



**Ain Shams University**  
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# **Barriers to Building Community Resilience**

## **Case of Masoodpur Basti in Delhi**

**A Thesis submitted in the Partial Fulfillment for the Requirement of the Degree  
of Master of Science in Integrated Urbanism and Sustainable Design**

**by**

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# Abstract

The techno-scientific approaches to disaster management have been challenged over the last three decades as they overlooked the social dimension of risks. The paradigm shift from 'managing disasters' to 'reducing disaster risks and building community resilience' is envisioned through various intergovernmental agendas including the UN's Sendai Framework and SDGs. Although recognition of the social dimension of risks is part of this changing paradigm, its realization is still a challenge, especially in informal settlements due to multiple barriers hindering community resilience in cities of the global south.

This thesis attempts to understand the complexity of building community resilience in informal settlements by identifying the barriers hindering the actions of collective actors. Masoodpur Basti-one of the JJ clusters in Delhi is prone to urban divide bias as its residents are socio-economic minorities & also prone to multiple disasters including fire, heatwave, water logging, and water scarcity, which made it a significant case study. The causative processes and everyday reality, creating disaster risks within the settlement were documented from resident 's perspectives. Looking at community resilience in the form of an integrated multi-layered governance system, and analyzing challenges faced by concerned actors, four main barriers were identified along with the interlinkages among them. The unclear land access, rent-seeking culture, questioned citizenship and power politics hampered the collective action of actors toward facilitating processes of building resilience. The research emphasizes community resilience is not about handing down responsibilities to local communities, instead, addressing the issues faced by them to overcome these barriers and become resilient.

**Keywords:** informal settlement, community resilience, barriers, disaster risks, collective actors, governance

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# List of Abbreviations

AAP	Aam Aadmi Party
AIFB	All India Forward Bloc
BJP	Bharatiya Janta Party
BVD	Bal Vikas Dhara
CAA	Citizenship Amentment Act
COVID-19	Coronavirus disease
DDA	Delhi Development Authority
DJB	Delhi Jal Board
DM	District Magistrate
DRR	Disaster Risk Reduction
DUSIB	Delhi Urban Shelter Improvement Board
EU	Europeon Union
G20	Group of 20 (19 countries and the Europeon Union)
IPCC	Intergovernmental Panel on Climate Change
JJ	Jhuggi Jhopri Cluster
LG	Lieutenant Governor
MCD	Municipal Corporation of Delhi
NCT	National Capital Territory
NCR	National Capital Region
NRC	National Register of Citizens
PIL	Public Interest Litigation
SDI	Slum Dwellers International
SEEDS	Sustainable Environment and Ecological Development Society
SES	Socio-Ecological System
WEF	World Economic Forum
UN	United Nations- Habitat
UNISDR	United Nations Office for Disaster Risk Reduction





(Figure 1)- The internal street of Masoodpur slum showing the water coolers

(source: author)



# Informal Settlements as Risksapes: The Urban Question

*“Basti will never get electricity connection”*

*- Community toilet caretaker, Masoodpur Basti*

The reality of Delhi constitutes the presence of informal settlements since decades despite the leaps of economic growth of the city and country. The decades long struggle to access the basic services needed in the wake of extreme temperatures, water scarcity and other stresses, hints to the complexity of building resilience among informal settlements.

The paradigm shift from ‘managing disaster’ to ‘disaster risk reduction and building resilience’ is crucial for urban development. Cities facing rapid urbanization, especially in developing countries are facing multiple disaster risks due to climate change and unplanned growth. These cities attract migrants from all corners of the country and even across borders, in search of a better quality of life. Many of them end up living in informal settlements characterized by social issues and poor living conditions exacerbating the risks of multiple disasters. Most often these settlements reside outside city planning laws and regulations, and it falls on to individuals, households, and local community organizations to deal with the impacts of disasters.

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1. A basti (also spelled busti or bustee) is officially defined as “a collection of huts standing on a plot of land of at least one-sixth of an acre.”

-Britannica (<https://www.britannica.com/topic/basti-type-of-shantytown>)

Increasing disasters in urban settings are also becoming complex to be handled by city authorities. By 2050, two-thirds of the world's population will live in urban areas. This growth will be mostly concentrated in low-income countries, where resources and infrastructure are already cramped. The informal settlements added pressure to these urban areas as they tend to locate in hazard-prone areas including river banks, land unsuitable for habitation, near railway lines, and reserved green areas, creating urban risk scapes. These risk scapes intersect with the social drivers of vulnerability like poverty, exclusion and equality.

The city authority is recognizing the social dimension of risks associated with informal settlers, but its realization is often limited. Concerning informal settlements, a range of stakeholders are actively working with settlers in reducing their risk of disasters and building resilience. The limited success of building resilience is related to the givers' and receivers' roles between informal settlers and other agencies. The concept of community resilience puts these people at the core of building resilience and is crucial in the development of informal settlements.

Building community resilience in an informal settlement is a complex challenge. The informal nature of the settlements poses challenges in multiple dimensions as they constitute a diversity of groups belonging to varied socio-economics opposite to the assumption of development agencies, and lack of information about them on the city records. The focus of this thesis is to understand the complexity of building community resilience by identifying its barriers in one such informal settlement known as Masoodpur *Basti* in Delhi, India. The slum of Masoodpur constitutes diverse social groups including Muslims and Hindus hailing from the states of West Bengal and Bihar in eastern parts of India. The settlement of Masoodpur had also witnessed many widespread fire disasters along with the major fire of 2014, which burnt more than 700 dwellings. Even after devastating fire disasters, the settlement was able to re-erect, but with similar vulnerabilities hinting at the barriers to its development.

## 1.1 Research aims and objectives

Delhi constitutes a variety of informal settlements. To address the challenges of upgrading informal settlements, the city recognized more than 600 clusters known as Jhuggi Jhopri clusters. Masoodpur *Basti* is one such JJ cluster that sits on contested land between different parties and is prone to multiple disasters including fire, heatwave, water logging, and waterborne diseases. The aim of this study is as follows:

What are the barriers to building community resilience to urban disasters in Masoodpur *Basti*, Delhi?

The investigation is supported by the following questions:

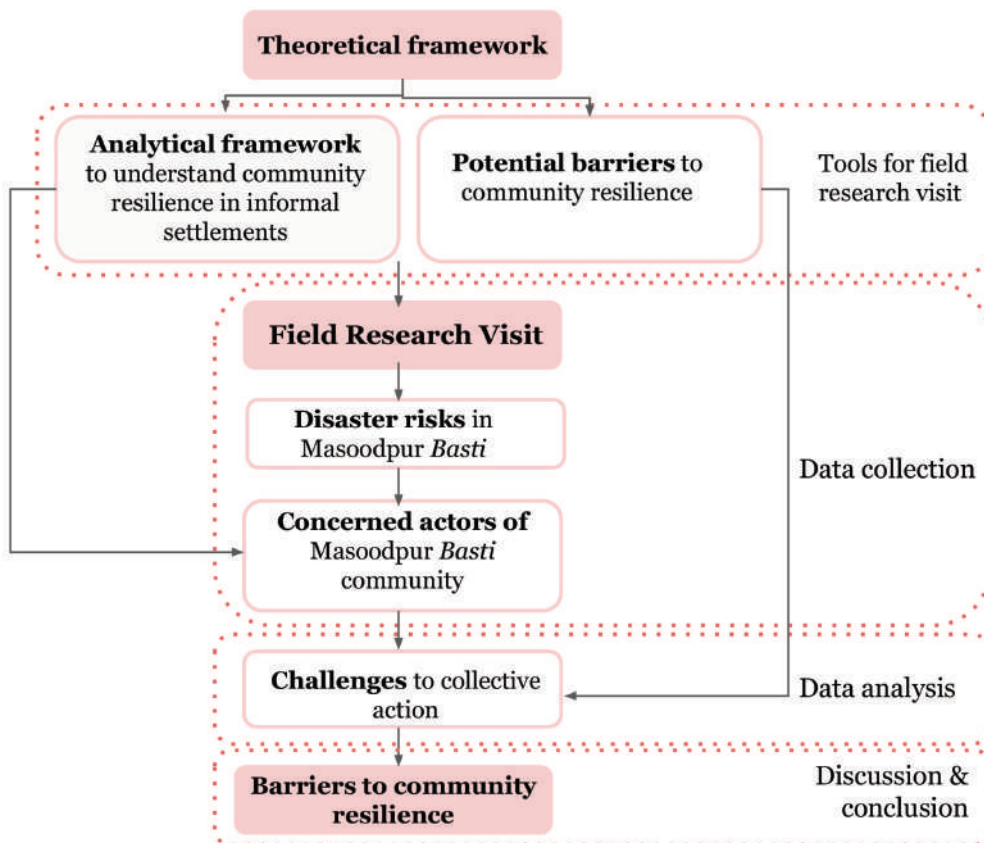
1. How is community resilience is conceptualized in informal settlements?
2. What issues are prominent to informal settlement dwellers in the wake of multiple disaster risks?
3. Who are key decision makers with regard to addressing disaster risks?
4. What challenges are faced by key actors in addressing disaster risks in an informal settlement?

The objectives of the study are:

1. To understand the disaster risks and the associated challenges faced by the dwellers in Masoodpur *Basti*.
2. To identify the concerned actors of the Masoodpur community.
3. To analyze the status of the collective action of actors towards building resilience by understanding their relationships, power dynamics, and conflicts if any.
4. To frame the barriers to community resilience by analyzing the root causes of challenges to the collective action of concerned actors.

## 1.2 Research methodology

This research was carried out in four steps, with each outcome, acted as the base for the following step.



(Figure 2)- Diagram of research methodology (Source: author).

1. **Theoretical framework:** It discusses the relevant literature critically to develop the analytical framework to understand community resilience in an informal settlement and also identifies the potential barriers. The analytical framework and potential barriers act as tools for field research visits.

2. **Field Research Visit:** The total of 31 key informants were interviewed, located within and outside the Masoodpur slum using a snowballing sampling technique. The semi-structured interviews were used with the questionnaires based on the findings of the theoretical framework.

3. Data Analysis: The collected data was first summarised to understand the context of Masoodpur and understand various disaster risks and associated challenges faced by people; second to identify the concerned actors influencing day-to-day functioning in the settlement, their relationships, power dynamics, and conflicts; and third to identify the challenges to their collective action towards disaster preparedness.

4. Framing barriers by understanding the long-standing causative processes existing in the context of Masoodpur slum.





(Figure 3) The level difference from access road to internal street

(source: author)



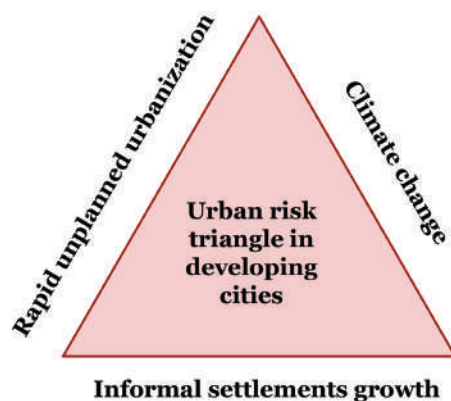
# Community Resilience and Informality

The study bases itself on the existing theoretical and knowledge concerning disaster risk reduction and building resilience among people. This section particularly highlights the adopted framework for investigation and is structured in three folds: firstly, the focus is on understanding the social dimension of risks and resilience; secondly, developing the conceptual framework to understand community resilience in the context of building resilience in informal settlements locate in urban areas; lastly, review of already discussed barriers to building community resilience, which act as a base for investigating barriers in selected case of study.

## **2.1 Urban Risk scape and informal settlements**

The degree of urbanization is higher in low-income countries. The fourfold growth to about 300 million was noted in low-income countries from 1975 to 2020 (UN-Habitat 2022, pp. 19–20). Globally, 20% of the world's population lives in inadequate housing, of which more than 1 billion residing in slums and informal settlements (UN-Habitat 2022, p. 18; Satterthwaite et al. 2020, p. 143). They fall outside formal laws and regulations on the built environment and planning and do not have access to risk-reducing infrastructure. The informal nature of these settlements also make the government unable or unwilling to work with them and are often left out of urban development programs.

The cities along with rapid urbanization are also facing multiple socio-economic and environmental challenges posed by climate change (UN-Habitat 2022, pp. xvii–xviii). Figure 4 shows the triangle of urban risk scape with three key phenomena including rapid unplanned urbanization, climate change, and the growth of informal settlements. Many informal settlements are ill-prepared to face climate change and its impacts in the form of floods, heatwaves, and storms as a result of poor built-environment and limited access to required services and infrastructure (Satterthwaite et al. 2020, p. 143).



(Figure 4)- Urban risk triangle in cities of low-income countries (Source: author compilation).

The environmental risks faced by informal settlement dwellers intersect with social drivers of vulnerability such as poverty, exclusion, and inequality (Weichselgartner and Kelman 2015, p. 262). To address the disaster risks in informal settlements, it falls to individuals, households, and community organizations without or with limited external support (Satterthwaite et al. 2020, p. 145). Therefore, it is crucial to understand the forces, dynamics and power relations among informal settlement dwellers that could be at the roots of disaster risks in urban context.

The social context shapes the disaster risks in informal settlement in urban areas. The following section aimed to expand this social dimension of risks and further resilience discourse, which could hint at chronic sources of vulnerabilities in informal settlement in urban disaster risk-scapes.



## 2.2 The Social Dimension of Risks and Resilience

A disaster is a social disturbance with multiple dimensions. Imperiale and Vanclay conceptualized these dimensions by putting people at the center: characteristics of the hazard, how the risks are perceived, experienced, and distributed among local people, along with their capacity to learn from past experiences and transform towards sustainability at all levels of socio-ecological governance (Imperiale and Vanclay 2021, p. 892). This understanding resonates with the changing paradigm from managing disaster to disaster risk reduction (DRR) and building resilience through various global initiatives, including UNSIDR's Sendai framework 2015. The Sendai framework recommends four priority areas for DRR and building resilience: (a) understanding risk in all its multiple dimensions; (b) strengthening disaster risk governance; (c) investing in DRR for resilience; and (d) enhancing preparedness and build back better in response, recovery, and reconstruction actions (UNSIDR 2015; Maguire and Hagan 2007; Imperiale and Vanclay 2021, p. 891).

The recognition of the social dimension of risks and resilience is part of the changing paradigm; however, its realization is still limited due to multiple challenges. Earlier research highlighted the state actors' inability to mainstream DRR and build resilience due to hierarchical steering and limited statehood at a local level (Kropp and Türk 2017; Ley 2019, p. 167). The local impacts of climate change evidently also fostered local interpretations among people which are often not integrated into the state initiatives (Paton et al. 2006). These challenges not only question existing state-level governance but also highlight that people are not passive recipients of information and further can play an active role in building resilience.

### *The social dimension of risks*

The disaster impacts on local community varies from disaster to disaster and not evenly distributed within the community. Any local community is a mix of people of different age groups, genders, beliefs, livelihoods and many more aspects, that influence how disaster impacts are perceived, experienced and distributed (Imperiale and Vanclay 2021, p. 893). Therefore, there might be groups of people who are more vulnerable than others within the community to particular disasters and mark 'one for all' or 'fixed' disaster planning as obsolete. The mainstreaming of the social dimension of risks in disaster planning and development agenda need to focus on the varied perceived risks and their associated social pre-conditions as a starting point.

Social risks comprise social impacts along with the underlying processes leading to them. There are negative social processes like rent-seeking, elite capture, disaster capitalism, corruption etc, that lead to adverse local impacts in a disaster event (Imperiale and Vancly 2021, p. 893). Understanding these socio-political processes that exuberates social vulnerabilities becomes the base for effective DRR (Weichselgartner and Kelman 2015, p. 262).

### *The social dimension of resilience*

The ever-increasing complexity of disturbances affecting human systems hints that the communities are continuously changing at any point in time and can only aim towards maximizing resilience (Wilson 2014). Many government and civil society organizations are now prioritizing enhancing the resilience of groups and local communities toward multiple disaster risks (Maguire and Hagan 2007). The focus here is on social resilience, which aims to understand the response of human systems to environmental, economic, and social changes (Wilson 2014). The notion of social resilience also questions the idea of 'bounce-back' - a characteristic of resilience, as human systems are dynamic and can never return to their original state after disturbance due to social learning processes and social memory (Wilson 2014; Eachus 2014, p. 346).

The people centred concept of social resilience encompasses at different levels including individual, household and community level. The coping, adapting and the transformative capacities at these levels are at the heart of social resilience investigation (Ley 2019, p. 167; Wilson 2014). Local communities being the first responder to disasters, emphasise the role of individuals and households' capacities to help not just themselves but also others facing the same adverse conditions, highlighting the importance of community level resilience. However, being the priority of any initiatives, the community level resilience seems confusing due to its blurred boundary: who is part of community vs who is not, and multiple interpretations of the concept in different fields of knowledge (Eachus 2014, pp. 347–348). Hence, concerning to the focus of this research, the next section aims to unravel how community resilience can be understood in context of building resilience in informal settlements.

### 2.3 Community Resilience and Urbanism

The recognition of the community's role in building resilience has sparked the discourse to define 'community resilience' as it has varied and even conflicting meanings in different fields of knowledge. Mulligan highlighted that adding the word community to the popular resilience notion is an attempt to give it more public appeal, compared to its dominant techno-scientific one. However, the word 'community' itself is contested with many meanings and sometimes conflicting meanings, fuelling the ambiguity and misuse of the term. Whereas the word 'resilience' is also subjected to varied understandings due to its increased usage in multilevel governance by varied stakeholders (Mulligan et al. 2016). Taking help from existing diverse understandings, this section is structured to first understand what do we mean by 'community' and ultimately 'community resilience' in context of informal settlements located in urban areas.

#### 2.3.1 Community Resilience Notions Concerning to Urbanism

The cities are sought to be the solutions rather than problems of global challenges including climate change and disasters. The New Urban Agenda 2016 resulted from UN's Habitat III process outline the need to build urban resilience and relevant consequent work advocated, cities as complex and dynamic systems and therefore the interconnected nature of disaster risks and their impacts need to be part of urban development (Ley 2019, pp. 166–167). To take this understanding further, many scholars had advocated to investigate urban resilience beyond climate change and disasters angle and focus on understanding underlying systems that need to transformation to address the inequality and vulnerabilities (Meerow et al. 2016, p. 46). Unravelling the community resilience notions is the attempt to drive the relevant aspects from different fields of knowledge to understand it in context of city as complex assemblage. Building on the existing research concerning to understand community resilience in relation to urban development, the following two particular notions emerged from socio-ecological and psychological fields of knowledge are considered as they are closely related to spatial planning domain.

#### *Socio-ecological understanding*

The socio-ecological system (SES) theory is based on the assumption that social and ecological systems are interconnected and has outlined that these systems, especially

social systems, learn and transform following a disturbance (Imperiale and Vanclay 2021, p. 895). Here, the social systems take the central role and stress on community participation to build resilience of them and their vital systems which governs day-to-day activities (Mulligan et al. 2016). Through community participation, the self-organise bottom-up responses become crucial for the desired transformation and address the everyday challenges. Hence, building resilience becomes a constant process of ‘becoming something else’ complementing the dynamic nature of socio-ecological system.

The SES theory with more attention on environment and ecology presents lesser clarity on ‘community’, which hampers its application in other domains, including urban planning (Mulligan et al. 2016). The following sub-section provides some aspects concerning this limitation.

### *Psychological understanding*

The other important field of knowledge concerning community resilience discourse is psychology. Contrary to SES, the research in psychology is focused on understanding community at various scales and various ways. The community constitutes of bottoms up or self-defining groups linked with social ties, common perspectives or joint action which might not align with local-groupings. The psychological understanding highlights the empirical diversity of communities leading to multiple meanings in multiple contexts (Bonanno et al. 2015).

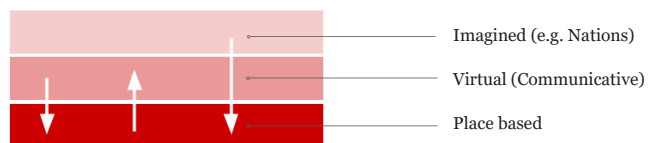
### *Spatial planning and urban development*

The socio-ecological and psychological notions around the concept of resilience building provides critical aspects to its application in the urban planning domain. The system-based outlook of SES theory resonates with understanding that cities are complex systems and how humans interact with environment is the base for adaptation or even transformation. Further the relevant psychology literature, adds the much-needed emphasis on building strengths of individuals and groups, so that they come together for action to achieve common vision. Berkes and Ross proposed the concept of ‘integrated approach’ based on certain socio-ecological and psychological aspects and finds in suitability in urban planning to address the wicked challenges in cities (Berkes and Ross 2013).

These notions provide important cross-disciplinary insights to build the base for understanding the concept of community resilience based on aspects relevant to urban planning. The further sections build on these aspects and creates the analytical framework to investigate- what do we mean by ‘community’ and ‘resilience’ in community resilience, the pro-active verses reactive version of resilience in planning and how it can be applied in the context of informal settlements.

### 2.3.2 Dynamic and Multi-layered Community in Informal Settlements

As human-systems are constantly changing and evolving, so is the concept of ‘community’, contrary to planning policies assumptions. Mulligan proposed the dynamic multi-layered understanding of ‘community’ based on the increased global mobility and connectivity. It constitutes place-based, virtual and imagined communities suggesting the more fluid and spatially extended nature of communities (Mulligan et al. 2016). The virtual communities are different than place-based communities due to enhanced communication technologies compared to imagined communities, which only exist in mind, for instance the concept of nation. He also stated that boundaries between these three might not be concrete and one can be part of all three communities in a given point in time. The multi-layered community could be helpful to understand its diverse and dynamic nature in responding to day-to-day challenges.



(Figure 5)- A dynamic multi-layered understanding of community formation (Mulligan et al. 2016).

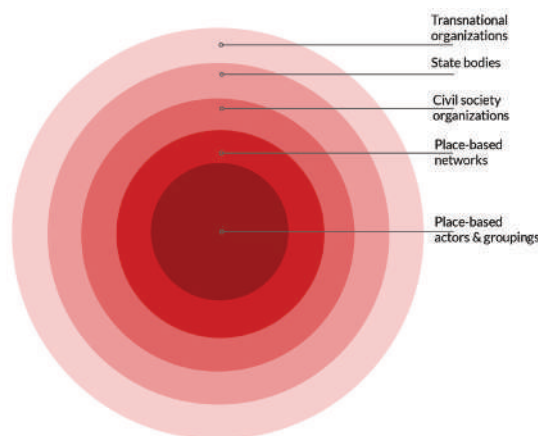
Application of multi-layered understanding of community in context of building resilience among informal settlers widens the concept of ‘community’ beyond physical boundaries of the settlement. Apart from place-based actors and groups, the other prominent layers include non-governmental organizations, grassroots movements, social networks which are most often situated outside informal settlement, which work actively with the settlers to address the various risks. As informal settlements exist outside the planning laws and regulations, it falls to individuals and groups active at the local level to take initiative in building risk reducing infrastructure and

capacities to face urban disasters (Satterthwaite et al. 2020, p. 145). This hints the translation of multi-layered understanding of community as multi-layered bottom-up governance in the frame of building resilience in informal settlements.

One other way of understanding community is through the notion of collective actors (Ley 2019, p. 167). Collective actors bring together the individuals, groups, social networks and other actors to pool their resources, knowledge and efforts to address the common challenges. It advocates the proactive roles of local actors and networks in the climate governance and being recognised widely along with the backdrop that climate induced stresses are directly impacting local communities.

The collective actors and their roles, together constitute complex system of functioning. The focus here is on the mechanisms and processes are in place for the working of the concerned actors as a collective. These systems shape the everyday life within a settlement and are being used by the local people in their day-to-day lives to address multiple challenges including disaster risks (Chaskin 2008). In informal settlements, these mechanisms and processes are subject to the type of relationships among the concerned actors governing their interaction and further collective action.

Adapting from the above discussed aspects of understanding community in the setting of informal settlement, the following analytical framework conceptualizes the potential constellation of collective actors based on multi-layered bottom-up governance:



(Figure 6)- Multi-layered bottom-up governance (source: author).

### *Place-based actors and groups*

These actors constitute the key decision-making members among the local people in everyday life in the settlement. They are positioned at the core of the multi-layered governance framework as they have the capacity to mobilize people within the settlement. Generally, community leader, influencing members, religious leaders and socially active members could fall under this level. These are groups of individuals sharing socio-economic, cultural, caste, religion, or political inclination as similar characteristics. The members of the groups might not be as active as the place-based actors but their support is essential for these actor's decisions to turn into action on ground.

### *Place based networks*

This level highlights the network between neighborhoods and the livelihood employers or channels. These are the result of day-to-day interactions of place-based actors and groups adjacent to or outside their settlement. Note: In further sections, they are often linked with place-based actors and groups due to their day-to-day interactions.

### *Civil society organizations / NGOs*

The actors falling in this layer might not be located within the settlement. The actors are mostly motivated to particular cause/es and share the responsibility to working towards to achieve it. Non-governmental organizations, grassroot organizations, clubs etc are some typologies of actors within this segment. These organizations and clubs might have capacity to link place-based actors and networks to state bodies or even beyond to transnational bodies as they bring various types of expertise to represent local issues at multiple platforms.

### *State bodies*

The state and civic bodies do not directly are part of collective actors, however their participation in building resilience in informal settlements could be leveraged from negotiations initiated by other actors. Also, there are certain measures needed to mitigate urban disaster risks, which would not be possible without their contribution, for example; building of citywide drainage system and embankments to mitigate urban flooding require state and civic bodies engagement. This layer could further be classified into municipal, city, state or national bodies subject to their jurisdiction and assigned roles as per formal governance system.

### *Transnational organizations*

As the title suggested, this layer could comprise organizations, institutions and networks spread beyond the nation's borders. For example, United Nation's bodies, World Bank, Slum Dwellers International (SDI) etc are some prominent transnational networks working towards building resilience among the underprivileged segments of society. These actors most often work with state bodies or with civil society organizations to address the common challenges and hence, can leverage critical negotiation power (Ley 2019, p. 171).

This framework act as starting point of understanding community as multi-layered collective actors suiting the setting of dynamic governance in building community resilience in informal settlements. As informal settlements are heterogenous in nature consisting of multiple individuals and groups belonging to range of communities based on socio-economic conditions, age group, gender, religion, etc, the dynamic understanding communities are critical for any development agenda, especially building resilience. After this multi-layered and dynamic understanding of community, it is important to ask what do we mean by 'resilience' in community resilience. The following section formulates a pro-active approach of understanding resilience and presents critical aspects around community resilience discourse.

### **2.3.3 Community Resilience as Multi-layered Governance in Informal Settlements**

Resilience has become a keyword in fields of development including urban planning. With its wide usage in urban governance goals and agendas, the term situates itself along with others keywords including sustainability and climate change and is used loosely (Mulligan et al. 2016).

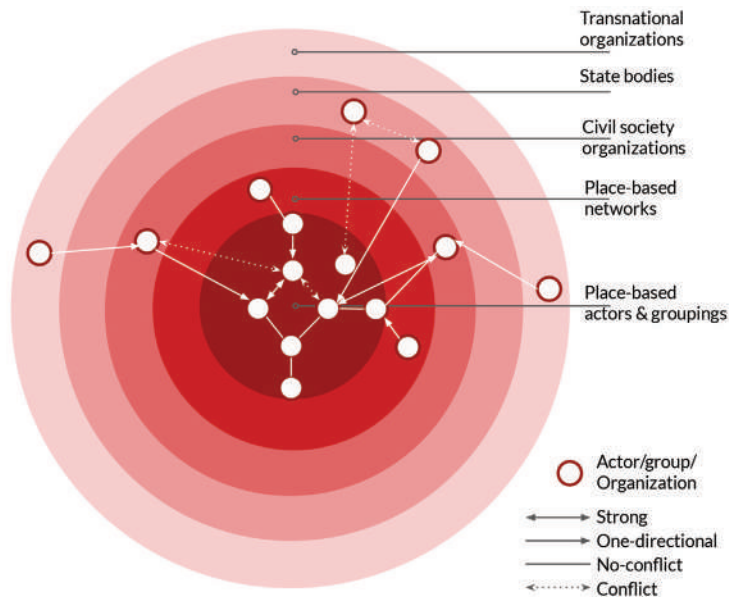
### *Resilience as 'shared visions' through collective action*

In view of social resilience, the term is based on pre-emptive change looking resilience as desired state, rather than a process to avoiding stresses (Wilson 2014). It places the emphasis of resilience as preventative, allowing individuals and communities to avoid undesirable outcomes by drawing on resources or developing coping strategies that make possible positive trajectories through chronic adverse circumstance, such as in context of severe poverty (Chaskin 2008). In context of informal settlements, the development agendas;



improvement of housing conditions, access to infrastructure services and socio-economic upliftment coincides with disaster risk reduction and building resilience to extreme events. IPCC refers the integration of development, disaster risk reduction, and climate change adaptation policies and investments as ‘transformative adaptation’ (Satterthwaite et al. 2020, p. 144).

Considering the diversity of framings, each focusing on certain aspects and neglect others, shared visions integrate the interpretation of the concepts like climate change and resilience into broader routines of collective sense-making and prefer distinctive sets of locally compatible vocabulary (Kropp and Türk 2017). The functioning of multi-layer governance with collective actors and their ability to draw upon needed resources for transformative adaptation, become central to develop ‘shared visions’.



(Figure 7)- Multi-layered bottom-up governance with collective actors (source: author).

The figure illustrates the potential roles, power dynamics and conflicts of actors belonging to different layers of governance. The core highlights the active role of place-based actors supported by local groups. The place-based actors also need to possess the ability to negotiate with the actors outside the settlement, including civil society organizations, state bodies or even transnational bodies directly or through other actors and networks.

The state actors lack the ability to anticipate the risks or implement desired actions and focus is shifting on the cooperative new modes of governance, involving place-based decision-making processes at its different levels (Ley 2019, p. 167; Kropp and Türk 2017). The multi-level governance framework is based on this understanding of building community resilience in informal setting. It acts as a ground-truthing tool for this study in further sections.

### **2.3.4 Potential Barriers to Community Resilience**

The core focus of this research is to understand the complexity of building community resilience. It constitutes unravelling the underlying barriers to collectivization of concerned actors for taking actions in developing disaster risk reducing infrastructure and building resilience particularly in informal settlements. This section explores the discussed barriers in existing literature concerning to the field of research which act as starting point of enquiry in the selected case of study. It should also be noted that the purpose of this section is generate a base to understand potential barriers instead of its exhaustive list. The research viewed them from the critically and the further findings of the study is open to expansion, contraction and any re-structure.

The identified barriers are categorized as per broader categorizes of physical setting, socio-cultural context, political dynamics, economics and built environment aspects related to building resilience in informal settlements. The barriers are then further classified as per developed framework of multi-level governance of collective actors; place-based actors and groupings, civil society organizations / NGOs, state bodies and transnational organization level. This categorization does not eliminate the inter-relationships of barriers across different aspects or at multiple level of governance.

	<b>Aspects</b>	<b>Multi-level governance</b>	
		<b>Place-based actors, groupings &amp; networks</b>	<b>Civil-society organizations / NGOs</b>
<b>Barriers</b>	<b>Physical setting</b>	1. Insecure land tenure ship halting access to basic services and infrastructure(Parikh et al. 2020; Bhan et al. 2020).	
	<b>Socio-cultural context</b>	1. Conflictive nature of the settlement with its neighbors. 2. Competition among dwellers for limited resources and opportunities, for example; cash-for-work schemes can break up the community by creating competition among households(Archer and Boonyabancha 2011, p. 353, 2011, p. 353). 3. Inaction and others' responsibilities. 4. Social system dictated interpretations. 5. Antagonistic attitude 6. Exclusion of certain groups within the settlement 7. High levels of violent crimes 8. Lack of community cohesion and mutual trust.	1. Lack of understanding of the broader socio-economic context (Bromideh 2011). 2. 'Success cartel' practice of sweeping problems under the carpet and only publicize successes (Dagenais et al. 2021).
	<b>Political dynamics</b>	1. Conflicting power relations among place-based actors and groups. 2. Politicking and power politics(Archer and Boonyabancha 2011, p. 358).	1. Lack of inter-organizational communication and coordination (Bromideh 2011). 2. How to listen to people's needs instead of top-down showering of relief packages (Archer and Boonyabancha 2011, p. 360).
	<b>Economic</b>	1. Manipulation and corruption (Archer and Boonyabancha 2011, p. 357). 2. No economic diversity	1. Fundraising (Bromideh 2011). 2. Low level of self-sustainability (Bromideh 2011).
	<b>Built environment</b>	1. Gaps in operation and maintenance of facilities (Parikh et al. 2020, p. 13). 2. Temporary home demotivates investment in improving living costs. 3. Mal-adaptation. 4. Settlement expansion (family growth, tenants, etc).	1. Standard practice and perceptions of researchers and assessors (Dagenais et al. 2021).

(Table 1)- List of potential barriers categorized as per different level of governance-Part I (Source: author).

	<b>Aspects</b>	<b>Multi-level governance</b>	
		<b>State actors</b>	<b>Transnational organizations</b>
<b>Barriers</b>	<b>Physical setting</b>	1. Contested land ownership: Partially on private land and partially on public land hinders long-term planning (Parikh et al. 2020; Bhan et al. 2020). 2. Located in hazard-prone or reserved areas (Satterthwaite et al. 2020, p. 146).	1. Distance from the setting of the informal settlement could challenge transnational activities' suitability in the local context (Ley 2019, p. 174).
	<b>Socio-cultural context</b>	1. No information of socio-cultural context of informal settlements. 2. Lack of skills and capacity at municipal level (Parikh et al. 2020, p. 13).	1. The transnational activities could overburden already vulnerable people living in informal settlements (Ley 2019, p. 174).
	<b>Political dynamics</b>	1. Power lying at the giver's side, polarized and top-down. 2. Complex governance system (Bhan et al. 2020; Roy 2009, p. 78).	
	<b>Economic</b>	1. Manipulation and corruption. 2. Inclusive policies: No provision of including informal settlers in formal livelihoods	
	<b>Built environment</b>	1. Gaps in operation and maintenance of facilities (Parikh et al. 2020, p. 13). 2. Varied deficiency in infrastructure also within the city (Satterthwaite et al. 2020, p. 146).	

(Table 1)- List of potential barriers categorized as per different level of governance-Part II (Source: author).







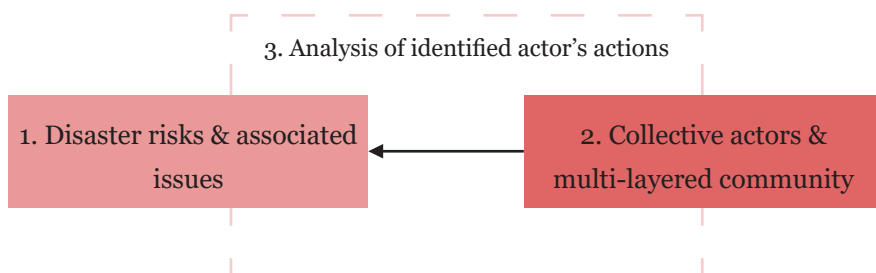
(Figure 8)- The narrow internal street with no paving in Masoodpur Basti

(source; author)

# Research Strategy and Fieldwork

## 3.1 Research Strategy

This research uses an exploratory-descriptive approach and case study analysis. It draws lessons from the fieldwork and the relevant theories of the social dimension of risks and resilience with a focus on community resilience. Firstly, the theoretical framework was developed based on relevant literature as discussed in Chapter 2, as the discourse around the theme of community resilience constituted multiple understandings and is prone to confusion about its usage in research and practice. The theoretical framework through the literature review also highlighted potential barriers discussed in the context of informal settlements, which acted as the starting point for understanding barriers in the selected case of study.



(Figure 9)- The three components of research strategy (source: author compilation).

It has three main components investigated using multiple qualitative research methods. Firstly, the understanding of disaster risks and how are they formed in the context of the selected case- Masoodpur Basti through exploring dweller's

perspectives, insights from semi-structured interviews, and some focus-group discussions with the inductive approach. The second component focused to identify the notion of community in the case study asking -who could be collective actors in order to address the disaster risks highlighted in the first component to build resilience. The multi-level governance framework formulated in Chapter 2 was deployed here to understand the dynamics of collective actors within the settlement. The third component analyzed the actions of identified actors to highlight the challenges by them in addressing the identified disaster risks and associated issues. These components of field research are summarised in Chapter 5, which becomes the base for finding barriers and their existence in the context. The synthesis stage of the research co-relate the findings of the case study with the relevant literature.

## **3.2 Data Collection**

This thesis applies qualitative research to analyze the complexity of building resilience in informal settlements prone to multiple disaster risks. The data collection included primary sources through fieldwork and secondary sources through relevant theoretical information and grey literature for the case study. The fieldwork included mixed methods such as semi-structured questionnaires, interviews using snowball sampling techniques, field observations, and documentation through photographs.






The data collection aimed to gather in-depth information about how communities in informal settlements perceive disaster risks, identification of key stakeholders' configurations, whose actions are crucial to addressing the risks and issues, and explore the challenges faced by them to profile the barriers to building community resilience within the settlement.

This investigation focuses on the Masoodpur Basti, the informal settlement -one of the more than 600 JJ clusters in Delhi as the case study for analysis. It was purposely selected due to its experience of disasters including multiple fires with the 2014 fire engulfing more than 700 dwellings out of 1100, and every year intensified heatwaves, and water logging coupled with their socio-economic vulnerabilities due to their reliance on informal livelihood of waste collection and recycling. Also, the presence of diverse communities based on religion and place of origin; Muslim and Hindu minorities from the eastern part of India.



### 3.2.1 Fieldwork

The fieldwork was organized in three levels during the field visit to Delhi, India from mid-February to May 2023. Firstly, the planning phase aimed to develop a preliminary set of questionnaires to gather relevant information and coordination with stakeholders for interviews through social media and other communication channels. Secondly, the primary data collection started with initial strolls in the settlement and randomly asking people for small talks, then using the snowball sampling technique; the 31 key informants were identified for semi-structured interviews. Also, key NGOs including FORCE and Bal Vikas Dhara, and their representatives were also identified during initial rounds of interviews and further detailed meetings and interviews were conducted with them for more insights. Thirdly, the collected data were processed from time to time on the following day of the interviews to identify the missing data sets and hence went in parallel with phase 2.

	Planning phase	Data collection	Data processing
Main activities	<ul style="list-style-type: none"> <li>- Development of preliminary questionnaires</li> <li>- Coordination appointments with FORCE NGO &amp; Bal Vikas Dhara</li> </ul>	<p><b>Primary data collection</b></p> <ul style="list-style-type: none"> <li>- Identification of disaster risks &amp; issues</li> <li>- Identification of key decision makers and profiling of communities</li> </ul> <p><b>Secondary data collection</b></p> <ul style="list-style-type: none"> <li>- Data on disaster risks in Masoodpur Basti</li> <li>- Stakeholders of JJ cluster upgradation</li> </ul>	<ul style="list-style-type: none"> <li>- Documentation</li> <li>- Transcription,</li> <li>- Evaluation of evidence of interviews, observations and grey literature</li> </ul>
Tools & methods	 <p>Stakeholder mapping</p>	   <p>Semi-struct. interviews   Observations   Grey literature</p>	 <p>Critical review</p>
Output	Basis for data collection	Data generation from key informants; dwellers & NGOs	Reflect back on theoretical framework

(Figure 10)- Phases of field research work (source: author compilation).

### 3.2.2 Data Compilation

The collected data was compiled in parallel to the field research visit to understand the overall details of key research components and avoid missing out on data sets. During the course of fieldwork, the causative relationship between key events including fire hazards, JJ cluster recognition, and others, motivated to collate the data in chronological order as illustrated in Figure 21 in section 4.4. Also, the causative relationship was also seen in the everyday processes within the settlement in relation to phenomena at the city scale, creating disaster risk situations and summarised in figure 25 in section 5.1. Lastly, the major portion of data compilation was in creating stakeholder relationship diagrams (Figure 31,32,33,34 in section 5.2) to understand the dynamics among the key actors. The compiled data in these ways acted as the base for further analysis to identify the underlying and interconnected set of data points answering the research aims and objectives.

### 3.3 Data Analysis

After the compilation of field notes and data collection through mix-methods, the content analysis with an inductive approach was used to understand the key themes leading toward barriers. The key themes and concepts raised in chronological analysis in Figure 21, causative relationships of processes forming disaster risks in Masoodpur Basti (figure 25), and stakeholders' analysis (figures- 31, 32, 33, 34) were interlinked to identify challenges at different levels of governance. For example, issues related to land ownership and access were highlighted in the context of negative causative processes building on increased disaster risks (figure 25) and were also central to the rent-seeking system before and after the 2014 JJ cluster recognition (figure 21). The repetition of aspects linking to similar themes became the building blocks to unravel the barriers and how are they placed within the context.

the next task was to understand these themes emerging from the field in relation to the theoretical framework derived from reviewing literature for synthesis. It led to the identification of the barriers and helped to bring them to the forefront along with aspects leading to their formation.

#### **3.4 Limitations**

With relation to the research approach, data collection, and analysis, the study constitutes the following four limitations; Firstly, due to the conflictive environment within the settlement, many interviewees were not comfortable with audio recordings, hence field notes were used as the main tool for data collection. Secondly, the perspectives of state authorities including local police were analyzed based on interviews with local people, grey literature, internet documents, and media due to their unavailability for interviews during field research visits. Third, due to sensitivity to religious matters in the setting, documentation through photographs was limited. Lastly, the focus group discussions were affected by conflicts among key leaders, as some people were not comfortable sharing their opinions in front of other people, hence one-on-one semi-structured interviews are most prominent during the fieldwork.



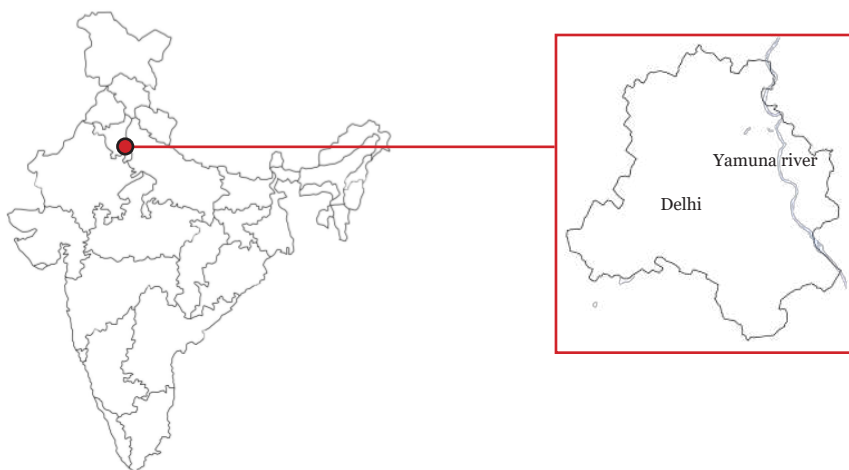


(Figure 11) - Physical map of showing the megacity of Delhi (source: Google earth)



# Delhi : The Urban Divide and Riskscapes

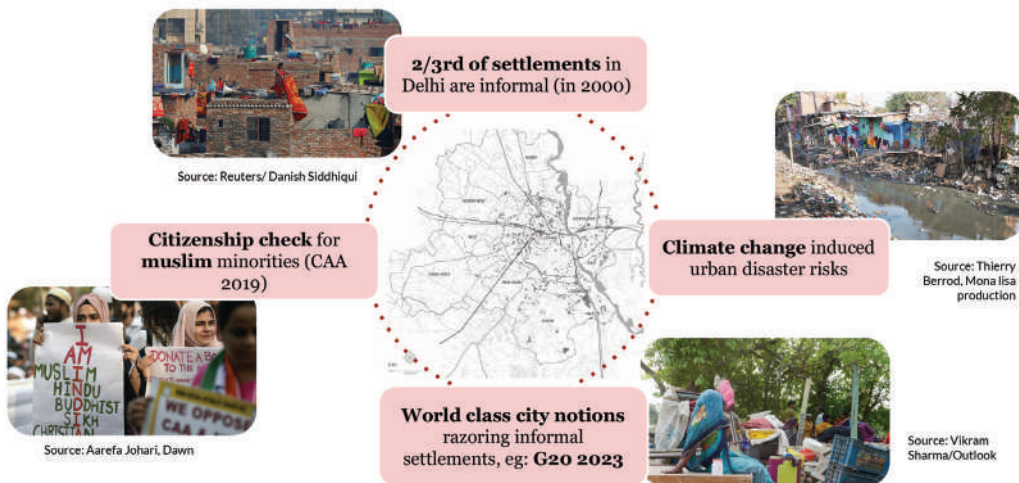
The setting of the study is in the capital city- New Delhi of world's most populous country on earth (as per UN reports). The city of Delhi with its rapidly increasing population in the wake of multiple disasters faces huge challenges. Delhi is located in the north-central part of India with the Yamuna River flowing in the eastern part of the city. This section presents the context of the case of the study by understanding it firstly at city-level urban disaster-related challenges, knowing who is at risk, and then at settlement level understanding of Masoodpur slum.



(Figure 12)- Map of India and location of Delhi (source: d-maps).

The capital city of India: the world's most populated country as per UN reports in 2023, New Delhi is one of the largest metropolises in the world with an area of 1,483 sq.km and an estimated population of more than 30 million habitants (United Nations 2023). This estimate of the population is based on multiple non-governmental agencies as there is no official census conducted by the concerned government since the last edition of 2011 due to the Covid-19 pandemic and now is scheduled for 2024. New Delhi with its National Capital Region (NCR) has been witnessing rapid urbanization with explosive population growth from the 1990s onwards and as per the World Economic Forum(WEF) reports, it is projected to surpass Tokyo to become the world's most populated city of the world between 2028 (Rob Smith 2018). The city is a megapolis in terms of area and population, not just in India but in the entire world.

#### 4.1 Delhi: The Urban Divide and Riskscape



(Figure 13)- Key phenomenon shaping the urban divide and riskscape in Delhi (Source: author compilation).

The capital status of hugely diverse and world's most populous and largest democracy, Delhi act as central place for attraction and friction. Concerning to this research, their are four important phenomenon part of the city's landscape with its source and implication ranging from local-city-national-international scale.

##### *1. More than half of Delhi is informal*

With the lack of official data, multiple sources suggested the informal settlement in Delhi's cityscape range from more than half to 2/3rd of its total population size (Ishtiyag and Kumar 2010, p. 22; Bhan 2013, p. 60). This aspect is further discussed in section 4.3 highlighting the informal Delhi with diverse nature of characteristics as a common reality despite the presence of multiple schemes and initiatives.

##### *2. Climate change-induced stresses and urban disaster risks*

The composite climatic conditions in Delhi with extreme temperatures in winter and summer coupled with 2-3 three months of Monsoon rainy season are constantly changing due to climatic change, also discussed in detail in the following section (Indian Institute of Tropical Meteorology 2005). Delhi already struggles to meet water supply, sanitation and water quality for most of its residents (Centre for Science and Environment 2012, p. 5). The stresses and disaster risks are exacerbated due to haphazard unplanned urbanization with a high proportion of informal settlements.

##### *3. World class city notions razoring informal settlements*

In 2023, India hosts G20 summit and preparations to change the real image of city left many thousands homeless, for instance- March 10th, shelter homes housing around 5000 migrant workers were demolished to create the parking area for the upcoming summit in September (Basak 2023). And, this was not first or last, the city had multiple demolition drives in the wake of events and programs like Commonwealth games 2010 and Yamuna river front development (Dupont 2008, p. 86). The beautification of 'world class city' in making in Delhi have charged heavy cost in terms of demolitions of informal settlements, keeping the dwellers in constant fear.

##### *4. Citizenship checks for muslim minorities*

The National Register of Citizens (NRC) and Citizenship Amendment Act (CAA) was enacted by the Government of India in December 2019, potentially making millions of Muslim minorities stateless (Seshadri 2020). This has been termed as



the major step of right wing leadership in legalisation of discrimination against Muslims in pursuit of Hinduization of the country challenges the secularism in India (Chapparban 2020, p. 52). Although, but massive political backlash from opposition across India had challenged the act, but with central power lying with pro-NRC and CAA leaves millions were left in flux and fear of losing citizenship.

These four phenomenon or aspects shape the un-neutral landscape of Delhi and further put light on the sources of vulnerabilities existing in the informal settlements in Delhi. The selected case of Masoodpur *Basti* overlaps these aspects and hence, become an important case study for analysing the complexity of building resilience.

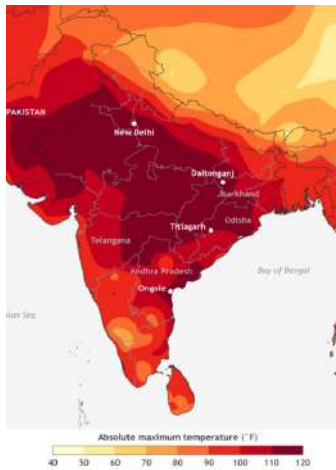
### 4.2 Delhi and Urban Disasters



(Figure 14)- July 2023 floods in Delhi (Source: Tarun Rawat/BCCL).

The water released from Hatnikund dam in other states coupled with continuous rains in mid July left major parts of Delhi along the river Yamuna flooded for multiple days. The figure 14 illustrates the flooding situation in the city.

The city of Delhi being a developing megapolis also constitutes huge challenges concerned to provide quality of life for millions of people. The climate of Delhi is semi-arid to composite type with extreme summer with the temperature peaking around 48 degrees Celsius between May-June to extreme winter below



(Figure 15)- Heatwave of 2015 across India and New Delhi (Source: NOAA Climate .gov).

4 degrees Celsius between December and early January (Rahman et al. 2011). The extreme summers and winters are characterized with intensifying heatwaves and cold waves putting rendering many vulnerable to adverse impacts. Murari and Ghosh in their research particularly highlighted Delhi in India as the consistent hotspot for heat-induced mortality along with other socio-economic impacts (Murari et al. 2015, p. 572).

The impacts of extreme temperatures get multiplied when combined with severe air pollution records in the city making especially children below 4 years and adults above 45 years as most vulnerable groups (Singh et al. 2018). Apart from extreme temperatures and pollution, the city is also prone to urban flooding and water logging during particularly during monsoon season subject to poor drainage system. The climate change induced erratic rainfalls and extreme temperatures coupled with haphazard urbanization induced air pollution, fire, water logging, and so on are only some major challenges faced by the millions of Delhiites.

The Delhi as the capital city of one of the fastest developing economies will continue to grow in all dimensions and so does the urban disaster risks if the growth is not handled properly. The governance system in the capital is not an easy and simple one, due to contested powers held by both the Delhi city government and central government of India over city's development bodies (Government of India 2009). The urban disasters risks in the bustling and complex Delhi city presents impacts which are not evenly distributed among its citizens, the next section is focused to understand who is at risk in Delhi?

### 4.3 Who is at Risk in Delhi?

Among the estimated over 30 million citizens in Delhi, the urban disaster risks are not uniform and vary depending upon multiple factors. Subject to living conditions, the settlement types become an important aspect to understand who might be at risk, as per economic survey (2002) there are eight different types of settlements in Delhi. These include, Jhuggi Jhompri Clusters, Slum Designated Areas, Unauthorized Colonies, Resettlement Colonies, Rural Villages, Regularized-Unauthorized Colonies, Urban Villages, Planned Colonies. Out of eight different types of settlements in the city, only two are formal, leaving six others as informal falling outside the planning laws and regulations (Ishtiyak and Kumar 2010, p. 22). These different typologies in general characterized by different and varied quality of build environment with limited connectivity to civic infrastructure including water supply, electricity, open spaces, schools, hospitals etc. The informal typologies are more prone to risks associated to urban disasters in Delhi due to their socio-economic conditions, location and limited access to resources as they exist outside planning regulations.

	TYPOLOGIES	PLANNED- UNPLANNED	LAND TITLES; LEGAL - ILLEGAL	FORMAL - INFORMAL	MODE OF DEVELOPMENT	LOCATION	PERCENTAGE OF TOTAL POPULATION OF THE CITY IN 2000
1	PLANNED COLONIES	Planned	Yes	Formal	Government-built, private developers, self-built on plotted land	All over Delhi	23.7%
2	SLUM DESIGNATED AREAS	Unplanned	Yes, but restrictions on sale	Formal by exception	Self-built or private developers, as historic urban development in old city, pre-DDA developments	Walled City or Old Delhi	19.1%
3	JJ RESETTLEMENT COLONIES	Planned	Yes, but restrictions on sale	Formal	Self built on government allotted site, some times without services	Primarily on the outskirts of the city	12.7%
4	URBAN VILLAGES	Planned by exemption (Zone of exception)	Yes, but restrictions on sale; no titles for common land	Formal by exemption	Self-built, private builder	On the fringes of core city	6.4%
5	RURAL VILLAGES	Planned by exemption (Zone of exception)	Yes, but restrictions on sale; no titles for common land	Formal by exemption	Self-built, private builder	On the fringes of core city	5.3%
6	REGULARISED UNAUTHORISED COLONIES	Unplanned	Yes	Informal for building codes	Self built or private builder, on private land or illegally divided agricultural land	On the fringes of core city	12.7%
7	UNAUTHORISED COLONIES	Unplanned	No	Informal for building codes, formal for process of purchase	Self built or private builder, on private land or illegally divided agricultural land	On the fringes of core city, or extensions of rural villages	5.3%
8	JJ CLUSTERS (Slums)	Unplanned	No	Informal	Self built on public land	All over Delhi, primarily in core city	14.8%

(Table 2)- Typologies of housing settlements in Delhi (Source: Girisha,2022; Ishtiyak and Kumar 2010, p. 22).

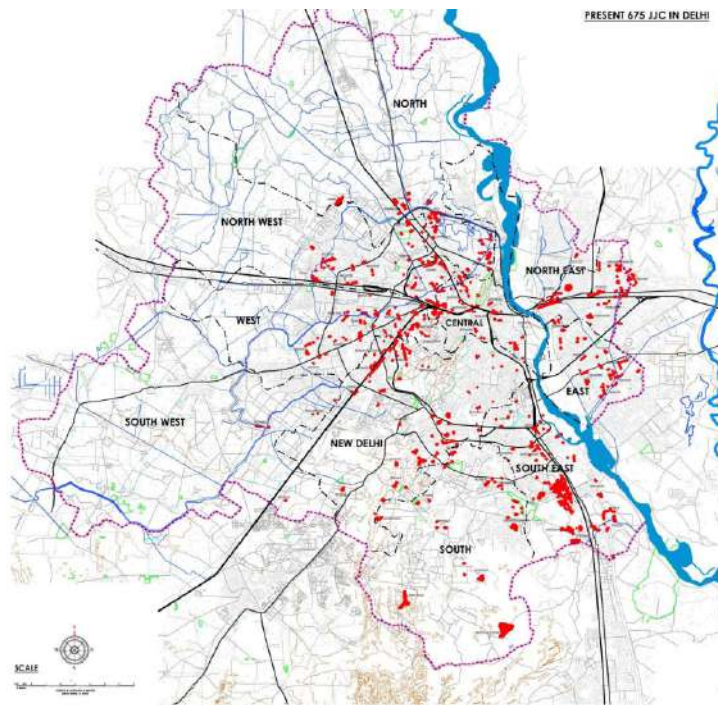


(Figure 16)- 2014 Fire in Masoodpur slum, South Delhi burnt down 700 dwellings (Source: SEEDS).

Further, the dwellers of informal settlements might have same characteristics in terms of built environment, socio-economic conditions and access to resources is a problematic misconception. These settlements constitute of thousands of people indulged in variety of economic activities ranging from daily wage jobs to factory workers, which are subject to varied impacts to same disaster. Not just economic diversity, but also social diversity including gender, age groups, religion, caste and culture influences their risk perception and actions taken to mitigate them. Hence, the consideration of existing wide diversity even within informal settlers can enhance our understanding of potential disaster impacts and the individuals and groups at more at risk.



#### 4.4 Jhuggi Jhopdi Clusters of Delhi



(Figure 17)- Location of 675 JJ clusters in Delhi (Source: Shrivastava 2018).

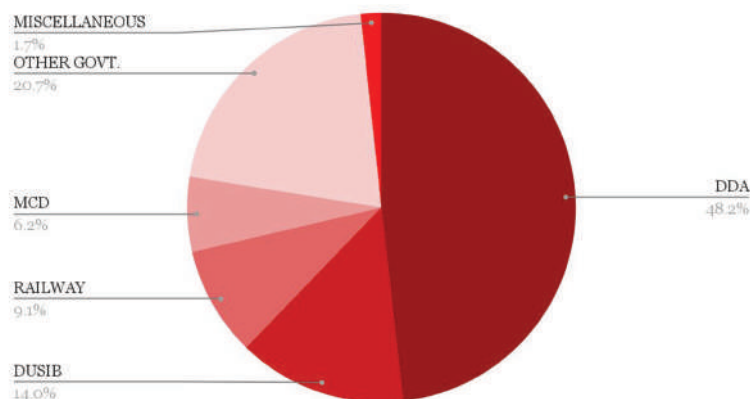
The Jhuggi Jhopdi(JJ) clusters is the terminology used for slums in Delhi. These clusters are scattered all across the national capital of Delhi. The most common places of their location includes vacant land along railway lines, roads, drains and river embankments along with vacant spaces near residential, industrial and commercial complexes (Shrivastava 2018). At present 675 JJ clusters have been identified and numbers go beyond 800 with inclusion of unidentified clusters with more than 400,000 dwellings questioning the Delhi government's rehabilitation plans.

The JJ clusters being recognised by Delhi government provides the degree of tenure security. The Delhi Urban Shelter Improvement Board (DUSIB) was created in 2010 by the Delhi government with focus on upgrading slums and JJ clusters which were before under MCD (Municipal Corporation of Delhi). Through Delhi Slum and Rehabilitation and Relocation policy of 2015, the DUSIB has been working with JJ clusters to improve their living condition. The policy states that DUSIB shall provide improved accommodation to those living in JJ clusters, either on the same land or in the 5 km proximity to the original land. In

exceptional circumstances, it can be even beyond 5 km with prior approval of the board. This initiative fails to accommodate the needs to diverse JJ clusters which had come up in city in different time periods as it targets for a generic physical change without considering the socio-economic contexts.

### *Choice of case study*

In context of upgrading the JJ clusters, the viability and jurisdiction become complex due to land ownership. Only 106 out of 675 clusters falls under DUSIB, a body under Delhi government. DDA, a central government authority owns the land of the maximum number of 365 clusters with 157,217 dwellings. However, there are clusters with contested land ownership halting the impacts of long term planning either from city or central government. Along with the question of jurisdiction, the urban disaster risks and fragile socio-economic conditions shapes the landscape of informal settlements most at risks.



(Figure 18)- Land owners of JJ clusters in Delhi (Source: DUSIB).

The selected case of JJ cluster masoodpur slum officially known as 'Jai Hind camp' is located on the contested land between DDA and villagers. It also had witnessed multiple number of times wide spread fire hazards and prone to other climate induced stresses including heatwave, water logging etc. At the same time, it consists of varied groups of people based on religious faiths, place of origin and people indulged in informal livelihood of waste collection and recycling. The following sections details these aspects and later identifies the concerned multi-level actors and their role played involved in the evolution of Masoodpur slum.





(Figure 19)- The visible usage of different building materials in Masoodpur Basti

(Source: author)

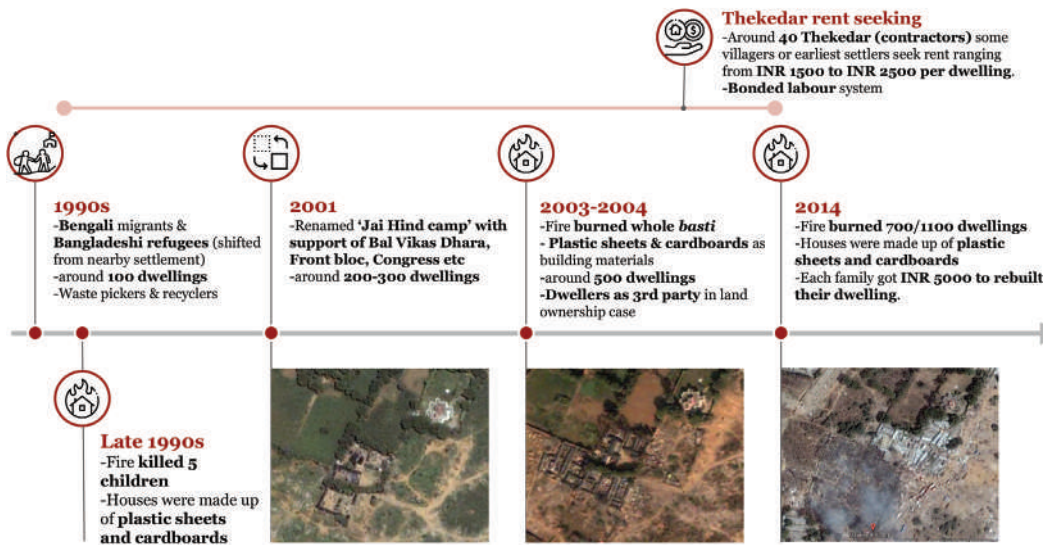


### 4.5 Case Study: Masoodpur Basti



(Figure 20)- Location of Masoodpur with neighboring context (Source: Google earth).

The Masoodpur *Basti* also known as Jai hind camp is located in Vasant Kunj, South Delhi district in National Capital Territory (NCT). South Delhi is one of 11 districts in the national capital, surrounded by the state of Haryana on the south side. The locality of Vasant Kunj is one of the famous and expensive area to live in Delhi as it is right next of Indira Gandhi International airport and in close proximity to the commercial hub of Gurgaon in Haryana. As similar to other areas in Delhi, Vasant Kunj also has slum settlements scattered across the areas, where Masoodpur *Basti* is one of them. This section profiles the Masoodpur settlement and its evolution with its multiple disaster experiences.

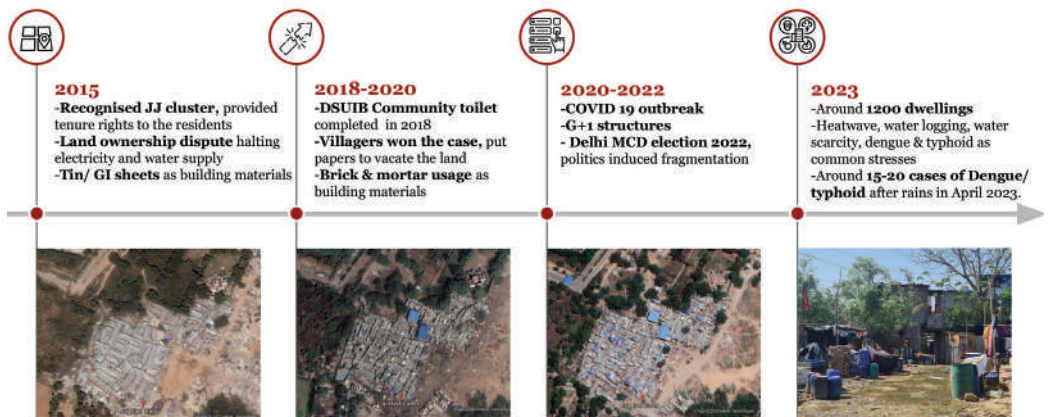


(Figure 21)- Evolution of Masoodpur slum with urban disasters-Part I (Source: author).

## Before 2000

The settlement of Masoodpur basti (Hindi word for settlement) was started in early 1990s with Bengali migrants from eastern states of India predominantly from Dinhata in Cooch Behar district of West Bengal and some from Assam. Most households at that time were Muslims and built a mosque with bamboos and cardboards for praying within the settlement. In 1990s, there were around 100 dwellings on the land controlled by Thekedars (Hindi word for contractor), who used to seek rent per month per dwelling. At the same time, forced eviction of another basti for the commercial development project led to expansion of the settlement. Almost all households engaged in informal waste collection and scrap dealing business, with male members collecting waste door-to-door in nearby colonies and women engaged in helping the sorting of waste within the settlement along with working as domestic helper in nearby households.

**First major fire:** In the late 1990s, the first major fire disaster took place due to candle mishap and killed 5 children in two adjacent dwellings. The people believed there were two main reasons for the disaster: firstly, the use of candle as there was no electricity connection to the settlement and secondly, the



(Figure 21)- Evolution of Masoodpur slum with urban disasters-Part II (Source: author).

dwellings were built with inflammable materials like cardboards, plastic sheets, clothes etc which generally households take from the collected waste.

### Period of 2000-2014

In 2001, to counter issues for basic services and getting recognition in the city, the settlement was renamed as 'Jai Hind Camp' with active support of local Ngo- Bal Vikas Dhara (BVD) and, political parties including All India Forward bloc (AIFB) and Congress. The name means 'Victorious India' was based on the principles of AIFB, which was faction within National congress party led by Netaji Subhash Chandra Bose, Indian freedom fighter. The change of name from a Muslim sounding 'Masoodpur' to 'Jai Hind' seems to be the attempt to align with nationalist agenda of Hindu state by suppressing other minorities imprints specially Muslim.

Second major fire: As per the BVD co-founder Mr Debendra Kumar Baral, the 2004 fire was quite devastating turning most dwellings in to ashes. The joint synergy of BVD and settlement leaders including the Imam of Mosque raised the need to work towards accessing basic services and tenure rights.

*“We are not dirty; we are the one who pick up the dirt from the city”- Mr  
Debendra Kumar Baral, BVD*

The above slogan aims to highlight the role of the people of Masoodpur slum in city and calls for provision of necessary services and infrastructure required to their sustenance. However, the land being claimed by local rent-seeking villagers and Delhi Development Authority (DDA) led to the court case of the ownership and further distanced the access to services and tenure rights from the dwellers.



(Figure 22)- Waste sorting in Masoodpur slum (Source: author).

One other prominent aspect in the settlement was the evolution of Thekedar (Hindi word for contractor) rent seeking system. Initially, the villagers claiming the land used to be the sole contractors seeking rent ranging from INR 1500 to INR 2500 from the settlers, however, with the expansion of the settlement, some initial settlers also started seeking rent from the new members coming from their own contacts. Not just rent, the newer members were only allowed to sell their collected waste to the person who brought them into the settlement at lower prices than market and were prohibited to sell collected waste directly to others in market. Mr Debendra Kumar Baral calls it as ‘Bonded labour system’, which is legally abolished by the Bonded Labour System Abolition Act of 1976 in India and could lead to severe punishments and bonded debt repayment (Parliament of India 2/9/1976).



### *Fire of 2014*



(Figure 23)- The aftermath of 2014 fire in Masoodpur slum (Source: SEEDS).

On 25th April 2014 morning, the cooking cylinder blasts in one dwelling engulfed around 700 dwellings made up of plastic sheets, cardboard, steel sheets and bamboo. The fig 14 shows the aftermath destruction caused by the fire in the slum which left around 5000 people homeless.

*“The continuous blasting of cooking cylinders for 15-20 minutes resembled like **some kind of bomb explosions**,”* said Avil Khan, a scrap dealer from Masoodpur slum

Despite the huge fire disaster, there were no casualties reported and around 30-40 people had minor injuries. The *Pradhan* Mintu (current community leader) associates it with the fact that the fire took place in daytime, which helped the easier escape.

After the fire, the Lieutenant Governor of Delhi, Mr Najeeb Jung visited the spot with other senior officers to check the rescue operation and ordered the disaster management team to provide immediate relief in terms of food and tents to the affected families and promised for compensation. Later, district authorities, NGOs and other personals came to the spot to provide the relief materials to the families and Delhi Jal Board arranged the temporary water tankers and toilet facilities. In the meantime, the households were directed by district authorities

to build back their dwellings in the same place as before and no need to pay rent to anyone from within or outside the settlement.

*“DM (District magistrate) said that this land is a government property. Where you were before, you must re-build your dwelling at the same place. But villagers filed the case, initially 13 names from the settlement were added, making us the 3rd party in the case alongwith them and DDA (Delhi Development Authority)”* said Fatima, community toilet caretaker

The families were given compensation of INR 5000 (around USD 60.6, as per 8th June 2023 rates), which was not enough to build their dwelling, so families used the whatever tin sheets they could use after the fire and other materials gathered from scrap collection. Although the fact they no longer need to give rent and were given some form tenure security gave them some relief but the self-reconstructed dwellings resembled the same vulnerable characteristics due to the use of inflammable materials for dwellings with illegal cooking cylinders and electricity wirings - a perfect recipe for another fire.

### **Post 2014 fire -2023**

Post 2014 fire, the settlement was recognised as the last JJ cluster which gave dwellers tenure rights and increased their hopes of getting electricity and water supply. However, the tenure rights had halted the Thekedar rent seeking and bonded labour system and land claims of the local villagers, which led them to file the court case to reclaim the land, hindering the provision of water and electricity supply within the settlement. It didn't hinder dwellers from investing the extra money in improving their dwellings with more durable and fire proof materials like tin sheets and later with some houses with brick and mortar with higher plinth level.

The fire put the settlement on Delhi map and gained attention of multiple organizations working with settlements with similar challenges to Masoodpur to address the access to basic services and infrastructure. One such organization was FORCE NGO, located within the 1 km distance from the settlement facilitated the development of community toilet and water distribution system from tankers with the support of DUSIB, Delhi Jal Board (DJB) and active woman representative Fatima from the settlement.

Later the world wide COVID-19 had impacted the settlers adversely especially their livelihood. Everyone was forced to stay home with almost no food and limited money. Some generous employers of women domestic helpers supported some households by giving monthly set salary with some organizations like Meals on Wheels, Rotaract club of Sri Aurobindo college and SEEDS Ngo facilitated provision of food relief packages.

During the COVID-19 era, the villagers won the land case in 2020 against DDA and dwellers, the responders blamed the inaction of DDA and key players from the settlement. Aftermath, many villagers took the compensation from the concerned government for the land but some filed a PIL (public interest litigation) to vacate the land. This moved the case of land ownership to higher court as per the Imam of the Mosque, which still awaits the verdict.

The 2022 Municipal Corporation of Delhi (MCD) election, the local political leaders took interest in the settlement consisting of 5000-6000 people with at least 1000 legal voters and set up their base. The local actors also saw it as opportunity to negotiate the access to basic services with the promised political support. However, the winning leader from BJP (Bhartiya Janta Party) had become passive post victory, leaving the settlers on its own to deal with issues of land tenure-ship and services.



Time period	Key points	Multi- Level actors and governance	
		Place-based actors, groups & networks	Civil society organisations / NGOs
<b>Before 2014</b>	1. Settlement name change from 'Masoodpur'(Blessed/lucky in Urdu) Basti to 'Jai Hind camp' (Victory of India). 2. Contractor rent-seeking and no tenure rights 3. Bonded labor system 4. Dwellings were made of inflammable materials	1. Mosque Imam 2. Contractors (Villagers) 3. Contractors (Dwellers) 4. Community doctor 4. Waste recyclers 5. Women workers 6. Muslim households 7. Hindu households	1. Bal Vikas Dhara (BVD)
<b>2014 fire &amp; JJ cluster recognition</b>	1. Rebuilding and reconstruction. 2. Land ownership dispute led to a court case between Villagers and DDA	1. Community leader 2. Community women leader 3. Villagers 4. Mosque Imam 5. Community doctor 6. Waste recyclers 7. Women workers 8. Muslim households 9. Hindu households	1. Bal Vikas Dhara 2. Rotaract clubs
<b>Post 2014</b>	1. MCD 2022 election 2. Community toilet construction. 3. Some dwellings are constructed with brick and mortar	1. Community leader 2. Community women leader 4. Mosque Imam 5. Community doctor 6. Waste recyclers 7. Women workers 8. Muslim households 9. Hindu households	1. Force NGO 2. Tejasasia

(Table 3)- Multi-level actors &amp; governance in Masoodpur slum in different phases- Part I (Source: author).

Multi- Level actors and governance		Remarks
State bodies	Transnational organisations	
1. All India Forward Bloc (AIFB) & Congress 2. Police 3. Delhi Vidyut Board	1. European Union for external action 2. International Alliance of Waste Pickers	1. Was erasing the Muslim name of the settlement an example of <b>'Nationalist' propaganda?</b> 2. Informal management systems like <b>rent-seeking and bonded labor</b> shape the socially vulnerable context.
1. Lieutenant Governor 2. Police 3. District magistrate 4. DDA		1. The major <b>fire in 2014 was the catalyst to get JJ cluster recognition</b> (some form of tenure ship.) 2. Halting contractor rent-seeking provoked villagers to file a court case and started their <b>'unsolvable conflict' over the land ownership with the dwellers &amp; DDA.</b>
1. Local politicians 2. DUSIB 3. DDA 4. Delhi Jal Board	1. Water Aid and Bank of America	1. <b>Local election politics induced fragmentation.</b> 2. Was the <b>Community toilet an incomplete service or was the necessary step taken?</b> 3. Self-improved dwellings increasing overall vulnerabilities within the settlement, an example of <b>Mal-adaptation?</b>

(Table 3)- Multi-level actors &amp; governance in Masoodpur slum in different phases- Part II (Source: author).





(Figure 24) Stagnant water after rains (Source: author)

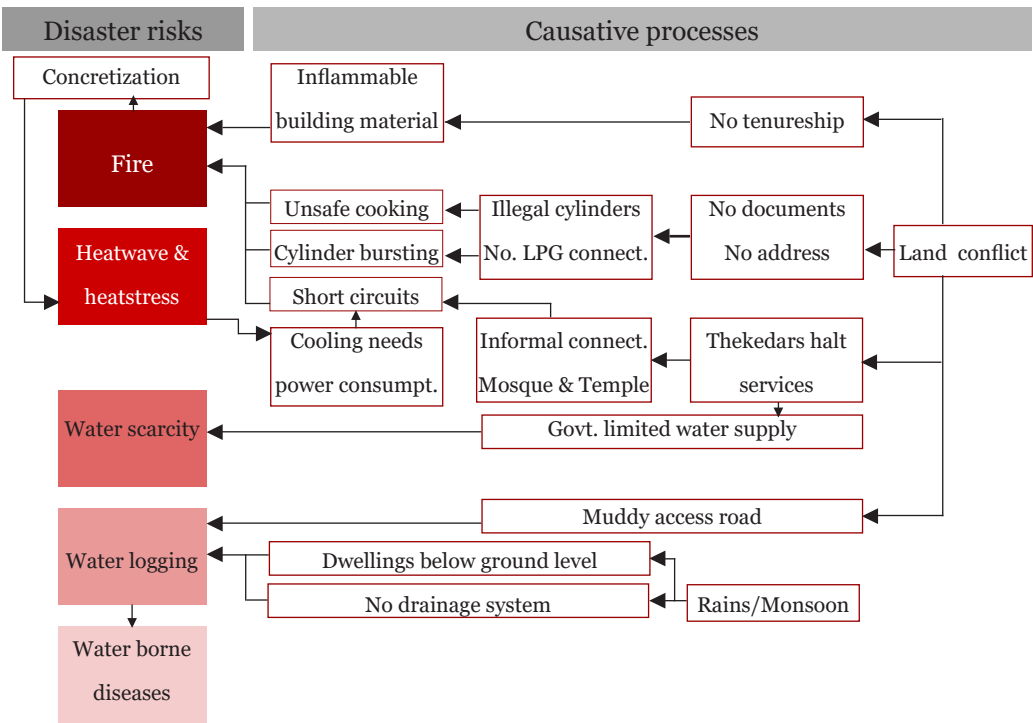


# Disaster Risks & Masoodpur Community

The subjective nature of disaster risks in informal settlements is less explored in disaster management. People's perception of risks and their interpretation of disaster information is shaped in a context defined by their experience, belief systems, and misconceptions about the hazards, the proposed actions, the information available, and its source. Consequently, disaster preparedness and risk perception pose many challenges, especially in informal settlements consisting of ethnic and cultural diversity with limited socioeconomic opportunities in cities (Odiase et al. 2020). By virtue of these challenges, people may choose not to be prepared and, in some instances, shows a false sense of safety among dwellers that others are more at risk than them preventing them to be prepared. Thus, understanding disaster risk scapes in relation to the varied risk perceptions and interpretations becomes crucial in building community resilience.

This section consists of two parts, the first part frames the varied understandings of urban disaster risks in the Masoodpur slum and the associated challenges to their existence. The latter one built up on these challenges, to identify the relevant multi-layered collective actor's roles, power dynamic and points of conflicts hinting towards barriers.

### 5.1 Disaster Risks in Masoodpur Basti



(Figure 25)- Perceived disaster risks in Masoodpur slum (Source: author).

The disaster risks in Masoosdpur slum is conditioned by long-standing causative socio-political processes. The above figure illustrates these processes leading to disaster risks of water scarcity, heatwave, water logging, water borne diseases like dengue and typhoid & muddy access road during rains. These disaster risks are also perceived differently by the dwellers giving them the contextual meanings and know-about of associated challenges.

#### Fire

Although wide spread fire might not be the concern of people and authorities in Masoodpur after JJ cluster recognition as many had shifted to use more durable materials including brick, mordar, and cement. This shift had led to concretization of built environment leading to the issue of heatstress and the concretized surfaces also halted the water percolation and futher exaberating water logging issues due to rains. These causative processes interconnect fire with the local consequences of climate change. However, this transition is uneven, and still many households use plastic sheets and cardboards for their

built environment. The figure shows the case of the typical street in Masoodpur, highlighting the use of clothes and plastic sheets as roofing or shading the space alongwith bamboo as rafters and vertical support members in the latest hybrid construction in the settlement.



(Figure 26)- Left image showing the typical internal street of the slum and right one highlighted the inflammable materials in red used like bamboo, clothes and plastic sheets (Source: author).

The inflammable materials have retained their use in the settlement alongwith the underlying causes of fire hazards. The late 1990's fire was caused due to the use of candles due to lack of continuous supply of electricity and 2014 massive fire was results of bursting of illegal cyclinders use for cooking purpose. Both the root causes still are intact as residents of the settlement use illegal eletricity wires to connect with the commercial connection given to mosque and temple in the settlement and so does the use of illegal cooking gas cyclinders.

The villagers won the land case in 2020 as per some responders, but some had filed PIL to vacate the land and halted any development of services and infrstructure support to the slum dwellers, forcing them to rely on unsafe electricity and cooking practice. The investments in construction of dwelling with fire resistant materials might be positive switch but the continuity of use of inflammable materials, illegal wiring, unsafe cooking cyclinders still posses probability of fire hazards.

## Water scarcity



(Figure 27)- Water distribution in Masoodpur via tankers (Source: author).

The limited water tankers provided by Delhi Jal Board (DJB) is not enough to meet the water requirements of growing Masoodpur slum. There is no official data sets on the population growth of settlement, however, the families extension is natural and is also visible in form of G+1 or G+2 structures erecting up in the settlement compared to earlier ground floor structures only. This growth in population, hence the water needs are not reflected in increasing number of water tankers, leading to water scarcity.

*“Many a times water tankers come in 13-15 days interval, what can we do? Hence, we have to buy the water from other sources.” - Meena Biwi (Age 35)*

*“I have two cows, the water given to me is not enough for my family and cows!”- Tea kiosk owner.*

A total of around 6-7 water tankers provide water to 16 families per tanker. Considering the growth of number of families with inclusion of tenants and extended families with number of water tankers as constant figure, increases the duration of rotation family to receive water. The community women leader with support of Force NGO attempted to ensure alternative source of drinking water through a water purification unit in front of community toilet complex. It used



the the water supplied to the complex and purified it for the human consumption. The system was closed due to vandalism and over exploitation of the facility.

*“In the water purification unit, I used to fill three times a day, but the people used it for cleaning their vehicles instead of using it for drinking...”*- Community women leader.

*“If people do not value the interventions like water purification system, how will anyone think of providing us other facilities? It should be our collective responsibility”*- Community women leader.

For long term water supply possibilities, again the land become the crucial key to access, and with lesser probability of its resolvment in the near future, the dwellers could only hope for more water supply from tankers.

### *Water logging and drainage*



(Figure 28)- Water logging after rain April 23 (Source: author).

The composite climate of Delhi with dedicated rainy season Monsoon, has witnessed erratic and intensified rains, some often in other seasons. Same was the scene in the month of April 2023, it rained consequesntly for around 3-4 days, leaving water loggin and draiange challenges in Massodpur slum. The above figure shows the water logging situation after 2 days of that rainy period.



(Figure 29)- Most dwelling still have floor below street level (left image) and have drainage hole (right image) inside (Source: author).

The land of the settlement was initially lower than the access road levels, its implications are still visible in the many dwellings have floors at least 2-3 feet below internal street, which is 3-4 feet below the access road to the settlement in the many areas. This creates huge challenges for the residents from water logging due to rains, and could last for 4-6 hours after the rains as per responders. The 4-6 hour drainage time is also possible because of local adaptation measure called 'drainage hole'. They had created a hole of around 5-10 feet range, in floor of almost all dwellings.

*"Earlier, we had mud flooring and earth's water used to go into earth through the floor, but now, almost all dwellings have cement flooring creating water logging situation for hours in the settlement after rains."- Meena Biwi (35).*

The water logging after the rain is also the birth place of many water borne diseases including Dengue, Typhoid and malaria. At the time of field work in April, there were around 15-20 dengue and typhoid cases in the settlement. The lack of proper drainage could be credit to the issue of land tenureship, however, the critical view of the adaptation measures alongwith increasing cementing of soil surface hints towards 'mal-adaptation'.

### *Heatwave*

The extreme hot days within the settlement in summer could be higher than the outside temperature due to the predominant use of metal sheets for roofing even in brick houses and with limited or no ventilation. The observations during field work highlight the extensive use of cooling appliances including mostly water coolers, refrigerators to store food, cooling water, ice and even air conditioners in some dwellings. Here, it is important to highlight that these appliances consume large amount of electricity and therefore, the electricity bill per month could surpass INR 2000-3000, which is 5 times than their winter bills.



(Figure 30)- Water coolers are mostly placed outside the dwelling (left image) and refrigerator (right image) inside the dwelling (Source: author).

Once a lush green area as per google satellite images, today hardly has any tree to provide shade and enhance micro-climatic conditions, instead more than 1200 dwellings constructed with steel sheets, cement and plastic sheets, absorbing and reflecting heat within the settlement. Considering the limited water supply and illegal electricity to face heat risks, the Masoodpur slum sits at the forefront of severe impacts of heatwave and associated health hazards.

Disaster risks	Associated challenges
Fire	<ol style="list-style-type: none"> <li>1. Illegal electricity wiring leads to short circuits</li> <li>2. Unsafe cooking due to the use of un-authorised cooking cylinders</li> <li>3. Continuity of inflammable materials like plastic sheets, cardboards, and clothes</li> </ol>
Heatwave heatstress	<ol style="list-style-type: none"> <li>1. Heat absorbing and radiating materials for construction</li> <li>2. No or limited ventilation</li> <li>3. No green shaded space inside the settlement</li> <li>4. Huge electricity load in summer due to cooling appliances</li> <li>5. Limited water supply could lead to health hazards including dehydration</li> </ol>
Water scarcity	<ol style="list-style-type: none"> <li>1. Limited water tankers from state body</li> <li>2. Rising demand due to growth of the settlement</li> <li>3. Vandalism and exploitation of provided facilities</li> </ol>
Water logging	<ol style="list-style-type: none"> <li>1. The dwellings are lower than the access road.</li> <li>2. The concretization of surface reducing natural water absorption by the soil</li> <li>3. Unsynchronized construction practices</li> <li>4. No form of integrated drainage system</li> </ol>

(Table 4)- Disaster risks and associated challenges in Masoodpur slum (Source: author).

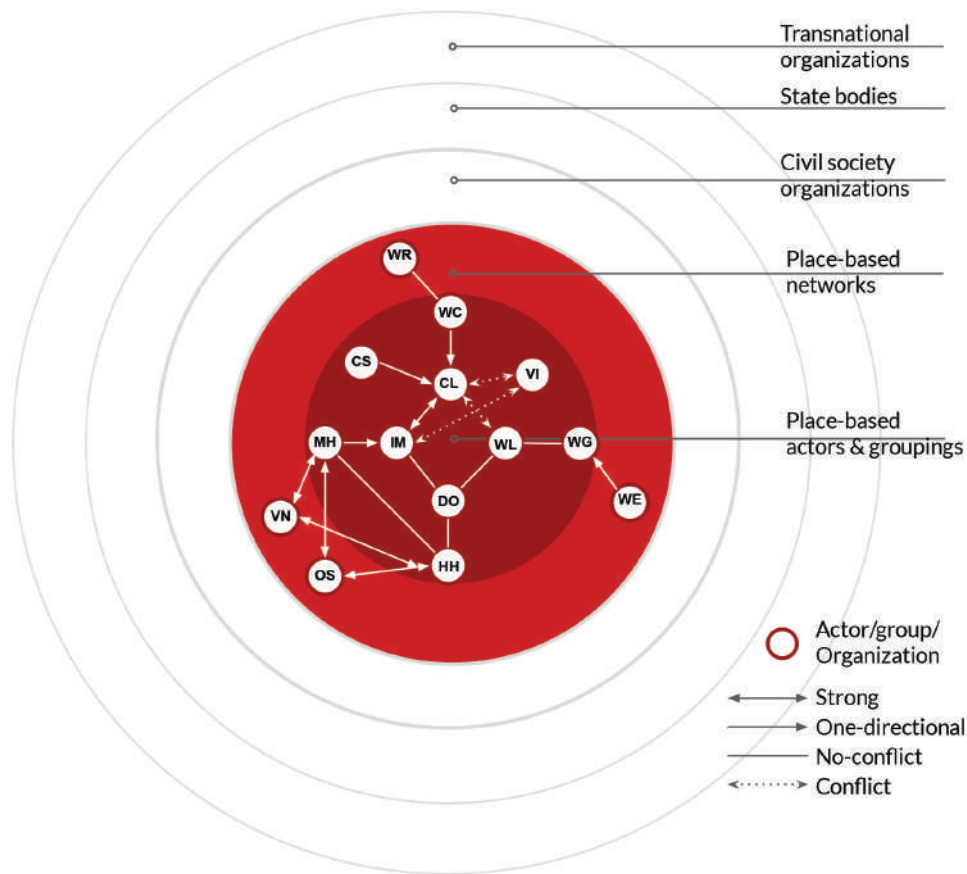
## **5.2 Masoodpur Community and Challenges**

The Masoodpur community is diverse and dynamic. As identified in the setting section, the diverse actors and groups constitute as collective actors in Masoodpur. These actors are initiators, negotiators and facilitators to take action to address the various disaster risks and their underlying issues. This section presents the situation analysis to identify the roles of identified collective actors, their power dynamics and conflicts, leading to identify the challenges posed to collective action.

The first part builds on the theoretical framework of multi-level bottom-up governance putting people at the center. The place-based actors and groupings are at the core as the vital actors in addressing risks and taking action. Their day-to-day networks with others including their employers, connections with other settlers and in their native villages of origin act as immediate layer, strengthening the support system of the settlement dwellers. Then comes the layer of civil society organizations, state bodies and transnational organizations as part of the concerned actors.

The second part of the focus here is to analyse the the relationship among these diverse set of actors and identifying the challenges to collective action. This analysis is inspired from stakeholder's onion diagram and provides the scenario of power dynamics, points of cooperation and conflicts. These challenges later inform the barriers to collective actions and further to community action.





Place-based actors		Place- based groupings		PLace-based networks	
<b>CL</b>	Community leader	<b>WC</b>	Waste collectors and recyclers	<b>WR</b>	Waste recyling agencies
<b>WL</b>	Women leader	<b>WG</b>	Women workers group	<b>WE</b>	Women employers
<b>IM</b>	Mosque Imam	<b>MH</b>	Muslim households	<b>OS</b>	Other settlements
<b>DO</b>	Community doctor	<b>HH</b>	Hindu households	<b>VN</b>	Native villages
		<b>CS</b>	Contractors (settlers)		
		<b>VI</b>	Villagers		

(Figure 31)- The dynamics of place-based actors and groupings (Source: author).

### 5.2.1 Place Based Actors and Groups

The community leader is the main mobiliser in the settlement with the support of Mosque Imam. The waste pickers and mostly muslim households, constituting the majority of the settlement align themselves with community leader's action. The contribution of these relationships had led to manage informal waste management livelihood, electricity and even water supply at its provisional state.

Many responders claimed the rent seeking business of community through various management initiatives on monetary costs to the dwellers. The women leader is continuous in conflict with the community leader over its in-action to resolve the core issue of tenureship and rent seeking programs. On the other hand, community doctor remains silent on many issue to avoid conflicts with other actors.

#### Key Challenges:

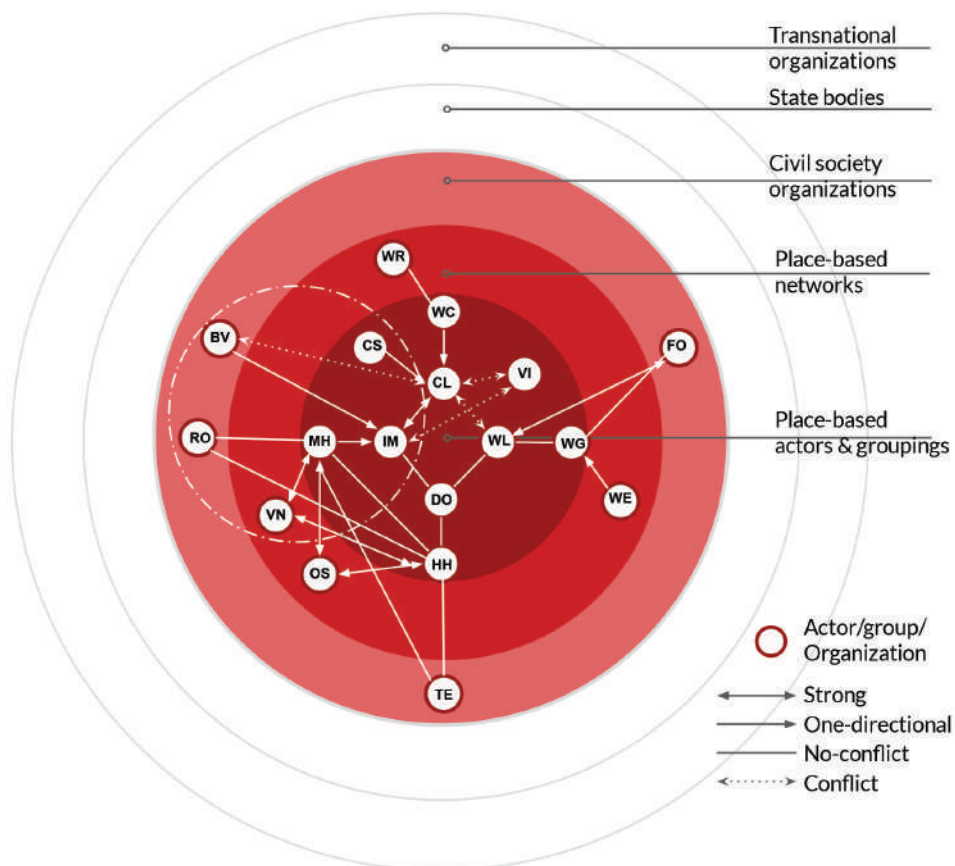
##### *Place-based actors*

1. **Conflict between women leader and community leader** over his inaction to mitigate urban disaster risks and rent seeking attitude.
2. Imam supports community leader and believe in engaging with political leaders but have **mistrust on civil society organisation due past experiences.**
3. Community leader directed not to share identity documents with others, shows **mistrust on others actors.**
4. **Inaction of Imam and doctor** on addressing long standing issue of land tenureship, to avoid conflicts with villagers and other actors.

##### *Place-based groupings*

**5. Insecure livelihood:** The major livelihood activity 'waste picking & recycling' and people involved are not integrated into recognised waste management system even by 2016 Solid waste management act.

**6. Unclear land ownership** due to multi-level politics induced inaction, Villagers halted services provisions.



Place-based actors		Place- based groupings		PLace-based networks	
CL	Community leader	WC	Waste collectors and recyclers	WR	Waste recycling agencies
WL	Women leader	WG	Women workers group	WE	Women employers
IM	Mosque Imam	MH	Muslim households	OS	Other settlements
DO	Community doctor	HH	Hindu households	VN	Native villages
		CS	Contractors (settlers)		
		VI	Villagers		
<b>Civil society organizations / NGOs</b>					
BV	Bal Vikas Dhara				
FO	Force NGO				
TE	TejasAsia				
RO	Rotaract club				

(Figure 32)- The dynamics of place-based actors &amp; groupings and major civil society organizations (Source: author).

7. Women workers (around 80% of women) are working quite early to late evening and have almost **no time to engage in discussions and actions**.

8. Some muslim households have faced deportation to Bangladesh in past, led to **fear & anxiety among many to share identity documents** and to take action.

**9. Mal-adaptation:** Many households are now built with higher plinth and G+1 floors, making water logging and drainage severe for other households.

### **5.2.2 Civil Society Organizations / NGOs**

The civil society organisation like Bal Vikas Dhara were active in the settlement from the early 1990s. The settlement due to its diversity of socio-economic issues had attracted many NGOs, the BVD and Force NGO played instrumental role in facilitating many initiatives including access to basic services including electricity through mosque and temple, water tankers, community toilet construction.

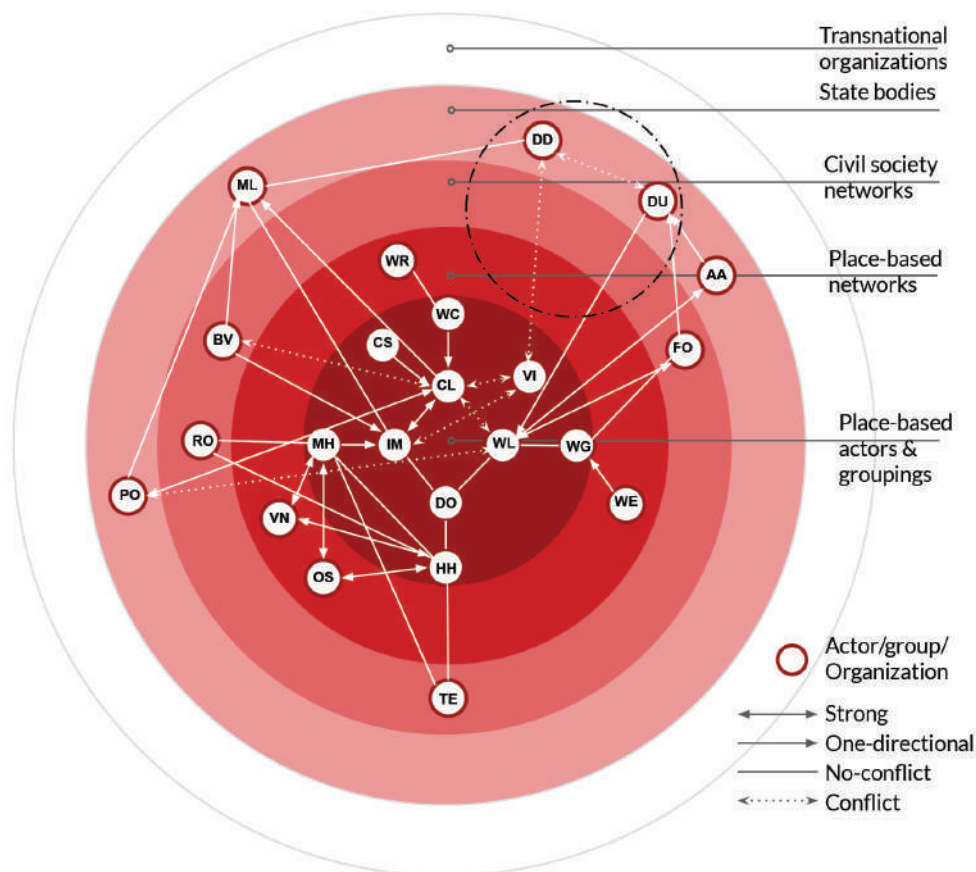
*“BVD has shown us the direction to go on! but other NGOs had just come and gone”- Imam*

The organisations including TejasAsia with its focus to bridge the education gap among the children to get admission in nearby schools along with free meals is presently active with limited or no interaction with other actors. The other social-welfare clubs like rotaract club of Sri Aurobindo college is active in the settlement for weekly ration distribution and other activities also with no interaction with other actors.

### **Key Challenges**

**10. No synchronization and even competition among local NGOs** to get their projects done. Eg. Community toilet construction without drainage provision- an incomplete service?

**11. Political contestations induced groupings demotivated BVD** (Bal Vikas Dhara) to continue engagements and their work in settlement.



Place-based actors		Place- based groupings		PLace-based networks	
CL	Community leader	WC	Waste collectors and recyclers	WR	Waste recycling agencies
WL	Women leader	WG	Women workers group	WE	Women employers
IM	Mosque Imam	MH	Muslim households	OS	Other settlements
DO	Community doctor	HH	Hindu households	VN	Native villages
		CS	Contractors (settlers)		
		VI	Villagers		
Civil society organizations / NGOs		State bodies			
BV	Bal Vikas Dhara	DD	Delhi Development Authority		
FO	Force NGO	DU	Delhi Urban Shelter Improvement Board		
TE	TejasAsia	AA	Aam Aadmi Party		
RO	Rotaract club	ML	Local municipality leader		
		PO	Police		

(Figure 33)- The dynamics of place-based actors &amp; groupings, civil society organizations and state bodies (Source: author).



### 5.2.3 State Bodies

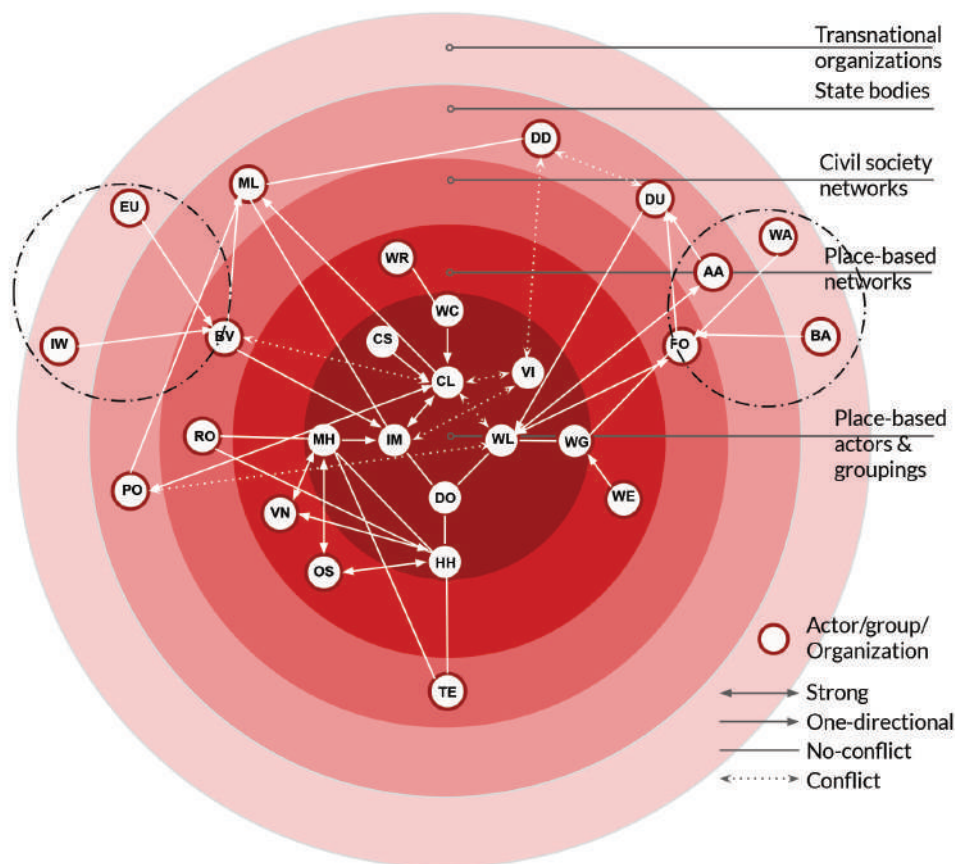
The state bodies are crucial actors with power and resources to dictate major changes. The JJ cluster recognition was one such action taken by Delhi government bodies, giving hopes to dwellers for further access to basic services and dignity as the Delhite. However, the delays in resolving tenureship issue of dwellers and conflict with villagers had halted the access to key infrastructure services. At the core of this issue lies the complex governance system of national capital, with land owned by the central government entity; DDA and services and improvement schemes are mobilised by state government entity; DUSIB, and two different political parties with no point of convergence.

The initial links with state bodies were established with the support of Bal Vikas Dhara and Force NGO to claim the basic services and rights in the city, however, the path to access become political for the local actors. The community leader and women leader from the settlement were approached by two key political parties; Bharatiya Janta Party (BJP)- central government and Aam Aadmi Party (AAP)-state government to attract the voters for local municipality elections. This had further fragmented the settlement with external induced political contestation with same vision to address the issues within the settlement. Although, the winning candidate was in-active towards the Masoodpur slum's issues and was not seen after the election, however, the community leader established strong links with local police through political support to extend his legitimacy within the settlement.

### Key Challenges

**12. Power politics** induced from complex governance, influenced the work of civic bodies including MCD (Municipal Corporation of Delhi), DDA (Delhi Development Authority) & DUSIB (Delhi Urban Shelter Improvement Board).

**13. Privatisation of waste management with no strong steps to integrate the waste pickers & recyclers** despite 2016 Solid Waste Management act.



Place-based actors		Place- based groupings		PLace-based networks	
CL	Community leader	WC	Waste collectors and recyclers	WR	Waste recycling agencies
WL	Women leader	WG	Women workers group	WE	Women employers
IM	Mosque Imam	MH	Muslim households	OS	Other settlements
DO	Community doctor	HH	Hindu households	VN	Native villages
		CS	Contractors (settlers)		
		VI	Villagers		
Civil society organizations / NGOs		State bodies		Transnational organizations	
BV	Bal Vikas Dhara	DD	Delhi Development Authority	EU	European Union
FO	Force NGO	DU	Delhi Urban Shelter Improvement Board	IW	International Alliance of Waste Pickers
TE	TejasAsia	AA	Aam Aadmi Party	WA	Water Aid
RO	Rotaract club	ML	Local municipality leader	BA	Bank of America
		PO	Police		

(Figure 34)- The dynamics of overall multi-level actors including transnational organizations (Source: author).

### 5.2.4 Transnational Organizations

The role of transnational organizations was limited to support civil society organizations in their initiatives, for instance Bal Vikas Dhara in relief materials distribution and awareness to waste management among slum children by International Alliance of Waste Pickers and European Union External Action.

“Children are the future and can make a big difference in helping to protect the environment. Environmental awareness is a priority for the European Union, and today’s fun filled informative activities with organizations like Bal Vikas Dhara can lead to awareness and behavioural change in our communities, which can go a long way to protect our surroundings.” Mr. Shouvik Datta, Senior Programme Manager, EU Delegation in India (Source:EU)

On the other hand, Water Aid and Bank of America facilitated the instalment of alternative source of purified drinking water, but due to its operation and maintenance issue, the facility was closed after few months of operation.

### Key Challenges

14. **Limited and close ended role:** The role of transnational organizations was limited to support civil society organization’s program or initiative within the Masoodpur slum.

15. Local **context knowledge** could be questioned as the closure of water purification facility due to vandalism and over-exploitation by the locals in the slum.





(Figure 35)- Internal street of Masoodpur Basti showing the informal electricity wiring (Source: author)

# Towards Barriers

This section interlinks the challenges to the collective action of multi-level actors as building blocks to unravel the barrier to community resilience in Masoodpur Basti. It interprets the barriers in relation to the relevant literature as summarised in section 2.3.4.

The challenges raised in the last chapter are collated into four main barriers using an inductive approach. Firstly, the unclear nature of land access blocking services and infrastructure access within the settlement and also highlighting how this barrier is formed through informal and formal negotiations of different actors including state authorities and private interest groups. Second, the culture of rent-seeking is rooted in the commercialization of provisional services like electricity by some people within the settlement creating a conflictive environment between facilitator and receivers. Third, questioning the citizenship of socio-economic minorities creates fear and insecurities among many in contrast with some who could secure citizenship through personalised relationships with powerful actors. Lastly, the fragmented informal settlements act as the arena for power politics among political parties during the election along with its adverse impacts on widening the cracks within the settlement affecting their development initiatives.

These barriers further possess interlinkages as highlighted in section 7.5 in correlation with multi-layered governance to understand how these barriers are limiting their actions in facilitating processes of building resilience.



### 6.1 Formal-Informal Negotiations Shaping Unclear Land Access

Land tenure ship has been the central subject of concern to access basic services in informal settlements (Parikh et al. 2020). The insecure tenure is not only an obstacle to accessing the infrastructure but also acts as a barrier in various aspects of one's life because it is used as a proxy to decide the legitimacy of citizens (Bhan et al. 2020). On land access in an urban context, Roy highlighted the state's use of informality as a tool of accumulation and authority, allocating the land arbitrarily for different forms of urban development, and placing itself outside the law during the process (Roy 2009, p. 81). The JJ cluster recognition after the 2014 fire in the Masoodpur Basti, which gave a basic form of tenure-ship to the dwellers in an instant, was one such act of state authorities. This raises a critical question, how a disaster event can act as a catalyst for achieving something that seemed impossible before the event like land tenure-ship in the case of Masoodpur Basti?

Before addressing the question, it is important to reflect on the role of state authorities, which acted as the sovereign keeper of the laws. The land conflict between Thekedars (Local villagers as landlords) and DDA (Delhi Development Authority) originated post-JJ cluster recognition, challenges the sole authority of state actors on the land. The political economy perspective on Masoodpur Basti's case resonates with the scholarship of understanding land conflicts as competitive struggles between individuals, communities, state authorities, and private or other interests to access or control the profits that can be drawn from a particular land parcel (McMichael 2016, p. 2723). The instantaneous land tenure-ship given by the state reflects their political motive to deal with criticism of their failure to avoid the disaster within their administrative boundaries and its rippling effects. On the other hand, the compromised economic benefits due to the sudden halt on the rent-seeking contractor system of Thekedars led them to take the land ownership to the court. The interactions and negotiations motivated by political-economic interests among actors highlighted angle to answer how a disaster event acted as a catalyst for land tenure-ship, and further the complexity of land conflicts in informal settlements.

The tenure-ship given by state actors through JJ clusters scheme and the land ownership case won by Thekedars, makes the land access unclear and put the dwellers in flux. This ambiguity reinstated 'informality' into the larger context of

governance, where Etzold et al. introduced the term ‘arena’ as economic, social, temporal and physical ‘space’ of interaction between actors. Further, it concedes what is formal or informal is subjected to the perspective of the actors involved (Herrle and Fokdal 2011, p. 8; Etzold et al. 2009, p. 9). The oscillation between informal and formal labels was also discussed in case of informal housing provision for migrant workers in context of urban villages in Pearl River Delta, South China. The urban villagers build housing falling outside local building regulations are considered informal by local city authorities, but were benefitted from this provision as it lowers social unrest from the side of migrant workers and saves their resources for investment in basic infrastructure (Herrle and Fokdal 2011, p. 11). Masoodpur Basti also oscillate between formal-informal labels, as its JJ cluster recognition acted as the step towards formalization, but the land case won by Thekedars enforces the settlement to be labelled as informal, although the land ownership case has been taken to higher court.

Questioned negotiations shaping unclear land access as a barrier. The conflictive nature of the informal settlements in Durban with its neighbours and the location on partly public, partly private land had impacted on the ability of city system and actors for the long-term planning (Parikh et al. 2020). The unclear land access in Masoodpur Basti raises questions on the nature of formal-informal negotiations; what is the role of state authorities in land access negotiations when the land is partly public and partly private? And how come the Judiciary system in land case overlooked the existence of informal settlements on the land and their exploitations over decades for private interests of so-called landlords? The direction of answering these questions is hinted in literature describing whole city as the product of negotiations and the power play between collective actors (Herrle and Fokdal 2011, p. 10). Though, the state, place-based and private actors are part of this negotiations and shaping the city, but most often their political-economic tussle over land take them far from forming collective synergy, to the extent of creating environment of exploitation in informal settlements and halting processes of development and resilience building.

Also, the case of study illustrated that the political-economic tussle is not just between state and private actors’ level, it is also evidently existed at the other place-based actors and groupings level shaping mistrust and conflicts among them - which is the focus of the next sub-section.

## 6.2. Culture of Rent-Seeking and Conflicts

The concept of rent-seeking is not new in the context of informal settlements, it has been discussed in the form of corruption or bribery by the informal dwellers to the state actors in return for certain favours like avoidance of action on informal activities, access to services or land, and relaxation in regulations (McMichael 2016, p. 2724; Aklin et al. 2015, p. 209). However, the focus here is to understand how the culture of rent-seeking with pieces of evidence from Masoodpur Basti, can lead to longstanding conflicts among various actors in informal settlements. Further, these conflicts hinder collectivization and ultimately acting as a barrier to community resilience in the context of informal settlements.

Rent-seeking, a more economic and political term has social costs associated with the collection or lobbying for or against tariffs, promoting activities to establish monopoly, and development of human or physical capital to facilitate or protect against theft (Tullock 1967, p. 232; Choi and Storr 2019). Rent-seeking is most commonly used in literature to describe the activities of lobbying, bribery, and corruption and can be socially productive under certain conditions. But, most often are unproductive use of resources to seek wealth rather than creating it (Choi and Storr 2019). Similarly, the rent-seeking practices in Masoodpur could be looked at from both lenses; productive use of it in providing access to electricity and managing informal waste picking and recycling livelihood to avoid hindrances from local police and other actors, and the un-productive side of it leading to mistrust and conflicts among key actors.

At the local community level, Nurul and Mohammad highlighted the productive side of the rent-seeking-driven informal system of accessing services like water supply in the slums in Dhaka at higher rates than what middle-class families in the city had to pay and termed it a 'Win-Win' situation (Huda Sakib and Tarikul Islam 2017). At the same time, they hinted toward the potential conflict due to the corrupt practices of state authorities, power elites, and landlords within the slum (Huda Sakib and Tarikul Islam 2017). A similar case of rent-seeking in the slum upgrading in Nairobi had led to the processes of commercialization of inadequate basic necessities like water, shelter, refuse collection and even sanitation, resulting in the complex structure of economic stakeholders extracting profit from inadequate services (Huchzermeyer 2008, p. 20). The 'Win-Win' situation in Masoodpur Basti of informal electricity connections via Mosque and Temple

is also characterized with over-pricing and illegal wiring- a cause of short circuits often leads to conflicts where many a times local police were being involved by community leader for resolution and suppression. The women leader-one of some who had raised voice against the rent-seeking related to electricity and informal waste livelihood is in continuous conflict with the community leader had reported of facing multiple police confrontations. The conflicts had affected various initiatives taken by the women leader with support of NGOs, for instance- the blockage of the surface water drainage of the community toilet and also halted water supply line provision attempts facilitated by Force NGO in the settlement. The culture of rent-seeking in context of Masoodpur Basti had led to longstanding conflicts among key actors within the settlement and hindered the provision and access of the services needed to build resilience among the dwellers.

The culture of rent-seeking and its two flip sides being productive and unproductive raises critical questions in informal settlements. Firstly, whether the provision of inadequate services at the higher costs really 'Win-Win' situation for everyone within the settlement where many people are already at the bottom of socio-economic hierarchy; secondly, the rent-seeking culture in informal settlements also questions the role of local leadership in building resilience, which focuses on benefitting from the provision of inadequate services and its expansion.

### 6.3. Questioned Citizenship between Security and Insecurity

The informal settlers are at the forefront of citizenship checks. Weffort describes them as 'half citizens' as they are most often suspected as criminals and lesser citizen by Police and other actors (Weffort 1992; Koster 2014). For Police, the boundary between the image of the poor and that of a criminals is very thin indeed as observed in the case of poor workers facing Police actions in Brazil (Caldeira 2002, p. 248). The settlers in Masoodpur Basti as Bengali speaking Muslims are easily targeted as illegal Bangladeshi immigrants widening the poor socio-economic characteristics to include language and religion, as the base for who is citizen and who is not (Ramachandran 2003, p. 641). The perception bias based on socio-economic profile to question citizenship by powerful actors including Police is a living reality among informal settlers.

The dichotomy of security and insecurity of citizenship formation present multiple challenges in informal settlements. The study of identity cards in Recife slum in Brazil, showed the unofficial practices with regard to discretion exercised by police officers and in their personalised relationships between informal settlers and state representatives also securing their citizenship (Koster 2014). The official process of citizenship is based on legal documents and with unclear land tenure-ship in Masoodpur Basti as discussed in section 5.1, the informal settlers cannot even claim legal, civic or social rights in the capacity of citizens (Carpi 2015). The Forum of informal urban poor workers in India, which is a coalition of 8 NGOs and 18 federations at national level generated a manifesto to seek identity documents for urban poor through their livelihood activities if they does not possess land titles as they contribute more than 7.5% to GDP in 50 major cities (Forum of Informal Urban Poor Workers 2014). This alternative is also not free to challenges as most urban poor are indulged in informal livelihoods, for instance the dwellers in Masoodpur Basti are informal waste collectors and recyclers and despite the 2016 act of solid waste management, are not integrated within the system the private contractors see them as managerial hassle for them. Hence, as observed in the case of study, the dwellers attempt to gain identity documents through 'other' means including over-paying to middle man. Further, the presence of identity documents itself does not guarantee citizenship in context of informal settlers, they are subject to socio-economic prejudice and without the personalised relationship with powerful actors deemed to suffer police confrontations and exploitations.



Insecurity among informal settlers around sharing of identity documents is also linked to their questioned citizenship. The informal dweller's perspective how they see the state, their relation to the state, and, in that relationship, how they see themselves is important to understand the underlying roots of the insecurity among them regarding citizenship issues (Koster 2014). The state is most often represented by police in context of informal settlements with some rare visits of other state actors, make them the most common state-subject encounter (Koster 2014, p. 225). These encounters are generally fearful at the end of the dwellers in Masoodpur Basti due to factors like history of forced deportations (refer section 5.2.1), NRC-CAA act in relation to nationalist propaganda against Muslim minorities (refer section 4.1), and socio-economic bias based criminal profiling. These insecurities also motivated them to make undesirable changes to align with nationalist propaganda as evident by changing the Muslim sounding name 'Masoodpur' to 'Jai Hind' (*Victorious India*) camp in Masoodpur Basti with the support of political representations and other actors. Therefore, the perspective from below highlights insecurities state-subject relationship as the informal dwellers are generally perceived as 'others'.

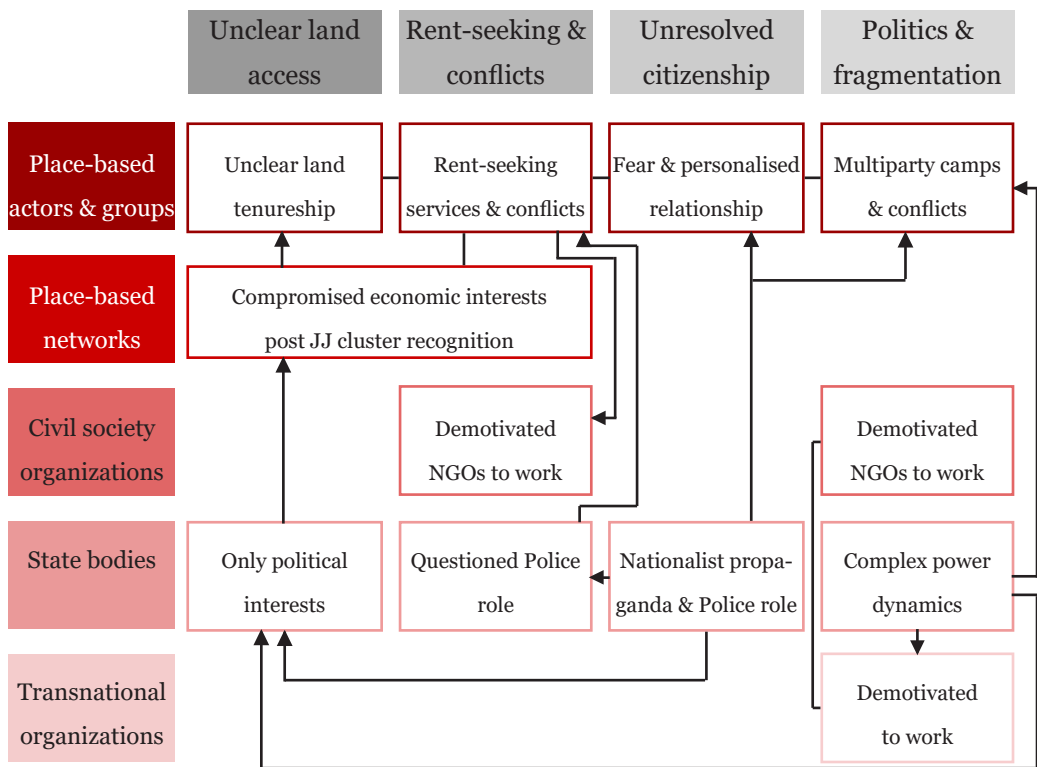
The questioned citizenship is not just hindering the access to their right to the city but also shaping insecurities everyday life in Masoodpur Basti. However, the impacts of this barrier are not evenly distributed across the settlement, as personalised relationships had flourished between stronger actors like community leader, women leader or Mosque Imam with external powerful actors acting as ways to secure citizenship. These personalised relationships further help the strong actors within the settlement to establish power and legitimacy over their actions and suppression of the voices of opposition from dwellers.

#### 6.4 Fragmentation Shaping Arena for Power Politics

Political battles are generally contested around the key challenges faced by the city, including the issues related informal settlements. Instead of addressing the issues together, the leaders often are entangled in distributive politics and power struggles (Muchadenyika and Waiswa 2018, p. 64). In 2011, the central government in Kampala, Uganda took the control of city authority alongside the city Mayor hailing from opposition political party, the new status quo establishes various parallel lines of power between them and political struggles over slum upgradation (Muchadenyika and Waiswa 2018, p. 60). Similarities can be drawn between Kampala and Delhi, as Delhi also has complex governance system with different political parties sitting in city and central government and both having control over different city development bodies. Masoodpur Basti as arena of their power politics explains the incomplete community toilet service as DUSIB (a city government run body) constructed community toilet structure on the land part belonging to DDA (a central government run body), without water supply lines (refer section 4.5). The parallel lines of power existing at city level governance between different actors hampers the upgradation of informal settlements as they become the arena of their political struggles.

The power politics is not just limited among the politicians at city level, the visible political camps within the Masoodpur Basti had widened divisions within the settlement. The settlement got political attention during local municipality elections in 2022, led to the establishment of political bases of multiple parties to attracts the eligible voters, leading to fragmentation still evident between the conflict of community leader and women leader. These divisions might not be new but got widened due to multiparty networks and gave birth to new conflicts halting development initiatives. Adam Mihael in his studies of multiple slums in India, also found that competing multiparty networks have adverse impacts on the development initiatives as they have incentives to undermines each other's efforts, even at the cost of development (Auerbach 2016, p. 123). Hence, the presence of multi-party networks could lead to fragmentation within the informal settlement, hindering the collective action and act as barrier to their development.

### 6.5 Barriers and Multi-Layered Governance



(Figure 36)- Barriers at multi-layered governance system (Source: author compilation).

The discussed four major barriers consist of aspects existing at different level of governance system. The figure 34 compiled these aspects interpreted from challenges in section 5.2 and its sub-sections, in relation with the multi-level governance system developed based on literature in section 2.3.3. Each barrier could be further breakdown into aspects at different level of governance reflecting on the role of different actors in addressing them. Further, the barriers at multi-layered governance envisioned with multi-layered governance also highlights the interlinking among the barriers showing their complex nature. For example- the complex power dynamics existing at city administration level with multi-party taking charge of different state bodies with parallel lines of power, led to multi-party camps within the settlement widening the gap between place-based actors and also leading to police action. This interconnectivity also calls for and re-instate the need for collective synergy among different actors at multi-layered governance system.





(Figure 37)- Temple built with higher plinth as compared to the dwellings

(Source: author)

# Conclusion

## 7.1 General Conclusion

This research dug into the social dimension of risks and resilience in the wake of cities in developing countries facing intense and multiple disasters. It examined the complexity of building community resilience to urban disaster risks by unraveling the underlying barriers. The urban risk scapes in the cities in the global south are a nexus between rapid unplanned urbanization, growth of informal settlements, and climate change. Masoodpur *Basti* with its setting in un-neutral Delhi, prone to urban divide; based on religion and socio-economic aspects, and urban disaster risks including fire, heatwave, water logging and water scarcity making it a significant case of study. The multi-level governance system envisioning collective actors and their actions translated the concept of ‘community resilience’ in informal settlements and highlights four main barriers to building community resilience in context of Masoodpur *Basti*.

- First, the unclear land access resulted from formal-informal negotiations between state authorities and *Thekedars* (Villagers as landlords) based on their political-economic interests (refer to section 6.1). The unclear land access raises following critical questions on the role of state authorities including the judiciary system; (1) what is the role of state authorities in land access negotiations when the land is partly public and partly private? And (2) how come the Judiciary system in land case overlooked the existence of informal settlements on the land and their exploitations over decades for the private interests of so-called landlords? These questions call for more



transparent land access policy and also on the ethics of using land as a resource, instead as a tool to exploit urban poor.

- Second, the culture of rent-seeking creates a conflictive environment within the informal settlement. Due to the lack of formal basic services as often denied by the state to informal dwellers, the elite group of people with access to some resources and connections facilitates these services even at its most provisional state, but at higher cost. The case of Masoodpur *Basti* highlighted how its downside side had led to the conflictive environment due to overpricing and involvement of police to take actions against ones who could not pay the price on time or the ones who raises voices against these overpriced provisions. It invokes the elements of right to housing and link to tenureship issues raised in earlier barrier as the base, to access basic services and infrastructure as one deserves with dignity.
- Third, questioned citizenship subject to their relationship with powerful actors led to insecurities among many in the settlement of Masoodpur Basti. The socio-economic profile of the urban poor is easily linked with that of criminals in the eye of state authorities as also found in other cases, including police actions in the Recife slum in Brazil (refer to section 7.3). Questioned citizenship in the context of Masoodpur *Basti* led to fear and insecurities of becoming 'stateless' and of deportation to unknown land as happened in the past. However, this fear and insecurities are not evenly distributed within the settlement and are subjected to connections with powerful actors, through which some could secure their citizenship. The perceptions questioning citizenship based on socio-economic profiling need to be challenged through integration of informal dwellers in the city with suitable employment opportunities and through collaborative initiatives promoting inclusive city-scape.
- Lastly, the fragmentation existing in the settlement shaped it as the arena for camping sites for multiple parties with the sole intent of power politics. The case highlighted the role of parallel lines of power among different state authorities controlled by parties in power at central and city government hinting the flaws of complex governance systems often exist in capital cities. The overcrowded informal settlements with more vote potential become the site for political battle at the time of elections as observed in the case of the

study. The political parties take advantage of existing lines of cracks existing within the settlement as the entry point, which often led to fragmentation lasting beyond the election campaigning duration as was the impact of the Municipality Corporation election 2022 in Masoodpur Basti.

These barriers also have interlinking aspects showcasing the nature of complexity of their existence. These aspects mapped in the correlation of a multi-layered governance framework, illustrate how they are creating roadblocks in the path of building resilience by limiting the action of the concerned actors. For instance - under unclear land access as a barrier, the politically motivated decision of state authorities to grant tenure-ship to the dwellers without knowing to whom the land belongs, led to land conflict between place-based networks (*Thekedars*) and place-based actors & groups level, also halting provision of basic services. These interlinkages further highlight the implications of this research into policy and practice with regard to understanding the dynamics of different actors and the nature of complex issues existing within the context of informal settlement, which is constantly changing in developing cities.

The reality of riskscape in context of informal settlement cannot be further ignored in our cities or narrowed down to one solution fit all, as they are very much part of the city's day-to-day functioning not just through their economic contributions but also shaping the diverse multi-cultural landscape. Also, the research cautions that the notion of community resilience does not infer to transfer burden on the shoulder of local communities which is becoming the new norm. On the other hand, it put forth the significance of different actors to address the complex issues faced by the local communities to overcome the barriers and become resilient.

## 7.2 Implications in Urban Policies

The research with identifications of barriers and their components hindering the action of different sets of actors, hints towards potential policy directions needed to overcome them. Firstly, the development of transparent land tenure ship provisions for informal settlements located in partly public and partly private land. Secondly, it calls for regulations ensuring regular checks in relation to the ethics of using land resources to avoid exploitation of the socio-economic minorities in the city. Thirdly, the need for integrative and inclusive initiatives for informal dwellers with better employment opportunities and access right to the city in a dignified way.

The context-specific directions with a focus on JJ clusters in Delhi, there is a need to create an integrated JJ clusters development scheme with clear roles of authorities involved by resolving parallel lines of power. secondly, the 2016 Solid Waste Management Act need to include clear provisions and steps for integrating informal waste pickers ensuring mutually beneficial partnership among different actors in the waste management ecosystem.

## 7.3 Further Research

The research touched upon multiple aspects around the theme of multi-layered governance in relation to community resilience, which could add further layers to the existing research. The following directions could act as potential directions:

- Further data sets could be collected during the annual periods of extreme temperatures and the Monsoon season (Rainy season) in the context of Delhi could add further layers to understanding the disaster risks and its associated issues.
- The multi-layered governance model with actors' constellations could further be deployed to other JJ clusters to understand the stakeholders' dynamics.
- The correlation of the findings with local planning practices could be added to understand their usefulness in addressing the barriers.



- Aklin, Michaël; Bayer, Patrick; Harish, S. P.; Urpelainen, Johannes (2015): Quantifying slum electrification in India and explaining local variation. In *Energy* 80, pp. 203–212. DOI: 10.1016/j.energy.2014.11.063.
- Auerbach, Adam Michael (2016): Clients and Communities: The Political Economy of Party Network Organization and Development in India's Urban Slums. In *World Pol.* 68 (1), pp. 111–148. DOI: 10.1017/S0043887115000313.
- Berkes, Fikret; Ross, Helen (2013): Community Resilience: Toward an Integrated Approach. In *Society & Natural Resources* 26 (1), pp. 5–20. DOI: 10.1080/08941920.2012.736605.
- Bhan, Gautam; Mehra, Rashee; Sohane, Nidhi; Vasudev, Eklavya; Yadav, Mukesh (2020): Jahan Jhuggi, Vahan Makaan: Assessing the Viability and Parameters of a Delhi Government JJ Cluster Improvement Scheme.
- Bonanno, George A.; Romero, Sara A.; Klein, Sarah I. (2015): The Temporal Elements of Psychological Resilience: An Integrative Framework for the Study of Individuals, Families, and Communities. In *Psychological Inquiry* 26 (2), pp. 139–169. DOI: 10.1080/1047840X.2015.992677.
- Caldeira, Teresa P.R. (2002): The paradox of police violence in democratic Brazil 3 (3), pp. 235–263. Available online at <https://www.jstor.org/stable/24048110>.
- Carpi, Estella (2015): Revisiting Vulnerability in a Slum of Beirut: when Citizenship Disempowers. In Civil Society Knowledge Center, Lebanon Support. Available online at <http://cskc.daleel-madani.org/paper/revisiting-vulnerability-slum-beirut-when-citizenship-disempowers>, checked on 7/14/2023.
- Chaskin, Robert J. (2008): Resilience, Community, and Resilient Communities: Conditioning Contexts and Collective Action. In *Child Care in Practice* 14 (1), pp. 65–74. DOI: 10.1080/13575270701733724.
- Choi, Seung Ginny; Storr, Virgil Henry (2019): A culture of rent seeking. In *Public Choice* 181 (1–2), pp. 101–126. DOI: 10.1007/s11127-018-0557-x.
- Eachus, Peter (2014): Community Resilience: Is it Greater than the Sum of the Parts of Individual Resilience? In *Procedia Economics and Finance* 18, pp. 345–351. DOI: 10.1016/S2212-5671(14)00949-6.
- Etzold, Benjamin; Bohle, Hans-Georg; Keck, Markus; Zingel, Wolfgang-Peter (2009): Informality as Agency - Negotiating Food Security in Dhaka. In *Die Erde; Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 140, pp. 3–24.
- Forum of Informal Urban Poor Workers (2014): Identity, Equality and Social Security for Urban Poor. Available online at <https://terraurban.files.wordpress.com/2014/03/manifesto.pdf>, checked on 15.07.23.
- Government of India (2009): State and District Administration - Fifteenth Report.



- Second Administrative Reforms Commission, New Delhi. Available online at <https://darpg.gov.in/sites/default/files/decision15.pdf>, checked on 30.05.23.
- Herrle, Peter; Fokdal, Josefine (2011): Beyond the Urban Informality Discourse: Negotiating Power, Legitimacy and Resources. In *giz* 99 (1), pp. 3–15. DOI: 10.25162/giz-2011-0002.
  - Huchzermeyer, Marie (2008): Slum Upgrading in Nairobi within the Housing and Basic Services Market. In *Journal of Asian and African Studies* 43 (1), pp. 19–39. DOI: 10.1177/0021909607085586.
  - Huda Sakib, Nurul; Tarikul Islam, Mohammad (2017): Water Conflict Management in Dhaka City Slums: An Empirical Study. In *The Jahangirnagar Review* XLI (2), pp. 365–379.
  - Imperiale, Angelo Jonas; Vanclay, Frank (2021): Conceptualizing community resilience and the social dimensions of risk to overcome barriers to disaster risk reduction and sustainable development. In *Sustainable Development* 29 (5), pp. 891–905. DOI: 10.1002/sd.2182.
  - Ishtiyaq, M.; Kumar, Sunil (2010): Typology of Informal Settlements and Distribution of Slums in the NCT of Delhi. In *Institute of Town Planners, India Journal* 3 (7), pp. 20–33. Available online at [https://www.itpi.org.in/uploads/journalfiles/jul2\\_10.pdf](https://www.itpi.org.in/uploads/journalfiles/jul2_10.pdf), checked on 30.05.23.
  - Koster, Martijn (2014): Fear and Intimacy: Citizenship in a Recife Slum, Brazil. In *Ethnos* 79 (2), pp. 215–237. DOI: 10.1080/00141844.2012.732955.
  - Kropp, Cordula; Türk, Jana (2017): Bringing Climate Change Down to Earth: Climate Change Governance from the Bottom Up. In Alejandro Esguerra, Nicole Helmerich, Thomas Risse (Eds.): *Sustainability Politics and Limited Statehood*. Cham: Springer International Publishing, pp. 179–210.
  - Ley, Astrid (2019): Community Resilience and Placemaking through Translocal Networking: Learning from Thailand and the Philippines. In *jps* (Vol. 4 n. 2 | 2019 | FULL ISSUE), pp. 165–178. DOI: 10.32891/jps.v4i2.1208.
  - Maguire, Brigit; Hagan, Patrick (2007): Disasters and communities: understanding social resilience. In *The Australian Journal of Emergency Management* 22 (2), pp. 16–20.
  - McMichael, Gabriella (2016): Land conflict and informal settlements in Juba, South Sudan. In *Urban Studies* 53 (13), pp. 2721–2737. DOI: 10.1177/0042098015612960.
  - Meerow, Sara; Newell, Joshua P.; Stults, Melissa (2016): Defining urban resilience: A review. In *Land-scape and Urban Planning* 147, pp. 38–49. DOI: 10.1016/j.landurbplan.2015.11.011.

- Muchadenyika, Davison; Waiswa, Jeremy (2018): Policy, politics and leadership in slum upgrading: A comparative analysis of Harare and Kampala. In *Cities* 82, pp. 58–67. DOI: 10.1016/j.cities.2018.05.005.
- Mulligan, Martin; Steele, Wendy; Rickards, Lauren; Fünfgeld, Hartmut (2016): Keywords in planning: what do we mean by ‘community resilience’? In *International Planning Studies* 21 (4), pp. 348–361. DOI: 10.1080/13563475.2016.1155974.
- Murari, Kamal Kumar; Ghosh, Subimal; Patwardhan, Anand; Daly, Edoardo; Salvi, Kaustubh (2015): In-tensification of future severe heat waves in India and their effect on heat stress and mortality. In *Reg Environ Change* 15 (4), pp. 569–579. DOI: 10.1007/s10113-014-0660-6.
- Parikh, Priti; Bisaga, Iwona; Loggia, Claudia; Georgiadou, Maria Christina; Ojo-Aromokudu, Judith (2020): Barriers and opportunities for participatory environmental upgrading: Case study of Havelock informal settlement, Durban. In *City and Environment Interactions* 5. DOI: 10.1016/j.cacint.2020.100041.
- Parliament of India (2/9/1976): THE BONDED LABOUR SYSTEM (ABOLITION) ACT, 1976. Available online at <https://www.indiacode.nic.in/bitstream/123456789/1491/1/197619.pdf>, checked on 6/7/2023.
- Paton, D.; McClure, J.; & Buergelt, P. T. (2006): The role of preparedness in natural hazard resilience.
- Rahman, Atiqur; Kumar, Yogesh; Fazal, Shahab; Bhaskaran, Sunil (2011): Urbanization and Quality of Urban Environment Using Remote Sensing and GIS Techniques in East Delhi-India. In *Journal of Geo-graphic Information System*, 3, pp. 61–83. Available online at <http://www.SciRP.org/journal/jgis>, checked on 29.05.23.
- Ramachandran, Sujata (2003): ‘Operation Pushback’: Sangh Parivar, State, Slums, and Surreptitious Bangladeshis in New Delhi. In *Economic and Political Weekly* 38 (7), pp. 637–647. Available online at <https://www.jstor.org/stable/4413218>, checked on 7/14/2023.
- Rob Smith (2018): Delhi will overtake Tokyo as the world flock to cities. World Economic Forum. Avail-able online at <https://www.weforum.org/agenda/2018/05/by-2050-two-thirds-of-the-worlds-population-will-be-urban/>, checked on 30.05.23.
- Roy, Ananya (2009): Why India Cannot Plan Its Cities: Informality, Insurgence and the Idiom of Urbani-zation. In *Planning Theory* 8 (1), pp. 76–87. DOI: 10.1177/1473095208099299.
- Satterthwaite, David; Archer, Diane; Colenbrander, Sarah; Dodman, David; Hardoy, Jorgelina; Mitlin, Di-ana; Patel, Sheela (2020): Building Resilience to Climate Change in Informal Settlements. In *One Earth* 2 (2), pp. 143–156. DOI:

- 10.1016/j.oneear.2020.02.002.
- Shrivastava, Chitra (2018): Regeneration of JJ bastis in Delhi. M.Arch. Jamia Millia Islamia, New Delhi. Available online at <https://www.jetir.org/papers/JETIR1804341.pdf>, checked on 6/4/2023.
  - Singh, Nidhi; Mhawish, Alaa; Ghosh, Santu; Banerjee, Tirthankar; Kumar Mall, Rajesh (Eds.) (2018): EFFECT OF HEAT AND COLD WAVES ON ALL-CAUSE MORTALITY IN AN URBAN POLLUTION HOTSPOT OVER CENTRAL INDO-GANGETIC BASIN: IMPLICATIONS OF PM<sub>10</sub> EXPOSURE. IASTA.
  - Tullock, Gordon (1967): THE WELFARE COSTS OF TARIFFS, MONOPOLIES, AND THEFT. In *Economic en-quiry* 5 (3), pp. 224–232. Available online at [https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1465-7295.1967.tb01923.x?saml\\_referrer](https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1465-7295.1967.tb01923.x?saml_referrer), checked on 7/6/2023.
  - UN-Habitat (2022): Urbanization and development. Emerging futures. Nairobi, Kenya: UN-Habitat (World cities report, 2016).
  - United Nations (2023): India to overtake China as world’s most populous country in April 2023, United Nations projects. Department of Economic and Social Affairs, United Nations. Available online at <https://www.un.org/en/desa/india-overtake-china-world-most-populous-country-april-2023-united-nations-projects#:~:text=According%20to%20Policy%20Brief%20No,by%20more%20than%20double%20in>, checked on 5/29/2023.
  - UNSIDR (2015): Sendai Framework for Disaster Risk Reduction 2015 - 2030. UNSIDR. Available online at [https://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf), checked on 5/10/2023.
  - Weichselgartner, Juergen; Kelman, Ilan (2015): Geographies of resilience. In *Progress in Human Geogra-phy* 39 (3), pp. 249–267. DOI: 10.1177/0309132513518834.
  - Wilson, Geoff A. (2014): Community resilience: path dependency, lock-in effects and transitional rup-tures. In *Journal of Environmental Planning and Management* 57 (1), pp. 1–26. DOI: 10.1080/09640568.2012.741519.

## خلاصة

تعرضت المناهج التقنية العلمية لإدارة الكوارث للتحديات على مدى العقود الثلاثة الماضية لأنها تغاضت عن البعد الاجتماعي للمخاطر. يتم تصور التحول النموذجي من "إدارة الكوارث" إلى "الحد من مخاطر الكوارث وبناء قدرة المجتمع على الصمود" من خلال مختلف جداول الأعمال الحكومية الدولية بما في ذلك إطار عمل سينداي للأمم المتحدة وأهداف التنمية المستدامة. على الرغم من أن الاعتراف بالبعد الاجتماعي للمخاطر هو جزء من هذا النموذج المتغير ، إلا أن تحقيقه لا يزال يمثل تحديًا ، لا سيما في المستوطنات غير الرسمية بسبب الحواجز المتعددة التي تعيق قدرة المجتمع على الصمود في مدن الجنوب العالمي.

تحاول هذه الأطروحة فهم مدى تعقيد بناء قدرة المجتمع على الصمود في المستوطنات غير الرسمية من خلال تحديد الحواجز التي تعيق أعمال الجهات الفاعلة الجماعية. مسعودبور باسني - أحد مجموعات في دلهي عرضة للتحيز في الانقسام الحضري لأن سكانها هم أقليات اجتماعية واقتصادية وأيضًا عرضة لكوارث متعددة بما في ذلك الحرائق وموجات الحر وتسجيل المياه وندرة المياه مما جعلها دراسة حالة مهمة. تم توثيق العمليات السببية والواقع اليومي ، وخلق مخاطر الكوارث داخل المستوطنة من وجهة نظر السكان. بالنظر إلى مرونة المجتمع في شكل نظام حوكمة متكامل متعدد الطبقات ، وتحليل التحديات التي تواجه الجهات الفاعلة المعنية ، تم تحديد أربعة عوائق رئيسية جنبًا إلى جنب مع الروابط فيما بينها. أعاق الوصول غير الواضح للأراضي ، وثقافة البحث عن الربح ، والمواطنة المشكوك فيها وسياسات القوة ، العمل الجماعي للجهات الفاعلة نحو تسهيل عمليات بناء المرونة. يؤكد البحث أن مرونة المجتمع لا تتعلق بتوزيع المسؤوليات على المجتمعات المحلية ، بدلاً من ذلك ، معالجة المشكلات التي تواجهها للتغلب على هذه الحواجز وتصبح مرنة.

الكلمات المفتاحية: المستوطنات غير الرسمية ، مرونة المجتمع ، الحواجز ، مخاطر الكوارث ، الجهات الفاعلة الجماعية ، الحوكمة





# إقرار

هذه الرسالة مقدمة في جامعة عين شمس وجامعة شوتجارت للحصول على درجة العمران المتكامل والتصميم المستدام. إن العمل الذي تحويه هذه الرسالة قد تم إنجازه بمعرفة الباحث سنة 2023

هذا ويقر الباحث أن العمل المقدم هو خلاصة بحثه الشخصي وأنه قد اتبع الأسلوب العلمي السليم في الإشارة إلى المواد المؤخذه من المراجع العلمية كل في مكانه في مختلف أجزاء الرسالة..

وهذا إقرار مني بذلك،،،

التوقيع:

الباحث: فيشال كومار

التاريخ: 23.07.2023



# العوائق التي تحول دون بناء قدرة المجتمع على الصمود

قضية مسعود بور باستي في دلهي

مقدمة للحصول على درجة الماجستير في العمران المتكامل والتصميم المستدام

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التوقيع

لجنة الحكم

أ.د. ....الممتحن الخارجي

أستاذ .....

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تاريخ المناقشة: .....

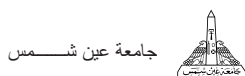
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موافقة مجلس الجامعة .../.../...







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