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Two Writings on Climate, Disasters and Displacement

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**Two Writings on Climate,
Disasters and Displacement**

**Sohini Sengupta
Jyothi Krishnan**

2020

Content

1. **Enframing and Digression: Pandemic, Drought and Migrant Accounts from Western India**
by *Sohini Sengupta* 1-32
2. **Living with Floods: Coping with Livelihood Uncertainties in Post-Flood Kerala**
by *Jyothi Krishnan* 33-48

Enframing and Digression: Pandemic, Drought and Migrant Accounts from Western India

Sohini Sengupta *

Introduction

Anthropogenic climate change, global environmental transformation and forced migration are humanitarian challenges. As policymakers view climate-induced drought and migration as inevitable and governments reframe development policies as ‘climate action plans’, the empirical contexts of local communities that experience drought are reshaped in the language of vulnerability or adaptation. Drawing on the concept of ‘social nature’ (Castree) and going beyond the visions of local people as victims or adaptation experts, this research aims to understand the recent experiences of drought and migration in the state of Maharashtra, from narratives in local and English-language print and ‘viral’ stories on social media.

Based on the exploration of print media and public Twitter in the period following the announcement of the COVID-19 lockdown in India from March 24–June 15, this paper looks at the claims and counterclaims around the migrant workers’ exodus from the industrial and commercial areas of the state, in what some observers are describing as ‘reverse migration’ through the ‘framing of attribution’. As the summer sowing season gets underway in large areas of rain-fed farming, the broader aim is also to understand whether climate change, environmental protection and drought-relief re-emerged as a framing discourse in this critical and uncertain situation as migrant workers returned to their rural homes, often in some of the most drought-affected regions of the state.

Exploration of the changing focus of government interventions draws on the analysis of recent changes in policies of drought measurement and understanding of causation on one hand and the shifting focus of policy from agrarian concerns to water usage. While the debate about policy change has been fragmented in the general context of neoliberal reforms, countered by the agrarian crisis, populist visions in recent years have presented the agricultural sector as a problem rather than an affected party.

This report traces the shift in drought policy direction that has implications for the rural population, whose farm dependence is likely to increase, as livelihood diversification and mobility through migration suffer through the economic effects of the pandemic. Analysing recent changes in the ‘drought manual’, a key policy document in India that provides the framework for government recognition of drought and provisioning of response, relief and recovery, the study examines how agrarian reforms, using the idiom of climate protection, can be pushed even in the context of great

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vulnerability of rural households, dislocated by chronic drought and catastrophic loss of lives, assets, savings and incomes during the pandemic.

In the western Indian state of Maharashtra, the impact of drought on rural farming and labour households, where migration is central to coping strategies, ebbing and flowing with exceptional crisis events, is well understood. Over much of the past century, colonial and post-Independence government responses to drought have focused on addressing immediate distress and fallen short of long-term mitigation and consistent protective measures. The effect of the COVID-19 health crisis and lockdown decision has made migration riskier and unstable but also visible by depleting rural household resources. But more significantly, it has speeded up the disconnection of drought from agrarian questions and rural livelihoods, reducing 'drought' as a crisis of significance.¹

The 'mediatization' of drought policy enables the creation of effects of consensus around unpopular agrarian reform, uncertainties in drought disaster relief and contraction in public expenditure. 'Mediatization' refers to a multi-dimensional long-term process through which the importance of media and their spill over effects on political processes, institutions, organizations and actors have increased (Stromback 2016).² This concept is used here to understand how cultural populisms and environmental crises are transforming drought policy aided by new-media-technology-enabled political communication. Broadly, it refers to a 'process of increasing media influence (Esser and Stromback 2014)³ and describes how 'mediatized discourse has become the accepted way for politics' leading to 'fragmentation' and 'simplification' of policy and relentless 'agenda shaping' by launching new concerns for public debate (Mazzoleni 2014).⁴

Drought Effects: Agriculture versus Water?

In 2016, the India Meteorological Department (IMD) officially expunged the word 'drought' from its vocabulary. Diligent policy watchers noted that the IMD declaration came shortly after it had predicted a year of severe monsoon deficit.⁵ The state of Maharashtra, with a long coastal western boundary and sprawling eastward into the drier Deccan plateau in central India, was one of the worst-affected regions during this period. Out of the 36 districts, spread over 308,000 square kilometres, 12 were drought-affected in 2016 and 2018.⁶ Nearly half of the 112.4-million population of the state lives in urban locations, but the rural to urban connections are strong.⁷ In migration literature, the state is a destination area; its commercial and industrial zones attract migrants of various class groups from all over the country. But since the industrial period in the late nineteenth century, a substantial population of urban migrants in larger commercial cities such as Mumbai, Pune and Nagpur is from rural areas of the same state.

Severe drought years of the mid-1960s, 1970s and 1980s are both academically and popularly known as the times when drought-affected rural migrants had moved to Mumbai never to return to rural areas, out of chronic distress. Both rural-to-rural as well as rural-to-urban migrations are important in Maharashtra for household incomes. While large-scale migration data is particularly problematic, through the inability to capture cyclical, temporary and seasonal patterns, it is well known that high intra-state migration is characteristic of richer states like Maharashtra.⁸ While international financial institutions have tended to view migration as positive and beneficial for rural households and the economy, government policymakers and civil society groups, have traditionally associated the bulk of these movements as involuntary, distress-driven and hence, exploitative. Drought-affected agriculture has served as the main causal and driving force in migrant movement. The agrarian connection, significant in the context of Indian policy and advocacy, at least since the late nineteenth century, was not so apparent in global discourses of drought. Although environmental

migration caused by aridization, desertification and water scarcity is recognized as a significant problem.

The share of agricultural income in state income has declined from 26 percent in 1960–61 to 11 percent in 2017–18, though the cropped area has increased marginally and the irrigated area has increased during this period.⁹ The area under food grains has remained fairly constant while that under sugarcane has increased significantly. The sugarcane has emerged as a ‘rogue’ crop in debates about drought and agrarian crisis, though the cotton farmers occupy the central position of distress, suicide and crisis. Maharashtra droughts have been extensively researched around agrarian issues. If the problem of irrigating the vast rain-fed cropping areas was the principal area of concern in the past, in recent years, a deepening agrarian crisis indicated by death by suicide of indebted farmers had emerged. Farmer suicides are especially associated with areas of cultivation of cotton and the high input cost, high market risks associated with the GMO version of the crop (bt Cotton). Declining public institutional support to agriculture has been cited by many observers as among the main reasons for the high market dependence of farmers for inputs and seeds and succumbing to frauds. The problem of high-value cotton is spreading to other crops that lack state support policies but increasingly require high-cost inputs and volatile market conditions.¹⁰

During the 2015 droughts in Marathwada, for instance, farmers had obtained more than expected yields of dry land legume crops, cowpeas, soya bean and chickpeas. But in the absence of price support through timely MSP and procurement, the farmers had to sell their crop cheaply in an over-supplied market.¹¹ The increasing risks of farming borne by dry land farmers become aggravated in drought years. Strangely, a generally robust discussion around agrarian issues and support policies has taken a turn towards focusing on the specific causes of suicides, enumeration of such households and calculation of their particular needs. A *New Indian Express* article reports such micro-assessments as household needs as follows:

Kalamb taluka of Maharashtra’s Osmanabad had over 110 farmer suicides over the past five years. Due to drought, the area under crop has come down to almost half of over 73,000 hectares. Around 70 percent of those who can’t afford to continue farming are small and marginal farmers. According to a recent government survey, of the 110 families whose heads committed suicides, 92 were in need of credit, 77 needed wells and 68 wanted skill development.¹²

Controversies about the identity of the suicide and eligibility for compensation reflects a shift towards individualization of crisis and behavioural approach marking the connection of the farmer with relief and disconnection from the political and economic concerns of the agrarian context.¹³ A recent article describes the crisis in terms of the problems of miscounting suicides and exclusion from relief compensation to families as many suicides lacked the necessary legal documents to land that established their status as farmers. Agrarian problems framed as a welfare concern for those who take their lives and collective and political economic concerns around declining public support to agriculture are frequently refuted by government institutions. See, for instance, the excerpt from an interview in 2018, with a member of the NITI Aayog, the Government of India policy think tank:

I find research on agrarian distress is very inadequate. Most researchers are arriving at this conclusion of agrarian distress by citing farmers’ suicides. We are just using this emotional indicator.... I have not heard of a single instance of suicide by a farmer because of farming. We need a good study on agrarian distress and also whether it is real or imagined. That is very important. Where it is hidden and where it is apparent. Agrarian distress is there in Bihar, but there is no talk about it.¹⁴

If farmers are being asked to leave the bold new reformed agricultural sector because of their incapacity to bear the risks, drought, that had centered agrarian concerns till recently, is moving in a new direction.¹⁵ Increasingly, it has been water scarcity rather than agriculture that is assuming priority in policy discourses about drought. The sources of water scarcity in these discussions range from distribution, ownership, usage and climatic change and the interrelationships between these processes. In a 1989 article on drought and water scarcity, the author argues that while increasing water scarcity was alarming, it was not linked to the periodic fluctuations in rainfall that characterized India's monsoonal climate, defined as the country's "meteorological endowment". Instead, the question of drought should be centered on the utilization of freshwater resources.¹⁶ One of the important insights from the 1989 article is the notion of tropical and temperate biases in the interpretation of hydrology. Based on such generalized understandings, natural forests in tropical highlands have been converted into monocultures, created as drought and flood mitigation measures. The legacy of destructive land-use strategies, coupled with mining, overgrazing, road-building, large dams and non-terraced cultivation (land-levelling) were reducing river flows and increasing silt loads (ibid). It was also argued that the seasonal and spatial variation in rainfall had no clear pattern or long-term trend (ibid).

Drought protection measures, such as dams, increased conflicts over water resources among varied right holders from riparian states to local communities (ibid). Subsidies for groundwater exploitation in arid and semi-arid zones — creating overexploitation and crisis for smallholders — falling water tables in peninsular India and exhaustion of shallow aquifers — in this debate, the Maharashtra sugar factories were known perpetrators in supporting pump sets and deep bore wells (ibid:287) — gave rise to 'problem villages' (23,000) whose drinking water sources were exhausted (ibid:288). Increasing rural incomes have come at a high cost for rural communities (ibid:288). Overexploitation of groundwater has happened in tandem with the destruction of traditional water commons (ibid). In the discussion above, the author presents a linear story of decay from colonial to the modern period based on a model of harmonious and self-sustaining rural communities. This is problematic on many counts from a historical perspective — but such views are influential and continue to inform current projects of restoration.¹⁷ My research on *malguzari* tanks in central India presents a more complex story — while well-designed and adapted, these were created to expand revenue farming and high productivity agriculture and reflect the social inequalities and embedded in complex local disputes. *Malguzari* tanks offered protection and drought-proofing primarily to sustain agriculture in landlord farms, though *ryots* also benefited in *ryotwari* areas. Excellent wells or 'baolis' were also constructed for drinking water supplies to revenue villages on pre-colonial sites and local expertise.¹⁸ Restoration of tradition (common in discourses of local knowledge and religious revivalism) is problematic unless 'tradition' retains its historical nuance, political ramifications, scientific basis and societal moorings.

Angioplasty, Sustainability, Crowd-funding: Water Conservation?

The Maharashtra government's much-publicized water conservation structures, 'jalyukt shivar', constructed during the 2018 drought, are mired in controversy, financial fraud and unsustainable technology. The 2018–19 droughts led to the widespread criticism of the state government's water sustainability project, 'the Jalyukt Shivar Abhiyan (JSA)'.¹⁹ The goal of the project, which involved constructing soil and water conservation structures, was to reduce water scarcity and drought

vulnerability in 25,000 villages in five years. Through the JSA, the government claimed to have met three goals: water supply, irrigation and increase in crop productivity. It surprised experienced water conservationists that the government claimed to be creating 'storage capacity' through poorly conceived and technically flawed designed and constructed structures that were meant to be for water conservation.

The JSA was the result of up scaling of 'successful' case of stream digging and widening projects (the 'Shirpur model') in a part of Maharashtra by a local geologist who had termed the process as: 'the angioplasty of the river which would help store water in aquifers for at least three years'.²⁰ While the state government supported flawed water conservation projects, farmers have invested in digging bore wells, resulting in the depletion of groundwater. The JSA was also described in 2015 by some observers as Maharashtra's first 'crowd-funded' water conservation project requiring villagers and private organizations to pool their resources and augment government funds. Villages were required to contribute funds for the hiring of earth-moving machinery to deepen the streams and desilt riverbeds. The absence of transparency in the use of resources was also an early criticism in addition to poor design and technical flaws.²¹ Other non-technical, popular sounding terms used in the context of claims made around this scheme are villages being made 'water neutral'. JSA was also used for a variety of populist campaigns on social media:

What evolved, in the words of Pandurang Pole, the district collector of Latur, was "a formula" for public participation. "We tell people that their village has been selected and that they should at least do the work of two or three nalas on their own," he said. Or the administration puts a pre-condition that only the villages that had gathered funds of their own would be considered for government funds. "So they feel that to get into the scheme, they will have to do this work," Pole added.²²

A tweet by the Chief Minister's Office on July 22, 2016: 'Team CMO contributes their one-day salary towards #JalYuktShivar on the occasion of CM @Dev_Fadnavis's birthday.'²³

Maharashtra Chief Minister Devendra Fadnavis today said that 11,247 villages in the state have become 'water neutral' in the last two years under the government's flagship 'Jalyukt Shivar' scheme. He said this year 5,031 villages have been selected to be made water neutral (self-sufficient in water resources) and another 6,200 villages have been identified for 2018–19.²⁴

Against these populist and celebratory tweets, civil society organizations working in the area have been vocal about their criticism of the JSA project as unsustainable, inefficient, neither technologically sound nor based on democratic consultations with village residents. Many Indian states, including Maharashtra, have a long modern tradition of watershed management, from the grassroots development approaches and environmental movements of the 1980s and 1990s. Observers found that the JSA did not draw upon the considerable local expertise around local water management, converting the project into construction activity. During the 2018–19 drought year, rural farmers were buying water from tankers to irrigate their crops and drought-hit villages without piped water supply were buying drinking water. Under the JSA project, 254,000 farm pond-type structures had been constructed in 16,522 villages at a cost of Rs76.92 billion to the state government of Maharashtra.²⁵ A highly critical report, by the CAG (Comptroller and Auditor General of India), in early 2020, stated that there was no evidence drought-proofing or groundwater regeneration had been achieved in the thousands of villages where the JSA had been implemented, despite the expenditure of Rs96.375 billion.²⁶

‘जलयुक्त’ नद्वे, ‘झीलयुक्त’ शिवार

विखे-पाटील यांची टीका; मंत्री कार्यालयात पाच टक्के लाचेचा आरोप

लोकमत ट्वि | November 29, 2018 01:19 am

SHARE



Trans. ‘This pond is not filled with water but corruption’: comment about the JSA on Twitter

Rising calls for sustainable or efficient water management is a very 1990s phenomenon. This period also witnessed the high point of a decade-long environmental thinking and activism in India. In 1993, the World Bank withdrew from a loan agreement with the Indian Government for building the Sardar Sarovar Dam project, over socioeconomic and environmental concerns (See Kumar and Miller 1993).²⁷ An independent review team had found the government’s mitigation measures inadequate and failing to meet the Bank’s standards. A parallel view suggested the revival of India’s traditional water-harvesting structures and water management practice so that the dependence on large-scale storage structures promoted by the government (command and control approach), including the power of ‘water bureaucracies’, can be reduced (See, for example, Agarwal and Narain 1999).

Rain captured from 1–2 percent of India’s land could provide India’s population of 950 million with as much as 100 litres of water per person per day (Agarwal 1998a). There is no village in India which could not meet its drinking water needs through rainwater harvesting (Agarwal and Narain 1999:4).

The less-discussed refrain in these simple ‘grassroots’ solutions was the reduction of fiscal pressure on governments under neoliberal economic reforms in the 1990s and passing on the cost of basic services such as water supply (including provision, repair, maintenance) to households. The resulting benefits were viewed as more efficient systems, less ‘misuse’ of government’s resources by ‘turning water into a precious commodity (ibid:5).’

Apart from increasing water availability, local water harvesting systems developed by local communities and households can reduce the pressure on the state to provide all the financial resources needed for water supply...It means re-establishing the relationship between people and their environments and turning water into a precious commodity (Agarwal and Narain 1999:5).

The Maharashtra government’s drought relief programme, which was promoted in 2019, claimed to have made many drought-affected areas of Maharashtra environmentally sustainable. Yet

in February 2020, the newly elected state government discontinued the Jalyukt Shivar programme that had cost the government Rs97,070 million (US\$ 127 million) in constructing cement and earthen check dams, widening stream beds and deepening farm ponds.²⁸ Opposition ministers continue to call the projects as a ‘water revolution’ critical for combating drought in the parched region of Marathwada.²⁹ An important point from the JSA is the increasing use of scientism and populism in the government strategies of drought management that have very little to do with typical rural concerns or agrarian politics of earlier decades within which drought policies were framed.

Drinking Water Crisis and Water Trains

For decades, droughts have been assessed in terms of the quantum of food grain production. In an article written in the 1970s, Maharashtra is described as a chronically food-deficit state (Brahme 1973). The connection between food grain production and hunger derives from the FAD (Food Availability) understanding of famine causation. Amartya Sen’s influential entitlement approach shifted the focus to ‘food accesses in place of availability (see *The Political Economy of Hunger and Poverty and Famines*). Welfare strategies could then focus on ensuring access to food for those deemed most vulnerable than just incentivizing (through public subsidies) wealthier farmers in productive areas to grow steadily higher volumes of staple food grains.

In recent years, the focus of drought seems to have shifted towards the availability of drinking water. We need to understand the implications of this changing narrative on public policy focus and redirection of resources. The point that I am trying to make here is that the allocation of public resources is increasingly about choosing between competing demands. Emphasis on drinking water for a few years may imply that resources would be drawn out of farmer subsidies, which would then be reduced. Drought years of the 1960s were observed as a crisis of declining food grain production, giving rise to permanent and widespread shortages of food locally (Brahme 1973). The solution that was suggested by researchers was creating water storage structures and soil conservation. Recent drought protective programmes follow this tradition at least in appearance.



A water train supplying water to Latur city in drought-affected Marathwada travelled 342 km in 2016³⁰



The well that never dries used for storing water transported by the train in 2016³¹

The Maharashtra water train that supplied drinking water to the parched municipalities of the drought-affected region of Marathwada, travelled more than 300 km to bring water from the irrigated, agriculturally prosperous, Krishna–Godavari River basin area of the state. An interesting insight from this expensive and laborious operation was the use of a traditional well (*Haidar Khan baodi*), from the Adil Shahi kingdom of Bijapur (1489–1686), near Latur station with a capacity to hold 17 lakh litres and a reputation of never drying, for the intermediate storing of water, once offloaded from the train. Since the colonial period, the well has been the property of the Indian Railways. While social media celebrated the transportation of drinking water as a remarkable feat of dedication, governance and modern engineering, print reports also suggested the fraught relations between rural and urban claims over water and the concerns about the long-term sustainability of such solutions. But the question that informs the present discussion is whether this agrarian centrality of drought in India, since the early modern period, is changing and with what implication for the drought-affected rural households? Recent reports in 2020 based on rainfall modelling and geostatistical methods have held that there was a visible decline in rainfall that would adversely affect the soil moisture content and attribute this process to increasing episodes of floods and droughts in India.³² Yet, climate change reports primarily discuss the uncertainties in predicting local and regional patterns. The IPCC Report discusses the climate effect on monsoons as follows:

Drought, according to the Intergovernmental Panel on Climate Change (IPCC), is defined as a “period of abnormally dry weather long enough to cause a serious hydrological imbalance (IPCC 2012:558)”. Frequent droughts are known to have widespread, long-term and devastating social and environmental effects. Less visible to policymakers, the debilitating effects of drought are most often absorbed by the poorest communities and the agricultural sector. Despite the close relationship with drought, population movement has multiple causal factors and it remains difficult to conceptualize migration as emerging from a purely environmental crisis.

Among the influential observations regarding the competing demands on water, for drinking water and agriculture in drought-affected areas and monsoon deficient years, the argument was made that problematic agricultural practices, such as ‘irrigation’ aggravated the drinking water crisis. From the notion of the agrarian sector that needed protection from drought, drought management was

moving towards the conceptualization about farming as the causal factor for climate variability and drought:

In 2016, 300 districts (or nearly half of India's 640 districts) were under the spell of an acute drinking water shortage. As an agrarian economy, India relies heavily on agriculture. There is aggressive irrigation in rural areas where agriculture provides livelihood for over 600 million people. As much of the world has adopted lesser water-intensive crops and sophisticated Page 4 of 31 agricultural techniques, India still uses conventional systems and water-intensive crops. An excessive reliance on monsoons has led to crop failures and farmer suicides in recent years. Water at the nation's 91 reservoirs was at 25 percent of the total capacity for the week ended April 12, 2018 according to a statement issued by the Union Water Resources Ministry. This level was expected to recede faster than usual with the Indian Meteorological Department forecasting warmer-than-normal temperatures in March to May in various parts of the country....Further, deficient winter rain and lower snowfall in glaciers may affect water availability in northern Indian plains in the summer month....India is extremely vulnerable to climate change and the impact of rising temperatures. The consequent increase in the frequency and intensity of heat waves is expected to add to the woes of the drought hit.³³

According to Castree (2001), knowledge of nature not only expresses social power relations but such knowledge also has a material effect when they shape belief and action, even as nature is continuously shaped by human action. Thus climate knowledge and action, adopted or interpreted in local struggles over power and influence may shape actions that would affect livelihoods and the environment in ways that would have social and environmental consequences. While this article does not argue that the past (pre-2016) practices of drought management were adequate, recent changes appear as though the state and policymakers are attempting to cherry-pick competing effects of drought. In the re-framing of drought in India from an agrarian concern to a climate-induced hydrological crisis, what appears alongside shrill scientism is the populist use of social media to counter criticism and policy debate through the presentation of voice. See, for instance, above, a tweet by the India Meteorological Department (IMD) in response to the criticism about their ability to predict sudden extreme rainfall events.³⁴ The manner in which public policy around drought uses the media to mobilize and produce consent is an unprecedented illustration of the 'mediatization' of policy.

Migration occupies a central role in the long-term coping strategies of rural households ebbing and flowing with exceptional crisis events. Agrarian distress and declining public support have also increased the emphasis on migrant incomes for rural households. It is important to understand how drought-affected rural migrants were dislocated through the outbreak of the pandemic and mitigation strategies that involved a complete lockdown of the economy and modes of transportation.

The Indian Drought Manual: A Survival Crisis

In 2016, the Government of India (Ministry of Agriculture and Farmer's Welfare) released a new drought manual titled: "The Manual for Drought Management". According to some observers, the procedures mentioned here would make it difficult for states to declare droughts and seek support from the central government.³⁵ Five indicators listed in the manual include: rainfall, agriculture, soil moisture, hydrology and remote sensing (health of crops) (ibid). This is viewed as a move away from the traditional crop-cutting methods as the parameter for drought declaration. Farmers' organizations

in Vidarbha and Marathwada regions viewed the new manual as detrimental towards the interests of agriculture in these drought-prone areas of the state affected by farm distress. According to the NGO SOPPECOM, droughts would go unreported if this manual comes into effect (ibid). Maharashtra government used the *paisewari* (or *annevari*) system for drought declaration. In 2019, 136 talukas had approached the government for drought declaration, but only three in one district were considered moderately drought-affected based on the new criteria (ibid). Only ‘severe drought’ criteria will be supported by the National Disaster Response Fund (NDRF). The responsibility of drought relief is being shifted to the state government (ibid). In another interesting development, also mentioned in an article in *The Wire*, the IMD has ‘expunged’ the term ‘drought’ from its manual, describing it as ‘scientifically unprecise’, using the criteria of soil moisture rather than crop productivity. Drought is defined by the IPCC glossary as a period of abnormally dry weather long enough to cause a serious hydrological imbalance. The definition of drought would remain fluid according to this account unless a ‘particular precipitation-related activity is specified’. Shortage of rainfall during the growing season of crops causes damage to agricultural production, soil moisture deficits are known to cause agricultural droughts. Meteorological droughts imply a long period of ‘abnormal precipitation deficit’ and hydrological droughts caused by ‘shortage of rainfall during run-off and percolation season’ adversely affects water supplies. There has been no change in the three-fold classification of drought that is also present in the earlier drought manuals.³⁶

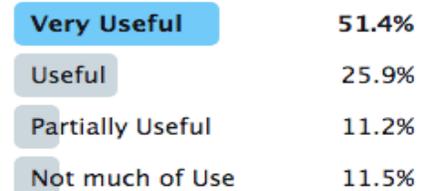
For instance, an article published by IWMI, in 2004, provides a lucid description of the drought monitoring and declaration protocol in India, based on standard classifications, below.³⁷ The centrality of agriculture in public policy can be seen in the three indicators that are in place to define and measure and mitigate drought: the meteorological (rainfall deficiency and deviation), hydrological (status of water reservoirs) and agricultural (damage or loss to crops) (ibid).



K S Hosalikar
@Hosalikar_KS



How much Useful are "Nowcast Warnings" issued by IMD for Severe Weather for next 3, 4 Hours?
Like for thunderstorms, Heavy Intense Spells of rain, Possibility of Dust Storms, Hail Storm etc Please give your feedback here. Thank you.



679 votes · Final results

11:24 PM · Sep 3, 2020



53

39 are Tweeting...

Table 4. Details of CWWG monitoring and information management.

Parameters	National-level agencies	State-level agencies	District-level agencies	Field-level agencies	Communication mode
A. Meteorological					
Delay in the onset of monsoon	W	W	D	D	Wireless/Fax/Telephone/e-mail
Dry spell during sowing	W	W	D	D	Wireless/Fax/Telephone/e-mail
Dry spells during critical crop-growth periods	W	W	D	D	Wireless/Fax/Telephone/e-mail
B. Hydrological					
Water availability in Reservoirs	W	W	D	D	Wireless/Fax/Telephone/e-mail/Written reports
Water availability in tanks/lakes	F	F	F	W	Written reports
Stream flow	F	F	F	W	Written reports
Groundwater level	S	S	S	S	Written reports
Soil moisture deficit	F	F	F	F	Written reports
C. Agricultural					
Delay in sowing	W	W	W	W	Wireless/Fax/Telephone/e-mail
Sown area	W	W	W	W	Wireless/Fax/Telephone/e-mail
Crop vigor	F	F	F	W	Written reports
Change in cropping pattern	W	W	W	W	Wireless/Fax/Telephone/e-mail
Supply and demand of agricultural inputs	W	W	W	W	W Wireless/Fax/Telephone/NICNET

D = Daily; W = Weekly; F = Fortnightly; M = Monthly; S = Seasonal (Pre- and Post-rains)

Prior to the publication of the 2016 drought manual, the Government of India published a revised manual in 2009. In this document, it was declared that the ‘relief’-based approach to drought management was inefficient since it did not address long-term vulnerability and a new technology-supported drought management system should be introduced.³⁸

The Manual for Drought Management, 2009 by Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, stated that the drought management system that has been practiced in India since independence is largely a continuation of the systems and schemes instituted during the colonial period. It emphasizes a relief-based approach and provides certain other small concessions, which do little to alleviate the distress caused by widespread crop failure. It did not integrate new technologies for early warning, nor did it emphasize mitigation as an essential element of drought management. Thus, there is a strong need to introduce and institutionalize a new drought management system, which is based on the technological advances and new innovations in crop and water management.³⁹

The global climate change risk index released in 2019 indicated the increased vulnerability of India to extreme weather events due to climate change. Citing the effects of the 2018 monsoon season that led to floods and landslides in the southern state of Kerala, the index changed India’s rank from 15 to 5.⁴⁰ The most recent assessment (see below) ranks India along with South and Southeast Asian countries as highly vulnerable to climate change-induced events.⁴¹ According to the makers of the Index, people in the poorest countries of the global South are least able to protect themselves in situations of climate-induced disasters.⁴² Newspaper reports show that the Maharashtra government, responding to demands for climate action policies, in 2018, proposed a ‘crop-mapping’ exercise across the major regions of the state (Vidarbha, Konkan, Northern Maharashtra, Western Maharashtra and Marathwada) that would involve students from state agricultural colleges and government officials to create a *kharif* (summer season) cropping plan for the state, and that they would ensure the farmers receive ‘climate advisories’.⁴³ While it is unclear whether such ad-hoc exercises shaped the choice of crops or sowing decisions of millions of smallholders in 2019, it is important to note not just the significance of agriculture in climate change discussions in the context of India but also how specific and contextual issues obtain space in such debates. For instance, in the discussion around climate change, the Government Ministry officials raised as the principal concern the fluctuation in production of specific crops in particular years that made it difficult to regulate prices and markets, due to seasonal factors (*ibid*). Farmers are engaged in high-value and high-risk market transactions in addition to growing the standard crops. When the unseasonal rains in 2019 destroyed much of the *kharif* harvest, it was clear that the farmers lacked access to protective instruments that covered a range of risks from the seasonal distribution of summer rainfall. For instance, crop insurance failed to protect the high-value grapes and cotton crops, leading to farmers’ dependence on the government’s disaster relief.⁴⁴ In 2018–19, 21,000 villages in 26 districts were declared drought-affected due to the failure of summer monsoons in 2018.⁴⁵ The state government had sought Rs 79,610 million (US\$1046 million) as assistance from the Central Government to provide drought relief to compensate for crop damage and to provide fodder and water supply to farming households in Maharashtra. The Beed district in the Marathwada region was at the centre of the 2018 drought crisis and captured media attention with reports of farmers selling cattle and deserted villages. See, for instance, an excerpt from a report published in *Down to Earth*:

Almost every other house in the village has locks hanging from the doors. Jadhav says they have all migrated to cities in search of work. Those staying back have placed plastic barrels outside their houses to store tanker water that the district administration supplies twice a week.⁴⁶

In 2018, while several districts of northern Karnataka, that were monsoon deficient, drought could not be declared due to the changes in the drought manual.⁴⁷ According to media reports, changes in the drought manual had resulted in creating stringent parameters for drought declaration and reduced the financial commitment of the central government to provide relief assistance to farmers (ibid). The methodology for the assessment of crop loss, the basis of drought declaration in India, was changed in the new drought manual. Described as an improvement and more scientific as compared to the ‘traditional’ crop-cutting exercise, the new indicators would establish the ‘ground-truth’ about crop loss experienced due to deficient rainfall. The financial responsibility for providing drought relief has also shifted from the central to the state government in the new manual except in case of ‘severe’ drought (ibid). An article in *TheWire* represents the two contrasting points of views regarding drought declaration as follows:

The Manual for Drought Management, released in December 2016 by the Union Ministry of Agriculture and Farmers Welfare, prescribes “new scientific indices and parameters” for a “more accurate assessment of drought” in the country....The five categories of indices listed in the new manual, which include rainfall, agriculture, soil moisture, hydrology and remote sensing, are expected to help the state governments make scientific assessment of drought rather than “rely on the traditional practice such as *annewari* / *paisewari* / *girdawari* system of eye estimation and crop cutting experiment....However, representatives of farmers’ groups and agriculture sector experts say that strict parameters for drought declaration in the new manual will make things worse for the farmers, especially in drought-prone areas of the country. In Maharashtra’s Vidarbha and Marathwada regions...implementation of the new drought manual may act as the last nail in the coffin of the farmers, who are already taking their own lives due to repeated crop failure, indebtedness and other factors.⁴⁸

A direct impact of the difficulties in drought declaration emerges from the experience of the eastern Indian state of Jharkhand, where the central government did not accept the federal state government’s drought relief proposal even after they had followed the parameters of the new drought manual. See the report below:

More than seven lakh Jharkhand farmers would be deprived of compensation for crop loss due to drought last year because the Centre has rejected state’s proposal to declare 55 blocks across seven districts as drought-hit, officials said on Sunday. In April this year, the Jharkhand cabinet had passed a proposal seeking relief according to the drought manual after it approved 55 blocks across seven districts — Bokaro, Chatra, Pakur, Deoghar, Giridih, Godda and Hazaribag, as drought hit. The state disaster management department sent the proposal to the Centre in May. Joint secretary of state disaster management department Manish Tiwary said, “We had sent the proposal to the Centre but it has rejected it.⁴⁹

Controversies around drought declaration indicate the de-centering of agrarian issues and erosion of public support except in the form of conditional welfare and tied to immediate electoral advantage. Drought itself, though, attracts global attention as a climatic catastrophe. In 2019, drought in the Western state of Maharashtra was reported widely in international media with highly alarmist overtones. (See the report below from *TheGuardian* online). The same report was cited and quoted on

public Twitter handles to discuss the apocalyptic nature of the crisis. What was the nature of problem framing here, and what were the solutions suggested? Here, the crisis was global and climatic and visions of depopulated villages, dying farmers and cattle and drying wells were mobilized to support the global climate change debate leaving very little scope for micro or even meso-level agrarian issues to emerge, flattening the political and economic causes of farmer suicides.

The Discourse of Climate Change

In the context of multiple indices, the proliferation of think tanks and authorities, it is difficult for laypeople to understand the nature and direction of climate change debates. Take, for example, the climate change performance index (CCPI) created by the non-profit organization German watch based on which India obtained a 'high rank' in climate mitigation performance linked to the goals of the Paris Agreement.⁵⁰ The CCPI, according to the environmental magazine *Down to Earth*, 'is an independent monitoring tool for tracking countries climate protection performance and has been publishing reports since 2005.'⁵¹ India has been ranked 27/57.⁵² German watch uses four criteria: greenhouse gas emissions, renewable energy, energy use and policy. Dependence on global indices that are based on large, generalized datasets in the context of high specificity of India's agro-climatic conditions and rural contexts, results in unusual celebrations or wars of words that may project that the problems of drought or floods and mitigatory actions are adequately dealt with. Environmental observers in India have pointed out incorrect information that underpins some of the alarmist descriptions and projections of climate catastrophes of what constitute governance and accountability concerns in the management of risks emerging from droughts, land use, environmental degradation, structures that require maintenance or decommissioning.⁵³

For instance, the 2018 German watch report on floods in Kerala reported that 80 dams had been destroyed (ibid). If governments made policy based on such performance certificates (positive or negative), framed by global indices (not centred on human well-being such as, for example, the HDI) but on 'Emissions' or 'Green Cover', public discourse based on local and regional priorities, which is necessary for addressing the concerns of rural households and the agrarian economy, becomes irrelevant to political practice or development agenda. While Indian environmental observers suggest that national institutions that perform such activities need bolstering, what emerges also is the flattening of human development concerns, in the abstract translations of global climate change that is undemocratic and opportunistic scientism.



Writing about drought, the 2018 Germanwatch report on climate argues that farmers in the global South were at greater risk, not only from drought loss but also because they could not count on support from their governments. This proposition is almost as alarming as the catastrophic effects of climate change, since drought relief measures for farmers have a long tradition, at least in the context of India.

...a European heatwave and drought in the summer of 2018 led to widespread harvest failures and a massive decline in agricultural productivity in many countries across the continent. Struggling to cope with the consequences, various national governments sought help from the European commission. In Germany alone, some 8,000 farmers called for federal emergency relief...in order to be compensated for their losses.... after a massive decline in harvest resulted in total damages of EUR 3 billion....However, the countries most susceptible to heatwave and prolonged drought...mainly in the global South are often in a much more precarious situation as they cannot rely upon government support in the form of financial resources or technologies....⁵⁵

In the light of the above, the next section discusses the unfolding debates around the drought manual — a critical policy document that acts as a switch in the context of drought relief in the Indian public administration since the times of the ‘famine codes’⁵⁶ and its struggle for survival — paradoxically at a time when droughts are apparently increasing in frequency and effects.

Around the world, stronger El Niño weather patterns and the ongoing climate breakdown are bringing harsher and more frequent droughts — and already-dry India has been particularly hard hit. Scientists predict that as temperatures continue to rise with global heating and populations grow, the region will experience harsher water shortages —and will need to find clever solutions to ensure there is enough water for all. In Marathwada, by many estimates the Indian region most affected by drought, increasingly frequent droughts have led to more than 4,700 farmer suicides in the last five years, including 947 last year. That crisis has deepened. In the city of Beed, clean drinking water has run out and households do not have enough water to wash clothes, clean dishes or flush the toilet. Hospitals are filling up with people suffering from dehydration — and gastrointestinal disease from drinking contaminated water.⁵⁷

While visions of empty villages and dying cattle are common in the reportage of drought even in the past, the attribution of responsibility here to global climate change indicates a wind of change in the way drought is disconnected from agrarian support politics in India. In the long run, this is likely to aggravate rather than ameliorate the humanitarian cost of rain deficiency and inequitable distribution of water. India is not ‘already-dry’ as the excerpt above suggests: it has humid and arid zones, good and bad rainfall years, ageing irrigation infrastructure, under-investment in agriculture and severe distributional inequalities around water. The image used with this article (see below) is from the western state of Gujarat and not the Marathwada area of Maharashtra.

More importantly, climate campaigns are pushing the discourse around drought towards the issue of a drinking water crisis and away from agrarian disruption. Keeping count of declining water in reservoirs has become standard practice among urban dwellers and water supplies (suggesting hydrological drought) tend to be a city rather than a village issue. More importantly, building new cities and supplying them with water has created the water wars and water markets of the twenty-first century, in which the supply to cities deplete environmental resources.

About 20,000 villages in the state of Maharashtra are grappling with a severe drinking water crisis, with no water left in 35 major dams. In 1,000 smaller dams, water levels are below eight percent. The rivers that feed the dams have been transformed into barren, cracked earth. Ground water, the source of 40 percent of India’s water needs, is depleting at an unsustainable rate, said Niti Aayog, a governmental think tank, in a 2018 report.⁵⁸

Sick and elderly left to fend for themselves with no end in sight to water crisis



▲ An Indian migrant shepherd kneels down among his dead sheep at a field in Ranagadh village, Surendranagar district. Photograph: Sam Panthaky/AFP/Getty Images

Source: photo 1: Sam Delph, “Indian villages lie empty as drought forces thousands to flee,” *The Guardian*, June 12, 2019.

Dearbhla @Dearbhla · Jun 12, 2019
Less than 250 miles from #Mumbai, villages lie deserted & up to 90% of the area's population has fled, leaving the sick and elderly to fend for themselves in the face of a #watercrisis that shows no sign of abating.

#drought #Indiadrought #ClimateCrisis



Indian villages lie empty as drought forces thousands to flee
Sick and elderly left to fend for themselves with no end in sight to water crisis

Photo 2. Twitter:

<https://twitter.com/hashtag/indiadrought?lang=en>

According to the Intergovernmental Panel on Climate Change (IPCC), drought is defined as a ‘period of abnormally dry weather long enough to cause a serious hydrological imbalance (IPCC 2012:558)’. But drought is also described as a ‘relative term’ that needs explication based on the ‘particular precipitation related activity’ that is being discussed. The three sub-types that emerge from this understanding are agricultural, hydrological and meteorological droughts. The social and economic dimensions of drought are not part of this definition. A World Health Organization (WHO) technical brief describes drought as a ‘slow-onset’ phenomenon caused by rainfall deficit and other factors that may result in ‘mass displacement of population’.⁵⁹ Interestingly, population displacement is viewed both as an effect of drought as well as a factor that influences the impact of drought on communities (see *ibid*). In the 21st century, frequent droughts are known to have widespread, long-term with devastating social and environmental effects. Less visible to policymakers, the debilitating effects of drought are most often absorbed by the poorest communities and the agricultural sector. A recent global policy report associates the phenomenon with disruptions created by climate change.⁶⁰

The definition of drought has been subject to contestations in India around the revisions in the government’s drought manual. A change in the criteria based on which an area is ‘declared’ drought-affected has meant that thousands of farmers and agriculturally dependent households in the rain-fed farmed areas of the country have not been able to avail of support in the event of crop loss due to poor distribution of rainfall at critical stages of the growing season. The western state of Maharashtra that has witnessed successive episodes of drought since 2016 has been at the centre of this farming crisis. Drought manual changes, according to some observers, have created tremendous uncertainty for farmers. A second important issue that has emerged is the focus on the drinking

water in rural Maharashtra's traditional dry zones that has displaced the previous emphasis on the demands of irrigation projects or canal construction in rain-fed areas. A third has been the sporadic 'virality' of issues and spread of rumours around drought in dry years on social media during election years, whose purpose has been to manage and re-direct popular concerns and anger. The continued agrarian crisis in even the prosperous agrarian areas (especially the cotton belt) of the state has served as the backdrop for the above debates. Drawing on newspaper reports, journal articles and public Twitter posts by the concerned departments of the Government of India, this section provides a preliminary discussion and analysis of the drought crisis.

A 2018 World Bank report predicted that by 2050, millions of people in the global south would be forced to migrate within their own countries due to the slow onset impacts of climate change.⁶¹ However, researchers and policy makers have consistently faced difficulties in attributing the causation of environmental migration to phenomena such as drought, due to its slow onset, long timescales, definitional issues and intertwining with complex socioeconomic and political causal factors. For instance, in India, where an estimated 330 million people were affected by severe drought in 2016, the areas that witnessed migration by several million people were also regions with high seasonal migration (IDMC 2020). An estimated 330 million people were affected by drought in ten states of India in 2016. These areas were characterized by rising summer temperatures and water crisis, following poor monsoon rains. The western state of Maharashtra suffered several consecutive drought years.⁶² In 2016, a series of 13 articles on Maharashtra's drought, attributing causation to climate change-related factors such as uneven seasonal precipitation and intense heat waves, general agrarian distress, inadequate irrigation infrastructure, farmer-indebtedness, water-intensive sugarcane cultivation and poor implementation of Government's Climate Action Plan.⁶³ During the 2018 drought, newspapers again reported widespread migration as farmers experienced multiple crop failures. Many farmers told the visiting reporters how their family members had been forced to take on low-status migrant wage work such as sugarcane harvesting.

An estimated 330 million people were affected by drought across ten states of India in 2016. These areas were characterized by rising summer temperatures and a water crisis, following poor monsoon rains. A rapid assessment report described widespread migration due to livelihood insecurity from all the drought-affected states and the leaving behind of children and old people and rising incidence of child trafficking, child labour and early marriage (UNICEF 2016:34). The western state of Maharashtra suffered several consecutive drought years.⁶⁴ In 2016, the online news portal *Firstpost* ran a series of 13 articles on the Maharashtra drought, attributing causation to climate change-related factors such as uneven seasonal precipitation and intense heat waves, general agrarian distress, inadequate irrigation infrastructure, farmer-indebtedness, water-intensive sugarcane cultivation and implementation of Government's Climate Action Plan.⁶⁵ Community fieldwork-based 'adaptation' studies associated variable drought risks and vulnerabilities on place-specific resource endowment (Vedeld et al 2014).

Newspaper reports warned about the humanitarian crisis in Marathwada after four consecutive drought years; as adult men and women migrated to cities to look for work and wages, the old people, children and disabled family members were left behind to fend for themselves (Kumar 2016).⁶⁶ During the 2018 drought, newspapers again reported widespread migration as farmers experienced multiple crop failure. As 180 tehsils out of 355 were affected by droughts, many farmers told the visiting reporters how their family members had been forced to take on low-status migrant wage work such as cane-cutting. Sarpanches described emptying villages as the working age population, including those from small farming families, had left looking for wages. Officials were unable to assess the new drought-induced migration as the landless rural people

from this area seasonally migrate to work as sugarcane harvesters (see Ghoghe 2018).⁶⁷ Studies by civil society groups indicated the rise in the proportion of sugarcane harvesters (labour migrants) from the drought-prone areas of Maharashtra (Shiralkar et al 2019, Bhadbhade *et al* 2019)). Most commentators highlighted the mismanagement of water resources⁶⁸, unutilized irrigation potential and ‘water grabbing’ by sugar industries and local breweries (Jamwal 2016, Dandekar 2015).⁶⁹ Images of water trains travelling to parched areas of Marathwada dominated domestic and international media.

Drought causation and its impact on rural farming households and landless people in the state of Maharashtra are well understood. Migration occupies a central role in the long-term coping strategies of rural households, ebbing and flowing with exceptional crisis events. Historically, the government response has focused on addressing immediate distress and fallen short of long-term mitigation and consistent protective measures. In this context, farming people have been dependent on personal agency, cultural knowledge, social relationships and migration networks forged over the years, notwithstanding that many of these are under stress, insecure, fragile and based on unequal or exploitative terms. It is important to understand how drought-affected rural migrants perceive the recent crisis based on cultural understandings of a water crisis, agrarian decline and migration; how they negotiated the terrain of new environmentalism and climate knowledge; and how they participate in political debates on some of these concerns.

An increase in area planted under the cotton crop in Western India, including the present state of Maharashtra, is attributed by historians to the period from 1861–65, when the American civil war stopped the supply of cotton to England (McAlpin 1983).⁷⁰ During the same time, the area under millets, the staple foodgrains of this region (*jowar*, *bajra* and pulses) also increased (ibid). From the early twentieth century, area under cotton increased while those planted with food grains declined (ibid). The *kharij*, or the long growing season, was always subject to the uncertainty of water due to scarce and poorly distributed rainfall (ibid). For a long time, drought was viewed from the perspective of a calamity-affected agrarian system and farm-dependent rural population, at risk of hunger and food insecurity through a failure of harvests, depleting water sources and shortage of fodder for farm animals, leading to a decline in key farm assets. Historical accounts of famine causation in western India have held crop failure as the central consequence of drought. Massive migration to the urban sprawl of Mumbai is attributed to late twentieth century droughts in arid Maharashtra, in 1965, 1972 and 1983. Livelihood diversification was actively sought by farming households, and migration of young men to urban areas continued to be a process even in the nineties and the early part of this century. Historians of Mumbai hold that rural migration was the most important source of labour for the city of Bombay. Most workers retained their rural connection due to the uncertain and irregular supply of work in the city. While scarcity and distress sent the migrants to the city, the uncertainties of urban and industrial livelihoods in the city compelled them to maintain strong rural connections — to which they returned during periods of unemployment (Chandavarkar 2009:124). An important point made by the historian is that the migrants with the strongest rural connection such as landed status were able to sustain their search for urban or industrial livelihoods. As such, a strong rural base was critical to urban survival (ibid:126).

Migrants and the Pandemic: On Social Media and Print

At the height of the pandemic, a Pew Research Centre study found that only 38 percent of the Indian population, which accessed the Internet sometimes, owned a smartphone and, thus,

possibly use the Internet.⁷¹ The proportion of Internet users was substantially higher in Brazil (76 percent), South Korea (98 percent) and South Africa (68 percent). Younger people and those with higher educational attainment and higher incomes tended to use the Internet more. Still only 32 percent Indians reported owning a smartphone. How does this explain the perceived influence of social media misinformation in shaping public attitudes, behaviour and action during the COVID-19 pandemic? In this section, I look at a few viral trends on Twitter, during the months of March, April, May and June, to understand how or whether the migrant situation was registered, discussed and explained by this influential group of the Indian population. Oddly, 13 million Indians were active Twitter users in April 2020.⁷²

While social media appears to have been indifferent to the migrant situation after the month of May in the state due to the COVID-19 lockdown, print media, both English- and local-language press covered it extensively through June and July. In this section, we try to understand what issues preoccupied and became ‘viral’ in social media during the migrant dislocation crisis and in the later months. The period that is considered for analysis is April–July 2020. Migrant issues featured on Twitter in the early months of the lockdown. The following account is based on a survey of top Twitter trends in the months of May, June and July. On May 8, when the Indian Prime Minister expressed condolences on Twitter after the disastrous accident involving exhausted migrant workers killed by a speeding goods train in Aurangabad as follows:

Extremely anguished by the loss of lives due to rail accident in Aurangabad, Maharashtra. Have spoken to Railway Minister Shri Piyush Goyal and he is closely monitoring the situation. All possible assistance required is being provided. (Modi, 2020)

The Tweet was loved by 130.5 thousand, retweeted 17.4 thousand times and 10.8 thousand people responded to it. The responses ranged from seeking/offering blessings for the souls of the migrant workers, to raising concerns about accountability: such as asking the government why they failed to provide transportation to migrants, or gave such short notice before declaring the lock down; a number of people also remarked on the ‘irresponsible’ conduct of workers who chose to sleep on the railway track.

In March, April and May this year, the hash tags⁷³ on migrants displaced by lockdown from the metropolitan and commercial cities, trended on Twitter. On March 29, a viral hash tag demanded the penalization of the Chief Minister of Delhi, after desperate migrants tried to board buses to leave the city. On April 14, ‘#Bandra’ highlighted the plight of migrants crowding train stations to leave Mumbai, when there were no trains available for them. In both cases, state governments were held accountable for not making transportation available for the migrants and migrants were blamed for crowding and spreading infection. Indian Railways and the PM Cares Fund trended when it emerged that migrants were paying for their own transportation costs. COVID-19-related travel restrictions are unprecedented in modern times and affected every country in the world, but especially affected those who migrate. The IOM tracked global mobility pathways everyday. Migrants in India defied the lockdown and forced the governments to take retroactive action. It was clear that the government had not included the millions of migrants in their calculation of collateral effect and, thus, not envisaged the conduct of temporary migrants after the declaration of lockdown. Restrictions on mobility resulted in economic hardship and could trigger resistance and non-compliance.⁷⁴ An IOM report calls this phenomenon ‘Involuntary Immobility’ (ibid). Internal migrants could not be stopped from fleeing larger towns and cities, in Asia and Africa and returning to their

rural homes (ibid). Pandemic-affected migrants would have to return to cities due to economic hardship (ibid).

By June, the migrant issue had disappeared from Twitter. Instead, prominent topics were claims of Indian-ness, nationalist sentiments about Ayurvedic corona virus cures, the boycott of food delivery services with Chinese investors, the boycott of a popular streaming platform for hurting Indian sentiments and highlighting Indian-made goods on e-commerce platforms: digital nationalism and conflation of economic and national security threat with the Corona virus pandemic. A very different community of migrants, the H1B visa aspirants who were affected by the policy announcements of the United States Government, appeared briefly this month.⁷⁵

In the months of May and June, the '#migrantlivesmatter' trended on Twitter. While several people tweeted with this hash tag, in response to a video post on the migrant worker crisis by an opposition leader, that was viewed more than 100,000 times, in May, Twitter users spoke less about the issue and focused more on attacking the personality. From asking why he was reading from a prepared document for a two-minute speech, if he was really heartbroken by the migrant cause to why he did not help the workers himself by providing accommodation, food and travel money and whether he had donated any money to the PM Cares fund. The point of these responses was a reputational attack, to discredit the person and the affiliated political party while establishing that sufficient care was being taken about the issue and build support for the status quo. Negative publicity and reputational damage are well-established strategies on social media platforms that use commercial and marketing strategies to disrupt established institutions and businesses. While disputing the views of the opposition party is standard political practice on social media platforms, it appears that members of the general public are expressing their views, suggesting the continued popular support for the policies of the ruling government. There are two advantages to this: first, it would appear the use of informal speech that tends towards 'trolling' (non-serious, non-issue comments) and, second, the anonymity of the user/tweeter, whose formal affiliation (commercial or political) is not made transparent. This is a business model highlighted by scholarship on platform capitalism. See, for instance, the following excerpt from an article in *Forbes* magazine that discusses how such businesses are made using the example of Instagram:

With people spending an average of 136 minutes per day on social media, entrepreneurs and influencers have been able to create entire businesses on Instagram....some celebrities have amplified their income by using their fame to reach an even wider audience through the social media platform.⁷⁶

In July, the Maharashtra police unearthed a social media business that involved making thousands of false user profiles by social media marketing portals. The *Indian Express* reported the incident as follows:

Research by Swedish e-commerce start-up A Good Company and analytics firm HypeAuditor that assessed 1.84 million Instagram accounts across 82 countries last year found that the top three markets with the largest numbers of fake accounts were the United States (49 million), Brazil (27 million), and India (16 million). The researchers spoke to around 400 influencers, 60 per cent of whom confirmed that they had bought followers, likes, or comments at some point. Apart from just social media influencers whose high follower count could make them hot property for brand promotions online, services of these fake accounts or bots (software application that imitates human behaviour) are suspected to be used by political parties, celebrities, and in film promotions.⁷⁷

While the point in this article is not the commerce in social media identities: the buying and selling of fake accounts, in the context of critical social crisis brought upon by the pandemic and response through an unprecedented lockdown, such promotional strategies have worked to drownout government responses and undermine the discussion around the migrant crisis. Could the pandemic response have avoided disrupting the lives of millions of seasonal migrant workers who are the backbone of India's economy and the biggest welfare support for crisis-ridden rural households? Why are governments promoting all intervention from oxygen manufacturing factories to buying modern armaments and boosting vaccine trials as the solution to migrant crisis when the point here is to simply evaluate the losses incurred by migrants and financially empowering states to provide compensation as would be the norm in case of any other disaster? While laws to regulate conduct on social media may hurt the freedom of users and may even increase surveillance, and thus inadvisable, the requirement for political parties to disclose their expenditure and paid activities on social media platforms, outside of official handles, is a serious policy question about accountability that needs thought and action.

Marathi, Hindi and English-language Print Media

In comparison, Marathi-language newspaper *Lokmat* has 20 million readers; *Daily Sakal* has 14 million readers. These newspapers carried detailed migrant stories during March–June.

On March 24, when large numbers of migrants who left the shut commercial establishments of Mumbai, Thane and Pimpri Chinchwad industrial areas, made their way to home villages in Kolhapur, Sangli and Satara districts, locals were worried about the absence of protection and health facilities in rural areas. This was a period of great insecurity and fear. Migrants returning from the state of Telangana, via boats to Gadchiroli and Chandrapur districts were also not checked by any medical officers. Absence of sanitary boundaries between rural homes and destination cities was the subject of many news reports.⁷⁸ By March 26, *Lokmat* was reporting incidents of village barricades in several districts of Maharashtra where frightened but aggressive villagers were determined to keep infection at bay by not allowing migrants from cities to enter their villages.

From using trees and notice boards to block entry into villages, they had also put up boards seeking fines and penalties from those who crossed the border. Village communities' attempts to close their borders against their own residents is an unprecedented outcome of the declaration of lockdown.⁷⁹ In Nagpur's Bhiwapur area, 200 women farm workers were stranded after the announcement of the lockdown. An established seasonal migration route, this is a place where they came every year in the month of February for the duration of chilly and fodder harvest. They stay in groups in *tehsil* towns and travel to different villages for their work and leave for their homes by the end of March.⁸⁰ Fifty-six construction workers from Karnataka, leaving Pune, were duped by a truck driver who promised to take them home but after taking money, left them stranded by the roadside halfway through the journey.⁸¹ Members of the NT/DNT communities, who were prevented from plying their trade of mendicancy — selling herbs and telling fortunes — were stranded all over the countryside, facing starvation.⁸²

According to a report published in *The Wire*, the 16 migrants who died in Maharashtra were trying to return to their homes in Madhya Pradesh, when the private steel company, in Jalna, where

they had worked, shut down. According to the same report, 69 people had died in rail or road accidents while trying to reach homes using unusual modes of transport during the lockdown. The report blamed the 'punitive nature of lockdown' for the deaths.

The migrants worked at a private steel company in Jalna in Maharashtra and had not been paid since the first lockdown began on March 24. Given the desperate situation and not knowing when they could work again, they wanted to get back home to be with their families and decided to walk in the hope of finding a train (Agarwal, Kabir 2020, May 10).⁸³

The *Indian Express* reported the findings of the enquiry report on migrant deaths in an article published in June. The report held the migrants responsible for violating lockdown codes and travelling without permission for the accident.

A preliminary inquiry by the Commissioner of Railway Safety (CRS), probing the incident in which 16 migrant workers were run over by an empty goods train near Aurangabad on May 8, has pointed out that the negligence of the workers who slept on the rail tracks led to the accident.⁸⁴...However, the report maintained that the incident could have been avoided had the migrants followed guidelines and not started travelling from their factories to their hometowns without the approval of the district administration, in violation of Section 144.⁸⁵

Another series of reports covered migrant workers in sugarcane fields, who were able to return home in April, one month into the COVID-19 lockdown. By the time the 20,000 strong cane workers spread over 130 sugar mills were allowed to leave; the cane-crushing season was over. Migrant workers in the sugarcane industry came from the poorest social groups in drought-prone districts of Marathwada. The cost of transportation and health screening of cane workers was borne by the sugarcane factory owners. This is possibly because of the intense media spotlight on the sugarcane industry in the print media.

At least 20,000 sugarcane cutters stranded in various sugar factories, due to the lockdown, in view of the COVID-19 (corona virus) pandemic, started to return home on Monday, after the state government issued directives to allow their movement. This move also marks the end of the crushing season for sugarcane in Maharashtra. According to Saurabh Rao, state sugar commissioner, labourers started returning to their hometowns, most to Ahmednagar, Beed and the adjoining areas of Marathwada. With these workers returning home, at least 130 sugar mills have stopped crushing. "We have given permissions to sugar factories who have proposed to send their cane-cutters home and have also made the necessary arrangements like food and transport for the labourers. As of Tuesday, around 12,000 labourers reached their native place. Before leaving, the cane cutters underwent thorough screening to assess any possibility of Covid-19 infection," said Rao.⁸⁶

A district that was frequently in the news was Beed, an area that saw the return of more than 250,000 migrant workers during the pandemic. It was feared that the large volume of returning people, would seek work and create a surge in demand for employment under MGNREGA. Observers also discussed whether this would affect other categories of rural workers, less able and women, for whom a lean employment season was underway. News reports discussed the adequacy of state financial allocation for MGNREGA as well as the requirement for other mitigative measures to absorb the more skilled returning migrants.

....these migrants returning due to the lockdown, who are semi-skilled or skilled workers, and for whom the works offered by MGNREGA are inferior both in terms of skill set and pay grade.

Therefore, shifting the burden of the increased demand for employment onto MGNREGA could become a lose-lose situation for both the residents and the returning migrant workers of Beed.⁸⁷

Beed has been in the news since 2019, when investigative reports uncovered the condition of women cane-cutters, according to a series of investigative reports, on how they were being coerced to undergo hysterectomies.⁸⁸ Sexual exploitation, low wages and poor working conditions characterized the cane-cutter's situation (ibid).

The drought-stricken Beed district in Maharashtra's Marathwada region came under the scanner this May after reports came to light about the unusually high rate of hysterectomies among its women, especially among those who migrate to neighbouring districts to work as sugar-cane cutters. State figures say that in three years (2016–2019), as many as 4,605 women have had their uterus removed in Maharashtra. Civil rights organisations allege that the hysterectomy rate in Beed is 14 times more than that for the State or the country. In Umrad Jahagir village where the Kales reside, the number of 'womb-less women' now stands at 50.⁸⁹

A *Down to Earth* report dated 12 March 2020 focused on Beed just before the corona outbreak found:

Dukadegaon, a village 55 km from Beed district, where 45 women from 200 households are living without a uterus, most of them complain the operation has left them with a host of illnesses and made them redundant at work. (*DTE* 2020)

While the *DTE* report linked increased hysterectomies with the population control-sterilization operations and rise of government-sponsored health insurance schemes, in the context of Maharashtra, the rising incidents among the sugarcane workers have been associated both with the harsh conditions in drought areas and the exploitative practices of employers. There has been a general rise in the incidence of hysterectomies in India among poorer and rural women (See Reuters 2018).⁹⁰

Returning migrant workers were connected to an increase in coronavirus positive cases in many districts of Maharashtra in the month of June that was described in news reports as the urban-to-rural shift of the pandemic burden.⁹¹ Observers argued that the failure of the city of Mumbai to screen the migrants for infection led to the spread of positive cases to rural areas (ibid). The effect was observable especially in the migrant origin areas of Marathwada. But while researchers and civil society viewed the migrants as victims, the local population tended to see them as carriers of dangerous contagion and officials saw them as rule-breakers who must be penalized. In general, the shock of the pandemic and lockdown overpowered other discourses around drought and crisis of rural livelihoods.

As the 2020 *kharif*, or summer agricultural operations, begin in Maharashtra the news from drought-hit Marathwada and Vidarbha region is less than satisfactory. Based on weather information that signalled the early arrival of monsoons, farmers in this region had planted one of their main crops, the oilseed, soyabean in early June. A fast-growing commercial crop, that is harvested in October and is followed by the sowing of the local staple millet crop (jowar), soyabean, the farmers reported that the seeds had failed to germinate due to the cessation of rainfall, soil moisture deficits and poor quality of some types of commercial seeds.⁹² Early assessments by farmers and agricultural officers indicate that almost half of the total sown area in two districts of Marathwada risk losing the main crop of the season. According to some observers, COVID-19 is exacerbating the existing risks

faced by farm-dependent households in South and Southeast Asia that is in the midst of its worst drought in 40 years.⁹³

COVID-19 Migrations in Maharashtra: A Discussion

Migration brought on by natural disaster is an increasing concern in the 21st century. In the global policy arena, this phenomenon is viewed as a humanitarian challenge of unprecedented proportions. During the COP21 consultative process, the forcible displacement of 184.6 million people affected by natural disasters, from their homes was described as environmental migration. According to IDMC (Internal Displacement Monitoring Centre), India has the highest level of displacement associated with disasters globally. In early 2019, disasters led to 2,171,000 new displacements recorded from India (IDMC 2020). However, as mentioned earlier, researchers and policymakers have consistently faced difficulties in attributing the causation of environmental migration to phenomena such as drought, due to its slow onset, long timescales, definitional issues and intertwining with complex socio-economic and political causal factors.

Migration affects and is affected by climate-related environment stress like droughts all over the world. But despite the close relationship between drought and population movement, it is often difficult to conceptualize migration as emerging from an environmental crisis. As Piguet (2010) suggests in an important review article, what is needed is an understanding of population displacement based on multi-causal relationship between environmental, political, economic, social and cultural dimensions. It is also argued that environmental stress does not affect all communities equally. In India, seasonal migration plays an important role in supporting rural livelihoods in agricultural lean seasons. Such migration is attributed to increasing rural wages in the origin-communities, though observers highlight the absence of transformative outcomes. Migrant decisions and outcomes tend to be highly gendered and shaped by class and caste dimensions. Circular or seasonal migration has been viewed as driven by distress among resource-less rural people or a temporary coping strategy supported by the need to sell labour in advance and at the cost of debt-bondage (Breman et al 2009, Guerin et al 2013, Carswell and de Neeve 2013). It is also viewed as leading to livelihood diversification and reducing local inequalities (Rogaly et al 2001, Rogaly 2008, Mosse et al 2005).⁹⁴ In climate literature, migration is viewed as an adaptation to the disruption of livelihoods, subsistence and prolonged scarcity under environmental stress. The emphasis on climate change as a planetary crisis shifts the frame and scale for understanding the effects of migration in unique ways. Following the COVID-19 lockdown in the state of Maharashtra, millions of migrant workers found themselves stranded in the city without means and fearing for their lives.

A new welfare scheme, Garib Kalyan Rozgar Abhiyan (GKRA), was launched on June 20 this year to provide livelihoods to the migrant workers who had returned to their rural homes following the COVID-19 lockdown. An early assessment of the reverse migration context in the most drought-prone districts of Maharashtra, carried by the *Indian Express* suggests that such programmes would be of little use for the 'inter-district' migrants who were employed in industries and manufacturing units in the larger cities of the state. Following the COVID-19 lockdown measures, 1.08 million migrant workers have returned to eight districts located in the drought-affected Marathwada region in the Aurangabad division of Maharashtra, mainly from the cities of Mumbai and Pune. Districts in this region are: Aurangabad, Latur, Nanded, Osmanabad, Parbhani, Hingoli and Jalna (Rashid 2020, *IE*).⁹⁵ Among the reverse migrants, 0.25 million, the largest proportion was of sugarcane harvesters from the district of Beed, who seasonally migrate to work in the sugar industries of Western Maharashtra. While the government has capped the inclusion limit

for the GKRA scheme at 25,000 per district, the number of COVID-19 reverse migrants in Marathwada is much higher, from 60,000 to 250,000 (ibid). District administration representatives were hopeful that the skilled migrant workers would be able to return to workplaces once the economic activities begin and transport services are restored. Preliminary data on intra-state migrant situation in Maharashtra suggests that the cost of economic disruption brought on by the COVID-19 lockdown is being shifted to migrant workers of the drought-prone areas where the scope of local non-farm economy and agricultural sector to absorb the shock of dislocation is also low.

Climate change discourse, with its scientific, political and moral import has been influential in recent times, in shifting the understanding and enframing of local events (Milton 2008:57 cited in Crate 2011:178). Anthropologists have greatly contributed to our understanding of: 'how place-based peoples who depend directly on their immediate physical environment observe, perceive and respond to the local effects of global climate change' (Crate 2011). An important contribution by Sara de Wit (2018) makes a case for the need to shift our focus from techno-managerial representations of climate and adaptation that make local communities appear as victims, perpetrators or adaptation experts and attend instead to the rich 'counter voices and narratives'. The voices that are presented here are media reportage and social media discussions on migrants in the aftermath of the pandemic. Climate emerged rarely in these conversational frames, although the desperate migrant streaming out of urban areas in Maharashtra or trapped in various rural locations, made visible by the pandemic reflected the significance of agrarian and well as the urban informal economy as sources of livelihood for rural households. Just as migrant remittances are the life support of rural households, rural areas were the refuge of migrant workers fleeing the cities. The absence of protection was apparent both in the agrarian and the migrant end of rural households as urban informal economy came to an abrupt halt.

In the context of COVID-19, the economic dislocation of migrant workers briefly captured the public imagination. But water scarcity in the context of chronic drought and climate crisis also obtained a COVID-19 twist. See, for instance, this advisory by the WHO: In the second excerpt, agriculture, deforestation and air pollution are viewed as contributory factors in drought, climate crisis and migration of germs.

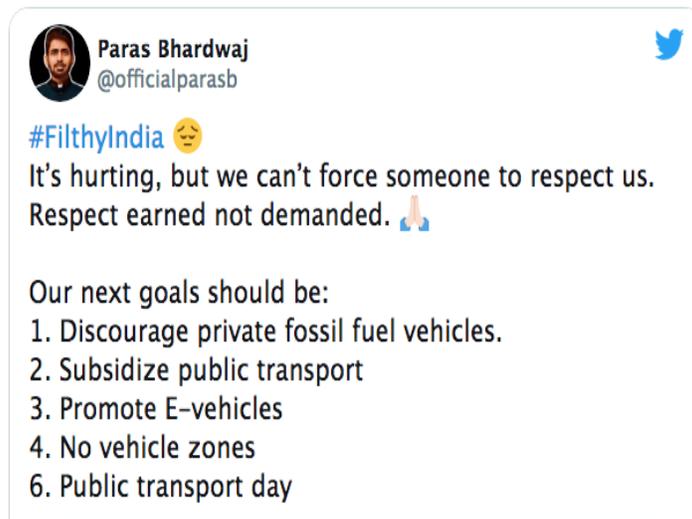
Access to adequate and safe water and sanitation is essential for communities to practice basic hygiene and reduce transmission of COVID-19. Access to these services in health facilities is crucial to preventing infections, reducing the spread of antimicrobial resistance and providing quality care. One in four healthcare facilities around the world lacks basic water services, directly impacting over two billion people. Around 80 percent of the world's population is already experiencing some level of water scarcity. Climate change further threatens the availability of water for consumption, food production, personal hygiene, and medical care, including for infectious disease.

The public health focus of climate change is more explicit in some other accounts:⁹⁶

We don't have direct evidence that climate change is influencing the spread of COVID-19, but we do know that climate change alters how we relate to other species on Earth and that matters to our health and our risk for infections. As the planet heats up, animals big and small, on land and in the sea, are headed to the poles to get out of the heat. That means animals are coming into contact with other animals they normally wouldn't, and that creates an opportunity for pathogens to get into new hosts. Many of the root causes of climate change also increase the risk of pandemics. Deforestation, which occurs mostly for agricultural purposes, is the largest cause of habitat loss worldwide. Loss of habitat forces animals to migrate and potentially contact other animals or people and share germs. Large livestock farms can also serve as a source for spillover of infections from animals to people.

Less demand for animal meat and more sustainable animal husbandry could decrease emerging infectious disease risk and lower greenhouse gas emissions. We have many reasons to take climate action to improve our health and reducing risks for infectious disease emergence is one of them....People with chronic health conditions, lower-income, and communities of colour are disproportionately impacted by both COVID-19 and climate change, and pollution is at the heart of both problems as a new Harvard T.H. Chan School of Public health study confirms. (ibid)

President Trump's rationale for withdrawing from the Paris Accord was: Look at India, which attracted all kinds of Twitter responses. I am selecting the one that appears supportive of the president's statement: what are they supporting though — climate protection or climate protective commodities? Air pollution, an urban issue, is rapidly replacing water as the harvest season approaches in India. Indian farmers are at the centre of this debate as perpetrators rather than victims as images of burning stubble flooded media and urban residents debated air pollution on Twitter under the continued spectre of the pandemic.



A really dangerous result of the competing narratives about clean air and water are problematic claims about Indian immunity:

India has a sixth of the world's population and a sixth of the reported cases. However, it accounts for only 10 percent of the world's deaths from the virus, and its case fatality rate or CFR, which measures deaths among COVID-19 patients, is less than 2 percent, which is among the lowest in the world. Now, new research by Indian scientists suggests that low hygiene, lack of clean drinking water, and unsanitary conditions may have actually saved many lives from severe COVID-19. In other words, they propose that people living in low and low middle-income countries may have been able to stave off severe forms of the infection because of exposure to various pathogens from childhood, which give them sturdier immunity to COVID-19. Both papers, yet to be peer reviewed, looked at deaths per million of population to compare fatality rates.⁹⁷

Representation of the migrant worker crisis and their condition is likely to take a new turn as the pandemic rules print and social media and the discourse of health and security overwhelms other

resilient concerns like an agrarian crisis, loss of employment and livelihoods, and greater instability in migrant destinations and migration outcomes.

Notes

¹The original research methodology and direction was changed due to the outbreak of the COVID-19 pandemic. Both published materials and digital ethnography have been used in this study to collect data about computer-mediated environments and online activities, including social media reportage of drought, water crisis, election debates and official responsibility among members of the local community. Data collected derives from the public posts of officials and user-generated content such as threads, posts, tweets, videos, and observation of online activities.

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Living with Floods: Coping with Livelihood Uncertainties in Post-Flood Kerala

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Introduction

The past few decades have witnessed an increasing incidence of disasters triggered by a range of natural hazards, taking a heavy toll on ecosystems and human communities. In addition to suffering physical losses (losses to housing and related infrastructure, access roads, water supply and sanitation systems), the livelihoods of the affected have been severely impaired. The language of disaster policy and recovery that is often focused on analysis of 'losses and damages' sidelines the more intangible issue of livelihood security.

Existing literature on disaster recovery has examined restoration of housing conditions, household income, psychological health of the affected and so on (Yang et al 2018). Systematic evaluation of long-term changes in livelihood (particularly livelihoods of the marginalized populations) and their linkages with recovery of human well-being after disasters has received relatively lesser attention (ibid). One possible reason for the same is that livelihood security of the marginalized sections of society is embedded in the immediate socio-economic context that is defined by social hierarchies and power relations (de Haan 2012). In addition, when livelihoods are natural resource dependent, they are affected by changes in the immediate resource-based manifest in non-availability/degradation of agricultural land, common lands, forests, water and so on. Addressing livelihood security in the post disaster situation would therefore require an understanding of such contextual factors that shape every day survival.

The present study contextualizes both disasters and livelihoods within the immediate socio-economic and ecological context. It assesses the extent to which livelihood recovery has been prioritized in disaster recovery interventions. While doing so, it examines the linkages between pre and post-disaster vulnerabilities.

Disasters, Vulnerability and Justice

The concept of vulnerability has been explored in detail by scholars of political ecology, critical sociology and livelihood studies. The emergence of political ecology was triggered by research on land degradation that made contributions to research on vulnerability by focusing on power relations that led to uneven exposure to hazards that precede disasters and persist long after they have

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occurred (Douglas and Miller 2018). The concept has been examined in the context of disasters as well since the 1970s. It has been argued that causality is situated in systemic features (Oliver Smith 2013), with certain sections of society being disproportionately affected by disasters, with class, gender, age and ethnicity (O’Keefe 1976 in Bankoff 2007) influencing vulnerability to hazards, as a result of which hazards translated into disasters only for certain sections of society (Slettebak 2013). Locational disadvantages also compounded vulnerability with disaster-exposed settlements being located in low-lying, flood-prone areas or steep deforested hillsides, which were largely inhabited by poorer sections of society. In the low-lying wetlands of Kuttanad in Kerala for instance, it is the Dalit communities that are actively involved in agricultural operations and live in the most ecologically vulnerable locations, viz. bunds around the wetlands. Settlements in such places were often manifestations of poverty as people inhabiting such areas could not afford to move to safer locations (ibid). Vulnerability was therefore argued to be socially differentiated and manifest in variable patterns of exposure, susceptibility and capacity to recover (Clark et al 2013).

Such an understanding of the causative factors led to a distinction being drawn between natural hazards and disasters. Hazards may be natural in origin, but it is the way in which societies have developed that causes them to become disasters (O’Brien et al 2006, Curato and Ong, 2015). While natural hazards are events with meteorological, geological or biological triggers (Clark et al 2013), disasters are a result of exposure to hazards and vulnerability. Disasters were therefore seen to be caused by ‘hazardous events interacting with conditions of exposure, vulnerability and capacity’ (UNRISD 2018). It is therefore a well-established fact in disaster research that social factors play a critical role in turning natural hazards into disasters (Wisner et al 2004).

The phrase ‘natural disasters’, however, tends to mask the role played by these systemic features, often making it seem as though disasters are beyond human control, thereby absolving agencies from responsibility and accountability. Moreover, it reduces the likelihood of any meaningful discourse around power, class, inequality and marginalization that should be a part of a serious understanding of disasters (Chmutina et al 2019). This is evident in the flood discourse in Kerala, where it continues to be viewed as a one in a century event, an episode.

Studies that explore the justice dimension in disaster risks and recovery echo the arguments of environmental research justice that unpack the social differentiation of vulnerability (Clark et al 2013). Similar to environment justice scholars, they unpack the uneven distribution of risks and benefits. When applied in a disaster context, the justice framework also highlights how individuals or groups have to bear disproportionate risks without having proportionate access to the benefits of a development pathway that creates disaster risks and vulnerabilities in the long run (ibid). Housing damage after hurricane Katrina in the United States, for example, was found to be greater amongst racial minorities, low income and female-headed households and less-educated individuals, because they were more likely to live in low-quality housing and neighbourhoods that were prone to flooding (Fussell 2013). Understanding of vulnerability in the context of disasters has revealed that pre-disaster vulnerabilities get aggravated by disaster impacts and can result in the failure to recover from the shock and damage (Jerolleman 2019). Operationalizing justice in the post-disaster framework, therefore, needs to take cognizance of these structural vulnerabilities that predisposed certain sections of society to the disasters in the first place. The issue of post-disaster vulnerabilities and livelihood recovery, therefore, cannot be viewed as a ‘post-disaster’ phenomenon alone. Rather it is linked to existent pre-disaster vulnerabilities and risks, which are rooted in social inequalities that affect potential disaster victims’ ability to ‘escape, survive and/or bounce back from disasters’ (Wisner et al 2004, Islam and Lim 2015).

Floods and Landslides in Kerala

Between June and August 2018, Kerala witnessed torrential rainfall that manifested itself in widespread flooding (seven out of the fourteen districts were severely affected) and landslides in the hilly districts (341 landslides were recorded across the state) (UN 2018). 5.4 million people were considered affected, 1.4 million were in relief camps and 433 lives were lost (ibid). Damage to housing, public infrastructure, communication networks, land and agriculture as well as water courses was widespread. Flooding in the densely populated midlands affected a much larger population, but the floodwaters receded within a week. In the backwaters, however, the flood waters did not recede for until a month, prolonging the damage and displacement. The landslide-affected areas were concentrated in the hilly districts of the state, leaving glaring physical testimonies on the land. Entire slopes were washed down, bringing down houses and other structures. A year later in July 2019, some of the highland districts faced a second bout of severe landslides that resulted in serious environmental degradation and loss of lives.¹ The monsoons of 2020 witnessed yet another severe landslide causing land devastation and loss of human lives in the tea plantations of Pettimudy in Idukki district.

The Flood Narrative in the State

The flood of 2018 was portrayed as a once-in-a-hundred-years phenomenon. While the flood narrative was focused on the excessive and concentrated rainfall, certain other underlying factors received some attention only for a short while. These included delayed opening of dam shutters of some of the major dams in the state that aggravated the scale of flooding, encroachment of river banks, failure to restrict quarrying and road destruction in ecologically vulnerable highland districts that witnessed landslides and so on. These issues received attention for a few weeks after the floods, but disappeared from the narrative as soon as the shock of the floods and landslides subsided. Government issued orders that prohibited quarrying and road construction in the highlands, only to be revoked a few months later. Gradually, development activities returned to their earlier state, with conversion of wetlands, dilution of quarrying/mining/coastal zone regulations being normalized as before. The recurrence of landslides in the following years (2019 and 2020) has not prompted a revoking of the relaxation of these regulations, particularly those related to quarrying.

The UN-led PDNA report also took note of the relatively reduced attention that underlying environmental triggers received. 'While the quantum of precipitation was unprecedented and concentrated in a few days, the significant change in land use in the highlands (marked by increased quarrying, road construction and increase in built environment) and a sharp increase in urbanization in the midlands and low lands (UN 2018), and its role in exacerbating the impact of the disaster received little attention (UN 2018). Discussions around these underlying factors that contributed to the various dimensions of this disaster faded out of popular understanding and floods in Kerala began to be equated with unprecedented precipitation alone.

The flood narrative also ignored the differential impact of the disaster on society. Some initial attempts made at exploring this dimension soon after the disaster pointed to the lack of inclusion of the Dalit and Adivasi communities in the post-disaster rehabilitation activities of the state (NCDHR 2018). The UN-led PDNA2 exercise, undertaken within a month of the disaster also estimated that the worst affected livelihoods were of those in the informal sector, who constitute 90 percent of Kerala's work force. The public discourse however made little mention of social vulnerabilities that heightened the impact of the disaster on the marginalized communities in the severely affected

districts. Locational vulnerabilities of affected communities were taken as a given, sidelining the intersection between locational vulnerabilities and social hierarchies (caste and tribe in particular).

Livelihoods and the Flood Narrative

Another dimension that has received little attention in the flood narrative is that of livelihood loss and recovery. Within a month of the disaster, the government initiated a process of assessment of housing losses and damages and of fixing the compensation to be paid based on such an assessment. In addition, assessment of crop losses in the agricultural sector and livestock losses were undertaken by the agriculture and animal husbandry departments respectively. Such assessments provided some monetary relief, albeit with delays. Such assessments however could not go beyond the calculation of immediate and visible losses, such as crop loss and death of livestock. The assessment and compensation for destruction of assets that were critical to small and marginal farmers such as small-scale irrigation infrastructure (energised motors, tanks and pipes) and agricultural tools, or cattle sheds did not receive as much attention. The fact that such losses were widespread were taken note of by the PDNA report, which speaks of how serious crop loss, land degradation, soil erosion, destruction of irrigation systems and other agriculture assets affected the livelihoods of small and marginal farmers, livestock farmers (majority of whom are women), agricultural labourers and plantation workers (UN, 2018). More serious, the severe degradation of the land in areas downstream of the landslides or in areas adjoining rivers and streams was not viewed as a factor that would contribute to future livelihood security of people living in the area. Hence, restoring degraded land was not a priority area of concern. The manner in which the loss of such livelihood generating assets affected livelihoods in the post-disaster phase has not been captured. The government announced interest free loans through the Kudumbashree (womens' self-help group) network, but affected families were reluctant to take loans as repayment of loans posed serious apprehensions.

Another reason why the disaster recovery narrative continues to be dominated around the theme of housing rehabilitation is also because all affected households are yet to receive houses. Some of them have been waiting for more than two years. In addition, a few controversies over identification of alternative land for housing has also been reported. All of this has further reduced the attention due to the process of post-disaster livelihood recovery.

Livelihoods of the Affected People

The following sections attempt to capture the post-disaster livelihood uncertainties experienced by some of the most marginalized from within the affected populations. These include small, marginal and medium farmers, landless labourers and migrant workers, including entire tribal communities that face the prospect of relocation. It needs to be noted that those who experienced the flood/landslide disaster in 2018/19, have subsequently been affected by the COVID-19 disaster as well. So, most of them have been exposed to a sequence of disasters over the past two years.

The farmers contacted through this study included those who relied on agriculture alone, those who relied on agriculture and other supplementary income from small jobs/businesses, those who relied on agriculture and wage labour as well as small and large-scale lease land farmers.

Paddy Farmers in Wayanad

Interviews were held with a group of farmers cultivating paddy in the Nadavayal *padasekhar*³. The Nadavayal *padasekhar* consists of about 108 acres of paddy land, of which about 92 acres is cultivated regularly every season. People have been cultivating paddy regularly, despite elephant attacks on the crop. In this 108-acre *padasekhar*, all farmers own less than 5 acres, with the greater majority own about 1 acre of land⁴. In many of these farming households, in addition to working on their own land, women go for NREGA work and men go for agricultural labour work and for work in plantations.

During the floods of 2018, paddy growing in those parts of the *padasekhar* that was flooded by the swollen river was completely destroyed. In addition to total crop loss, the water flowed through their lands with great force and the topsoil was washed away. These plots of land became uncultivable. While other parts of the *padasekhar* escaped flooding, the quality of harvest was severely affected⁵. Due to the shock of the 2018 floods, none of the farmers raised a paddy crop in 2019, as they feared another flood episode. Moreover, the land had been rendered uncultivable due to soil erosion. Farmers do not recall a year in the recent past when all of them stayed away from paddy cultivation, but 2019 was one such year.

One of the farmers whose land was completely devastated by the floods was Rajan Chetti, who owns just 50 cents of land in the *padasekhar*. He belongs to the Chetti community, one of the oldest land-holding and cultivating communities in Wayanad, whose economic status has declined over the past few decades.⁶ He is left with only 50 cents, as he was compelled to sell the rest of his one acre holding in order to repay a bank loan taken to construct his house. He did not receive any compensation for the lost paddy crop.

The COVID-19 lockdown this year precipitated a fear of food shortages, which prompted farmers in the Nadavayal *padasekhar* to take the risk of cultivating their lands. The subsidy announced by the government for paddy farmers following the COVID-19 lockdown, at the rate of Rs 30,000 per acre, was also an added incentive. However, since the land had not been cultivated for more than a year, the land preparation and strengthening of the paddy bunds required more labour and hence a greater amount of money was spent on wages. While those with supplementary livelihood options could mobilise the additional resources required, it proved to be an additional burden on farmers like Rajan Chetti.

A similar case was reported from the Bavli area in Tirunelli panchayat adjoining the Karnataka border. The paddy fields had been ploughed and paddy had been transplanted when the floods struck in 2018. Navas, a farmer who owns 75 cents of land in Bavali remarked: ‘The soil was loose and the water ran through it with great force, washing the soil away. We asked the grama panchayat to help restore the fields by depositing some soil there, but they have not been concerned with our problem. I got about Rs 2,500 for the crop loss I incurred, that is all. There are others who own 5–6 acres, who live off agriculture alone and their plight is worse than mine. Those who lost houses got houses. What about those who lost their paddy lands?’

In Navas’s case, the floods took away his other livelihood option as well, viz small-scale timber business. Like many others he had stored up his timber worth 2-3 lakhs in a saw mill along the river in Manantavady before the monsoon. Since not much work is possible during the monsoons, timber traders like him stock the timber in the mills, so that they can be sawed and cut during the rains. The flooding river took the stored timber along with it, despite Navas’s attempts to hold it back with ropes. Many like Navas lost their timber in such a fashion. Navas could not recover from this loss as most of his savings was locked in the timber trade and had to subsequently abandon

his timber business. This loss was not just for people like him, but also for the labourers who worked with the timber traders, who had to then find alternative labour options.

The loss of livelihoods (both farming and timber trade) has compelled Navas and his wife to take up animal husbandry on a full-time basis and their entire day is spent in taking care of five cows. It is being reported that many who have suffered such livelihood losses have resorted to animal husbandry for want of better options. Cattle-raising requires full time attention especially when one cannot afford to hire labourers. Navas's livelihood loss has not been captured by the government machinery, except for the fact that he was paid Rs 2,500 as compensation for crop loss.

The Vulnerability of Daily Wage Work

While the livelihood losses of marginal farmers have not been adequately captured by existing damage assessment procedures, the fact that they own resources makes their losses visible to some extent. In the event of a serious enquiry, their land parcels (however small) will provide evidence of the disaster-induced degradation. This is not the case with landless labourers in Wayanad who have a zero-asset base. Amongst the tribal communities of Wayanad, the Paniyas⁷ are considered to be the most dis-empowered. They are landless and daily-wage labour is their sole means of survival. In places like Nadavayal, there are Paniyas who have relied primarily on paddy cultivation and other forms of daily wage work. Their presence ensures availability of labour during critical phases of paddy cultivation, viz. transplanting and harvesting, ensuring that paddy is cultivated on both small and large holdings. In many other parts of the district and the state, reduction in paddy cultivation has been attributed to non-availability of labour during these critical phases of the crop cycle. Despite the critical role that Paniya labourers play, wages are the lowest for paddy cultivation, at just Rs 400 per day. A failed crop in 2018 and absence of paddy cultivation in 2019 reduced livelihood opportunities for this set of labourers. Many of them go for NREGA work, but NREGA work took many months to resume after the floods of 2018.

Daily Wage Work and Labour Migration

The unpredictability of daily-wage work has led daily-wage labourers in Wayanad to work in the coffee and ginger plantations in Kodagu in neighbouring Karnataka over the past few decades. It is mostly landless Paniyas and Adiyas who resort to this work. As travel to Kodagu takes only 1-2 hours (even lesser depending on one's location in Wayanad), the migration is often of a daily or weekly nature. The estate owners are natives of both Kerala and Karnataka and have capitalised on the cheap availability of labour, primarily the labour pool from amongst the landless tribal communities, notably the Paniyas. Labour contractors come with vehicles on a daily/weekly basis at designated spots to pick up labourers⁸. Exploitation of labourers by under-payment of wages and poor working conditions has been reported, made worse by the fact that part of the wages is even paid in liquor to male labourers. This is often viewed as an incentive to get tribal workers from Kerala. Many labourers also get trapped in taking loans from estate owners. The poor bargaining power of tribal labourers coupled with such unfair terms of payment has led to a situation where migration to Kodagu has not led to any economic betterment in the lives of tribals.

Landlessness and unpredictability of daily-wage labour has contributed to the strengthening of such migration patterns. Social protection schemes like the MGNREGA are not able to offer substantial support in this regard. The state's initiative to enhance the work availability for tribal households under MGNREGA by enhancing the annual work days from 100 to 150 days per year

has been weakened by the inability of panchayats to implement the same. Even during normal times, the chronic vulnerability that daily-wage Paniya labourers face has not been addressed, with their dependence on daily-wage labour being treated as a permanent feature in their lives. This vulnerability gets further aggravated with the onset of disasters. While the floods of 2018 caused a temporary disruption in this labour movement to Karnataka, the COVID-19 lockdown seriously impacted this regular labour movement. Following COVID-19, the reduced wage labour opportunities in Wayanad coupled with the inability of labourers to shuttle across state borders is reported to have enhanced their stress. Such dependence on exploitative labour arrangements need to be addressed by concerted efforts by the panchayats and the government at all levels.

Bindu from Kunjome

Forty-nine-year-old Bindu lives in Kunjome Paniya colony by the Kunjome puzha (river). I called Bindu as she had been identified as somebody who had lost her home in the floods and had not been given a new house, two years after the disaster. Bindu lived in a mud house that had been damaged by the flooding river during the three consecutive years (2018-20)9. After every flood, once the floodwaters receded, she and her husband would do minimal repairs and shift back into their home. As Bindu expresses her angst about living in a dilapidated house on the banks of the river and about her struggles to make two ends meet, her equally vulnerable livelihood situation came to light.

Bindu worked for more than twenty years in the Priyadarshini tea estate that is run as a tribal cooperative society.¹⁰ The tea estate intended to provide labour to landless tribal workers¹¹ and thereby free them from the clutches of bonded labour. Bindu quit her job at the tea estate after a serious illness that left her incapable of hard physical work. Her daily wage at the time of quitting four years ago was Rs 340 per day.¹² After leaving the tea estate, her inability to engage in physical work left her with no option but to raise cows and goats. The wages earned by her husband who works as a daily wage worker did not suffice. Her two adult children have families of their own, and are not in a position to offer economic support to Bindu and her husband.

Bindu's life demonstrates the inadequacy of mere employment provision to landless tribal labourers without addressing the larger context of vulnerability in their lives. After working for two decades at the tea estate run by a tribal cooperative society, Bindu's livelihood struggles continue. Her life today centers around raising cattle amidst unresolved health problems, while operating from her dilapidated home in a flood-prone zone. The manner in which she 'purchased' a cow with reduced milking capacity is an indicator of her extreme vulnerability.¹³ At present, Bindu spends a substantial part of the day in getting grass and fodder from the river banks and other common spaces to feed the cow and calf. Santha had also purchased two goats through such an arrangement. During severe economic stress, she sells the goats. The centrality of the cows and goats was revealed by the fact that she did not go to the relief camp in 2018, in order to take care of her goats. This year, she lost two goats to the floods.

The livelihood stress on Santha and her husband has been greatly amplified with the COVID-19 lockdown. Her husband has lost even the meagre daily-wage opportunities that were available. In Santha's words it is the PDS rations that help them survive. Off late, they go to the shop only to buy tea leaves and some sugar. Buying vegetables is ruled out. They, however, collect the wild green varieties that grow along the river and smaller streams and sometimes get some fish if they are lucky. 'How do I tell people like you about what we have been going through?'. While her housing problem aggravated by the floods has been taken note of by authorities but not addressed, her

precarious livelihood situation is yet to be recognized. Post-disaster livelihood recovery processes do not take cognisance of the complex livelihood pathways of the poor.

Small and Marginal Farmers in Kavalappara

Kavalappara captured the imagination of the state when it was hit by a severe landslide in August 2019. Three severe landslides were reported in three locations on the same day, viz at Puthumala in Wayanad, and in Kavalappara and Pathar in Malappuram (the latter two were separated by just a few hours). All three landslides were located in the catchment of the Chaliyar river. These landslides also resulted in severe flooding immediately downstream.

The following section explores the livelihood impact of the disaster in the Pothukallu and Chungathara panchayats of Nilambur Block. This includes the livelihoods of small and marginal farmers, lease-land farmers, daily-wage labourers, migrant workers and forest-dwelling tribal communities. Many parts lie in close proximity to forests, with most agricultural holdings having been carved out of earlier forested landscapes, an outcome of the wave of in-migration of people from the southern parts of the state to the northern, forested highland districts like Malappuram and Wayanad since the 1950s. Many of the farmers interviewed had moved into the area in a similar fashion during the 1960s and 70s, encroached into forest lands and gradually got land deeds. Their holdings therefore lie in close proximity to the forests and were located immediately downstream of the landslides.

The small and marginal farmers owned between one-two acres of land and had grown a combination of coconut, areca nut, plantains and vegetables on their holdings. While some of them were affected by the landslides with their lands being devastated by the large quantity of debris that was washed down from above, others were affected by flooding rivers.

Mathew is an 82-year-old farmer, owning two acres of land in which his house too is located. In earlier times, he and his wife raised cows and he was also employed in the local milk society. They sold their cows as they could no longer take care of them. Currently, the returns from the land are their only source of income, in addition to a minimal social security pension of Rs 1,700 per month. His land is located by a small stream which swelled up after the torrential rain and landslides in Pathar. With the stream overflowing, floodwaters about 2.5 ft high entered his home, damaging the house and household articles. As a result of the landslides, soil, boulders and other debris about 4 feet high settled on his holding. Apart from destroying the fully grown coconut and areca nut trees, it also destroyed a hundred areca and a hundred coconut saplings. The standing coconut and areca began to show signs of decay after a few weeks, the fruit of the areca was found to decompose, and a reduction in yield was noticeable. The soil has changed colour after the floods, he says. He was disturbed as nobody including the agriculture office was able to give him a convincing explanation for these changes¹⁴. The deposits of debris made it difficult for him to walk through the land. Damages to the house and the land made it difficult for him to revive agriculture. He received Rs 10,000 for housing repair and Rs 30,000 for the crop loss. About seven months after the disaster, the COVID-19 lockdown aggravated matters further. Finally, about a month ago, after waiting for some support from the panchayat and the government, he hired an earth-mover at his own cost to level the soil and debris and to pile them into bunds around his holding. He is also planning to apply lime and other micro nutrients so as to facilitate soil recovery and is planning to plant afresh. He says that if he fails to do so, he will stop getting any return from the land, making daily survival difficult.

Sreedharan in the same panchayat, facing a similar predicament, spent Rs 27,000 on removing the landslide debris on his 35-cent holding that was planted with coconut, areca nut,

vegetables and plantains. The land is located by the Chaliyar river and Sreedharan, like most other farmers, had installed a water-pumping mechanism consisting of an electric motor, pipes and a motor shed¹⁵. The harvest of coconuts, areca nut and plantains generated a higher monetary return, while vegetables were a source of both income and food security. As in the case of Mathew, the landslide debris washed down his holding with great force, destroying much of what was being cultivated. He also lost the entire water pumping infrastructure he had installed. Along with other affected farmers, he has requested the panchayat and the agriculture office to support them by reinstalling such infrastructure, but have not met with success. Sreedharan speaks of how the devastation of his crop land has not only caused financial losses much greater than the 15,000 that he received as crop insurance for the damaged plantains (which was the only crop he had insured). The crop loss and destruction of the land has reduced their food security and regular intake of vegetables. In an effort to recuperate from the loss, Sreedharan planted plantains on his land a few months after the disasters. The low prices for plantains in the market following the lockdown has, however, made it difficult for him to recover losses.

The livelihoods of Mathew and Sreedharan were severely compromised with their lands rendered uncultivable after the disaster. The compensation provided by the government was a one-time payment for crop loss, which it itself did not match the actual extent of loss¹⁶. It has not taken into account the degradation of agricultural land, river courses and river banks. While long term issues of top soil erosion, land destabilisation and reductions in soil quality and fertility remain, both these farmers had the economic resources to revive agriculture by temporary restoration of the land by levelling the debris and application of micro-nutrients.

This has not been the case with Ushakumari, who is a marginal farmer and a construction worker. She, along with her two siblings, own about one acre of land (each owns about 30 cents of land), on which they had collectively grown coconut, areca nut and pepper, along with traditional tuber crops, mostly for home consumption. All of them worked on the land together and shared the produce. The coconut trees would yield about 300 coconuts each time they were picked, which gave them much needed money she says. The soil and debris from the landslides upstream brought along huge uprooted trees as well. Hiring an earth-mover to remove the huge trees and debris was unthinkable for Usha or her siblings, all of whom are engaged in daily wage work. All the crops were destroyed and the three siblings together got an amount of Rs 27,000 as compensation. She feels that money will not help them make the land cultivable again. In any case, the money was credited to their bank account seven months after the disaster struck. She now feels that her share of the money will be of help in paying fees for her son who will join college this year.

Usha works as a wage labourer in the construction sector, and her wages alone sustains the family of three as her husband is home-bound owing to health problems. She goes for construction work at worksites not too far from home. With COVID-19, work opportunities declined and the PDS alone sustained them she says. Usha represents the large category of marginal farmers-cum-daily-wage workers whose vulnerability gets amplified by disasters like landslides followed by COVID-19. Restoring their small holdings while engaging in daily wage work is impossible without the support of the government. Failure of the government to do so, will push people like her towards greater dependence on daily wage work.

Relocation and Livelihoods

The issue of livelihood recovery assumes more serious proportions when the affected face the prospect of relocation. It is those who faced total house damage and those who are residing in highly

vulnerable locations (in landslide or flood affected areas) who have had to relocate. The process of identification of alternative land and construction of new houses has been time taking¹⁷. Contact could not be established with families who have moved into new houses in new locations. Two cases that came to light, however, were those who had to relocate but were yet to move into new homes, and were therefore living on rent¹⁸. Entire tribal hamlets are also facing the prospect of relocation. In Wayanad, certain Paniya and Adiya settlements located by the side of the river were living in uncertainty¹⁹. In some cases, alternate land had been identified, but the process is incomplete. While their current physical location enhanced their vulnerability to floods, they were apprehensive of losing their access to the river as well as to the river banks and the forests. Access to rivers and forests did not assure them of livelihoods, they did ensure access to water, firewood and wild greens and tubers that contributed to their food security. Disaster response that focus on relocation to physically safer places without considering livelihood strategies and access to natural and social resources have been found ineffective in reducing vulnerability (Torre 2018).

The prospect of relocation was further complicated in certain parts of Malappuram district where forest dwelling Kaatunaika and Paniya communities had been assigned riverine land as per the Forest Rights Act. Since this land was devastated by the floods, they had to move to higher ground. Existing FRA stipulations, however, prohibit change of locations as a result of which at least four to five settlements were facing extreme uncertainty. Most of the households were living in temporary sheds and some in relief camps.

Kaatunaika communities traditionally rely on collection of minor forest produce. Some of them go for daily-wage work offered by the forest department, but rarely go out for agricultural work in the non-tribal areas. Availability of minor forest produce is reported to have declined in certain areas following the landslides. An issue that directly affected their livelihoods in the pre-disaster situation is the low prices that they get for minor forest produce. While honey fetches Rs 600 per litre in the market, they get only half the amount. The lack of marketing and other support mechanisms were issues to contend with even in the pre-disaster context, but has assumed greater seriousness after the disasters. Run-of-the mill livelihood generation programmes such as distribution of cattle and fowl by the panchayats have failed as it invites wildlife attacks. Livelihood support to these groups requires a thorough understanding of their livelihood priorities, the human-wildlife conflict they experience and the legal constraints owing to FRA implementation.

Lease Farmers

The next category of flood affected people were the lease-land farmers in Pothukallu and Chungathara panchayats. Farmers who cultivate on lease include those who lease out small holdings of one or two acres to those who lease 20-30 acres. The small farmers in this category engage in lease farming as they are landless and farming is the only occupation they know. The larger farmers engage with lease farming as a commercial enterprise, cultivating more of cash crops like plantains. They do so by identifying land with irrigation facilities. They also hire labourers on a continuous basis, most of the time hiring migrant workers from other states, who work and live on their land.

Interviews were conducted with small lease farmers like Moosa and large farmers like Shihab. Moosa has leased two acres of land in two locations. He grew plantains along with a variety of traditional tuber crops and vegetables in both. He lost about 750 plantains due to intense winds in one plot. He got about half the amount that he had invested as compensation a year later. He also had to hire an earth mover to make the land cultivable again. For the 1,000 plantains he planted in the second holding, he is yet to get any compensation despite the agricultural officer certifying the

damage of 800 plantains. While he lost two goats, he did not get any compensation due to bureaucratic hurdles²⁰. As Moosa struggles to recover from the losses incurred, he also faces the prospect of relocation as the land on which his house is located faces the risk of recurrent flooding. Delays in providing compensation have prompted him to restrict the area of farming operations this year. The case of Moosa illustrates not just the travails of small lease farmers, but also highlights problems related to damage assessment and delays in compensation.

At the other end lie farmers who lease large parcels of land in multiple locations. This includes farmers like Shihab who has been engaged in lease farming (on about 20 acres) after his return from the Middle East six years ago and Ramachandran, who undertakes lease farming on 30 acres of land, in two adjoining panchayats. While Shihab hires migrant workers from Chattisgarh, Ramachandran hires migrant workers from neighbouring Tamil Nadu. Both of them provide accommodation to migrant workers in old outhouses near their homes. On an average, both of them cultivate about 10,000 plantains every year, along with a wide variety of vegetables. Vivekanandan also used to cultivate three crops of paddy, yielding about 25 tonnes of paddy annually and tapioca on about 10 acres of land.

Over the past three years, the scale of their operations has been reduced and they have sustained economic losses with recurring floods. Despite the vulnerability of plantains to high winds and floods, they are inclined to continue with plantain cultivation as the crop insurance is highest for plantains and helps them to recover from losses²¹. The losses sustained over the past three years along with the return of migrant workers following the COVID-19 lockdown has prompted them to reduce the scale of lease-land farming. While the losses they have suffered do not precipitate survival issues, it has resulted in significant reductions to the profits they have made out of commercial agriculture.

Migrant Workers

At the other end of the spectrum lie the migrant workers who are employed by large lease-land farmers. Ramachandran, who has been cultivating about 30 acres of land on lease for the past ten years, employs tribal migrant workers from Tamil Nadu. Since he needs a steady labour force and since wage rates are high in Kerala, he prefers to hire migrant workers. Malappuram where he lives borders the Gudalur district of Tamil Nadu and a 35-kilometre drive takes Vivekanandan to Gudalur. He provides accommodation to them in an old outhouse located in his house. The wages paid to migrant workers is reported to be lesser than what is paid to local labourers²². While food and accommodation is reportedly provided to migrant workers, the quality of accommodation and sanitation facilities along with details of food provided needs to be ascertained.

Both the lease-land farmers mentioned that the convenience of hiring migrant workers lies in their availability through the day. According to the farmers who hire them, migrant workers are more flexible with their work timings and are open to working early in the morning and late in the evening, which is critical in vegetable cultivation, as harvesting of vegetables is often done in the early morning or in the evenings. Ramachandran claims that he pays over time for this extra work that is done, but this needs to be confirmed from the workers themselves. Needless to say, lease-land farmers enjoy a significant advantage when workers live on their land and work for them for months together. The unequal power relations between the migrant workers and their employers, coupled with the fact that workers often take loans from the employers in times of crisis, places them on a weaker footing. Working hours, wages and over time payment therefore are areas that need much greater scrutiny.

Though migrant workers are employed in larger numbers in the plantation and plywood industry in the state, their presence in the agricultural sector has been growing too. In Wayanad, for instance, they are even beginning to engage with paddy cultivation, which was until recently the reserve of local labourers. Over the past two decades, Kerala has witnessed a steep increase in the population of inter-state migrant workers. A 2013 study estimated their population as between 2.5-3.5 million (Narayana et al 2013), constituting 35 percent of the workforce in the state, employed mostly in low-skilled jobs in diverse sectors- agriculture, plantations, construction, hotel/textile/plywood industries to name a few. They live in difficult living conditions, characterised by poor housing and sanitation facilities (Saikia 2015). While their poor living conditions has been acknowledged and the government has made efforts to create safe housing conditions, it is far from adequate²³. The absence of a foolproof database about the number of migrant workers, their employment and accommodation details surfaced during the recent COVID-19 pandemic when local governments had to create a database of migrant workers in their jurisdiction (Nair 2020).

Kerala is one of the few states to have formulated welfare schemes and programmes for migrant workers. The Kerala Migrant Welfare Scheme of 2010 and the Awaz health insurance scheme of 2017 offer welfare measures to migrant workers. While these welfare measures are important, they do not regulate and monitor their working and living conditions. The state government appears to be promoting inclusion of migrant workers in the Kerala Migrant Welfare Scheme and the Awaz health insurance scheme, which are welfare oriented. In comparison, its concern with implementation of the ISMWA that offers some protection to the migrant worker in an unequal employer-worker relationship has been wanting. The implementation of the Inter State Migrant Workers Act of 1979 (ISMWA)²⁴ specifically addresses the responsibilities and obligations of contractors and employers who hire migrant workers. Similarly, while migrant workers are employed in high numbers in the construction sector, their inclusion in the Construction Workers Welfare Board constituted under the Building and Other Construction Workers Act of 1996 is reportedly low²⁵.

It is learnt that majority of migrant workers do not come to the state via contractors; rather, they come in through other social networks. Studies of migration in Kerala indicate that while only about 28 percent of migrant workers were recruited by contractors, two-third of them were estimated to be employed by contractors (Peter and Narendran 2017). So, the great majority came to the state through social networks and informal channels provided by friends and relatives (ibid, John 2015), but once they reached the state, ended up working under private contractors. This implies that the great majority of migrant workers, while employed by contractors do not receive the protection of the ISMWA. This therefore could place them at a highly disadvantaged position vis-a-vis the contractors or employers. While Kerala is a favoured destination on account of the higher wage rate in the state and relatively better working conditions, the degree of monitoring of living and working conditions needs to be clearly ascertained. Moreover, as discussed earlier, while Kerala has formulated welfare schemes for inter-state migrants, it does not appear to have taken concerted efforts to arrest the ongoing migration of Paniya labourers from Wayanad to neighbouring Karnataka that has positioned them in exploitative work arrangements.

There is little understanding of how migrant workers coped with livelihood loss following the floods and landslides. The UN PDNA report refers to the sudden loss in livelihood that they suffered, but the extent of this loss was not captured. Migrant workers from affected areas left the state in large numbers, but are reported to have returned back. The COVID-19 lockdown situation has been graver, with a high percentage of migrant workers leaving the state by June 2020. They have, however, begun to return since September 2020, but not in full numbers. The difficulty in

establishing contact with migrant workers in the COVID-19 situation has made it difficult to ascertain how they were affected by both the floods and landslides as well as by the COVID-19 restrictions. While the exodus of migrant workers from the state following the lockdown precipitated a labour shortage. It is learnt that many contractors made attempts to get migrant workforce back to the state. The rules and regulations regarding following quarantine upon entry into the state did make matters difficult. It is also not clear how the fear of the general public that migrant workers would spread the disease upon their re-entry into the state affected the well-being of the workers.

Pre and Post-Disaster Vulnerabilities

Research has shown how post-disaster vulnerabilities and livelihood recovery are linked to existent pre disaster vulnerabilities and to risks that are rooted in social inequalities that affect the ability of the affected to 'escape, survive and/or bounce back from disasters' (Wisner et al 2004; Islam and Lim 2015). In the light of the present study, some of these include the vulnerability of daily-wage labourers mostly from the Paniya community, who enter into extremely exploitative labour migration. While no effort has been made to draw them away from such arrangements, disasters (especially COVID-19) reinforce their dependence on such arrangements. Similarly, the locational disadvantages that compound vulnerability have been in existence for a long time. Paniya settlements by the riverside have been affected by intermittent flooding even before the major floods of 2018. They would temporarily move away and come back once the water receded. The issue gained greater attention with the 2018 floods that affected a much larger cross-section of society, particularly the more powerful non-tribal sections.

The process by which certain Paniya settlements came to be located by the riverbank also needs to be explored here. They lived on riverbanks not because they owned fertile riverine land. In the past, many a landless and dis-empowered Paniya household was made to stay along riverbanks to guard over the fields of the landed community. Small settlements along agricultural lands also warded off wildlife raids. While such a settlement pattern was a feature of earlier feudal land relations, state and panchayat-led governance mechanisms did not take cognisance of this historical and structural vulnerability and correct the same. Similar is the case with the Kaatunaika settlements along the Karimpuzha river in Malappuram, who desired to be relocated from flood prone areas, but could not due to FRA-related legal complications. The fact that they were assigned flood prone lands as per FRA indicates their weak positioning in such decision-making processes.

The Capacity to Recover from the Shock of Disasters

While existing social and power hierarchies enhance susceptibility to disasters, this study has illustrated how the capacity to recover from the shock of disasters is socially differentiated. In landslide affected areas where the land has been buried under debris, over a period of several months, certain small farmers are able to invest resources in making the land cultivable. However, a construction worker whose small holding was damaged by the landslides in the same panchayat has given up hope of cultivating her land as she does not have the resources to make the land cultivable. Similarly, some other marginal farmers whose paddy fields were washed away by the floods in Wayanad have abandoned paddy cultivation, as the land has suffered extreme degradation.

The capacity to recover from disasters is closely linked to the process of livelihood recovery. Livelihood loss and recovery is a blind spot in official damage assessments. The effort appears to have been on providing one-time cash payments as compensation. The overall degradation of the

land, erosion of top soil and reductions in soil fertility, erosion of river banks and the resultant vulnerability of riverine lands, dis-configured paddy lands and so on has not been addressed, not even two years after the disaster. The responsibility of restoring degraded agricultural land is left to individual farmers alone.

Existing approaches to post-disaster livelihood recovery fail to take cognisance of pre-disaster vulnerabilities. Neither do they situate the process of livelihood recovery within the immediate social and ecological context. As a result, the social and environmental changes that gave rise to floods and landslides have not become a subject of public discourse. Neither has the prevailing discourse touched upon socio-economic and ecological vulnerabilities that disadvantage the most vulnerable.

Notes

1 The landslides at Kavalappara in Malapuram district and Puthumala in Wayanad district were noted for the extent of damage and loss of lives.

2 The UN led Post Disaster Needs Assessment (PDNA).

3 *Padasekharam* is a cluster of paddy fields

4 Farmers in the *padasekharam* also include those who own a combination of paddy land and non-paddy land that is cultivated with commercial crops such as coconut, pepper and coffee and thereby have an additional source of cash income from farming.

5 Very often, rains at the time of flowering reduces the yield of paddy by as much as 40 percent. However, since the crop can be harvested, there is no evidence of 'crop loss'. Existing assessments do not capture this reduction in yields (discussions held with paddy farmers).

6 The Chetti community have benefited from the easily available labour of the landless tribal communities, notably the Paniyas and the Adiyas. Proximity to the forests also allowed them to freely graze their cattle in the forests. Chetti farmers have therefore lived off paddy cultivation and livestock raising. The waves of in-migration of people from other parts of Kerala over the past seven decades resulted in a reduction in their land holding status. This along with reduced access to forest resources has significantly altered their socio-economic positioning in Wayanad.

7 The Paniyas look back on a long history of exploitation. The word 'Paniya' means one who works.

8 In many parts of Tirunelly panchayat that borders Karnataka, this regular migration has become an important feature of economic life. Since labourers have to leave very early for work, they eat at the small hotels that have sprung up at the pick-up points.

9 During the first flood of 2018, they lost everything that they had in their house, including all household utensils, 35 kgs of rice, all their clothes and the only cot they had. Her grandchildren lost their books. In 2019, she lived in the camp for 10 days and in 2020 she stayed for about 3 months with her daughter.

10 The Priyadarshini tea estate was set up during the 1980s as a tribal cooperative society. It was subsequently plagued by problems of corruption and mismanagement. Over the past decade, efforts have been made to enhance welfare measures to tribal workers in the estate.

11 Mostly Paniya and Adiya tribal communities

12 While she was employed in the tea estate, she had access to social security measures such as provident fund and support for education of her children.

13 It is learnt that people in economic stress enter into agreements with cattle-raising households whereby they get to raise cows with reduced milking capacity without paying for the same. The hidden cost lies in the fact that the cow has to be returned to the seller upon its second delivery. The benefit to the buyer is that she gets to milk the cow when it delivers a calf, and can keep the first calf. Upon the second delivery, both cow and the second calf have to be returned. It needs to be noted that the cow that Santha got through such an arrangement had delivered thrice before and therefore its milking capacity had reduced by the time it came into Santha's care. It is only such cows that were 'sold' in such a fashion, and it was only people like Santha who

were in economic stress and incapable of engaging in labour demanding daily wage work, who would venture into such agreements. At present the cow yields only 6 litres of milk a day which is her sole source of income.

14 Cyriac knew his land well. He was a keen observer of crop growth and was closely monitoring changes in yield, soil quality and crop growth after the disaster. When I called him over the phone, it seemed to me that he hoped to get some explanation from my side. He spoke about a gel that was seen to flow out of the bark of the areca trees and how the fruit of the areca was found to decompose before attaining full growth. A team of scientists from the Agricultural college nearby (at Tavannur) visited his holding along with the agricultural officer of the area, took soil samples and left. When he did not hear back from them, he pursued the matter again with the Agricultural officer who said that no particular reason could be detected.

15 All farmers who own/cultivate lands by the river have installed similar irrigation infrastructure, all of which were damaged.

16 Farmers have detailed on how existing methods of crop loss do not capture the full extent of loss

17 House construction has been undertaken by government as well as by a range of civil society organizations, many of whom are funded by religious trusts.

18 The case of Shalini was revealing. Shalini and her family share a rented home with her brother in law and his family, paying Rs 2500 on rent. They used to live in temporary sheds prior to the landslides. Their fathers, like others of the settler community had encroached into forest lands, but had failed to get land deeds. Since they did not possess legal land deeds, they could not get a house sanctioned from the panchayat. For the same reason, they do not figure in the list of people for whom new houses are to be built. They have also been asked to relocate by revenue authorities as the area is prone to landslides. So the two families lived in a shared rented home during the monsoons and come back to the landslide affected area to live in temporary sheds during the dry season. They are hoping that one of the charitable organisations engaged in post disaster house construction will build a house for them. This shuttling between locations has affected the daily wage prospects of both Shalini and her husband, and has taken a toll on the education of their children as well.

19 The Chunigadha and Peroor settlements are two such examples.

20 While the officer at the veterinary hospital approved his request for compensation based on the photographs of the dead animals that he produced, the elected representative of the area rejected the same saying that the photographs could not be taken as evidence. So he did not get compensation for the dead goats or the cattle shed.

21 Their ability to have recovered from the economic losses incurred during the past three years of recurrent flooding has been determined by the extent to which they insured their crop of plantains.

22 The actual wages paid to migrant workers need to be ascertained. While Shihab says that he pays Rs 450 per day plus food to migrant workers, Ramachandran says he pays Rs 600 per day with food. The wage rate for male local labourers is between Rs 700–800.

23 The Kerala Govt implemented the Apna Ghar project as part of the Bhavanam Foundation in 2019, wherein rental accommodation was provided to migrant workers in hostels. The accommodation was for bachelors and not for families. The project was completed in Palakkad providing accommodation to 620 workers. So while a beginning has been made, it addresses the needs of only a miniscule proportion of the migrant population in the state.

24 Non-implementation of this Act across the country came into the spotlight in the wake of the migrant crisis that unfolded during the Covid lockdown.

25 The Kerala state rules do not specify whether migrant workers can register with the Construction Workers Welfare Board (Roy *et al.* 2017).

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