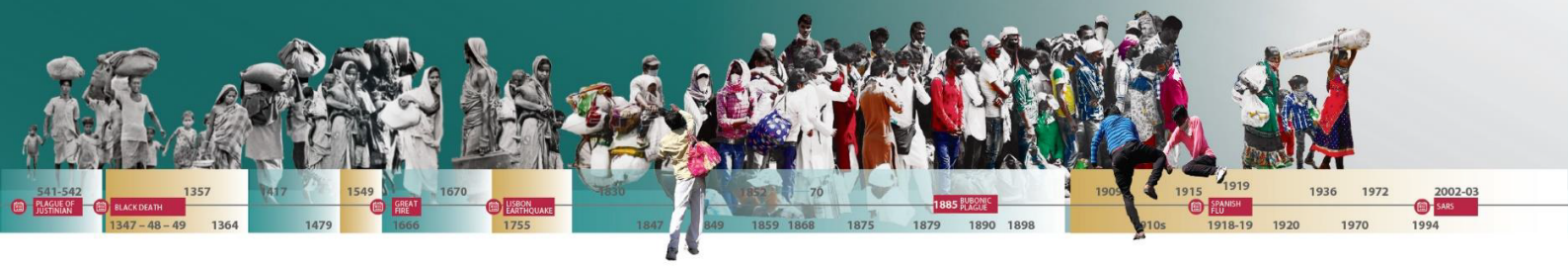
RESEARCH REPORT

Re FORM

LESSONS FOR URBAN GOVERNANCE FUTURES FROM THE PANDEMIC



SUBMITTED TO:
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SUBMITTED BY:
Scaling City Institutions for India (SCI FI)
Centre for Policy Research

SCI-FI
SCALING CITY INSTITUTIONS FOR INDIA

CENTRE FOR POLICY RESEARCH

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List of Abbreviations

AB-PMJAY	Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana
ADB	Asian Development Bank
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANM	Auxiliary Nursing Midwifery
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
BB	Bangladesh Bank
BMRCL	Bangalore Metro Rail Corporation Ltd.
Bn	Billion
CCTV	Closed-Circuit Television
CDC	Centres for Disease Control City Development Committees
CERP	COVID-19 Economic Relief Plan
CPR	Centre for Policy Research
CSOs	Civil Society Organisations
CPRP	Country Preparedness and Response Plan
DBT	Direct Benefit Transfer
DD News	Doordarshan News
DJB	Delhi Jal Board
DMRC	Delhi Metro Rail Corporation Limited
DRR	Disaster Risk reduction
EWS	Economically Weaker Section
FPS	Fair Price Shop
FSCR	Food Supply Control Room
FY	Financial Year
GoI/GOI	Government of India
GOARN	Global Outbreak Alert and Response Network
HCW	Healthcare workers
HHs	Households
IAAPI	Indian Association of Amusement Parks and Industries
ICCC	Integrated Control Command Centres

AD	Anno Domini
AHRC	Affordable Rental Housing Complex
ANI	Asian News International
Approx.	Approximately
AWWs	Anganwadi Workers
BCE	Before Common Era
BDT	Bangladeshi Taka
BMC	Bhilai Municipal Corporation/ Bhubaneswar Municipal Corporation
CBOs	Community Based Organisations
CAA	Constitutional Amendment Act
CCMC	COVID-19 Crisis Management Committee
CDC Act	Communicable Disease Control Act, 2004
CEO	Chief Executive Officer
COVID	Coronavirus Disease
CT	Community Toilet
DC	District Collector
DGHS	Directorate General of Health Services
DMA	Disaster Management Act, 2005
DPP Act	Disaster Prevention and Protection Act
DU	Dwelling unit
FCDO	Foreign, Commonwealth & Development Office
FLW	Frontline Worker
FSC	Food Supply Chain
GDP	Gross Domestic Product
Govt	Government
GoN/GON	Government of Nepal
HLRN	Housing and Land Rights Network
HLCC	High level Coordination Committee
IANS	Indo-Asian News Service
ICMR	Indian Council of Medical Research

ICU	Intensive Care Unit
IDP	Internally Displaced Persons
IFPRI	International Food Policy Research Institute
ILI	Influenza like Illnesses
IMF	International Monetary Fund
IT	Information Technology
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KPMG	Klynveld Peat Marwick Goerdeler
Km	Kilometre
LC	Letters of Credit
LFS	Labour Force Survey
MHA	Ministry of Home Affairs
MERS	Middle-East Respiratory Syndrome
MJPJAY	Mahatma Jyotiba Phule Jan Arogya Yojana
MoHP	Ministry of Health and Population
MoUD	Ministry of Urban Development
MSME	Ministry of Micro, Small and Medium Enterprise
NASVI	National Association of Street Vendors of India
NCD	Non-Communicable Diseases
NGO	Non –Government Organisation
NHA	National Health Authority
NMT	Non-Motorised Transport
NPRP	National Preparedness and Response Plan
NUHM	National Urban Health Mission
NUTP	National Urban Transport Policy
OCV	Oral Cholera Vaccine
ONORC	One Nation One Ration Card
OSS	On-site Sanitation
PIB	Press Information Bureau
PMAY	Pradhan Mantri Awas Yojana
PMGKY	Pradhan Mantri Garib Kalyan Yojana
PMC	Pune Municipal Corporation

IEC	Information, Education and Communication
IEDCR	Institute of Epidemiology, Disease Control and Research
IHHL	Individual Household Latrine
ILO	International Labour Organisation
INR	Indian National Rupee
J&K	Jammu and Kashmir
KIIs	Key Informant Interviews
K-GIS	Karnataka Geographic Information System
KUKL	Kathmandu Upatyaka Khanepani Limited
LMIC	Low and Middle Income Countries
LIG	Lower Income Group
LPG	Liquefied Petroleum Gas
MMK	Myanmar Kyats
Mn	Million
MoHFW	Ministry of Health and Family Welfare
MoHUA	Ministry of Housing and Urban Affairs
MoSPI	Ministry of Statistics and Programme Implementation
NABH	National Accreditation Board for Hospitals
NCID	National Centre for Infectious Diseases
NCW	National Commission for Women
NITI	National Institution for Transforming India
NHP	National Health Policy
NPR	Nepalese Rupee
NSS	National Sample Survey
NULM	National Urban Livelihood Mission
O&M	Operation and Maintenance
ODF	Open Defecation Free
OPD	Outpatient Department
PDS	Public Distribution System
PM-ABJAY	Pradhan Mantri Ayushman Bharat Jan Arogya Yojana
PMAY- U	Pradhan Mantri Awas Yojana- Urban
PM SVANidhi	Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi

PPE	Personal Protective Equipment	**POEs**	Points of Entry
PT	Public Toilet	**PPP**	Public Private Partnership
PTI	Press Trust of India	**QR**	Quick Response
RBM	Roll Back Malaria	**RBSK**	Rashtriya Bal Swasthya Karyakram
RERA	Real Estate Regulation Authority	**RSCL**	Raipur Smart City Limited
RT-PCR	Reverse Transcription–Polymerase Chain Reaction	**Ro**	R –naught
RWA	Resident Welfare Association	**SARI**	Severe Acute Respiratory Infection
SARS	Severe Acute Respiratory Syndrome	**SBM**	Swachh Bharat Mission
SEWA	Self Employed Women's Association	**SC**	Supreme Court
SMEs	Small and Medium Enterprises	**SOP**	Standard Operating Procedure
SPCCCH	Sardar Patel COVID-19 Care Centre and Hospital	**STIDH**	Sukraraj Infectious and Tropical Disease Hospital
TBS	The Business Standard	**TMC**	Town Municipal Council
UNESCO	United Nations Educational, Scientific and Cultural Organisation	**ULB**	Urban Local Body
URDPFI	Urban and Regional Development Plans Formulation and Implementation	**UOI**	Union of India
UN	United Nations	**UK**	United Kingdom
UNICEF	United Nations Children's Fund	**UNB**	United News Bangladesh
UNSDG	United Nations Sustainable Development Goals	**USA**	United States of America
USAID	United States Agency for International Development	**USD**	United States Dollar
UWEI	Urban Wage Employment Initiative	**VAT**	Value Added Tax
WASH	Water, Sanitation and Hygiene	**WHO**	World Health Organisation
WPR	Work Participation Rate		

PREFACE AND ACKNOWLEDGEMENT

COVID-19 pandemic has impacted one and all in this world. However, by nature, the pandemics are relentless to the poor and marginalised who get further vulnerable due to the deepening of inequities. COVID-19, as a pandemic, is no different. It led to job losses, shrinking of economies, loss of livelihood, deaths of millions of people, debilitated social protection measures and deepened the digital divide. Urban poor, who live in precarious conditions in slums in the cities and migrate to the cities for livelihood were left most vulnerable due to lockdown. A massive exodus of people and short term migrants from our cities was witnessed by all citizens and by the world at large and it exposed the increasing vulnerabilities of poor, fragile governance mechanisms, weak infrastructure and inadequate policies to address a pandemic of this magnitude and nature.

This report titled "*Re* FORM: Lessons for Urban Governance futures from the Pandemic" is based on the study which was undertaken by Scaling City Institutions for India (SCI-FI), Centre for Policy Research (CPR). The study explores the impact of COVID-19 on public spaces, housing and slums, water and sanitation, public health, and clinical health, livelihood, and social protection in urban areas of the country. The study also analyses the policy gaps and governance systems in addressing pandemic in the country. It underscores the need to ensure that the measures taken to combat pandemic have to be across the short, medium and long term.

We are extremely indebted to South Asia Research Hub (SARH), Foreign, Commonwealth and Development office (FCDO), Government of UK for providing us with the opportunity to undertake this timely study to understand the gaps in response to the pandemic by the Government and to provide recommendations to attenuate the impacts of such pandemic by framing apt urban policies and strengthening governance mechanisms to implement policies on the ground. On the one hand, the study gave us an opportunity to explore the responses of Government, Civil society organisations during the pandemic and on the other hand, it enabled us to capture the voices from the most impacted communities and individuals. We wish to acknowledge the support of civil society organisations like PRIA (Delhi), Child Survival India (Delhi), Working People's Charter (Pune) for providing support in the field research in Ajmer, Jhansi, Muzaffarpur, and Pune.

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Executive Summary

The outbreak of COVID-19 and the associated lockdowns have exacerbated pre-existing vulnerabilities of marginalised groups living in Indian cities/towns, including workers engaged in the informal sector as well urban poor living in congested and overcrowded informal settlements with inadequate housing and limited access to water, sanitation and health facilities – all of which are essential to reduce chances of getting infected with the virus. This study aims to document specific vulnerabilities of the urban poor in the context of past pandemics, as well as during COVID-19, in order to craft specific urban planning recommendations to build greater resilience in cities in South Asia, in general and India, in particular.

The study envisaged assessing the intersection between urban policy, planning and pandemics adopting an inter-disciplinary conceptual framework and methodology. The intersection between urban planning and pandemics was researched under five main themes: Public Spaces; Housing and Slums; Water, Sanitation, and Hygiene; Public health including clinical care; and Livelihoods and Social Protection. The impact of COVID-19 on these themes, in an urban context, was analysed at the Global, South Asia, and specifically at India level.

Given that much of the focus of local governments has been on sectors such as housing and slums; water and sanitation, and maintaining public spaces, the subjects of urban planning, public health including clinical care, livelihoods and social protection of urban workers, remain largely neglected at the local level – these inadequacies in our planning and governance systems came to the fore during the COVID-19 pandemic. This study has attempted to link them to the conception of urban planning, which points to future directions by highlighting the limitations of the current institutional arrangements and capacities around urban planning in India.

The study followed a mixed-methods approach, including primary and secondary research methodologies. A detailed secondary literature review was undertaken to understand how earlier pandemics have shaped the form and processes across the themes mentioned above. A global timeline of public policy interventions in response to pandemics has been documented as part of this research. The literature review was undertaken at three levels – Global, South Asian and four select countries of India, Bangladesh, Myanmar, and Nepal. For each of the countries, "Country Profiles" were prepared, enabling cross country comparisons on response to COVID-19.

Further, under the current study, an innovative tool – the Press Scan Analysis – was undertaken based on the press coverage from January to September 2020. The Press Scan entailed coverage of 38,7484 and 7,003 sources at the global and India level respectively. It helped generate a total reach of 62 billion articles at the following levels – global, South Asia (including India, Myanmar, Bangladesh & Nepal), five Indian cities (Delhi, Pune, Bangalore, Bhubaneswar and Bhilai) and six towns (Malerkotla, Jhansi, Lingasugur, Ajmer, Dhenkanal and Muzzafarpur) along with Dhaka, Yangon & Kathmandu. The Press Scan Analysis helped garner information about perceptions and critical issues discussed in multiple geographies through media reporting on COVID-19.

The primary research covered 11 cities/towns selected to ensure representation of various geographical regions, different size classes of urban settlements (large, medium, small), varying densities and diverse nature of economic activities. The primary data collection was done using structured questionnaires administered to Key Informants, such as representatives from the Government, Civil Society Organisations (CSOs), Community Based Organisations (CBOs) and communities. A total of 158 Key Informant Interviews (KIIs) were conducted across 11 cities. Additionally, four expert interviews were conducted in other cities to complement the KIIs.

On analysing the primary evidence from the KIIs alongside the findings of the press scan and secondary literature, three broad themes a) Building urban resilience through integrated planning b) Attenuate formal/informal categories to universalise access and c) Enable legal reforms and revisit governance

responsibilities, scales and interfaces, were identified as basic principles for reforming urban governance in India. "Resilient" is defined as the capacity of an urban system to withstand shocks and to continue to function efficiently despite it. An integrated approach to the planning of urban centres is critical for building resilience. Such an approach must have spatial/physical, social and economic planning as its cornerstones. Cities and towns need to be encouraged and supported to adopt a dynamic, spatial planning perspective, a paradigm shift from the static land-use planning approach currently being practiced in India, alongside taking into cognisance the social realities in cities and building resilient economies. The existing shreds of evidence from earlier epidemics/ pandemics with zoonotic diseases originating from wet markets, spatial plans must make provisions for the clear separation of wet markets in Indian cities as a strategy to combat zoonotic diseases at these potential sites of origin and early spread. Besides, cities must also ensure adequate provision of safe transportation services and encourage shifts towards Non-Motorised Transport (NMT), which have been observed during the COVID-19 pandemic. There is a need to encourage such shifts by making adequate infrastructure provisions for walking and cycling, even if these trends remain common only among a particular section of society. Transport systems must also be resilient to future pandemics by putting in place safety and hygiene protocols and encouraging safe practices among users. Adequate provision of open and green spaces will enable citizens to have better mental health and experience well-being. The COVID-19 pandemic exposed the inadequacies of India's public health systems which are underfunded, ill-equipped and understaffed. The Government of India, through the Ministry of Health and Family Welfare, must ensure that adequate investments are made to bolster the public health care system, including infrastructure, human resources along with capacities, to ensure continuity of services even during a public health emergency, with a particular focus on the vulnerable and marginalised communities. Urban health programmes such as National Urban Health Mission (NUHM) also need to be revisited to ensure that public health services are available to the vulnerable and marginalised communities, especially during emergencies such as COVID-19.

The COVID-19 pandemic has highlighted one of the most crucial vulnerabilities of the Indian economy; its large informal sector, the state of the labours engaged and their living conditions. There is an urgent need to strengthen labour laws and do away with any scope for compromising labour rights even on the pretext of the economy's resurrection. Also, informal sector workers (including migrant workers) need to access the available social security schemes, and thus adequate awareness needs to be generated among potential beneficiaries. Street vendors emerged as a group that was severely affected by the lockdown. In order to ensure resilience, special provisions must be made for street vendors, including the provision of street vending zones and natural markets, integrating safety and hygiene practices in these markets and ensuring access to welfare and credit schemes. The biggest crisis in India's lockdown was the large exodus of migrant workers, who found themselves without a house and income, and thus had to walk or cycle back to their villages. The crisis brought to light the living conditions of the migrant workers and the need to augment rental housing for them in Indian cities. Rental housing is vital for migrants because it allows them mobility for better economic opportunities without significant costs. Further, universal access to adequate housing and water and sanitation services, a long-standing commitment of GoI under the UN SDGs, has gained greater importance in the current pandemic and must be prioritised.

Any attempts to make urban centres resilient in the face of public health emergencies such as COVID-19 would require reform of the existing legal framework about public health emergencies and disaster management. India's response to the COVID-19 pandemic was backed by invoking the Epidemic Act, 1897 and the Disaster Management Act, 2005. The Epidemic Act, 1897 is precolonial legislation that has outdated its scope to deal with compelling situations like the ones being faced during the COVID-19 pandemic. There is, thus, an urgent need to promulgate legislation on Public Health for the prevention, control and management of epidemics. Further, while the Disaster Management Act, 2005 provides a framework for institutional response in case of disasters is, it defines the roles of different tiers of government quite clearly albeit at times very rigidly. However, this framework does not provide adequate authority to local governments for anchoring local level responses. The experience, during the current pandemic, has been that urban local governments have played a key role in leading the response, including the setting up of relief camps/shelters for migrants, establishing quarantine and treatment

centres, implementing safety measures and ensuring uninterrupted delivery of essential services such as water, sanitation, solid and liquid waste management, among others. Being institutions of local governance, with an area of jurisdiction that is closest to the ground, the involvement of local governments in public health emergency response is critical and must be suitably incorporated in any public health emergency related legislation. Besides, there is a need to strengthen the Disaster Risk Reduction (DRR) Framework to ensure better cognisance of the current social realities, including specific provisions for zoonotic diseases. Given Smart Cities' experience, which could leverage recently augmented mapping and spatial analytics capacities for disease surveillance and monitoring, the scope for using the available infrastructure, should be expanded to planning and welfare oriented tasks. Such learnings may also be used to provide the required digital infrastructure in other cities and towns and build capacities for managing the same. Enhancing the use of such systems beyond disease surveillance to welfare-oriented tasks must also be ensured. There is a need to revisit the Data Protection Bill, 2019 to integrate adequate safeguards ensuring the right to

BUILDING URBAN RESILIENCE THROUGH INTEGRATED PLANNING

- Ensure provision of safe public transport services and infrastructure to support Non-Motorised Transport
- Adoption of strategic planning approach in small towns to promote resilient urban development
- Earmarking of open and green spaces as a part of all urban infrastructure programmes and enable safe access for all urban residents
- Clear separation of wet markets and strict regulation, as a strategy for combating zoonotic diseases
- Revisit the National Health Policy and the National Urban Health Mission to ensure adequate strengthening of the investments for augmenting public health infrastructure
- Ensuring business continuity and realigning flexibility

ATTENUATE FORMAL/INFORMAL CATEGORIES TO UNIVERSALISE ACCESS

- Labour laws should categorically earmark non-negotiable aspects, which cannot be amended even in emergencies
- Ensure social security coverage for workers in the unorganised sector through simplification of procedures and improved awareness
- Augment rental housing for migrants
- Enabling special provisions for street vendors through earmarking street vending zones and integrating safety and hygiene practices
- Prioritising upgradation of slums/informal settlements and providing in house water supply and sanitation services as part of "build back better" strategy

ENABLE LEGAL REFORMS AND REVISIT GOVERNANCE RESPONSIBILITIES, SCALES AND INTERFACES

- Expand engagement with the fourth tier of government alongside providing opportunities for localised action and innovation
- Minimise risks, ensure preparedness and create awareness on schemes meant for Frontline Workers
- Ensure decision making transparency through use of technology and legal reforms to ensure privacy
- Reform legislative framework for managing public health emergencies and empower local governments to lead relief, response and mitigation
- Strengthen the Disaster Risk Reduction implementation framework

privacy when data is collected during a public health emergency. There is a need to expand engagement with the fourth tier of government, i.e. Community Based Organisations (Self Help Groups and Slum Dwellers Associations), to ensure a truly relevant and timely response enabling opportunities for localised action and innovation. The Frontline Workers (FLWs) shouldered additional responsibilities as they were the first line of response from the government during COVID-19, especially for the vulnerable communities. This presented them with an extremely challenging situation that demanded additional working hours without supplementary remuneration and increased their risk of exposure to the disease itself only demanded additional working hours without supplementary remuneration but also increased their risk of exposure to the disease itself. There is a need to ensure that the potential risks facing FLWs are reduced, their skills and capacities strengthened (for conducting door to door surveys, reading data and maps, and using digital technologies) and making them more aware of the insurance and social security schemes available for them.

This research study, has documented and analysed systemic challenges that urban governance in India will need to address in the future. The study will serve as an important resource not only for researchers, Civil Society Organisations, Non-Governmental Organisations and Donor partners working on similar issues but also for government agencies in India at various levels of national, state and local. The findings from this research has identified policy and programmatic agendas for government agencies that can guide carving out a national agenda focused on building resilient urban centres particularly keeping the vulnerable and marginalised communities at the centre.

1

INTRODUCTION: SETTING THE CONTEXT, RATIONALE AND OBJECTIVE OF THE STUDY

> People make cities, and it is to them, not buildings that we must fit our plans. - (Jacob, 1958)

The history of pandemics is closely associated with the world's urban history (Huremović, Damir, 2019) (Lee, et al., 2020). The global outbreak of 'COVID-19' a zoonotic pandemic has thus far, been primarily located in urban areas. Nearly 90 per cent of the COVID-19 cases were reported in urban areas (UNSDG, 2020) globally, which accounts for 56 per cent of the global population. Further, the recent accounts of Ebola (2014-15) and Zika (2015- 16) have been in urban areas too and have revealed that social determinants of health significantly contribute to unequal burdens of morbidity and mortality (Khubchandani, Jordan, & Yang, 2020) across and within communities.

The outbreak of COVID-19 has hit the world's most vulnerable people the hardest. It exacerbated pre-existing vulnerabilities of marginalised groups living congested and over-crowded informal settlements (UN-HABITAT, 2020). Nearly one billion of the world's population lives in informal settlements and densely populated slums with inadequate household water and sanitation, little or no waste management, and limited access to formal health care facilities. The bulk of these slums are located in three regions: Eastern and South-Eastern Asia (332 million), Central and Southern Asia (197 million) and sub-Saharan Africa (189 million). Over the last fifteen years, between 2000 and 2014, the proportion of the world's urban population living in slums has declined by about 20 per cent. However, the absolute number of people living in slums has increased from 807 million to 883 million over this period (UN Department of Economic and Social Affairs, Population Division, 2019). These informal urban settlements are characterised by the insecurity of tenure, high-density living, low literacy rate, unemployment, crime, social, moral and psychological degradation and poor health. There is empirical evidence to show that infants and children residing in slums have a substantially greater incidence of diarrhoeal illness and are less likely to survive to their fifth birthdays than those living in non-slum areas (Günther, Isabel, & Kenneth, 2014).

Given that South Asia is one of the world's poorest and most populous regions. It has the potential for becoming the "hotbed of infectious diseases" (Stone 2020), and it remains highly vulnerable to COVID-19 on account of entrenched vulnerabilities manifested through rampant incidences of overcrowding, densification and weak public health infrastructure. It also accounts for half of the ten most populated cities in the world. Furthermore, it accords for nearly 22 per cent of the global slum population (United Nations, 2021). Although slums provide labour to the urban centres, slum dwellers are exposed to environmental hazards, such as pollution, and increased health risks (UN Department of Economic and Social Affairs, Population Division, 2019). "Informal" or "illegal" status accorded to informal settlements often makes it challenging to collect data and implement policies to improve these localities' health outcomes (Wilkinson, Annie, 2020).

After the outbreak of COVID-19, South Asian governments, not unlike governments elsewhere implemented crude and often draconian public health protection measures of social distancing and sudden lockdowns to reduce human to human contact ensuring slowdown the spread of the disease. These widely prescribed measures disproportionately impacted the urban poor. The urban poor communities rely on common public spaces for their daily necessities – to fetch water for daily use, use community toilet, access essential healthcare services, or for livelihood. With the pandemic outbreak, as economic activities in cities were shut down, given the high levels of short and insecure work arrangements of the majority of workers in these economies, it resulted in the wide-scale joblessness. Slum-dwellers engaged in daily-wage activities having unstable incomes, and minimal savings faced deprivations. Disruption of the supply chain and restricted mobility made it difficult to access basic goods and services. Therefore, measures, especially those involving physical distancing or lockdowns, imposed negative costs on the informal settlers and slum dwellers who have limited access to safety nets in the form of formalised savings and social protections.

South Asia's share of slums is driven mostly by India, given it is the largest country in the region and is followed by Bangladesh. In India, out of the 377 million population (2011) who lived in urban areas, it was estimated that nearly 35 per cent of the urban population lived in slums in 2018 (World Bank, 2018). Over the next fifteen years, it is estimated that the urban population will increase to 600 million (Ministry of Health & Family Welfare (MoH&FW), Government of India, 2019), which will also be accompanied by an increase in the slum and urban poor populations. Bangladesh has an estimated population of nearly 160

million (Islam & Kibria, 2021). More than one-third of the population lives in the urban area, and of this, nearly 47 per cent live in slums. Furthermore, in Nepal and Myanmar, 49 per cent and 56 per cent of the urban population live in slums with limited access to basic amenities and decent housing (World Bank, 2018).

While India's government response has been able to control the spread, many policy questions came to the spotlight. These relate to public spaces, housing and slums, water, sanitation and hygiene, the predominance of informal-unorganised sectors, precarious livelihoods arrangement, weak health capacities and social protection. In this context, it is critical to assess the impact of COVID-19 on slum dwellers in South Asia, focusing on India, Bangladesh, Myanmar and Nepal and strengthening preparedness strategies to build city resilience to combat future pandemics.

OBJECTIVES OF THE STUDY

The study aimed at documenting specific vulnerabilities of people living in informal settlements and the urban poor in the context of past pandemics and during COVID 19 (up to December 2020) and to craft specific urban planning recommendations to build greater resilience in cities in South Asia in general and India in particular. The specific objectives of the study were to:

- Critically analyse and synthesise evolution of urban planning policies in response to past pandemics – particularly on urban congestion, public space planning and affordable housing and slum redevelopment for vulnerable population
- Assess impacts of past pandemics on urban poor residing in slums and informal settlements with focus on the role of public spaces and the impact due to its restricted access during lockdowns
- Examine the impact of past pandemics on the vulnerable population vis-à-vis impacts of other health hazards (like non-communicable diseases, pollution, etc.).
- Identify physical and institutional infrastructure gaps that have posed challenges to prepare for epidemics or pandemic and
- Examine the impact on livelihood and develop mechanisms to strengthen social and economic safeguards for urban poor to mitigate challenges posed during pandemics and pronged lockdowns.

The key question that the study aimed to answer is that, *based on the experience from the initial period of COVID-19, what can governments, at all three tiers, do for reshaping urban policies and urban planning to create more resilient cities*?

In examining this question, the study was limited by a short time frame and warranted strategic adaptation of research methods within the broader, geographically diverse and ever transforming context of COVID-19. These challenges varied across geographies, since the progression of the disease varied across Indian cities. A slew of rapid policy action measures were taken by the governments to try and contain the spread of the pandemic. These actions varied across sectors; some of these sectors were worse affected than others owing to the nationwide lockdowns imposed in March 2020 and subsequent easing in a phased manner over 8-10 months. This rapid assessment had to consider health risks for researchers and respondents and the unavailability of respondents owing to economic and psycho-social distress caused by COVID-19. This was alleviated by conducting additional secondary literature reviews in lieu of some primary work, increasing key informant interviews and omitting focus group discussions where social distancing would have been a concern. While innovative methods were used, managing data risks around these less conventional methods, its ability to address concerns around sampling and ethical biases (Naik, 2020) will remain a limitation.

This report also presents recommendations aiming at building urban resilience through integrated planning, highlighting the urgent need for legal reforms and revisiting Governance responsibility, Scales and Interfaces and ascertaining the importance of attenuating informal/formal categories to universalise access in the current policy context. Evidence gathered from the ground is understood to be only symptoms of larger systemic problems. Therefore, constraints faced by communities and governments have been triangulated through discussions with sector experts and secondary resources focusing on longer term sustainability of particular sectors. Accordingly, this report focuses on issues that are fundamentally structural and requires mid-to-long-term policy focus for creating more resilient and sustainable solution for the urbanisation in Indian context.

STRUCTURE OF THE REPORT

The report is divided into nine main sections, including the recommendations sections. **Section 1** introduces the study and outlines the rationale. **Section 2** presents a brief literature review that explores the intersection between urban policies and pandemics. It documents

a timeline of the past pandemics that affected urban areas across the globe with specific focus on India and in select South Asian countries (Bangladesh, Myanmar, Nepal), to understand the epidemiological, transmission, health system capability context. This also entails secondary research on evolution of modern planning policies in developing countries in the region and the conditions that led to the growth of informal settlements and slums. Additionally, this encapsulates current urban governance structures and key policies and programmes and short (relief phase) and medium term (recovery phase) COVID-19 responses by the government and non-government actors across the themes of public spaces; housing and slums; water, sanitation and hygiene (WASH); public health including clinical care; and livelihoods and social protection. **Section 3** details the conceptual framework and methodology adopted for the study. It explains the linkages between various methods including the innovative press scan and the primary research used to collect, organise, and analyse primary and secondary data.

Section 4, quantitatively represents the impact of the pandemic on India's progress towards the achievements of the Sustainable Development Goal (SDG) 11 for building Sustainable and Cities and Communities. It also discusses the pertinent issues highlighted by the Indian and South Asian press with respect to the five key themes of this study to identify and prioritise specific areas of intervention.

The subsequent sections of the report, section 5 through 7, present the recommendations emerging from this study. **Section 5** on "Building Urban Resilience through Integrated Planning" recommends an integrated approach to the planning of urban centres, which has spatial/physical, social and economic planning as its cornerstones. Cities would need to be encouraged and supported to adopt a dynamic, spatial planning perspective which is a shift from the static land-use planning approach alongside taking into cognisance the social realities and the resilience of city economies. Ensuring adherence to the UN 2030 Agenda for Sustainable Development's pledge of "Leaving No One Behind" is a must to ensure that the vulnerabilities of the urban poor and other marginalised communities and population groups are adequately addressed.

Section 6 "Attenuate Formal/Informal Categories to Universalise Access" presents the challenges as well as the action points for ensuring that the gap between the formal and informal spaces in the cities is reduced to mitigate the vulnerabilities of urban poor communities and making them an equal part of the urban fabric. It dwells on the strengthening of labour laws, removing any scope for compromising labour rights even on the pretext of the resurrection of the economy, as well as the need to ensure social security coverage among the potential beneficiaries. The need to ensure universal access to adequate housing, water and sanitation services, a long-standing commitment of GoI under the UN SDGs, has gained greater importance in the current pandemic and must be prioritised.

Any attempts to make urban centres resilient in the face of public health emergencies such as COVID-19 would require legal as well as governance reforms, which has been elaborated in **Section 7**, "Enabling Legal Reforms and Revisiting Governance Responsibilities, scales and Interfaces". This section delves on the need to reform the legal framework for disaster management in the country in order to make it cognisant of the current realities as well as the inevitability to re-examine the existing governance structures – the division of roles between the various tiers of governance as well as, inter tier co-ordination.

These three sections (5, 6 and 7) are organised into three sub sections, namely- Background, Evidences from the Ground, and Recommendations. While the "Background" sets the broad conceptual context for the theme being discussed, the "Evidences from the Ground" is based on the findings of study through Primary Research (KIIs) and Secondary Research (Press Scan Analysis, City profiles and available Literature). The final sub-section, "Recommendations", outlines the action points to be taken up by the Government (Centre, State and ULBs) primarily contributing to build resilient cities against future pandemics or disasters.

The report is accompanied by a detailed set of annexures. The **Annexure 1** documents a detailed timeline of past pandemics/disasters and policy evolution during 6th Century to date. **Annexure 2** through **7** presents detailed literature reviews on themes of a) public spaces; b) housing and slums; c) water, sanitation and hygiene; d) legal framework for disaster management; e) public health including clinical care and f) livelihoods and social protection. **Annexure 8** summarises the highlights of South Asian responses dealing with the ongoing COVID-19 pandemic. Finally, **Annexure 9** presents the list of key informants who were interviewed across the select cities.

2

LITERATURE REVIEW: A HISTORICAL ACCOUNT OF PANDEMIC LINKED URBAN POLICY EVOLUTION

Pandemics have a long history with a number of significant ones recorded as a result of the widespread human-to-human infection. Significant disease outbreaks and pandemics recorded in history, including plague also known as black death (1347-1353, Europe), Spanish flu (1918-1919, global), Asian flu (1957-61, global), Cholera (1961 ongoing, global), Hong Kong flu (1968-1969, global), HIV AIDS (1980 ongoing, global), Severe Acute Respiratory Syndrome / SARS (2002-2003, global), Swine flu (2009, global) and tuberculosis have purported enormous negative impacts on health, economy, society and security of national and global communities. In the 20th century, three influenza pandemics namely 'Spanish flu', 'Asian flu', and 'Hong Kong flu' caused immense harm to human life and economic development and were recorded as the most devastating in the world history (Qiu, Rutherford, Mao, & Chu, 2017). Even in this modern era, outbreaks are nearly constant, though not every outbreak reaches pandemic level as has been the case with COVID-19.

Diseases have always played a role in shaping cities (Klaus, 2020). Some of the most iconic developments in urban planning and management, such as the constitution of the Metropolitan Board of Works in London and mid-19th century sanitation systems, were all a response to public health crises such as cholera outbreaks during the 1830s (Barra, 2000). Poor conditions of housing and environmental sanitation were the main reasons for diseases such as typhus, cholera, yellow fever and tuberculosis to spread and these eventually laid the foundation for disease control through urban planning-related initiatives such as sewerage, garbage collection, rodent control and mosquito abatement (Duhl & Sanchez, 1999) as well as the promulgation of the Public Health Act of 1848, which served as a foundation for disease control in England and Wales (Fee & Brown, 2005). The Public Health Act of 1848 was one of the greatest milestones in the history of public health. For the first time, the state became a guarantor of standards of health and environmental quality providing resources to local units of government to make the necessary changes and to achieve the set standards (Brown, 2005). Further, Haussman model of renovation of Paris during the 19th century, focused on the removal of unsanitary conditions and city beautification with the central idea being dividing up functions (zoning) and establishing interconnectedness through a network of circulation routes. It also included urban planning related interventions such as demolition of medieval buildings, construction of sewers, aqueducts, etc. (Jagannath, 2019)

City planning has always been a reflection of the prevailing cultural and technological trends as well as crises. During the modern era, several pioneering town planners such as Ebenezer Howard, Patrick Geddes and Lewis Mumford were central in shaping and furthering the idea of social and health planning. Ebenezer Howard's concept of the garden city was developed during the last two decades of the nineteenth century and it proposed to solve, or at least lessen, the Victorian city's problems by exporting a good proportion of people and jobs to self-contained new towns in open countryside to decongest the core of the cities (Duhl & Sanchez, 1999). In the early 1900s, Patrick Geddes offered his vision of the regional city to address the challenges of the congested large metropolis. Around 1920 Lewis Mumford sustained Geddes's work, largely through the creation of the Regional Planning Association of America (Duhl & Sanchez, 1999). Moreover, since the 1980s the transformation of human disease patterns and the development of preventive medicine had aroused the attention on the influence of 'Urban Space' in the public health discourse (Li, 2017).

Historically, concerns around urban congestion, especially in informal settlements, were tackled through slum upgradation and provision of social affordable housing. Housing regulations around light and ventilation were introduced at the beginning of the 20th century as a measure against respiratory diseases in overcrowded slums of Europe during industrialisation (Klaus, 2020). The first official recognition of these trends was embodied in the Housing and Town Planning Act of 1909 which compelled local authorities in the United Kingdom to introduce coherent systems of town planning using the principles of the 'garden city', and ensure that all housing construction conformed to specific building standards (Booth & Huxley, 2012). During 1920 after the outbreak of Spanish flu, a new emphasis on cleanliness in design was exemplified by early modernists such as Le Corbusier, who prioritised bringing sunlight and ample air circulation into buildings. Corbusier's concepts for urban housing – large high-rises with ample balconies set within a park-like landscape – greatly influenced the design of public housing for a generation (Cole, 2020) .

Undoubtedly, progress in medicine has contributed to a decrease in mortality from diseases, improvements in survival rates in low-income and middle-income countries (LMICs) and the increasing longevity of people living with Non-Communicable Diseases (NCDs), such as diabetes, heart disease, respiratory illness etc. Further, public health interventions, such as improvements in water and sanitation infrastructure have also contributed substantially to the decrease in infectious disease mortality, and regulation has had a major effect on environmental quality in specific locations (Forsyth, 2020).

Regardless of where a pandemic starts, the urban poor and vulnerable communities tend to bear the brunt especially in the LMICs due to weak health systems and limited capacity to handle surges in cases (Qiu, Rutherford, Mao, & Chu, 2017). Distributional inequalities are likely to play out within poor countries and in the more impoverished pockets of such geographies as the poor have access to fewer resources for pandemic response, including fewer health workers and health care services (Khilji, Rudge, Drake, & Chavez, 2013). Crises like Ebola (2014-15) and Zika (2015-16) have further demonstrated that dramatic inequities and pockets of severe neglect in public health standards adversely impact the poor. Such pandemic related burdens fall most acutely on the poor and adversely impact their life expectancy and other socio-economic-health parameters (Szyp, 2020). A detailed account of pandemics and its impact on urban policy evolution is placed at **Annexure 1** and an abridged version of the time line is placed below.

PANDEMIC AND PUBLIC SPACES (PARKS, PUBLIC TRANSPORT, PUBLIC INSTITUTIONS ETC.)

The definition and concept of 'public space' has been continuously evolving. While historically, it mostly meant streets, squares and parks, it is now defined to include transport hubs, shared spaces in community centres, schools, hospitals, religious institutions, as well as privately owned public spaces such as shopping centres, theatres, entertainment hubs etc. (Mahadevia, 2015). While public spaces are important for society's mental, physical, and economic well-being, the spread of infections through public spaces, is undoubtedly a huge concern during the present pandemic.

Health crisis has always played a role in shaping the cities and their public spaces (Klaus, 2020). For instance, during the outbreak of Cholera in the mid-19th century, London adopted the Haussman model of city planning, focusing on city beautification with wide boulevards and avenues, new parks and squares (Jagannath, 2019). Similarly, Central Park, New York was designed, in the immediate aftermath of the second cholera outbreak in the 1800s (Avalos, 2020). The architect of the park, Frederick Law Olmsted, called his vision for the space to be "the lungs of the city," a place to breathe easier at a time when cholera and other diseases ran rampant as people lived in very close quarters that were overcrowded and unhygienic. Subsequently, Olmsted designed more than 100 public parks and recreation grounds, including those in Boston, Buffalo, Chicago and Detroit after the cholera outbreak (Klein, 2020).

Public spaces like markets have always been the main gathering space for buyers and sellers and form an essential part of the cities' economic activities. However, some markets such as the wet markets where fruits, vegetables, meat and seafood are sold have been found to be at the origins of earlier epidemics/pandemics caused by zoonotic viruses. For example, the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 was traced to a wet market in the southern Guangdong Province of China. (Webster, 2004) In 2012, the H5N1 avian influenza (bird flu) epidemic was also traced to poultry infected by migrating water fowl in Hong Kong's markets. Further, both HIV and Ebola made the jump to humans from endangered primates as a reported consequence of the bush-meat trade in Africa (Nalapat, 2020). Moreover, though contested, there is reason to believe that many initial cases of COVID-19 in Wuhan were linked to the Huanan Wholesale Seafood Market as many initial patients were either stall owners, market employees, or regular visitors to this market (WHO, 2020).

Similarly, in case of India, instances of wholesale markets like the Koyambedu market in Chennai and *Azadpur and Ghazipur mandi* in Delhi becoming COVID-19 hotspots had been observed (Pandey, 2020). These markets being a common point for farmers, labourers, wholesalers, traders and many others, make it nearly impossible for authorities to enforce the usual COVID-19 protocol (Pandey, 2020). Moreover, a few instances emerged where religious gatherings emerged as hotspots (Pradhan & Trivedi, 2020) which led to increasing in COVID-19 cases not only in Delhi but also in other states across India (Dutta P. K., 2020).

While India imposed a draconian lockdown in late March 2020 as a strategy to curb the pandemic, this wasn't the first time that a lockdown was imposed in the world's history. The measures taken to alleviate the effects of the bubonic plague that hit Europe in the 14th century can be termed as the first-ever attempt at a lockdown by a government or those in power (News18, 2020). However, this was the first ever lockdown imposed by India. The unpreparedness of the government in managing the lockdown impacted public transport, businesses (including factories and manufacturing units dealing in "non-essential" products) which in turn resulted in lots of people losing their jobs and a means of livelihood (Tanwar, 2020). Initially, due to the lockdown, all public transportation services and commercial/manufacturing establishments came to a halt, however, even after unlock services limped back to normalcy only gradually and people were avoiding crowded places as a precaution against the COVID-19 outbreak, which had a drastic impact on the Indian economy which went into a slump (Tanwar, 2020).

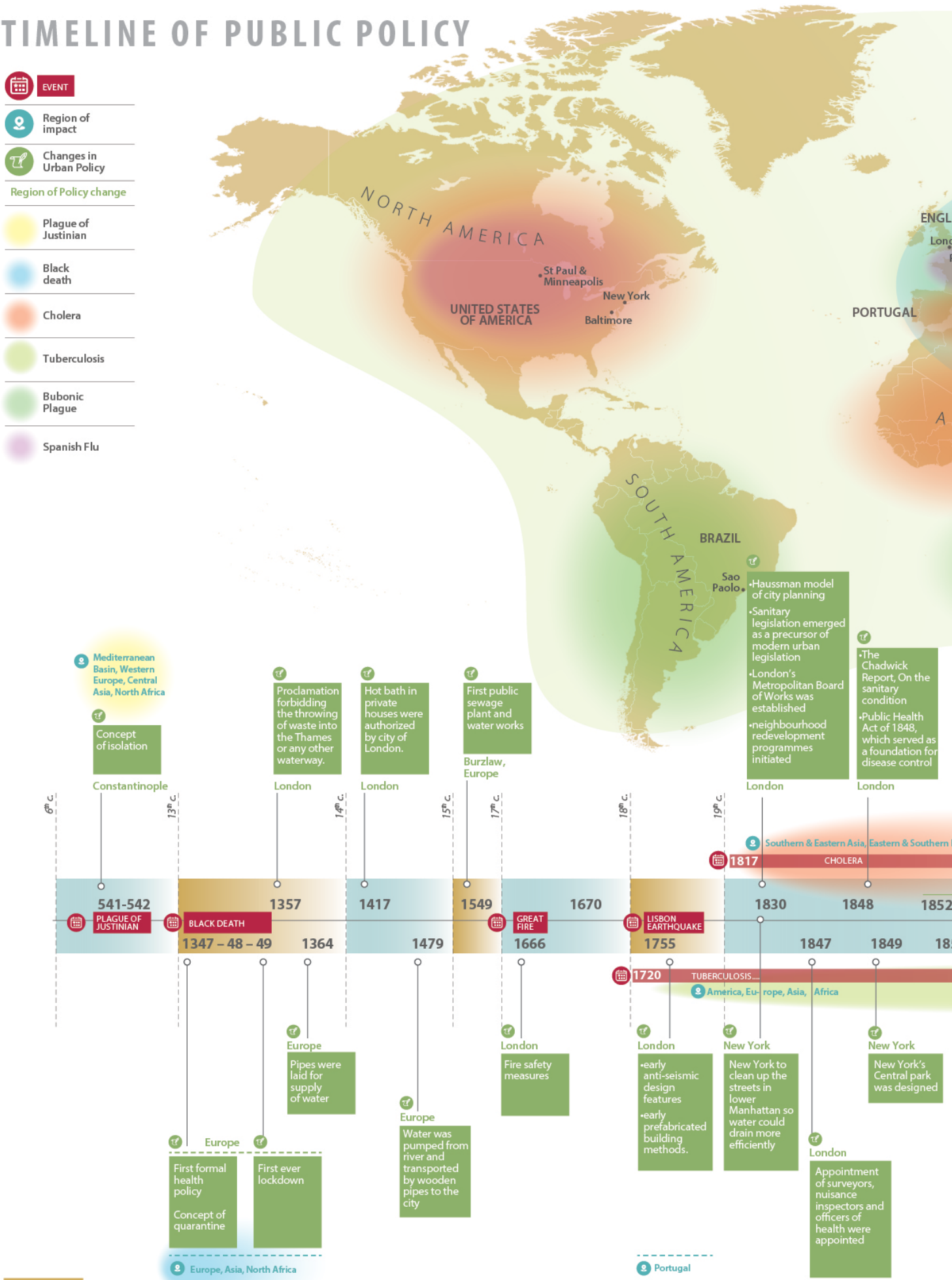
COVID-19 disrupted the livelihoods of millions of informal traders and nation's ubiquitous street vendors, who sell everything from snacks and cups of tea to toys and shoes at traffic lights, on pavements or from carts, across India. (Majithia, 2020). Similar impacts have been observed in other South Asian countries such as Bangladesh, Nepal and Myanmar where lockdown was imposed as a strategy to check the spread of infection, resulting in huge economic losses. The Bangladesh government shifted food markets to the nearest open grounds as a measure to contain the spread as well as maintain the supply of essential items (TBS Report, 2020). Myanmar, implemented strict travel restrictions on international and domestic travel and most flights, trains, and inter-city long-haul buses services were suspended. Besides, people were reminded to practice social distancing in public spaces through IEC materials that were put up in public spaces and through Public Address systems. Recognising the need to build awareness on COVID-19, means of transmission and preventive measures, Government of India launched an online awareness campaign through creative and engaging digital media content (Ministry of Information & Broadcasting, 2020).A detailed literature review highlighting the impact of the ongoing pandemic on access to public spaces is placed at **Annexure 2**.

PANDEMICS AND HOUSING FOR URBAN POOR IN SLUMS AND INFORMAL SETTLEMENTS

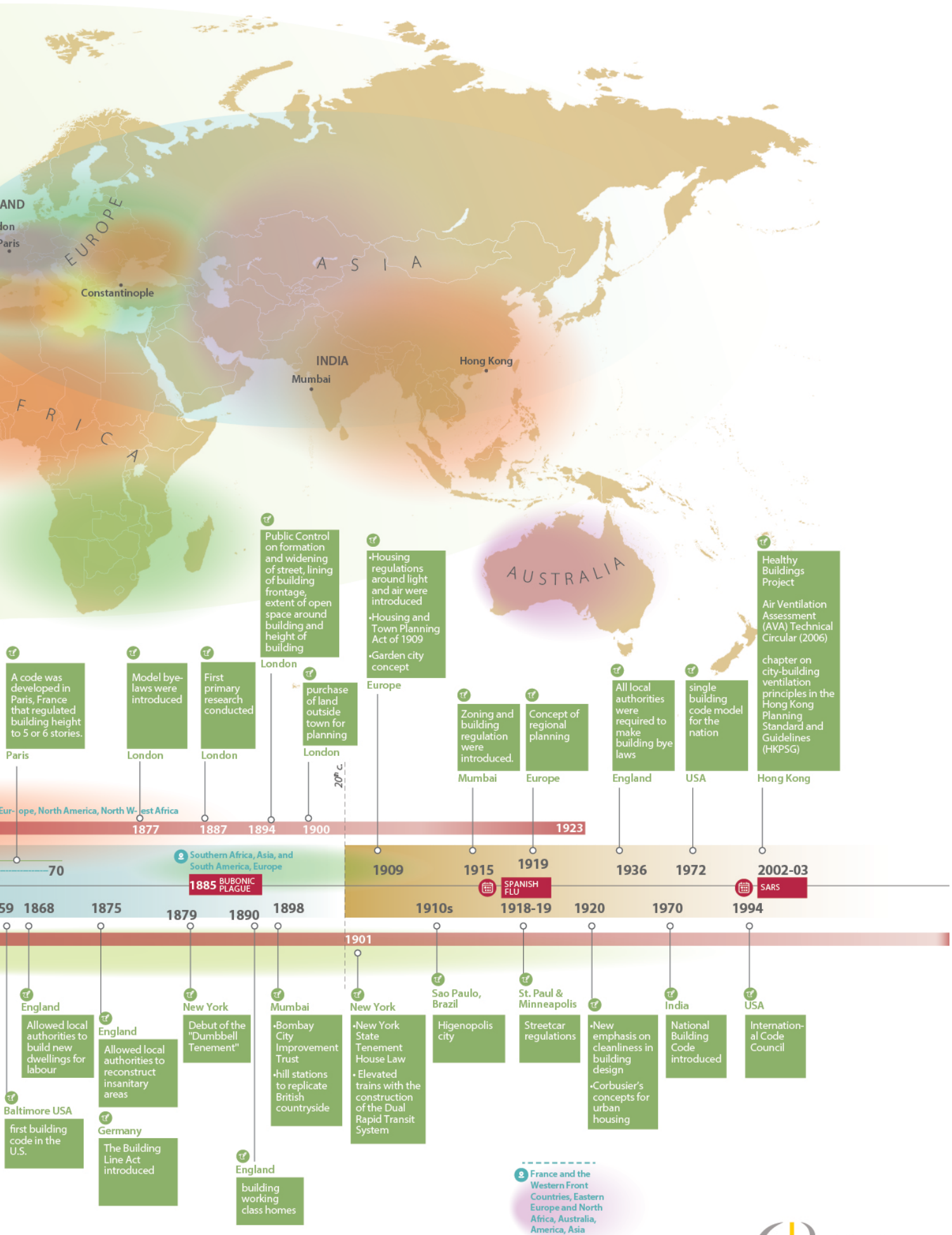
While pandemics in the past have influenced how the linkages between built environment and diseases is perceived even though they may not have led to an immediate policy influence. Overall, the role of disease in the development of housing related policies is noteworthy. Various acts and legislations passed in Europe, United States of America and many other places, which explicitly aim to improve housing are linked to the aim of reducing mortality and improving public health. The link between poverty, poor living conditions and high mortality in slum areas of the world's large cities, like London and New York was well established (Engels, 1885). Respiratory diseases like Tuberculosis, which killed thousands of people during the 19th and 20th century all over the world, was linked to extremely deprived work settings, poorly ventilated and overcrowded housing, primitive sanitation, malnutrition, and other risk factors (Frith, 2014). The Royal Committee of Housing for London, constituted in 1885, advocated that the high mortality rate in these areas can be addressed by improving housing conditions. Similar policy changes were introduced elsewhere in big cities like New York, Paris, and Berlin (Hall, 2014). The current emphasis on housing and the COVID-19 pandemic has spotlighted the direct linkage between public health and the built environment, especially for the urban poor and low-income settlements.

While housing shortage, overcrowding, small dwelling units and lack of basic services and amenities (such as water and sanitation) have made the residents of informal and low-income settlements more vulnerable to the risk of COVID-19 infection, the strict lockdown clamped by the Government of India has resulted in joblessness which has impacted the poor and homeless urban migrants. The challenges faced by residents of slums and informal settlements have exacerbated across South Asian countries like Bangladesh, Nepal, Myanmar and India due to COVID-19. The demand for rental properties in Bangladesh saw a surge during the lockdown period as households chose smaller and more affordable homes for rent amid the COVID-19 outbreak to make ends meet (TBS Report, 2020). Similarly, in Myanmar, as incomes decreased, slum dwellers faced difficulties paying their residential rental prices. In India, similar challenges were faced by migrant workers with

TIMELINE OF PUBLIC POLICY



SCI-FI
SCALING CITY INSTITUTIONS FOR INDIA
LAND HOUSING PLANNING



CENTRE FOR POLICY RESEARCH

millions moving back to their villages due to loss of livelihood (APU, 2020) and their inability to pay rents (Jan Sahas, 2020).

Considering the unequal burden on the poor impressed by COVID-19, various initiatives have been adopted by countries in the South Asian region. The Government of Myanmar provided cash assistance for low-income families and exemptions from electricity tariffs for all households. The Government of Nepal implemented various measures including rent waiver and prohibition from eviction, discount on electricity bills, moratorium on loan repayment, and extension of the deadline for payment of bills (Himalayan News Service, 2020). The Government of India gave a strong push to existing Pradhan Mantri Awas Yojana (PMAY) by announcing living facilities for migrant labour/urban poor at affordable rent through affordable rental housing and a moratorium on a mortgage payment for six months (Ministry of Housing & Urban Affairs, 2020). Moreover, while initiatives taken by most of city and state governments in India have been limited to providing immediate relief to homeless through provision of emergency shelters and camps, the experiences of the few state governments that have already been implementing slum upgradation programmes as an approach to ensure adequate housing, water and sanitation services require wider replication given that the vulnerabilities of these settlements has only increased due to COVID-19 (Express News Service, 2020). A detailed literature review highlighting the challenges arising on account of overcrowded settlements and deprivations related to housing and basic services that gets exacerbated by the pandemics is placed at **Annexure 3.**

PANDEMIC AND WATER, SANITATION AND HYGIENE FOR URBAN POOR

The conditions in new industrial towns in the nineteenth century were deplorable. Basic services, such as adequate housing and safety, were non-existent. Under such conditions, diseases such as typhus, cholera, yellow fever and tuberculosis flourished, creating severe losses in both human and economic terms. This served as the foundation for disease control through urban planning-related initiatives such as sewerage, garbage collection, rodent control and mosquito abatement (Duhl & Sanchez, 1999). Increased understanding of the role of pathogens in the disease and the role of water in their transmission led to extensive investments towards improving water supply and sewerage treatment. During the first half of the 20th century along with the railroad, the advancements in water and sewage systems found their way to Indian cities as a response to the bubonic plague of 1896 (McFarlane, 2009).

The proliferation of slums in urban areas due to uncontrolled urbanisation across South Asian countries like Bangladesh, Nepal, Myanmar and India, has made them more vulnerable to disasters. Slums, characterised by poor living standards, dilapidated housing structure, lack of awareness about personal hygiene and safety, limited or no access to basic infrastructures suffer the most. In India, despite the recognition of the importance of basic services to the urban poor as an important agenda in various policies and urban planning regulations, the right to basic services remains a distant dream for a large section of the urban poor, especially those living in the city slums. Given the current pandemic, where social distancing, safe sanitation, and hand washing are essential measures to avoid further spread, these pockets of informal settlements in the city suffer from lack of basic amenities, inadequate arrangement for drainage, and solid waste disposal and garbage.

As a response to the ongoing pandemic, UN-Habitat supported Myanmar to construct a water treatment plant which could provide nearly 8,000 people with access to reliable and safe drinking water. Nepal installed contactless hand washing facilities primarily in quarantine centres (WaterAid, 2020) and distributed hygiene kits, water filters, dustbins, buckets with lids, soap, surface disinfectants and sanitisers. In India, advisories and Standard Operating Procedures (SoPs) were issued by various ministries such as Ministry of Housing and Urban Affairs (MoHUA), Central Pollution Control Board (CPCB), Ministry of Health & Family Welfare (MoHFW), etc. Further, the Ministry of Health and Family Welfare issued a separate advisory for "non-notified" informal settlements. Some private and public organisations working on the ground also issued practical and operational guidelines and created posters, reports, and publications as IEC (Down To Earth, 2020). A detailed literature review documenting the criticality of access to WASH to mitigate the impact of the ongoing pandemic is placed at **Annexure 4**.

PANDEMICS AND PUBLIC HEALTH INCLUDING CLINICAL CARE

Owing to quick transmission, high rate of infection, explosive spread communicable diseases have a higher chance of becoming epidemics and/or pandemics. The most vulnerable are the urban poor communities who tend to bear the brunt, in the low- and middle-income countries (LMICs) due to weak health systems and limited capacity – fewer health workers and clinics and less medicine to handle surges in case (Qiu, Rutherford, Mao, & Chu, 2017) .

It is empirically evidenced that pandemics are mostly severe or fatal diseases (e.g., the Black Death, HIV/AIDS, Plague, Cholera, Ebola virus and SARS) and necessitates safe public health interventions including increasing awareness about modes of transmission and prevention, use of protective gear, treatment and vaccination. Based on the experiences during the Ebola virus outbreak, several countries including Democratic Republic of the Congo, Liberia and Sierra Leone developed national public health emergency preparedness and response plans (WHO, 2021). The Ebola virus epidemic helped identify the following key elements of response from a public health perspective – effective case management, robust public health surveillance system, public health emergency plans and standard operational procedures, community engagement, social mobilisation, and communication strategy (WHO, 2021). Initially recognised as a global threat in mid-March 2003, SARS was successfully contained in less than 4 months in several countries including China, Hong Kong, Singapore, Taiwan, and Vietnam, largely due to an unprecedented level of international collaboration and cooperation of the Global Outbreak Alert and Response Network (GOARN) and its constituent partners which comprised of 115 national health services, academic institutions, technical institutions, and individuals (Mackenzie, et al., 2004). The management of the global SARS response involved intense daily coordination in the areas of aetiology and laboratory diagnosis, surveillance and epidemiology, clinical issues, animal sources, and field operations (Mackenzie, et al., 2004).

The WHO Contingency Fund for Emergencies (CFE) was established by the donor countries in 2015 after the Ebola crisis to allow WHO to quickly release funds for emergency response (WHO, 2021). The CFE provides WHO with resources to respond rapidly to disease outbreaks and health emergencies, often within 24 hours which drastically reduces the costs of controlling outbreaks and emergencies, as well as wider social and economic impacts (WHO, 2021). The CFE also allows WHO the flexibility to scale up operations in response to an escalation in a health emergency and provide funding to ensure the continuity of critical, life-saving operations in the absence of other donor funding (WHO, 2021).

Evaluating the past pandemics and consequential responses, efforts have been mostly around developing public health emergency preparedness or response plans and strategies. There have not been many legislative and policy related responses on Public health. However, the Public Health Act of 1848 which legislated on the sanitary conditions of England and Wales was one of the great milestones in public health history (WHO, 2005). It was the first time, the state became the guarantor of standards of health and environmental quality and provided resources to local units of government to make the necessary changes to achieve those standards (WHO, 2005). The Public Health Act established a General Board of Health empowered to create local boards of health in the areas of high mortality and poor sanitary conditions (WHO, 2005). These local boards of health could appoint a medical officer of health and be the authority to deal with water supplies, sewerage, removal of garbage, rodent control, mosquito abatement and other sanitary matters (WHO, 2005). These public health responses have a multi sectoral bearing on the overarching issues of water supply, sanitation, hygiene, housing and slums.

The ongoing COVID-19 pandemic has overwhelmed public health systems globally and especially in low-income countries where they are most fragile. It has further underscored the bearing that chronic neglect of the public healthcare system has on a country's ability to safeguard its residents, particularly in the face of a public health emergency of this magnitude. In India, public health care systems which are characterised by limited infrastructure, resources and personnel struggled to effectively control the spread, and to provide appropriate and timely healthcare to the affected (Oxfam India, 2021). This is further manifested by the low allocation of GDP to the sector; India has the world's fourth-lowest health budget in terms of its share of government expenditure, where people pay about 58.7 per cent of their total health expenditure out of pocket, and only 50 per cent of the population have access to even the most basic healthcare services

(National Health Accounts Estimates for India, 2018). COVID-19 crisis also brought to light the importance of public healthcare workers for adequate response large number of healthcare positions lying vacant in India (Amar Patnaik, 2020).

In Bangladesh, the short supply of trained public healthcare workers and personal protective equipment (PPE) and inadequate clinical treatment capacity affected all key aspects of the response—from screening at points-of-entry (POEs) to testing, follow-up, treatment, and care. In Bangladesh, the government worked with private sector investors and manufacturers to augment hospital's capacity as well as manufacturing capacity for PPE, ventilators, and testing kits. Nepal, designated the central hospitals, provincial hospitals, medical colleges, academic institutions and hub-hospitals to provide treatment care for COVID-19 cases. Myanmar government managed surge capacity by constructing makeshift hospitals, quarantine centres, and clinics; and procuring ventilators and securing funding for ICU units. The select South Asian countries have derived authority and autonomy to respond to public health emergency by invoking disaster and epidemiological legislations, as may be the case. A detailed review of legislations invoked in Bangladesh, India, Myanmar and Nepal is placed at **Annexure 5**.

A detailed literature review on the centrality of public health and clinical care measures during the pandemics is placed at **Annexure 6**.

LIVELIHOODS AND SOCIAL PROTECTION TO THE URBAN POOR DURING COVID-19

While pandemics have a direct impact on the economy there are limited discernible links between past pandemics and socio-economic policy response by governments. For instance, lessons learned from SARS and Ebola suggest that income poverty is an important factor in disease transmission (Fallah, Skrip, Gertler, Yamin, & Galvani, 2015). Moreover, women accounted for nearly 55 per cent of Ebola cases in Nigeria owing to increased exposure, both occupationally and domestically due to their care-giving roles (Fawole, et al. 2016). In Sierra Leone, school enrolment rates for teenage girls fell from 50 per cent to 34 per cent after the Ebola epidemic (United Nations 2020). Analysis of the impact of the Ebola crisis on the microfinance sector in Sierra Leone reveals that many microfinance clients made delayed loan repayments (The Guardian 2019).

Social and economic responses that safeguard both formal and informal workers have strong linkages with post-war situations and financial crisis. It was only after World War II that labour rights focused on individual rights, the right to collective action, and the right to monetary support in case of employment-related risks were perceived as "social security" (Leisering 2021). The financial crisis of 1990s and 2008 have shown that the welfare state serves an important role in providing insurance and thus in cushioning the effects of the crisis for individuals. In early by the 1990s, the social protection programmes have been executed by many countries to cope with the economic crisis. After the Asian crisis of 1997, Indonesia developed a database of potential beneficiaries of an unconditional income transfer programme to provide support to the vulnerable group (Lal and Soares 2012). Between 2008 and 2010, a broad range of interventions, including liquidity and credit-enhancing measures were allowed to cushion the recession. In 2009, after the Greek debt crisis, the European governments were forced to bail out systemic banks. The financial crisis was redefined as a crisis of fiscal profligacy, requiring tough and prolonged public austerity. Troubled countries such as Greece, Ireland, Portugal and Spain started pushing through austerity and reform, including labour market deregulation, cuts in civil servant salaries, pension benefit freezes, retirement age rises, and retrenchments in social transfers and services (Torben M. Anderson et.al, 2012).

Pandemic related vulnerability, through the lens of the social and economic determinants of public health, influences daily resilience and exacerbates the impact of a health disaster on urban poor and vulnerable (Sullivan & Bourgoin, 2010). For the urban poor, long-term poverty risks can be exacerbated through a vicious cycle of disease, destitution and death, whereby poverty contributes to disease transmission, and contagion fuels poverty (Diwakar, 2020). Such pandemics have pushed informal workers to the fringes forcing them to suffer from both health and economic mortality (Diwakar, 2020).

The pandemic has decimated jobs and placed millions of livelihoods at risk, primarily workers in the informal economy and in poorly protected and low-paid jobs, including youth, older workers, women and migrants. Out of a total of 122 million who lost their jobs in India, 75 percent (92 million) jobs were lost in the informal sector (Oxfam India, 2021). Furthermore, the pandemic was estimated to have pushed an additional 88 million to 115 million people into extreme poverty across the globe in 2020, with the total expected to rise

to 150 million by 2021, depending on the severity of the economic contraction (World Bank Group, 2020). Around 55 million domestic workers in India, were at significant risk of losing their jobs and incomes due to the lockdown and lack of social security coverage, of these 37 million (67 percent) were women (ILO, 2020). The COVID-19 crisis has laid bare pre-existing gaps in social protection provisions with the availability and accessibility of these programmes differing markedly across countries.

India saw a mass exodus of the "invisible workforce" from urban areas back to their rural homes which laid bare a glaring shortcoming of the government's ability to provide social protection to the urban poor. The issues that came to the fore due to COVID-19 and associated lockdowns were primarily around drop in wages, lack of social protection and insurance for informal workers (including street vendors and migrant workers), increase in gender inequality in employment, increase in child labour, lack of social protection cover for frontline healthcare workers, irregular access to food and acute pressure on existing social protection schemes. In Bangladesh, 63.5 million informal workers have been significantly affected by the crisis and are at considerable risk of suffering losses to their livelihoods (ILO, 2020). Even extreme poverty is expected to increase from 20 million to 28 million people as a result of COVID-19 (IFPRI, 2020). In Nepal, over 0.6 million citizens lost jobs since the outbreak of COVID-19 pandemic. Income losses in Myanmar have majorly been due to international shocks particularly losses in remittances, tourism, ready-made garments export industry and trade revenues as well as economic contractions in a wide range of sectors due to lockdowns and physical distancing measures.

COVID-19 has underpinned the need for adoption of safeguard mechanisms like social protection programmes specially targeted towards the poor and vulnerable. As a response, Government of India announced the Pradhan Mantri Garib Kalyan Yojana (PMGKY), INR1.70 trillion relief package to provide support to poor and vulnerable people (PIB, 2020). The PM Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) was also launched for providing affordable working capital loan to street vendors to enable them to resume their livelihoods (PIB, 2020). In addition to national announcements, state governments also introduced additional measures for migrant workers, construction workers, below poverty line (BPL) individuals and low-income households. For example, the Odisha government announced the Urban Wage Employment Initiative (UWEI) which enabled generation of employment for the returnee migrants, the urban poor and their organisations along with building community assets in slums (Citizen Matters, 2020).

In Bangladesh, the government announced stimulus packages worth 4.4 percent of the GDP for economic revival, including stimulus package and widening of social safety net coverage (IMF, 2020). It also expanded the social assistance system to provide additional coverage to vulnerable groups, increasing coverage from 15 million to 39.8 million people, alongside providing food assistance to the vulnerable and jobless people during the lockdown (IMF, 2020). Similarly, Myanmar through its social protection system helped large sections of the vulnerable population through one-time universal cash transfer to the families affected and to the Small and Medium Enterprise firms during the lockdown reaching close to 20 million people (Brancati, Minoletti, Win, Hein, & Riambau, 2020). Likewise, Nepal announced a relief package (including food items and soap) ensuring universal coverage of informal workers and deprived people with no caregivers. In India, the Ministry of Micro, Small and Medium Enterprises released the Emergency Credit Line Guarantee Scheme (ECLGS) Modification in Operational Guidelines, 2020 (Ministry of Micro, Small and Medium Enterprises, 2020). Under the scheme, the upper ceiling of loan was increased from INR 25 crores to INR 50 crores. Additionally, Guidelines for Credit Guarantee Scheme for Subordinate Debt (CGSSD) for Stressed/ non-performing assets (NPA) MSMEs in 2020 (Ministry of Micro, Small and Medium Enterprises, 2020) which aims to provide personal loan through banks to promoters of stressed businesses. Further, the Ministry of Micro, Small and Medium Enterprises also released a COVID-19 Standard Operating Procedure (SOP) for MSMEs at the workplace to ensure continuity of businesses while at the same time preventing transmission of COVID-19 amongst the employees and workers of MSMEs. The SoP focused on regular disinfection of workplaces, provision of transport facility, hand washing arrangements, thermal screening, promotion of maintaining social distancing, and wearing of masks. Simultaneously, MSMEs were encouraged for providing medical insurance to their employees (Ministry of Micro, Small and Medium Enterprises, 2020). A detailed literature review highlighting the impact of pandemic on livelihoods and social protection with specific focus on the vulnerable is placed at **Annexure 7**.

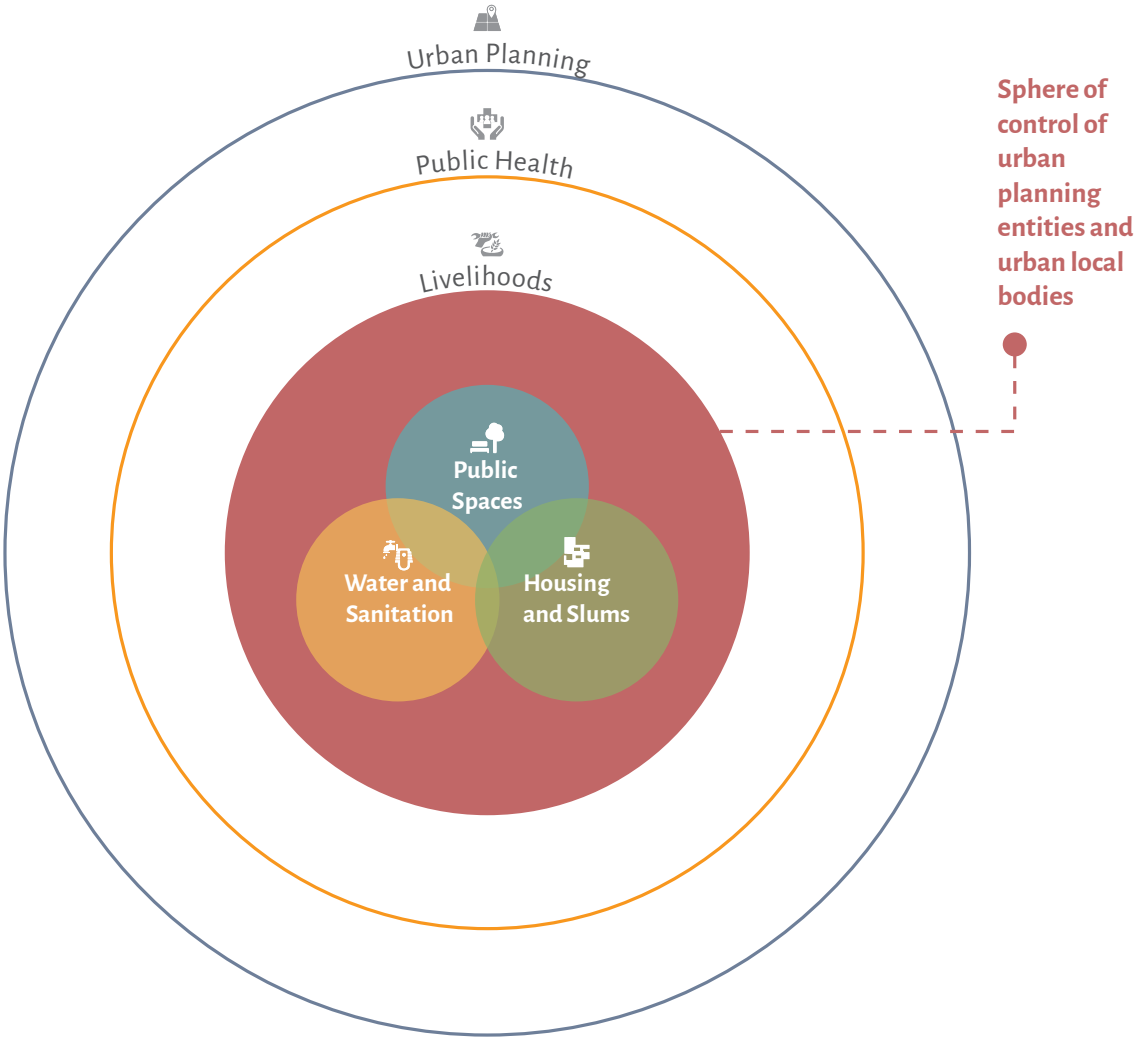
3

THE CONCEPTUAL FRAMEWORK AND METHODOLOGY

3.1 Conceptual framework

The study aimed to assess the intersection between urban policy, planning and pandemics and adopted an inter-disciplinary conceptual framework and methodology. Based on the literature review and in reference to the terms of reference for the study – the intersection between urban planning and pandemics is set out into five main themes. These are a) Public spaces; b) Housing and slums; c) Water, Sanitation, and Hygiene; d) Public health including clinical care and e) Livelihoods and social protection. The impact of COVID-19 on the above-mentioned themes in the urban sphere has been analysed at the Global, South Asia, and specifically at the India level during the last year. While currently, the authorities of most urban local governments in India are focusing their interventions mainly in sectors like housing and slums; water and sanitation and on maintaining public spaces, the subjects of urban planning, public health including clinical care, livelihoods and social protection of urban workers remain inadequately addressed which have been highlighted during COVID-19. Therefore, this study has attempted to link them to the conception of urban planning, which points to future directions by highlighting the limitations of the current institutional arrangements around urban planning in India. The ontological categories and relationships in this study are presented in Figure 1 below.

Figure 1: Ontological Categories of this Study

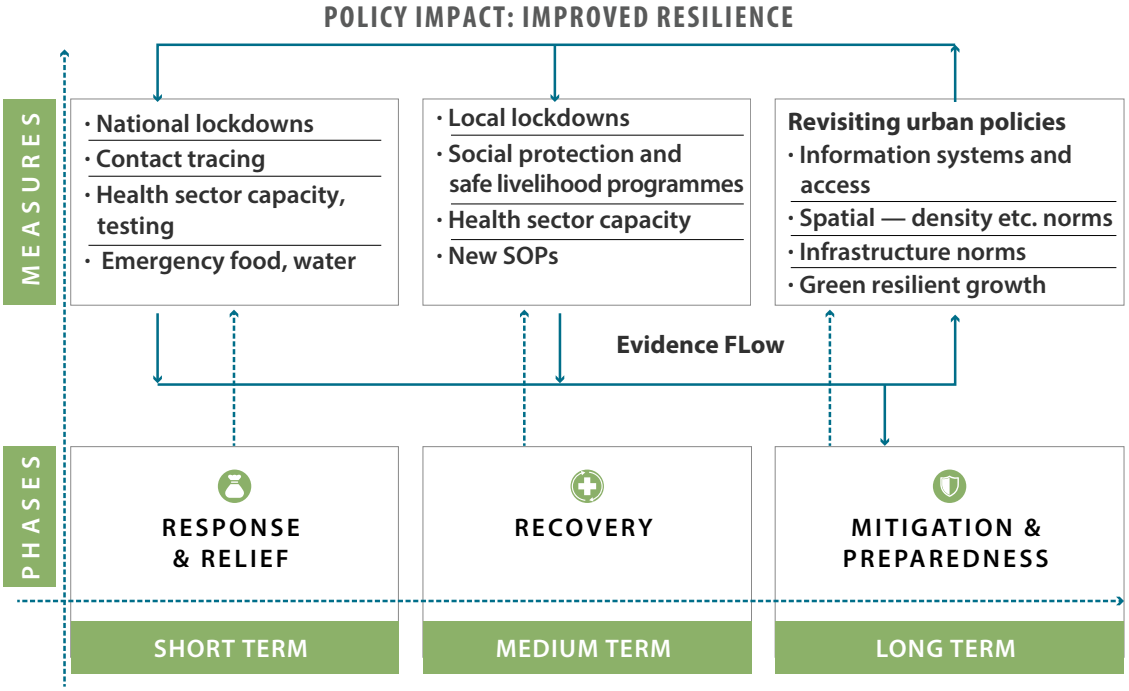


The second aspect of the conceptual framework focuses on laying out the relationship between the traditional disaster response i.e., a) immediate response actions and relief; b) recovery supporting actions and c) mitigation and future preparedness actions in conjunction to the measures taken during the ongoing pandemic. Unlike conventional disaster responses, the relief and recovery measures remains concurrently intertwined under the diverse and ever transforming COVID-19 context. The current study draws on learnings from the evidences from the ongoing relief and recovery phases which remains heavily focussed on short term immediate concerns. These evidences are further triangulated through discussions with sector experts and secondary resources focusing on longer term sustainability issues that would inform better preparedness and mitigation policies. This flow has been indicated by the yellow arrows in the Figure 2. The blue arrows, on the other hand, explains that if such informed urban policies are put in place, then in case of future pandemics, immediate response, relief, and recovery supporting actions would be better informed to minimise upheaval in people's lives. A graphical diagram to depict this information-action nexus is presented in Figure 2 below.

To understand the relationship between each theme and the pandemic, it has been divided into four broad stages. The stages are represented along the Y-Axis and are indicated as key questions of a) what were the underlying issues or what was the origin? b) how did the challenge escalate? c) how and which entities responded to these challenges? and d) what does this experience tell us about building back better for embedding enhanced resilience in both forms and processes. The X-Axis, on the other hand, represents four phases of disaster management, as mentioned above, indicating the need to have specific plans for each sector across phases. Thereafter the issues corresponding to each theme have been mapped along the four stages to understand the context better.

A visual representation of the framework for the theme public spaces is presented below in Figure 3 as an example. The public spaces were mapped along the four stages indicated in Y-Axis to understand where and how these have acted as vectors, or also evolved in use in some cases. For example, the origin of COVID-19, though remains to be conclusively confirmed, and

Figure 2: Framework for research and synthesis



other zoonotic diseases in the 21st century had been linked to the wet markets. Similarly, while the virus spread through transportation hubs, markets, etc., were locked down as part of a containment strategy the same public spaces were put into other usages, e.g as quarantine centres, testing labs, treatment centres etc. Based on this framework and understanding of the public spaces in the context of the ongoing pandemic, recommendations were curated.

Based on this conceptual framework, a methodology was developed to gather and triangulate data from secondary and primary sources also incorporating an innovative instrument to capture the perceptions of challenges and the government actions across global, South Asia, India and specific cities in India through a scan of press coverage on the specific themes during January to September 2020. Details of the methodology are part of the next section.

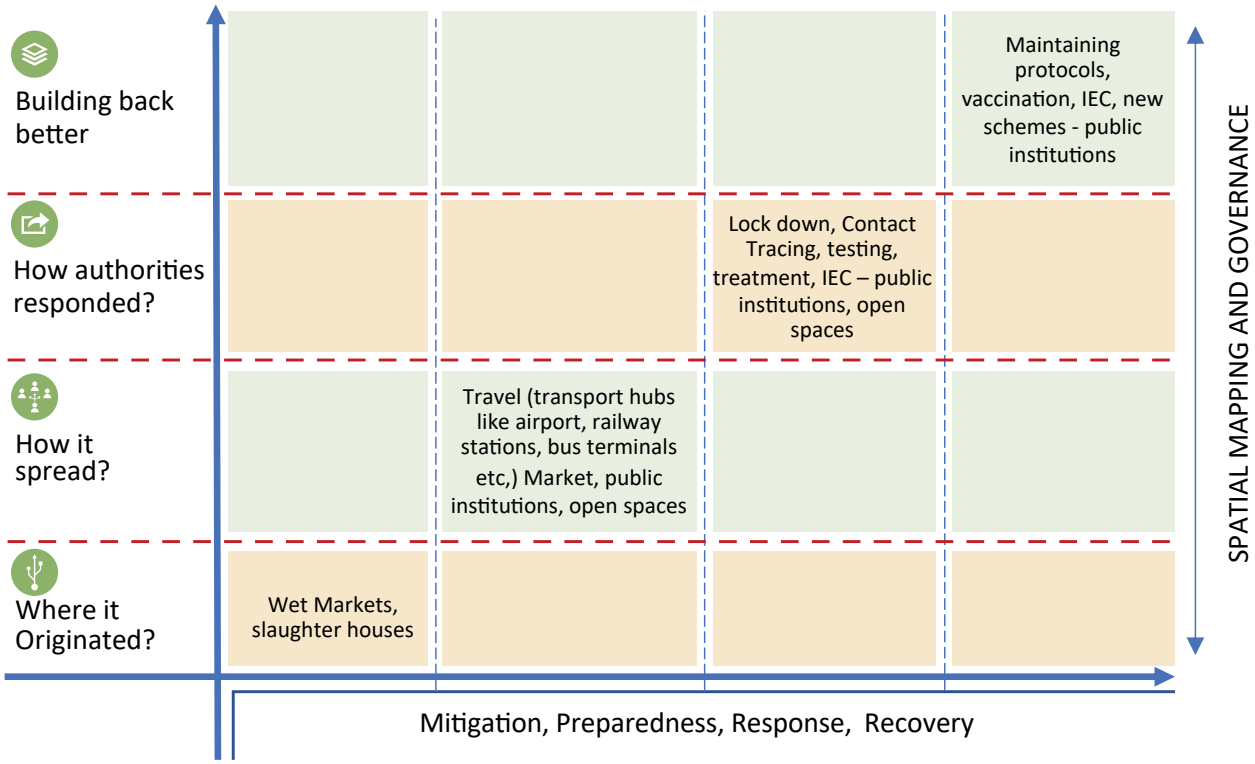
A group of Advisers from India, Bangladesh, Myanmar and Nepal provided guidance in developing the conceptual framework, methodology and supported the main research team to gather a deeper understanding of relevant policy issues in India and South Asia on public spaces; housing and slums; water, sanitation and hygiene; public health including clinical care; and livelihoods and social protection.

3.2 Methods adopted in the Study

As a part of the methodology, mixed methods were adopted that relied on primary and secondary research techniques. As a first step, a literature review was undertaken across five themes in a historical perspective to understand how pandemics have shaped the form and processes across the themes of (1) public spaces; (2) housing and slums; (3) water, sanitation and hygiene; (4) public health including clinical care; and (5) livelihoods and social protection; in urban areas. This review built an understanding of the thematic areas at the global and South Asian levels, focusing on India, Bangladesh, Myanmar, and Nepal. A detailed country profile on key issues faced under COVID-19 in urban areas and government response of the four countries was developed as a next step. The literature review helped develop the conceptual framework for the study as well as the research methodology.

A detailed press scan analysis was undertaken to capture the perceptions and key issues being discussed in multiple geographies through media reporting on COVID-19 at the global and South Asian levels, focusing on all four countries. This innovative exercise was feasible due to the digitisation of news platforms and new emerging tools for automated

Figure 3: Analytical Framework: Public Spaces



and systematised analysis of data. This was used as a barometer for understanding public concern and government priority actions over the large spread of geographic categories covered by the study.

As the terms of reference were to develop specific recommendations for India's urban areas, the study shortlisted 11 cities/towns in the country for undertaking city level primary qualitative data collection. For the shortlisted cities, city profiles and spatial infrastructure maps were developed based on secondary sources. The official websites of these cities, especially the ones developed for COVID-19 response, including the Twitter and Facebook handles, were reviewed as secondary sources. These emerged as important secondary sources given the increased use of social media platforms by governments to put out information on actions being taken and the COVID-19 pandemic status in their jurisdictions.

Based on the literature review, the issues identified in the press scan and the specific city profiles, a primary data collection tool based onfor conducting Key Informant Interview (KIIs) was developed. The KIIs were conducted for 11 cities in India across with various government, civil society/CBO and community stakeholders in each of the selected cities/townsy. The KIIs were aimed to provide insights into vulnerabilities from the bottom-upof communities and specific government and civil society organisations' response.

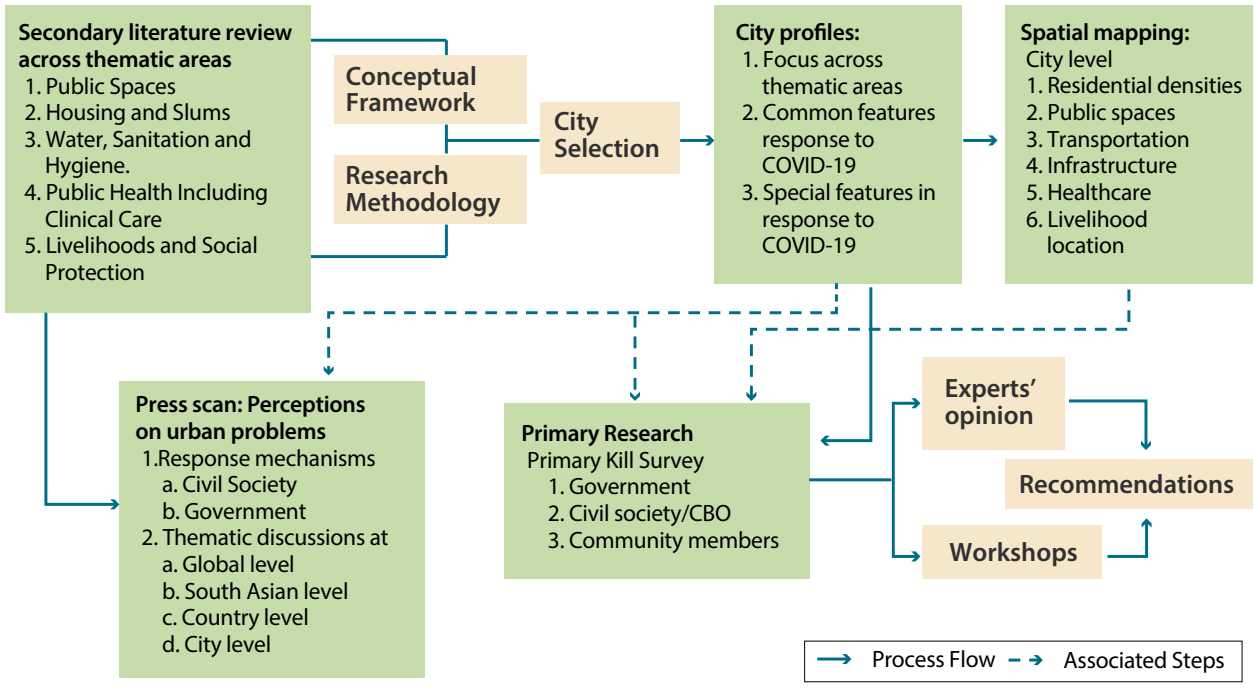
Through triangulation of secondary research with primary qualitative data, the study generated specific evidence on how national, provincial, and local governments have adapted existing policies, programmes, and institutional structures to address urban vulnerability issues through urban planning. Based on the systematisation and analysis of the evidence and workshops with experts – actionable recommendations were drawn up on how governments in developing countries can be advised on reshaping urban policies after the outbreak of COVID-19 in an ethical, inclusive, equitable, and resilient manner.

3.3 Details of city selection, press scan and research tools

3.3.1 Secondary literature review across thematic areas

The literature review was undertaken on five identified themes to explore the history of pandemics and its effect on urban policies at a Global and South Asian level to understand the epidemiological, transmission, health system capability context. The literature review focused on the evolution of modern planning policies and their linkages to past and present pandemics in developing countries, with a focus on India, Bangladesh, Myanmar, and Nepal. It

Figure 4: Research Methodology and Structure



explored the current urban governance structures and key policies, programmes and standards, and norms for food security, health, planning, housing, and transport, and social infrastructure in the four focus countries. It also reviewed various Acts and legislations pertinent to the response to COVID-19.

The literature review examined relief and recovery measures undertaken by South Asian countries, focusing on India Bangladesh, Myanmar, and Nepal to understand the challenges faced and solutions undertaken in dealing with the outbreak of COVID-19. The literature review included reviewing peer-reviewed articles, opinion pieces, and routine periodic and thematic reports.

3.3.2. Country profiles of four South Asian countries

Country profiles of India, Nepal, Bangladesh, and Myanmar were developed to undertake cross country comparisons on response to COVID-19. These profiles covered demographic data of the country. It also covered existing national level housing, livelihood, water and sanitation schemes or other critical policies for the urban poor. It highlighted the country's response (short, medium, and long term) to the pandemic. It dealt with issues related to surveillance and monitoring systems in public space, highlighted special arrangements and coping mechanisms and local practices and social security schemes that worked.

3.3.3. City Selection for primary data collection

Eleven urban locations were identified for administering KIIs. These sites were selected, factoring in the following considerations - zonal representation of India, representation of the city's different size (large, medium, small), the density of the city, and diverse nature of economic activities in selected sites. Selected cities were a mix of Smart cities with better control and coordination mechanisms and small towns with low population density. Some of these cities were known for tourism and heritage, some cities were known for industries, mining, IT sector, and other services. These cities were spread across the country to ensure diverse narratives were captured through KIIs. The presence of networks and groups of CSOs (CPR's partners) and CPR staff in the selected cities was a critical factor in city selection. Considering the pandemic was ongoing when the KIIs were to be administered, CPR leveraged its partners' strong presence in six sites (including Pune, Bangalore, Ajmer, Muzzafarpur, Jhansi, Malerkotla) to administer KIIs. The remaining five sites, including Delhi, Bhubaneswar, Dhenkanal, Bhilai, and Lingasugur, were selected as CPR researchers were based there. Details of selected cities are given below (Table 1).

Table 1: Selected cities for administering KIIs

Region (5)	Cities (5)	Towns (6)
North	Delhi	Malerkotla (Sangrur District, Punjab)
		Jhansi (Uttar Pradesh)
South	Bangalore (Karnataka)	Lingasugur (Raichur district, Karnataka)
West	Pune (Maharashtra)	Ajmer (Rajasthan)
East	Bhubaneshwar (Odisha)	Dhenkanal (Odisha), Muzzafarpur (Bihar)
Central	Bhilai (Chhattisgarh)	

3.3.4. City Profiles and Spatial mapping of selected sites

City-level profiles were developed for all eleven Indian cities selected for administering KIIs. These city profiles covered demographic data, institutional structure for COVID-19 related response by the government and civil society organisations. In addition to city profiles, spatial analysis of all selected cities was undertaken to ascertain -(1) density, (2) public spaces/institutions (parks and playground, religious institution, educational institution, health facilities, markets, and commercial spaces), and (3) public infrastructure (airport, metro, railway station, bus stop, national highway). For each selected city, the parameters mentioned above were spatially represented with a view that spatial analysis of big cities and small cities would help assess the need for preparedness for public infrastructure to deal with the COVID-19 crisis.

3.3.5. Press scan

The press scan was undertaken to capture a period of nine months (between January to September 2020) to understand issues that received media attention as well as those that were disregarded. Press scan analysis also aimed to explore the contrast and similarities between news coverage in India vis-à-vis globally.

Under Press Scan, five International media sources covered COVID-19 related global news focusing on all five thematic areas - public spaces; housing and slums; water, sanitation and hygiene; public health including clinical care; and livelihoods and social protection.

Figure 5: Steps Adopted under Press Scan

Additionally, the press scan covered news from nine South Asian countries. Furthermore, six National mainlines and four vernacular media sources covered news from India, Bangladesh, Nepal, and Myanmar. 6.66 M sources globally, 7.96 M sources at the South Asian level and 6.3 M sources in India were covered under the press scan.

Keywords were developed to explore sub-themes. These were further nuanced by adding regional and vernacular words by the press scan agency. The press scan analysis explored issues and actions taken by the government and civil society in response to the pandemic under each theme. This study identified prominent issues based on the volume of news coverage and actions around them.

3.3.6. Key Informant Interviews

Based on the preliminary literature review, the key informant interview schedule was developed for all themes. First, a detailed list of questions was developed on various sub-themes to ensure thematic focus. These questions were further filtered, strengthened, and fine-tuned based on city profiles. As a next step, a city-wise stakeholder list was prepared. Some of the key informants included government officials from Urban Local Bodies like Municipal Commissioner, Public Health Officer, Chief Medical Officer, elected representatives, front line workers [like Accredited Social Health Activist (ASHA), Anganwadi workers (AWWs), Auxiliary nurse midwife (ANM), sanitation workers]. A list of urban poor and representatives from civil society organisations (CSOs) including non-government organisation (NGO), community-based organisation (CBO), auto-rickshaw association, slum dwellers association, street vendor, domestic worker, home-based worker, traders was drawn. After that, stakeholder wise KII schedules were developed that had questions from all themes for each city. These KII schedules were also translated into vernacular language.

Primary data collection through KIIs aimed to capture nuances on issues and concerns the urban poor faced in slums and informal settlements after the outbreak of COVID-19. It also covered relief and recovery response measures by the state and non-government actors in addressing the economic, social, and health-related vulnerabilities. On average, thirteen interviews were rapidly administered in each city in a month (December 2020 to January 2021). This report is based on 162 KIIs across cities in India. Before administering KIIs, field investigators were oriented on Ethics and safety protocols. Informed consent of the key informant was also taken before conducting the interview.

3.3.7. Workshops and expert opinions

Findings from both primary and secondary data analysis were discussed with advisors and experts through two formal workshops and several direct interactions. They have fed into a set of recommendations on urban planning policies geared towards achieving greater resilience.

3.4 Limitation of the study

The rapid nature of the study and the short time frame posed some limitations. The study relied on KIIs (a qualitative research technique) for primary data and could have been strengthened with a primary household survey and by the inclusion of more cities. Other than this, the field challenges encountered included scheduling interviews with government officials as they were hard-pressed owing to the ever-transforming context of COVID-19. Key limitation of this study includes risks around less conventional methods and the ability to address concerns around sampling and ethical biases.

4

OUTLINE OF IMPACTS DUE TO COVID-19

This section aims to conduct a comparative analysis of the four countries in South Asia - Myanmar, Nepal, Bangladesh and India identified for the study and outlines the impact of COVID-19 in these countries. The first sub-section lays down the broad urban frame of the four countries followed by summarising the COVID-19 induced impact on major macro-economic parameters of GDP, food security, industrial outputs among others. The following sub-section documents the specific impact of the ongoing pandemic on India's progress to achieve SDG 11, Sustainable and Inclusive cities which is impacted by other SDG goals and indicators. The final sub-section indicates the findings from the press scan conducted from January to September 2020 and presents the media coverage about the specific themes identified-public space, housing and slum, water sanitation, public health (including clinical health), livelihoods and social protection.

4.1 Urbanisation frame: Bangladesh, India, Myanmar and Nepal

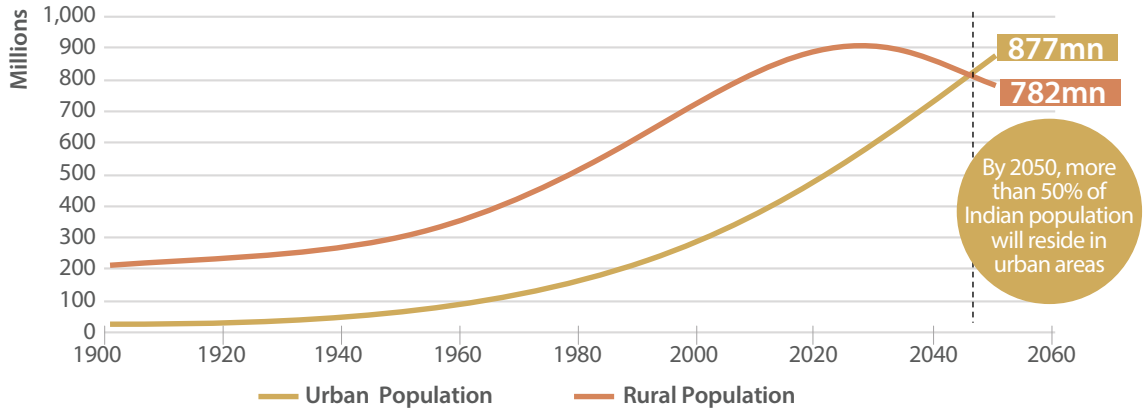
Evidence reveals that rapid demographic growth, migration and density, increased movement of people and animals, and changes in land uses are some of the main processes linked to the prevalence of zoonosis in the urban global South (Hassell, 2017) (Ahmed S, 2019). According to the UN's World Urbanization Prospects, 2018, it is projected to account that the urban population will account for 68 per cent of the total population by 2050, wherein Bangladesh, India, Myanmar and Nepal will comprise about 15 per cent of the total urban population. Therefore, the increasing trends of urbanisation have also paved the way for an increased probability in the emergence and spread of zoonotic diseases, thereby manifesting a major threat to the world's urban population.

An assessment of the impact of the COVID-19 pandemic and potential future pandemics across the five themes necessitates a demographic analysis of the urban frame of the four selected South Asian countries. This not only includes the projected urban population of these countries, but also their urban population characteristics including slum population, sex ratio, unemployment rate, literacy level and poverty ratio. In addition, the number (and size) of the urban centres of these countries and rate of migration is also documented to showcase the increasing pressure on urban areas vis-à-vis the demand for employment opportunities, housing and basic services. This exercise enables an identification of the most vulnerable groups and regions during a public health emergency/disaster, and can further facilitate a focused dissemination of relief resources and measures.

1. URBAN POPULATION PROJECTIONS FOR SA

	India	Bangladesh	Myanmar	Nepal
Total Population in 2020	1.3 Billion	168 Million	54 Million	29 Million
Urban Population in 2020	35%, 483 Million	38%, 65 Million	31%, 17 Million	21%, 6 Million
Projected Proportion of Urban Population by 2050	53%, 877 Million	58%, 118 Million	47%, 29 Million	37%, 13 Million

INDIAN URBAN POPULATION PROJECTION



Source: Census 2011; UN World Urbanization Prospects, 2020

2. URBAN CHARACTERISTICS OF SA

	India	Bangladesh	Myanmar	Nepal
A. SLUM POPULATION (% of urban population)	24% (UN-Habitat World Cities Report 2016)	55% (UN-Habitat World Cities Report 2016)	41% (UN-Habitat World Cities Report 2016)	54% (UN-Habitat World Cities Report 2016)
B. URBAN GENDER RATIO	111 males/1000 females (MHA, 2011)	109 males/100 females (Bangladesh Bureau of Statistics, 2014)	91.6 males/100 females (Department of Population, 2014)	104 males/100 females (Government of Nepal, 2014)
C. URBAN UNEMPLOYMENT RATE	8.4% (Kumar, 2020)	4.9% of the total labour force (CEIC, 2017)	4.8% (Department of Population, 2014)	11.6% (Government of Nepal, 2017-18)
D. URBAN LITERACY LEVEL	84.98% (Census, 2011)	65.6% (Bangladesh Bureau of Statistics, 2013)	95.2% (Department of Population, 2014)	82.5% (Government of Nepal, 2014)
E. URBAN POVERTY RATIO	13.7% (PTI, 2013)	18.9% (World Bank, 2017)	11.3% (World Bank, 2017)	7% (Nepal Planning Commission, 2018)

Source: Census 2011

3. MIGRATION TRENDS IN SA

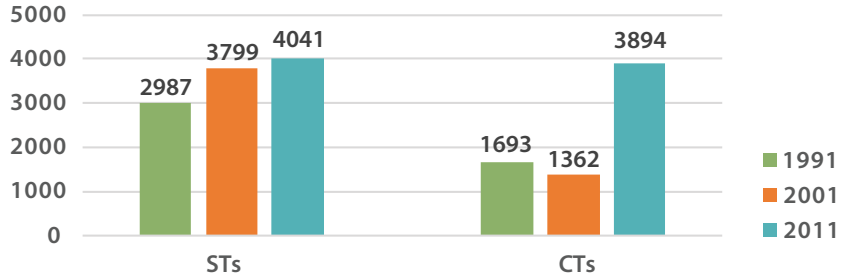
India	Bangladesh	Myanmar	Nepal
45% (~60 Million) of the total urban workforce (~133 Million) comprises of migrant workers (Census 2011)	5.3% of total workforce comprises of rural to urban migrants (decadal rate for 2001-2011) (Hossain, Riad and Ahmed, 2016) (Hossain, Riad and Ahmed, 2016)	10% of total workforce comprises of rural to urban migrants (Census 2014)	25.5% of total workforce comprises of rural to urban migrants (Tiwari, 2008)

Source: Census 2011

4. NUMBER OF URBAN CENTRES IN SA

India	Bangladesh	Myanmar	Nepal
• 46 Cities (population > 1 Million) • 459 Class 1 cities (population >100,000) • 7428 Cities (Population <100,000) (Census 2011)	• 42 Cities (more than 100,000) • 490 Towns (less than 100,000 population) (Census 2011)	• 33 Cities • 238 Towns (Census 2014)	• 6 Metropolis • 11 Sub-metropolis • 276 Municipal Councils (Open Data Nepal, 2018)

Growth of Statutory Towns and Census Towns in India



The growth of small towns and cities has significantly contributed to India's urbanisation

Source: Census 2011

4.2 COVID-19 INDUCED MACRO IMPACT: Bangladesh, Myanmar and Nepal

The pandemic has widened the inequality gap in most of the countries across the world including the select countries of SA. Several studies pointed out that the impact has been significant on the socio-economic conditions of the chosen countries of Bangladesh, Myanmar and Nepal at a macro level. Such sharp impacts have the potential to impede the stride towards attaining SDG target 11.5 of *"significantly reducing the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations by 2030".*

	Bangladesh	Myanmar	Nepal
TOTAL NUMBER OF COVID-19 CASES	**5,47,930** *(Worldometers.info, accessed 4th March, 2021)*	**141,984** *(Worldometers.info, accessed 4th March, 2021)*	**274,381** *(Worldometers.info, accessed 4th March, 2021)*
TOTAL NUMBER OF DEATHS DUE TO COVID-19	**8,428** *(Worldometers.info, accessed 4th March, 2021)*	**3,199** *(Worldometers.info, accessed 4th March, 2021)*	**2,778** *(Worldometers.info, accessed 4th March, 2021)*
FOOD INSECURITY	At least **13 MILLION** extra people have fallen below the poverty line due to COVID-19. A recent survey asserts that 75% of the sampled respondents reported not having enough food, while 91% reported of not having enough money to purchase food *(Mottaleb, Mainuddin, & Sonobe, 2020)*	**1/4TH** survey respondents worried about food quantities and quality, and around 10% reported instances of going hungry. Around 20% mention food supply problems (referring to food availability). *(Headey, et al., 2020)*	**34%** of parents cited 'food' among the top three needs of their children; 1/5 families still struggle to feed their children. *(Nepali Times Editorial, 2020)*
GDP GROWTH RATE DURING 2020	Expected to be **5.2%** during 2020 and 6.8% during *(ADB, 2020)*	Expected to be **1.8%** *(ADB, 2020)*	GDP growth in Nepal is estimated at **1.8%** in FY2020. *(World Bank, 2020)*
COVID-19 INDUCED INCREASE IN POVERTY	**40.9%** poverty rate which was double from that prior to the onset of the pandemic *SANEM, 2020)*	**62%** poverty from 16% in January, 2020 *(Headey, et al., 2020)*	**>50%** Nepali households at risk of falling back into poverty because of loss of jobs and income during 2020 due to the pandemic. 42% of households have no earnings at all; 19% have a combined monthly family income of less than INR 10,000. *(Nepali Times Editorial, 2020)*

	Bangladesh	Myanmar	Nepal
NO OF CHILDREN WHO DROPPED OUT OF SCHOOL DUE TO COVID-19	**>45%** of secondary-level students in the country will not return to schools, if they reopen after the COVID-19 shutdown ends (Mamun, 2020); 42 million students in Bangladesh affected cannot access online classes *(Montu, 2020)*	**9.7 MILLION** learners in basic education sector will be directly impacted from closure of schools due to COVID-19 *(Myanmar Ministry of Education, 2020)*	**ONLY 25%** students used distance learning platforms to continue learning during school closures. *(Gough, 2020)*
REDUCTION IN MANU-FACTURING ACTIVITIES	**>82%** reduction in export earnings: Export earnings in March, 2020 44.14 billion taka USD 520 million); export earnings in March, 2019: 256.66 billion taka (USD 3.03 billion) *(Export Promotion Bureau of Bangladesh (EPB), in Ahmed, 2020)*	**83%** firms experienced a reduction in sales, 51% firms experienced cash flow shortages and 29% firms experienced a reduction in access to credit which meant reduction in manufacturing activities *(World Bank, 2020)*	**49%** capacity utilisation rate, down from 75-80% in 10 industrial estates in Nepal *(SAWTEE, 2020)*
INTERNA-TIONAL FINANCIAL ASSISTANCE UNDER COVID-19	World Bank **$100 MILLION** *(World Bank, 2020)* IMF **US$ 732 MILLION** *(IMF, 2020)*	World Bank *(World Bank, 2020)*: 1. Myanmar COVID-19 Emergency Response Project: **US$50 MILLION** 2. **US$8 MILLION** grant from the World Bank Group's Global Pandemic Emergency Financing Facility 3. Maternal and Child Cash Transfer Project: 6 months of cash payment, totalling **MMK 90,000** 4. Contingent Emergency Response Component (CERC) of the **US$480 MILLION** IMF 1. **US$ 356.5 MILLION** *(IMF, 2020))* 2. **US$ 350 MILLION** *(IMF, 2021)*	World Bank **$200 MILLION** *(World Bank, 2020)* IMF **$214 MILLION** *(IMF, 2020)*

4.3 COVID-19 INDUCED MACRO IMPACT: India

Despite India's exponential economic growth over the past years, the several inequalities have remained. The ongoing pandemic, not only heightened the fault lines of economic inequities, but also exacerbated the existing inequalities. To ensure a meaningful comparative analysis of other countries with India, the following macro-economic factors are compared which may significantly impede India's stride to achieve the SDG target 11.5, as indicated above.

TOTAL NO. OF COVID CASES IN INDIA:

10,775,617

as on Feb 1, 2021

NO. OF DEATHS DUE TO COVID:

154,575

(Worldometer, 2021. As on Feb 1, 2021.)

131 CLAIMS

under Pradhan Mantri Garib Kalyan Package (insurance cover of Rs. 50 lakh to healthcare providers, including community health workers)

(Press Trust of India, 2020)

It is predicted that the closure of family planning services will result in

2.95 MILLION

unintended pregnancies are predicted to result from family planning services as well as

844,483 LIVE BIRTHS

1.80 MILLION ABORTIONS

(including **1.04 MILLION** unsafe abortions) and

2,165 MATERNAL D EATHS

(Berkhout, et al., 2021)

1,461 ACCIDENTS

at least, over the course of the nationwide lockdown - from March 25 to May 31 - in which at least

750 P EOP LE

were killed, including

198 migrant workers

(SaveLIFE Foundation)

FOOD INSECURITY:

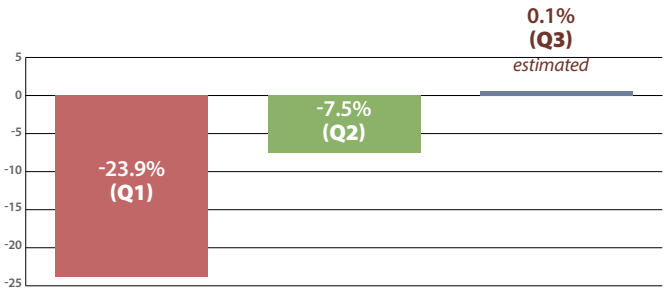
50%

respondents had no rations left even for a single day in April, 2020

while **96%** had not received rations, **70%** had not received cooked food from the government; and **78%** less than **INR300** left

(Berkhout, et al., 2021)

GDP GROWTH RATE DURING 2020:



(Express Web Des, 2020; Kumar, 2020)

COVID induced increase in poverty:

More than

12 MILLION

people will be pushed to poverty in India

(Mahler, Lakner, Aguilar, & Wu, 2020)

No of children who dropped out of school due to COVID:

Over

320 MILLION

students affected by the closure of educational institutions till the end of October;

84%

in rural areas and

70% attend government schools.

(Berkhout, et al., 2021)

USD 31 BILLION

Reduction in manufacturing activities due to lockdown/COVID (estimated)

(ET Bureau, 2020)

International financial assistance received under COVID:

USD 2.5 BILLION

worth of health, social protection and economic stimulus loans provided by WB

(Hindustan Times, 2020)

4.4 COVID-19 INDUCED URBAN IMPACT: India

As the pandemic raged through Indian cities while the nationwide lockdown brought a majority of urban activities to a standstill, COVID-19 would entail a significant impact on the achievement of all SDGs. This section attempts to map the impact of the COVID-19 in India across three key segments – Public Spaces, Housing and Slums and Water, Sanitation and Hygiene – which significantly contribute towards the achievement of various SDGs and the creation of sustainable and inclusive cities.

Public Spaces

Strengthen efforts to protect and safeguard the world's cultural and natural heritage

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Human rights violation:

2582

cases recorded by the National Human Rights Commission of human rights violation as early as in the month of April 2020

(Berkhout, et al., 2021)

Impact on tourism:

40 MILLION

direct and indirect job losses estimated, with an annual loss in revenue of around USD 17 billion in India (FICCI, 2020; Scroll, 2020).

(Jaipuria, Parida, & Ray, 2020)

Housing and Slums

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

1.8 MILLION

Homeless people in india

out of which **40%** received no lockdown relief

(Das, 2020)

92 MILLION

in the informal sector lost their jobs

57% reported pending wages and

20% had not received any support from their employers in the informal sector

17 MILLION WOMEN lost their job in April 2020

Unemployment for women rose by **15%** from a pre-lockdown level of 18%

(Berkhout, et al., 2021)

Water, Sanitation and Hygiene

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Undersupply of shared infrastructure (NSS 76th round)

3 COMMUNITY COMPLEXES, each with 20 seats, catering **50,000 PEOPLE** (Delhi)

(Upadhyay, 2020)

80 PEOPLE sharing a single toilet (Dharavi)

(The Guardian, 2020)

20 LPCD Per capita water supply; reaching **50 LPCD** on higher end (Hyderabad)

(Christ et al, 2016)

4.4 URBAN IMPACT *contd.*

Public Spaces

Lack of planning:

ONLY **24%**

of **~8,000 CITIES**

have master plans

(Berg, 2012)

Housing and Slums

Risk of COVID cases in slums/urban:

1.89X HIGHER

higher in urban slums

(ICMR, 2020)

GINI 2020:

0.832 IN 2021

(World Population Review, 2021)

from

0.36 IN 2011

(The World Bank, 2018)

Domestic Violence:

13,410

complaints, including domestic violence, between March 1 and September 18 received by NCW (MWCD). Domestic violence complaints have increased by **2.5 TIMES** since the nationwide lockdown began in India.

(Berkhout, et al., 2021)

Water, Sanitation and Hygiene

94 MILLION

Indians are at greater risk from coronavirus because of lack of access to clean water

(Paliath & Raman, 2020)

ONLY **6%**

of the poorest 20% has access to non-shared sources of improved sanitation, compared to

93.4% of the top 20%

(Das, 2020)

2.5–4 KG

biomedical waste per bed, daily *(CBWMTF)*

from **500 GMS** per day (2017)

(Das, 2020)

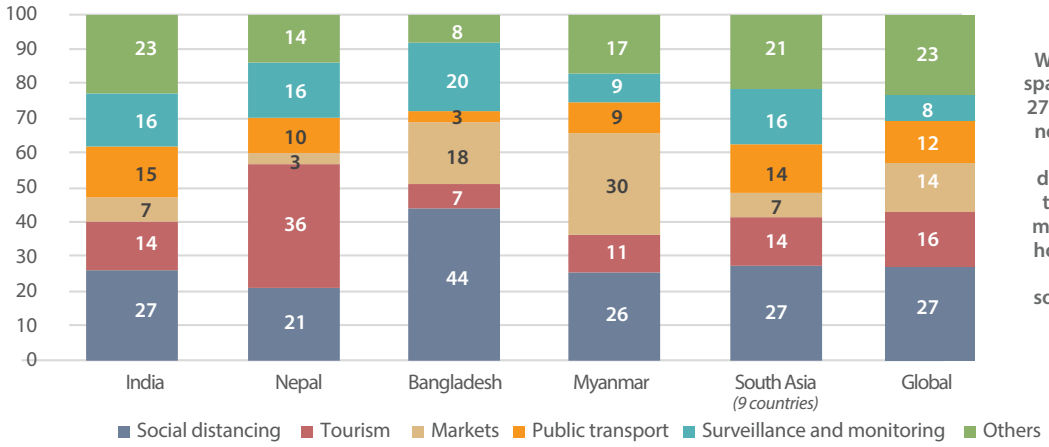
4.5 PERCEPTIONS OF URBAN CHALLENGES UNDER COVID-19 (Press Scan)

As a part of this study, a press scan was undertaken to understand the key issues that received media attention for a period of nine months (between January to September 2020) across the globe and in particular, across select four South Asian countries – India, Bangladesh, Myanmar and Nepal. This exercise aimed to explore the gamut of contrasts and similarities in COVID-19 related news coverage, thereby highlighting the particular issues which received significant media attention across the five themes (Public Spaces; Housing and Slums; Water, Sanitation and Hygiene; Public Health including Clinical Care; and Livelihoods and Social Protection).

The following section lists the key issues discussed in the media across the study regions as well as the five themes of this study. It also disaggregates the media coverage across the selected regions to highlight the proportion of media coverage received by various issues that have emerged under the ongoing pandemic.

PUBLIC SPACES

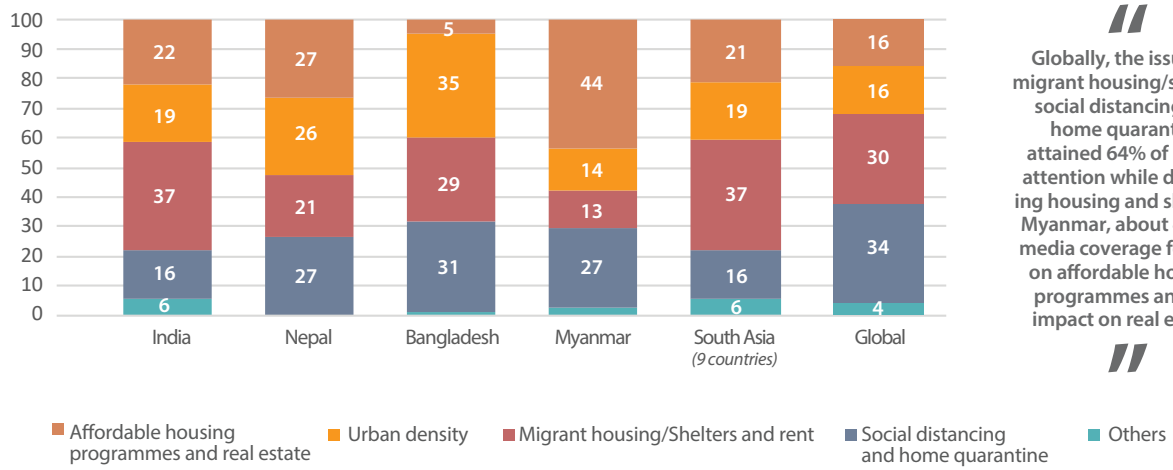
India	Nepal	Bangladesh	Myanmar	South Asia	Global
Social distancing; surveillance and monitoring	Tourism; social distancing	Social distancing; surveillance and monitoring	Markets; social distancing; tourism	Social distancing, surveillance and monitoring	Social Distancing; Cycling; Tourism



"While discussing public space issues in the media, 27% of the global and SA news coverage focused on issues of social distancing followed by tourism and access to markets. In Bangladesh, however, 44% of media coverage was about social distancing, Nepal focused on tourism related news."

HOUSING AND SLUMS

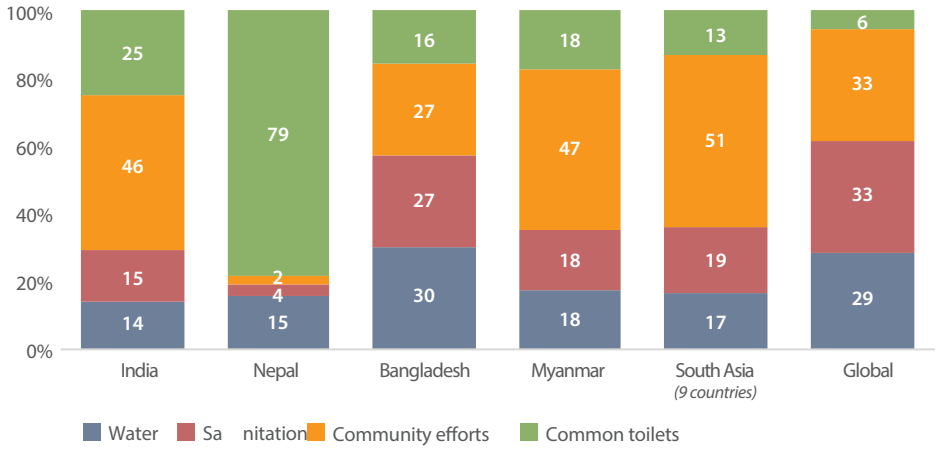
India	Nepal	Bangladesh	Myanmar	South Asia	Global
Housing and shelter for migrants; urban density	Affordable housing programmes	Urban density; social distancing	Real estate; social distancing	Migrant housing; urban density	Social Distancing; Rents and Migrant Housing



"Globally, the issues of migrant housing/shelters, social distancing and home quarantine attained 64% of media attention while discussing housing and slums. In Myanmar, about 44% of media coverage focused on affordable housing programmes and the impact on real estate."

WATER, SANITATION AND HYGIENE

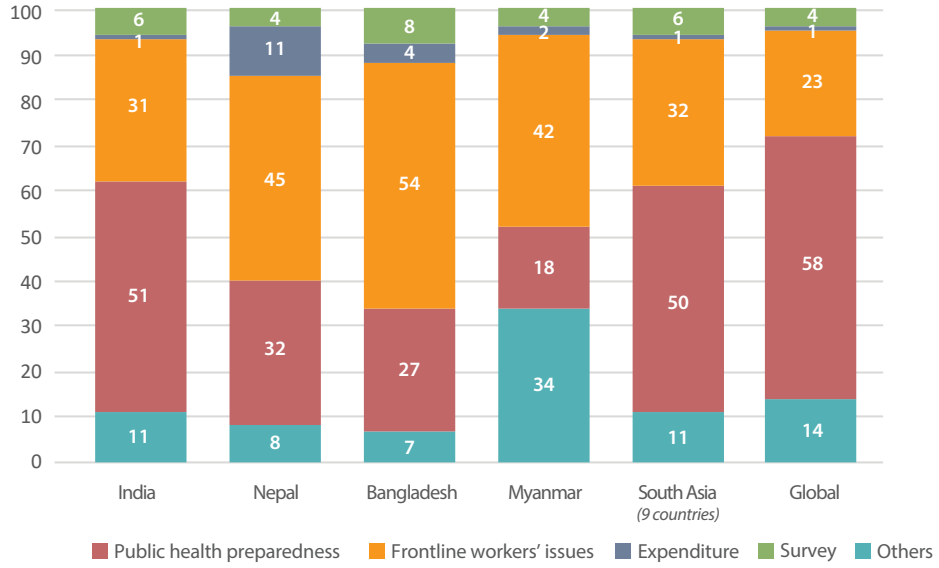
India	Nepal	Bangladesh	Myanmar	South Asia	Global
Community efforts; Shared toilet facilities and access to clean	Issue of common toilets	Lack of access to water	Community efforts, common toilets, sanitation and water	Community efforts, sanitation and water	Sanitation; Community Efforts



> Water sanitation remained critical defence against the pandemic. While global media discussed WASH issues, it focussed on the sanitation challenges and community efforts to secure access; South Asian media reported about community efforts for securing water and sanitation in 51% of the cases. While the same dominated the coverage in case of India and Myanmar, water remained a major issue in Bangladesh and community toilets dominated the media coverage in Nepal.

PUBLIC HEALTH INCLUDING CLINICAL CARE

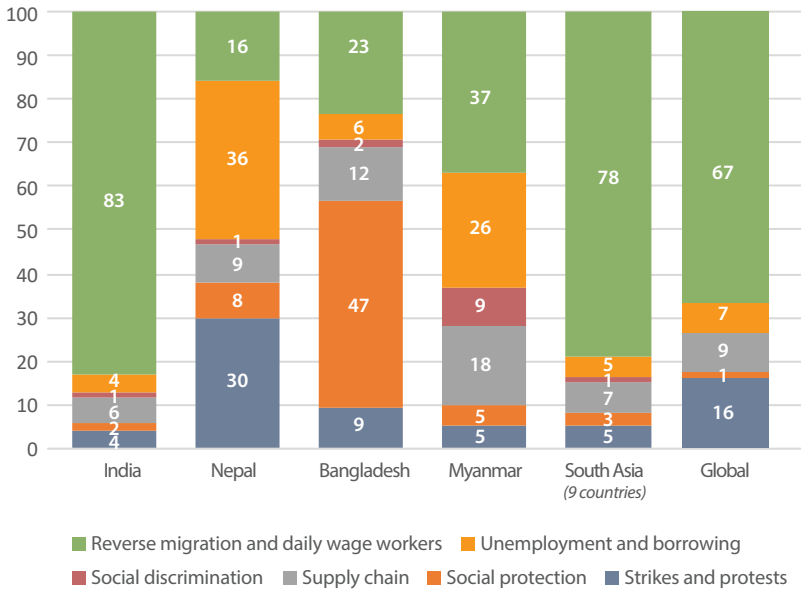
India	Nepal	Bangladesh	Myanmar	South Asia	Global
Public health prepared-ness; frontline workers	Frontline workers, public health preparedness	Frontline workers	Frontline workers	Public health preparedness; frontline workers	Public Health Preparedness



> The issue of public health preparedness continued to be of prime importance during the pandemic across the globe as well as in South Asia. Another segment which received significant media attention across all the regions pertained to the issues of Frontline Workers, with close to 50% of media attention attributed to the same in Bangladesh and Nepal.

LIVELIHOODS AND SOCIAL PROTECTION

India	Nepal	Bangladesh	Myanmar	South Asia	Global
Daily wage workers, supply chain	Strikes and protests; money borrowing	Social protection; food assistance and social discrimination	Daily wage workers	Daily wage workers; supply chain	Daily wage workers



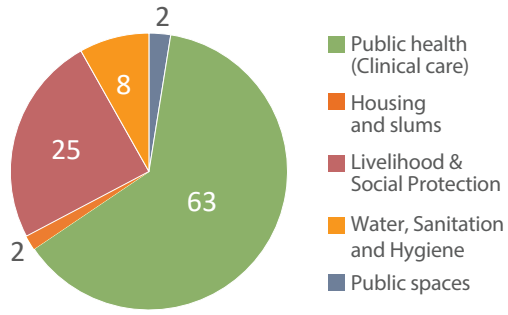
"The pandemic not only adversely impacted the livelihoods across the world, but also highlighted the disparities in social protection mechanisms, especially in South Asia. Consequently, the unemployment and the reverse migration of migrants and daily wage workers received the highest media attention across the globe (67%) and in South Asia (78%). In Bangladesh, social protection and the lack thereof also received close to 50% of the media attention."

THEMATIC ANALYSIS FOR INDIA

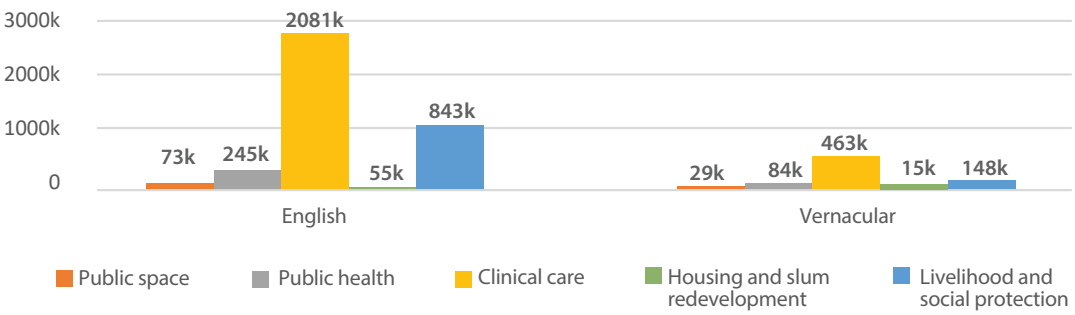
Theme	India
Public Spaces	1,01,857
Housing and Slums	69,343
Water, Sanitation and Hygiene	3,29,359
Public Health including Clinical Care	25,43,689
Livelihoods and Social Protection	9,91,690

Public Health (Clinical Care) mined the highest number of news coverages in India garnering a total of 63% followed by Livelihood & Social Protection which garnered 25% of the total coverage. Social distancing & Surveillance were prominent sub-themes under public spaces whereas "Public health preparedness" & "Frontline workers" were top sub-themes under Public Health (Clinical Care) .

THEMATIC BREAKUP



COVERAGE SPLIT



5

BUILDING URBAN RESILIENCE THROUGH INTEGRATED PLANNING

A resilient city assesses, plans and acts to prepare for and respond to all hazards – sudden, slow, expected and unexpected. Urban resilience has gained greater prominence over the past decade in international development discourse and has emerged as one of the core principles of sustainable urban development (UN-Habitat, 2017). Building urban resilience has gained even greater importance as the COVID-19 pandemic has brought to the fore the inadequacies related to the capacity of Indian urban centres to withstand the impact of this unprecedented public health emergency and respond adequately, focusing on vulnerable communities (Ghosh, 2020).

Urban resilience is being visualised here as a strategic approach that has planning – including spatial, social and economic planning as its cornerstones. Spatial mechanisms for building resilience include adjusting urban planning based on hazard/risk assessments, improving land use planning, strengthening and implementing building codes and regulations, etc. Economic planning pertains to ensuring that adequate budgetary provisions are made to strengthen and augment the existing public health infrastructure and human resources (across primary, secondary and tertiary health care systems), housing, water and sanitation, wastewater management and public transportation. There is a need to align all plans and interventions to build cities' resilience to the UN Sustainable Development Framework of "Leaving No One Behind". Such an approach will enable concerted action to address inequities, discrimination and reach the presently unserved, poor and marginalised communities and small and medium cities that have till now been largely left untouched by national infrastructure development programmes.

5.1 Ensure provision of safe public transport services and infrastructure to support Non-Motorised Transport

Public transportation systems are the lifelines of any city/town. In Indian cities/towns, a large proportion of the population depends upon public transport for accessing their livelihoods and services (including but not limited to health and education).

COVID-19 struck a massive blow on public transportation services, including intra-city, intercity and interstate services. When the national government announced a lockdown on 24 March, 2020 all transportation services, including public transportation systems (such as buses and mass rapid transit systems like metros), came to a grinding halt. This led to many hardships for urban residents – the most significant impact was felt by the frontline workers (including health/community and sanitary workers) who had to continue to discharge their duties even during the lockdown as these were related to the provision of "essential" services. Migrant workers who found themselves without jobs and a place to live started leaving metro cities to go to their native towns or villages – due to the lack of any transportation facilities (such as trains, buses, etc.) they had to walk hundreds of kilometres.

Even when the lockdown was gradually removed, city authorities were reluctant to restart public transportation services due to the fear of the spread of COVID-19. Urban residents were also sceptical about using public transportation services due to the same reason. In most urban centres, bus services during the first unlock phase were operated on a limited capacity to avoid infection spread. The slow restart of public transport services coupled with the hesitancy on the part of the citizens had a significant impact on the livelihoods of private bus operators and drivers of buses, and Intermediate Public Transport (IPT) means such as auto-rickshaws, cycle rickshaws, taxis, etc.

After the lockdown, walking and cycling emerged as two positive trends which urban residents adopted for travelling over short distances. This shift also prompted local government agencies to recognise the importance of creating infrastructure to support walking and cycling by constructing footpaths and providing cycling tracks/lanes.

Evidence from the ground (Primary and Secondary)

As mentioned above, citizens faced numerous hardships during and post lockdown to access public transportation services. In Delhi and Pune, the public transport system's closure during the lockdown made it very difficult for frontline workers to reach their workplaces. In the absence of any transportation facility provided by government agencies, the frontline workers depended on private vehicles/IPT. They reported spending much more time and money commuting to and from work. In Bhubaneshwar, on the other hand, a frontline sanitary worker shared that they were cycling to work even before the lockdown, and thus, there wasn't any change for them. They also reported that the police didn't harass them as the latter were aware that they were travelling to discharge their duties coming under the provision of essential services.

In Bhilai, when the lockdown restrictions were lifted, and public transportation services were gradually restarted, these operated at limited capacities. Further, the lack of trust in the public transportation system meant that most people preferred to use private means of transport. KIIs with construction workers and street vendors revealed that they used bicycles to commute to work even over long distances to remain safe. In Bhubaneshwar, an interview with an NGO that works with construction workers revealed that these workers were commuting around 25 kilometers to reach the construction sites outside the city limits by trucks provided by the contractor. Before the lockdown, they were living on the construction site, which was no longer an option. The contractor did not want to ensure the practice of safety and hygiene protocols on the site. In Bhilai, the Disaster Management Officer shared that the contractors/factory owners were responsible for seeking permission from the District Collector's office if the labour being employed by them was coming from other states.

The lack of interstate transport facilities (including trains and buses) during the lockdown meant that the migrant workers who lost their jobs during the lockdown had to cycle/walk long distances. The Town Planner working with the Dhenkanal Regional Improvement Trust (DRIT) shared that the migrant crisis was grave, and the government response was managed by the District Administration and Road Transport Office (RTO). In the post lockdown phase, the Executive Officer, Dhenkanal Municipality, informed that arrangements were made to restart transportation facilities to other districts/states facilitating movement of its citizen, especially the migrant workers. Similar arrangements were made by other cities as well to enable mobility.

Private operators and drivers of buses and IPT were also impacted, both during and after the lockdown. During the lockdown, their business and their means of livelihood came to a stop due to public transport's stoppage. Since people avoided public transport in the post lockdown phase, their business was much lower than the pre lockdown times. These interruptions in their business caused them immense financial strain. Interactions with the bus driver's association in Bhilai revealed that the association had approached the local elected representatives for financial aid. While they were given assurance, they never received any assistance. In Dhenkanal, as per the bus driver's association, their business suffered immensely during the lockdown. Even during the unlock phases, while services were restored, the ridership was only ~50 per cent. They were hopeful that in the next 2/3 months, the demand for bus services would be restored to pre-pandemic levels. They also shared that while they were strictly adhering to the COVID-19 safety protocols (such as making hand sanitiser available at the time of boarding and ensuring that all passengers wear masks), the demand was low. The same sentiment was shared in Malerkotla, where post lockdown passenger traffic for bus transport remained low. Thus, only 50 per cent of the regular fleet of buses were put in operation, and the Heating, Ventilation and Air conditioning (HVAC) Volvo bus service were put on a complete hold. In Malerkotla, the bus drivers employed by the Patiala and East Punjab State's Union (PEPSU) Road Transport Corporation (RTC) were paid only half their salary during the lockdown period. In Jhansi, the ridership was reported to have reduced significantly due to hesitancy among the citizens even though the private bus operators were strictly following COVID-19 safety protocols outlined by the district administration.

BOX 1: NEPAL – SAFE RESTART OF PUBLIC TRANSPORT FACILITIES

In Nepal, the public transport was shut down during the lockdown period. The restrictions were partially lifted in July 2020 and the government decided to resume public transportation services due to immense pressure from businesses and citizens. However, the following measures were adopted to ensure that public transport services were safe:

- Passengers up to 50 percent of the seating capacity;
- Recording the temperature of all commuters; and
- Mandatory use of masks and gloves for transport staff.

Source: (The Katmandu Post, 2020)

Even in the crisis posed by the COVID-19 pandemic, some private transport service providers' innovations came to light. These initiatives aimed to make public/IPT services safer and build trust and confidence among citizens. Noteworthy is the interventions of the auto-rickshaw drivers' association in Bengaluru, which took the initiative of installing plastic sheets as a partition between the driver and riders to ensure adherence to social distancing norms. Also, they started accepting online payments instead of cash. In the small town of Muzaffarpur, globally recognised best practices for ensuring public transportation systems' safe operation were being practised. Like the metro system in Japan that encourages its riders to not speak with each other and always wear a mask, the bus driver's association in Muzaffarpur also instructed drivers and conductors to ensure that passengers do not speak with each other. Further, the buses were sanitised twice a day and drivers were given PPE kits while on duty. Besides, hand sanitising facilities were provided for all passengers before boarding.

The COVID-19 pandemic has also resulted in Development Authorities/Improvement Trusts' becoming cognisant about the need for planning and developing infrastructure to support walking and cycling. The officials from Ajmer Development Authority and Dhenkanal Regional Improvement Trust believed that adequate provisions need to be made for pedestrian and cycling infrastructure. In Jhansi, the district administration's nodal officer shared that realising the need for pedestrian infrastructure, many cities were working towards constructing footpaths.

Recommendations

Ensuring that public transportation systems are safe and have emergency protocols to address any public health emergency and augmentation of infrastructure to support IPT and NMT will facilitate livelihood recovery and help cities transition to more environmentally friendly modes of transport.

For public transport, cities must ensure that adequate transportation facilities are provided for frontline workers responsible for delivering essential services during any lockdowns imposed to control a public health emergency. Also, cities need to put in place mechanisms whereby all citizens, especially the urban poor communities, have access to transportation facilities in case of any medical emergency during a public health emergency like COVID-19.

To ensure safety, State transport departments should issue emergency safety and hygiene protocols for public transport to enable their operation even during a public health emergency. While implementing these guidelines would be the responsibility of the respective city governments/transport undertakings, the enforcement should be by the traffic police. Citizens must be made aware of the safety guidelines and protocols being adopted on public and IPTs through IEC to build trust and encourage usage.

A renewed effort must be made to improve last-mile connectivity of public transport by strengthening regulations and infrastructure around IPTs (autos, mini-buses and e-rickshaws) and ensuring high-quality pedestrian infrastructure (well-made pavements and street lighting).

Cities should create/revise Comprehensive Mobility Plans (CMPs) to provide or augment infrastructure for walking and cycling. In addition, city Master Plans should allocate adequate space for pavements and cycle tracks. The respective ULB must identify the land required to create the required infrastructure in close coordination with the Development Authority/Improvement Trust. Small towns, where government-operated public transport is not currently operational, and planning capacities and financial resources are inadequate, will require the state government's technical support and funding to prepare and implement these plans.

5.2 Adoption of strategic planning approach in small towns to promote resilient urban development

Around 40 per cent of India's urban population resides in small towns (towns with a population of less than 0.1 million). These urban centres are characterised by haphazard and unplanned growth, non-conforming land uses, mushrooming unauthorised colonies, and land conversion from agriculture to urban use resulting in environmental degradation and low quality of life. Effective planning and management of small towns call for accurate and vital information to be available regularly (TCPO, 2016).

Local governments in small towns need to be equipped with tools and technologies that will enable them to collect and analyse spatial information/data about the areas under their jurisdiction and to use this information for planning and decision making. Such information becomes extremely crucial in emergencies like the COVID-19 pandemic, where the timeliness, as well as the efficacy of the response,

depends, to a large extent, on the knowledge of the existing ground realities, the ability to identify vulnerable areas and communities, and the ability to define buffer zones to contain the spread of disease.

The old-fashioned practice of static land-use based master plans being prepared by large cities in India has failed miserably. Under the current planning regime, master plans are mainly restricted to the zoning of areas as per different uses (including residential, commercial, industrial, agricultural, etc.). Also, there is a limited or no scope for designing networks, such as transport, water and energy, crucial for ensuring liveable cities. Even when master plans are comprehensive, these are not statutorily binding and are challenging to implement as the functions fall under multiple *parastatal* agencies' jurisdiction. In such a background, it becomes imperative to explore alternative approaches to urban planning. For smaller towns, dynamic approaches address the current social and economic realities and integrate the needs and aspirations of urban residents by leveraging the local governance structures envisaged under the 74th Constitutional Amendment Act, including Ward Committees and Area *Sabhas*. The alternative approaches must also provide opportunities for inter-sectoral coordination and linkages.

Evidence from the ground (Primary and Secondary)

Government officials across small towns covered by this research believed that lack of spatial data and map limited local governments' capacity to effectively track and trace COVID-19 cases and define containment and buffer zones to control the disease's spread. They believed that since the exact location of vulnerable settlements/communities was unknown to the city and district authorities, the relief and response was during early months of pandemic.

Haphazard development and high densities in the older parts of small towns like Malerkotla and the absence of data and maps made it difficult to isolate COVID-19 cases and define containment and buffer zones to the Sub Divisional Magistrate (SDM), Malerkotla. In Lingasugur, the lack of coordination between the neighbouring development/town authorities (namely, Raichur Development Authority, Sindhanuar Town Authority and Manvi Town Authority) has resulted in excessive delays in the initiation of the physical planning process. The initial information required for the preparation of Master Plans, that is, the base map and geocoded data, were thus not available – this was identified as a barrier for providing timely relief to vulnerable communities and undertaking surveillance.

On the contrary, metropolitan cities like Pune and Bengaluru were quick to convert the Integrated Command and Control Centres (ICCCs) created under the Smart City Mission (SCM) into "COVID-19 War Rooms". Using an integrated data dashboard, the ICCCs served as the nerve centre for the city's COVID-19 response. All COVID-19 positive cases were mapped using Geographical Information Systems (GIS), and this spatial data was used extensively for surveillance and for creating buffer zones. The ICCCs helped implement various other surveillance activities, including Closed Circuit Television (CCTV) surveillance of public places to ensure social distancing. The cities also used Global Positioning System (GPS) based tracking of healthcare workers, predictive analytics (heat maps) for virus containment, virtual training of doctors and healthcare professionals, real-time tracking of ambulances and disinfection services, and medical services through video conferencing, tele counselling and telemedicine.

While it is difficult to ascertain whether the response facilitated through the ICCCs was sufficient under the scope of the current research, the findings from these cities show that they were more aware of the ground realities than other cities/towns and the presence of the infrastructure facilitated quick mobilisation. However, the activities carried out through these war rooms remained limited to diseases surveillance and were unable to address welfare aspects such as providing relief to stranded migrant workers, providing food and ration to vulnerable and urban poor communities, etc.

Recommendations

Against this background, it becomes critical to ensure that small towns adopt a strategic planning approach for urban development to make cities resilient to future shocks, including public health emergencies and natural disasters. Provisions should be made to ensure that local governments in small towns have access to tools and technologies that enable collection as well as analysis of spatial data to support decision making. Through adequate financial and technical support, small towns should be encouraged and assisted in developing digital geo-referenced maps using Geographical Information System (GIS).

Learnings from Atal Mission for Rejuvenation and Urban Transformation's (AMRUT) sub-scheme "Formulation of GIS based Master/development Plans" (Box 2) must be used to devise a programme targeting small towns. The central government should fully fund the initiative. It should enable investments towards strengthening institutional structures, capacity building and enabling vertical and horizontal coordination to manage urban growth and response in the face of public health emergencies/disasters.

BOX 2: FORMULATION OF GIS BASED MASTER / DEVELOPMENT PLANS UNDER AMRUT

Formulation of GIS-based Master/Development Plans for cities covered under Atal Mission for Rejuvenation and Urban Transformation (AMRUT) was one of the 11 reform agendas under the Mission. This was as a 100 percent centrally funded sub-scheme with a budget outlay of INR 5.15 billion. The main objectives of this sub-scheme were:

a. To develop common digital geo-referenced base maps and land use maps using Geographical Information System (GIS); and

b. Master Plan Formulation for AMRUT Cities.

Source: (TCPO, 2016)

5.3 Earmarking of open and green spaces as a part of all urban infrastructure programmes and enable safe access for all urban residents

The problem with physical distancing and limiting access to open spaces is that it doesn't reduce demand. People still need to go outside for exercise, play and leisure. (UN-HABITAT, 2020) The COVID-19 pandemic has brought to the fore how scarce and unevenly distributed open and green spaces are in our cities/towns. Access to such spaces is minimal, especially in poor neighbourhoods. While the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines provide for an allocation of 10-12 square meters of open space per person (including recreational spaces, organised green and other common open spaces), most Indian cities/towns do not adhere to this norm (Ministry of Urban Development (MoUD), 2015).

With the lockdown announcement, access to open and green spaces, along with all other open public spaces, was stopped. Even post lockdown, access to these spaces was restricted to prevent the spread of infection. Preventive measures such as prohibiting the use of facilities (such as play equipment, benches, open gymnasiums, etc.) and enforcement of social distancing norms have considerably restricted access to these spaces. In India, as the lockdown restrictions were relaxed under Unlock 1.0, people thronged all available open/green spaces, at times, not even maintaining social distancing norms.

The COVID-19 pandemic and the resultant physical distancing have drastically reduced personal connections, which exacerbated social isolation and exclusion in cities. Research shows a direct correlation between social isolation, loneliness and poor health due to heart disease, dementia and immune dysfunction (UN-HABITAT, 2020). In such a context, the need for unrestricted access to open and green spaces become even more critical. Being in the open and exercising is an excellent mechanism for dealing with the stress and anxiety being experienced by urban dwellers due to the COVID-19 pandemic and the associated restrictions. There exists enough evidence to show a positive relationship between presence and access to neighbourhood level open and green spaces and the mental health and well-being of the residents (Wood Lisa, 2017).

Evidences from the ground (primary and secondary)

In Myanmar, while access to green and open spaces was provided even during the lockdown, restrictions were imposed in December 2020 as many people started visiting parks and other green areas. This overcrowding became difficult for the local authorities to manage for ensuring social distancing norms.

The head of the Garden Committee of the Udaipur Municipal Corporation confirmed that all gardens and parks were shut down during the lockdown. When the lockdown was removed, gardens and parks were reopened, albeit for a shorter duration of six hours, from 7-10 am and 4-7 pm. The access was restricted – swings and benches could not be used, and these were marked with red tape as areas that were out of bound

of the visitors. The same sentiment was echoed across cities covered by this research. In many cities and towns, the public parks and gardens were also used to display IEC material (including posters and banners) about preventive practices for COVID-19, including social distancing, use of masks and hand hygiene.

Recommendations

Cities and local authorities should be encouraged and supported to integrate open and green spaces as a part of their response to COVID-19 and to ensure inclusive and health focus in urban development for the future.

Local governments need to ensure that open and green spaces are evenly distributed across the city (focusing on urban poor neighbourhoods), well connected through streets, promoting walking and cycling to access such spaces. Open green spaces must be designed to allow for physical distancing, and authorities responsible for maintaining these spaces must ensure frequent and thorough cleaning and sanitisation of any high-touch surfaces.

The existing GoI's urban missions, such as AMRUT, which provide windows of opportunities for augmenting open green spaces in cities, must be leveraged (Box 3). The AMRUT scheme guidelines should be modified to incorporate a mandate related to the design of open spaces to ensure proximity and connectivity to residential areas (including urban poor neighbourhoods), size, and design to control crowding and ensure physical distancing.

Further, emergency safety protocols should be developed and communicated to all stakeholders so that parks, gardens and other open spaces can be safely accessed even during a public health emergency.

5.4. Clear separation of wet markets and strict regulation, as a strategy for combating zoonotic diseases

Wet markets essentially refer to assemblages of stalls that sell fresh produce like fruit, vegetables, meat and seafood. Typically, animals sold in these markets are slaughtered at the precise point of sale. The use of ice and practice of hosing down stalls to drain fluids and blood is how these markets have come to be known as 'wet.' Wet markets provide the perfect breeding ground for the transmission of zoonotic viruses as they often locate wild species of animals in close proximity to each other as well as common livestock. (Nalapat, 2020).

The origins of earlier epidemics/pandemics caused

BOX 3: PARKS DEVELOPED UNDER AMRUT SCHEME IN INDIA

Over 1,100 parks have been developed so far across the country under the AMRUT Mission. In addition to the completed projects, 990 projects worth INR 8.12 Billion are under progress (PTI, 2020).

BOX 4: WEAK REGULATION OF SLAUGHTER HOUSES

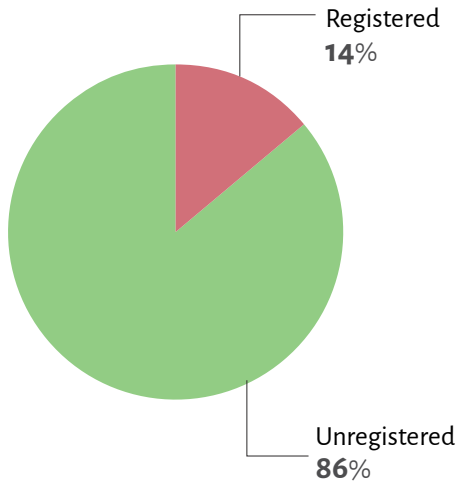
A 2014 Supreme Court order, observed that there was no periodic supervision or inspection of slaughterhouses. Action Taken Reports (ATR) indicated that, in many states, slaughterhouses are functioning without any license and even the licensed slaughterhouses are not following the various provisions listed out in the guidelines (Goyal, 2020).

by zoonotic viruses have been traced to wet markets. For example, the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 was traced to a wet market in the southern Guangdong Province of China. In 2012, the H5N1 avian influenza (bird flu) epidemic was also traced to poultry infected by migrating waterfowl in Hong Kong's markets. Further, both HIV and Ebola made the jump to humans from endangered primates as a reported consequence of the bush-meat trade in Africa (Nalapat, 2020). There is reason to believe that many initial cases of COVID-19 in Wuhan were directly linked to the Huanan Wholesale Seafood Market. Many initial patients were either stall owners, market employees, or regular visitors to this market (WHO, 2020).

India is a huge market for animal products. Apart from poultry, animal meat and fish, a few wild species are also illegally traded for food in wet markets across the country. The potential danger of the origin of disease from wet markets and food habits necessitates the need for adequate regulations (Goyal, 2020).

In India, the Food Safety and Standards Act, 2006 (FSSA) is the overarching legislation for food safety. The Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011 govern the license and registration of Food Business Operators (FBOs), including meat and meat-based products. Part IV of Schedule 4 outlines the hygiene and sanitary practices to be followed by FBOs engaged in manufacturing, processing, storing, and selling meat and meat products. This schedule covers requirements of location, equipment and machinery, sanitary facilities, ante-mortem and post-mortem inspection, animal welfare, personal hygiene and health requirements. (Goyal, 2020). While a robust regulatory framework is in place its implementation on ground appears to be lacking (Box 4). Of the ~29,000 slaughterhouses, only 4,000 (14 percent) are registered (Jahan, 2017). Further, most abattoirs are old, dilapidated and lack basic facilities like water, electricity, ventilation, drainage, ceramic flooring, lairage, holding pens, overhead rails and waste disposal which are essential for the production of wholesome and safe meat for domestic consumers (Jahan, 2017). In most meat markets, both wholesale and retail, stalls are open, and thus, contamination from dirt, dust, flies and other pollutants is rampant.

Figure 6: Slaughter houses: Registered and unregistered



In February 2020, as a preemptive measure, the Food Safety and Standards Authority of India (FSSAI) initiated a nationwide third-party audit of slaughterhouses and meat processing units (Ahmad, 2020). The auditing parameters were comprehensive, covering design and facilities, control of operations, maintenance and sanitation, personal hygiene, training, and complaint handling. While the audit of government slaughterhouses has been completed, findings are yet to be placed in the public domain (PTI, 2020). Also, the FSSAI has taken some steps to strengthen its institutional capacity, which includes- (a) setting up of six new branch offices (in Bhopal, Chandigarh, Ahmedabad, Bengaluru, Vishakhapatnam and Krishnapatnam), four new import offices and two new food laboratories at Mumbai and Chennai (PTI, 2020).

During the COVID-19 pandemic, the Government of India (GoI) issued the Food Hygiene and Safety Guidelines for Food Businesses which applies to all FBOs and contains "measures including maintaining high levels of personal hygiene, excluding COVID-19 infected persons from operations, practicing social distancing, and appropriate cleaning/sanitisation of the food operations' premises, food contact materials etc." (Ahmad, 2020).

Evidences from the ground (Primary and Secondary)

In inland cities (including Lingasugur and Udaipur) there are meat and poultry shops dispersed across the city (along main roads, close to bus stops and in other market spaces) while dedicated wet market zones do not exist. On the other hand, in coastal cities like Puri, designated wet markets exist that sell fish and other animal meat, fruits, and vegetables. These markets are constructed and maintained by the respective local governments. In Puri, the Municipality is developing a designated meat market complex in partnership with the State Fisheries Department. The market is being planned as a state-of-the-art complex with well-designed stalls with water and sanitation facilities and its own Effluent Treatment Plant. As a part of allocating stalls to fish and meat vendors, the Puri Municipality has recently surveyed all vendors (registered and unregistered).

As stated above, the retail meat and poultry shops must be registered with the respective local governments. In Lingasugur and Bhilai, the Municipality's Health Department is responsible for monitoring and regulating meat and poultry shops. The health department in Lingasugur's Town Municipal Council (TMC) conducts regular (once/twice a month) inspections and issues warnings if the outlets are not found to be following hygiene practices. The Health officer also shared that they conduct raids if they receive any customer complaints. However, despite finding anomalies, they do not cancel registration/license but only issue warnings. In addition to the Health Department of the TMC, the District Food Department is also responsible for monitoring and regulating all FBOs, including meat and poultry shops in Lingasugur. Given the lack of coordination between both agencies, they discharge their functions in complete isolation. In Udaipur, the meat and poultry shops' monitoring rests with the Chief Medical and Health Officer (CMHO) of the Udaipur Municipal Corporation (UMC), while in Puri the responsibility rests with the Puri Municipality. In Bhilai, the Food and Safety Department of Durg District is responsible for ensuring that the FSSAI guidelines are followed. The official from Bhilai believed that the comprehensive guidelines under *Swachh Survekshan* had helped them streamline the existing meat markets, which helped them control spread at such markets when COVID-19 struck.

During the lockdown, all wholesale and retail shops were shut down. Post lockdown, as the shops reopened, customers were wary of visiting meat and poultry shops, and many chose home delivery. The local governments were responsible for ensuring that meat and poultry shops, just like other shops, ensure social distancing and hygiene. In Puri, circles were drawn to ensure physical distancing, temporary sitting arrangements were made for customers waiting in the queue, and sanitiser dispensers were provided at different locations. In Puri, all market areas came under the supervision of a newly created position, the Incident Commander, under the State Disaster Relief Department. The *Tahsildar* served as the Incident commander and was responsible for inspection and crowd control in all market areas. In Bhilai, after COVID-19, the health supervisor carries out daily supervision of meat markets, and the frequency of inspections at the slaughterhouses has also been increased.

Recommendations

Institutionalising mechanisms that allow for clear demarcation and physical separation of wet markets at the wholesale and retail level is crucial to reduce the risk of origin and early spread of zoonotic diseases. Specifically, the town planning guidelines should include a separate subcategory for wet markets under the commercial land use category. Further, city plans should demarcate spaces for wet markets at the wholesale and retail level, and the same should be included in land use zoning regulations.

Food Safety and Standards Licensing and Registration of Food Businesses Regulations, 2011 need strong enforcement. The local governments must ensure that all slaughterhouses and meat processing units located within their jurisdiction are registered with FSSAI while all retail meat, fish and poultry shops are registered with the ULBs. Also, the third-party audit of slaughterhouses and meat processing units, which FSSAI initiated in February 2020, should be carried out on a regular periodic (annual) basis and the ratings achieved should be made a pre-requisite for license renewal. The findings of the audit should be placed in the public domain.

Further, the regulations for wet markets must be expanded to include drainage, design of the flow of goods and people, the distance between stalls, hygiene facilities for hand-washing, protocols for disinfecting, signage, etc. The regulations must also incorporate special codes which are to be applied

during early and advanced stages of disease spread. These should outline elements such as special protective gear, entry restrictions, higher hygiene standards, opening and closure, etc.

5.5. Revisit the National Health Policy (2017) and the National Urban Health Mission to ensure strengthening of the public health infrastructure

The COVID-19 pandemic resulted in a massive demand for health facilities, including isolation wards, intensive care units, etc. During the initial phase of the pandemic, positive cases were referred to government hospitals, which created a huge stress on the existing public health infrastructure. It was unable to provide necessary healthcare to affected individuals and provide other regular services to others. Private healthcare is expensive and was thus out of reach for most of the urban poor households.

India is at the bottom of the list (fourth lowest) with respect to the proportion of health budget in terms of the Gross Domestic Product (GDP). During 2013-14 and 2019-2020, the health budget has hovered around 1 percent of its GDP. The National Health Policy, 2017 (NHP, 2017) articulates the need to augment health care expenditure as a percentage of GDP to 2.5 percent by 2025. While India's per capita public expenditure on health has increased more than twice, from INR 621 per person in 2009-10 to INR 1,657 in 2017-18, it still remains very low compared to other countries (Chandna, 2019). Further, only 0.55 beds are available per 1,000 population in India. The NHP, 2017 also provides that the national healthcare infrastructure (primary and secondary care facility) should be provided as per norms (population as well as time to access). Underfunded and weak public health system with limited infrastructure, resources, and personnel has limited the country's ability to provide appropriate and timely healthcare for patients infected by COVID-19.

The crisis also brought to light the importance of public healthcare workers for an adequate response. In India, a large number of healthcare positions lie vacant (Amar Patnaik, 2020). To meet the huge demand of health workers, the Ministry of Health and Family Welfare (MoH&FW) issued a notification for hiring qualified specialists, medical graduates, staff nurses and other paramedics, including retired professionals at various government hospitals on a short-term contract basis. The NHP, 2017 provides that health workforce across all levels - medical, paramedical and frontline health workers – should be ensured as per the Indian Public Standard Norms by 2025.

While India has an extensive network of primary health care centres, they are often underfunded, ill-equipped and understaffed. Also, tertiary health care is inadequate – various reports put the available human resources for health at 8 to 11 per 10,000 population as against the WHO's norm of 25 to 26 per 10,000. According to one estimate, the number of allopathic doctors, nurses, and midwives combined (at 11.9 per 10,000 people) half the WHO benchmark (Krishna D Rao, 2016). A robust primary health care system is crucial for reducing the high costs associated with tertiary care. It can help diagnose and refer to disease early on to prevent many conditions from becoming adverse. Since most health conditions, infectious or non-communicable, are preventable, this strategy keeps the health system's burden low and minimises Disability Adjusted Life Years (Amar Patnaik, 2020). A CII report highlighted that primary health care services were unable to cope due to lack of basic supplies and equipment, shortage of skilled work force, medical and paramedical staff (including doctors, nurses, mid-wives, auxiliary nursing midwives, ASHAs and Anganwadi workers) who were overburdened with long hour duties has further worsened the situation (CII, 2020).

Quality of service delivery is an essential component of building trust with communities and citizens and improving the utilisation of public health facilities. The *Mohalla* clinics run by the Delhi government have significantly improved service quality for the urban poor and have seen higher utilisation due to lesser waiting time at clinics, increased interaction time with the doctor, perceived performance of doctor, and effectiveness of treatment (Tanisha Agrawal, 2020).

In a vast majority of (94 percent) countries responding, to COVID-19 health staff working in the area of Non-Communicable Diseases (NCD) were partially or fully reassigned to support COVID-19 due to which routine health care services faced disruption (WHO, 2020). Routine health services like Maternal and Child health care, NCDs (like cancer, heart disease, stroke and diabetes, mental health and disability), family planning, immunisation and antiretroviral therapy for HIV, mental health and disability were adversely impacted in India as well.

Outreach-based public health measures are centred on extensive testing and case identification, isolation and treatment, meticulous contact tracing, home quarantine of contacts, and localised restrictions

on movement in some cases. The Korean Model, a vigorous regime of "trace, test, treat", has shown remarkable results in controlling the spread and mortality due to COVID-19 without a nationwide lockdown by conducting as many as 18,000 tests a day over 650 testing centres nationwide. Anyone in Korea who has symptoms or reasons to be tested can get the test within minutes at 'drive-thru' or 'walk-thru' testing centres and receive the result by text message the very next day. The government also exhibited a full commitment to sharing information in a prompt and transparent manner and has gained public trust and high-level civic awareness, which encouraged the public to take voluntary self-quarantine and other preventive measures such as social distancing (Haider, 2020).

On the other hand, India adopted a strict nationwide lockdown that acted as a barrier for access to general/routine health care services and resulted in enormous social and economic costs, especially for the urban poor. The unintended consequences of the lockdown restrictions on healthcare access and health outcomes for patients needing lifesaving care have been alarming. With the access to health services severely disrupted; mortality increased by 64 percent between March and May 2020; and there was 25 percent total excess mortality in the four months after imposition of the lockdown. Although critical health services were officially exempt from the lockdown, these exemptions were hard to implement – patients had difficulties obtaining administrative permissions and finding transport. Hospital and pharmacy supply chains were disrupted. It was seen that service access did not return to normal even after the lockdown was eased, suggesting that adverse effects on morbidity and mortality may continue to unfold over the coming months if further action is not taken (Jain & Dupas, 2020).

With the onslaught of COVID-19, health care professionals across all levels were caught unaware as they were not well equipped to respond to a public health emergency of this magnitude and duration. The perceived risk among public health workers was associated with several factors peripheral to the actual hazard of COVID-19. These risk perception modifiers and the knowledge gaps became barriers to the adequate response. Several state-specific prevention strategies required tailoring the technical capacity of human resources. In Uttar Pradesh, for instance, frontline health care workers were provided training support on infectious disease control, and the modules focused on how to navigate sociocultural gatekeepers to enable behaviour change at the community level. Similarly, in Punjab, an effective outreach programme helped motivate families and individuals to moderate alcohol consumption and adopt healthier diets. This outreach level requires a dynamic primary healthcare system that is adept at responding to local needs with local contexts and utilises technology to deliver the quality of care at primary, secondary and tertiary care centres (Amar Patnaik, 2020).

The ongoing pandemic has also brought to light the inadequacy of public healthcare services, particularly for people living in poverty who cannot afford health care services available through the private sector. Some national and state-level initiatives have provided free testing and treatment services for the poor under existing national and state health schemes. One such step by the National Health Authority (NHA), was to allow *Pradhan Mantri Ayushman Bharat Jan Arogya Yojana* (PM-ABJAY) beneficiaries to avail free testing at laboratories empanelled and approved by the Indian Council of Medical Research (ICMR). Further, to provide free testing and treatment for PM-ABJAY beneficiaries even at private hospitals/labs, NHA approved packages for COVID-19 testing which are being used by many states in the country (Kumar R. , 2020). Similarly, the Maharashtra government announced free treatment services for all residents under the *Mahatma Jyotiba Phule Jan Arogya Yojana* (MJPJAY) (ANI, 2020).

Evidence from the ground (Primary and Secondary)

Bolstering health care workforce with additional hiring: The Odisha Government announced engaging doctors and paramedical staff to deal with the impending crisis that may crop up due to a sudden spike in COVID-19 cases (Rout, 2020). Additionally, AYUSH doctors were also roped in to strengthen the frontline medical teams in combating COVID-19 in their respective areas (Express News Service, 2020). In Bangalore, the vacant public health worker positions were filled as a step towards preparedness. A blanket order was issued to fill all vacant posts, create additional posts (including doctors, nurses, lab assistants and support staff) and hiring of doctors/staff on a contract basis in 12 hospitals of Bengaluru Urban and Rural Districts.

Shadowing general healthcare: It was reported in Delhi, and other cites that Municipal doctors were assigned

pandemic related duties and hence were unavailable for general medical care. Even the routine medical services faced disruptions-challenges were reported to access dialysis, chemotherapy and even neonatal care in cities like Delhi and Bangalore. In smaller urban centres like Lingasugur, respondents reported that people with existing health ailments had difficulty accessing health services.

In the wake of the pandemic, expectant mothers had to face challenges in accessing health care due to the closure of doctors' clinics, Out Patient Departments (OPDs) of hospitals and Anganwadi Centres (AWCs). Pregnant women from poor families were often left unassisted as most public health care institutions were turned into COVID-19 testing/treatment facilities. In Bangalore, pregnant women suffered adversely as their access to health care was disrupted, and they were fearful of visiting hospitals and thus opted for delivery at home. Moreover, one million fewer children were vaccinated in the month of April 2020, risking the health of the next generation.

Provision of healthcare services through mobile clinics in urban poor settlements: Cities like Pune, Bhilai and Lingasugur initiated mobile health services for slums and urban poor settlements to ensure continuity of health care services. These services helped many residents access medical treatment of minor ailments at their doorsteps during and post lockdown. In Pune, the Pune Municipal Corporation (PMC) launched mobile dispensaries through 15 ambulances/buses which were converted after most private physicians shut down their clinics in COVID-19. This initiative, 'doctor at your doorstep,' was launched to reach the residents of slums, temporary shelters and old-age homes in the city. The ambulances were allotted to each of the 15 wards equipped with one doctor, one nurse, one attendant and a volunteer, and they work from 10 am to 5 pm in various localities of the city (Bari, 2020).

Similarly, in Bhilai, a mobile unit consisting of a doctor, sample technician, attendant and driver were provided for mobile health care services. Likewise, free healthcare services were provided to all with the support of *Rashtriya Bal Swasthya Karyakram* (RBSK) mobile team consisting of Doctor, Nurse, Medical Officer and ASHA in Lingasugur and other cities in Karnataka. Additionally, Karnataka launched a mobile COVID-19 laboratory. It was the first of its kind mobile testing facility equipped to conduct RT-PCR (Reverse Transcription Polymerase Chain Reaction) tests approved by ICMR (PTI, 2020).

Standardising charges: To ensure equitable access to treatment facilities and restrict overcharging by hospitals, several state governments capped the rates charged by private hospitals for treatment of COVID-19. In Delhi, the prices for an all-inclusive package for National Accreditation Board for Hospitals & Healthcare Providers(NABH)- accredited hospitals were to be capped at INR 10,000, INR 15,000, and INR 18,000 per day for isolation beds, ICU beds without ventilators, and with ventilators support, respectively (Dash, 2020). Similarly, the Government of Punjab capped the treatment charges for COVID-19 starting from INR 4,500 to INR 18,000 depending upon the criticalness of the health and services being provided (Hindustan Times, 2020). Likewise, in Goa initially, private hospitals were overcharging and based on public outcry, the state government intervened to cap the charges for both testing and treatment - the testing charges were thus reduced from INR 4,500 to INR 1,900 for RT-PCR.

Grievance Redressal Systems: Adequate and accessible grievance redressal systems for addressing public grievances regarding bills of private hospitals related to testing and treatment of COVID-19 were set up in several cities, including Pune, Delhi and Bangalore. It was envisaged that the committee would not harass private hospitals but seek better cooperation as many private hospitals were doing a great job to ensure smooth treatment of patients. In Pune, the district administration constituted a health committee to address complaints of refusal of admission in private hospitals or disputes regarding hospital fees. The committee, formed under District Collector, has powers to recommend action against private hospitals, empowering the administration to take control of 80 beds across private hospitals in the city (Times, 2020).

Recommendations

With the COVID-19 pandemic in the backdrop, it is time that the agenda of "Health for All" gains resurgence. There is a need to revisit the NHP, 2017 and ensure that the commitments made regarding investments for augmenting public health services (including physical infrastructure and human resources) must be ensured. There is also a need to revisit the National Urban Health Mission (NUHM) to ensure improved access to public health services for the vulnerable and marginalised communities, especially during public health emergencies Augmenting the public

health systems for primary, secondary and tertiary care, focusing on preparedness, hold the key for a more structured response to future public health emergencies/disasters.

There is an urgent need for ensuring that the commitments made under the National Health Policy, 2017, are fulfilled. These commitments are making adequate investments towards augmenting the public health infrastructure to enable the provision of at least 2 beds per 1000 people by 2025 (as per the NHP, 2017) and ensure increased workforce across all levels – medical, paramedical and frontline health workers. Further, the Government of India should commit to spending at least 2.5 percent of GDP on health care, in tandem with the norms set in the NHP, 2017. To ensure that there is no disruption of general/routine health care and critical and non-elective health services continue uninterrupted, prior health system planning must be undertaken.

Bolster primary healthcare system's preparedness through investments in infrastructure and human resources: There is an urgent need to strengthen the primary health care system's infrastructure. In addition, the human resources responsible for the primary health care system needs to be increased to the norms set out in the NHP, 2017. The vast network of private hospitals, clinics and other doctors/paramedics must be leveraged for ensuring adequate access to affordable and quality primary healthcare services. The learnings from Delhi's experience of running the Mohalla clinics and other similar best practices can be explored for potential replication.

Augment public health workforce preparedness for future public health emergencies by increasing public health workforce and providing training and capacity building inputs: In order to ensure the preparedness of the health care system for any public health emergency, the Ministry of Health and Family Welfare (MoH&FW) should ensure increase in public health workforce, including medical, paramedical and frontline health workers as per norms mentioned in the NHP,2017. The GoI' Digital Infrastructure Knowledge Sharing' (DIKSHA) platform, which was created for the training of frontline workers, should be popularised and used for training of FLWs.

Ensure continuity of disease control programmes and rehabilitative care, with a strong focus on poor and vulnerable communities: Concerted efforts are required for ensuring continuity of disease control programmes, particularly for chronic/long term care needs such as Tuberculosis, HIV, NCDs, Mental Health and Disability to ensure that the positive impacts of the disease control programmes are not diluted, and there is no resultant mortality due to lack of access to health services. Special thrust is required to ensure continuity of essential health services, including rehabilitative care as well as continuity of care by seamless referral services. Steps should be taken to ensure that there is no disruption of routine medical services for vulnerable and marginalised persons, including persons with disability.

Ensure continuity of primary health services for residents of slums and low-income settlements through mobile services: Through the deployment of mobile teams of doctors, nurses, front line workers technicians, continued delivery of primary health services to the residents of slums and low-income localities must be ensured. A mobile dispensary should support this to ensure the supply of medicines and provide easy access to testing by rolling out mobile testing units.

Adoption of appropriate technologies to minimise disruptions to routine medical care: Technology applications (telehealth and telemedicine) must be encouraged to monitor patients and provide remote consultations as a strategy to minimise disruptions to routine medical care.

Standardisation of Health care charges (including testing and treatment): Health care charges must be standardised to ensure affordability for all. This should be accompanied by awareness generation about schemes and measures for free testing and treatment such as PM-ABJAY and other relevant schemes as applicable from time to time. Grievance redressal systems should be in place for resolving public complaints if any.

Engaging the private sector: The private healthcare sector's capacities need to be leveraged effectively to provide services during a pandemic. The guidelines defining the engagement for testing and treatment need to be developed by the Ministry of Health and Family Welfare. Once the contours of the engagement are well defined, communicated and understood, the operationalisation in a public health emergency could be rapid and seamless.

5.6 Ensuring business continuity and realigning flexibilities

The COVID-19 pandemic and the associated lockdowns had a drastic impact on the national and, city economies, governments (national, state and

city), and work processes. The All pandemic has led to each sectors of the economy, including government, services and manufacturing, private and government services, have had having to rethink their prospects and work processes. The pandemic has also brought to the fore that ensuring the ability of business processesmanufacturing and services (private and government) to revive, continue and realign is critical to a resilient economy, especially in the an urban context. Much of this report deals There is a need to ensure continuity of all sectors, especially during a protracted emergency such as COVID-19, through the preparation of business continuity plans. with the issues around the systemic flexibilities required in services and government processes for the poor, in this section the focus is on evidence around business continuity in manufacturing and the labour requirements of the sector in cities.

The COVID-19 pandemic has caused significant dislocation in the ULB revenues, expenditure burdens and priorities, and the capacity to meet these needs. The pandemic has affected cities' own-source revenues with potentially large tax revenue losses for sub- national governments due to tax deferrals '(Pavel, Youngki, & Emelly, 2020)'.

The lockdown resulted in all key segments of the manufacturing industry shutting down following the Centre and State government's orders. It is estimated that there was a USD 31 billion worth reduction in manufacturing activities due to COVID-19 associated lockdowns (Economic Times , 2020).

In the post lockdown phase, given the demand for new products such a PPE kits and ventilators, many businesses quickly made the shift. The virus overwhelmed the global production capacity of PPE, which was the most critical product to protect the frontline health workers. India was a complete import-dependent as far as PPE kits were concerned. In January, there were only 275,000 PPE kits available, that too owing to timely import. The Ministry of Textiles, Government of India stepped into leading the assessment of availability of all protective wears for frontline health workers. What followed has been a remarkable journey of collaboration between governments at the central and state levels, industries and workers and community-based groups like SHGs to revamp existing production lines to manufacture a completely unknown product. This saw the PPE industry record a 56 times growth in 60 days between March and May 2020 – the production grew from zero to 450,000 PPE kits per day (India, Invest, 2020).

A similar story comes to light with respect to the manufacturing of ventilators. In March 2020, the Empowered Group of Secretaries (EGoS) estimated that India would need 75,000 ventilators by June 2020. The government, accordingly, gave tenders to two companies to manufacture 30,000 ventilators in six weeks and 10,000 ventilators in a month, respectively, by the end of May. Since then, over a dozen entities have boosted the ventilator manufacturing capacity of India. These include large-scale automobile and Information Technology (IT) companies as well as universities and independent startups, and even National Aeronautics and Space Administration (NASA) - licensed firms replicating the prototype developed by NASA's Jet Propulsion Laboratory (India, Invest, 2020).

In 2020, the COVID 19 pandemic challenged the Indian economy resulting in the possibility of a breakdown of the Micro, Small and Medium Enterprises (MSMEs). The Government of India was quick to respond with measures to safeguard the MSME sector and announced the *'Atmanirbhar Bharat'* scheme on 13 May 2020. As part of this scheme, the definition of MSME has been revised with an upwards revision in the investment limits – micro-enterprises are defined as those with an investment of less than INR 10 million; small enterprises are to have an investment of less than INR 100 million and a turnover of less than INR 500 million, while medium enterprises are those with an investment of INR 500 million. Further, under the Credit Guarantee, sub-Scheme unsecured loan facilities were provided to MSME businesses, whereby they can avail collateral-free term loans or working capital loans. In addition, under the *Atma Nirbhar Bharat Scheme* the government made provision for INR 200 billion as subordinate debt to help MSMEs with stressed accounts or non-performing assets (NPA). The government has also created a fund with a corpus of INR 500 billion for MSMEs with growth potential and viability. The objective of this fund is to infuse equity to help MSMEs expand and grow (NovoJuris Legal, 2020).

Evidence from the ground (primary and secondary research)

In Bengaluru, 108 licenses were issued in the post lockdown period, while only 11 sanitiser manufacturing companies existed prior to COVID-19. Of the total 119

license holders, 81 were pharmaceutical companies, and 38 were distilleries. Due to this, the production capacity has increased to more than 400,000 litre per day, to meet the new requirements whereas the requirement as per the contingency plan was only 20,000 litres per day.

Emerging as one of the critical areas of livelihood and social protection in India during the pandemic is workers' relative skill levels. Whether it is the large construction market or even the manufacturing sector, they often employ workers informally without any written contracts. The economic slump triggered by the pandemic sparked the dismissal of many informal workers who were unfortunately disposable without any social insurance. Through our key informants interviews, we found that many of the informal workers, such as auto-rickshaw drivers, domestic workers, hotel staff, etc., started vegetable vending and vending of other essential goods such as masks, sanitisers and hand-wash soaps to make a living during the trying times.

Street vendors were another group of urban workers who were adversely affected. Operating with small working capitals, the street vendors had little capacity to deal with the supply chain disruptions. While the GoI announced a scheme, *PM Street Vendors Atma Nirbhar Nidhi Scheme*, to provide a micro-credit facility for the street vendors, the awareness of the scheme was limited. The street vendors believed that a cash benefit would have helped them more than a credit facility as their business, and thus their ability to pay back the loan was relatively low.

Many workers in the formal sector also lost their jobs and couldn't find alternative employment due to the absence of jobs and limited skills.

Also, private operators of buses and drivers of buses and IPT services (including autorickshaw and cycle rickshaw drivers) also suffered a setback. During the lockdown, their means of livelihood came to a stop as all transport services were halted. In the post lockdown phase, also people avoided public transport services, and their business was much lower than pre lockdown times.

Recommendations

To ensure continuity of business and services (both private and government), there is a need to ensure that robust business continuity plans are put in place. In order to mitigate the fiscal risks for government agencies, there is a need to institutionalise contingency funds which are built at each level of the government (national, state and ULB) with well-defined trigger mechanisms for the use of these funds in time of disasters and public health emergencies, like the COVID-19.

To ensure business continuity in cities, there is a need to ensure that businesses which are impacted by these shocks are adequately supported through financial, process reengineering and guidance to alternative business opportunities. As shown above the government has attempted to provide such support, but a more systematic review and policy options need to be put in place for each industry under shock conditions. This could take the form of business continuity contingency funds, tax breaks to the formal sectors or direct cash support to urban poor workers, based on asset and labour inventorisation at the level of each business.

Authorities should create a record of the informal workers in the country and assess their skill levels to help provide them with adequate skilling inputs under the National Skill Development Mission to access other employment opportunities.

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6

ATTENUATE FORMAL/ INFORMAL CATEGORIES TO UNIVERSALISE ACCESS

The COVID-19 pandemic has highlighted one of the most crucial vulnerabilities of the Indian economy; its large informal sector, the state of the labours engaged and their living conditions. The urban informal sector comprises domestic workers, home-based workers, street vendors, and waste pickers. It lacks legal and economic security in terms of social protection and worker's rights; hence the informal worker's experience is highly vulnerable. With the spread of COVID-19, social distancing and maintenance of proper hygiene have become significant, and the government has several issued guidelines to this effect. However, while these guidelines may seem simple enough to implement for a large proportion of the formal sector workforce, they are exclusionary towards informal sector workers as they can't observe these measures due to the nature of their livelihood and their socio-economic conditions (SEWA, 2020).

According to an estimate by the International Labour Organisation (ILO), globally, nearly 400 million informal sector workers have sunk deeper into poverty amidst this pandemic due to job loss (ILO, 2020). India witnessed a mass exodus of migrant labourers from the cities to their respective villages following strict lockdown. It also brought to light that urban India is highly dependent on the informal workforce that migrates to cities in search of livelihood and contributes significantly to our cities' building. They suffer from a lack of savings, housing, access to healthcare and, in most cases, access to welfare schemes run by the government (Deb, 2020). Hence, there is a need for the government to ensure that the informal workforce has access to affordable housing, basic services like water and sanitation, and health care to attenuate the gap between formal and informal.

The Census identifies 'migrants' as those enumerated in a place other than Birth Place or have changed their Usual Place of Residence. To qualify as a migrant for enumeration, a person should have lived in the place of enumeration for six months or more. But that is rarely the case, as migrant workers keep moving in under six months due to their jobs' nature (Sharma A. , 2020). The definition needs to be more inclusive to include all seasonal migrants who migrate during a particular season or for a brief period. These migrants also get excluded from public programmes as such programme usually rely on poverty thresholds, leaving behind informal workers who don't meet these criteria (Bussolo, Sharma, & Timmer, 2020). Hence, the policymakers also need to loosen the conditions for eligibility and ensure social security coverage for all informal employment in the unorganised sector. Adequate awareness generation around these social welfare schemes is also critical to ensure uptake.

The hierarchy between formal and informal has always existed in the Indian context, with informal being subordinate to the formal and has uniformly reflected among urban service providers and urban settlements (De, 2020). While the well-served areas emerged as formal areas of residence, unserved areas came out as informal areas or slums. While joblessness due to lockdown impacted the informal sector workers the most, housing shortage, overcrowding, and lack of access to basic services and amenities intensified the risk of spreading COVID-19 infection for slums and informal settlement (Dasgupta, Mukherjee, Agarwal, 2020). In India, despite recognising the importance of basic services to the urban poor as an important agenda in various policies and urban planning regulations, the right to basic services remains a distant dream for a large section of the urban poor, especially those living in slums. While the construction of new houses under central government schemes has accelerated in recent years, there has been limited attention given to holistic spatial planning resulting in houses without the allied basic infrastructure (Dasgupta, Das, Mukherjee, & Sarkar, 2020). Hence, there is a need for the government to shift focus from individual house construction and encourage slum upgradation instead.

6.1 Labour laws should categorically earmark non-negotiable aspects, which cannot be amended even in emergencies

Labour falls under the Concurrent List of the Constitution of India; therefore, both the Parliament and State Legislatures can make laws regarding labour. Presently, there are Central and State laws regulating various aspects of labour, such as the resolution of industrial disputes, working conditions, social security, and wages. States regulate labour by bypassing their laws or amending central labour laws to make them applicable to their state (Tiwari & Ram, State Legislative Brief, 2020).

The Indian economy suffered a setback during the lockdown, which was imposed to control the spread of COVID-19. Many states amended the existing labour laws in their respective jurisdictions to revive the

economy. In early April, some states, including Gujarat, Punjab, Himachal Pradesh, Uttar Pradesh, Rajasthan and Madhya Pradesh, amended the provisions of the Factories Act, 1948 by extending working hours from 8 to 12 in a day and from 48 to 72 in a week and necessitated such amendments to accommodate the requirements for physical distancing. Similarly, State governments of Odisha, Goa and Bihar also issued notifications to this effect. While some states allowed the extended hours to be paid at the statutory overtime rate (double), others (Uttar Pradesh and Gujarat) allowed the extended hours to be paid at regular rates (Box 5).

Hence, to attract investment and provide flexibility to investors, the Governments of Uttar Pradesh, Madhya Pradesh and Gujarat have sought exemptions from the provisions of labour laws, including statutory inspections and submission of multiple returns, for three years, 1,000 days and 1,200 days, respectively. Significantly, these ordinances would suspend provisions of the Trade Union Act 1926 and the Industrial Disputes Act 1947, which recognise the collective rights of representation and protect workers from arbitrary dismissal such as retrenchment or lay off (Mander & Verma, 2020). These ordinances also take away the mechanism for the resolution of industrial disputes.

Evidence from the ground (primary and secondary sources)

In Bengaluru, provisions of the Factories Act, 1948 were amended to increase the daily and weekly working hours to 10 hours and 60 hours, respectively, for three months (from 22-05-2020 to 21-08-2020). The state government justified this as an attempt to help revive business and the economy, but in the process, worker's rights were compromised.

Recommendations

Labour laws are welfare socio-economic legislation to protect the vulnerable and guarantee them rights. This genre of suspension in the wake of

BOX 5: AMENDING LABOUR LAWS ON THE PRETEXT OF REVIVAL OF THE ECONOMY – THE CASE OF UTTAR PRADESH

The Governor of Uttar Pradesh passed the 'Uttar Pradesh Temporary Exemption from Certain Labour Laws Ordinance, 2020' on 8th May 2020 to suspend various labour laws in the state for factories and establishments engaged in the manufacturing process, for three years **(Ram, 2020)**. The ordinance allowed the relaxation of all labour laws, barring three laws (related to abolishing bonded labour, ex gratia to workers in case of work-related diseases and disabilities, and timely wage payments). The justification provided for the ordinance was "to promote business and industry which has slowed due to COVID-19". All labour laws related to labour unions, settling work disputes, regulations for working conditions, contracts, etc. were to remain suspended for three years under this ordinance **(PRS, 2020)**. However, even before the ordinance could receive the President's assent, a Public Interest Litigation (PIL) was filed in the Allahabad High Court and pursuant to that order, the entire ordinance was withdrawn.

Under Section 5 of the Factory Act, 1948, state governments can **grant exemption** to establishments from the provisions of the Act in case of emergencies. Leveraging this, the UP government argued that the outbreak of COVID-19 had "shattered" the economy, migrants had returned to the state in large numbers, and there was widespread unemployment. To provide a boost to industries and attract investments, the state government passed the Factories **(Uttar Pradesh Amendment) Act, 2020**. According to the Governor's notification, all factories registered under the Factories Act, 1948 shall be exempted from provisions relating to weekly hours, daily hours, overtime, intervals for rest, etc., of adult workers for three months (from 20th April till 19th July 2020). However, the notification also provided that:

1. No adult worker shall be allowed to work in a factory for more than twelve hours any day and Seventy-two hours any week.
2. Working hours will be fixed so that the adult worker does not work for more than six hours without an interval of at least half an hour.
3. Wages shall be in proportion to the existing wages to adjust for additional work hours.

crises to further the capitalist interest may put the vulnerable worker community in a highly exploitative position. Suspension or relaxation of the established international norms of labour legislations exposes this already vulnerable population to more risks and perils. Planning a programme of economic revival and employment generation without compromising workers' rights and working conditions is the need of the hour. The Labour laws should earmark categorically non-negotiable aspects, which cannot be amended by the States, even in emergencies. Amendments, if necessary, should adhere to the available checklists and solicit public opinion on amendments likely to have a socio-economic impact.

6.2 Ensure social security coverage for workers in the unorganised sector through simplification procedures and improved awareness

The heterogeneity of the Indian labour market means that workers are situated in a wide range of employment arrangements – from own account self-employed workers to helpers in household enterprises, from casual workers to those in different forms of regular wage work. Among those that are in regular wage salaried work, 50 per cent were without any social security benefits, according to the Periodic Labour Force Survey (PLFS), 2017-18 conducted by the Ministry of Statistics and Program Implementation (MOSPI), GoI.

Social security is a basic set of benefits afforded to a worker to enable access to healthcare and income security, especially during old age; in case of unemployment, sickness, invalidity, and injury at work, maternity or a loss of the primary breadwinner (widow benefit). For workers in organised, registered enterprises, health and pension benefits (e.g., Employers Provident Fund and Employers State Insurance Scheme) are linked to employment. But for workers in informal employment, who comprise a significant proportion of self-employed workers, they are responsible for accessing benefits by enrolling themselves into various government schemes. Most cannot avail of the benefits as they lack adequate information about these schemes, and they find the registration process tedious.

Moreover, targeting beneficiaries is often exclusionary for informal workers who do not have ration card' or other documents as domicile proof. For example, in the Pradhan Mantri Matru Vandana Yojana (PMMVY), the application process is cumbersome and exclusionary. The scheme has three instalments, and for each instalment, the beneficiary needs to fill-up a separate form. Along with the form, the beneficiary needs to submit a host of documents (including a copy of the mother-child protection card, Aadhaar card, husband's Aadhaar card, and the details of a bank account linked to her Aadhaar number) (Priya, 2018). There exist a vast information gap amongst the Anganwadi workers (AWWs) on the schemes, which includes a cut-off point for submission of applications, course of action in the case of a miscarriage, direct registration despite having an Aadhaar card (Falcao, Sachin, & Painkra, 2019). Furthermore, beneficiaries often face payment delays. Both non-payment and chronic delays in payment of benefits make AWWs reluctant to encourage uptake of PMMVY (Falcao, Sachin, & Painkra, 2019). The much-touted Pradhan Mantri Jan Dhan Yojana (PMJDY) also has some barriers that limit uptake – in addition to linking their Aadhaar card with their bank accounts; the beneficiaries must also open a Jan Dhan account. The awareness is limited. Additionally, around 60 million Jan Dhan accounts were inactive as of July 2018 (Kapil, 2020).

The fallacies in implementing welfare schemes in the times of their utmost need only heighten a need for their over-hauling. The over-hauling must be horizontal and cross-sectional through decentralisation to meet the requirements of migrant labour in different sectors across cities. It should be vertical, taking into account the rural-urban spread of family members of the migrant labour. This line of reasoning underscores the need to make cities more inclusive for migrant labour.

Universal social security is not within immediate reach for India. India's low tax to Gross Domestic Product (GDP) ratio, which has decreased further in the wake of the COVID-19 pandemic, makes it challenging to finance a universal system. Yet, the government can work out an iterative plan to provide basic benefits to the most vulnerable, with others opting into the system through contributions.

Evidence from the ground (primary and secondary sources)

The pandemic indeed became a litmus test for the efficacy of the existing welfare schemes and the institutions involved in their delivery. The migrant crisis exacerbated the crippling effects of the pandemic on the economy, loss of livelihoods of millions of

informal workers in urban areas and the failure of existing welfare support systems in their places of work. Two of the biggest welfare support failures were in terms of food security and employment guarantee. The impact of COVID-19 on the labour force employed without any social security benefits and on those in engaged in unorganised sectors are highlighted in section 4, specifically for select countries of SA in sub-section 4.3 and 4.4.

The fact that informal workers cannot avail the existing welfare schemes due to the absence of documents to serve as "proof of residence" was corroborated by the interviews across cities. A domestic worker from Bhubaneswar shared that despite her family's residence in Bhubaneswar for several years, they lack a ration card. Because of the lack of documents such as rent agreements and other residential proofs and, hence, they could not avail ration during the lockdown when both she and her husband had been laid off their work. Similar responses were recorded from slum residents in Delhi who had no ration card in the state, and hence no ration was available to them. According to Aajeevika Bureau, an Organisation that works with migrant labour, there is a need to ease the norms regarding local domicile proof for migrant workers, enabling them to benefit through social welfare schemes.

While the Government of India launched the "One Nation One Ration Card Scheme" in 2019 for ensuring portability of benefits under the National Food Security Act (NFSA), between states, it requires migrant workers to be on one ration card list (PRS, 2020). According to Aajeevika Bureau, given that migrant workers are highly mobile and keep on moving between their village and city/ town, their workplace, they are reluctant to get their names removed from the village ration card list. The policies, thus, must be cognisant of the multi-location lives of migrant workers and make provisions that enable them to access entitlements regardless of the number of years they have been living in the city.

After the outbreak of the COVID-19 pandemic, many states (like Delhi, Kerala, West Bengal, and Uttar Pradesh) announced temporary ration cards. In Delhi, between April to June, 334,000 (Dabas, 2020) migrant workers applied for temporary ration card to get 2kg of rice, 3kg of wheat and 1kg of gram every month. This insinuates that many workers did not have ration cards despite the One Nation One Ration Scheme. According to Aajeevika Bureau, regardless of the government's intent, very few people benefitted from the temporary ration card schemes. In their opinion, while the mechanism put in place at the district level for registering migrant workers and linking the same to the Aadhar card was successful to some extent, the last mile connectivity was a challenge. The mechanism for delivering food grains through the ration shop dealer did not yield the desired results as the onus of contacting and informing the migrant worker about the available food grain was placed on the local ration shop dealer. It was challenging for the ration shop dealer to actively call up migrant workers, and thus most never received a call.

The KIIs also indicated that most informal employment workers received (or availed) little government assistance. The main barrier to accessing the benefits under PMJDY was that they needed a Jan Dhan bank account. Beneficiaries with an Aadhaar linked PMJDY account were able to receive Direct Benefit Transfers (DBTs) during the lockdown. In contrast, others who didn't have a PMJDY account were unable to do so.

Recommendations

There is an urgent need to simplify the registration process for social welfare schemes to ensure that the informal employment workers can register and avail the benefits. As mentioned above, many migrant workers in urban areas, irrespective of the nature of their informal employment (whether daily wage-earning or short-term contract or even annual contracts), often lacked ration cards to their names in their place of work. The social security coverage and welfare benefits must be made portable to ensure that benefits can be made available irrespective of whether they have documents as proof of their residence in cities/towns. Further strengthening of systems so that all social security schemes are transferred directly to individual accounts will make them more accessible and less susceptible to leakage.

Inputs must accompany the changes mentioned above to create awareness among potential beneficiaries on the existing social protection schemes. An Information, Education and Communication (IEC) portal will create awareness on livelihood and social protection schemes and any relief packages announced during an emergency (like the COVID-19). Also, government and civil society partners must explore iterative paths to develop a social security framework to provide social protection to income-based disadvantaged groups. It is critical to support the meaningful engagement

of informal workers in the design of social protection schemes.

6.3 Augment rental housing for migrants

About one-third of urban India depends on rental housing, most of which is supplied informally (about 75 per cent) and is often the only option available for the poor and migrants in the city. Rental housing is important for migrants because it allows them to relocate to places with better economic opportunities without high costs. Financially resourceful migrants can afford good quality rental housing but poor migrants, many of whom migrate for a shorter duration, rely on low-quality housing in slums, informal settlements. Most of these migrants do not have access to basic amenities like water and sanitation. A study of the living conditions of migrants in an informal settlement in Gurgaon reveals instances of inadequate ventilation, lack of sanitation and conditions of crowding in such tenements (Naik, 2019). They often compromise on their living conditions to save money or better jobs (Naik, 2019). Numerous cyclical migrants, for whom housing remains unaffordable even in slums and squatter settlements, often opt for housing within their workplace where they are exposed to workplace hazards and are also subjected to a higher degree of exploitation from the employer (Sugathan & Jayaram, 2018). When government of India announced a complete lockdown on 24th March 2020 for 21 days, many of the migrants, who were employed in informal jobs and were living in rental houses in slums and informal settlements, lost their livelihood and could no longer sustain themselves in the city. As a result, many migrants and urban poor started going back to their villages and towns. Along with a shortage of food and ration, the inability to pay rent and poor living conditions contributed to the decision of migrants to go back.

Evidence from the ground (primary and secondary sources)

From Press Scan Analysis and KIIs conducted by us, the plight of migrants emerged as one of the most critical issues during the pandemic. Many studies and reports also highlighted the plight of migrants. Aajeevika Bureau, in a study of migrant workers in Ahmedabad and Surat, found that a large portion of migrant workers who lived on the work site lost both their livelihood and housing and were forced to go back to their villages. As per a study by the Housing and Land Rights Network (HLRN), nearly 75 per cent of the migrant workers who returned to their villages during lockdown lived in rented rooms in low-income housing or tenements 10 per cent lived in jhuggi or slum-like settlements. Further, about 12 per cent of the respondents indicated a direct loss of housing (including through evictions by homeowners) as one of the main reasons for leaving Delhi during the lockdown (HLRN, 2020). In Bengaluru construction workers were affected during the lockdown as they lived in the construction sites closed during the lockdown. In a few cases, as in Lingasugur, our discussions with construction workers revealed that their contractor allowed them to stay in the building under construction during the lockdown. Apart from migrants and urban poor, many people working in the health care and sanitation sectors living in rental housing also faced evictions. The government was forced to pass an order-making prohibiting eviction threats to health care professionals living in rental housing.

To address this issue, the Ministry of Home Affairs (MHA) issued an order on 29th March 2020 asking landlords "to provide a moratorium on rent for a month" and restrained them "from forcing labour (and students) to vacate their premises in case they fail to pay rent". Some other states and districts like Jhansi and Delhi also issued a notice to the same effect. However, studies by Aajeevika Bureau suggest that there is limited evidence to show that the policy was enforced. Although Community Based Organisations (CBOs) in few cities like Delhi and Bhilai reported that rents were either waived or deferred by the landlords in most places, this was not the case. In response to a plea for waiving rent, Supreme Court said that the "apex court cannot implement the orders of the government and that a helpline to monitor the situation exists and the aggrieved can approach the authorities concerned through it" (Economic Times, 2020). The court also noted that many landlords are also dependent on the income from renting, and it will not be fair to them.

Although the government could not prevent an exodus of migrants, many of them took steps to provide immediate relief by providing food and shelters. The urban local bodies in close collaboration with Non-Governmental Organisations (NGOs), Civil Society Organisations (CSOs) and CBOs to provide temporary shelters for

migrants. In Bengaluru, for example, the Bruhut Bengaluru Mahanagar Palike (BBMP) set up relief camps for migrant labour in public spaces such as the National College Grounds and supplied food and other relief material in support with NGOs. The local corporator shared that while many homeless people came to stay in these relief camps. As per the District Nodal Officer in Bhilai, government community halls were converted into "rainbaseras" (shelter for the homeless) and provided shelter to the migrants. Homeless and needy families were identified and provided emergency food and relief material. In Delhi and Odisha, school and hostel buildings were used as a temporary shelter (Box 6). In Maharashtra, 16 hostels used for Haj pilgrims was also used as temporary shelters.

Recommendations

In response to the migration crisis brought on by the COVID-19 related lockdown, GoI announced the Affordable Rental Housing Complexes Scheme under Pradhan Mantri Awas Yojana – Urban (PMAY-U) to enable conversion of un-occupied public housing stock into AHRCs managed by the private sector (Ministry of Housing & Urban Affairs (MoHUA), GOI, 2020). However, this approach may not fully address the existing challenges. Most migrants are dependent on the informal rental housing market and subsistence landlords to supply low-cost rental housing and flexibility. This design of the scheme needs to recognise small landlords' role in providing rental housing for the poor and migrants.

BOX 6: FINDINGS FROM THE PRESS SCAN

The Delhi government decided to convert public schools into temporary shelter homes for people, mainly migrants, during the coronavirus lockdown. The state government also announced that it would provide free food in these shelters (New Indian Express, 2020).

Taking cognisance of the thousands of migrant labourers returning to the state following the nationwide lockdown, the Odisha government decided to keep them at isolated places to avoid the spread of COVID-19. All the district collectors and municipal commissioners used the school and hostel buildings as temporary shelters to house the migrant labourers in their districts and municipal corporations (Mallick, 2020).

BOX 7: ARHC SCHEME UNDER MOHUA, GOI

What	Affordable Rental Housing Complexes (ARHCs) as a Sub-scheme under Pradhan Mantri Awas Yojana- Urban (PMAY-U) to provide affordable rental housing to urban migrants/ poor, close to their workplace. It aims to create a conducive ecosystem for Public/ Private Entities to leverage investment in rental housing
Who	Beneficiaries for ARHCs will be varied groups of urban migrants/ poor from EWS/ LIG categories including industrial & construction workers, migrants working with market/ trade associations, educational/ health institutions, hospitality sector, long-term tourists/ visitors, students etc.
When	ARHCs to be considered till PMAY (U) Mission period i.e., March 2022.
Where	To be implemented in all Statutory Towns, Notified Planning Areas and areas under Special Area/ Development Authorities/ Industrial Development Authorities
How	Model-1: Utilising existing Government funded vacant houses to convert into ARHCs through Public Private Partnership (PPP) or by Public Agencies. (75,000 Govt. funded existing houses will be converted as ARHCs) Model-2: Construction, Operation & Maintenance of ARHCs by Public/ Private Entities on their own available vacant land 40,000 DUs & 180,000 Dormitory Beds.
Status	Government has identified 130,000 government funded vacant houses for ARHC and out of which 1,700 houses have been allocated in Chandigarh. All states, except West Bengal, Goa, Sikkim, J&K and Ladakh, have signed Memorandum of Agreement for implementing ARHC.

Low returns on investment and lengthy dispute resolution mechanism discourage many people from investing in rental housing or renting their house. Formal dispute resolution mechanisms for rental disputes are lengthy and impose prohibiting costs on both parties. Therefore, many landlords prefer to keep their houses vacant rather than rent them out. The Central government should encourage state governments to modify their rental laws to allow for arbitration in landlord-tenant dispute for effective resolution in addition to forming a separate rental court for resolving disputes. India has one of the lowest rental yields globally, and therefore, it receives meagre investment from institutional investors and households. The government of India has already announced tax incentives on investment in ARHC and can extend similar tax incentive to households willing to invest in rental housing. The housing sector has a multiplier effect on the overall economy; thus, any revenue loss owing to tax rebates can be compensated by increased investment in the construction sector, the second-largest employer in the country.

6.4 Enabling special provisions for street vendors through earmarking street vending zones and integrating safety and hygiene practices

As per conservative estimates, 8 million workers in India are street vendors (Unni, 2020). However, other studies estimate that there are around 10 million street vendors in India (Bhowmik, 2005). Street vendors often work in non-designated vending zones under constant fear of being harassed and evicted.

Street vending and retail located in *bazaars*, *haats* and a variety of natural markets are vital livelihood sources for the urban poor and instrumental in providing a variety of goods and commodities to urban residents. These markets are important in urban centres' public life, particularly in small towns, where planned markets are often absent or inadequate. These markets are often overcrowded and lack basic amenities.

The Street Vendors Act, 2005 heralded the advent of participatory mechanisms to resolve legality, hygiene, and spatial management to protect informal livelihoods in ways that enhanced public life in Indian cities. More recently, the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 enabled very crucial street vending provisions. Some of those include Town Vending Committee to survey all vendors in the areas under its jurisdiction once every five years; demarcate 'vending zone' based on 'traditional natural markets' and other associated mechanisms; and ensure all street vendors are allocated spaces within these vending zones.

Evidence from the ground (primary and secondary sources)

The Press Scan Analysis, undertaken as a part of this study, indicates that street vendors were one of the groups hugely impacted by COVID-19. Indian media highlighted the street vendors' challenges, including loss of livelihood due to the lockdown. The topic of "street vending" garnered 80 percent of the Indian media coverage.

The COVID-19 induced lockdown led to the closure of all markets and vending sites, deprived street vendors of livelihoods and income. They being sites of spontaneous intermingling made street retail emerged as sites for the disease's potential spread. Though most restrictions were removed, albeit gradually after the lockdown, some curbs continued to remain related to street trade / informal vending. In some cities like Delhi, a few weeks after the national lockdown, the government eased restrictions and vendors dealing in essential goods were permitted to vend. In Dhenkanal, a Sabji Haat (vegetable market) was started in a playground, and the market was functional from 7 am to 2 pm. In Tripura, to ensure sanitisation – customers entering markets were asked to wash their hand and walk through a 'disinfection tunnel' (PIB, 2020). In Bangladesh, as most food markets are congested and people cannot maintain social distance while moving through these markets, posing a risk of infection, the Government on Local Authorities shifted all food markets to the nearest open grounds (TBS Report, 2020).

While curbs were lifted and business resumed, it is critical to note that the cost of doing business went up significantly due to disruption of the supply chain and increased travel costs. Street vendors in Bhubaneshwar and Jhansi shared that it was difficult to source vegetables and fruits from the mandi (wholesale markets) due to supply chain disruptions. Street vendors operate with small working capital, and their earnings diminished due to supply chain disruptions and low sales due to customer hesitancy. In Bhubaneshwar, vegetable vendors and food stall owners from the Bhubaneshwar Municipal Corporation's vending zones shared a decline in business to half the pre-COVID-19 levels. The same sentiment was shared by street vendors across most

cities/towns covered by this research.

Given the low entry barrier, the post lockdown phase saw many daily wage workers across Malerkotla, Bhubaneshwar and Bhilai taking up street vending, selling vegetables and other in-demand products such as cotton masks and sanitisers.

To address the problems being faced by street vendors, the Ministry of Housing and Urban Affairs (MoHUA) launched the Pradhan Mantri Street Vendor's Atmanirbhar Nidhi (PM SVANidhi), which offered collateral-free working capital loans of up to INR 10,000 for one year. Street vendors found it challenging to access the credit facility because it required them to be registered with the respective ULBs, which a vast majority were not. The scheme's awareness was found reasonably good in designated vending zones, as was the case in Bhubaneshwar. Further, the Bhubaneshwar Municipal Corporation provided one-time financial assistance of INR 3,000 to all registered vendors. Some narratives from street vendors were that cash transfers would have been more useful than a credit facility, given that limited demand for their goods would be challenging to pay back the loan.

Street markets have also been sites of harassment during the lockdown. The National Association of Street Vendors of India (NASVI) pointed out that during the lockdown, there were incidents of police beating street vendors for going out and seized their carts; this has reportedly continued even after the curbs were lifted (Thomson Reuters Foundation, 2020).

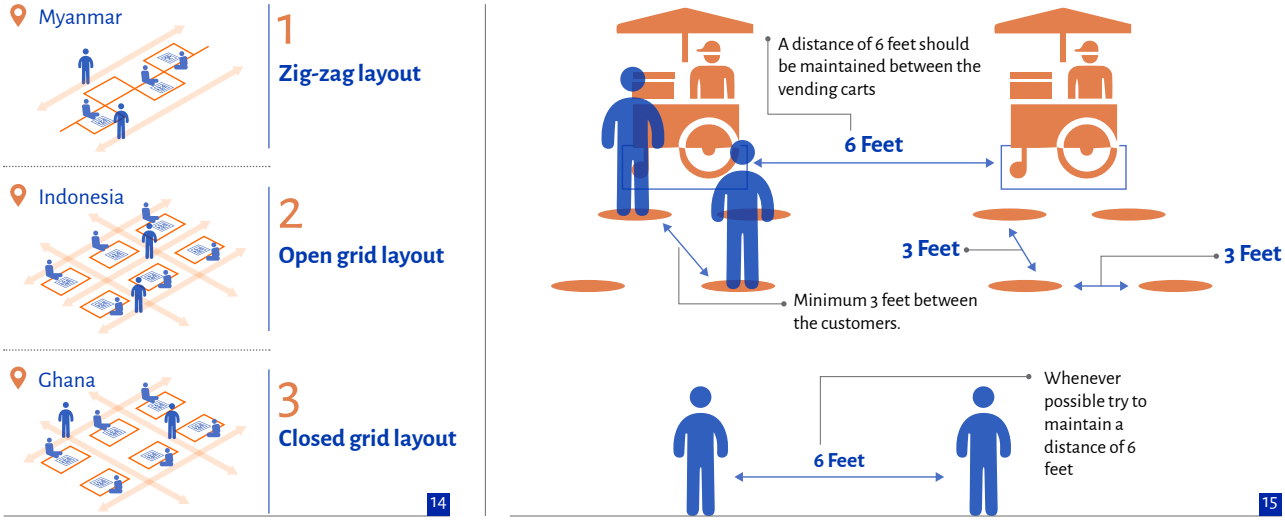
Cities undertook some innovations, such as, in Ahmedabad, Self-Employed Women's Association (SEWA) collaborated with the Municipal Corporation of Ahmedabad to deliver "Vegetables on Wheels" by using electric rickshaws. The innovative initiative brought together informal food sellers and informal transport drivers to provide an essential food security service (Chen, 2020). In Delhi, two pilot projects were implemented in central and east Delhi in September 2020 to demonstrate social distancing strategies in weekly markets. These on-site design-led tactical interventions involved vendors and helped generate simple, inexpensive solutions to enable a safe re-opening of markets (Social Design Collaboration, 2020).

Recommendations

Identification of street vendors is the first step towards improving their access to government schemes and benefits, which can help improve their income and standard of living. Urban Local Bodies, thus, need to fast track the survey of vendors and ensure their registration. Simultaneously, there is a need to develop IEC plans to ensure awareness of the PM SVANidhi scheme with a special focus on enrollment.

Street vending zones limit their holding capacities, but having access to designated spaces for street vending makes street vendors work without fear of harassment and eviction. There is a need to integrate street vending and natural markets into the existing spatial planning framework. Adequate space must be earmarked for bazaars, haats and other natural markets in Master Plans, Zonal Plans and Local Area Development Plans. Existing and historic

Figure 7: Participatory interventions to improve vending spaces



natural markets that are still in popular use must be adequately integrated. Demarcation of vending zones should be visible and accessible - preferably close to sites where vending is/was occurring in the city. Where vending activity only occurs at certain times (like some days of a week or some event), cities should create special vending zones where temporary commercial use is permitted at specified times. This should be supported by adequate arrangements for rerouting traffic, alternate parking, etc., in consultation with police and traffic departments. Small towns, where the reliance on street-based informal retail is high but planning capacities are low, should be supported in planning for such spaces through technical assistance.

Besides, targeted efforts are required to ensure effective management of vending zones to ensure safety and hygiene practices. There is a need to ensure representatives from the street vending community in decision-making around planning and managing vending zones, haats, bazars and natural markets. ULBs must guarantee that Town Vending Committees (TVCs) are functional and licenses are issued to street vendors as per the Street Vendors Act 2014 to avoid police harassment and eviction. ULB/TVC should mobilise vendors to follow social distancing, practice positive hygiene practices and ensure the overall cleanliness of these markets and public spaces. ULB/TVC should also ensure adequate infrastructure creation, including handwashing stations, etc. ULB should undertake IEC campaigns for awareness generation among the public about hand hygiene and the frequently touched surfaces' hygiene. These should aim to induce behavioural changes to prevent littering and spitting in public spaces.

As per the Press Scan Analysis the term "sanitation" garnered 33 percent of the global news, 19 percent in South Asian and 15 percent in Indian news coverage. Water, on the other hand received 29 percent coverage in the global news, 17 percent in South Asia and 14 percent in India.

6.5 Prioritising upgradation of slums/informal settlements and providing in-house water supply and sanitation services as part of "build back better" strategy

Majority of slums in India are characterised by high densities, overcrowding, poor ventilation, limited access to water and sanitation services, which severely constrained the ability of the residents to adopt COVID-19 preventive measures such as social distancing and regular hand washing.

According to the World Bank, close to 100 million people live in slums in India, with densities ranging from 44,000 persons per square km in Dharavi, Mumbai, to 125,000 persons per square km in Rasalpoora, Hyderabad (Dasgupta, Das, Mukherjee, & Sarkar, 2020). Many slum residents share rooms with three or more individuals, which indicates inherent overcrowding in slums (Besra, Mishra, Bramhankar,, & Singh, 2020). Along with overcrowding, 60 per cent of residents rely on a shared water source, and nearly 40 per cent do not have access to both a toilet and a bathroom within their house which makes regular hand washing very difficult. Many slums also do not have access to soaps for regular hand washing (Dasgupta, Mukherjee, Agarwal, 2020). In Maharashtra, studies have reported that 60 percent of the slum households did not have a private toilet facility inside their homes (Das, et al., 2020). Field research from a slum in Delhi reveals that there were 3 Community Toilet (CT) complexes, each with 20 seats, catering to 50,000 people (Upadhyay A. , 2020). Extreme cases include slums like Dharavi in Mumbai, where estimates suggest that there is only one toilet seat per 1,440 people (Watkins, 2006).

As slums are often informal and unplanned settlements, securing formal, individual water and sanitation services is challenging due to household financial constraints and unmet tenure requirements. In the case of water supply, the last mile connectivity rests with the households, contingent upon producing documentary evidence of residence. Besides, due to the inherent high densities and overcrowding, it often becomes challenging to provide IHHLs. Due to this, government-sponsored slum upgradation schemes often forego the option of providing IHHLs, and rely on CTs/PTs instead, thereby creating inequality in terms of access and further marginalising slum dwellers.

A study conducted by the Indian Council of Medical Research (ICMR) based on a sero survey claimed that people living in urban slums were more likely to contract COVID-19 than those living in non-slum areas (Murhekar et al, 2020). Due to high density and shared water and sanitation services, the infection rate among slum residents was 44 per cent higher than non-slum residents (Dasgupta, Mukherjee, Agarwal, 2020).

Evidence from the ground (primary and secondary sources)

Challenges faced by slum dwellers due to high densities and overcrowding: In Delhi, considering the pressure on healthcare systems, especially due to the high volume of cases, home quarantining was encouraged. However, as per the Deputy Health Officer, in slums owing to space constraints and lack of adequate water and sanitation facilities, COVID-19 patients were taken to institutional quarantine facilities set up by the government. Similarly, in Bhubaneswar, as per the local corporator, symptomatic slum dwellers were shifted to government quarantine centers due to overcrowded homes and lack of quarantine facilities within the slums. He further added that the lockdown compelled families to live in congested spaces, which further increased infection chances. Government officials in Ajmer and Jhansi stressed the need for slum redevelopment as part of ongoing public housing schemes like PMAY (U) to address overcrowding in these settlements.

Slum communities in Delhi shared that their houses are very small while their family size is big, and thus it was challenging for them to remain indoors during the lockdown. Slum-dwellers from Pune felt that house sizes, under the Maharashtra government's Slum Rehabilitation Authority (SRA) scheme, should be increased to enable adequate space for all members. In terms of alternative shelter, they also sought support for families whose houses were under construction under various government schemes.

Challenges related to water supply: Individual piped water supply was absent in most slums, and residents were accessing water from community stand posts or tankers. In Delhi and Jhansi, instances of unreliable water supply were reported. In Delhi, some slum dwellers had to fetch water from "water ATMs", and water tankers were also arranged by ASHA workers in coordination with the Delhi Jal Board (DJB). In Jhansi, with only 60 percent city-wide coverage by piped water supply, slum dwellers relied on government hand pumps. A shortage of clean water was reported during the summer months (May-July) when they used water supplied by tankers. In Dhenkanal, CBOs flagged inadequate water supply, due to which residents were forced to fetch water from a location located at a distance of 1km from the slum. In Bhilai, there are common taps shared by 9-10 households, and some common hand pumps and the supply was reported to be limited. For construction workers in Bangalore, Bhubaneswar and Bhilai, water was provided at the construction site through water tankers. Although slum dwellers have reported water shortages and unreliable water supply, local officials from some cities like Malerkotla, Ajmer, and Dhenkanal denied any such water supply issue.

Evidence from a non-notified slum in Delhi revealed that lack of water access during the lockdown resulted in slum dwellers prioritising water usage for only cooking and drinking, postponing other uses such as bathing and washing clothes. Upon receiving one tanker of free water supply from the DJB, there was a riot like situation wherein every resident was trying to get their share before the supply got exhausted (WaterAid India, 2020). In such a situation, social distancing norms could not be practiced. Further, due to lockdown restrictions and containment measures, it became increasingly difficult to access water sources far away, contributing to an additional burden on women (Paliath, 2020).

Challenges related to sanitation: The lack of Individual Household Latrines (IHHLs) in slum communities emerged as a major impediment during the pandemic, as reported from large and small cities alike. In Delhi, around 50 percent of slum houses did not have toilets and were dependent on CTs. In Malerkotla, Bhilai and Ajmer, a vast majority of slum and informal settlements (bastis) lacked IHHLs and relied on CTs. Reliance on CTs and PTs meant that these places

BOX 8: CHALLENGES FACED BY WATER UTILITY IN NEPAL DURING COVID-19

In Nepal, Kathmandu Upatyaka Khanepani Limited (KUKL) can meet only 19 per cent of the city's water needs in the dry season and 31 per cent in the wet season (Thapa, et al., 2019). The COVID–19 pandemic highlights the disproportional WASH challenges for the poorest and marginalised in Kathmandu and elsewhere. In the face of inadequate water supplies, many in Kathmandu continue to rely on traditional public water sources, although these systems are increasingly dysfunctional or defunct (Khadka, Joshi, & Nicol, 2020).

became potential sites for the spread of infection. As a response, most local governments carried out regular cleaning and sanitisation of these toilets and ensured access to soaps and water for handwashing. Caretakers of these toilet complexes were advised to ensure social distancing. In Dhenkanal, when households with infected members reported non-availability of a separate toilet and room, local officials recommended institutional quarantine.

A case study from Odisha reveals that while many slum dwellers were using available CTs, it was time-consuming because the long queues, due to which they often resorted to open defection – exacerbated the slippage during the pandemic – people wanted to avoid using shared infrastructure. Thus they reverted to open defecation.

Local government officials interviewed shared that they have realised that in slums, the house spills into the public spaces and lanes as the houses are very small. It is challenging to ensure social distancing in such overcrowded and cramped spaces. Public facilities like community water standpoints and CTs are vital for slum dwellers, and there is a need to ensure that these are adequate and well maintained.

Recommendations

Slum upgradation through improved tenure security, housing, house access to water and sanitation and other public amenities should be prioritised as a part of the "build back better" strategy. This will help mitigate the vulnerability of these settlements in the wake of pandemics and/or disasters.

Public housing programmes, such as PMAY, should include in-situ slum upgrading within its ambit. Based on a holistic planning approach towards creating an inclusive habitat, the slum upgradation should include improving access to housing, basic amenities (water, sanitation, etc.) and social infrastructure (including parks and playgrounds, community centres, health centres, primary school/Anganwadis, etc.

BOX 9: FINDINGS FROM PSA – GOVERNMENT RESPONSE

WATER SUPPLY

- "It is possible that demand [for water] during this period may go up and if people have to fetch water from the public stand post, supply hours may be required to be increased to ensure social distancing," the Ministry of Health and Family Welfare (MoHFW) said in an April 14, 2020 advisory, issued following a Supreme Court order for a writ petition on the need for clean water (Paliath, 2020).
- The Ministry of Health and Family Welfare (MoHFW) has issued an advisory on the supply of safe drinking water amid the coronavirus pandemic. The advisory asks all Public Health Engineering Departments/ Boards/ Nigams of the State Governments to ensure potable water supply to vulnerable sections of society. The vulnerable sections include people residing in relief camps, places of quarantine, hospitals, old age homes, poor strata of society and slums (National Jal Jeevan Mission , 2020).

TOILETS:

- Mumbai has a high density of population and particularly in slums. Mobile toilet facilities were installed in these localities as per the recommendations by the central government delegations that recently visited Mumbai's Worli and Dharavi (Suryawanshi, 2020).
- Concentrated efforts are being made to clean toilets regularly and ensure adequate water in them, especially in densely populated areas where there are more chances of the virus spreading. The ward office has been asked to check if the facilities are unclean or filthy, and the toilets are to be cleaned at least thrice daily (Dastane, 2020).
- Amalgam Biotech, a Pune based global Biotechnology company, collaborates with Pune Municipal Corporation to improve sanitation & hygiene at Public Toilets, Bio Toilets & urinals in the densely populated areas of Pune under the Campaign name – #Toilet_Saaf_Toh_Corona_Khalaas (punekarnews, 2020).

Through directives and guidelines, Indian government should encourage states to improve tenure security among slum dwellers, which can protect them against eviction and encourage households to invest in upgrading housing and in-house access to water sanitation facilities.

Access to piped water supply and Individual Household Latrines (IHHLs) within the dwelling unit reduces dependence on shared infrastructure, thereby decreasing exposure to overcrowded spaces and infection risk. Therefore, government-led slum upgradation programmes should ensure the provision of piped water supply and IHHLs within the premises as far as possible. The provision of basic services must be delinked with the prevailing tenurial conditions. Further, there is a need to address the operationalisation barriers inherent in the delinking process by understanding the broader political, institutional, legal, economic, cultural and historical contexts.

The construction of new toilet facilities must be supplemented by the proper performance of on-site sanitation (OSS). Local governments must also prioritise adequate service provision for desludging by regulating the desludging market, introducing price ceiling mechanisms for desludging services in the slum and low-income areas and ensuring timely services.

Local governments and service providers must be encouraged to integrate financial sustainability in providing water to informal settlements and slum areas by devising strategies for Operation and Maintenance (O&M), billing and collection, and tariff setting.

7

ENABLE LEGAL REFORMS AND REVISIT GOVERNANCE RESPONSIBILITIES, SCALES AND INTERFACES

Instituted upon making governance participatory, inclusive and transparent, India introduced the 74th Constitutional Amendment in 1992, which intended to strengthen grassroots-level democracy by decentralising governance and to empower local political bodies. It provided the necessary legislative backdrop for decentralisation and establishing the local governments or urban local bodies in India (Biswas, 2020). However, though political decentralisation has been successfully achieved by establishing local government bodies, the actual transfer of functions, finances, and functionaries to these institutions remained incomplete, further weakening the system and inhibiting its proper functioning (India Development Review, 2020). The Act mandated that in all ULBs with populations of 300,000 or more, wards committees should be constituted to serve as an administrative entity for a group of electoral wards to look after that geographical area's civic affairs. Moreover, to further institutionalise citizen participation at the ward and neighbourhood level, a model law called the Nagara Raj Bill (NRB), or Community Participation Law, was introduced by the Government of India in 2006. It suggested states to amend their respective municipal acts and institutionalise citizen participation by introducing the concept of Area Sabhas (consisting of all registered voters of a polling booth) in urban areas (Community Participation Law, 2006). Despite the Indian government's efforts in institutionalising participation and decentralisation of the government, it is faced with numerous challenges on account of the weak implementation of the legislation, policies, and programmes (Tripathi, 2018) which have been highlighted during the ongoing COVID–19 Pandemic.

The Disaster Management Act, 2005 (DMA, 2005) lays down the institutional and coordination mechanisms for effective disaster management (DM) at the national, state, and district levels. While the division of roles across the various tiers of government is clearly defined, the COVID–19 pandemic has brought to light the weak inter-tier coordination, which has, in many cases, resulted in a delayed and inadequate response. For instance, even after weeks of invoking DMA 2005 and issuing multiple Standard Operating Procedures (SoPs) and guidelines, there were cases of disruption of supply chains of essential commodities due to sealed state borders, lack of PPE kits for frontline workers, the mass exodus of migrant labourers, among others (Luthra & Goswami, 2020). Thus, inter-government coordination mechanisms need strengthening.

Further, the DMA, 2005 provides prominence to the district government – in the event of a disaster, the district authority becomes the focal point for coordination and monitoring of the National/State Policy as well as the National, State and District plan and for coordinating all relief and response activities. In such a background, the local government's powers as institutions of local governance get compromised (EPW Engage, 2020). Given that this tier of government is the closest to the ground, it is critical to activate the local government's powers (Urban Local bodies) to assess and lead the government response.

Community participation has emerged as a key to managing the pandemic -- from compliance with lockdown, the steps needed to be taken as the country eased the restrictions, to community support through volunteering. Hence, there is a need to revisit the governance system to empower the local authorities through devolution of functional and financial autonomy and to strengthen the community-level organisations at the lowest level, i.e. the ward and neighbourhood level, to ensure that the power rests with the people, not just on paper, but also in practice. Community involvement is likely to play a critical role in planning local-level actions in collaboration with local bodies, including identifying vulnerable households, providing support to the elderly and those in quarantine, developing and rolling out communication strategies, and helping in contact tracing among others.

The continuing responses to the challenges posed by COVID-19 have accentuated the need to recognise the role that transparent decision-making plays in the effective management of a disaster/public health emergency. Proactive communication allows the adoption of protective behaviours, facilitates increased disease surveillance, reduces confusion and allows for better use of resources, all of which are necessary for effective response (Malley, Rainford, & Thompson, 2009).

Further, technologies that enable digitisation and spatial analysis should be integrated into the planning processes. There is rich evidence to show the benefits of integrating Geographic Information Systems (GIS) in spatial planning and tracing and tracking COVID–19. However, reliance on technology for free dissemination of information comes with a caveat of misuse of data available on open source. Therefore, there is an urgent need to ensure robust data protection and privacy framework before seamless integration of technology and governance.

7.1 Expand engagement with the fourth tier of government alongside providing opportunities for localised action and innovation

Managing the COVID-19 pandemic has been a challenging task for governments worldwide, especially in India, where the focus has been on stopping the spread of the virus and minimising the socio-economic damage caused in the aftermath.

South Korea garnered much positive attention for its swift management of the COVID-19 pandemic. The country's Civil Society Organisations (CSOs) played a pivotal role in monitoring the situation on the ground, assisting government agencies, and reaching the most vulnerable social groups and populations. Similarly, in India, various civil society organisations, including NGOs, Community based organisations (CBOs), Resident Welfare Associations (RWAs) and individual citizens, have come forward to support the government's response. However, most of these efforts have been spontaneous and lack effective coordination with government agencies. Given the complexity and diversity of Indian cities, resilience can only be built on the back of participative and localised governance systems that provide opportunities for engagement with the fourth tier of governance, which includes community-based groups and community-based organisations (including but not limited to Slum Dwellers Associations, Self-groups, other women's and youth groups). The trust that the CBOs and CSOs build with the local community facilitates the action on the ground.

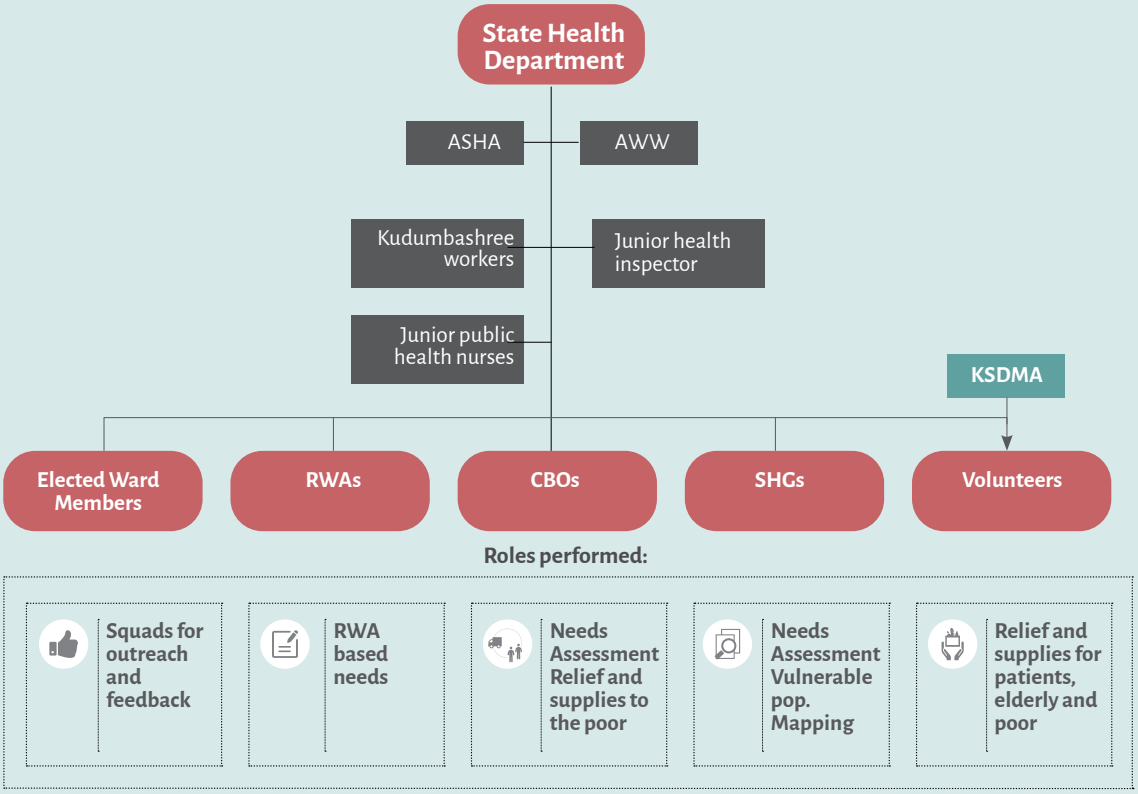
During the Ebola outbreak in West Africa, the community witnessed the fragmentation of social cohesion due to lockdown, cessation of economic activities, high mortality, weakening of their old culture and traditional practices related to community gatherings, greetings, burials of dead bodies. This created mistrust and led to violence and attack by community groups on Government and community health workers. The community perceived them as actors contributing to the persistence of the outbreak. As a result, health staff were forced to avoid communication about the disease in the community. This tension and conflict were addressed by instating a strategy to engage community-based groups and community leaders to deliver responses on the ground. The empowerment of communities facilitated their effective and efficient involvement in observing the EVD (Ebola virus disease) outbreak control measures (Camara, et al., 2020).

Among the Indian state, Kerala stands out with a well-established system of engagement of various local actors. The Kerala state health department ensured close coordination between FLWs (ASHA, AWWs and ANMs), Kudumbashree workers, junior health inspectors, junior public health nurses, ward members and resident associations as a strategy for dealing with cases of local and community transmission (Kumar, 2020). Besides, Kerala followed a community-based approach steered by the local governments, and the state has a vibrant and successful tradition of an empowered fourth tier. Under the leadership of the elected ward member, squads were formed for outreach and feedback with Kudumbashree workers' support. Further, women's empowerment groups were marshalled to undertake a needs assessment, including mapping of the vulnerable people (elderly and ones with co-morbidities) to ensure their access to food and medical care while self-quarantining – an acceptable, workable, and scalable solution (Balsari, Sange, & Udwadia, 2020). The experience of the Kerala Sannadhasena also highlights the role of citizen volunteers (Sannadhasena, 2020). The Kerala State Disaster Management Authority (KSDMA), learning from its experiences during the floods of 2018, constituted the Kerala Sannadhasena - a platform that allows volunteers and voluntary organisations to work in tandem with government agencies. During the COVID–19 pandemic, the platform helped mobilise ~236,000 volunteers across the state (Vimal & Chandran, 2020). These volunteers helped transport cooked food from the community kitchens and dry ration to the houses of the families who were in quarantine or could not afford to buy food (Sannadhasena, 2020).

As we enter a crucial phase of the COVID-19 pandemic response, engagement with the fourth tier would be crucial to help the governments and support them in reducing caseload, carrying out vaccination and ensuring long term risk mitigation. The management of COVID-19 depends on the practice of regular handwashing, respiratory etiquettes, identification of contacts and contact tracing, identification of positives and isolation. Further, information dissemination on these crucial aspects, helping reduce the stigma of the disease and building community confidence are elements that the CSOs/NGOs can anchor.

Some states like Odisha have successfully engaged with the fourth tier of government during COVID-19. Through its Urban Wage Employment Initiative (UWEI), the Government of Odisha effectively

BOX 10: REPRESENTATION OF THE COMMUNITY STRUCTURE ADOPTED FOR COVID-19 RESPONSE IN KERALA



BOX 11: ENGAGING WITH THE FOURTH TIER OF GOVERNANCE – CASE OF UWEI IN ODISHA

UWEI and **Jaga Mission** (State Government)

ULB (creation and maintenance of community assets)

SHGs/ SDAs (job creation)

Slum Upgrading (JAGA Mission)

engaged with the fourth tier, i.e. Slum Dwellers Associations (SDAs) and Women Self Help Groups (SHGs), leveraging their skills and labour to create and maintain community assets while creating jobs for urban wage seekers. The programme links upwards with the Jaga Mission – a state government initiative to provide adequate housing to slum dwellers in all urban centres across the state, anchored by the respective ULBs. UWEI provided job opportunities to the migrants in the post lockdown period in Odisha. Till Feb 2021, the scheme could create 1.3 million person-days of work for 0.4 million urban wage seekers through engagement of 5,723 SHGs, 466 SDAs and 2,035 ward committees. The scheme benefitted the differently-abled and women wage seeker (HUDD Government of Odisha, UWEI Cell, 2021). Few other states like Jharkhand, Himachal Pradesh, and Madhya Pradesh also launched similar initiatives in urban areas in 2020 (Shukla, 2020).

Dharavi, which is Asia's biggest and densest slum, saw a hand-in-hand civil society members' involvement with the healthcare workers for contact-tracing. This partnership helped in rapid contract tracing that kept the spread of infection under control. From 491 positive cases in April to 1,216 cases with over 56 deaths in May and then reducing the numbers significantly with zero deaths in June was not an easy feat to achieve. However, the united efforts of CSOs and the government taskforce exhibited that it was possible (Gopal, 2020).

Evidence from the ground (primary and secondary)

Our interactions across cities covered by this research brought to light numerous examples of community, CSOs, CBOs, RWAs and volunteers playing vital roles in every aspect of disease management and providing relief to vulnerable populations (including migrants, urban poor, elderly, etc.).

KIIs conducted with slum resident's collectives in Delhi and Malerkotla revealed that they benefitted immensely from the services provided by the NGOs and CBOs. These actors' embedded knowledge was essential in supporting public processes, but private efforts and initiatives also bolstered efforts at the local level. In cities like Muzzafarpur, Ajmer and Jhansi, active private (individual and organisation) participation was observed explicitly relating to the provision of essential services like groceries to the needy.

Experiences from the field show that cities with existing and active networks of CBOs were able to respond faster as they were well aware of the local situation, the needs/requirements and had well-established links within the community. According to the Executive Officer, Dhenkanal Municipality, even though they did not have access to maps and data, they were able to reach the most marginalised communities very quickly due to the active participation of CBOs. Parallel non-spatial information systems facilitated through CBOs become crucial in cities and towns that did not have databases and maps, especially slum data. Local community-based networks have also helped Frontline Workers (FLWs) undertake their duties by providing information and insights.

Recommendations

For building resilience, there is a need to build engagement with the fourth tier (comprising of CSOs, CBOs, RWAs, etc.) and provide ample opportunities and spaces for local actors to respond and innovate.

The provisions for decentralised governance outlined under the 74th CAA that pertain to the "Ward Committees" constitution should be created/activated. Ward Committees should become focal points where various local actors, including CBOs, RWAs, SHGs, volunteers, can interact, discuss and resolve local issues/challenges. The Ward Committees should also become focal points for data collation, information dissemination, IEC campaigns and grievance redressal.

A collaborative approach must be adopted to manage any disaster / public health emergency, including encouraging the active involvement of NGOs, CBOs, RWAs, SHGs, etc. These organisations can be involved in patient care, community sensitisation on positive hygiene practices, inculcating behavioural change, and contact-tracing. The emphasis should be on reaching the vulnerable population groups (elderly, differently-abled and those having terminal diseases) and groups (urban poor, slums and pavement dwellers). In addition, community-centred guidelines for people to self-organise and self-care must be vigorously disseminated.

Instances where states and cities have effectively engaged with the fourth tier must be studied and used to create a participation framework.

7.2 Minimise risks, ensure preparedness and create awareness on schemes meant for Frontline Workers (FLWs)

The pandemic has thrown up unprecedented challenges that have significantly impacted the Frontline Workers (FLWS), including ASHAs, AWWs, ANMs, and sanitary workers, who have served as the first line of government response. The challenges faced by FLWs received much attention worldwide – as per the Press Scan Analysis, 'Frontline worker's issue' received 23 percent, 32 percent and 31 percent coverage of the clinical care news globally, South Asian and India level respectively.

Evidence from the ground (primary and secondary)

The availability of Personal Protective Equipment (PPE) and its consistent and appropriate use by healthcare providers and public health professionals is crucial for

combating any infectious disease. The rapid spread of COVID-19 created a temporary shortage of PPE kits in India. The lack of PPE kits also affected healthcare workers' (HCWs) morale and other frontline warriors fighting COVID-19. As corroborated from the field, the FLWs had limited access to PPE kits, thus, exposing them to the risk of infection. In Delhi and Bangalore, while PPE kits were initially not provided to FLWs, this issue was addressed as supplies subsequently increased. In Malerkotla, PPE kits were made available only to sanitation workers responsible for collecting waste from the houses of COVID-19 positive patients, while the rest were provided with only sanitisers and masks. In Bhilai, PPE kits were given only once to FLWs with no further replacements. ASHA workers in Ajmer were neither given PPE kits nor sanitisers as they were part-time workers.

FLWs have been allocated additional duties related to COVID-19, including community awareness through Inter-personal Communication (IPC), house to house surveillance, identification of high-risk groups, testing and tracking. In most cities, FLWs were not incentivised for this additional work except in Punjab, wherein an additional incentive of INR 1,500 was given to ASHA workers. The FLWs in Lingasugur, Bhilai and Jhansi reported being overburdened due to the need to adhere to additional safety protocols while collecting and disposing of bio-medical waste. FLWs from Pune also reported additional financial burden as they had to buy android devises and internet data packs for discharging their COVID-19 related duties.

As the fight against COVID-19 becomes long-drawn, the Front-Line Health Workers (FLHWs) have become particularly vulnerable to mental stress. FLHWs have experienced stigmatisation, isolation and social ostracisation. Coupled with this, the apprehensions regarding the risk of infection, the sufficiency of protection and the long working hours have led to severe psychological distress. If not effectively treated, such stress can transform into persistent illness. NIMHANS and the Department of Health and Family Welfare, Government of Karnataka, have developed "Guidelines for Mental Well-being of the FLWs during the COVID-19 pandemic", which call for adherence to workplace bonding, reducing isolation, discussing issues of distress, problem-solving and enhancing social support. The protocol is to be adhered to across all government hospitals in the state. Structured and confidential mental health services for FLWs is the need of the hour.

The COVID-19 pandemic has also brought to the fore the need for training and capacity building of FLWs to ensure preparedness for public health emergencies/ disasters and enable them to protect themselves from risks. During COVID-19, while some specific instructions were provided to FLWs in Pune regarding hand hygiene and social distancing, specific training was not conducted either by the district or local government. Similarly, in Bhilai, COVID-19 related instructions were put up on the notice board with no specific training.

The Government of India announced an insurance scheme for health workers fighting COVID-19 on 30th March 2020. The 'Pradhan Mantri Garib Kalyan Package Insurance Scheme for Health Workers Fighting COVID – 19' provides a cover of INR 5 million for healthcare providers, ward-boys, nurses, ASHA workers, paramedics, technicians, doctors and specialists, other health workers and Safai Karmacharis, who may have to be in direct contact and care for COVID-19 patients and are therefore at risk of being infected. It also includes accidental loss of life on account of contracting the disease. Due to low awareness about the scheme and the convoluted process of accessing it, the uptake has been low. Findings from KIIs reveal that FLWs were unsure whether they are covered and had limited information about how to avail the benefit. The scheme's uptake has been deficient – till 15th September 2020, only 282 claims were received, out of which only 61 claims had been processed (PIB, 2020).

Some state governments also made concerted efforts to provide health insurance coverage to FLWs. In Delhi, an insurance scheme worth INR 5 million was announced for FLWs (PTI, 2020). While frontline health workers were aware of the scheme, ASHA and AWWs were unsure if they were covered. Frontline workers in Pune, Jhansi, Muzzafarpur, Ajmer, Dhenkanal and Lingasugur were unaware of health insurance schemes. In Bhilai, the Medical Officer shared that 16 FLWs had succumbed to COVID-19, out of which the insurance amount had been received only for two. In Ajmer, an insurance scheme of INR 1 million was explicitly announced for sanitation workers. In Bangalore, as per the district's nodal officer, a compensation of INR 3 million was provided for AWWs and sanitary workers in case of death due to COVID-19.

Recommendations

In order to minimise the risk of infection to FLWs,

during their duties amid a public health emergency, it is essential to provide an adequate supply of PPEs (gloves, surgical masks, hand sanitisers, N95 masks if involved in contact tracing), along with training on appropriate usage during the early phase of the emergency.

The remuneration to FLWs must be reviewed in case of allocation of any additional duties due to a public health emergency/disaster. In addition, psychosocial support, non-monetary incentives, additional transport allowance, and child-care support should be planned. In order to enhance motivation, awards and recognition should also be institutionalised.

For ensuring better uptake of social security and insurance schemes, there is an urgent need to create awareness among FLWs about their entitlements under these schemes and the processes for availing the benefits.

For addressing the social stigmatisation and discrimination of FLWs, a plan for systematic advocacy and communication for building public consciousness must be developed in consultation with community leaders, associations, and ULBs.

7.3 Ensure decision making transparency through use of technology and legal reforms to ensure privacy

The use of digital platforms for pro-active sharing and disclosure of information by governments will further strengthen open governance. Easy access to information will ensure seamless trickle-down of verifiable information, thereby restricting the spread of misinformation and rumour mongering, which was experienced during the initial phase of the pandemic. Integration of technology in the ethos of governance needs to be strengthened to encourage open communication channels between citizens and states, thus, promoting public trust in the political decision making.

Further, technologies that enable digitisation and spatial analysis should be integrated with the planning processes. There is rich evidence to show the benefits of integrating Geographic Information Systems (GIS) in spatial planning and tracing and tracking COVID–19 positive cases. Geospatial data has been used effectively by WHO, UNICEF and CDC during the outbreak of SARS, Ebola and Zika diseases (Udas, 2020). In the wake of COVD-19, many cities used spatial mapping tools for decision-making to contain the virus spread. New Orleans, one of the US cities hardest hit by the COVID-19 outbreak, could bring down cases through the informed decision making and the officials reported that data has helped drive the result and will be crucial going forward (Wray, 2020). Further, in Wuhan, GIS and big data technology played a crucial role in their fight against the disease; GIS-based strategies were used to identify spatial transmission, prevention and control, allocation of resources, and detection of social sentiment, among other things (Sareen & Singh , 2020). The City of Philadelphia, which has a long history of using GIS data, has also proved that spatial mapping and analysis were central to its COVID-19 response. Advanced location data will continue to be critical in the next steps to support economic recovery (Wray, 2020).

However, reliance on technology for free dissemination of information, integration of GIS in spatial planning to build in prevention and transmission control strategies comes with a caveat of misuse of data available on open source. Therefore, there is an urgent need to ensure robust data protection and privacy framework before seamless integration of technology and governance.

Evidence from the ground (primary and secondary)

Use of digital maps and GIS for disease surveillance thereby supporting decision making: Many large Indian cities, especially the ones covered under the Smart City Mission (SCM) like Pune and Bengaluru, were quick to convert the Integrated Command and Control Centres (ICCCs) created under SCM into "COVID-19 War Rooms". They used the integrated dashboards to rapidly digitise spatial information, use it to predict disease spread, and undertake a host of disease surveillance activities, including identifying and managing containment zones and buffer zones. These cities also used the dashboard to make real-time information on COVID-19 available to the citizens (Box 12).

Other large cities, which did not have an ICCC level of infrastructure, used available maps and spatial data. For example, Aurangabad used spatial data to demarcate containment zones, planning locations of COVID-19 care centres and other health facilities. However, given that the maps and data were not up-to-date, it hindered their ability to use it as a decision-making tool. This was corroborated by interviews with CBOs, who said that the data was used mostly for communication and not for decision-making.

In smaller cities and towns, where spatial data abilities

and infrastructure was absent, the local governments relied more on community networks for information. For instance, Dhenkanal Municipality recorded such shortcomings, and as per Executive Officer, Dhenkanal Municipality, they were able to offset these through the active engagement of CBO's. Parallel non-spatial information systems made available through community-based networks and Front-Line Workers were used extensively in smaller cities and towns such as Ajmer and Muzaffarpur. These sources of information were considered more reliable as the existing databases and maps were in poor shape.

Ensuring accessibility of information for the citizens: Inaccurate and dangerous messages proliferated wildly over social media and led to confused, misled, and ill-advised people. The Government of India launched the Aarogya Setu App on 2nd April 2020. While the main aim of the App was to help with contact tracing as it recorded the details of all people the user may have come in contact with and warns the user if any of the contacts tests positive for COVID-19, it was also used to spread awareness about COVID-19 hoping to dispel rumours (Banerjea, 2020). The App also provided information regarding various guidelines issued by the Government of India.

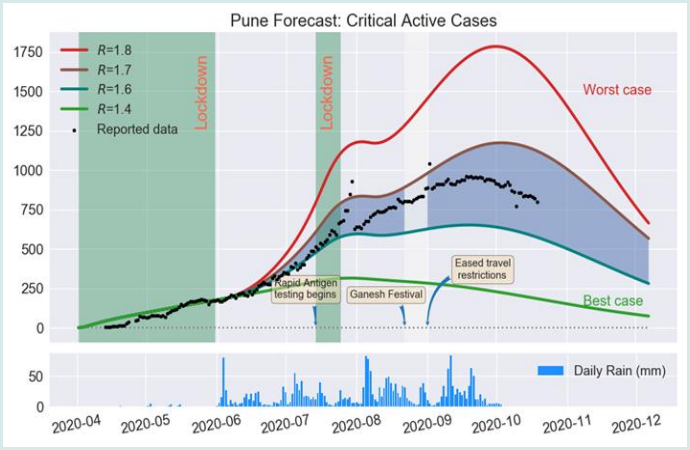
Moreover, district and city governments used various mediums to spread awareness and make information on COVID-19 readily available. District authorities used their respective websites to share awareness information, Standard Operating Procedures (SoPs) and government orders issued by them from time to time along with daily updates on the number of tests conducted and the number of people testing positive, those recovered, as well as those who succumbed to the disease. Further, toll-free numbers and helplines were also set up in most cities, including Delhi and Pune. In Muzaffarpur, 24X7 medical hotlines were operated under a district-level control room established to provide medical advice or respond to inquiries about COVID-19. In Ajmer, a Public Address (PA) system was used to create awareness on COVID-19. Along with regularly addressing the public about the status of COVID-19 response in Kerala, robots were also used to create awareness about hand hygiene and social distancing.

Concerns regarding the use of personal data for population surveillance: Government authorities have employed digital technologies, particularly mobile and biometric applications, to improve the effectiveness of response and relief measures. Via the Aarogya Setu App, demographic, contact, self-assessment and location of persons infected by COVID-19 or those who have come in contact with the infected person is collected (Sebastian, 2020). The App collects multiple data points for personal and sensitive personal information, which increases privacy risks, unlike other Apps that use only one data point, which is later replaced by a scrubbed device identifier (Sebastian, 2020). However, such surveillance can quickly traverse the blurred line between disease surveillance and population surveillance. Further, red flags were raised when GoI mandated using Aarogya Setu for public sector employees and subsequently for travel purposes for residents of containment zones. Gradually it spilt over to the frontline staff of private sector undertakings such as Zomato, Swiggy, Urban Company, Grofers, etc., while Flipkart and Amazon recommended it for their delivery staff. Mandating the App when the legal framework for data protection and privacy is in abeyance is a coercive mechanism

BOX 12: PUNE'S COLLABORATIVE MODEL FOR COVID-19 MANAGEMENT

The Pune Knowledge Cluster (PKC) was set up under the Office of the Principal Scientific Adviser to the Government of India to bring together academia, R&D institutions and industry to find cutting edge solutions in the areas of air, water, health and sustainable mobility. In April 2020, as a response to COVID-19, the PKC set up a group comprising physicians, epidemiologists, data scientists and modellers and IT innovators who worked closely with the Pune Municipal Corporation (PMC). Bringing together the big data, AI capacities in the PKC, and the pre-existing GIS capacities of the PMC, the city was able to rapidly digitise information on COVID-19 collected from flu clinics, mobile clinics, hospitals and dispensaries across the city. They could model the data to predict disease spread and conduct timely sero-surveys, which was fed into the disease management decisions in real-time. For example, doctors from the PKC create standard operating procedures, and data scientists analysed real-time data collated by the PMC. Moreover, the dashboard is accessible to the public and has helped in keeping them informed through the pandemic.

BOX 12 CONTINUED



Source: (CPR-CSH Workshop, 2020)

potentially leading to infringement of right of privacy of individuals.

One of the principles of data privacy is the minimum capture and storage of data. The absence of clear regulations on how to use the data captured, where to store it, for how long to store exposes the citizens to the potential misuse of the data and infringement of their right to privacy.

As the Data Protection Bill 2019 is pending with the Parliament, India does not have a comprehensive and dedicated data protection law (Thaorey, 2019). Some provisions of the Information Technology Act, as amended from time to time, and the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data and or Information Rules), 2011 framed under the IT Act, 2000 deal with the protection of Personal Information and Sensitive Personal Data and Information. However, these are not enough, and there is a need for comprehensive legislation which can deal with informational privacy and its related issues (Thaorey, 2019). The judiciary has shown an attentive inclusive approach in recognising, protecting and conserving the right to privacy as part and parcel of a fundamental right (Thaorey, 2019). The need for comprehensive legislation was also underlined in the Supreme Court's judgment in Justice K. S. Puttaswamy v. Union of India.

Recommendations

Cities must build their capacity to undertake spatial data and mapping to ensure preparedness for any public health emergency in the future. ULBs should be encouraged and resourced to set up spatial mapping labs, enabling the use of spatial data for planning and decision-making. Cities covered by the SCM that could leverage recently augmented capacities can be considered good practice case studies and their processes, learnings widely shared.

MoHUA should set up a capacity building programme specifically for augmenting spatial data collection and analysis capacities in ULBs in partnership with state governments. States should appoint Administrative Training Institutes (ATIs) to prepare training modules and undertake training and capacity building of ULB officials on data collection, mapping and spatial analysis. Training should also be imparted to community organisers, frontline workers, and volunteers to use data and maps.

ULBs should prepare city maps with spatial and non-spatial information regarding critical public facilities, services, population density, jurisdictions, etc. to enable quick decision making and crisis management. Open data systems, many of which were used during the pandemic, should be used to involve tech start-ups and citizen-led data collection/reporting in the city mapping process. Every effort should be made to make this information available to the public to facilitate participatory and localised forms of governance.

The government agencies must ensure regular and timely dissemination of information about their

decisions to the people through various platforms such as Mobile Apps, websites, helplines, social media, mass media, etc. The information must be shared in English, Hindi, and all regional languages to enable that the information reaches everyone across the country.

There is a need to watch out that the apps which are being touted as 'proximity tracing' technologies do not become a method of movement control and lockdown enforcement, thereby inching towards the thin line of population surveillance. There is a need to revisit the Data Protection Bill, 2019 to integrate adequate provisions to protect the right to privacy when data is collected during a public health emergency/pandemic for disease surveillance. The proposed legislation on data protection should ensure high security and encryption of any personal data (including health data) collected and any devices, applications, servers, networks, or services involved in collecting, transmission, processing, and storage. Further, the legislative framework should mandate that the mandatory applications or portals collecting individual data, especially on behalf of the government, should be subject to third-party audits and penetration testing. Developers should publish full details about their security protocols.

7.4 Reform legislative framework for managing public health emergencies and empower local governments to lead relief, response and mitigation

India's response to the COVID-19 pandemic was backed by invoking the Epidemic Act, 1897 and the Disaster Management Act, 2005.

The Epidemic Act, 1897, is a precolonial legislation that lacks clarity and clear demarcation of authority. It has outdated its scope to deal with compelling situations like the ones being faced during the COVID-19 pandemic. Enough so that according to an order of the Supreme Court, in Dr. Jerryl Banait v. Union of India (WRIT PETITION (CIVIL) Diary No(s). 10795/2020), directing the Government of India to provide necessary police security to doctors and medical staff in hospitals and places where patients who have been diagnosed or where patients suspected to be COVID-19 positive are housed, an ordinance, namely, the Epidemic Diseases (Amendment) Ordinance, 2020 was promulgated to ensure the provision of protection for healthcare personnel.

There has been a long-standing demand for promulgating a public health legislation that is more relevant for the current times. The Public Health (Prevention, Control and Management of Epidemics, Bio-terrorism and Disasters) Bill was introduced in 2017. The Bill proposed to empower state and local authorities to take appropriate actions to tackle public health emergencies like epidemics and bioterrorism. Under the Bill, states and local bodies could take multiple measures, ranging from quarantining people to decontamination of areas, isolation of infects, destruction of animals or birds and surprise inspections during any public health emergency (Dey, 2020). However, the Bill did not receive adequate support in the Parliament and lapsed (Dey, 2020). Other countries in the South Asian region have already enacted specific legislations for prevention and control of infectious diseases, including Bangladesh (Infectious Diseases (Prevention, Control, and Eradication) Act 2018), South Korea (Infectious Diseases Control and Prevention Act, 2009) and Thailand (Communicable Diseases Act, 2015).

The Disaster Management Act, 2005 provides the framework for the institutional response once a disaster is declared. The DMA, 2005 provides a well-defined and somewhat rigid division of roles across the various government tiers, namely, national, state and district. Further, the DMA, 2005 gives prominence to the district government – in the event of a disaster, the district authority becomes the focal point for coordination and monitoring of the National/State Policy as well as the National, State and District Disaster Management Plans, thereby coordinating all relief and response activities. The DMA, 2005 does not provide much authority to local governments to assess and lead local-level responses. Thus, the local government's powers as institutions of local governance get compromised (EPW Engage, 2020). The DMA, 2005 also does not provide avenues for engagement with Civil Society Organisations and Community Based Organisations (CBOs) which are critical to ensuring an effective response to any public health emergency/disaster at the grassroots level.

The COVID-19 pandemic also brought to light the weak inter-tier coordination mechanisms under the DMA, 2005, which, in many cases, resulted in a delayed response. For instance, even after weeks of invoking DMA, 2005 and issuing multiple Standard Operating Procedures (SoPs) and guidelines, there were cases of disruption of supply chains of essential commodities due to sealed state borders, lack of PPE kits for frontline workers, the mass exodus of migrant

labourers, etc. (Luthra & Goswami, 2020).

The present legislative framework, Epidemic Disease Act, 1897 and the DMA, 2005 invoked to respond to pandemic lacked specific provisions required for the prevention, containment and management of a communicable disease such as quarantining measures; restrictions on movement; measures for inspection and control et al.

Public institutions (like hospitals, schools and sports facilities) are valuable infrastructural resources to tackle any public health emergency/disaster. The DMA, 2005 provides the state executive committee and the district administration with authority "to procure the exclusive or preferential use of amenities from any authority or person" {Section 24(h)} and "to identify buildings and places that could be used as relief centres or camps" {Section 30 (xxiv)}. In the current legal framework, the ULBs are subject to the directions of the state government/district authorities and lack the authority to requisition public institutions during a public health emergency/disaster.

In large urban centres, where more than one district falls under the geographical limits of the city, the inter district co-ordination become arduous as the District Collectors are fully empowered under the DMA, 2005 to take action in the areas under their jurisdiction and thus do not need to collaborate which in turn implies that the problems being faced in the city cannot be addressed as a cohesive unit. Presently, there is an absence of a model for disaster management in an urban setting.

Evidence from the ground (primary and secondary)

The urban local governments are critical for undertaking and leading the assessment and response for any disaster or public health emergency. Their jurisdiction area is closest to the ground, and they are best aware of the local context and challenges. They are also well placed to garner support from other tiers of the government (district and state) and civil society (including individuals, institutions and organisations) and the private sector.

Various experiences from the ground during the COVID-19 pandemic have demonstrated that urban local governments have played a critical role in the creation of temporary shelters for migrant workers, creating isolation/quarantine and testing and treatment centres, undertaking measures to control the spread of the disease, and ensuring uninterrupted delivery of essential services including water, sanitation, liquid and solid waste management.

Given the large-scale migration of labour from cities, GoI on 28th March directed states to construct temporary shelters for travelling migrants (PIB, 2020). The state governments, in turn, issued orders to the district administration and ULBs. ULBs led the implementation of the order in cities and towns in close collaboration with NGOs, CSOs and CBOs. In Bengaluru, for example, the Bruhut Bengaluru Mahanagar Palike (BBMP) set up relief camps for migrant labour in public spaces and food and other relief materials were supplied in association with local NGOs. In Odisha, the state government decided to isolate returnee migrants to avoid community level spread of COVID-19. On the state government's orders, District Collectors and Municipal Commissioners converted empty school and hostel buildings as temporary shelters for migrant labourers (Mallick, 2020).

Secondary research and KIIs also highlight how public institutions and open spaces were used to set up isolation, quarantine and testing and treatment centres. In Jhansi, as per the city's Chief Medical Officer, open spaces on the city's outskirts were used for erecting temporary isolation centres for returnee migrant workers. In Bengaluru, COVID-19 care centres were created in buildings belonging to the Bengaluru Development Authority, Bengaluru Housing Board, apartments constructed by private builders, hostels, government and private sports facilities and commercial buildings. In addition, playgrounds were also used to set up temporary care centres. Similarly, in Delhi, various hostels, hotels and schools were converted into COVID-19 quarantine centres.

ULBs also implemented various initiatives to limit the spread of the disease and ensured that essential services continued without disruption. In Pune, the Pune Municipal Corporation put in place and implemented a protocol for cleaning all Community Toilets (CTs) in slums at least five times a day. The New Delhi Municipal Corporation (NDMC) undertook sanitisation of all public places/streets at least once a day using tankers/vehicles available with the horticulture department and fire brigade, cleaning and sanitisation of CTs and Public Toilets (PTs) in slums at least once a day, sanitisation of all hospitals/ quarantine centres and homes of patients placed under isolation twice a day. Further, the NDMC made separate teams for collecting waste from the homes

of COVID-19 patients. NDMC also made handwashing facilities available at various places, including markets, toilets, Government offices, etc. In Bengaluru, the Bruhat Bengaluru Mahanagar Palike (BBMP) installed handwashing facilities in every ward for sanitation workers and citizens and in CTs/PTs. The BBMP also deployed separate vehicles for solid waste collection from houses of COVID-19 patients. ULBs were also involved in launching mass awareness campaigns using the frontline sanitary workers' services involved in door-to-door collection of solid waste. Mechanical cleaning of sewers was also undertaken (NIUA, 2020).

Recommendations

There is an urgent need to promulgate a legislation on Public Health to prevent, control, and manage epidemics, bio-terrorism, and disasters. In September 2020, the Government of India announced its intent to table the National Public Health (Prevention, Control and Management of Epidemics, Bio-terrorism and disasters) Bill. This move is welcome and must be prioritised. The DMA and the proposed Public Health Legislation should be read with each other and invoked co-terminus; therefore, provisions need to be inbuilt for such a harmonious interpretation.

The proposed National Public Health Legislation must enlist specific provisions for quarantine and restricting the movement of any person or class of persons or any object or class of objects suspected to be exposed to any such disease or exposed to any substance; disposal of dead bodies; prohibit any such activity inimical to public health in any area; authorise any officer of the district or local authority to take such measures and for such duration of time, to prevent, control and manage the public health emergency; and for undertaking deratting, disinfection, disinfection, decontamination, treatment, destruction or disposal of baggage, cargo, containers, conveyances, goods, postal parcels, human remains, animals, birds or biological substances to remove infection or contamination including vectors and reservoirs of infection et al.

Clarity on roles of the different tiers of the government (including national, state, district and local) and inter-tier coordination mechanisms must be incorporated in the proposed Public Health Legislation and the DMA, 2005 through appropriate amendments.

There is also a need to develop an institutional model for management of disasters and public health emergencies in a city / urban context.

As institutions of local governance, the ULBs have played a crucial role in providing relief and controlling the spread of COVID-19 and ensuring no disruptions to the essential services in the areas under their jurisdiction. Therefore, there is an urgent need to empower these local institutions with the powers to lead the on-ground assessment and response to any public health emergency through appropriate amendments in the DMA, 2005 and by incorporating specific provisions in the proposed National Public Health Legislation. This should include giving the ULBs power to requisition and convert public institutions into emergency health facilities (such as testing booths, care and treatment centres, and vaccination centres) and relief centres or camps. State governments should develop technical guidelines on retrofitting public institutions for differing temporary uses and the types of services that must be provided. Corresponding training of ULB officials on these Technical Guidelines must also be facilitated. In states where urban local governments are not yet fully empowered, the respective state governments must ensure that devolution is ensured and financial and technical support is provided to allow them to play their role as institutions of local governance effectively. Further, business continuity plans must be prepared for ULBs alongside institutionalising a business continuity fund aimed at mitigating the fiscal risks for ULBs in the event of a disaster or public health emergency.

7.5 Strengthen the Disaster Risk Reduction (DRR) Implementation Framework

India has a robust legal framework for disaster management under which National, State, and District Disaster Management Plans are prepared annually to address any impending disaster. The National Disaster Management Plan 2019 (NDMP, 2019) for the first time included , including "Biological and Public Health Emergencies" as a separate category of hazards. The NDMP, 2019 recognises that increased interaction between humans and animals has increased the possibilities of zoonotic diseases emerging in epidemic form. It also goes on to state that since national and international travel is high, the likelihood of fast global spread of epidemics has increased dramatically'.

Further, the NDMP, 2019 outlines the Biological and Public Health Emergencies related to Disaster Risk Reduction (DRR). It covers the following

themes - understanding the risk, inter- agency co-ordinationcoordination, structural and non-structural measures and capacity building – along with identifying the various government agencies responsible for their implementation. Thus, while a robust framework exists, its implementation has been a challenge during the early phase of COVID-19.

Even though the DM Act 2005 provides a detailed action plan right from the central government to state and district levels, including preparing, implementing, and executing disaster management plans, it did not demarcate each level's responsibilities. Thus, knee jerk and haphazard responses were witnessed on the ground during the pandemic (Luthra & Goswami, 2020). Furthermore, it failed to involve local communities in disaster management practices (EPW Engage, 2020).

The District Disaster Management Plans (DDMPs) do not focus on the poor and the vulnerable. Moreover, the DDMPs are never reviewed by the National Disaster Management Authority (AIDMI, 2020).

In the 21st century, the world has witnessed infectious zoonotic diseases like Ebola, SARS, Avian influenza, MERS, Swine Flu, etc. However, India remained significantly insulated from such epidemics. When COVID-19 struck in the early months of 2020, it brought to the fore the gaping holes in its preparedness to deal with public health emergencies of the magnitude of COVID-19 . Thus, while India announced a stringent nation-wide lockdown quite early, it was unable to tame the pandemic as the lockdown could help reduce the number of infections for a short period; however, in the absence of sustainable long-term measures, the pandemic resumed its original trajectory (Raju, 2020)'.

'The National Disaster Management Authority (NDMA) has put in place guidelines for minimum standards of relief. These include minimum requirements to be provided in relief camps related to shelter, food, water, sanitation and medical cover.'

Evidence from the ground (Primary and Secondary)

There have been inadequacies in the Disaster Management Framework itself, including the Biological Disaster Management (BDM) guidelines. While the BDM guidelines state that "central to the success of quarantine will be making available all essential services in the quarantined area", it took the Ministry of Home Affairs five days to issue an order which provided for measures that included adequate arrangements of food for the poor and needy, including migrant workers stranded due to lockdown (Chaturvedi, 2020). While the BDM guidelines provisioned for suspension of economic activity to ensure social distancing, a measure strictly implemented as part of the lockdown, it did not focus on the repercussions of the same, especially on the economically vulnerable, including migrant workers (Chaturvedi, 2020).

To add to the challenges, the emergence of COVID-19 in India has raised the alarm and exposed the loopholes in the public healthcare sphere and the allied legal framework on risk communication and crisis management. The government had enforced the lockdown under the colonial Epidemic Disease Act, 1897 and the more recent National Disaster Management Act, 2005. However, both these acts do not elaborate explicitly on crisis communications, one of the most critical crises management tools in such times (Mondkar, 2021). Moreover, while the NDPM 2019 lays out the provisions to ensure facilities and infrastructure for implementing adequate access of information to communities at risk, the linguistic component is least considered in India's NDMP (Prabhakaran, Krishna, Kumar, & Raja, 2020). With about 736 districts in 28 states and eight union territories and varied shades of dialects and cultures within the states, crisis communication in India becomes a complex exercise (Mondkar, 2021). This led to a surge in rumours, hoaxes, and misinformation regarding the aetiology, outcomes, prevention, and cure of the disease. The spread of misinformation was masking healthy behaviours and promoting erroneous practices that increase the virus's spread and ultimately result in poor physical and mental health outcomes among individuals. Inaccurate information spreads widely and at speed, making it more difficult for the public to identify verified facts and advice from trusted sources.

Community participation emerged as the key to managing the pandemic, from compliance with lockdown to the steps needed to be taken as the country eased the restrictions, to community support through volunteering. The pandemic also spotlighted the involvement of civil societies. However, the Disaster Management Plan entirely excludes the involvement of local communities in disaster management. No disaster can be dealt with effectively only through administrative set-up, alienating the community as

a whole (EPW Engage, 2020). Odisha is one of the pioneering states in institutionalising community-based preparation during disasters and empowering the local *sarpanches*, building its skilled healthcare force through community participation, and protecting the vulnerable groups has led to reduced disease burden with low mortality rates (MoHFW, GoI, 2020).

Recommendations

In the above background, the DRR framework and its implementation mechanisms must be strengthened to become more effective and smooth, promote universal access to basic infrastructure and ensure involvement of local communities and their organisations. The DRR framework should lay out the roles of Centre, States and ULBs with absolute clarity on jurisdictional coverage, command over assets and autonomy in decision making while implementing the Disaster Management Plan. The DRR framework should highlight the functional integration between the NDMA and the Ministries responsible for WASH, livelihood, public health, urban development, housing, and poverty alleviation.

Further, the Disaster Management Plans should ensure mandatory inclusion of the provisions for identifying vulnerable populations/communities/settlements, identifying groups requiring special attention, and conducting an audit of equipment and human resource requirements, as laid out in the DRR framework.

The Guidelines for minimum standards of relief developed by the NDMA should be used to define the minimum standards for the delivery of essential services for settlements and for cities as a whole in order to ensure a uniform standard for service delivery in the event of a disaster or public health emergency

The Disaster Management Plans should also include a comprehensive and reasoned lockdown strategy, taking into account disruptions to supply lines, essential and non-essential services, human migration, relief and food support and all non-health services and utilities. The DRR framework should be revised to include a detailed provision to ensure economic sustenance, such as employment generation and cash transfer schemes, etc. The Disaster Management Plan should be modified to include a strategy for designing and implementing well-coordinated surveillance, identification, contact-tracing, quarantine, isolation, testing strategy and treatment. The Finance Commission should ensure sufficient funds for the state for mitigation, capacity building and rehabilitation rather than allocating funds for relief measures.

Further, there is a need to develop a comprehensive communication strategy for public health emergencies and disasters that can be put into motion when such an event occurs. The communication strategy must include details on the key target audiences, communication messages about the positive behaviours to be instilled among the communities and individuals, potential communication mediums and channels that can be used for disseminating the information. The communication campaign must be rolled out in English, Hindi, and all regional languages to allow coverage of all affected/potentially affected population groups. The messaging must be specific for different population groups, including men, women, children, the elderly, people with comorbidities, the differently-abled, etc. The communication strategy must also have the Frontline Workers, including Frontline Health Workers and sanitary workers, as a key target audience to ensure the adoption of positive behaviours and practices. Strategic partnerships must be forged between mass media, healthcare organisations, community-based organisations, and other essential stakeholders to launch platforms for disseminating authentic and verified messages. Advanced technologies like natural language processing or data mining approaches should be applied to detect and remove online content with no scientific basis from all social media platforms. ‘

Community involvement can play a crucial role in planning local-level actions in collaboration with local bodies to identify vulnerable households, provide support to the elderly and those in quarantine, develop better communication strategies and help in contact tracing, as experienced during COVID-19. Hence, there DRR Framework should be revisited to include a clear demarcation of the role the local government can play with the engagement of CBOs.

8

CONCLUSION

The various recommendations from this study have been grouped under three broad themes, which are essentially basic principles for reforming urban governance in India. These three broad themes include a) Building urban resilience through integrated planning, b) Attenuate formal/ informal categories to universalise access, and c) Enable legal reforms and revisit governance responsibilities, scales and interfaces.

An integrated approach to planning of urban centres, which incorporates spatial/physical, social and economic planning, needs to be adopted as a strategy for building resilient urban centres. Planning for urban spaces and systems must ensure that these can continue to function, in a safe manner, even during a disaster and/or public health emergency. The existing infrastructure systems (including water, sanitation, transportation and health) must be augmented to ensure a minimum standard of service delivery for all, with a special focus on marginalised and vulnerable communities. The economic resilience of urban centres needs to be ensured through development of business continuity plans and institutionalising contingency funds for all sectors, including manufacturing, private and government services.

The vulnerabilities of migrant labourers and other informal sector workers, as well as the urban poor who live in slums, informal and low-income settlements, came to the fore during the COVID-19 pandemic. National, state and local governments need to ensure adequate protection to mitigate the risks posed by a protracted public health emergency like COVID-19 on the livelihoods, incomes, housing and access to basic services for the urban poor. Strengthening of labour laws alongside ensuring universalisation of social security becomes crucial. Poor housing and lack of access to individual water and sanitation facilities has limited the capacities of urban poor to practice preventive strategies for COVID-19. While the hierarchy between formal and informal has always existed in the Indian urban context and the same has uniformly reflected among urban service providers and urban settlements. This is an opportune time to prioritise action for attenuating the gap between the formal and informal categories and to universalise access to services and facilities.

Building back better in an urban context would necessitate reform of the existing legal framework around public health emergencies and disaster management. The absence of a city-specific model for disaster management has come to the fore and the experiences garnered during COVID-19 should be used to define the same. Further, although the Disaster Management Act, 2005 provides a well-defined framework for institutional response it doesn't provide adequate authority to local governments for anchoring local level responses. The experience from the ground during COVID-19 has been that urban local governments have played a key role in leading the response (including setting up of relief camps/shelters for migrants, establishing quarantine and treatment centres, implementing safety measures and ensuring uninterrupted delivery of essential services). These institutions of local governance need to be empowered with adequate finances and functionaries as well as technical skills that will enable them to use new-age technologies and tools (such as digital maps and GIS) to plan and implement relief, response and mitigation activities as well as to discharge social welfare functions and ensure open governance and access to reliable and verified information for citizens. The National Disaster Management Plan (2019) had included "Biological and Public Health Emergencies" as a separate category of hazards and outlined the associated framework for Disaster Risk Reduction (DRR). However, the challenges encountered in operationalising the framework need to be strengthened based on the experiences and learnings gained during COVID-19 pandemic. This will help strengthen our response in any future disaster / public health emergency of the nature of COVID-19.

While the current focus of ULBs in India is mainly on housing and slums, water and sanitation and maintaining public spaces, there is a strong need to include public health, including clinical care, livelihoods and social protection of urban workers within their direct mandate. Further, learnings gained during the current pandemic must be used to define policy and programmatic interventions so as to mitigate risks and ensure better preparedness and response for any such events in the future.

The current research was a rapid assessment was conducted during the period September 2020 and January 2021. However, the COVID-19 pandemic is still ongoing, and new challenges and opportunities are getting unfolded with each passing day. In fact, we are in a crucial phase of the fight against COVID-19 as we prepare to build back better while mitigating impacts on socio-economic and health aspects. This context warrants further research, which

could be on a longer-term basis, to help strengthen our understanding of the pandemic, its profound impact across various sectors, including onIndian urbanisation. Such research will be extremely beneficial for supporting cities and towns resilient to any future health emergencies. Further, there is an urgent need to undertake social and behavioural studies to assess risk perception and current knowledge, attitudes and practices related to COVID-19 and its preventive strategies (such as wearing of masks, social distancing and frequent washing of hands).

EESL

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ANNEXURE 1: DETAILED TIMELINE DEPICTING URBAN POLICY EVOLUTION

	EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
500-1300	**PLAGUE OF JUSTINIAN** *(541 - 750)*	Mediterranean Basin, Western Europe, Central Asia, North Africa	541-542	CONSTANTINOPOLE	Experts come up with the idea of separating the diseased people from the general population. However, there wasn't a formally laid out plan for the same back then.
1300-1400	**BLACK DEATH** *(1347 -1352)*	Europe, Asia, North Africa	1347	EUROPE	In Italy in 1347, ports began to turn away ships, fearful that they carried the deadly disease. • By March 1348, these protective measures were formalised and Venice became the first city to close its ports to incoming vessels. Those they did admit were subjected to 30 days of isolation, later raised to 40, which eventually lead to the birth of the term 'quarantine'. • 1348, a formal health policy was initiated thus making Venice one of the first cities to do so • first ever attempt at a lockdown in Europe • The officials were entrusted to lower down movement of people and means of transport in the public space. • Remote cemeteries were dug and in a later outbreak, the Venetians even went as far as establishing a quarantine island on Lazzaretto Vecchio, a small island in the Venetian Lagoon.
			1348		
			1349		
			1357	LONDON	A proclamation was issued forbidding the throwing of any sort of waste into the Thames or any other waterway.

1300-1400

1400-1500

1500-1600

1600-1700

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
		1364	EUROPE	Pipes were laid for supply of water
		1417	LONDON	Hot bath in private houses were authorised by city of London.
		1479	EUROPE	Water was pumped from river and transported by wooden pipes to the city
		1549	BURZLAW, EUROPE	First public sewage plant and water works were created
GREAT FIRE *(1666)*	London, United Kingdom	1666	LONDON	Improvements were made in hygiene and fire safety with wider streets, stone construction and access to the river.
		1670	NORTH AMERICA	The Grand Model (influenced by the great fire in London): • Regular settlement rather than scattered pattern of development • Town, suburban, and country lot allocation • Town planned and laid out in advance 4. Wide streets laid out in geometric form usually within a square mile grid • Public squares • Standardised, rectangular lots • Reserved lots for civic purposes • Separation of town and country with a common or greenbelt

1700-1800

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
LISBON EARTHQUAKE *(1755)*	Portugal	1755	LISBON	• The Pombaline style introduced early anti-seismic design features and early prefabricated building methods. • commissioning the construction of big squares, rectilinear, large avenues and widened streets – the new mottos of Lisbon

1800-1900

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
CHOLERA *(1817 -1923)*	Southern & Eastern Asia, Eastern & Southern Europe, North America, North West Africa,	1830	LONDON	• Haussman model became of key importance, in Europe, then. It focused on the removal of unsanitary conditions and city beautification with wide boulevards and avenues, new parks and squares • London invested in building a modern sewer and sanitation system. Sanitary legislation emerged as a precursor of modern urban legislation. • London's Metropolitan Board of Works was established included the development of city-wide sanitary infrastructure and of new embankments to the River Thames, • the initiation of major neighbourhood redevelopment programmes linked to strategies to decongest the city and create more distance between people in residential areas, and the construction of parks, hospitals and other public works.
			NEW YORK	New York to clean up the streets in lower Manhattan so water could drain more efficiently

1800-1900

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
		1847	LONDON	Appointment of surveyors, nuisance inspectors and officers of health were appointed
		1848	LONDON	• The Chadwick Report (1842), On the sanitary condition of the labouring population of Great Britain had a tremendous impact and it led to the The Public Health Act of 1848, which served as a foundation for disease control through sewerage, garbage collection, rodent control and mosquito abatement. • Local boards of health were established in areas of high mortality
		1849	NEW YORK	• Most people believed cholera—spread through miasmic gases, or "bad air" that made the disease ambiently contagious. So, New York's Central park was designed, as "the lungs of the city"- a place where people could breathe easily, as New York's population had exploded, shaping the city into its current form as a dense metropolis. • Olmsted, went on to design more than 100 public parks and recreation grounds including those in Boston, Buffalo, Chicago and Detroit after the cholera outbreak
		1852-70	PARIS	A code was developed in Paris, France that regulated building height to 5 or 6 stories.
		1859	BALTIMORE USA	the City of Baltimore which formed the first building code in the U.S.
		1868	ENGLAND	Allowed local authorities to build new dwellings for labour
		1875	ENGLAND	Allowed local authorities to reconstruct insanitary areas

1800-1900

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
		1875	GERMANY	The Building Line Act introduced autonomous urban development law, for the transfer of building line planning to local authorities divided building regulation substantively and organisationally into two fields: urban development and building police. The act gave local authorities competence with regard to building lines for streets, expropriation of land for public thoroughfares and compensation, as well as for building prohibitions and frontage contributions.
		1877	LONDON	Model bye-laws were introduced
		1879	NEW YORK	Debut of the "Dumbbell Tenement," so called because of its shape. A form of multifamily housing widely built in New York until the end of the century and notorious for the poor living conditions it imposed on its denizens (lack of light, air, space).
		1887	LONDON	First primary research to quantify the number of people living in degraded conditions
		1890	ENGLAND	building working class homes (1890)
		1894	LONDON	Public Control on formation and widening of street, lining of building frontage, extent of open space around building and height of building
		1900	ENGLAND	Redevelopment of large area and purchase of land outside town for planning (1900)

1800-1900

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
BUBONIC PLAGUE *(1885)*	Southern Africa, Asia, and South America, Europe	1898	MUMBAI	• Bombay City Improvement Trust was created to improve the sanitary living condition of the workers. • Social and Spatial distancing initiated by the British through civil lines and cantonments to stay away from the natives. Unlike the rest of the native town these areas were distinguished by the large open spaces, planned roads and administrative buildings located at the centre. • The Britishers also developed hill stations to replicate British countryside complete with schools, hospitals, clubs and hotels.

1900 -2000

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
TUBERCULOSIS *(1720 – TILL DATE)*	America, Europe, Asia, Africa	1901	NEW YORK	• To allow people to spread out of the core congested city where tuberculosis epidemics swept the congested, unhealthy working-class neighbourhoods, the small network of urban elevated trains with the construction of the Dual Rapid Transit System were expanded. • the change, of the tenement housing building regulations, reducing densities--until then the highest in the world--and requiring windows, indoor toilets and kitchens within each housing unit. • New York State Tenement House Law. The legislative basis for the revision of city codes that outlawed tenements such as the "Dumbbell Tenement. Required improvements in window ventilation, courtyards, fire safety, etc.

1900-2000

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
		1909	EUROPE	Housing regulations around light and air were introduced as a measure against respiratory diseases in overcrowded slums in Europe The first official consideration of these new trends was embodied in the Housing and Town Planning Act of 1909 that compelled local authorities to introduce coherent systems of town planning across the country using the new principles of the 'garden city', and to ensure that all housing construction conformed to specific building standards.
		1910S	IN SAO PAULO, BRAZIL	The wealthy, fearing epidemics and crime, started moving out of the unhealthy, congested centre into a new neighbourhood built in an isolated area of town which they hoped to keep only for themselves, called Higenopolis--literally, hygiene city
		1915	MUMBAI	Power was given to local authorities to prepare and implement town planning. Zoning and building regulation were introduced.
		1919	EUROPE	Patrick Geddes offered his vision of the regional city by proposing regional planning as the answer to the congested large metropolis.
SPANISH FLU *(1918 -1919)*	France and the Western Front Countries, Eastern Europe and North Africa, Australia, America, Asia	1918	ST. PAUL & MINNEA POLIS	Minneapolis and St. Paul both attempted to combat influenza by limiting crowding in places with restricted access to fresh air. Both cities enacted streetcar regulations aimed to keep the air in the streetcars fresh by mandating open windows and limiting the number of passengers to 84 the business hours of stores and theaters were regulated to keep streetcar congestion to a minimum.

1900-2000

EPIDEMIC/ PANDEMIC/ DISASTER	REGION OF IMPACT	YEAR OF POLICY CHANGE	REGION OF POLICY CHANGE	SPECIFIC CHANGES IN URBAN POLICY
		1920		• A new emphasis on cleanliness in design was exemplified by early modernists such as Le Corbusier, who prioritised bringing sunlight and ample air circulation into their buildings. • Corbusier's concepts for urban housing – large high-rises with ample balconies set within a park-like landscape – greatly influenced the design of public housing for a generation.
		1936	ENGLAND	• All local authorities were required to make building bye laws
		1970	INDIA	• National Building Code was introduced.
		1972	USA	• In 1972 the various building code groups came together under the umbrella of the Council of American Building Officials (CABO) to develop a single building code model for the nation.
		1994	USA	• In 1994 Council of American Building Officials (CABO) was consolidated into the International Code Council.
SARS *(2002 -2003)*	Asia, Europe, North America, Australia	2003	HONG KONG	• Solutions Implementation for Healthy Buildings Project was launched in Hong Kong with the aim of identifying the health aspects of all new residential buildings and what is needed to ensure healthy residential buildings for Hong Kong • Two important building and urban design guidelines were promulgated- Air Ventilation Assessment (AVA) Technical Circular (2006), a new chapter on city-building ventilation principles in the Hong Kong Planning Standard and Guidelines (HKPSG) was also added.

1900-2000

ANNEXURE 2: THEMATIC LITERATURE REVIEW - PUBLIC SPACE

2.1 Historical evolution and relationship to pandemics and public spaces

The very definition and concept of 'public space' are continuously evolving. Historically, it mostly meant streets, squares and parks. It could now be considered to include transport hubs, the shared space in community centres, schools, hospital, religious institutions, and privately owned public space such as shopping centres theatres, entertainment hubs etc. Public spaces act as an identity for a great city. Cities in history are remembered for their public spaces, the Greek Agora, the Roman Forum, the European squares and Indian 'chowks' (Mahadevia, 2015). However, while these public spaces have always been seen as essential infrastructure for promoting health and wellbeing and evolved due to health emergencies, time and again, these public spaces have also attributed as vectors for pandemics.

2.1.1 Pre–Modern Era (till late 1800s)

Diseases and disasters have always played a role in shaping cities and their public spaces (Klaus, 2020). The Grand Model for the Province of Carolina, developed in the aftermath of the Great Fire of 1666, established a template for colonial planning in North America (Reinberger, 1997). Similarly, during the mid-nineteenth century, Europe was overcrowded and infested with diseases resulting from unhealthy neighbourhoods. Haussman model became of crucial importance, in Europe, then. It focused on removing unsanitary conditions and city beautification with wide boulevards and avenues, new parks and squares (Jagannath, 2019).

Central Park, New York was designed, in the immediate aftermath of the second cholera outbreak in the 1800s (Avalos, 2020). The architect of the park, Frederick Law Olmsted, called his vision for the space to be "the lungs of the city," a place to breathe easier at a time when cholera and other diseases ran rampant as people lived in very close quarters that were overcrowded and unhygienic. Subsequently, Olmsted designed more than 100 public parks and recreation grounds, including those in Boston, Buffalo, Chicago and Detroit after the cholera outbreak (Klein, 2020).

2.1.2 Modern era (the late 1800s to 1980s)

During the modern era, several pioneers like Ebenezer Howard, Patrick Geddes and Lewis Mumford were also central in shaping and further the idea of social and health planning. Ebenezer Howard's concept of the garden city was developed during the last two decades of the nineteenth century. It proposed to solve, or at least lessen, the Victorian city's problems by exporting a good proportion of the people and jobs to self-contained new towns in open countryside to decongest the core of the cities (Duhl & Sanchez, 1999). In the early 1900s, biologist Patrick Geddes offered his vision of the regional city to answer the congested large metropolis. Around 1920 Lewis Mumford sustained Geddes's work, largely through the creation of the Regional Planning Association of America (Duhl & Sanchez, 1999). However, the transformation of human disease patterns and the development of preventive medicine had aroused the attention on the influence of 'Urban Space' towards 'Health' in public health area since the 1980s (Li, 2017).

2.1.3 Post-modern (the 1980s to till date)

At one time, the disciplines of public health and urban planning were closely aligned. Historically, one of the main rationales for urban planning was based on the need for corrective measures due to natural disasters, human health hazards and the need to circulate goods and people throughout an urban area. But with the introduction of a better understanding of bacteria, infectious disease, and vaccinations, the focus of public health shifted away from community engineering and urban design and towards a model based on medical principles. As scientific knowledge became more advanced and more influential, the focus shifted to exploring means by which illness could be prevented through medical interventions (Duhl & Sanchez, 1999). Moreover, due to urbanisation and industrialisation, urban planning policies have led to an increased sense of fragmentation by emphasising the individual's needs over the urban communities. Though modern planning was able to create the conditions for a higher standard of living in material goods and improved sanitation, it decreased the likelihood of supportive social relationships which have resulted in higher rates of tuberculosis, schizophrenia, alcoholism, accidents and suicide, thus impacting public health adversely (WHO, Promoting Mental Health, 2005).

2.2 Principles of planning public spaces in the post-modern era in India

2.2.1 Public transport

In the past decades, urban sprawl has resulted in the

loss of agricultural land and open space and high dependency on private vehicles. National Urban Transport Policy (NUTP), 2006 has highlighted the need for integrating land use and transport planning. The integration of land use with transport is called Transit-Oriented Development, which will further help develop a smart and compact city. A compact city is a high density, mixed-use development, within a restrictive geographical area with enhanced public transport and infrastructure facilities. The public transport system should be given priority, and the use of non-motorised transport should be promoted. The NUTP aims to increase the use of green energy sources, energy efficiency and environmental protection and provide recommendations for the same. Various street design guidelines have also been developed for cities like Pune, Chennai, and Delhi to improve streets to give a better experience (Sanghi, Singh, & Adelina, 2019).

2.2.2 Public institutions

Due to globalisation, many changes happened around the world, resulting in a different characteristic and definition of public space. Also, due to privatisation and the pressure of capital along with technological advancements have a more significant impact on the form, use, and control of the public spaces. Thus, a new form of public space emerged, i.e., the shopping malls we see today. These shopping malls are privately owned and managed. Furthermore, they are fully enclosed and pedestrian in a controlled environment with adequate parking facilities and multi-functions. It helps in providing a secure shopping and leisure environment separated from the rest of the busy world. So, we can say that the arcades and department store of the 19th century evolved in a more user-friendly way to become today's shopping malls (Chitnis, 2012).

The other facilities like educational, health, safety/ security, communication, and other commercial facilities are planned according to the threshold population and the service range. The URDPFI guidelines have listed the norms and standards for providing the social amenities in the urban area; a minimum area for the facility is also specified. Location of these infrastructures should be decided by local authority considering walkable distances (TCPO, 2015).

2.2.3 Open spaces

Structural adjustment has dramatically reduced coverage of large public spaces like parks and green spaces in the developing world (Barra, 2000). Today, large urban parks and gardens originate primarily from municipal or state planning and associated zoning laws, or the initiative of institutions with large landholdings, such as churches, schools, and corporations, covering a range of public, semi-public, and private settings. Parks and gardens in many cultural con-texts have been constructed as aesthetic reflection sites or for specific social practices, and the intentionality inherent in these uses tends to require such "top-down" planning (Stanley, Stark, Johnston, & Smith, 2012).

Open Spaces enable numerous ecosystem services leading to social, aesthetic, and economic benefits to populace inhabiting urban areas. It is necessary to maintain appropriate open space areas, have connectivity among open spaces and make these accessible to the public at each level to maintain urban sustainability. According to the URDPFI guidelines, 10-12 sqm per person of open space may be desirable, and the population served by the organised green space is also mentioned. This translates to a 25-35 per cent allocation of a city's area to be earmarked as recreational and open spaces, in addition to environmentally sensitive areas (Jainer & Yadav , 2020). Unsurprisingly, most of the Indian cities do not meet this recommendation.

2.3 Challenges faced in managing public spaces during COVID-19

While public spaces are essential for society's mental, physical, and economic wellbeing, the spread of infections through public spaces is undoubtedly a top concern today. Now COVID-19 is joining a long list of infectious diseases, like the Spanish flu of 1918 in New York and Mexico City or the Ebola Virus Disease in West Africa in 2014, which is likely to leave enduring marks on urban spaces.

2.3.1 Markets:

Though public spaces like markets have always been the main gathering space for buyers and sellers and form an essential part of the cities' economic activities, most of the health crisis in the 21st century originated from such market places. A large proportion of the initial cases of COVID-19 had a direct link to the Huanan Wholesale Seafood Market in Wuhan City (WHO, 2020). Dangerous contagions have also been spawned in wet markets in the past like SARS outbreak from a wet market in the southern Guangdong Province of Mainland China (Webster, 2004), the outbreak of HIV and Ebola from bush-meat trade in Africa and the H5N1 avian influenza (bird flu) epidemic in 2012

was also traced back to poultry infected by migrating waterfowl in Hong Kong's markets (Nalapat, 2020).

Though India adopted mask-wearing and announced a stringent nationwide lockdown quite early when India had just over 500 confirmed cases, India has been unable to tame the pandemic. Instances of the wholesale markets like the Koyambedu market in Chennai and Azadpur and Ghazipur mandi in Delhi becoming the COVID-19 hotspots had been observed (Pandey, 2020). These markets being a common point for farmers, labourers, wholesalers, mediators, traders and many others, makes it nearly impossible for authorities to enforce the usual COVID-19 protocol (Pandey, 2020).

2.3.2 Public transport

COVID-19 pandemic has affected Indian public transport sector in multiple ways. During India's lockdown, all transport services, whether is buses, metros, taxis, auto-rickshaws or other forms, were suspended except for the emergency and the essential services (MHA, 2020). However, limited transportation options caused many problems for even the frontline workers to report at their workplace. On the contrary, when some public transportation modes were allowed to operate, they started struggling with drastic fall in ridership because people are still apprehensive of contracting COVID-19 and prefer private vehicles over public transport (Agrawal, 2020). Besides this, there are many additional costs that public transportation and authorities had to bear such as regular sanitisation of vehicles, protective gears such as PPEs, masks, gloves, shields for staff, sanitisers for passengers, marking of seats, queues entry-exit to maintain social distancing, additional technology investments such as thermometers, thermal scanners, thermal cameras (UITP, 2020).

The lockdown has also impacted the construction work for the extension of metro lines in few cities due to resource unavailability, which led to a significant loss. Each day, e.g., each day delay in the projects, cost Bangalore Metro Rail Corporation Ltd (BMRCL) ~ INR 15 million /day. The similar impact has been seen in Chennai. The plans such as cab services to ensure list mile connectivity, QR code-based ticketing, signages to direct people to metro stations, and underground parking all had been halted (UITP, 2020).

2.3.3 Public institutions

While all public institutions like, schools, community halls, movie theatres, malls, private commercial establishments, restaurants, hotels etc., were completely shut during the lockdown period in India, a few instances emerged where some religious institutions like the gathering at the Markaz in New Delhi emerged as hotspots (Pradhan & Trivedi, 2020) which led to increasing in COVID-19 cases not only in Delhi but also other states when devotees travelled to their home town across India (Dutta, 2020). Similar incidence was reported from the densely populated *Mochi Mohalla* in Ajmer's *Dargah*, which emerged as a hotspot (Jagran, 2020).

With more and more Indians avoiding crowded places as a precaution against the coronavirus outbreak, India's retail and restaurant industries were in for a nightmare. Even after malls were permitted to open up, shopping malls in several parts of the country already see an up to 20 percent decline in footfall (Tanwar, 2020). While in big cities mall owners, offered to waive 50 percent rent during the lockdown period, many iconic shopping destinations were forced to shut the shops due to loss in business (Sarkar & Mishra, 2020).

Though closing schools aimed to reduce the risk of infection and protect healthcare capacity in India, it had other downsides. Firstly, the closure of schools disrupted the midday meal scheme. India has 120 million children enrolled in the midday meal scheme in over 1.26 million schools. But due to the lockdown, many states have had to stop this initiative, thereby depriving children of this concession to life. Secondly, according to the National Commission for Women (NCW), domestic child abuse cases increased. Finally, schools also regularly offer provisions such as sanitary products for adolescent girls, especially given the extreme barriers they face for maintaining basic menstrual hygiene, which also got halted (Upadhyay, Upadhyay, & Bhide, 2020).

2.3.4 Open spaces

COVID-19 also threatened the livelihoods of millions of informal traders and the nation's ubiquitous street vendors. They sell everything from snacks and cups of tea to toys and shoes at traffic lights, on pavements or from carts, across India (Majithia, 2020). The National Association of Street Vendors of India (NASVI) pointed out that during lockdowns police incidents, beating street vendors for going out and seizing of carts were reported, which continued even after the curbs were lifted (Thomson Reuters Foundation, 2020). Similar

impacts have been observed in other South Asian countries like Bangladesh, Nepal and Myanmar, where lockdown was imposed as a response, resulting in economic losses (TBS Report, 2020).

Country's zoological parks, national parks and tiger reserves also face financial crunch with no visitors during peak season due to countrywide lockdown. According to the Indian Association of Amusement Parks and Industries (IAAPI), there are nearly 150 amusement parks in the country, which give direct employment to around 80,000 people and indirectly provide a livelihood to nearly 0.3 million and with the lockdown these facilities failed to generate revenue (IANS, 2020).

2.4 Responses of the national, state and city administrations during COVID-19

A nationwide lockdown was announced from March 25th 2020, as a preventive measure against the COVID-19 pandemic in India. Similarly, Bangladesh, Nepal and Myanmar also underwent lockdown to curb the impact of the pandemic. During this period, all transport services, educational institutions, industrial establishments, hospitality services were suspended except for the emergency and the essential services. Since the lockdown announcement, cities have been adopting numerous approaches to disinfect the public spaces, including the streets, markets, banks, bus/ railway stations etc.

2.4.1 Markets

Immediately after the global pandemic was announced, WHO came up with specific guidelines for wet markets, which was believed to be the source of the virus's spread. The guideline stated the protocols to be used that slaughterhouse workers, veterinarians in charge of animal and food inspection in markets, market workers, and those handling live animals and animal products should practice for good personal hygiene, including frequent hand washing (WHO, 2020). It also detailed out provision for anyone visiting live animal markets, wet markets, or animal product markets in terms of the practice of general hygiene measures, including regular handwashing with soap and water after touching animals and animal products, avoiding touching eyes, nose, or mouth with hands, and avoiding contact with sick animals or spoiled animal products (WHO, 2020).

During the nationwide lockdown in the South Asian countries including Bangladesh, Nepal, Myanmar and India, all market was shut down with exceptions. Moreover, the Bangladesh government shifted food markets to the nearest open grounds as a measure to contain the spread and maintain the supply of essential items (TBS Report, 2020). In India, shops, including ration shops (under PDS), dealing with food, groceries, fruits and vegetables, dairy and milk booths, meat and fish, animal fodder, fertilisers, seeds and pesticides, were allowed be remained open. However, district authorities were instructed to encourage and facilitate home delivery to minimise individuals' movement outside their homes (ANI, 2020). The Indian government started opening up services in a phased manner from May 30th 2020. The Ministry of Home Affairs (MHA) issued guidelines allowing local authorities to open local shops and markets with staggered timings and following social distancing norms while encouraging e-commerce websites to commence the delivery of non-essential items. All shops registered under the Shops and Establishment Act of the respective State/ UT, including shops in residential complexes and market complexes, except shops in multi-brand and single-brand malls, outside the limits of municipal corporations and municipalities, with 50 per cent strength of workers with wearing of masks and social distancing being mandatory were allowed to operate during initial unlock (ANI, 2020).

While most states followed the instruction as per the MHA order, few states also came up with their guidelines to implement the unlock phase. For instance, the Maharashtra government issued guideline and allowed all markets, market areas and shops, except malls and market complexes, to function on an odd-even basis from 9 am to 5 pm from June 5th. (Gangan, 2020).

The local authorities aligning with the national and state guidelines also came up with local measures to contain the virus spread. Handwashing facilities were being provided at vegetable markets with proper social distancing. The drones were used for disinfection in some of the smart cities like Bengaluru, Chennai, Coimbatore. Cities were taking innovative approaches like in the case of Tripura, where a disinfection tunnel was implemented, which was further replicated in numerous cities. People entering the market were asked to wash their hands and walk through the 'disinfection tunnel' for a few seconds during which sprayers overhead sprinkle

protective substance on them. Once they come out of the 'disinfection tunnel', the visitors were allowed into the market (PIB, 2020).

2.4.2 Public transport

During the lockdown, all transport services – air, rail, and roadways were suspended, across the South Asian region. Myanmar implemented strict travel restrictions on international flights, domestic flights, trains, and inter-city long-haul buses. Nepal also initially shut down every public transport but was forced to lift the restrictions partially with strict guidelines like carrying only 50 per cent of the seating capacity, taking a temperature reading of commuters and mandatory use of masks and gloves for transport staff, following pressure from business owners and transport workers (The Katmandu Post, 2020).

The Indian government implemented the lockdown with few exceptions. Transportation for essential goods, fire, law and order and emergency services, operations of Railways, Airports and Seaports for cargo movement, relief and evacuation and their related operational organisations, Inter-state movement of goods/ cargo for inland and exports, cross land border movement of essential goods including petroleum products and LPG, food products, medical supplies, Intra and inter-state movement of harvesting and sowing related machines like combined harvester and other agriculture/horticulture implements were allowed (MHA, 2020). The transport services resumed in a phased manner during the unlock period as per the MHA guidelines, Government of India.

The cities have prepared their SOPs based on the guidelines issued by the national government. For example, the Delhi Metro to ensure social distancing did suitable markings at stations and inside trains. Similarly, signages were also placed on the platforms to ensure social distancing by passengers. Forty-Five major stations were provided with 'Auto thermal screening cum hand sanitisation machines' whereas, rest of the Metro stations had 'Auto sanitiser dispensers' for hand sanitisation. For crowd management in the station, monitoring was done through the installed CCTVs (DMRC, 2020).

2.4.3 Public institutions

During the lockdown government of Nepal banned large gatherings and closed down public places such as movie theatres, cultural centres, gymnasiums, night clubs, swimming pools, stadiums and museums in response to the fast-spreading coronavirus pandemic. As a precautionary measure, the Nepal government has restricted public gatherings of more than 25 people at one place (PTI Katmandu, 2020). Similar, restrictions are in place in case of India. While all public institutions were closed during the lockdown, they started opening up in a phased manner. However, the government promoted take away from restaurants and work from home for private companies. However, if the presence of employee was required, then staggering of working hours was to be adopted, thermal scanning and sanitisers were made available at all entry and exit points, and common areas. The wearing of masks was made compulsory in public places and workplaces, and the Aarogya Setu app was to be installed by all the employers (MHA, 2020).

In the first phase, religious places, shopping malls, hotels, restaurants, and other hospitality services could reopen, but large gatherings were still banned. In the case of food courts and restaurants, 50 percent was the maximum permitted capacity, the number of people using the elevators was restricted. The air-conditioning/ventilation guidelines mentioned by CPWD were also adopted (MoHFW, 2020). The contactless mode of ordering and digital mode of payment was encouraged in malls and restaurants. In the religious places, no physical offerings like prasad/holy water were to be allowed, common prayer mats were to be avoided, and other required social distancing and preventive measures were to be followed (MoHWF, 2020). The gymnasiums and yoga centres reopened in Phase-III and guidelines for the same was issued by the Ministry of Health and Family Welfare. The SOP advised against the practice of *yogic kriyas* and if practised to be organised in open spaces. The authorities were advised to utilise the outdoor spaces and ensure that the sessions were staggered and the clients' sessions were limited (MoHFW, 2020). In Phase-V unlock, the cinema halls reopened, guidelines for the same has been given by MHA (MoHFW, 2020).

The Indian states also went ahead to procure the public spaces and convert them into emergency facilities. As part of the institutional arrangements, the Chhattisgarh Civil Supply Corporation had been declared as the state level joint control room for food and transport so that a single point of coordination for the continuous supply of essential items, transportation, storage and delivery across the state is

established. Various hostels, hotels and schools were also converted into temporary quarantine centres. For example, Delhi decided that all COVID-19 positive cases who were eligible for home quarantine were allowed to quarantine themselves at designated hotels on payment basis if they chose to do so. It also converted banquet halls into quarantine centres with the provision of masks, thermal screening and meals. The Delhi government also announced that railway coaches would be converted to COVID-19 isolation facilities for patients only with mild or very mild symptoms if beds in other quarantine centres are not available, as a preparedness measure (Express News Service, 2020). The Delhi government also added three new government hospitals — a 450-bed hospital in Burari, a 2,000-bed hospital in Dwarka and a 400-bed hospital in Ambedkar Nagar (Saxena, Barman, & Joshi, 2020). As COVID-19 cases spiral in West Bengal, the state government converted stadiums, lodges, schools, academies and night shelters in districts into makeshift hospitals to accommodate patients (Das, 2020).

In India, about 45 cities had converted their Integrated Control Command Centres (ICCC), created under Smart City Mission, to a COVID-19 WAR room to monitor the city level emergency response including effective implementation of lockdown (Deloitte, 2020). In Bhubaneswar, the Corporation tried to ensure social distancing through technology-enabled home delivery of essential items. The Raipur district administration, RMC and Raipur Smart City Limited (RSCL) set-up a Food Supply Control Room (FSCR) to ensure food delivery and other food supplies to needy citizens. Cities were sanitised by spraying disinfectants; sanitisation tunnels were installed at hospitals' entrance, drones were being used for city surveillance and disinfection while public taps and washbasins were being provided at key locations in slum areas (Deloitte, 2020).

2.4.4 Open spaces and streets

During this lockdown period one of the sectors, especially in the developing countries like India, that got hit the most are the informal workers and the street vendors. These local vendors usually use the streets, squares, parks and other public spaces to sell things and earn a living (Majithia, 2020). But the extended lockdown period impacted them heavily. To counter the impact the Indian government unveiled the PM-*SVANidhi* — Prime Minister's Street Vendors *Atma Nirbhar Nidhi* — to offer street vendors a loan of Rs 10,000 and COVID-19 training. Major food delivery apps such as Swiggy and Zomato rolled out options to take vendors on board, helped conduct training sessions and assisted with COVID-19 sanitisation protocols. The National Association of Street Vendors of India (NASVI) held online training courses and supplied hygiene kits (NASVI, 2020).

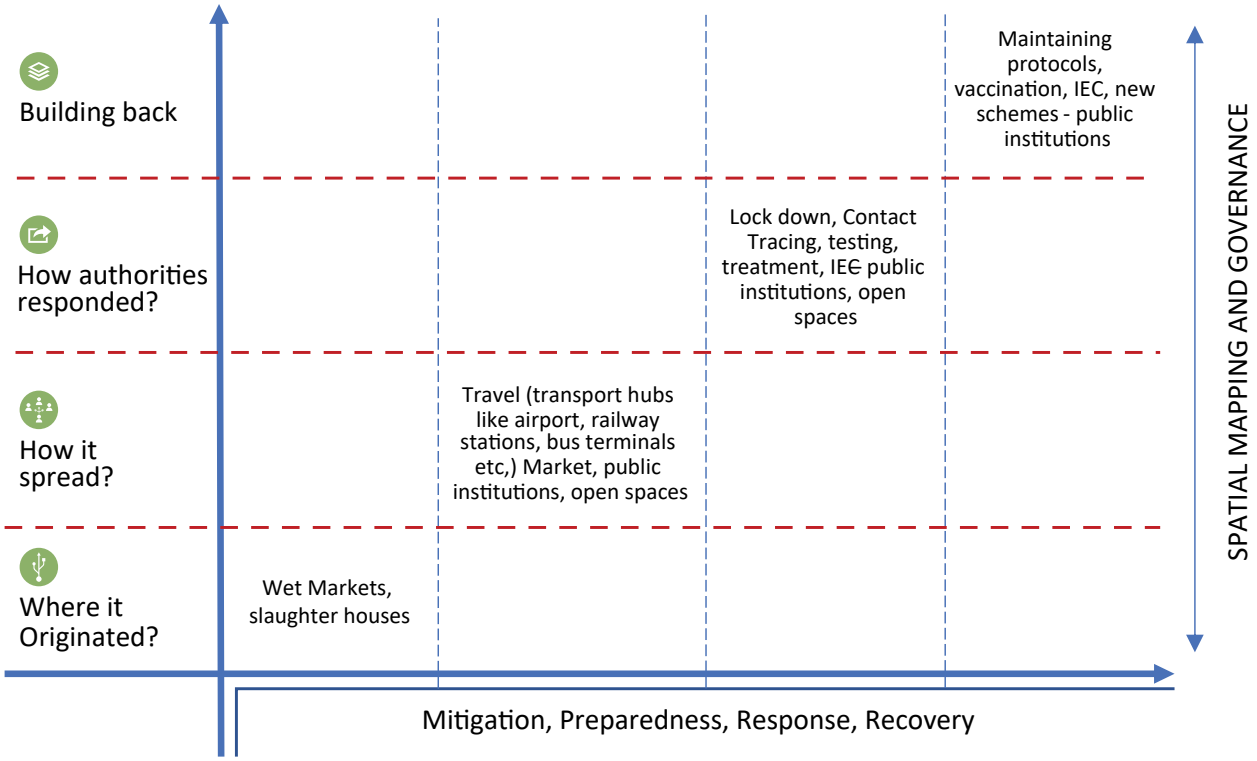
For the open spaces, the states could also utilise the spaces to set up temporary health facilities like the Delhi government. It converted the *Radha Soami Satsang* Beas in Chhatarpur into what is known to be world's largest, 10,000-bed Sardar Patel COVID-19 Care Centre and Hospital (SPCCCH) in 10 days. The facility functioned as an isolation centre for mild and asymptomatic COVID-19 positive patients with 10 per cent of the beds having oxygen facility (ANI, 2020). Moreover, parks were also opened with specific riders and restricted timings to prevent the spread of COVID-19 initially by the state government orders.

On the brighter part, this lockdown has seen a renaissance of biking during 2020. As the streets emptied of cars due to lockdowns, people resorted to using the road for biking as a measure to maintain wellbeing without much interactions (Weisholtz, 2020). From Lima and Bogotá in Latin America to Berlin and Milan in Europe, more than 1,800 cities have taken action to bolster NMT since the start of the pandemic. In Oakland, 74 miles of streets were shut to motor traffic to allow pedestrians to spread out and get fresh air and reduce crowding. In Bogotá, Colombia, the government moved quickly to expand the city's bike lanes by 47 miles. Vienna expanded NMT space and created new priority zones for cyclists and pedestrians. Lima and Berlin created temporary or "pop-up" bike lanes through low-cost interventions like signage, traffic cones, concrete barriers (GOETSCH & QUIROS, 2020). Looking at the momentum gained around cycling, the Ministry of Housing and Urban Affairs (MoHUA), Government of India also launched a Cycle4Change challenge to increase awareness around this healthy habit even further (Khan & Dutt, 2020). Chennai, Bengaluru, Delhi, Mumbai, Kochi, Kolkata and some other cities, have witnessed a gradual shift to cycling. To this effect, the West Bengal government asked the Kolkata Police to allow bicycling on some of the previously banned streets. The city also appointed a consulting agency to conduct surveys for cycling infrastructure and prepare a city's cycling plan

(Khan & Dutt, 2020).

To sum it up, the COVID-19 pandemic has already significantly altered urban life and to prepare better for the future there is a need to understand the pandemic and map the linkages of the public spaces through its course of evolution and measures taken by the different tiers of government. While the virus originated at a wet market in China, it spread to the other regions through international travel and further into the community through public spaces, like transport hubs, markets, schools, commercial establishments etc. Subsequent to the spread, the government responded by shutting down the public spaces and introduced social distancing as a norm, to contain the spread among others. Moreover, the government converted the public spaces into temporary shelters, quarantine facilities, testing centres, treatment camps etc. Now as a building back strategy the government has already started coming up with new schemes, thereby ensuring lasting changes with respect to making public spaces safe, vibrant and accessible. The assessment framework given below summarises the challenges and actions at the government level and has been used to draw

Figure 1: Assessment framework for Public Space



ANNEXURE 3: THEMATIC LITERATURE REVIEW - HOUSING AND SLUMS

The period between the 8th to 11th century witnessed resurgence in urban growth due to increased agricultural productivity, rapid population growth and stable political authority in most cities of Europe. The cities often were fortified to control the population and regulate immigrants and travellers. Despite these efforts, the cities continue to expand and the type of housing also evolved to accommodate the changes. During this period, most private housing manifested in the form of rural style tower houses, owned by noble clans, which were gradually replaced by three-storey stone palaces built by merchants. However, housing for ordinary citizens continued to be rural style, mostly timber (Clark, 2009).

During the 12th to 15th century the rate of urban growth was uneven and fast. This was because of economic and political volatility caused by pandemics, wars and inter-city competition. The competition between religious and secular institutions shaped the urban development in this era. As the raging wars and frequent pandemics pushed the citizens out of the urban centres, the rents plummeted and the older wooden housing in the city areas decayed. Consequently, in the peripheral areas, new high quality, multi-storeyed houses were constructed during this period. The lower-class housing also underwent improvements as rows of tenement houses were built in cities like London (Clark, 2009).

In the 15th century, the economic, social, political, and theological changes paved the way for laying down the foundations of modern European cities. The distinction between public and private spaces and cleanliness became an important driver of changes in the design of housing. While the bigger cities experienced improved housing, a similar change was relatively slow in smaller towns. During this phase, the differences between housing qualities for different classes also became evident as the poor resided in overcrowded areas in cheaply-built tenements with back-to-back terraces and courts (Reed, 2000) while the rich resided lived in spacious houses.

Between the 17th and the 19th century, the living conditions of the urban poor and working class in all of Europe witnessed substantial deterioration (Engels, 1987). In industrial centres like London and Liverpool, the situation was dire to the extent that these areas were considered unfit for human habitation and considered a threat to society's legal and moral order (Mearns, 1970) (Pooley, 2000). In 1885, a royal commission for Housing was set up which highlighted the key issues of overcrowding, poor quality housing and high mortality rates due to diseases in these areas and recommended a greater role for states in regulating these areas. This led to a series of legislations in the late 19th and early 20th century which equipped local authorities to clear slums, provide housing for the working class, and plan for future urban growth. Elsewhere in Europe, like Paris and Berlin a similar pattern followed (Clark, 2009). As the cities developed and densities increased, the need to regulate private housing also emerged at the forefront. As a response to fire hazards, building codes came into existence in the latter half of the 17th century – the great London fire of 1666 ushered the introduction of building codes in the city. By the late 19th century, these codes started regulating wall thickness, room height, repair materials, placement and design of chimneys, fireplaces, and drains etc((Ley, 1990).

In response to the degrading housing conditions in the city, the rich and the middle-class started to relocate towards the suburbs, where housing was economical and spacious (Gauldie, 1974), and the introduction of cars and private vehicles made the commute easier (Pooley, 2000). While slum clearance was minimal and piecemeal in most towns in the 19th century, many towns embarked on a more vigorous programme of slum clearance from the 1890s (especially effective from the 1930s). This urban policy revolution significantly contributed to the destruction of many inner-urban communities and fundamentally changed the structure of urban areas (Reed, 2009). Further, with an increasing pressure of migration from rural areas in interwar years and displaced slum population, the need for public housing is exacerbated. This induced many cities to construct high-rise houses in the periphery for the working class (Pooley, 2000).

After the Second World War, the influence of modern planning theories on housing gradually declined and the concept of privatisation of space developed into the driving force of evolution in housing design. This led to an increase in the number of gated communities in the suburbs (Clark, 2009). Rapid urbanisation after the Second World War and the end of the colonial rule without rapid industrialisation created a massive housing shortage in many countries of the global south which led to a rise in slums and squatter settlements (Davis, 2006).

3.2 Principles of housing and slum upgrading:

During the initial five-year plans, the focus was on developing public housing for workers by providing subsidies and loans to state governments and public sector enterprises. While accommodation for industrial workers was supported with subsidies, and lower-income government servants were provided with public housing, others in the LIG were left to the market's fate or slum living (Tiwari and Rao, 2016). Athough the increased focus on public housing led to increased homeownership, it was not enough as the housing shortage risen from 2.5 million in 1951 to 5 million in 1961 (Mamnoon, 1963). As the number of slums and squatter settlements in the big cities increased, the government adopted a policy for slum clearance; however, it could not solve the issue of slums.

During the 1970s and 80s the importance of private builders in the housing market increased as government restricted its role to providing housing to EWS and LIG groups (Tiwari & Rao, 2016). Setting up housing finance companies, lowering interest rates, and change in the salary structure of government employees facilitated the increased role of housing finance and private builders in housing (Hingorani, 2011). Another major policy paradigm during this era is that the policy of slum clearance paved the way for in-situ development with incremental access to basic services like water, toilets, and roads (Mathur, 2009).

In 1988, India drafted its first housing policy that redefined the government's role as enabler of an efficient legislative and financial framework for the housing market and focused on eradicating houselessness and improving the housing conditions of the inadequately housed and providing a minimum level of basic services and amenities to all. In 1997, the National Slum Development Programme was launched for upgrading slums, which was later linked to the Nehru Rozgaar Yojana and the Integrated Urban Poverty Education programme, to address the fragmented nature of earlier programmes (Mathur, 2009). The Jawaharlal Nehru Urban Renewal Mission (JNNUNRM) was launched in 2005, to provide urban governance and infrastructure in big cities.

In 2007, the National Urban Housing and Habitat policy was launched. The policy reiterated the government's commitment to providing housing for EWS and LIG. It also advocated an increased role of the private sector in providing housing for these groups. In 2011, the government launched the Rajiv Awas Yojana for upgrading slum housing. In 2015, the government launched the Pradhan Mantri Awas Yojana-Urban (PMAY-U) which provided loans and grants for housing of EWS/LIG along with encouraging the private sector to invest in housing for these sections. In the wake of COVID-19, the government provided affordable rental housing for migrants and urban poor and launched the scheme for Affordable Rental Housing Complexes (ARHCs).

3.3 Challenges faced in housing and slums during COVID-19:

The COVID-19 pandemic has highlighted the existing crisis in housing, especially for the urban poor and migrants. Millions of people reverted to their cities due to loss of livelihood (APU, 2020) and their inability to pay rents (Jansahas, 2020). Before the lockdown, many migrants, especially those working in the construction and small factories, lacked a proper place to stay and often resided at their work sites. As the nationwide lockdown forced these sites to shut down, the resident migrant workers were consequently rendered homeless and jobless (Aajeevika Bureau, 2020).

Many of those residing in slums and poor neighbourhoods lived in overcrowded homes with limited access to water and sanitation. In such living conditions, home quarantine, regular hand washing, and social distancing were not feasible, and as a result, many of them chose to return to their villages and hometowns (Dasgupta, Mukherjee, & Agarwal, 2020). The prevailing housing shortage, overcrowding and lack of basic services and amenities has intensified the risk of spreading the COVID-19 disease.

However, sporadic initiatives have been adopted to enable slum dwellers to meet self-isolation norms, such as a civic body of Mumbai, which has set up camps to isolate suspected people of Dharavi slum (Udas-Mankikar, 2020). While the government issued an advisory for rent waiver, the prevalence of about 75 per cent informal rentals (NSS 76th Round) creates ambiguity in the enforcement of the same.

3.4 Responses to COVID-19

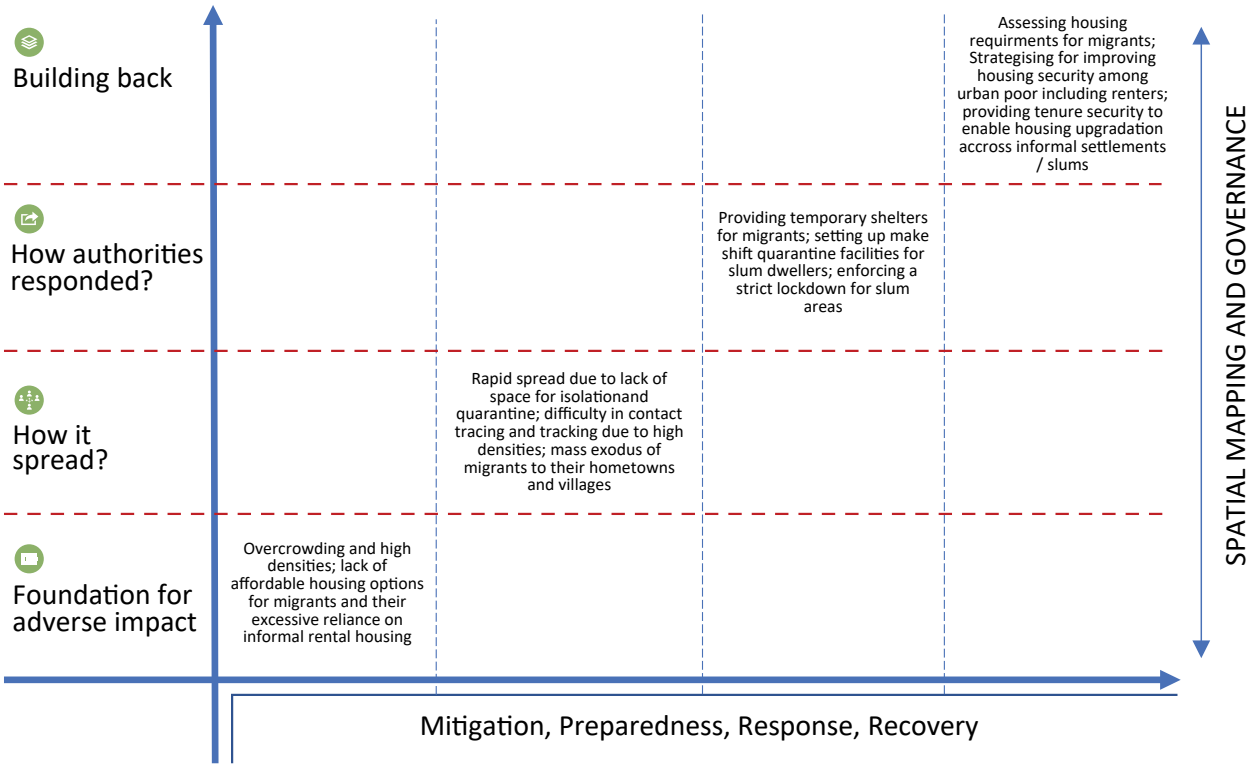
The Central government announced a moratorium on a mortgage payment for six months. The moratorium might help some households in the short term, but in the long term, it can impact economic resilience as well as increase housing cost (OECD, 2020)). In its Financial Stability Report, the Reserve Bank of India (RBI) suggests that non-performing assets may surge by 1.5 times above their March 2020 levels under the baseline scenario and by 1.7 times in a very severely stressed

scenario. The central government also announced that the migrant labour/urban poor would be provided living facilities at affordable rent under Pradhan Mantri Awas Yojana (PMAY) by providing affordable rental housing. The Central government also extended the Credit Linked Subsidy Scheme for the Middle Income Group (annual income between INR 600,000 and INR 1.8 Million) by one year up to March 2021. The government has estimated that this will lead to over INR 700 Billion in the housing sector. The government also gave an extension of six months on the registration and completion dates of all registered projects under RERA, expiring on or after March 25, 2020, without individual applications, which can be further increased by three more months at the discretion of the Regulatory Authorities.

Many state governments have taken initiatives for improving slum conditions before the pandemic; however, due to COVID-19, the scope and urgency of such initiatives increased. The Government of Odisha expanded the scope of its ongoing JAGA mission. It introduced a slum upgradation programme to ensure slum-free cities in the next three years through the upgradation and delisting of slums. This is in continuation of the first phase of the JAGA mission, under which close to 100,00 slums dwellers have been allotted land titles (New Indian Express, 2020). Similarly, the Government of Punjab has also passed milestone legislation to allot proprietary rights to slum dwellers, thus improving their living conditions (Hindustan Times, 2020). The initiative taken by city governments has been limited to providing immediate relief to homeless people by running emergency shelters or converting night shelters to temporary homes for migrants (Roy, 2020).

As increasing urbanisation has ushered in creating slums and squatter settlements, there is a need to devise planning mechanisms that integrate resilience against pandemics like COVID-19. Conditions such as high densities, lack of adequate, affordable housing solutions, especially for migrant workers, have enabled the virus to rage through India's urban centres. Such prevailing conditions not only complicate quarantining suspect patients but also inhibit successful contact tracing and testing. While the authorities have temporarily responded by putting up temporary quarantine facilities near slum areas, future planning must account for rental housing options for migrant workers and providing tenure security to slum dwellers to enable upgradation. The following assessment framework summarises the specific housing conditions which fostered the rapid spread of the pandemic and the looming challenges for governments at all levels. It has also been used to outline the recommendations on Housing and Slums included in the main report.

Figure 2: Assessment Framework for Housing and Slums



ANNEXURE 4: THEMATIC LITERATURE REVIEW - WATER, SANITATION AND HYGIENE

4.1 Urban Water and Sanitation: Historical overview

The increasing urbanisation has resulted in numerous environmental complications, wherein complications pertaining to poor sanitation, living conditions often take a backseat and government interventions are introduced in extremities such as the risk of a disease outbreak (Chaplin, 1999). As cities witnessed an unprecedented increase in the urban population in the 1800s, the working-class areas became increasingly characterised with degrading environmental conditions, leading to widespread diseases. In this milieu, diseases like smallpox, cholera, typhoid, and tuberculosis were widely spread in cities like London, New York, Massachusetts (The Future of Public Health, 1988).

Early-nineteenth-century Europe was characterised by sporadic piped water supply and lacked adequate sewerage systems for human waste disposal. This was followed by a rapid development in water supply and sanitation techniques between the 19th and 20th centuries, which attained further traction from cholera outbreak during this period. Large piped water supply and sewerage system were built, and different methods were developed to purify wastewater (Javier, 2017). While these changes did not completely percolate to the Indian subcontinent, the colonial government implemented some new ideas to control the cholera epidemic (Chaplin, 1999).

The early-nineteenth-century Europe was not only characterised by sporadic piped water supply, but also lacked adequate sewerage systems for human waste disposal. This was followed by a rapid development in water supply and sanitation techniques between the 19th and 20th centuries, which attained further traction from the outbreak of cholera during this period. Large piped water supply and sewerage system were built, and different methods were developed to purify wastewater (Javier, 2017). While these changes did not completely percolate to the Indian subcontinent, the colonial government implemented some of these new ideas to control the cholera epidemic (Chaplin, 1999).

4.2 Principles of Water and Sanitation:

Access to clean water and sanitation facilities directly combats the risk of contracting innumerable diseases. As of 2019, about 2.2 billion people across the world lacked access to safely managed drinking water services, and 4.2 billion people lacked access to safely managed sanitation services WHO & UNICEF, State of the World's Sanitation: An urgent call to transform sanitation for better health, 2020). The universal provisioning of Water Supply and Sanitation services has garnered significant importance in recent times in the international forum (Kulshrestha & Mittal, 2005), with a dedicated Sustainable Development Goal advocating for the same (SDG 6: Clean Water and Sanitation for All).

Recognising the imperative need for improving the water and sanitation situation in India, the Government of India has introduced several interventions in the post-independence era. The Central Rural Sanitation Programme (CRSP) in 1986 and Nirmal Bharat Abhiyan (2012) were introduced with the prime objective of accelerating the sanitation coverage and improving the quality of life of in the rural area. However, the issue of water and sanitation in urban areas was neglected. The main thrust on urban water and sanitation came from three sources – the improvement of water supply, river cleaning programme and slum upgradation and social welfare (Wankhade, 2015). In 2007, the National Urban Sanitation policy was launched which advocated a complete waste cycle approach to sanitation, and highlighted the importance of operation and maintenance and provision of water and sanitation to the urban poor. The Jawaharlal Nehru Urban Renewal Mission (JNNUNRM) was launched in 2005, which focused on providing basic services and amenities to the urban poor including water and sanitation. Focussing on coverage, O&M and other pertinent issues like Non-Revenue Water reduction, the JNNURM addressed some of the main challenges of urban water and sanitation. In 2014, the Government of India initiated the Swachh Bharat Mission (SBM), a countrywide campaign to eliminate open defecation and improve Solid Waste Management in all rural and urban areas. The Mission supported the construction of individual private toilets and community toilets to eliminate open defecation throughout the country (Swachh Bharat Mission, 2014). In 2019, the Government launched Jal Shakti Mission to provide

piped water supply to all the households by the year 2024 (Ministry of Jal Shakti, 2020).

4.3 Challenges faced in Urban WASH:

Access to clean water to maintain basic hygiene has emerged as the biggest challenge in the COVID-19 pandemic. The prevailing issues pertaining to water availability and supply services gaps in the Indian context leave the vulnerable communities at higher risk, especially in the informal settlements, where water scarcity and low water quality are significant concerns. It has been well-established that public water supply across Indian cities is intermittent and piped water supply networks are only accessible to some parts of the cities. Further, lower-income and vulnerable communities are often dependent on communal water and sanitation services, increasing the risk of local transmission of the disease (Goswam & Basak, 2020).

In India's most populous states – Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Madhya Pradesh – the lack of exclusive access to drinking water, poor sanitation facilities, and inadequate handwashing habits create a major hindrance towards preventing the risk of infectious diseases (Paliath & Raman, 2020). Hand hygiene is vital in lowering the transmission of the highly infectious coronavirus. However, handwashing is often viewed as a luxury as about 80 per cent of urban households and merely 49 per cent of rural households have access to soap and water for handwashing. Also, the promotion of handwashing was not included as an objective in "Swachh Bharat Mission" 2014 by the government (Kumar & Mohanty, 2020).

Additionally, there is a drastic change in the nature of waste generated during pandemic. PPE, masks, hand sanitisers are now part of daily lives, and the waste generated from it has added a voluminous load to waste treatment systems. The hazardous medical waste generation exceeded existing facilities' treatment capacity (Tripathi, Tyagi, Vivekanand, Bose, & Suthar, 2020).

4.4 Response to COVID-19:

Advisories and SOPs were issued by various ministries such as MoHUA, Central Pollution Control Board, Ministry of Health & Family Welfare etc, including the issue of guidelines for hygiene and sanitation, safe management of water supply, waste disposal etc. Further, the Ministry of Health and Family Welfare issued a separate advisory for "non-notified" informal settlements. Some private and public organisations working on the ground also issued practical and operational guidelines and created posters, reports, and publications.

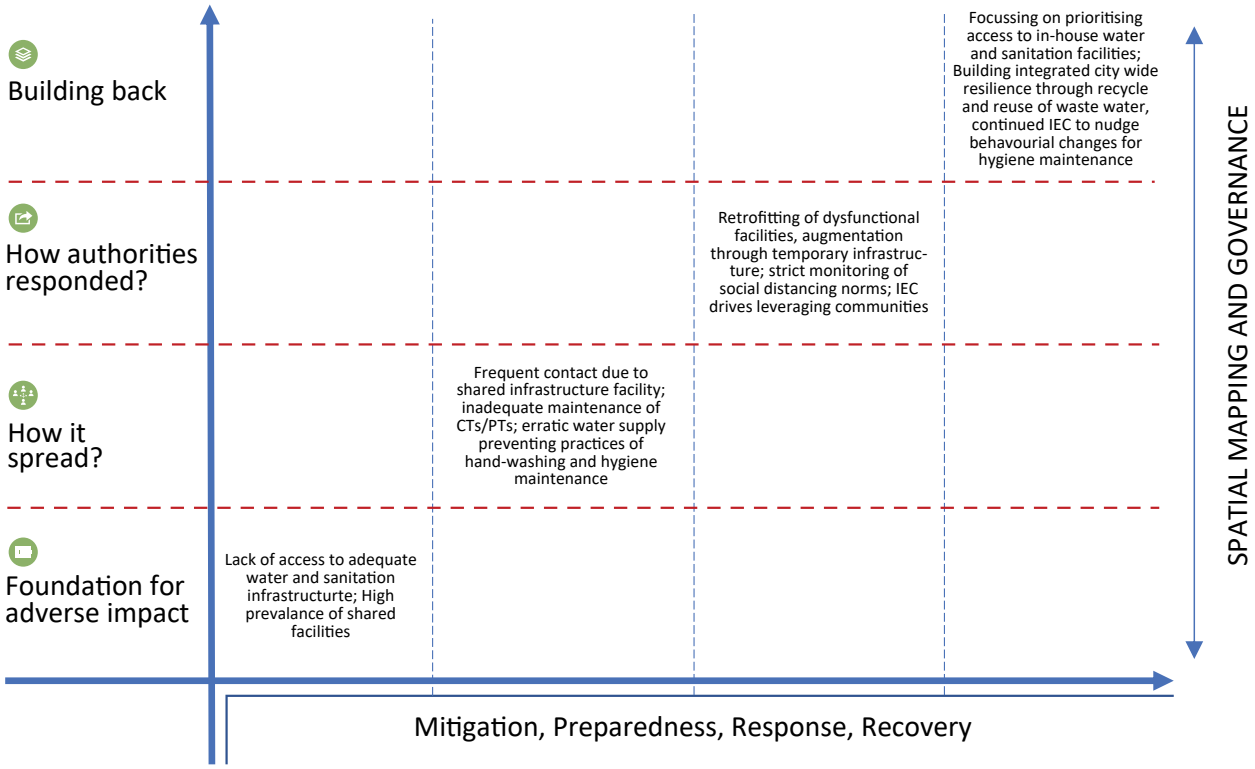
The ULBs, in coordination with various NGOs, private organisations, CBOs, govt. organisations provided masks, sanitisers, gloves, conducting training etc. and worked together for bringing community awareness and engagement through awareness-raising and relief efforts (Chature & Gupta, 2020). Pedestal operated hand-washing facilities are being provided at markets and other public places. Education, awareness, and training on Sanitation workers safety were also conducted and the workers were also facilitated in many cities (Bhatia, 2020) but there were reports of such training being inadequate.

The pandemic has also prompted innovations in the use of technology to reduce healthcare and frontline workers' response time.. ULBs, with the help of technology like drones, conducted sanitisation in some of the smart cities like Bengaluru, Chennai, Coimbatore etc. Bhopal Municipal Corporation, with the help of a start-up company has developed Smart Restroom Monitoring System (SRMS), a smart supervising equipment for the public washrooms to ensure cleanliness, hygiene, and social distancing amidst the coronavirus pandemic (NIUA, 2020).

The high dependence on shared water and sanitation facilities has enabled the spread of the pandemic in cities. Further, as CTs/PTs are often reported to have been inadequately maintained, citizens revert to open defecation, thereby defeating the progress under the Swachh Bharat Mission. Going forward, it will be necessary to not only retrofit the dysfunctional facilities, but also integrate IEC activities for hand-washing and hygiene maintenance in local sanitation drives, leveraging the power of communities. In the long run, the goal must be to achieve universal supply of in-house piped water supply and toilet facilities within the premises. In addition, to ensure city-wide resilience, recycling and reusing of wastewater must be encouraged and promoted to create safeguards against future pandemics. The following assessment framework summarises the specific challenges in water, sanitation and hygiene housing conditions which have fostered the rapid spread of the pandemic and the looming challenges

for governments at all levels to address the same. It has also been used to outline the recommendations on Water, Sanitation and Hygiene, included in the main report.

Figure 3: Assessment Framework for WASH



ANNEXURE 5: THEMATIC LITERATURE REVIEW – LEGAL FRAMEWORK FOR DISASTER MANAGEMENT

COVID-19 has been recognised as the most severe disruption that the world is faced in recent times by the Governments, parliaments, and International Institutions. It has profoundly altered economic, social and political conditions and we are yet to understand the full extent of that.

With such multidimensional impact, it is difficult to examine the response to the pandemic in silos, nevertheless, an attempt has been made to examine the legal landscape to understand the broad contours, which have been often invoked to draw powers and authority to respond to the amoebic impact of the pandemic.

Several countries in South Asia have adopted and invoked legislation to put in place certain dramatic and significant measures to provide for an economic safety net along with social security measures with a constant check on public health. Curfews, restriction on foreign travel, disbursements of direct cash, short and medium-term loans and deferment of payments, insurance etc. were some of the measures that were adopted by the South Asian countries. Comparative constitutionalists have categorised the legal bases for the use of such extraordinary powers by governments to respond to the pandemic on (1) the declaration of emergency under the constitution, (2) the use of existing legislation dealing with public health or national disasters known as the 'legislative model' and (3) the passing of new emergency legislation (Versteeg, 2020).

This study covers the legal basis for such packages along with the main legal frameworks introduced, if any, in response to the COVID-19 crisis. The study limits itself to the South Asian countries of India, Bangladesh, Nepal, and Myanmar.

Legal framework for Pandemic response

- Infectious Diseases (Prevention, Control, and Eradication) Act 2018
- Mobile Courts Act 2009
- Disaster Management Act, 2012

South Asian Legal Framework

1. Bangladesh

Countries around the globe have adopted aggressive non-therapeutic measures to combat the spread of COVID-19, however, there is an ongoing debate as to whether the measures adopted and implemented by Bangladesh as a response to COVID-19 were adequate and efficient enough.

Initially, instead of a lockdown, a country-wide 'general holiday' was imposed for two weeks citing the Rules of Business 1996, which led to confusion among citizens. In just two days, a significant number of people left Dhaka out of either fear or in holiday mode, raising the risks of transmission and infection. However, during the lockdown, ready-made garments industry owners announced an imminent reopening of factories, leading thousands of workers to rush back on foot to Dhaka.

Relying heavily on the legislative model, Bangladesh has primarily invoked the Infectious Diseases (Prevention, Control, and Eradication) Act 2018 to initiate response to the pandemic. Vide the powers given through this legislation, COVID-19 was notified as infectious disease and the government could enforce 'isolation' of any 'infected' person (Section 14) along with the enactment of 'rules' to deal with a situation of a health emergency (Sections 32 & 11(3)); to control any infectious disease or outbreak. Subsequently, through a Statutory Order under Section 11(1) of the Act, the whole country was announced as exposed to COVID-19 risk. Several instructions on curfew, social distancing and masks were made. Non-compliance with the instructions is a punishable offence which may entail up to 3 month's imprisonment or 50,000 Taka fine (Section 25).

However, to enforce the social distancing and stay-at-home instructions, the government amended the Mobile Courts Act 2009 to empower executive magistrates to hold summary trial of offences under the 2018 Act. Executive magistrates also enforce some provisions of the Penal Code 1860 that criminalises an act likely to spread any infectious disease (Sections 269-270) and disobedience to quarantine rule (Section 271). The pandemic was also read within the definition of "disaster" under Disaster Management Act, 2012 and as a result, the Armed Forces have also

been deployed around the country to act in aid of the civil administration to deal with the current disaster situation.

Initial response to the pandemic in Bangladesh has been described as chaotic and uncoordinated, to an extent that various scholars have opined that route of declaring 'internal emergency' under the Constitution of the People's Republic of Bangladesh should have resorted so as to have better coordinated directions and orders to control the spread of COVID-19.

2. India

Similar to the other South Asian nations, India also invoked its existing legislation as a response to the pandemic. Disaster Management Act 2005 (hereinafter referred to as DMA) was majorly relied upon and COVID-19 was classified as a 'disaster' under the Act. However, the DMA does not explicitly mention epidemic or public health emergencies. Pursuant to the DMA, disaster response force is constituted, disaster management plans were prepared or updated at State and each district level. The DMA establishes a multi-tier system, with governments and authorities constituted under or brought within the purview of the DMA, operating at the national, state, district, and local levels. However, DMA does not provide the decentralisation response rather it dictates more of a top-bottom response. With the amoebic nature of the pandemic, the impact on different cities is different and DMA was not articulated to do this level of micro-level management. Thereafter, the Ministry of Home Affairs subsumed the role of issuing the relevant orders, notifications and SOPs for lockdown, curfew, essential services, restriction on movement of public transport, institutional quarantine *et al* and all the relevant authorities were bestowed with the responsibility to implement it.

Legal framework for Pandemic response

- Disaster Management Act, 2005
- Epidemic Diseases Act, 1897

To supplement the directions being issued under the DMA, The Epidemic Act 1897 was also invoked to prevent the spread of Dangerous Epidemic Diseases throughout the territory of India. Section 2 of the Epidemic Act, empowers the States to take special measures or promulgate regulations to deal with epidemics within their jurisdictions. Further Section 3 stipulates that any person who disobeys any regulation or order made under the 1897 Act may be charged with an offence of Section 188: Disobedience to order duly promulgated by a public servant, under the Indian Penal Code.

Further, an ordinance was promulgated under the Epidemic Act to afford protection to the health care workers against unwarranted acts of violence and harassment, as they were perceived as carriers of the virus by some. This in turn perpetuated their stigmatisation and ostracisation. This ordinance ensures that there is zero tolerance to any form of violence against healthcare service personnel and damage to property and categorises such acts of violence as cognisable, non-bailable offences (Bureau, 2020).

Pursuant to the provisions of the Epidemic Act, various State Governments such as The Delhi Epidemic Diseases COVID-19 Regulations, 2020; The Maharashtra Epidemic Diseases COVID-19 Regulations, 2020; Punjab Epidemic Diseases COVID-19 Regulations, 2020; The Himachal Pradesh Epidemic Disease (COVID-19) Regulations, 2020; The Odisha COVID-19 Regulations 2020 have promulgated respective COVID-19 Regulations.

The Epidemic Act 1897 is archaic legislation and by invoking its powers were delegated to the States to come up with their respective regulations. There is an urgent need to revisit this legislation.

To ensure the availability of masks and sanitiser of the right quality and at the right prices, a set of orders under the Essential Commodities Act 1955 were issued declaring them as essential commodities and thereby fixing their prices.

The fundamental right to health, along with the right to water and right sanitation is guaranteed but it is tough to imagine that they are being realised by individuals in the country especially by the homeless or those staying in informal settlements.

Sudden lockdown insinuated due to the outbreak of COVID-19 had a major impact on employment and livelihood. India witnessed a plethora of socio-economic issues such as the mass exodus of the migrant labour; lack of access to basic civic services such as sanitation, hand hygiene facilities and even constraint with respect to space; insufficiency of delivery of ration; default in rental payments; rise in instances of domestic violence; stigma attached with

the COVID-19 patients to name a few.

All these socio-economic issues were dealt with promulgating directions and then improvising on them by the concerned Government from time to time or by orders of the Supreme Court, which does not fill in for lack of legislation to deal with public health emergencies. The absence of mention of an epidemic or public health emergency in DMA and its lack of foresight to deal with amoebic public health emergencies like COVID-19 were evident.

The absence of Public health emergency legislation in India coupled with a lack of coordination and communication failures has resulted in extreme containment measures and causing avoidable hardships to the most vulnerable in the society.

2.1 Livelihood and Social Protection

India witnessed a mass exodus of migrant workers due to uncertainties experienced because of a sudden lockdown. There was the loss of employment leading to financial crises which in turn led to lack of food grains for the workers; inability to pay rents or even repay loans; lakhs of migrant workers walking their way back to their home town due to restriction on public transport. Based on the media reports, the Supreme Court of India passed directions to the respective Central and State governments to arrange for public transport for the return of migrant workers and maintain the information of migrant labourers who have returned home at the village, block and district levels. They also directed the (originating) States to provide food and water, in the case of travel by road or railways (Re: Problems And Miseries Of Migrant Labourers, 2020).

The Allahabad High Court directed the State of Uttar Pradesh to provide for humane conditions at quarantine centers and for providing better treatment to Corona positive. It further directed the State to appoint officers to look after the migrant workers in groups of 400 and enquire about their well-being through mobile numbers and also make arrangements for food to them, if need be.

Migrant crises witnessed during the initial phase of the pandemic led Meghalaya to enact the Migrant Workers Act, 2020. It was enacted to provide for the maintenance of public order and the protection and safety of Migrant Workers by identification and mandatory registration of all such workers in the State and also to prevent the commission of offences of harassment, intimidation, discrimination against them.

Kerala has strong decentralised governance, wherein the local government is engaged at the grass-root level for tracing and testing. Based on the inputs from the field by the local government, policies are framed. There was close coordination among the local government and civil society groups such as *Kudumbashree, who managed the community kitchens effectively during the pandemic.*

2.2 Public health and clinical care

Understanding the importance of testing and the need to ramp up the testing in the country, Supreme Court had ordered a uniform upper limit for the testing rates for the entire country, however, various State governments such as Delhi, Uttar Pradesh, Haryana, Maharashtra had reduced the testing rates by issuing respective directions.

Taking cognisance of the media reports regarding treatment meted out to COVID-19 patients and dead bodies in the government hospitals across the country, the Supreme Court of India demanded a status report from the States- Delhi, Maharashtra, Tamil Nadu and West Bengal and also laid extensive directions on dignified disposal of the dead bodies of COVID-19 patients (In Re: The Proper Treatment of COVID-19 Patients and Ors., 2020).

Supreme Court ordered free COVID-19 testing would be available only for persons belonging to economically weaker sections of society (EWS) and those covered under the Ayushman Bharat scheme and others would have to pay the standardised rates as notified by the respective State governments (Shashank Deo v. UOI, 2020).

Pulling up the government for the inhumane practice of spraying disinfectant o returning migrants, the Supreme Court mandated the Central Government to issue necessary directions in the exercise of powers vested in it under the Disaster Management Act, 2005, regarding ban/Regulation on the usage of disinfection tunnels involving spraying or fumigation of chemical/ organic disinfectants for the human beings or there shall be similar consideration and directions (Gurusimran Singh Narula v. UOI & Ors, 2020).

2.3 Public Space Planning

To avoid overcrowding in prisons in the wake of COVID-19 pandemic, the Supreme Court on Monday

directed all states and Union Territories to set up high-level committees to determine the class of prisoners who could be released on parole for four to six weeks (Re: Contagion of COVID-19 virus in Prisons, 2020). Similar directions were issued by another bench to reduce the congestion in child care institutions and juvenile homes (Re: Contagion of COVID-19 virus in Child protection Homes , 2020).

To curtail the stigma experienced by the COVID-19 patients in the country, the Supreme Court sort the States to issue necessary directions under the Disaster Management Act, prohibiting the pasting of stickers or posters outside the homes of COVID-19 positive patients (Kush Kalra v UOI, 2020).

3. Myanmar

In Myanmar, neither a nationwide lockdown nor an emergency law was imposed. However, curfews were introduced in several regions and townships during the month of April and May. State and local authorities established several community quarantines and a ban on gatherings of over five persons and a mandatory 28-day quarantine for foreign arrivals was announced, thereby especially affecting migrant workers returning from other Southeast Asian countries such as Thailand.

Legal framework for Pandemic response

- Prevention and Control of Communicable Diseases Law
- National Disaster Management Law

The main legal bases for the curfew orders and the restrictions of rights during the pandemic are Section 14 of the Prevention and Control of Communicable Diseases Law and Section 144 and 188 of the Criminal Procedure Code. The latter provision had originally been constructed as a temporary judicial power, but is now used by the executive and the security forces. National Disaster Management Law 2013 was also invoked for effective implementation of the curfew order and restrictions during the pandemic.

Post the declaration of COVID-19 as a pandemic, Myanmar's Presidential Office announced the establishment of two different committees; 1st known as National Central for Prevention, Control, and Treatment of 2019 led by State Counsellor Aung San Suu Kyi and 2nd known as the Coronavirus Disease 2019 Containment and Emergency Responsive Committee is a civil-military task force that includes key military generals; for the prevention of the spread of the virus. Warning the risk of abuse of power by the military, the UN Special Rapporteur has criticised the increased role of the military during the pandemic (United Nations Human Rights Office of the High Commissioner, 2020).

Myanmar faces a unique position wherein COVID-19 pandemic also constitutes a serious threat to the estimated 350,000 internally displaced persons (IDPs) in camps across Myanmar. There is a lack of testing, lack of access to health services in the settlements, and lack of reporting to health authorities by IDPs, fearing they might be separated from their families and put under restrictions of movement. Even access to these camps is restricted due to military rule leading to a shortage of humanitarian aid and health services for IDPs.

4. Nepal

The Constitution of Nepal, 2015 established the federal structure of governance in Nepal with a three-tier government – federal, provisional and local laying down their individual as well as concurrent powers/ competencies with a strong federal structure. There is no explicit mention of the management of pandemics in the distribution of powers amongst the three levels of government. However, under item 12, Schedule 5, the control of communicable disease falls within the exclusive domain of the federal government and an emergency can be declared throughout the country or any part of the country on the ground of epidemic outbreak but this has not been invoked during the pandemic, till now. Further, 'Disaster Management' as a subject is finds explicit mention as a power within the domain of all the three tiers of the government.

Legal framework for Pandemic response

- Disaster Risk Reduction and Management Act 2017
- Infectious Disease Act 1963
- Local Administration Act 1971

Guided by the 2015 Constitution, the Disaster Risk Reduction and Management Act 2017 was enacted by the Government of Nepal elaborating upon the role of three tiers of government for both Disaster Risk

Reduction and Disaster Management. However, this legislation was not invoked to respond to a pandemic, rather the archaic legislation, Infectious Disease Act 1963 was used to draw powers by the federal and the provincial governments. Reliance was also placed on the Local Administration Act 1971 to mobilise chief district officers to implement the orders related to prevention and control of COVID-19 by the Federal Government.

Owing to the magnitude of the pandemic, the Federal Government primarily led and controlled the response to COVID-19. The federally led pandemic response by imposing national lockdowns, sealing the open borders with India, suspending international flights, setting up quarantine and isolation facilities along testing labs were relatively successful to withhold the spread of infection. By invoking the Infectious Disease Act 1963 and the Local Administration Act

VIETNAM'S MEASURES TO CURTAIL FAKE NEWS ON COVID-19:

Vietnam: Stringent legal action was introduced for persons involved in the spread of misinformation or rumor-mongering can be attributed to one of the reasons behind the success of Vietnam in curtailing the spread of COVID-19. In February, 2020 via decree 5/2020/ND-CP, heavy fines were introduced to the tune of 10 million and 20 million dongs (between $426 and $852) by the Vietnamese Government for those who share false, distorted or defamatory information on social networks in the country.

TAIWAN CASE STUDY:

Taiwan: Learning from the experience of SARS in 2003, when the epidemics devastated Taiwan for the lack of a combat commanding center for direct liaison between the central and the local governments, the overall risk-management of the government in disease control was jeopardised. Taiwan amended its Communicable Disease Control Act (CDC Act) in 2004 and further amended it in 2019 to be well prepared to control the spread of this pandemic. At the inception of the pandemic itself, Taiwan chose to use guidelines and recommendations on an ad hoc basis, while resorting to laws and regulations for logistical and financial preparations to combat the spread of the pandemic.

The CDC Act provided for a broad overarching legal framework for the government to undertake various measures deemed necessary to prevent and contain the spread of an infectious disease. This was supplemented by invoking the Disaster Prevention and Protection Act (DPP Act) further provides regulatory documents for preparedness and response. The CDC Act provides a broad delegation enabling the government to undertake a range of actions swiftly through a range of legal tools. The use of a combination of legal tools has enabled the government to adjust its public health measures as the epidemiology landscape evolves. At the same, Taiwan's COVID-19 response also created room for civil society engagement.

Special Act for prevention, relief and revitalisation measures for severe pneumonia with Novel pathogens (also known as COVID-19 Special Act) was also enacted to effectively prevent and control severe pneumonia with novel pathogens. It primarily authorises government expenditure on relief, compensation, and economic stimulus in fighting the current COVID-19 pandemic.

Apprehending a shortage of face masks, early on, Article 54 of the CDC Act was invoked to regulate and procure all surgical masks produced domestically. Further, the key local mask manufactures were directed to increase supplies progressively with adequate compensation provided through the COVID-19 Special Act for all the requisitioned factories, services and personnel.

Taiwan's mixed approach of the legislative model as well as promulgating new legislation has demonstrated that proactive prevention within the legislative framework of the country can be successful in combating the spread of COVID-19.

ANNEXURE 6: THEMATIC LITERATURE REVIEW – PUBLIC HEALTH INCLUDING CLINICAL CARE

6.1 Health emergencies (Pandemics /Epidemics) and its impact on public health responses

Globally, there have been many significant health emergencies (pandemics/epidemics) recorded in human history due to widespread human-to-human infection. Significant disease outbreaks and pandemics recorded in history, including plague also known as black death (1347-1353, Europe), Spanish flu (1918-1919, global), Asian flu (1957-61, global), Cholera (1961 ongoing, global) ,Hong Kong flu (1968-1969, global), HIV AIDS (1980 ongoing, global), Severe Acute Respiratory Syndrome (SARS) (2002-2003, global), Swine flu (2009, global) and tuberculosis have purported enormous negative impacts on health, economy, society and security of national and global communities. In the 20th century, three influenza pandemics namely 'Spanish flu', 'Asian flu', and 'Hong Kong flu' immensely harmed human life and economic development and recorded as the most devastating in the world history (Qiu, Rutherford, Mao, & Chu, 2017). Even in this modern era, outbreaks are nearly constant, though not every outbreak reaches pandemic level as COVID-19 has.

In the subsequent paras, health emergencies like Cholera, Plague, Small Pox, Malaria and Influenza have been mapped reflecting upon their origin, geographical spread, impact and public health mitigation responses.

6.1.1 Cholera

During the 19th century, Cholera spread across the world from its original reservoir in India's Ganges delta. Six subsequent pandemics killed millions of people across all continents. The current (seventh) pandemic started in South Asia in 1961, and reached Africa in 1971 and the Americas in 1991 (WHO, 2021). Cholera is now endemic in many countries (WHO, 2021), with an estimated 2.86 million cholera cases annually in endemic countries. Countries with estimates of more than 100,000 cases annually include: India, Ethiopia, Nigeria, Haiti, the Democratic Republic of the Congo, Tanzania, Kenya, and Bangladesh and the average incidence rate in endemic countries is 2.30 cases/1,000 population at risk per year. (Ali, Nelson, Lopez, & Sack, 2015).

A multifaceted approach for prevention and control of Cholera broadly included adoption of surveillance, water, sanitation and hygiene, social mobilisation, treatment, and oral cholera vaccination The strategy for early detection and quick response to contain outbreaks focused on containing outbreaks through early detection and rapid multisectoral response including community engagement, strengthening surveillance and laboratory capacity, health systems and supply readiness, and establishing rapid response teams. Alongside, a multi-sectoral approach was followed by countries and partners to prevent cholera recurrence by focusing on cholera 'hotspots' through improved WASH and Oral Cholera Vaccine(OCV) (WHO, 2021).

In October 2017, Global Task Force on Cholera Control (GTFCC) partners launched a strategy for cholera control 'Ending Cholera: A global roadmap to 2030 to reduce cholera deaths by 90 percent and to eliminate cholera in as many as 20 countries by 2030'. The GTFCC provides a robust framework to support countries to intensify efforts to control cholera, building upon country-led cross-sectoral cholera control programmes and supporting them with human, technical, and financial resources (WHO, 2021).

6.1.2 Plague

Plague is an ancient disease caused by the bacteria Yersinia pestis found in small mammals and their fleas. It is transmitted through the bite of infected vector fleas, unprotected contact with infectious bodily fluids or contaminated materials, and the inhalation of respiratory droplets/small particles from a patient. There are two primary forms of plague infection: Bubonic plague is the most common; and pneumonic plague, or lung-based plague, is the most virulent form of plague.

Its occurrence was described during Classical times as occurring in North Africa and the Middle East. Historically, plague was responsible for widespread pandemics with high mortality. It was known as the "Black Death" during the fourteenth century, causing more than 50 million deaths in Europe. The Great Plague of London of 1664–66 caused between 75,000 and 100,000 deaths, Cologne and on the Rhine from 1666 to 1670 and in the Netherlands from 1667 to 1669. During the 18th and early part of the 19th century, plague continued to prevail in Turkey, North Africa, Egypt, Syria, and Greece. And during the 19th century

it afflicted more than one district of India: in 1815 Gujarat, in 1815 Sind, in 1823 the Himalayan foothills, and in 1836 Rajasthan. These outbreaks merely set the stage for the third great plague pandemic. The port cities Guangzhou (Canton) and Hong Kong became plague-distribution centres, and between 1894 and 1922 the disease spread throughout the whole world, resulting in more than 10 million deaths. Among the many points infected were Bombay in 1896. From 2010 to 2015 just 3,248 cases of plague, with 584 deaths, were documented worldwide (Britannica, 2021).

To effectively and efficiently manage plague outbreaks it became crucial to have an informed and vigilant health care work force (and community) to quickly diagnose and manage patients with infection, to identify risk factors, to conduct ongoing surveillance, to control vectors and hosts, to confirm the diagnosis with laboratory tests, and to communicate findings with appropriate authorities. This also included safe burial practices, including covering of face/chest area of suspected pneumonic plague deaths with a disinfectant-soaked cloth or absorbent material. Surveillance and control required investigating animal and flea species implicated in the plague cycle in the region and developing environmental management programmes with a rapid response during animal outbreaks have successfully reduced numbers of human plague outbreaks. Nowadays, plague is easily treated with antibiotics and the use of standard precautions to prevent acquiring the infection. WHO aims to prevent plague outbreaks by maintaining surveillance and supporting at-risk countries. In that endeavour, it has developed specific guidelines for the Indian sub-continent, South-America and Sub-Saharan Africa. It works with ministries of health to support countries facing outbreaks for field control activities (WHO,2017).

6.1.3 Small Pox

Smallpox was a devastating disease dating back to the Egyptian Empire around the 3rd century BCE (Before Common Era) based on a smallpox-like rash found on three mummies. The earliest written description of disease appeared in China in the 4th century CE (Common Era), in India in the 7th century and Asia Minor in the 10th century. The global spread of smallpox can be traced to the growth and spread of civilisations, exploration, and expanding trade routes over the centuries (CDC,2021). On average, 3 out of every ten people who got it died. Those who survived were usually left with scars, which were sometimes severe.

One of the first methods for controlling the spread of smallpox was variolation, followed by vaccination. In 1959, the WHO initiated a plan to rid the world of smallpox. Despite their best efforts, smallpox was still widespread in 1966s in multiple countries across South America, Africa, and Asia. The Intensified Eradication Programme began in 1967 focussed on producing more and higher quality freeze-dried vaccine from the laboratories of endemic countries. A number of other factors including the development of the bifurcated needle, establishment of a surveillance system to detect and investigate cases, and mass vaccination campaigns played an important role in the success of the intensified efforts. The Programme made steady progress toward ridding the world of this disease, and by 1980, the 33rd World Health Assembly officially declared the world free of this disease (CDC,2021).

6.1.4 Malaria

Malaria caused by parasites is transmitted to humans through the bites of infected female Anopheles mosquitoes. Its probable arrival in Rome in the first century AD was a turning point in European history. The disease most likely travelled down the Nile to the Mediterranean, Greece, Italy, England and Denmark from the African rain forest. For the next 2,000 years, wherever Europe harbored crowded settlements and standing water, malaria flourished, rendering people seasonally ill, and chronically weak and apathetic (WHO,2021). In recent years, by virtue of climate, ecology, and poverty, the WHO African Region continues to carry a disproportionately high share of the global malaria burden. In 2019, the region was home to 94 percent of all malaria cases and deaths (Institute of Medicine (US) Committee on the Economics of Antimalarial Drugs, 2004).

WHO recommended protection for all people at risk of malaria with effective malaria vector control– insecticide-treated mosquito nets, indoor residual spraying, antimalarial medicine and seasonal malaria chemoprevention as a part malaria prevention strategy? Further, to prevent an erosion of the impact of core vector control tools WHO underscored the critical need for all countries with ongoing malaria transmission to develop and apply effective insecticide resistance management strategies. Additionally, effective surveillance at all points on the path to malaria elimination was integrated to enable a timely and effective malaria response in endemic

regions for prevention of outbreaks and resurgences. The WHO Global technical strategy for malaria 2016-2030 provides a technical framework for all malaria-endemic countries towards malaria control and elimination. Further, in May 2018, the WHO under Roll Back Malaria Partnership (RBM) Partnership called for an aggressive new approach 'High burden to high impact' which builds on the principle that no one should die from a disease that can be prevented and diagnosed, and that is entirely curable with available treatments. The approach is currently being driven by 11 countries that carry a high burden of the disease (Burkina Faso, Cameroon, Democratic Republic of the Congo, Ghana, India, Mali, Mozambique, Niger, Nigeria, Uganda and United Republic of Tanzania).

6.1.5 Influenzas

Influenzas are notable for its health and economic impact with occurrence in two epidemiological forms; epidemics and pandemics. Influenza pandemics are infrequent compared with seasonal influenza, but they are widely feared public health emergencies because they entail serious social disruption and substantial economic cost. They are often characterised by severe illness and high mortality, and cases typically affect not only high-risk groups but also others in the population, including young healthy adults, who are less vulnerable to seasonal influenza. In the 20th century, four major influenza pandemics occurred: Spanish influenza in 1918 (17–100 million deaths), Asian influenza in 1957 (1–4 million deaths), Hong Kong influenza in 1968 (1–4 million deaths) and Russian flu in 1977 (700,000 deaths). Even in this 21st century, the world has witnessed frequent outbreaks of infectious diseases like severe acute respiratory syndrome (SARS), avian influenza, Middle-East respiratory syndrome (MERS), and the recently emerged coronavirus disease 2019 (COVID-19). These emerging infectious diseases originate in urban settings, such as the emergence of COVID-19 in Wuhan, China, or rapidly propagate because of urbanisation once they are established, such as outbreaks of SARS in 2003 the Americas.

The SARS virus was transmitted from person to person by persons in close quarters, while H7N9 was often spread through contact with living poultry (Qiu, Rutherford, Mao, & Chu, 2017). Transmission experiences from other pandemics like influenza and COVID-19 are highly dependent on R –naught or R0 which describes the intensity of an infectious disease outbreak when an infectious person enters a fully susceptible public spaces.R0 estimates have varied across pandemics and disease outbreak, including the measles (R0: 12 to 18), 2003 SARS pandemic (R0-2.75), the 2009 H1N1 influenza pandemic (R0: 2-3) and the COVID-19 pandemic (R0: 2.2-2.7). Thus, in any pandemic outbreak transmission potential is likely to be high with higher value of R0.

Since the inception of influenza in 1948, the World Health Organisation (WHO) has acknowledged responsibilities for developing and updating strategies to contain and control both pandemic and seasonal influenza through global preparedness and national programmes. Although pandemics have been global, the WHO encouraged member nations to develop their own national influenza programmes based on whose guidance for pandemic preparedness and control of influenza includes a planning checklist covering essential and desirable pandemic elements preparedness. Most countries have made use of their national plans in their response to the influenza pandemics and have updated their plans focussed mainly on assessing the impact of pharmaceutical, medical and non-medical interventions.

6.2 Lessons from past health emergencies (pandemics/epidemics) in evolving public health (including clinical care) preparedness response

Historical accounts of influenza pandemics (Asian flu, Spanish Flu and Hong Kong Flu) purported that poverty, inequality, and social determinants of health create conditions for the transmission of infectious diseases, and existing health disparities or inequalities can further contribute to unequal burdens of morbidity and mortality (Kumar & Quinn, 2014). Owning to quick transmission, high rates of attack, and explosive spread of the communicable diseases, such pandemics have caused enormous economic damages and health hazards to the poor and vulnerable. It is empirically evidenced that pandemics are mostly severe or fatal diseases (e.g., the Black Death, HIV/AIDS, plague, cholera, Ebola and SARS) have elicited examples of safe public health practices including eradication strategies such as increasing awareness, protective cover, treatment, and perhaps most importantly vaccination. As illustrated from pandemic response to Ebola and SARS, several countries have developed national public health emergency preparedness and response plans, and national command and coordination structures. Additional public health response setting

up or adapting an Incident Management Structure and an Emergency Operations Centre to support emergency health operations, as well as validation of the national emergency response plan for emerging infectious diseases, through simulation exercises. In the subsequent a detailed description to public health responses to EBOLA and SARS have been illustrated.

6.2.1 Ebola

The devastating 2014–2016 Ebola epidemic in West Africa prompted changes in the way the world responds to outbreaks and other health emergencies. In Africa, the Ebola epidemic was a way forward in finding out that effective case management to maintain the trust to prevent outward mitigation. Positive feedback loops and successful treatment innovations was also required to build the trust in the treatment procedure (Roca, Afolabi, Saidu, & Kampmann, 2015). Maintaining population trust in the health system's capacity to safely meet essential needs and control infection risk in health facilities is key to ensuring appropriate care-seeking behavior and adherence to public health advice (WHO,2021.)

A *public health surveillance system* to be in place to immediately detect and report cases of illness compatible with Ebola virus disease, or any other unusual health event possibly associated with the virus. Upon detection of a possible Ebola virus disease event, a rapid response team (or equivalent) to investigate, and conduct initial controls, including systematic contact tracing. An alert system should be in place at the following sites: healthcare facilities, especially in major hospitals, major border crossings with already affected countries, including at land crossings, airports and seaports. All close contacts must be traced and monitored for 21 days following their last known exposure to the case, and be isolated if they become ill (WHO,2021). *Public health emergency plans and standard operational procedures* to be in place at designated points of entry, in accordance with international best practices, agreements and the International Health Regulations. This is to provide early detection of potentially infected persons; to assist in implementing WHO recommendations related to Ebola management; and prevent the international spread of the disease while allowing authorities to avoid unnecessary restrictions and delays at entry points (WHO,2021).

Engaging with the *socio-cultural dimensions* of epidemics stood critical to mounting an effective response. In the DRC, proactive community engagement was central to the response. Community feedback and information about the social science context was actively gathered and integrated since the beginning of the outbreak. Operational briefs were regularly produced to inform the response on the different local social and cultural contexts of outbreak-affected areas. These help shape communication with affected communities about Ebola, the vaccine, contact tracing, patient care and other response measures. During an Ebola epidemic, any *unprotected handling of the bodies* of infected patients who have died constitutes a biosafety hazard. The burial process been socio –culturally sensitive for the family needs to be done in safe and dignified manner (WHO,2021). Ebola experience states that Community engagement, social mobilisation, and communication are central to community leaders and peer educators in promoting and enforcing individual and household level strategies such as social distancing, supporting surveillance such as the detection and swift reporting of suspected individuals and pro-poor livelihood interventions. Community leaders and volunteers were trained to conduct door to door surveillance and enhance community prevention guidelines (WHO,2021).

6.2.2 Severe acute respiratory syndrome (SARS)

Severe acute respiratory syndrome (SARS) is the first severe and readily transmissible new disease to emerge in the 21st century. Initially recognised as a global threat in mid-March 2003, SARS was successfully contained in less than four months, largely because of an unprecedented level of international collaboration and cooperation. The international response to SARS was coordinated by the World Health Organisation (WHO) with the assistance of the *Global Outbreak Alert and Response Network (GOARN)* and its constituent partners made up of 115 national health services, academic institutions, technical institutions, and individuals. GOARN proved to be an effective global system of epidemic alert and response and established systematic mechanisms for gathering epidemic intelligence and verifying outbreaks. This network provided a framework to keep the global community alert to any threat of outbreaks and for the rapid identification, confirmation and response to outbreaks of international importance. The GOARN provided critical operational capacity for the initial response to SARS. The public health response to SARS benefitted through GOARN as it communicated new information to the authorities and public through the WHO website, satellite broadcasts and global broadband telecommunications to share information

and data in real time (Mackenzie, et al., 2004).

The management of the global SARS response involved intense daily coordination in the areas of *etiology and laboratory diagnosis, surveillance and epidemiology, clinical issues, animal sources, and field operations.* Responding to requests for assistance from several countries, WHO and its GOARN partners mobilised field teams to support outbreak response in China, Hong Kong, Singapore, Taiwan, and Vietnam. Throughout the outbreak, GOARN partners ensured support to health authorities until the chains of transmission were conclusively broken. GOARN proved pivotal in developing tools and standards for containment of the epidemic. The networks brought frontline workers and international experts together, and demonstrated the international collaboration and cooperation that was characteristic of the response to the SARS outbreak. A virtual network of clinicians was set up to exchange experiences and findings about SARS. The clinical network linked infection control issues closely with every aspect of case management, from clinical diagnosis and investigation to therapy. A virtual network of epidemiologists brought together public health institutions, ministries of health, and WHO Country Offices to analyse the spread of SARS and to define appropriate public health measures. The laboratory network was established to identify the etiologic agent of SARS and develop specific and robust laboratory diagnostic tests for the agent responsible (Mackenzie, et al., 2004).

CASE STUDY: THE SINGAPORE JOURNEY FROM SARS TO COVID-19

The 2003 severe acute respiratory syndrome (SARS) outbreak challenged the nation's public health system and coronavirus disease 2019 (COVID-19) pandemic too demonstrated a greater challenge. In 2003, SARS exposed the weaknesses of the epidemiological surveillance and health care system for emerging infectious diseases Singapore introduced several key measures to strengthen its pandemic management capabilities including the Disease Outbreak Response System Condition framework as the foundation for the national responses to any outbreak. Alongside, infrastructure for outbreak management was augmented, isolation facilities in public hospitals were increased and a National Centre for Infectious Diseases (NCID), a 330-bed purpose-built infectious disease management facility with integrated clinical, laboratory and epidemiological functions was set up in Singapore. National stockpiles of personal protective equipment (PPE), critical medications and vaccines for up to 6 months were established, training of health care workers, public engagement and education and consistent public communication was effected and an education campaign was mounted to educate Singaporeans on the disease and appropriate behaviour to prevent transmission.

To reduce the transmission of SARS-CoV-2, Singapore has adopted a strategy of active case detection and containment through Surveillance and containment, border control measures, community and social measures, management of COVID-19 in the National Centre for Infectious Diseases and managing sick health care workers. Additionally, a ministerial committee, first established during the SARS outbreak to provide guidance and decisions on strategies for containment of the outbreak, was convened in the COVID-19 pandemic as a multi-ministry taskforce co-chaired by the Minister for Health and the Minister for National Development to recommend and implement whole-of-government policies to deal with issues related to COVID-19. These strategies have been effective in delaying the peak in number of COVID-19 cases in Singapore and further avoided overwhelming the health care system.

Source: (Lin, Lee, & Lye, From SARS to COVID-19: the Singapore journey, 2020)

6.3 Issues and challenges faced during COVID-19

Regardless of where a pandemic starts, poor and vulnerable tend to bear the brunt, very critically in the Low- and middle-income countries (LMICs) due to weaker health systems and limited capacity to handle surges in case (Qiu, Rutherford, Mao, & Chu, 2017). Distributional inequalities are likely to play out within poor countries and in the poorer pockets of such geographies as poor are often the most vulnerable with fewer pandemic response resources—fewer health workers and health care services (Khilji, Rudge, Drake, & Chavez, 2013). In the sections below, issues and challenges faced.

6.3.1 Existing inequities in accessing Public Health including Clinical Care

Crises like Ebola (2014-15) and Zika (2015- 16) have further demonstrated that dramatic inequities and pockets of severe neglect in public health standards adversely impact poor. Such pandemic related burdens fall most acutely on the poor and adversely impact their life expectancy and other socio-economic-health parameters (Szyp, 2020). It is often the poor who have had to bear the weak public healthcare system's consequences, resulting in outrageously high healthcare cost burden. In contrast, the rich could access personalised healthcare experience at private hospitals while the poor and vulnerable population were left without many alternatives for addressing their healthcare needs. Moreover, those who managed to access healthcare found that the cost of treatment, the price of medicines and other indirect costs increased manifold during COVID-19. (Oxfam India, 2021). In India, despite the capping of prices for private hospitals across the country, treatment at a private hospital remained unaffordable for the poor and uninsured leading to catastrophic out-of-pocket expenditure and debts.

6.3.2 Inadequate investment in Public Health including Clinical care

The ongoing pandemic, COVID-19 experience has marked consequences of chronic neglect of the public healthcare systems, particularly for people living in poverty. Underfunded and weak public health systems demonstrated a weak capacity to effectively control the spread or provide appropriate and timely healthcare. India has the world's fourth-lowest health budget in (Oxfam India, 2021) terms of its share of government expenditure where people pay 58.7 per cent of their total health expenditure out of pocket and only 50 per cent of the population have access to even the most basic healthcare services (National Health Accounts Estimates for India, 2018). In 2020, India's public spending on health was just 1 percent of the GDP which is way below when compared with other countries. While India's per capita public expenditure on health has increased more than twice from Rs 621 per person in 2009-10 to Rs 1,657 in 2017-18, it still remains very low compared to other countries (ThePrint, 2019).

6.3.3 Lack of preparedness of the Public Health System

The consequence of under-investment is that existing public health systems in India deeply constrained their functioning. COVID-19 posed huge stress on the primary healthcare system, including the health system and the health care workers who had to work through due to the large population of COVID-19 infected. Many patients needed help to breathe, with outbreaks placing acute burdens on staffing levels, equipment availability, and crucial supplies such as medical oxygen, ventilators and personal protective equipment (PPE) (WHO, 2020).

India has a large network of primary health centres; however, they are often underfunded, ill-equipped and the staff is undertrained or even absent. Moreover, there is a large number of healthcare positions that lie vacant. Tertiary care in India is also often considered inadequate by WHO recommended standards and is in dire need of an upgrade. Various reports have put the available human resources for health at 8 to 11 human resources per 10,000 population as against the WHO prescribed figure of 25 to 26 per 10,000. Additionally, number of allopathic doctors, nurses, and midwives combined (11.9 per 10,000 people) was about half the WHO benchmark of 25.4 workers per 10,000 population (Rao, 2011). Moreover, these resources are unequally distributed across the country. In northern and central states, which happen to be the country's poorest regions, the number of health workers is even lower.

In Bangladesh, the short supply of trained public healthcare workers affected all key aspects of the response—from screening at points-of-entry (POEs) to testing, follow-up, treatment, and care. Public health workers continue to raise concerns over the lack of personal protective equipment (PPE). Moreover, local hospitals were afraid to take in new patients due to lack of awareness and inadequate testing and clinical treatment capacity (Asian Development Bank, 2020). Similarly, Myanmar reported just 0.71 ICU beds and 0.46 ventilators per 100,000 population as on March 2020, which were insufficient to deal with even a moderate outbreak (Deshpande, Hnin, & Traill, 2020).

6.3.4 Disruptions in the other Health care (Maternal and Child health care, NCD, Mental health and disability and others)

Globally, NCDs contribute to more than two-thirds of all deaths and the majority of all early deaths and disability — four-fifths of these deaths due to NCDs occur in low- and middle-income countries (Johns Hopkins). Very critically, shreds of evidence have reported high susceptibility to comorbidity in those COVID-19 infected persons suffering from chronic Non-Communicable diseases (NCD).

During COVID-19 routine health services like Maternal and Child health care, non-communicable diseases like cancer, heart disease, stroke and diabetes, mental health and disability were adversely impacted owing to outpatient departments being shut down, medical staff being diverted to COVID-19 response and travel restrictions within cities. Public screening programmes were postponed as the initial WHO recommendations involved minimisation of non-urgent facility-based care to take care of the pandemic. In most countries, about 94 percent responding to the pandemic, staff working in Non-Communicable Diseases were reassigned to COVID-19 facilities (WHO, 2020). In India, expectant mothers had to face challenges in accessing health care due to the closure of doctors clinics, outpatient departments (OPDs) of hospitals and Anganwadi centres (AWCs) (COUNTERVIEW. ORG, 2020) .Pregnant women belonging to poor families were often left unassisted as most public health care institutions were turned into COVID-19 testing facilities and hospitals (Garg, Basu, Rustagi, & Borle, 2020). It is predicted that family planning services' closure will result in 2.95 million unintended pregnancies, 844,483 live births, 1.80 million abortions (including 1.04 million unsafe abortions) and 2,165 maternal deaths. Several districts in Uttar Pradesh like Lucknow, Moradabad and Agra witnessed a drop in C-section deliveries by up to two-third (Ministry of Health and Family Welfare, GOI, 2021) . Moreover, 1 million fewer children were vaccinated in the month of April 2020 risking the next generation's health. Similarly, in Myanmar the pandemic disrupted the provision of other essential health services, including antiretroviral therapy for HIV, the expanded programme on immunisation, family planning, and maternal health services (Deshpande, Hnin, & Traill, 2020).

6.3.5 Stress on the Healthcare workers

The pandemic has thrown up unprecedented challenges with no clearly defined treatment protocols and uncertain outcomes. Frontline health workers had to put their lives at the risk of infection due to limited PPE due to the pandemic's rapid spread. The lack of PPE affected healthcare workers' morale (HCWs) and other frontline workers in fighting the coronavirus disease, as more than 22,000 health workers in 56 countries have suffered from COVID-19. Some of them have succumbed to it across all countries, including India (Sharma, Hasan, & Velayudhan, 2020) . In many countries, women account for up to 70 percent of the health workforce and have, therefore been disproportionality affected (UN, 2020). Additionally, frontline health workers in India experienced acute burden owing to additional COVID-19 duties such as door to door survey, testing, tracking and surveillance with no adequate compensation.

As the fight against COVID-19 becomes long-drawn, the healthcare workers in the frontline have become particularly vulnerable to mental stress. They have experienced stigmatisation, isolation and been socially ostracised. Additionally, the apprehensions like the risk of infection, insufficiency of protection and the long working hours have made them vulnerable leading to severe psychological distress.

6.3.6 Challenges in accessing information

As the world responds to the COVID-19 pandemic, there has been acute challenge faced with overabundance of information related to the virus in circulation. COVID-19 pandemic has caused significant challenges for health systems all over the globe and fuelled the surge of numerous rumours, hoaxes, and misinformation regarding the etiology, outcomes, prevention, and cure of the disease. Such spread of misinformation has masked healthy behaviors and promotes erroneous practices that increase the spread of the virus and ultimately result in poor physical and mental health outcomes. Further, inaccurate and dangerous messages proliferated wildly over social media often mislead, confused and ill-advised people. A part of India's migrant crises can be attributed to such inadequate and misinformation being passed on the migrant workers in the city.

6.4 Public health (including clinical care) responses to COVID-19

The ongoing COVID-19 pandemic is a public health emergency with grave implications for whole of the world. As part of the global community, India has also been adversely impacted by the ongoing health crisis with catastrophic impact on the poor and the vulnerable. The pandemic has exposed significant gaps in urban public health systems and thus underscored the need to focus on budgets, governance and data, improving the public health system.

6.4.1 Decentralised governance for greater resilience

The COVID-19 pandemic has served as a means for re-evaluating city authorities' engagement with the urban poor. Local self-governments have acted as the front line to serve the people and undertaken

several initiatives to prevent the spread and help patients. They have played a very important role in the protection initiatives by ensuring protection measures distribution, proper scientific management of transport system and disposal of waste, and examining the availability of protection measures and response teams. In public places, institutions and markets followed the government rule of taking a social distance from others and using sanitisers, the urban local body's responsibility to ensure they followed them.

In India, at the local level, the Kerala government institution efficiently managed the Quarantine centres, Community Kitchen for COVID-19 infected persons, and persons in isolation. Similarly, *Mohalla* or Community clinics in Delhi resonated local governance through the delivery of a comprehensive package of primary healthcare with the inclusion of preventive, promotive, community outreach, and other public health services during a pandemic. They continued the delivery of primary care and laboratory services during COVID-19. Amid this COVD-19 crisis, *Mohalla* Clinics have emerged as the units for accessible and affordable primary care to the under-served population to mainly address health care existing inequities (Lahariya, 2020).

6.4.2 Health care mitigation responses

The acute burden that COVID-19 placed on health systems, combined with the disruptive effects of shielding strategies, physical distancing and movement restrictions put forth negative health impacts of COVID-19 on individuals (WHO, 2020). This pushed countries to take difficult decisions to balance the demands of responding directly to COVID-19, while simultaneously engaging in strategic planning and coordinated action to maintain essential health service delivery, mitigating the risk of system collapse. Some of those included establishing effective patient flow (through screening, triage, and targeted referral of COVID-19 and non-COVID-19 cases) was made essential at all levels (WHO, 2020) and use of technology, such as telemedicine to monitor patients and remote consultations.

In Bangladesh, the government worked with private sector investors and manufacturers to augment hospital's capacity as well as manufacturing capacity for PPE, ventilators, and testing kits. Similarly Nepal, designated all the central hospitals, provincial hospitals, medical colleges, academic institutions and hub-hospitals have been designated to provide treatment care for COVID-19 cases. Likewise, Myanmar managed surge capacity by constructing makeshift hospitals, quarantine centres, and clinics; and procuring ventilators and securing funding for ICU units.

India initiated several public health measures including testing, tracing contacts and containing at a local level with the help of local leadership and volunteers; extensive surveillance for Influenza like Illnesses (ILI) through ASHA/ANMs/MPWs and Severe Acute Respiratory Illness (SARI) through clinical institutions; daily reporting to identify geographic and temporal clustering of cases to trace transmission hot spot; mobile and well-equipped rapid response team; increased intensive Care Units in hospitals for specialist care with mild cases managed at home and community places through appropriate quarantining; and appropriate PPE kits to ensure safety and morale of health workers. In India, the Joint Task Force of eminent public health experts was constituted by *Indian Public Health Association* (IPHA), and Indian association of preventive and social medicine (IAPSM) to prepare an action plan for the Government of India to deal with the COVID-19 pandemic ((Rai, Zodpey, Ghosh, & Kadri, 2020). Some of the detailed efforts undertaken by the City and State govt from India are explained in the paras below:

- **Bridging the inequities in the health care**

COVID-19 has infected over 10 million people in India and led to over 0.15 million people's unfortunate deaths. There have been some national and state level initiatives whereby access was provided for free testing and treatment for the poor under existing national and state policies. One such step initiated by National Health Authority (NHA) was to provide support to Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana beneficiaries (AB-PMJAY) (National Health Authority , 2020) beneficiaries since the outbreak of Coronavirus pandemic. In that endeavour, NHA empanelled laboratories approved by the Indian Council of Medical Research (ICMR) to further make it easy for AB-PMJAY to avail free testing for COVID-19. To provide the facility of free testing and treatment for PM-JAY beneficiaries even at private hospitals/labs, National Health Authority approved packages for COVID-19 testing used by many states in the country (National Health Authority , 2020). Similarly, Maharashtra government announced that all residents of the state would be provided free health

care treatment under its Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY) (Economic Times, 2020).

◆ Vulnerability Mapping

As a step towards mitigating COVID-19 impact, many states in India like Delhi, Karnataka and others have endeavoured to map the households vulnerable to COVID-19 so that they can be offered medical support and monitored through frontline workers. In case of Delhi, surveillance teams were constituted of Frontline workers, school teachers and volunteers to identify symptomatic people amid a spike in coronavirus cases in the national capital. The team was deployed for conducting door-to-door survey of all the households in the hotspot and vulnerable areas of Delhi with a mobile application 'SS Corona' which shared real-time details to a dedicated web portal set up by the government. (mint, 2020). Similarly, Karnataka undertook state wide survey using 'Aptha Mithra' app to map vulnerable population particularly with comorbidities and cases like Influenza Like Illness (ILI), and Severe Acute Respiratory Infection (SARI) (Deccan Herald, 2020).

◆ Mobile Health Services

With many private clinics closed in the city due to the spread of the COVID-19 infections, some of the Indian cities like Pune, Bhilai and Bangalore launched mobile health services in the slums and urban poor settlements. Pune Municipal Corporation (PMC) launched 15 ambulances/buses which were converted into mobile dispensaries, equipped with a crew of one doctor, one nurse, one attendant and a volunteer to push forth he idea of 'doctor at your doorstep' to serve the populations living in slums, temporary shelters, and old-age homes in the city (Hindustan Times, 2020). Similarly, Karnataka launched a mobile COVID-19 lab to be the first Indian Council of Medical Research (ICMR)-approved mobile Reverse Transcription–Polymerase Chain Reaction (RT-PCR) COVID-19 testing laboratory in India (The Indian Express, 2020)

◆ Augmentation of healthcare workforce and their capacity building

To bridge huge demand of health workers, Health and Family Welfare department, Government of India (GOI) issued notification for hiring qualified specialists, medical graduates, staff nurses and other paramedics, including the retired professionals at various Government hospitals on short term contract basis Similarly, Odisha Government engaged additional doctors and paramedical staff to deal with the impending crisis that cropped up due to sudden spike in COVID-19 cases (The New INDIAN EXPRESS, 2020). Additionally, Odisha roped in Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) doctors to strengthen the frontline medical teams in combating COVID-19 in their respective areas of the posting (The New INDIAN EXPRESS, 2020).

As health care professionals were not equipped to deal with virus and had nil experience to respond, several trainings and capacity building exercises were conducted on prevention and control of the pandemic. In Kerala, early release of technical guidelines on contact tracing, quarantine, isolation, hospitalisation, infection prevention and control, and extensive capacity-building for all cadres of health and other interlinked departments played a critical role in managing the situation. Similarly, In UP frontline health workers were provided training support on infectious disease control and modules of how to navigate sociocultural gatekeepers to enable behaviour change at the community level (Patnaik & Sharma, 2020).

◆ Sustained logistic support to public health systems

COVID-19 situation has heavily underscored the need to maintain sustained support for health supplies such as medical oxygen, ventilator, PPEs and WASH services/hand hygiene stations, as mitigating health strategy. Thus, in that light several committees and panels have been formed look into continual medical supplies. One such committee is the empowered committee led by National Institution for Transforming India (NITI AAYOG) Chief Executive Officer (CEO) which amplified the need for logistics supply chain for ventilators, PPEs, gloves, goggles and other equipments for frontline medical professionals (Times of India , 2020). Alongside the empowered committee, many states including Delhi, Kerala, Karnataka and others have set up to Committees to monitor medical supplies. In Delhi, a five-member Committee was constituted by the Delhi government to strengthen the healthcare infrastructure and look into overall preparedness of hospitals to battle COVID-19 (Economic Times, 2020). Similarly, in Kerala a high-level Committee led by the Chief Minister has been set up to monitor, coordinate and guide actions in the field and its various sub-committees are closely monitoring the various aspects of COVID-19 response. In Odisha, a multi-disciplinary technical committee was formed to monitor and provide technical

assistance to covid healthcare facilities round the clock. Technical groups comprising senior professors and doctors of the medical colleges were constituted to provide oversight to fix the infection trajectory trending upward and pin the fatalities further down (All India Radio News, 2020).

◆ Benchmarking of COVID-19 treatment norms

In order to benchmark the COVID-19 treatment costs, many Indian city and state government capped the rates charged by the private hospitals. For example, Delhi government issued an order capping prices for COVID-19 treatments in private hospitals 'with the proviso that all COVID-19 beds would be at rates given by the committee (formed under NITI Aayog member Dr VK Paul) subject to upper limit of 60 percent of the beds of total hospital bed capacity' (Firstpost, 2020). Similarly, Punjab govt came up with likewise notification on capping private hospitals' COVID-19 treatment charges in consequence to several complaints received against private hospitals charging exorbitantly for COVID-19 treatment (NATIONAL HERALD, 2020).

◆ Grievance Redressal systems

Grievance Redressal Committee for grievances of bills of private hospitals were also set up in several cities including Pune, Delhi and Bangalore. It has been evidenced that a system or a kind is put in place to address any complaints by patients, but in the wake of coronavirus need for a dedicated committee arose. In Pune, the district administration constituted a health committee to address complaints of refusal of admission in private hospitals, or disputes over hospital fees (Hindustan Times, 2020).

6.5 Safeguarding health risks of the Health workers

In India, the Govt launched the 'Pradhan Mantri Garib Kalyan Package Insurance Scheme for Health Workers Fighting COVID-19' in March 2020. This Central Scheme provided an insurance cover of Rs. 5 million to healthcare providers, including Safai Karmacharis, ward-boys, nurses, ASHA workers, paramedics, technicians, doctors and specialists and other health workers who may have to be in direct contact and care of COVID-19 patients and therefore at risk of being infected. It also includes accidental loss of life on account of contracting COVID-19. Till 15th September 2020, under the scheme, only 282 claimed have been received and out of which 61 claims has been processed (PIB, 2020). Similarly, Nepal announced insurance or compensation coverage of NPR 2.5 million to the health workers and security personnel involved in the prevention and treatment of COVID-19 (UNDP, 2020).

A structured and confidential mental health services for the frontline health workers existed in very few settings and only in developed countries. In the light of mental health of frontline health workers, NIMHANS and the Karnataka department of health and family welfare have brought in a framework for the mental wellbeing of the frontline workers during the COVID-19.The guidance calls for adherence to work place bonding, reducing isolation, discussing issues of distress, problem solving and enhancing social support. The protocol will be adhered across the government hospitals in the 30 districts of the State (PHARMABIZ.com, 2020).

6.6 Leveraging private sector and Civil Society Organisation participation

Globally, several initiatives have been undertaken by private and civil society organisations players to bring down the pressure on public health care systems.

Due to the exponential rise in India, government hospitals in areas with high case-load were soon overwhelmed, and private hospitals were asked to reserve beds for COVID-19 positive patients. Thus, to make COVID-19 diagnostic facilities and treatment affordable and accessible in all districts of India, private partners were roped in to enable testing at all government and private medical colleges in India. Additionally, in a bid to make COVID-19 services affordable, the government came out with orders to cap the rates of various health care charges. In Gurugram, a defunct hospital was converted into the COVID-19 hospital echoing a case PPP with a certain percentage of beds in the private hospitals reserved as COVID-19 Care beds. This is one such example of the private partnership wherein three private hospitals in the city—Medanta, Fortis and Artemis—collaborated to operate the Medeor Hospital in IMT Manesar as a designated COVID-19 hospital. The facility extended additional support to the other COVID-19 hospital in the city which is already under considerable strain after a surge in the number of cases in the city (Hindustan Times, 2020).

Civil society organisations in close working with community have demonstrated excellent examples of surveillance, detection and swift reporting of suspected cases. In India, community networks have helped ASHA workers in local planning /implementation / coordination mechanisms. In Dharavi, which is Asia's

biggest and densest slum in Mumbai saw members of the civil society getting involved with healthcare workers for contact-tracing the population of the slum and helped in the fast tracking of cases. From 491 positive cases in April to 1,216 cases with over 56 deaths in May and then reducing the numbers significantly with zero deaths in June was achieved through united efforts of CSOs and the government taskforce exhibited that it was possible (Outlook, 2020). Additionally, with support of Kudumbasree, a prominent CSO women's empowerment groups in Kerala marshalled to augment health capacity needs including mapping where older people live to ensure they had access to medicine and food while self-quarantining—an acceptable, workable, and scalable solution (Balsari, Sange, & Udwadia, 2020).

6.7 Risks Communication and Community Engagement

Ebola and other pandemic experience states that community mobilisation is a central strategy with community leaders and peer educators to promote and enforce strategies such as social distancing, surveillance, detection and swift reporting of suspected individuals. The most effective strategy for control of COVID-19 spread during all stages of transmission has been source containment through increase of public awareness and practice of preventive measures. An interdisciplinary team of public health specialists and grassroots political and social leaderships and volunteers have made concerted efforts in raising awareness about COVID-19 modes of transmission and methods of prevention in the community by adopting emergency risk communication methods broad-based community engagement strategies while acknowledging multi-cultural and multi-linguistic realities.

In India, Kerala health department worked in close coordination with ASHA, *Anganwadi* and Kudumbashree workers, junior health inspectors, junior public health nurses, ward members and residents associations and helped draw a contingency plan for dealing with cases of local transmission and community transmission (The New INDIAN EXPRESS, 2020). Additionally, special COVID-19 committees were created at the ward level which are primarily led by frontline health worker (ASHA) for performing activities crucial to the pandemic response–tracking and tracing people with travel history and COVID-19 symptoms, reporting them to public health centres, arranging for their testing and educating the public. This has enabled the state to develop a rapid 'trace-test-isolate-support' strategy for dealing with cases of local transmission and community transmission (BehanBox, 2020).

6.7.1 Awareness generation

In the strategic partnership with the Government of the United Kingdom, WHO has joined forces with its communications teams to raise awareness of misinformation around COVID-19 and encourage individuals to report false or misleading content online. This cooperation started with the joint '*Stop the Spread*' campaign in May-June 2020, which encouraged the use of trusted sources such as WHO and national health authorities for accurate COVID-19 information by proactively identifying and reporting potentially wrong or misleading information (WHO, 2020).

To address this issue of access to right information, several measures have been taken up by India and other South Asian countries. In India, Punjab govt launched one month long campaign under the 'Mission Fateh' to create mass awareness about COVID-19 in association with religious and social representatives and volunteers of various organisations and NGOs. Additionally, local outreach material, videos and pamphlets were developed to foster trust within these neighborhoods and encourage voluntary reporting of symptoms. Rumour/misinformation about the impact of COVID-19 instilling fear among people were quashed through video testimonials of quarantining patients and recovered patients were recorded and put on social media to allay fears around COVID-19 (Government of Punjab, 2020).

Additionally, Aarogya Setu App was launched and utilised to disseminate COVID-19 related information regarding to action and guidelines issued by the Government among public (myGOV, GOI, 2020). Citizens were advised and rendered help by volunteers and peers on downloading and use of the App. Further, toll free numbers and helplines were also set up for help related to COVID-19 in most of the cities including Delhi, Pune and others. Along with regular addressing of the public about the status of COVID-19 response in Kerala, reliance was also placed on use of robots to create awareness about hand hygiene and social distancing (Think Change India, 2020).

6.7.2 Use of technology for accessing data

Based on the geolocation data, many digital solutions have been innovated by the city and state

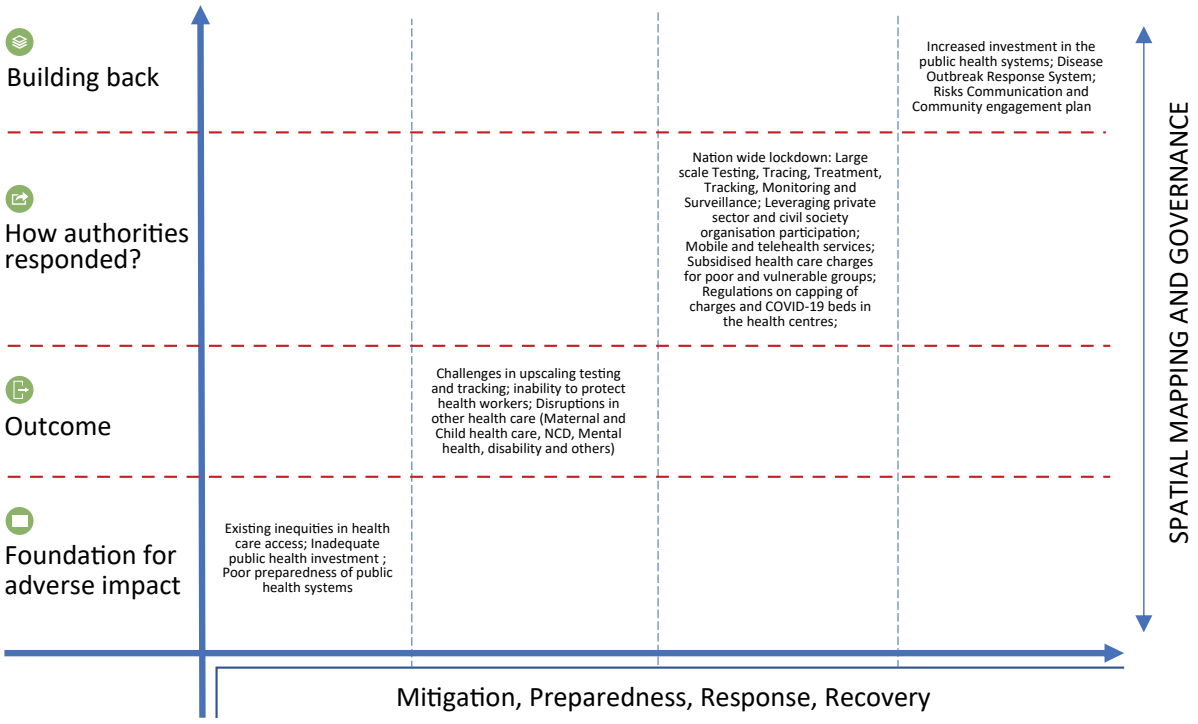
authorities to monitor and contain the spread of the COVID-19 and improve the effectiveness of the front line responses. Some solutions are fed by mobile call data records, i.e., data produced on telephone calls or other telecommunications transactions by telecommunication service providers, potentially can provide valuable insights into population movements. The resulting information and trends are invaluable for governments seeking to track the COVID-19 outbreak, warn vulnerable communities, and understand the impact of policies such as social distancing and confinement. For example, in Bhilai, Maps were utilised along with the data captured through Aarogya Setu to mark containment zones and create hotspots.

Aarogya Setu App was launched in India to do contact tracing or proximity tracing, syndromic mapping and self-assessment. The App use the geolocation based on the Bluetooth and warn persons of the potential exposure to the symptomatic COVID-19 persons. Its use has been mandated by various SOPs and directives launched by the government from time to time (myGOV, GOI, 2020). Owing to the shortage of manpower for strict enforcement of lockdown, Kerala launched 'Project Eagle Eye' to track people. It triggered the use of drones to create detailed movement profiles and ensure the abidance of lockdown norms (The HINDU, 2020). Similarly, Karnataka had employed its existing Karnataka -Geographic Information System (K-GIS) portal maintained for especially to do spatial mapping for gathering information on spread of COVID-19 infections and articulated its response in line with the information gathered therewith (Karnataka State Remote Sensing Applications Centre, 2020).

As the countries responds to coronavirus disease 2019 (COVID-19), the role of public health in ensuring the delivery of equitable health care in urban slums and informal settlements stands very pertinent. Thus, analysing the issues and concerns those emerged in India and South Asian, there is certainly a need to institute robust health care systems for greater resilience to combat health centric vulnerabilities emerging in such health emergencies. In the endeavour to build back better there are clear insights emerging from the reviewed literature on increasing the investments in the Public Health system, building Disease Outbreak Response System and formulating Risk Communication and Community Engagement Plan.

In that light, an assessment framework for public health including clinical care has been outlined pointing at the areas of adverse impact, outcomes, and responses by the city and state authorities and strategies for building back better. The below framework has also been used to outline the recommendations on Public Heath including Clinical Care included in the main report.

Figure 4: Assessment Framework for Public Health including Clinical Care



ANNEXURE 7: THEMATIC LITERATURE REVIEW – LIVELIHOODS AND SOCIAL PROTECTION

7.1 Livelihood and social protection in South Asia with a focus on India

South Asia is characterised by the predominance of the informal workforce. In Nepal, approximately 5.7 million or 80.8 per cent of workers are engaged in the informal sector (ILO 2020). The data from the Bangladesh Bureau of Statistics indicates that Bangladesh has more than 50 million workers in the informal sector. Nearly 60 per cent workforce is engaged in the informal sector (Ministry of Labour, Immigration and Population 2017). Labour force participation in Myanmar for women is 52 per cent compared to 80 per cent for men (ILO, Myanmar Decent work Country Programme 2018-2021 2018). Moreover, Myanmar does not have a minimum wage system (ILO 2020). According to the Labour Force Survey (LFS) 2016-17, 85.1 per cent workforce is engaged in the informal sector. It is likely that more females are involved in informal activities (91.8 per cent) relative to 82.1 per cent for males (ILO 2020). In India, more than 90 per cent of the labour force in India is informal. Moreover, 85 per cent of the non-agricultural workforce is informal (Mehrotra 2019). Additionally, women in India earn, on average, 35 per cent less than men, compared with the global average of 16 per cent less. In 2018, India ranked 108 in the global gender gap index. In 2020, India was positioned at 112 out of 153 countries (Ministry of Women and Child Development 2020). It is estimated that women in India also engage in 9.6 times more care work than men (ILO 2018).

Informal workers are employed through a wide range of employment arrangement ranging from permanent municipal staff with social protection to franchised engagement without pay and no benefits. Often these informally employed workers are engaged without any social protection. They remain invisible, unquantified, neglected and ostracised. They work in precarious working conditions. Yet, they rarely have insurance or access to health services.

7.2 Lessons from recent urban pandemics on livelihood loss

Women accounted for nearly 55 per cent the Ebola cases in Nigeria owing to increased exposure, both occupationally and domestically due to their care-giving roles. In Sierra Leone, school enrolment rates for teenage girls fell from 50 per cent to 34 per cent after the Ebola epidemic. Analysis of the impact of Ebola crisis on the microfinance sector in Sierra Leone reveals that many microfinance clients made delayed loan repayments.

7.3 Impact on livelihoods in India, Nepal, Bangladesh and Myanmar

The outbreak of COVID-19 has led to unprecedented economic and social disruption. In the first month of crisis earnings of 60 per cent, informal workers declined globally. It led to the decimation of jobs and placed millions of livelihoods at risk, particularly in the informal sector. According to ILO, in 2020, there was an unprecedented employment loss equivalent to 114 million job loss relative to the employment level in 2019. This largely translated into rising inactivity rather than unemployment Resulting in 33 million being unemployed and 81 million people additionally shifting to inactivity. The labour market disruption in 2020 was far more than that of the global financial crisis of 2009. Lower and middle-income countries experienced the greatest losses in working hours (ILO 2021).

It is estimated that COVID-19 will push up to 100 million additional people into extreme poverty in 2020 (World Bank 2020). In low and middle-income countries, there is a 15 per cent increase in the number of children living in deprivation in without access to education, health, nutrition, housing, water or sanitation (UNICEF 2020). Given the disruption in the education system due to COVID-19, UNESCO estimates that nearly 24 million students at pre-primary and university may not return to school in 2020. Almost half of these students are from South and West Asia and sub-Saharan Africa (UNESCO 2020).

As a result of the loss of income or lives, people have been led to reduced access to food, child labour, distress sale of assets, predatory loans, among others. The adverse effects of the pandemic and the stringent response measures adopted by countries have pushed vulnerable populations at the risk of falling into extreme poverty and malnutrition. According to the Global Huger index, 2021, India ranked 94 in a list of 107 countries in the Global Hunger Index, 2020. It

was ranked much below other South Asian countries like Nepal (73), Bangladesh (75), and Myanmar (78) (Global Hunger Index 2021).

According to the ILO, the economic and labour market shock due to COVID-19 will have an adverse impact on the 'world of work' globally in three ways: 1) The number of jobs (both unemployment and underemployment); 2) The quality of work (e.g. wages and access to social protection); and 3) Effects on specific groups who are more vulnerable to adverse labour market outcomes (ILO 2020).

In India, while the wages of the formal workers have been cut by 3.6 per cent, informal workers have experienced a much severe decline in wages of 22.6 per cent (ILO 2020). During the lockdown, while Indian billionaires became richer by 35 per cent, nearly eighty-four per cent households suffered a loss in income in April 2020 (OXFAM India 2021). Additionally, close to 167 people killed themselves due to starvation and financial distress from job loss and reduction in income between March to July 2020 (OXFAM India 2021).

Bangladesh's economy depends heavily on textiles and garments, which account for 80 per cent of exports, making it vulnerable to lockdowns. Brands and retailers cancelled or suspended more than UDS 3 billion of orders in April (Alam 2020). The disruption of global supply chains has hit Bangladesh's ready-made garment sector hard, with 1 million workers laid off (Anner 2020). Majority of this lay off was in the informal sector.

It is estimated that nearly 3.7 million workers in Nepal are working in the sectors deemed most at risk to experience a considerable decline in economic output after the outbreak of COVID-19 crisis. Nearly four in every five workers most vulnerable to disruption are in the construction, manufacturing and trade sectors. It is likely that between 1.6 to 2.0 million jobs will be disrupted in Nepal, leading to job loss or reduced working hours and wages (ILO 2020). Furthermore, in Nepal, remittances are a significant source of income. However, after the outbreak of COVID-19, nearly 3.5 million Nepalis working and living abroad faced disruptions (ILO 2020). The online survey conducted by Nepal Rastra Bank to examine the impact of COVID-19 on economic activities in Nepal during June reveals that, on average, 61 per cent of entities were not in operation. More than 90 per cent of hotel, restaurants, and educational institutions were closed. Some of the key difficulties faced by these firms included inability to meet operating expense, followed by a significant reduction in sales (Nepal Rastra Bank 2020).

Income losses in Myanmar has majorly been due to international shocks particularly losses in remittances, tourism, ready-made garments export industry and trade revenues as well as economic contractions in a wide range of sectors due to lockdowns and physical distancing measures. A sizable part of Myanmar's GDP also comes from agriculture sectors (IFPRI 2020) that have been struggling to stay afloat, and have emphasised the inadequacy of the government's efforts to support them.

The COVID-19 crisis has laid bare pre-existing gaps in social protection provisions. In many countries, the formal sector is well-placed in terms of social security protection for workers while the informal workers suffer. At the same time, the assistance function of social protection systems – providing last-resort minimum-income benefits for those with little or no other resources – is currently being put to a severe test. Accessibility and generosity of these programmes differ markedly across countries; even in normal times, many households in urgent need receive insufficient support. The abrupt and unprecedented income loss in the COVID-19 crisis has required countries to quickly design new programmes to patch these gaps. These programmes, while essential, can be poorly targeted, and may need to be reconsidered as broader fairness and fiscal considerations re-impose themselves. Post-crisis social protection systems should be reformed to close the gaps and support inclusive growth (OECD 2020).

7.4 Response of the World to ensure social protection in the wake of COVID-19

The government across the World implemented stimulus packages to protect their vulnerable population from the crisis. These include cash transfers, child allowances, shelter and food relief initiatives, support for employment retention and recovery, and financial relief for businesses, including micro, small and medium-size enterprises (WHO, 2020) Social protection responses have largely been combined with fiscal responses. Nearly 84 countries introduced or adapted social protection programmes in response to COVID-19 (Oxford Policy Management 2020).

Assuring access to quality health care without placing financial burden has been critical in safeguarding citizens from risks posed by the ongoing COVID-19 crisis. Many countries, such as China, Ghana, Japan, Mauritius, the Republic of Korea, the Philippines, Singapore and Vietnam, have directed additional fiscal resources into their health systems to improve the availability and accessibility of healthcare services for all (ILO, Social protection Spotlight 2020). Countries with existing social health insurance systems or national health systems were able to quickly respond to the crisis in an inclusive manner. Furthermore, some countries such as the United Kingdom and Ireland have extended sickness benefits to all including workers on digital platforms that were excluded before, in order to ensure adequate protection of workers in new forms of employment (ILO, Social protection Spotlight 2020).

Many countries have rolled out unprecedented stimulus packages to safeguard their societies and economies, keep cash flowing to workers, and support businesses. These measures include income support and wage subsidies for those in more formal jobs, tax credits for the self-employed, and financial support. Some countries with a large informal economy, such as Burkina Faso, Ecuador, Jamaica, Peru and Vietnam, are implementing a sectoral approach that focuses on workers in occupations significantly affected due to inability to cover the entire population (ILO 2020).

Although many governments have adopted emergency measures to temporarily extend social protection to uncovered groups, the capacity of these measures to achieve desired results in the long term depends greatly on the scope of its population coverage and the level and duration of the benefits paid. As the crisis recedes, it is essential to transform temporary emergency measures into sustainable mechanisms that will close social protection gaps and guarantee the effective protection of workers in all types of employment (ILO, Social protection Spotlight 2020).

The Government of Nepal has undertaken economic package equivalent to 5 per cent of GDP to combat the impact of the pandemic (World Bank 2020). In Bangladesh, since March, 2020, several stimulus measures were deployed by the Government to sustain economic activity and protect the most vulnerable. So far, stimulus packages equivalent to nearly 4.4 per cent of the country's GDP have been announced (Xinhua 2021). In Bangladesh, ready-made garments sector accounts for more than eighty per cent of exports (S, Rakib and Adnan 2016). Following the outbreak, export orders worth several billion USD were cancelled or postponed. In response, a package of about USD 600 million was announced to support the wages of workers in the ready-made garment sector, provided in the form of subsidised loans to companies so that they can pay wages for three months. (International Monetary Fund 2021). In Myanmar, the GDP growth fell 0.4 per cent year on year in the first quarter, 2.6 per cent year on year in the third quarter and an estimated 11 per cent in the fourth quarter. The impact on the economy was more intense in the second wave. To combat the economic impact, the Government of Myanmar announced the COVID-19 Economic Relief Plan (CERP) in April 2020. Under this, the government has allocated a budget of approximately 2.5 per cent to 3.2 per cent of its GDP. While CERP is currently addressing the short- term mitigation measures of COVID-19 impact on business and households, the upcoming Myanmar Economic Resilience and Relief Plan (MERRP) mapped out with a focus on macroeconomic, financial stability and sustainable growth in the longer run (World Bank 2020).

In India, the economic impact of COVID-19 due to the implementation of unprecedented lockdown led to a sharp contraction of GDP in the first Quarter in Financial Year (FY) 2020 (-23.9 per cent year-on-year). The contraction moderated to -7.5 per cent year-on-year in the third quarter (International Monetary Fund 2021). To combat the adverse economic impact, in May, 2020 the Government of India announced the Atmanirbhar Bharat Abhiyan. It was a special economic package of INR 20 lakh crore (equivalent to 10 per cent of India's GDP) to empower those adversely affected by COVID-19. The package provided collateral-free loans for MSMEs, including a corpus (of Rs 10,000 crore) for MSMEs. It announced for a special scheme to facilitate easy access to credit for street vendors. It provided for One Nation One Ration Card to cater to allow migrant workers to access the Public Distribution System (Ration) from any Fair Price Shop in India by March 2021.

7.5 Issues and challenges in India during COVID-19

Over two thirds (67 per cent) of urban workers were in non-agricultural informal employment prior to the pandemic (Ministry of Statistics and Programme

Implementation, Government of India 2019). According to the Periodic Labour Force Survey 2017-18, "[E]mployees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.)." (Ministry of Statistics and Programme Implementation, Government of India, 2019). Most slum dwellers belong to this category of workers in informal employment, leaving them particularly vulnerable in the face of the pandemic.

7.5.1 Decline in income

The informal sector, which accounts for four-fifths of employment in India suffered severe income losses (World Bank, 2020). Nearly 122 million lost their jobs. Of this, almost 75 per cent of the total job loss, that is 92 million jobs were lost in the informal sector. Around 46 per cent of the lower income group have resorted to borrowing money to run their household (OXFAM India 2021). Almost eight in ten households saw a decline in their income.

7.5.2 Increase in gender inequality in employment

Globally, the COVID-19 pandemic has resulted in more job losses for women than men. While 1918 pandemic's high mortality rate and supply shock saw a increase in woman labour force participation it is quite the opposite during COVID-19 pandemic. The impact of the pandemic on employment has been different in India. First, after the big contraction in employment in April, employment for both men and women has recovered steadily, but at a lower rate for women. Second, India has had a persistently large gender gap in labour force participation, going back several decades. According to the survey by Azim Premji University, work participation rate for women (WPR) fell from an already low 9.15 per cent in December 2019 to just 5.8 per cent in August 2020 (Azim Premji University 2020). In comparison, WPR for men declined from 67 per cent to 47 per cent during this period, indicating a higher relative fall for women workers.

7.5.3 Irregular Access to Food

Access to food was not fully assured as a result of the decline in incomes and loss of livelihood after the Pandemic COVID-19. It was further impaired by socio-economic inequities. The food supply chain (FSC) was stressed. There were widespread disruptions owing to restricted movements, the ban on transportation, and border sealing. FSCs were exempt from lockdown, but only 6 per cent of the total supply chain was organised. Moreover, private players who are averse to the risk of the virus largely control it; therefore, the role of PDS was critical in ensuring equitable access to food. The regional disparities in the availability of food grains and pulses were also responsible for skewed access to food

7.5.4 Exodus of migrant worker

The migrant crisis during the lockdown manifested in terms of millions of jobless migrants taking to the streets protesting against local authorities for lack of support and exasperatedly walking home carrying their toddlers and elderly was distressing. Migration has been maintained as a means for positive mobility in terms of economic opportunity (Tumbe, 2018) even if the rural-urban migration in India is often attributable to caste discrimination in rural areas (Asher, Novosad, and Rafkin, 2018). But the pandemic, with sudden spikes in reverse migration, has exposed the deep fault-lines in the fractured yet normalised seasonal migration that had been supporting the large informal and unorganised sector in urban areas. To make matters worse, no data or records ever reflected the magnitude of this problem prior to the estimates made during the pandemic. Migrant workers in host destinations, especially those relying on a daily wage faced heightened vulnerability not only because of a loss of income and lack of social security coverage but also because they could not initially access the food Public Distribution System being permanent residents of a different state. Many being renters could not afford to pay for housing once they lost their wages.

7.5.5 Eviction of street vendors

As per conservative estimates, 8 million workers are street vendors (Unni 2020). Other studies estimate that there are around 10 million street vendors in the country (Bhowmik 2005). Street vendors often work in non-designated vending zones under the constant fear of being harassed and evicted. In India, street vendors recently faced eviction in Jamshedpur, Bhubaneswar, and Guwahati after the outbreak of COVID-19 (GPlus, 2020; Orissa Post, 2020; The Avenue Mail, 2020).

7.6 Response to the pandemic and issues in the responses

To address the above-mentioned issues, the government undertook a series of measures, including the following initiatives:

- Expansion of the Public Distribution System (PDS) to mitigate the impacts of COVID-19, with beneficiaries of Antyodaya Anna Yojana—a programme providing highly subsidised food grains—receiving free food and additional food subsidies to mitigate food insecurity during the pandemic
- Temporary additional income support for elderly people, widows and divyang (people with disabilities) who are part of the National Social Assistance Programme
- Government payment of three months' worth of provident fund contributions for employees who earn less than INR15,000 per month and work in companies with less than 100 employees in which 90 per cent of employees' wages are below the INR15,000 threshold
- Financial support for 23 million construction workers from the Building and Construction Workers' Fund managed by state governments, with a one-time cash benefit ranging between INR1,000 and INR5,000
- Announcement expanding health insurance to frontline workers across various states
- Workers registered in the Employees' Provident Fund were allowed to access either 75 per cent of the balance in their social insurance account in advance, or three months' worth of salary (whichever is lower).
- Introduction of temporary ration cards for migrant urban poor
- Increased access to credit through Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) for street vendors.
- In Odisha, the government introduced the Urban Wage Employment Initiative (UWEI) which is a combination of wag guarantee and slum upgradation

7.7 Reforming social protection- ongoing discussion

Furthermore, the following debates are ongoing in India to address some of the critical issues that came up during the pandemic:

7.7.1 Aadhaar linked social protection might be exclusionary

Aadhaar, that is based on biometric identification of citizen in India was positioned by the government to reduce corruption and promote inclusion. It was envisioned to enhance the country's welfare efforts. Despite early warnings related to surveillance and privacy violation, successive governments have ramped up its use. From being a voluntary identification, it has become compulsory for most welfare programmes such as the National Rural Employment Guarantee Act (NREGA) and the Public Distribution System (PDS). While there is increasing reliance on Aadhaar linked Direct Benefit Transfers (DBTs), to promote inclusion, Aadhaar is becoming a tool of exclusion (Khera, Impact of Aadhaar in Welfare Programmes 2017). For instance, the Aadhaar-Based Biometric Authentication at Fair Price Shops often fails to read fingerprints of elderly and those engaged in manual work as evidenced in Karnataka, Gujarat and Rajasthan (Saini, et al. 2017). Furthermore, the government has admitted to high authentication failures and errors in Aadhaar seeding in the Supreme Court of India (Khera, Aadhaar Failures: A Tragedy of Errors 2019). Resultantly, beneficiaries continue to be excluded from such systems, thereby preventing it from working efficiently.

7.7.2 One nation one ration card

The implementation of the One nation one ration card (ONORC) has been fast-tracked after the outbreak of pandemic by the Government of India. Under ONORC, distribution of highly subsidised food grains is enabled through nation-wide portability of ration cards. Its operationalisation requires linking of Aadhaar number of beneficiaries with their ration cards (Ministry of Consumer Affairs, Government of India, 2020). It requires the beneficiary to physically purchase the ration from the fair price shop (FPS) through an IT-driven system (Murlidharan 2020). FPSs do not practice e-commerce. In order for ONORC system to work, operators at ration shops need to be familiar with digital solutions. Additionally, uninterrupted connectivity and electronic point-of-sale (ePOS) machines will be required.

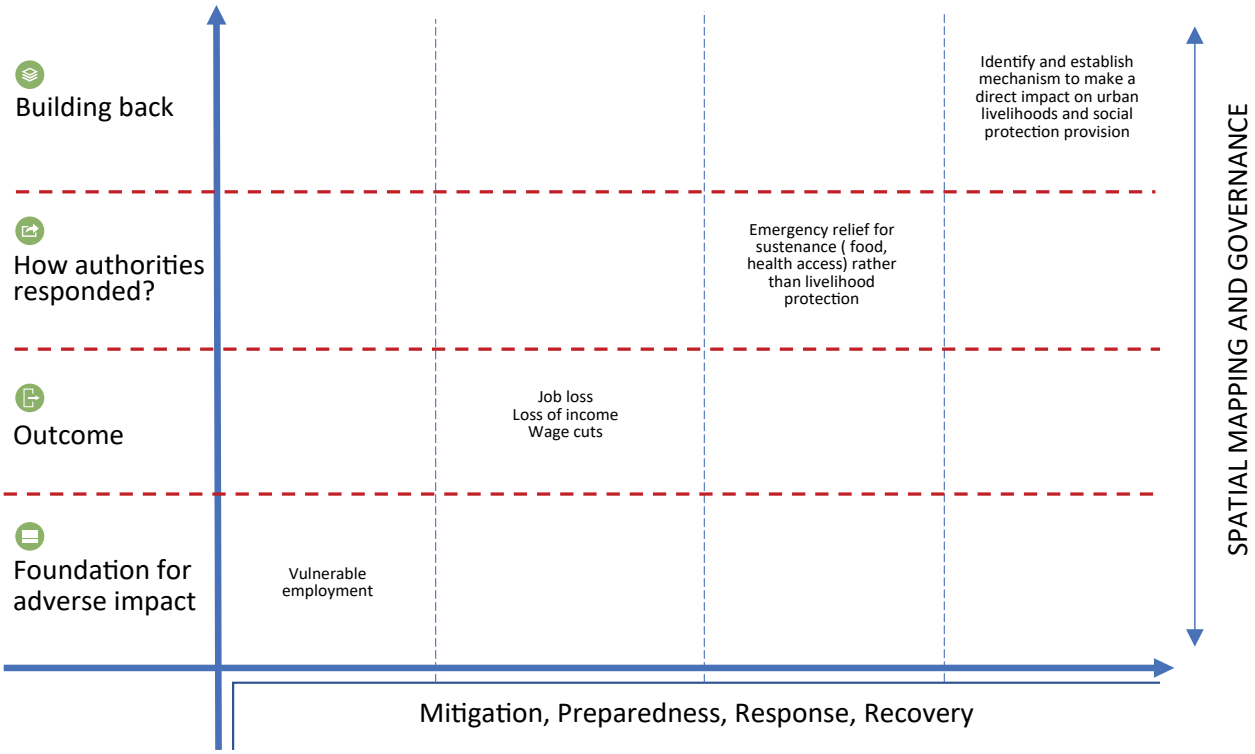
7.7.3 Portal for coordination of migrant workers

According to the Ministry of labour and employment, 2.6 million people are migrant workers in India (Ministry of Labour and Employment 2021). While

historical migration corridors are well known yet, there is no real-time data of migrants living and working conditions. This proved to be a critical gap for state and national governments for formulating responsive strategies for the welfare of migrant workers at both source and destination states. To address this gap, the Ministry of Tribal Affairs has launched a Shram Shakti portal. It is a National Tribal Migration Support Portal. This Portal will have data including demographic profile, livelihood options, skill mapping and migration pattern. It would effectively help in the smooth formulation of state and national level programmes for migrant workers. Along with the Portal, a tribal training module – ShramSaathi- was launched to make tribal migrant workers more aware about their rights and entitlements and ways to access services and social security in source and destination areas. In line with this, Goa is going to be the first destination state of India to set up a dedicated migration cell to address diverse issues of migrant workers.

To sum it up, COVID-19 led to economic shock and social disruption. It resulted in the loss of livelihood, decline in working hours and wage cut. The relief mechanisms offered by the government also faced challenges and issues in service delivery in providing income support through cash transfers, food provision, temporary shelters to migrants and so on. In this context, there is a need to understand the vulnerability of employment of the urban poor and establish mechanisms to make a direct impact on both livelihood and social protection. Based on the literature review, the assessment framework given below summarises the challenges and actions at the government level and has been

Figure 5: Assessment Framework for Livelihoods and Social Protection



ANNEXURE 8: SOUTH ASIAN PANDEMIC RESPONSES – KEY HIGHLIGHTS

8.1 Bangladesh

The population living in slums in Bangladesh constitutes 47 percent of the total urban population in 2018 (World Bank, 2018). The total urban population of Bangladesh is 37 percent (World Bank, 2019).

Bangladesh has a unitary form of government, with no state or province. There are 64 districts in the country. Each district is again divided into several Upazilas (sub-districts). The Upazilas are divided into unions, and each union is divided into 9 wards. There are 58 ministries and functional divisions (Health Service Division, MoHFW, 2020).

Committees formed for response and management of COVID-19 (Health Service Division, MoHFW, 2020):

i. High Level Multi-Sectoral Coordination Committee
ii. Sub-national Multi- Sectoral COVID-19 committees
iii. National Technical Advisory Committee
iv. National Public Health Coordination Group
v. Coordination Committee.
vi. Committee on COVID-19 Lab testing, quality, pricing and supervision at Government and private levels.
vii. Committee for clinical guideline and treatment management.
viii. Committee on strengthening healthcare capacity of public and private hospitals.
ix. Committee for infection prevention and control at hospital, laboratory, and environment.
x. Committee on mental health in COVID-19.
xi. Committee on information management, mass communication and community mobilisation.
xii. Committee for maternal and child healthcare.
xiii. Committee for essential and routine health services.
xiv. Committee for advising and applying zoning system in high risk areas for COVID-19 containment.

8.1.1 Public Spaces

The Government declared "lockdown" throughout the nation from 23 March to 30 May and prepared some necessary steps to spread awareness to keep this syndrome away from them (Paul, 2020).

The Government asked the local administration to conduct mobile court operations to impose punitive fines on people not following instructions on wearing masks in public. It has also instructed the Government departments to gear up awareness campaigns to wear masks to protect against the virus (DD News, 2020).

The Government decided to divide all the areas affected by deadly virus into three zones -- red, yellow and green -- based on the severity of infections and death rates. The "green zone" will be out of restrictions while the areas that have seen a low number of COVID-19 cases will be put in the "yellow zone" where movement of people, businesses and transport services will be allowed on "a limited scale." If the number of infections goes up in any area or ward or Upazila or district, it will be put in the "red zone." But it will be up to the experts to set the three zones' criteria (Bhattacharjee & Habib, 2020).

To prevent spreading the novel coronavirus in the country, the Government on local authorities to shift food markets to the nearest open grounds. As most of the food markets in Bangladesh are congested people cannot maintain social distance while moving through the markets, posing a risk of COVID-19 infection (TBS Report, 2020).

For many in Bangladesh, staying home wasn't an option. Children living on the streets have few safe places to go during the COVID-19 lockdowns (Chowdhury, 2020).

The tourism industry does not deal only with travel destinations, but it is connected with many other entities directly or indirectly. For example, the transportation systems airlines, bus companies, cruise ships, and accommodation facilities like hotel, motel, home stay, and other tourism service providers like travel agencies or tour operators are connected with this industry. The COVID-19 situation more or less halted all of these mentioned sectors' businesses (Hasan, 2020).

8.1.2 Housing and Slums

Through the United States Agency for International Development (USAID), the USA Government provided more than $173 million in new funding to complement the Government of Bangladesh's ongoing efforts to respond to the spread of the novel coronavirus disease (COVID-19). It included a new food assistance programme for 100,000 urban poor living in Dhaka's low-income areas and strengthening development activities and post-COVID-19 recovery in Bangladesh (UNB News, 2020).

The demand for rental properties in Bangladesh saw a surge during the lockdown period as Dhaka dwellers chose smaller and more affordable homes for rent amid the COVID-19 outbreak as many people were having trouble meeting their living expenses (TBS Report, 2020).

Economic activity and income decreased abruptly for many urban slum dwellers as the pandemic hit, but most urban HHs could not avoid paying rent. In general, rent in urban slums was not reduced by the house owners, and neither did the tenants receive any financial assistance to pay rent. Majority of the respondents who live in rented houses (65 percent HHs) informed in June that they paid rent as before; there was no change in their rental arrangements after the pandemic hit. Overall, 26 percent of HHs did not have to pay rent but informed that they would have to pay later. The house-owners waived the rent of only one per cent of the HHs, and a meagre 3 percent HHs paid less than before (Rahman, et al., 2020).

8.1.3 Water, Sanitation and Hygiene

Though Bangladesh has enjoyed almost universal access to drinking water for many years, arsenic contamination of 22 percent of the country's tube wells lowered the service coverage to below 80 percent. Bangladesh has made significant progress in reducing open defecation, from 34 percent in 1990 to just 1 percent of the national population in 2015. However, the current rate of improved sanitation is 61 percent, growing at only 1.1 percent annually (World Bank, 2016).

Country's Response

The level of healthcare awareness among the general population was also found to be very low in Bangladesh. For example, the WHO recommends washing hands frequently and thoroughly with soap and water to kill viruses such as the coronavirus that may be on people's hands. According to Bangladesh's National Hygiene Survey 2018, only 15 percent of people were aware of the need to wash hands using soap and water before feeding a baby. Only 36 percent people were aware of the need to wash hands before preparing or serving food 40 percent people were aware of the need for washing hands before eating, and 55 percent people were aware of the need to wash hands after defecation. People were not informed about the importance of good hygiene and sanitisation practices, living in self-isolation after returning from abroad or having cold, fever and cough symptoms, and above all, maintaining social distance since the outbreak of the virus. Unfortunately, many policymakers seemed to be in a state of denial at the initial phase (Khatun & Saadat, 2020).

The following actions are essential: (i) managing excreta (faeces and urine) safely, including ensuring that no one comes into contact with it and that it is treated and disposed of correctly; (ii) engaging in frequent hand hygiene using appropriate techniques; (iii) implementing regular cleaning and disinfection practices; and (iv) safely managing health care waste. Other necessary measures include providing sufficient safe drinking-water to staff, caregivers, and patients; ensuring that personal hygiene can be maintained, including hand hygiene, for patients, staff and caregivers; regularly laundering bed sheets and patients' clothing; providing adequate and accessible toilets (including separate facilities for confirmed and suspected cases of COVID-19 infection); and segregating and safely disposing of health care waste (DGHS, MoHFW, 2020).

Urban informal workers' living conditions are precarious and characterised by overcrowding, insecure housing/tenure, poor waste management, and lack of access to clean water and sanitation, health, nutrition, and other essential services. With COVID-19, the risks of infection in such dense, poorly served areas are exceptionally high. Also, COVID-19 pandemic evidence shows that small and informal enterprises are more vulnerable to exogenous shocks given their limited financial, managerial and information resources. Due to the pandemic Bangladeshi workers who remain overseas are vulnerable to risks of exploitation, abuse, low or withheld wages and discrimination. They often live in crowded, unhygienic conditions with low levels of sanitation. Health care is difficult to access due to language and cultural barriers in host countries. Persons with disabilities face higher risk

factors due to lack of accessible water and sanitation facilities, unavailability of public health information in accessible formats, secondary health conditions, and reliance on aides and caregivers, making social distancing difficult (DGHS, MoHFW, 2020).

8.1.4 Public Health including Clinical Care

Country's Response (Asian Development Bank, 2020)

Starting in early March 2020, the Government of Bangladesh implemented self or home quarantine for all travellers from abroad. All educational institutes have been closed since 16 March 2020 and public office holidays since 26 March 2020, to be continued through at least 25 April 2020. The Prime Minister issued a 31-point directive on 3 April 2020, covering multiple aspects of the government's response and its guidance for the public, health workers, and officials.

The current numbers have shown how Bangladesh's health system is being challenged as it responds to COVID-19. Only one public laboratory in Dhaka, the Ministry of Health and Family Welfare (MOHFW)'s Institute of Epidemiology, Disease Control and Research (IEDCR), was initially designated as the sole testing authority for COVID-19 in the country.

The short supply of trained public healthcare workers affects all critical aspects of the response—from screening at points-of-entry (POEs) to testing, follow-up, treatment, and care. Public health workers continue to raise concerns over the lack of personal protective equipment (PPE). There are reports of local hospitals being afraid to take in new patients, even if they are not displaying the symptoms of COVID-19, due to lack of awareness, PPE, and testing capacity.

Even without the influx of COVID-19 cases, the present hospital care capacity is already strained with its low hospital bed-to-population ratio (8.8 per 10,000 population) and even lower number of critical care beds with only 878 intensive care unit (ICU) beds and 296 intermediate care unit beds nationally available across public and private sectors. Although estimates of available ventilators vary, they are also clearly in short supply.

IEDCR at the Directorate General of Health Services (DGHS) is the focal institute for conducting public health surveillance and outbreak response. IEDCR was designated as the sole testing facility initially; then testing was extended to six laboratories (five in Dhaka and one in Chattogram) with further plans to extend testing capacity. As of 17 April, 17 laboratories across the country were performing testing.

Despite the combined social distancing impact of school, business, and public transport closure nationally, COVID-19 reproductive rate (spread rate) does not show signs of abating since its introduction to Bangladesh. Reports indicate that millions left the cities for their village homes, unchecked, ahead of the shutdown, spreading further across the country; with continuing reports of public gatherings, including gathering for prayers.

The Government is also working with private sector investors and manufacturers to add hospital capacity and manufacturing capacity for PPE, ventilators, and testing kits.

On 23 March 2020, the Government requested the Asian Development Bank (ADB) for emergency assistance for containment, mitigation, and management of COVID-19. This assistance will be a vital part of the National Preparedness and Response Plan (NPRP) and the Country Preparedness and Response Plan (CPRP) of $378 million, including a list of needs in the first call for funds, prepared by the MOHFW.

Ongoing COVID-19 surveillance includes: (i) screening at POEs; (ii) surveillance using National Influenza Surveillance, Bangladesh and Hospital-Based Influenza Surveillance platforms; and (iii) event-based surveillance. Testing capacity has been extended to 17 laboratories, with plans to increase to 28 testing facilities, this capacity will have difficulty coping with

COVId-19 Outbreak

Start (First case)	First death	Peak	Slowdown	Positivity Rate	Recovery Rate	Mortality	Total Confirmed cases
08.03.2020 (BetterWork, 2020)	18.03.2020 (BetterWork, 2020)	Mid-June to Mid-July 2020 (Menon, 2020)	Last week of July and August (Menon, 2020)	5-10 percent at present (Ritchie, et al., 2020)	89.8 percent (Corona Tracker, 2020)	8,182 deaths (WHO, 2021)	5,37,465 (WHO, 2021)

the planned screening of suspected COVID-19 cases at all 42 POEs including air, sea, and land ports.

Inadequate clinical treatment capacity: Hospital bed capacity is low at 145,000 (8.8 beds per 10,000 population) and just over 1,170 critical care beds (878 ICU beds and 296 intermediate care unit beds). There have also been reports of suspected COVID-19 patients turned away from hospitals and rejected treatment. Clear communication to address this will be a continuing challenge.

Limited infection prevention and control measures: Health workers continue to voice concerns about the lack of PPE. The DGHS has also reported a shortage of PPE stocks. Although hand washing has been promoted at all levels and through media, mobile phone messages, and multiple other channels, with hand-washing points being set up throughout several cities, the poor and increasingly unemployed have complained about the inability to purchase soap and access clean water for hand-washing. Densely populated areas, including urban slums, pose a challenge for social distancing and any infection prevention and control.

8.1.5 Livelihood and Social Protection

The Government provided cash assistance to 5 million low-income families hit by the coronavirus pandemic. The Government also gave food aid to the poor and low-income families battling food insecurity and hunger. Only the QR-based cardholders got food support from the government. The initiative came at a time when the countrywide shutdown, enforced to fend off the coronavirus outbreak, had forced tens of thousands of people to remain half-fed or unfed (Islam, 2020).

Relief package by the Government and the Bangladesh Bank (KPMG, 2020):

i. Bangladesh Bank (BB) announced moratorium on loan payments until 30 September 2020 and that such borrowers will not be in default. Further, this moratorium was extended till December 2020.

ii. The Government announced its BDT 50bn (approx. USD595m) stimulus package for export-oriented industries. This stimulus included assistance towards salaries and funding of 2-year loans to factory owners at 2 percent interest.

iii. 5 April: Prime minister announced another stimulus package of BDT 677.5bn (approx. USD8bn) planned to implement in immediate, short and long phases through four programmes (increasing public expenditure, formulating a stimulus package, widening social safety net coverage and increasing monetary supply).

iv. 13 April: Prime minister announced direct cash assistance of BDT 7.6bn (approx. USD91mn) for informal sector workers; health insurance of BDT 0.5-1 million for health workers (doctors, nurses and others) and bankers in case of COVID-19 infected and BDT 2.5-5 million in case of death, the total fund allocated BDT7.5bn (approx. USD89mn); special honorarium BDT 1bn (approx. USD12mn) allocated for bankers, health workers and others.

v. Banks permitted to extend LC usance (payment) periods for import of raw materials, agricultural implements and chemical fertilisers (from 180 days to 360 days) and of life-saving drugs (from 90 days to 180 days).

vi. BB instructed banks to provide loan at 4 percent interest from banks' funds. BB will charge provide banks 5 percent interest as subsidy.

vii. Prime Minister launched the disbursement of BDT 12.5bn (approx. USD 142m) cash aid for 5 million low-income families.

To promote food security, the Government has increased the volume and subsidisation of food grain provided through the Public Food Distribution System, targeting 10 million poor urban and rural households. To support vulnerable households' nutrition, the Government has distributed fortified biscuits to households for almost three million pre-primary and primary aged children and increased cash stipend payments to students and parents. Food packages and response guidance for disaster-affected populations have been revised to reflect the current situation. Moving forwards, the Bangladesh National Nutrition Council has recommended the development of a comprehensive, multi-sectoral food and nutrition security response framework to streamline these and other nutrition-sensitive initiatives (United Nations, Bangladesh, 2020).

To mitigate the impact of the lockdown measures on education, the Government of Bangladesh quickly developed remote learning content based on the national curriculum, which is currently being delivered through television (United Nations, Bangladesh, 2020).

Since the beginning of the pandemic, the Ministry

of Local Government, Rural Development and Cooperatives has instructed authorities not to disconnect water supplies even if bills go unpaid. The equivalent of USD 230 million has been reprogrammed in the national budget to expand piped water systems and water access in hard-to-reach areas, supplemented by development assistance. The Department for Public Health Engineering has established coordination routines to monitor WASH infrastructure in all 64 districts closely. Hardware investments, such as 2,000 hand-washing basins, have been constructed in public places across the country since the outbreak began, complemented with broad-based multimedia campaigns for hygiene promotion that have engaged religious leaders to disseminate hand-washing and social distancing messages (United Nations, Bangladesh, 2020).

To address social protection issues during the pandemic, the Government has announced the hiring of 500 new social workers to support vulnerable women and children in poor urban and rural communities. The national Child Helpline, which is receiving up to 9,000 calls per day with reports of violence, has been reinforced and integrated with other emergency services to promote a coordinated response. The Supreme Court of Bangladesh has released children from overcrowded detention centres on bail and begun hearing children's court cases virtually (United Nations, Bangladesh, 2020).

Different categories of programmes used in response to COVID-19 (Hebbar & Scott, 2020):

- Implementation of Gratuitous Relief and Vulnerable Group Feeding: Aiming to expand these programmes to 4.9 million families in-kind and cash transfers in light of COVID-19.
- Employment Generation Programme for the poor: Expansion of these programmes to a greater number of people and waiving the requirement of work.
- Horizontal expansion of old-age, widows and deserted women, and disability allowances: Expansion using newly improved systems in 100 poorest Upazila. An expected increase in beneficiaries to 500,000 senior citizens, 350,000 widows and deserted women and 255,000 disabled.
- New cash transfer for poor and vulnerable informal workers: New programme to be rolled out using ad hoc systems for 5 million poor and new poor who have lost their livelihoods due to COVID-19.

8.2 Myanmar

The population living in slums in Myanmar constitutes 56 percent of the total urban population in 2018 (World Bank, 2018). The total urban population of Myanmar is 29.6 percent (Government of Myanmar, 2016).

Myanmar has three types of elections: general elections, local elections for municipalities and elections held for ward and village tract administrators. But citizens' rights are not equal across these three levels. The general elections are held based on one vote per citizen, while the local level elections are held based on one vote per household. Myanmar Constitution does not provide for a third tier of Government at the local level and does not mention municipal committees' existence. Thus, legislative and executive power over municipal affairs is assigned to the governments of Myanmar's seven states and seven regions (Yi, 2018).

All the instructions for COVID-19 were issued by Union level and followed and implemented by regional and state level, township and ward level. A National Central Committee on Prevention, Control and Treatment of 2019 Novel Coronavirus has been established to coordinate the authorities' response. A second committee, the Control and Emergency Response Committee on COVID-19 was set up on March 30 to help with stricter administrative measures to control the virus's spread, including quarantining migrant workers coming from neighbouring countries (IMF, 2020).

8.2.1 Public Spaces

The Government imposed lockdown & restriction on personal mobility such as stay-at-home order, local lockdown, and international & domestic migration restrictions. Government directed social distancing, physical distancing, closure of schools and business, promotion of work from home, ban on gatherings and cancellation of events and concerts. The city officials announced that masks are compulsory in public spaces. And they also put some vinyl and billboards informing about COVID-19 prevention measures in public spaces, especially parks. In some public spaces, including parks and bus-stops, government-built handwashing stations reminded the public to practice social distancing in public spaces and wear masks with speakers. Recently, officials closed some public parks for reducing gathering and crowds. As the lockdown went on for a long duration, people began coming out of their houses to visit the parks. Consequently, restrictions were imposed on people from entering

parks and other green areas till December.

Myanmar implemented strict travel restrictions on international flights, domestic flights, trains, and inter-city long-haul buses. International commercial flight arrivals were suspended on March 29, and the Government also suspended the issuance of visas-on-arrival and e-visas. Domestic carriers also cut back or suspended their flights over the Thingyan holidays. The city's tourist and attraction places were also temporarily closed, leading to a substantial negative impact on the tourism sector.

8.2.2 Housing and Slums

Approximately 400,000 people in 423 informal settlement find themselves at the forefront of the fight against COVID-19. Social distancing is impossible due to their crowded living spaces. With increasing confirmed cases each day, the Government is managing two delicate balancing acts. The first is between implementing stringent social distancing and sustaining people' livelihoods. As most urban poor slum dwellers are informal workers and street vendors, stay-at-home order makes them lose income and struggle for their daily lives.

On the other hand, homeless are also crucial for public health safety. During Stay-at-home order and curfew, these homeless live through difficulties such as access to food, water and shelter. Besides, many low-income renters, renters in the informal settlement must ensure the protection of their rights as renters. As their daily income decrease, some slum dwellers face difficulties to pay their residential rental prices. Currently, since COVID-19 hit Myanmar in March, the Government has provided cash assistance for low-income families with village and ward administrators and lawmakers making lists of low-income families and distributing assistance. The Union Government provided 71.1 billion kyats (US $ 55.3 million) in the first round of handouts, followed by 218.1 billion kyats (US$169.8 million) and 113.5 billion kyats (US$ 88.3 million), according to the Ministry of Investment and Foreign Economic Relations. There was no direct relief plan on mortgages and rent payment. The Government also gave exemption from electricity tariffs for all households up to 150 units per month.

8.2.3 Water, Sanitation and Hygiene

About 28 percent of urban households obtained their drinking water from unsafe sources, and nearly 14 percent did not have a toilet. The statistics are further skewed for slum settlements. (Department of Population, 2014).

The Government promoted good hygiene & social practices, disinfection, establishing hand washing stations, cashless payments, and use of face masks. There are unique vulnerabilities of the slum settlements, including high density, inadequate access to water and sanitation, and tenure security. Many families in urban poor settlement purchase drinking water. The residents usually get water from shallow tube wells. Bottle water is available, but not many households can afford it. As part of supporting the fight against COVID-19 in these areas, in March 2020, UN-Habitat completed the handover ceremony for a water treatment plant as an in-situ slum upgrading project, which can provide nearly 8,000 people with access to reliable and safe drinking water. The community themselves has implemented the community-driven project with technical support from the agency. This was the fourth community-driven stand-alone water supply project implemented in Peri-Urban Yangon by UN-Habitat. A waste management committee of these areas wrote a proposal, and in collaboration with the government, a waste collection system has been set up, and a big clean-up of collection sites was conducted with the help of the villagers. The CDC has also prepared a plan to supply and find new water resources.

8.2.4 Public health including Clinical Care

The pandemic disrupted the provision of other

COVId-19 Outbreak

Start	First death	Peak	Slowdown	Positivity Rate	Recovery Rate	Mortality	Total Confirmed cases
23.03.2020 (The Straits Times , 2020)	31.01.2020 (Reuters Staff, 2020)	October 2020 (Reuters, 2020)	December 2020-January 2021 (Reuters, 2020)	<5 percent at present (The Star, 2021)	90.48 percent (Department of Public Health, 2021)	3,177 deaths (Department of Public Health, 2021)	141,427 (Department of Public Health, 2021)

essential health services, including antiretroviral therapy for HIV, the expanded programme on immunisation, family planning, and maternal health services. In March 2020, Myanmar reported just 0.71 ICU beds and 0.46 ventilators per 100,000 population, which were insufficient to deal with even a moderate outbreak. The Government increased surge capacity by constructing makeshift hospitals, quarantine centres, and clinics; and procuring ventilators and securing funding for ICU units. But these efforts are compromised by the scarcity of medical staff. The Government has called upon volunteers to work at state quarantine centres, but mandatory 14-day quarantine and increasing caseloads have stressed volunteers. Some of the quarantine centres are reportedly poorly managed, increasing the transmission risk in centres; 10 percent of the second wave's total confirmed cases are among health care workers. Since the start of the pandemic, the Government took steps to expand its testing capacity. In early October, it could conduct over 10,000 tests daily, a substantial rise from the 380 tests per day in March (Deshpande, Hnin, & Traill, Myanmar's response to the COVID-19 pandemic, 2020).

8.2.5 Livelihood and Social Protection

Myanmar's Government offered poor households a one-off food package and three cash grants of $15 each as part of its relief plan, but families say it falls far short. Many people in urban slums are forced to eat rats and snakes. A survey by ONow Myanmar of more than 2,000 people across the country in April found 70 percent had stopped working and a quarter had taken out loans for food, medicine, and other essentials. Government aid and private donations were being distributed, but not everyone could be covered (Naing, 2020).

For Myanmar's 4.25 million international migrants, the COVID-19 pandemic has substantially exacerbated deeply entrenched labour exploitation problems. With severe mobility restrictions in place during COVID-19, working conditions for migrant workers have become even more precarious, and abuses have proliferated. Fundamental labour rights for workers within Myanmar have also come under assault during the COVID-19 pandemic, particularly in relation to freedom of association (Harkins, 2020).

Scores of day labourers have lost their jobs. About 4 out of 5 households reported skipping meals, and others have incurred debt to buy food. The Government implemented several measures under the COVID-19 Economic Relief Plan (CERP) such as unemployment benefits to registered workers, targeted cash assistance, and a one-time food distribution to households without a regular income. It established a fund of 400 billion kyats (around $309 million) to support garment, tourism, and small and medium enterprises (SMEs) via soft loans. Soft loans were also extended to farmers, roadside vendors, and the microfinance sector. But the current cash transfer of MMK 40,000 per household translates to a daily income equivalent below the poverty line. The CERP lacks policies that target women who have lost their livelihoods due to the pandemic (Deshpande, Hnin, & Traill, Myanmar's response to the COVID-19 pandemic, 2020).

8.3 Nepal

The population living in slums in Nepal constitutes 10 percent of the total urban population. The total urban population of Nepal is 62.2 percent (Ministry of Urban Development, 2016).

The Constitution of Nepal 2015 defines Nepal as a federal democratic republic and provisions three tiers of government: local, provincial, and federal with 7 provinces, 77 districts and 753 local levels (Bhattarai, 2019).

Committees formed for response and management of COVID-19 (Karki, 2020):

The response to COVID-19 in Nepal was primarily led and controlled by the Federal Government. The provincial and local governments' response was limited to implementing decisions and orders of the Federal CCMC and carrying out the functions delegated to them. An 11-member COVID-19 Prevention and Control High-Level Coordination Committee (HLCC) was the primary mechanism for responding to COVID-19. It was led by the Deputy Prime Minister and Minister of Defence and included nine other senior members of the Federal Council of Ministers plus the Chief Secretary.

Within less than a month of the formation of the HLCC, the Council of Ministers formed another COVID-19 Crisis Management Centre (CCMC) with precise and unambiguous terms of reference, which eventually replaced the HLCC. At the top

of the CCMC was a Directorate led by the Deputy Prime Minister & Minister of Defense and five other senior Ministers from the Federal Council of Ministers, which steered the overall response to the pandemic.

A Facilitation Committee to support the CCMC's functions was formed under the Chief Secretary's leadership, which included the Secretary of the Federal Ministry of Home Affairs and the Chiefs of four security forces.

To address fiscal issues, the Federal Government established a COVID-19 (Prevention, Control and Treatment) Fund (COVID-19 Fund) at the federal level, which was replicated at the provincial and local level, at its direction. A seven-member committee led by the Vice-Chair of the National Planning Commission was formed to operate the Federal COVID-19 Fund, with the Secretaries of relevant ministries as members. The provincial and local level Funds are each operated by a committee led by Chief Minister and Chairs/Mayors, respectively.

8.3.1 Public Spaces

i. On March 7, 2020, Nepal's Government announced the suspension of On Arrival-Visa for nationals of China, South Korea, Japan, Italy, and Iran which countries badly affected by COVID-19. Later on, March 14, 2020, Nepal's Government decided to suspend On-Arrival-Visa for all countries with exception to diplomatic and official visas. The Government closed land border entry points for third-country nationals and cancelled all mountain climbing expedition permits including Mt. Everest. On March 22, 2020, the Government of Nepal has stopped all international flights and on March 23, 2020, vehicular movement on long routes in Nepal also closed (Khanal, 2020).

ii. The Government banned large gatherings and closed down public places such as movie theatres, cultural centres, gymnasiums, night clubs, swimming pools, stadiums and museums until the end of April in response to the fast-spreading coronavirus pandemic. As a precautionary measure, the Nepal Government has restricted public gatherings of more than 25 people at one place (PTI, Kathmandu, 2020).

iii. The lockdown restrictions were also placed on street vendors who could lead to crowding of streets (Ojha, 2020).

iv. The public transport was also shut down during the lockdown period, and the restrictions were partially lifted in July 2020. The Government decided to resume public transportation following pressure from business owners and transport workers with strict guidelines like carrying only 50 percent of the seating capacity, taking temperature reading of commuters and mandatory use of masks and gloves for transport staff (Kathmandu Post, 2020).

v. Nepal Flying Labs developed an initiative to use drones to map some of the dense urban clusters around the Kathmandu valley during the COVID-19 lockdown as due to lockdown there was a significant drop in air-traffic. It provided a unique opportunity for high-resolution mapping and spatial data gathering for urban planning and development (Nepal Flying Labs, 2020).

8.3.2 Housing and Slums

i. Rent waiver and prohibition from eviction: The Government of Nepal requested the landlords to exempt rent, especially for those people working in unorganised sectors. The landlords offering at least one-month rent waiver to tenants were granted a 10 percent exemption on annual rental tax for fiscal 2020/21 (Nepali Sansar, 2020).

ii. Further, the Supreme Court issued an interim order directing the Government to ensure that no landlord evicts a tenant just because they had not been able to pay rent for the lockdown period. The SC also ordered the Government to ensure that no tenant was subjected to mistreatment for the same (The Himalayan Times, 2020).

iii. Discount on electricity bills: Nepal Electricity Authority had to give a 25 percent discount to users who use up to 150 units of electricity in a month (The Himalayan Times, 2020).

iv. Extension of deadline for payment of bills: The deadline to pay for electricity, drinking water, telephone and internet were extended, and Government of Nepal restricted the service providers to levy late fees and penalty on the payment of their monthly bills for the month of Falgun (Mid-February-Mid-March) and Chaitra (Mid-March-Mid-April) if the payment is made by the end of the month of Baishakh

2077 (Mid-April-Mid-May) (Pioneer Law Associates, 2020).

v. Discount on interest: The bank, financial institution and cooperative were required to provide 10 percent discount on interest for the month of Chaitra subject to the condition that the interest shall not be less than the base rate (Pioneer Law Associates, 2020).

vi. Extension on instalment payment: The time for instalment payment of principal/interest on loan taken from Employees Provident Fund/ Citizen Investment Trust was extended up to end of the month of Baisakh 2077 (Mid-April-Mid-May) (Pioneer Law Associates, 2020).

vii. Moratorium on Loan Repayment- Nepal Rastra Bank issued a notice in line with relief announced by Nepal's Government on March 29, 2020. The banks and financial institutions were required to make the necessary arrangement such that the monthly or quarterly repayment due by the end of Nepalese Calendar month Chitra (April 12, 2020) could be made by the end of the Nepalese Calendar month Ashad (July 16, 2020). This moratorium also includes credit card payments. The banks and financial institutions were also restricted from imposing any forms of penal interest/ charges for the instalment deferred to July 16, 2020. As the repayment time was deferred, banks and financial institutions are also not required to provide for loss of such loan. The Notice also required the banks and financial institutions to provide a discount of 10 percent if any borrower repays the monthly/quarterly instalment before July 16, 2020 (Pioneer Law Associates, 2020).

8.3.3 Water, Sanitation and Hygiene

Currently, 89 percent population has access to the basic level drinking water facilities, and 21 percent population has access to the higher level or mid-standard drinking water services. In terms of sanitation, in recent years, 99 percent of households have been enjoying the basic level sanitation facilities (National Planning Commission, GON, 2020). In September 2019 Nepali Prime Minister KP Sharma Oli has declared Nepal to be an open defecation free (ODF) nation (UN Habitat, 2019).

i. Central COVID-19 Crisis Management committee working with development partners including Water Aid Nepal installed 140 contactless handwashing facilities primarily in quarantine centres (Water Aid, 2020).

ii. Development partners like Water Aid Nepal gave 4,000 hygiene and handwashing supplies including cleaning items, hygiene kits, water filters, dustbins, buckets with lids, soap, surface disinfectants and sanitisers to Lahan Municipality and Management Division of Ministry of Health and Population (Water Aid, 2020).

iii. Thousands of sanitation workers in Kathmandu have been fighting the novel coronavirus disease (COVID-19) pandemic unarmed — without gloves and masks. Nepal Prime Minister KP Oli had announced that every sanitation worker would get life insurance a few months ago. However, the issue never cropped up in any of his speeches again (Paudel, 2020).

iv. Government officials distributed masks and gloves once. There was no follow-up. No COVID-19 tests were conducted. The sanitation workers did not have soap and water to maintain essential hygiene (Paudel, 2020).

COVId-19 Outbreak

Start	First death	Peak	Slowdown	Positivity Rate	Recovery Rate	Mortality	Total Confirmed cases
23.01.2020 (The Economic Times, 2020)	14.05.2020 (Poudel, 2020)	October 2020 (Reuters, 2020)	The slowdown began from November 2020, and since then cases are on a decline (Ritchie, et al., 2020)	5-10 percent at present (Ritchie, et al., 2020)	98.6 percent (Corona Tracker, 2021)	2,038 deaths (Reuters, 2021)	271,925 (Reuters, 2021)

8.3.4 Public Health including Clinical Care

Country's Response (MoHP, 2020)

Sukraraj Infectious and Tropical Disease Hospital (STIDH) in Teku, Kathmandu has been designated by the Government of Nepal as the primary hospital and Patan Hospital and the Armed Police Forces Hospital in the Kathmandu Valley. Recently, all the central hospitals, provincial hospitals, medical colleges, academic institutions and hub-hospitals have been designated to provide treatment care for COVID-19 cases. More than 2000 hospital beds across the country are allocated for isolation of suspected and confirmed cases.

The country has 26,930 hospitals beds in public and private hospitals. Likewise, 1595 ICU beds and 840 ventilators are available in 194 hospitals. Recently, MoHP has designated 111 hospitals to run COVID-19 clinics and 28 hospitals to treat COVID-19 cases.

The health desk at Tribhuvan International Airport was initially strengthened to screen incoming passengers from affected regions. The ground crossing Points of Entry (PoE) at the Nepal-China border and the Nepal-India border have been similarly strengthened. The Nepal-China official border crossing points have remained closed since January 21 2020. All international flights have been halted until April 14, 2020, but might be extended further.

Each designated health facilities had to implement WASH plan based on initial assessment and improve safe WASH services in health facilities to deliver quality health services and protect patients and health workers from the further transmission of disease. The facilities also had to consider improving handwashing behaviour.

Compliance of the Quarantine guideline approved by the High-Level Committee on dated 10 Chaitra 2076 will be monitored and ensured, considering the special 8 Health Sector Emergency Response Plan COVID-19 Pandemic needs of vulnerable groups: women and children, pregnant and lactating mothers, elderly, persons with disability.

Safety and security of the frontline Staff

i. Ensure adequate availability of personal protective gears as per protocol.

ii. Security system at each designated hospital will be strengthened with adequate security personnel. Hospitals will regularly coordinate with local administration offices to make necessary arrangements.

iii. CCITT and any other community mobilisation and engagement will be coordinated with the local administration and security system.

iv. Any stigma and discrimination, violence and any forms of harassment towards health workers engaged in the COVID-19 response process had to be monitored. The state will take necessary measures to avoid them and in case of occurrence necessary legal actions will be taken with ZERO tolerance to violence.

v. Based on the individual institutions' need assessment, necessary arrangements will be made to adopt work from home modality to reduce crowd at the health facilities.

vi. Mechanism will be established at each health facility to assess the staff's health conditions and risk-risk (or vulnerable group) members will be mobilised to serve secondary functions in the hospitals.

vii. Insurance/Compensation to the health workers and security personnel - GoN has decided that it will be providing insurance or compensation coverage of NPR 2.5 million to the health workers and security personnel involved in the prevention and treatment of COVID-19. The coverage shall be valid till the end of the month of Ashadh 2077 (Mid-June-Mid-July)

8.3.5 Livelihood and Social Protection

Country's Response (Pioneer Law Associates, 2020)

Discount on Foodstuffs Price by State-Owned Companies - GoN has decided to provide 10 percent discount on the purchase price of foodstuffs such as rice, flour, edible oil, and sugar sold through the Food Management and Trading Company and Salt Trading Corporation, the government-owned entities.

GON has decided that private health institutions should provide a minimum discount of up to twenty 20 percent of the Service Fee related to the month of Chaitra (Mid-March-Mid-April).

Waiver of School Fee - The GON has restricted the private schools up to the secondary level for charging the fees for one month except for residential fees.

Extension to pay the VAT and Income Tax - The time for

payment of VAT and income tax paid by the taxpayer was extended up to 25 Baisakh 2077 (May 7, 2020).

The employer should provide salary to the employees - The employers in the organised sector should provide the remuneration to the employees. Similarly, the entities related to the tourism sector, which has been fully closed down had to pay full salary to the employees working in daily or monthly wages for the month of Chaitra.

Relief to the informal sector employees - GoN has instructed the local levels to collect the details of the people working in daily wages basis in the informal sector. GoN has urged that the families enlist themselves at their ward office by getting approval from ward chairman or ward member to receive the relief. The one's seeking relief should make a declaration stating that none of the family members is self-employed, or employed in any formal sector or have any other optional income source. GoN had also instructed the local level to provide special care to sensitive groups, including pregnant women, disable people, orphans, older people residing in old age homes, and children's residing in Children Homes. GoN has also said that the costs for keeping the people likely to be infected with COVID 19 in group quarantine and their food expenses shall be borne jointly by the federal government, provincial government and local level.

Employing the workers unable to go to the abroad for work - Government has instructed the local levels to prepare a list of the people who have received the labour approval for foreign employment but could not go for foreign employment du e to COVID-19 or have returned from foreign employment. The listed ones would be registered in the Employment Service Centre at the local level and be employed through Prime Minister Employment Programme.

ANNEXURE 9: LIST OF KEY INFORMANTS INTERVIEWED

1. AJMER (RAJASTHAN)

1.1 Addl. District Collector and Addl. District Magistrate, District Collector Office, Ajmer

1.2 Chief Medical Health Officer, CMHO Office, Ajmer

1.3 Public Health Officer, Municipal Corporation, Ajmer

1.4 Officer, Ajmer Development Authority

1.5 Team Leader, National Urban Livelihoods Mission

1.6 Personal Assistant, District Divisional Office, Ajmer

1.7 Asha Worker

1.8 Frontline Sanitation Worker

1.9 Chairperson, Phoos ki Kothi Development Committee, Ajmer

1.10 Centre for Advocacy & Research, NGO

1.11 Shopkeeper, Kirana Shop

1.12 Gym Owner

1.13 Construction Worker

1.14 Domestic Worker

1.15 Scrap Dealer (Home based worker)

1.16 Vegetable Seller

2. BENGALURU (KARNATAKA)

2.1 S pecial Commissioner (IAS), Bruhat Bengaluru Mahanagara Palike

2.2 Joint Director of Department of Health and Family Welfare, Government of Karnataka

2.3 Chief Health Officer, Public Health, Bruhat Bengaluru Mahanagara Palike

2.4 Deputy Director Mental Health, Department of Health and Family Welfare, Govt of Karnataka

2.5 National Disaster Response Control Room Operators

2.6 Nodal Officer, Bengaluru Rural

2.7 Elected Corporator, VV Puram constituency, Bengaluru

2.8 Asha Worker

2.9 President, Auto Rickshaw Driver's Association, Southern Bengaluru

2.10 Managing Trustee, Adamya Chetana Foundation, NGO

2.11 Tailor (Home based worker)

2.12 Construction Worker

2.13 Travel Agent (Trader)

3. BHILAI (CHATTISGARH)

3.1 Deputy Collector, Durg

3.2 Deputy Collector, Nodal for IEC, Home Isolation Control Room, and Vaccination

3.3 Chief Medical Officer

3.4 District Programme Manager, NHM, Durg

3.5 City Programme Manager, NHM

3.6 Sanitary Inspector, Bhilai Municipal Corporation

3.7 Ward councillor and Head of Food, Public Health and Sanitation Department of BMC

3.8 Community Health Volunteers

3.9 Frontline Sanitation Worker

3.10 Secretary, Bengali Samaj Bhilai (NGO)

3.11 Auto Driver's Association

3.12 Fruit Seller

3.13 Artificial Jewellery & Cosmetics Business

3.14 Power tools & Spare parts Dealer Business

3.15 Electronics dealer & repair shop

3.16 Tailor (Home based worker)

3.17 Construction Workers

3.18 Domestic Worker and Cook

3.19 Domestic Worker

3.20 Slum Resident

3.21 Restaurant and Hotel cum Banquet hall owner

3.22 President of MAS of Ruabandha slum

4. BHUBANESHWAR (ODISHA)

4.1 Chief Functionary and Secretary of Board, Centre for Child and Women Development (NGO)

4.2 Regional Manager, Oxfam and Chairman, Inter Agency Group (Civil Society Collective, Odisha)

4.3 Aanganwadi worker for Section 1 at Sitanath Nagar

4.4 Aanganwadi Worker for Section 2 at Sitanath Nagar

4.5 ASHA worker at Sitanath Nagar

4.6 ANM at Sitanath Nagar

4.7 Sanitation Worker

4.8 Construction Worker

4.9 Domestic Worker

4.10 Chairman, Ruchika Social Organisation

4.11 Sanitation Worker

4.12 General Secretary, Slum Committee

4.13 Fruit and Vegetable Seller

4.14 Street Vendor (vegetable seller) at the BMC zone

4.15 Street Vendor (fruit seller) at the BMC zone

5. DELHI

5.1 Deputy Health Officer , Narela Zone , MCD

5.2 Project Coordinator, DDMA, South East District, Delhi

5.3 Ward Councillor

5.4 Aanganwadi worker

5.5 ANM

5.6 ASHA worker

5.7 Manav Sewa and Multipurpose society

5.8 Construction Worker

5.9 Domestic Worker

5.10 Home based worker

5.11 Shopkeeper, Cloth Dealer

6. DHENKANAL (ODISHA)

6.1 Executive Officer, Dhenkanal Municipality and Municipal Engineer

6.2 Secretary, Dhenkanal Regional Improvement Trust

6.3 District Programme Manager, National Health Mission, Dhenkanal

6.4 Tax Daroga, Dhenkanal Municipality

6.5 Tax Collector, Dhenkanal Municipality

6.6 Frontline Sanitation Worker

6.7 Aanganwadi worker

6.8 President, Rengali Colony, Mahisapat, Ward no – 8

6.9 Joint Secretary, Dhenkanal Private Bus Association

6.10 Bajrang Club (NGO)

6.11 Manager, The Yummy Restaurant

6.12 Home Based Worker

6.13 Trader

6.14 Construction Worker

6.15 Street Vendor

7. JHANSI (UTTAR PRADESH)

7.1 District Disaster Response Control Room

7.2 District Provisional Officer, Collector, Jhansi

7.3 Chief Sanitary and Good Inspector, Municipal Corporation, Jhansi

7.4 Chief Medical Officer

7.5 City Mission Manager, DUDA

7.6 Covid Lab Assistant, National Urban Health Mission

7.7 Sub-Inspector, UP Police

7.8 Ward Councillor

7.9 ASHA Worker

7.10 President, Auto Rickshaw Drivers Association

7.11 President, Basti Vikas Samiti

7.12 President, Uttar Pradesh Vyapar Mandal

7.13 Pragati Rath (NGO)

7.14 Street Vendor

7.15 Tailor (Home Based worker)

8. LINGASUGAR (KARNATAKA)

8.1 District Disaster Management Professional, DC Office

8.2 Chief Medical Officer, Taluk Government Hospital

8.3 Chief Officer, TMC

8.4 Chief Administrative Officer, TMC-NULM (Skill development and Livelihood Mission)

8.5 Block Health Officer, Taluk Health Office

8.6 Taluk ASHA Mentor, Taluk Health Office –ASHA Division

8.7 Senior Health Inspector, TMC-Health Department

8.8 Project Director, District Urban Development Cell (DUDS)

8.9 Environmental Engineer, Town Municipal council (TMC)-Health Department

8.10 Senior Health Inspector, TMC-Health Department

8.11 Ward Councillor

8.12 Frontline Sanitation Worker

8.13 Town Vending Committee Member and Fruit business

8.14 Street Vendor

8.15 Home based worker

8.16 Restaurant Owner

8.17 Construction Worker

8.18 Shopkeeper, Kirana Store

8.19 Domestic Worker

8.20 Slum Community Head

9. MALERKOTLA (PUNJAB)

9.1 Municipal Commissioner / Executive Officer

9.2 COVID-19 Nodal Officer, National Urban Health Mission, Sub-Divisional Hospital

9.3 ASHA Worker

9.4 Frontline Sanitation Worker

9.5 Pepsu Road Transport Corporation in-charge, Ludhiana-Patiala Depot

9.6 Slum Residents Collective

9.7 Street Vendor

10. MUZZAFARPUR (BIHAR)

10.1 Addl. Municipal Commissioner

10.2 Nodal Officer, Urban Health Mission

10.3 City Mission Manager, National Urban Livelihood Mission

10.4 Circle Officer, District Office

10.5 Ward Councillor

10.6 ASHA Worker

10.7 Frontline Sanitation Worker

10.8 Home Based worker

10.9 President, Basti Vikas Samiti

10.10 Construction Officer

10.11 Domestic Worker

10.12 Trader

10.13 Bus Auto Rickshaw Association

10.14 Street Vendors Association

10.15 Caterer and Event Manager

11. PUNE (MAHARASHTRA)

11.1 District Disaster Management Authority

11.2 Ward Councillor

11.3 Frontline Sanitation Worker

11.4 Aanganwadi Worker

11.5 Secretary, Pathari Vyavasyik Panchayat

11.6 Basti Vikas Samiti

11.7 Unique Educational Foundation (NGO)

11.8 Gym Trainer

11.9 Construction Worker

12. Others

12.1 Aajeevika Bureau

12.2 Executive Officer,Puri Municipality.

12.3 Health inspector, Health and Sanitation department, Udaipur Municipal Corporation

12.4 Chairperson, Garden Committee, Udaipur Municipal Corporation

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