

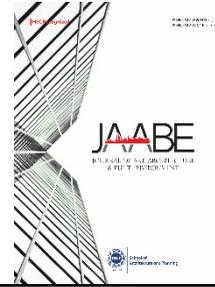
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**Title:** **Examining the Intricacies and Perpetual Issues in Urban Informal Settlements: Lessons from Two Case Studies of Informal Settlements in Lahore, Pakistan**

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# Examining the Intricacies and Perpetual Issues in Urban Informal Settlements: Lessons from Two Case Studies of Informal Settlements in Lahore, Pakistan

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## Abstract

Informal settlements have become a central part of urban imagery. It is a self-organized form of urbanization that expands beyond the reach of the state and encroaches upon, infiltrates, and inundates cities in the Global South. The forms of urban informality develop and offer a means of habitation for the urban poor, characterized by a lack of basic services, overcrowding, economic vulnerability, and an unhygienic urban environment. In Lahore, a metropolitan area with more than 11 million residents, informal settlement growth is the most perceptible. The current study deploys a case study approach to explore informal settlements in order to fully understand the intricate socioeconomic and physical issues that arise in these settlements. Fieldwork, which involved in-depth interviews, casual conversations, and photography surveys, was used to conduct this research. The data was collected using a proportionate and random sampling technique, with 80 samples from Shampura Colony and 67 from Zia Colony obtained using Solvin's formula. Geographic Information Systems (GIS) were used to ensure that the data was geographically dispersed throughout the settlement.. The outcomes showed diversity in the two selected case study areas, namely Zia Colony and Shampura Colony, in terms of the built environment, social aspects, governance issues, and economic opportunities. This research offers a more multifaceted synthesis of the problem by bringing together the social and physical constructs which may lead to a greater understanding of informal settlements issues and better strategies for addressing them at the local, national, and regional levels.

**Keywords:** built landscape, informality, informal settlements, slum housing, urbanism, urban mapping, urban morphology

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## Introduction

Much attention has been paid to the fact that the majority of world's population now lives in urban areas (Alsayyad, [2004](#)). According to UN-Habitat ([2020](#)), approximately a quarter of the world's urban population lives in informal settlements. Informal settlements have accommodated the majority of the growing urban population in developing countries; however, this fact often goes unnoticed. The popular ways by which cities have absorbed most of the rural-to-urban migration over the past fifty years are informal architecture, urban planning, and design (Brelsford et al., [2018](#)). In cities across the global south, informality has grown and spread beyond the state's authority as a self-organized mode of urbanization. If informal settlements continue to proliferate, it is predicted that by 2017 approximately 43% of the urban population in Asian countries would live in informal settlements (United Nations Development Program [UNDP], [2015](#)), with Pakistan being no exception.

To avoid words with similar meanings, such as 'slum' and 'squatter,' the term 'informal' is often used instead. Similar to other countries, slums in Pakistan are viewed as unsuitable places to live because of their high population density, lack of safety, poor construction, outdated infrastructure, and inadequate services and amenities (Hasan & Vaidya, [1986](#)). The requirement for tenure security is essential in these settlements, however, there is no system available to improve their conditions other than government patronage (Khan et al., [2021](#)). Conversely, squatter communities in Pakistan are typically referred to as Katchi Abadi (Hasan, [2006](#)). Squatting, or the subdivision of public and private land, contributes to these settlements' formation. They are attributed to an insecure tenure and a lack of basic urban services (Wajahat, [2012](#)). There is no explicit definition of informal settlements in Pakistan's regulations or ordinances. However, the term 'informal settlements' has been used by (Arif et al., [2022](#)) to describe a broader category that encompasses both slums and squatter settlements in Pakistan. Without official government approval, such settlements have created their own systems for designing, planning, and constructing buildings and street networks.

In order to effectively tackle the issues related to informal settlements, accurate and up-to-date data on these rapidly changing settlements are needed. Hence, this research employs a case study approach to highlight the multifaceted socioeconomic phenomenon of informal settlements, building

on previous research and motivated by the need for a more comprehensive approach to study such areas. Furthermore, it opens the door to examining the underlying social, economic, and physical constructs within such settlements, which need more attention. To comprehend the diversity of informal settlements, a thorough qualitative investigation was conducted, which may lead to their improved monitoring and analysis. In light of the stated research objectives, this study's primary contribution is to identify the most urgent problems related to informal settlements based on the current knowledge, which ranges from theory to practice. Secondly, it employs an integrated research method to deepen our understanding of the dynamic nature of informal settlements and their intricate interactions in the urban environment forwards.

### Literature Review

The notion of 'urban informality' has a strong foundation in modern urban discourse (Simone, [2020](#)). Despite its familiarity, the interpretation of informality, its perception, and the methodologies employed to address this phenomenon have undergone numerous revisions and transformations throughout the years. Nevertheless, it is frequently invoked in comparison to 'formal' urban practices and examined within specific domains, instead of being analyzed across multiple domains (McFarlane, [2019](#)). According to Roy ([2005](#)), 'formal' practices are characterized by the establishment of values including the mapping of spatial value, while 'informal' practices are characterized by the constant negotiation of values and the absence of spatial boundaries. Informal settlements are characterized as long-term dwellings that have fallen into disrepair due to deterioration and neglect (Amao, [2012](#)). As a result, they are thought to be a component of urban decay over time. However, the definitions of housing do not apply to informal settlements. Instead, they are seen as a collection of structures or a region that lacks basic amenities (Wekesa et al., [2011](#)). In recent research (Arefi, [2018](#); Azunre et al., [2022](#)), the physical characteristics of housing units have been heavily emphasized to evaluate the problem's external dimensions.

The most obvious manifestation of informal settlements continues to be social exclusion (Madanipour et al., [2013](#)). Social exclusion, in the context of urban informal settlements, includes a lack of housing, educational, and health rights, as well as the lack of access to social services available in the city's core (Tarsi, [2020](#)). This exclusion implies that the inhabitants of

informal settlements are subject to discrimination or segregation. In almost all of the world's less developed nations, studies have demonstrated social exclusion as the resultant effect of informal settlements (UN-Habitat, [2003](#); van Horen, [2000](#)). Despite the development of holistic perspectives regarding the lives of informal dwellers as part of urban strategies and with their direct involvement, the inhabitants of informal settlements have yet to receive much needed scholarly attention.

The lack of effective governance increases the risk of exploitation, displacement, and social exclusion for informal dwellers, who also face significant obstacles in accessing various opportunities and services (Alemie et al., [2015](#)). Housing became unaffordable for many large segments of the population in Cote d'Ivoire due to slow development, high infrastructure costs, and strict building regulations (MacLean, [2010](#)). Land registration fees in Nigeria may be as high as 27% of the property's value for those living in impoverished informal settlements (Ikejiofor, [2005](#)). Due to the dysfunctional land markets, these conditions eventually result in high rates of tenure insecurity, fostering the growth of informal settlements. Another issue in many developing countries is that government officials do not involve informal settlements in the planning stage (Alliance, [2004](#)). This deprives these settlements of good urban governance which fosters conditions that promote subsidiarity, equity, efficiency, transparency and accountability, civic engagement and citizenship, and individual and community safety (Usher, [2005](#)).

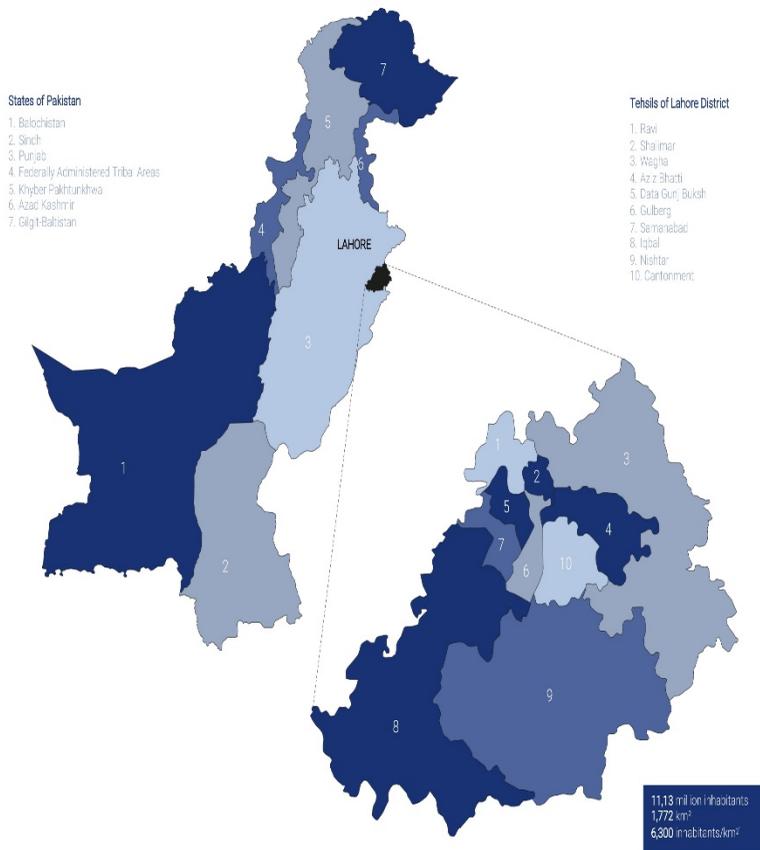
Economic deprivation due to a lack of economic opportunities in informal settlements is also a major setback for their inhabitants (Corburn & Sverdlik, [2019](#)). These inhabitants frequently lack access to formal employment and may rely on informal, low-wage work or self-employment to survive (Magina et al., [2020](#)). This may lead to a difficult-to-break cycle of poverty and social exclusion. Most employment opportunities in informal settlements are typically low-paying, informal sector jobs with limited security and benefits.

## Case Studies

The current study was conducted in Lahore, Pakistan. It is a metropolis and the provincial capital of Punjab, the largest province in Pakistan (Figure 1). With a population of approximately 11 million, it is the second most

populous city in Pakistan after Karachi (Pakistan Bureau of Statistics, [2017](#)).

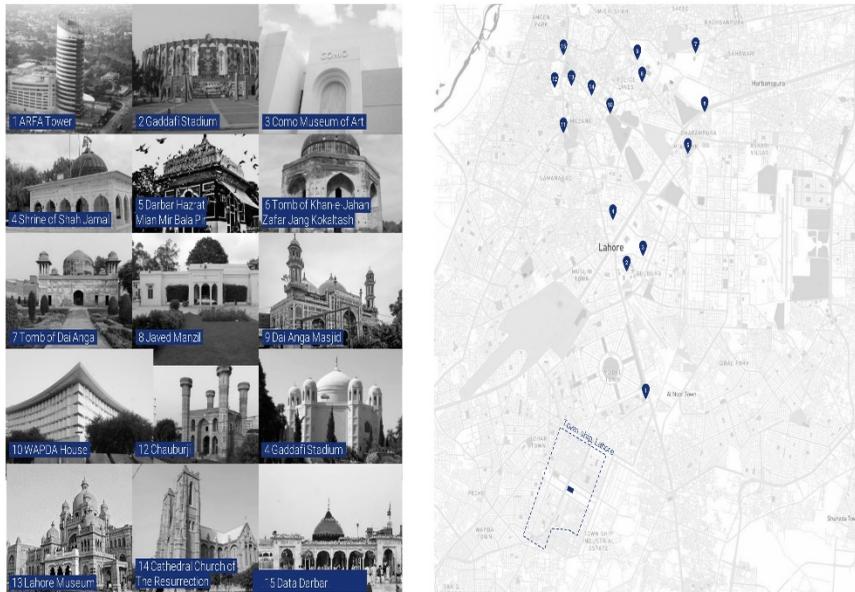
**Figure 1**  
*Location of Lahore on the Map of Pakistan*



(Re-)reading the city map reveals that there are prominent representative landmarks concentrated within a few square kilometres of one another (Figure 2). These historical buildings are popular destinations for visitors from all over the city, especially for the residents of informal settlements.

## Figure 2

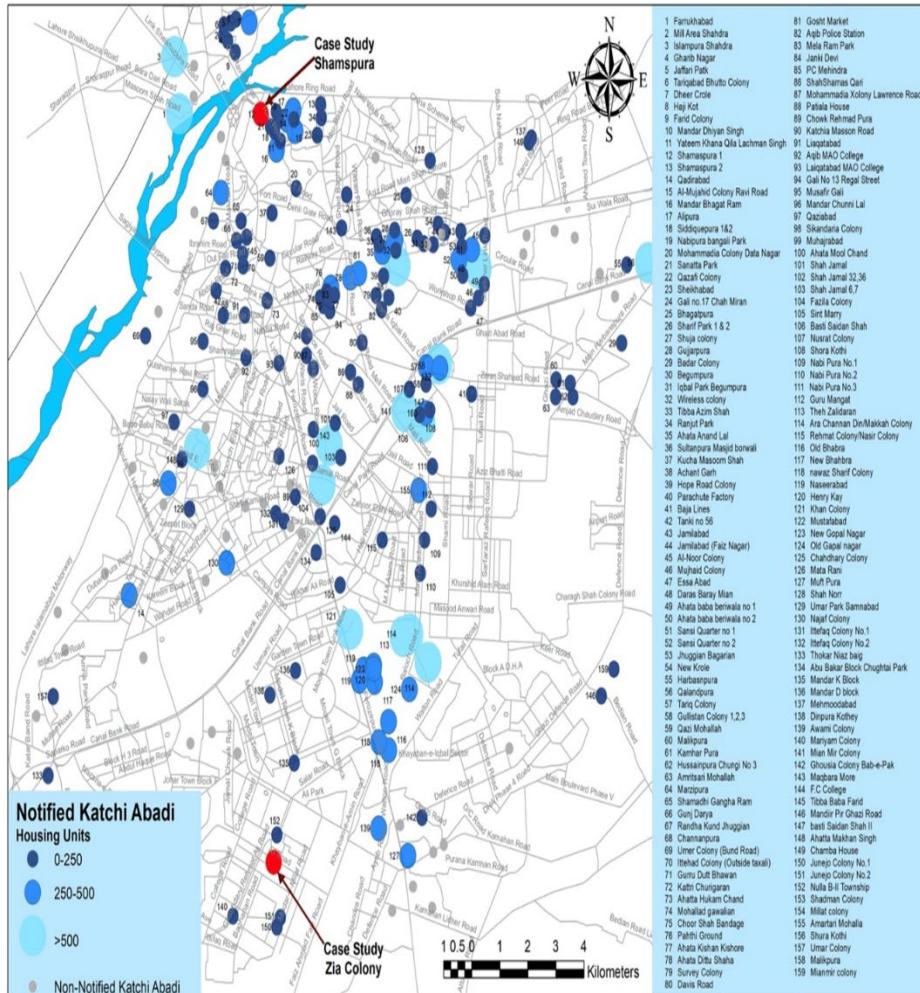
### *Prominent Landmarks in Lahore and Centers of Attraction for Informal Settlements*



According to the LDA Directorate of Katchi Abadis, Local Government, and Rural Development, the government has given authorization for about 520 informal settlements (katchi abadi) in Lahore. The spatial distribution of notifiable informal settlements is depicted on the map in (Figure 3). The process of selecting case studies was challenging due to the lack of existing records of informal settlements in Lahore. Using the framework established by (Kamalipour, 2016) and (Dovey, 2016) and more recently by Jones (2017), data was analyzed and the research was conducted. Two case studies—Zia Colony and Shamsपुरa Colony—(Figure 3) were selected based on secondary data acquired from the Lahore

Development Authority (LDA) and by integrating various criteria such as morphology, tenure, typology, and connection with the urban fabric.

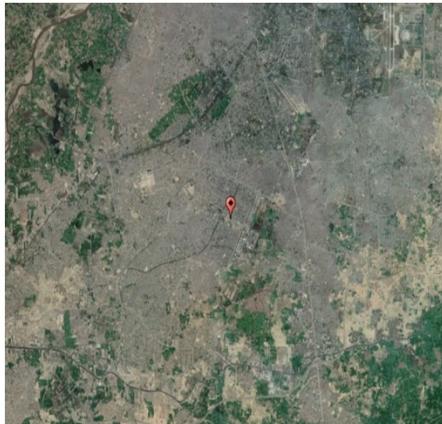
**Figure 3**  
*Spatial Distribution of Notified Katchi Abadis (Informal Settlements) in Lahore District. Illustrated By the Author.*



The Zia Colony settlement is located in southern Lahore, close to the Quaid-e-Azam Industrial Estate and the main artery (Figure 4). The settlement itself sits on a prime piece of real estate, surrounded

by government offices and commercial centres. The presence of the nearby industrial estate necessitated the presence of these informal dwellers to staff the factories, subsequently leading to the development of the settlement between 1990 and 2000. Initially, the settlement grew organically. However, it underwent a transformation between 2005 and 2007.

**Figure 4**



10 km x 10 km



1 km x 1 km



100 m x 100 m



*Satellite Imagery of the Informal Settlement of Zia Colony*

*Note.* Source: (Google Image, 2020)

Shampur colony encompasses a total area of 3.3 hectares and its location provides easy access via primary roads and expressways (Figure

5). One of the busiest terminals serving both intercity and local routes is located within the walking distance of this settlement. Additionally, it is situated near the Ravi river and the metro bus corridor. A railroad line defines the eastern boundary of the settlement, which has developed in an organic fashion. It may appear to be a well-connected informal settlement due to the presence of a metro line, railroad, and the busiest public transportation hub; however, the major links situated at the settlement's edges also serve as physical walls that isolate the settlement from its surroundings.

### Figure 5

*Satellite Imagery of The Informal Settlement of Shamaspura Colony*



10 km x 10km



1 km x 1 km



100 m x 100 m



**Note.** Source: (Google Image, 2020)

## **Research Methodology**

The current research was conducted using the case study method. Due to the complexity and multidisciplinary nature of this research, the qualitative method was applied as it is imperative to explore the complex manifestations of socioeconomic and physical aspects in the selected informal settlements. The qualitative research method has the capacity to capture the intricacies of place as a socioeconomic concept (Gaber, [2020](#)). In addition, this method helps to answer the ‘how’ and ‘why’ questions, going beyond descriptions and facts.

### **Data Collection and Sampling**

#### ***In-depth Interviews***

Fieldwork was used to gather the data for the current study. The main techniques included casual conversations and in-depth interviews organized around open-ended questions. According to Yin ([1994](#)), interviews are an essential source of evidence for case study research because the vast majority of case studies concern human affairs. Thus, the interviewees’ perspectives should be used to report and interpret these affairs and knowledgeable respondents can offer crucial context. While, the researcher heard accounts of various socioeconomic conditions, informal conversations with household members were also conducted to further the triangulation of information.

#### ***Photo Survey***

Photographs were captured to depict life at different times and places, not just to illustrate specific issues. Photographs themselves convey information that is difficult to convey through text alone (Prosser, [2011](#)). The idea was to use them as a distinct sample of data and incorporate them into the study to add more explanatory power. Additionally, it was possible to contrast some images with those captured in the same locations the previous years, which occasionally revealed intriguing data for additional research and interpretation. Due to the concerns about who might view the photos, the use of camera was constrained in certain situations and in the presence of certain people. This was especially true in case of women, who feared that the images might be seen by the wrong people or the police.

## Sample Size Calculations

The selected areas' household socioeconomic surveys were carried out using a proportionate and random sampling technique. Leveraging Solvin's formula and extrapolating from the Zia colony and Shamasapura colony base maps, the sample size for the survey was determined.

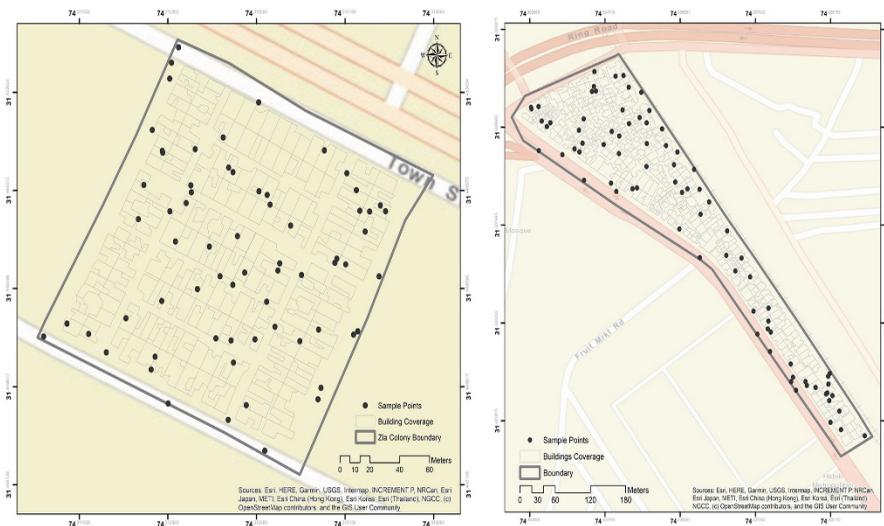
$$n = \frac{N}{1 + Ne^2}$$

where,  $e$  = marginal error;  $N$  = number of households;  $n$  = sample size

With a 10% error margin, the total sample size for all settlements was estimated to be 147, with 80 samples emerging from Shamasapura colony and 67 from Zia colony. Moreover, to accomplish this goal, the sample size was geographically dispersed over the settlement using GIS tools, as shown in (Figure 6).

### Figure 6

*Sample Size Distribution for Shamasapura (left) and Zia Colony (right) using GIS*



## Indicator Identification

Data gathered from field surveys and in-depth interviews was refined and categorized based on the analytical approach. The following categories

present the noteworthy and crucial data patterns that converse to the core problems and difficulties faced by the households in the case study areas. As shown in Table 1, these categories have been used frequently by various researchers in their studies; however, grouping these parameters into categories provides a comprehensive picture of the case study areas.

**Table 1**

*List of Indicators and Associated References*

Categories	Literature References
Built Environment and Housing	(Kamalipour & Dovey, <a href="#">2020</a> ; Malik et al., <a href="#">2020</a> )
Social Exclusion	(Ifesanya & Nwokoro, <a href="#">2012</a> ; Saglio-Yatzimirsky, <a href="#">2013</a> )
Poor Governance	(Milbert, <a href="#">2006</a> ; Minnery et al., <a href="#">2013</a> )
Scarce Economic Means	(Dissaux, <a href="#">2023</a> ; Kimani-Murage et al., <a href="#">2014</a> )

## Results

### Built-environment and Housing

#### *Case 1: Zia Colony*

**Impoverished Buildings Conditions.** The type of dwelling units in Zia colony is called pucca houses, which are relatively durable yet deplorable. Bricks, ceramics, sand, and bamboo are commonly used in these dwellings due to their low cost and local availability (Figure 7). The shaky walls, flooring, and ceilings create hazardous living conditions that endanger the tenants' lives. Most units lack space for eating, sleeping, cooking, studying, and washing, among other things. Most houses present an abject appearance by hanging fabric or plastic sheets for privacy, rather than installing proper windows and doors. The entrance and courtyard are built on a slightly higher level than the room beyond it (Figure 7). Despite their poor condition, the dwelling structures provide an inexpensive and quick shelter to informal dwellers. "... We were in a similar situation in another city. We built this house part by part using whatever cheap materials we could find. We are pleased with this house because our predecessors also lived in such areas." (Interview with Miraj, an old resident of Zia Colony, 2021)

## Figure 7

(a) Building Material of Houses; (b) Courtyard and Internal Room at a Lower Level; (c) Toilet and Kitchen in Zia Colony Settlement



**Infrastructural Deprivation.** The investigation of Zia colony revealed numerous issues and challenges related to infrastructural inadequacy. The majority of the streets are unpaved and in a dilapidated state. During the rainy season, the streets become muddy, causing people to slip and making it difficult for them to move around (Figure 8a). Adjacent buildings are also seen encroaching the roads and violating bylaws in their construction.

...Our kids hang around on the streets all the time. When it rains, the streets flood. Water seeps into our homes from overflowing manholes. Due to the lack of covers on the manholes, insects and worms are unleashed onto the roads, endangering the health of residents. We also have to worry about our kids tripping over the manhole covers. (Interview conducted by Imran, resident of Zia colony March 2021)

Another major issue in the area is solid waste management which remains inadequate (Figure 8c). The residents claim that the authorities' repeated failure to address the complaints of informal dwellers has exacerbated the situation. As a result of the lack of proper disposal sites, heaps of garbage are dumped alongside roads and on the streets, resulting in an unhealthy living environment. "...In our area, there are no landfills or any official trash dumps. The residents of these homes take their garbage to the vacant lot next to the neighbourhood." (Interview conducted by Bhatti, resident of Zia colony March 2021)

The condition of the settlement's electric wires and poles also creates a hazardous environment for the settlers (Figure 8d). Electric cables and high-voltage transformers are either installed along the streets or roads or wall-to-wall within the dwellings. Consequently, high-voltage power lines pass through or are close to the houses.

....Electrical power is not available mostly. Transformers pose a serious hazard to children due to the loose wires that hang from them. Two years ago, my son tragically lost his life after contacting an electric pole and receiving an electric shock. (Interview conducted by Saleem Jafari, resident of Zia colony March 2021)

**Figure 8**

*(a) Muddy and Slippery Streets; (b) Open Manholes Unhygienic and Threatening for Life; (c) Solid Waste Management on Open Street; (d) Electric Wires Near to Houses*



## Case 2: Shampura Colony

**Building Characteristics.** There is an array of housing types in Shampura colony. The main street consists of multi-storeyed houses that are often cemented and painted (Figure 9a). Some houses also have a terrace and a small veranda (Figure 9b). The house lies beyond the street, guarded by an imposing gate. Since this settlement has been granted tenure by the local government, informal settlers have built more stories on their ground-level structures. These vertical extensions to the houses are often dangerously constructed due to the lack of expertise and skills, making them unstable (Figure 9c).

..Our father and grandfather also used to live here. We had a single-unit house in 1992, but now with the grace of God, we have made this into a triple-story structure. The upper two-story structure is rented out, and the front room is a grocery shop. This is how we generate our income and fulfil the needs of our children. (Interview conducted by Mr. Noman, resident of Shampura colony April 2021)

### Figure 9

(a) *Muddy and Slippery Streets*; (b) *Open Manholes Unhygienic and Threatening for Life*; (c) *Solid Waste Management on Open Street*; (d) *Electric Wires Near to Houses*



The rest of the settlement consists of various completed, partially completed, and unfinished dwellings. There are many different kinds of materials used, from temporary to permanent ones. Some homes are partially completed attempts at incremental consolidation. Some are small and claustrophobic and the roadways that lead to them are extremely constrained (Figure 10b). The built-up structure is difficult to penetrate in the deeper parts of settlement's internal streets (Figure 10a). On the other side, a few buildings have a slightly more open space surrounding them (Figure 10c).

**Figure 10**

*(a) Muddy and Slippery Streets; (b) Open Manholes Unhygienic and Threatening for Life; (c) Solid Waste Management on Open Street; (d) Electric Wires Near to Houses*



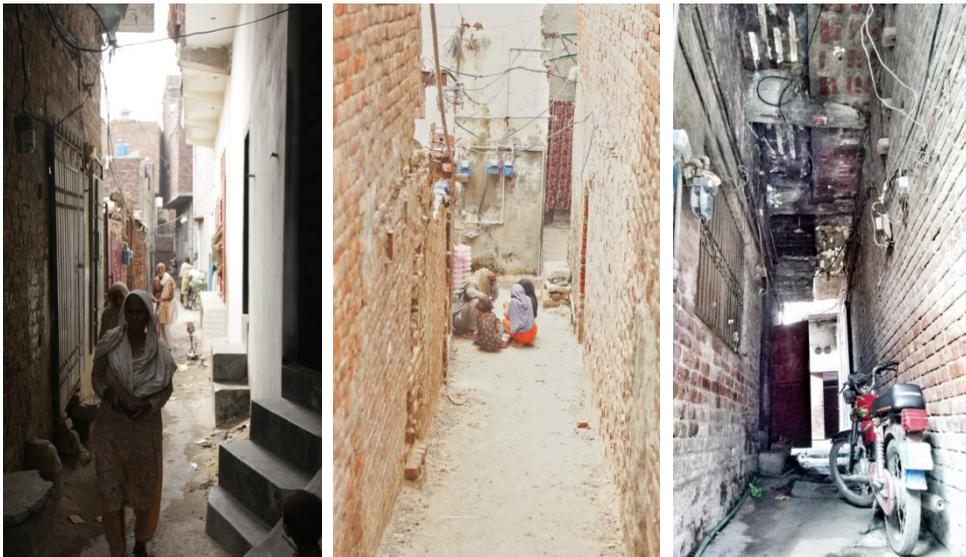
**Street Composition.** The streets are the only public spaces within the settlement. They are extremely congested, narrow, and have been significantly encroached upon by built-up structures (Figure 11a). As alterations and extensions of buildings have become inevitable, informal

settlers have transformed their building units to multiple storeys and extended the structure over the streets. At times, the upper storey buildings completely cover the street. Additionally, bikes and cycles are seen parked outside the dwellings and on the streets, which further reduces the space available for mobility (Figure 11b). The streets are either unpaved or only partially paved and the trunk infrastructure and conditions are both deteriorating (Figure 11c).

...Daily, we struggle to get our motorcycles out of the street since the streets are so narrow. It is tough to get about since people here have built long, stumbling steps (tharas) in front of their houses. The streets continue to be permeated by a putrid odor. (Interview conducted by Mr. Qazi, resident of Shampura colony April 2021)

### Figure 11

*(a) Narrow and Congested Street; (b) Partially Paved Street; (c) Upper Storey Covers the Street in Shampura Colony*



## Social Exclusion

### Case 1: Zia Colony

**Insufficient Social Infrastructure.** In Zia colony, social infrastructure is deemed to be insufficient. Despite the absence of a health unit in the settlement, community members have built a dispensary in one of the nearby settlements. Overcrowding plagues the dispensary despite the local

government subsidizing it (Figure 12a). The interviewee asserted that doctors in the dispensary either work only once a week (there aren't any specialist doctors) or remain absent most of the time. Most city dwellers don't have any kind of health insurance and rely on charitable organizations for their medical expenses. "...We go to a dispensary located in the Maryam colony (another informal settlement near to Zia colony). In major scenarios, we go to the public hospital by taking a rikshaw/taxi." (Interview conducted by Mr. Anjum, resident of Zia colony April 2021)

There is only one elementary school within two kilometres of the settlement. Local political leaders have promised to build primary and secondary schools for informal settlers in nearly every election but this has never occurred (Figure 12b). There is only one religious' institution, a mosque, which is insufficient to meet the needs of the local population (Figure 12c). Furthermore, access to this mosque is hampered by poor drainage and street conditions.

### Figure 12

(a) Free Dispensary for the Informal Dwellers (b) Only School in the Vicinity (c) Mosque Within the Settlement



### Case 2: Shamsपुरا Colony

**Restricted Community Spirit and Lack of Security.** Shamsपुरا colony is characterized by a lack of community spirit and social

engagement. The residents remain unwilling to participate in any initiative to improve their well-being and living conditions. They are physically and socially destitute as a result of the authorities' negligence in providing infrastructure and basic amenities. Their ignorant attitude towards collective participation in improvement programs has precluded them from pursuing the opportunity for better living conditions. "...We expect to keep making do with the minimal amenities available to us here indefinitely. But we've been trying to find a better place and the rising land costs have us wondering if that's possible." (Interview conducted by Mr. Waleed, resident of Shampura colony April 2021).

The inhabitants of informal settlements are the most susceptible to security issues. As a result of inadequate law enforcement and police control, theft and robbery are a persistent threat in these areas, as the interviewees reported. Moreover, drug users find informal settlements to be the best place to engage in their illicit activities because they can escape through the narrow streets whenever they feel threatened (Figure 13b). "...Thefts of mobile devices occur with some regularity here. The presence of drug users is not uncommon in this area. The police have been notified about them but they are still present." (Interview conducted by Mr. Farhan, resident of Shampura colony April 2021)

The lack of official recognition by the government also results in limited formal law enforcement and public justice institutions in these settlements. As a result of inherited practices, the women in the settlement remain illiterate and have not completed their elementary education. Unemployment contributes to a lack of household resources which forces their young daughters into marriage (Figure 13a).

...We are firm believers that you should get married and start a family as soon as you can. This allows you to fulfil your role as a parent better. We are of the opinion that it is important to have a large family so that our children will be able to care for us when we are older. (Interview conducted by Mr. Warraich, resident of Shampura colony April 2021).

### Figure 13

(a) Parents Prepare for the Marriage of Their Children in Coming Years;  
(b) Drugs and Security Problems in the Settlement



### Poor Governance

#### *Case 1: Zia Colony*

**Institutional Ineffectiveness.** As previously mentioned, the land on which Zia Colony is built is government-owned and was originally intended to be a vegetable market. The settlers of Zia colony migrated from other cities and discovered a method for occupying the land through the use of court mandate. Residents have expressed concern and scepticism regarding the possibility of receiving aid from the state and local governments. Many election promises to improve infrastructure and provide suitable housing for informal dwellers have turned out to be empty promises designed to win votes by playing on the fears of the informal dwellers (Figure14b). “...Governing authorities and their representatives have not been paying attention. Since the relevant personnel rarely process our requests for basic infrastructure amenities (such as road paving, garbage collection, and street lighting), nothing has changed.” (Interview conducted by Mr. Viki, resident of Zia colony April 2021)

In the context of Zia colony, government authorities (Figure14a) and NGOs are essential for addressing the problems and resolving the issues of informal settlements. However, their efforts are constrained by the lack of

available government funds. The interviewee added credence to this claim by detailing how the government officials visit their settlement as a formality and remain unconcerned and uncooperative.

“...The majority of people in the community do not view visits from nongovernmental organizations (NGOs) as being beneficial because the authorities do not cooperate.” (Interview conducted by Mr. Shahrukh, resident of Zia colony April 2021).

### Figure 14

(a) LDA – Enforcing Agency to Control Formal and Informal Growth of the City; (b) Posters Before Elections Giving False Hopes and Mistrust Among Informal Settlement Dwellers



### Case 2: Shampura Colony

**Real Estate Misguidance.** In their haste to obtain a shelter, informal occupants sought advice from the real estate industry. Some organizations within the real estate industry exploited this possibility for financial benefit by manipulating individuals into purchasing a cheap property, instead of opting for rental property (Figure 15). The management organizations of informal settlements have frequently witnessed corrupt individuals taking advantage of poor communities by presenting them with forged ownership documents. The registry documents are based on counterfeit stamp paper, which they mistook for a legal document for the land and which encouraged them to buy the land without additional legal verification (Figure 15b).

...Politicians try to sway voters by promising to improve such communities' infrastructure when they visit their homes during election campaigns. Yet, when it comes down to it, politicians fail to ensure the safety of the urban poor by including their needs in national and local housing regulations. (Interview conducted by Mr. Aslam, resident of Shamsपुरa colony April 2021).

**Figure 15**

(a) Real Estate Agency in The Neighborhood Giving Local Council to People; (b) Standard Registry Stamp Paper Often Mistaken as Legal Property Document



## Scarce Economic Means

### Case 1: Zia Colony

**Means of Earning.** The residents of the settlement have limited income sources and live below the poverty line. A small number of households have adopted the practice of converting the ground floor into small shops and living on the second floor. In addition, only a handful of skilled workers have converted their dwellings into vehicle workshops in order to support themselves. The barber, butler, and vegetable-selling businesses operate unofficially along the road space adjacent to their residences (Figure 16).

“...Only haircuts are within my skill set. That is the only way for me to make money. On some days, I am unable to bring any money home to my family, but on other days, I can do so.” (Interview conducted by Mr. Amir, resident of Zia colony April 2021)

Some residents engage in services such as street vending, hawking, and selling handmade goods. Together with their husbands, women contribute to the struggle for survival by urging their families to improve their living conditions (Figure 16). Additionally, some residents keep their livestock in front of their residences and use them as a source of income. According to an interviewee, daily wage earners are another group observed among the local populace. These locals support themselves as rickshaw drivers, tonga pullers, construction workers, and industrial laborers. “...I bought the rikshaw (three-wheel vehicle) in instalments and it is very effective as a means of earning. Also, it serves as a personal vehicle for my family.” (Interview conducted by Mr. Rana, resident of Zia colony April 2021).

### Figure 16

*Different Means of Economic Opportunities Such as Selling Vegetables, Cobbler, Grocery Shops, and on Street Barber Shops in Zia Colony.*



### Case 2: Shampura Colony

**Business and Retail Activities.** The Shampura colony is positioned at a road intersection that serves as a crossroads for multiple travel routes. It

is surrounded on all sides by formal and informal residential neighbourhoods. This route is routinely occupied by a number of mobile food kiosks. There are also a number of convenience stores that sell a limited selection of seasonal street foods (jalebis, samosas, and fritters) alongside the usual fare of cigarettes, cold beverages, snacks, tea, and other necessities. (Figure 17a). In contrast, the primary source of income for the residents of this informal settlement is the sale of vegetables. They place their stalls on the roadside, which attracts customers from city residents passing by this settlement (Figure 17b).

“We cultivate vegetables in our villages and sell them in the city. People from various cities who are entering or leaving Lahore purchase food in their vehicles. It is difficult to cover family expenses solely through the sale of vegetables.” (Interview conducted by Mr. Sohail, resident of Shamaspora colony April 2021).

### Figure 17

*(a) Tea Selling Stall in Shamaspora Colony; (b) Vegetable Stalls Along the Outer Road of The Settlement*



### Discussion

Through a qualitative analysis based on literature review, extensive field surveys, in-depth interviews, and photography surveys, the current research aimed to gain a deeper understanding of the selected settlements. Consequently, it employed an inductive methodology by evaluating the socioeconomic, physical, and governance issues of the two settlements, namely Zia colony and Shamspora colony. Due to the diversity of informal settlements, the pragmatic approach used fieldwork pertinent to case

studies, which necessitates more in-depth research. These informal settlements feature unique urban forms and morphogenetic processes. Some countries continue to commit what is widely recognized as a state crime—the systematic destruction of informal settlements and the displacement of the urban poor without adequate replacement housing. To engage with such issues, it is necessary to have a deeper understanding of the forms of urban informality and the subsequent challenges it poses. According to Kamalipour and Iranmanesh (2021), informal settlements are typically absent from street maps, largely ignored by the formal gaze, and slated for eradication and replacement. Consequently, the conducted fieldwork contributes towards developing an inventory for differentiating the informal from the formal settlements and understanding how these informal settlements function in Lahore.

This study revealed a great deal of diversity and heterogeneity across a broad spectrum of characteristics in both settlements. There could be a variety of reasons for it. Shamsapura colony has existed since the 1980s and is an older settlement than the Zia colony, which emerged in 2000. Since their emergence, both settlements have expanded peculiarly and encountered distinct planning challenges. In terms of their legal and tenure status, the government has regularized the Shamsapura colony, while Zia colony remains non-regularized. Still, neither area has benefited from privileged or sustainable development and planning. The spatial organization of the two settlements also reveals significant differences. Field research revealed that Zia colony primarily consists of dwelling units arranged in a grid-iron pattern. This transformation is primarily the result of the 2007 government intervention motivated by political gains. Nonetheless, Shamsapura colony is a consolidated community where dense and interconnected structures predominate. The types of housing in the two settlements also differs significantly. In Zia colony, there are many single-story buildings. Whereas, in Shamsapura colony, there are multiple-story buildings resulting in a denser population.

The contrasts between the two settlements are also evident in their street typology. In contrast to the Zia colony, the streets in Shamsapura colony are narrower and darker due to building encroachments (both laterally and vertically) on both sides. In both settlements, fieldwork revealed the absence and inadequacy of open and public spaces. In Shamsapura colony, road space is viewed as a multifaceted element of use and appropriation. In

Zia colony, residents are usually spotted lounging on their rooftops or seated in front of their homes, far from any potential for social interaction. In both instances, however, adequate public spaces such as parks and grounds are lacking.

Sewerage and water and electricity supply exhibited minor differences in terms of infrastructure provision in both colonies. Although the sewerage network in both settlements is inadequate, the Shamsapura colony's sewerage system suffers from overuse. After gaining tenure, the government provided water facilities in the colony. Such facilities are still lacking in Zia colony, where illegal connections have been made. Furthermore, exposed electrical circuitries can be found in Shamsapura colony. In contrast, in Zia colony, only a few residents have managed to install illegal connections, while others lack the means to do so. Moreover, Zia colony's commercial sector is limited to a handful of tiny tuck shops, some of which are integrated into the residents' dwellings. In contrast, Shamsapura colony has an abundance of convenience stores, most of which are located within the settlement.

In light of the aforementioned factors, it is inferred that the lack of infrastructure and public amenities is a significant problem in these informal settlements, resulting in an unsustainable way of life. It is interesting to note that even though one colony is notified by the government, both settlements are in a precarious position regarding their continued existence. Nonetheless, the residents of the non-notified Zia colony face more critical challenges and problems than those of Shamsapura colony due to poor service delivery and governance.

## **Conclusion**

This research compiled some of the most pressing problems associated with informal settlements from the literature and fieldwork and utilized the case study approach and qualitative analysis to study them. From the perspective of research and implementation, these problems still need to be fully addressed. A critical task is to find a balance between improving the conditions in informal settlements and mobilizing the resources needed to support their economies. Attempts have been made to provide an explanation for the growth of informal settlements. These, however, assume that society is a static system with rigid presumptions and fail to account for the diversity of informal settlements, as well as their multi-layeredness and

connectivity with the society and the environment at large. The current study puts forth the idea that such settlements can be viewed as an opportunity rather than a problem. It makes the case that rigorous fieldwork must be accomplished in informal settlements because real-world data is necessary to highlight the existing issues and potentials in any area. This method acts as a conduit for further research on informal settlements in Pakistan and other developing nations, encouraging strategies for their long-term improvement.

### Future Recommendations

Understanding the dynamic nature of the settlements and making them visible for potential interventions could benefit from the comparative mapping of informal settlements with a focus on their morphology and morphogenesis. Mapping can assist in identifying settlement patterns, such as population density and the distribution of various types of structures. This information can be used to inform urban development and planning strategies. The integration between various sectors, such as the public sector, NGOs, and communities, is crucial from a policy perspective. Moreover, the residents of informal settlements ought to actively participate in developing and implementing policies and initiatives that impact their lives. This participation can be achieved by involving and empowering the community, for example, by creating community-based organizations, using participatory budgeting, and including local leaders in the decision-making process.

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