.S. Ali, Reshaping the public domain: decentralization, the Mahatma Gandhi national rural employment guarantee act (MGNREGA), and trajectories of local democracy in rural India, World Dev. 120 (2019) 147–158, https://doi.org/10.1016/j.worlddev.2018.09.013.

[155] S. Legg, Assemblage/apparatus: using deleuze and foucault, Area 43 (2) (2011) 128–133. http://www.jstor.org/stable/41240474.

[156] P. Cloke, S. Dickinson, S. Tupper, in: The Christchurch Earthquakes 2010, 2011: Geographies of an Event, 73, Wiley Online Library, New Zealand Geographer, 2017, pp. 69–80 (2).

[157] M. Pelling, K. Dill, Disaster politics: tipping points for change in the adaptation of sociopolitical regimes, Prog. Hum. Geogr. 34 (1) (2010) 21–37.

[158] S. Ramani, M. Bahuguna, A. Tiwari, et al., Corona was scary, lockdown was worse: a mixed-methods study of community perceptions on COVID-19 from urban informal settlements of Mumbai, PLoS One 17 (5) (2022), e0268133 https://doi.org/10.1371/journal.pone.0268133, Public Library of Science.

[159] S. Bandopadhyay, All Is Well: Catastrophe and the Making of the Normal State, Oxford University Press, 2022.

[160] J.C. Gaillard, The Invention of Disaster: Power and Knowledge in Discourses on Hazard and Vulnerability, Routledge, 2021.