UD/MH
THE CENTRE FOR URBAN DESIGN AND MENTAL HEALTH

Journal of Urban Design and Mental Health, *Volume 10*(1). https://doi.org/10.5281/zenodo.16689288

Research Article

Uncertainty in the Absence of Urban Design: A Right-to-the-City Analysis of Informal Spatial Justice in Zanjan's Palestine Neighborhood

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Abstract: This article explores the relationship between spatial injustice, mental well-being, and the absence of formal urban design in the informal Palestine neighborhood of Zanjan, Iran. Using Henri Lefebvre's *Right to the City* and spatial triad as theoretical frameworks, the study examines how the lack of planning recognition leads to material deprivation, psychological vulnerability, and civic exclusion. The research adopts a critical qualitative methodology, combining semi-structured interviews, field observations, and document analysis within a transductive analytical strategy. Findings indicate that spatial injustice arises not merely frompoverty or informal construction but from the systematic erasure of informal settlements from planning and policy systems. Residents experience daily hardship, stigmatization, and emotional distress, yet also demonstrate spatial agency through collective infrastructure, symbolic ownership, and social resilience. The study reframes informal settlements as active urban spaces that produce their own spatial order and knowledge, challenging dominant narratives of illegitimacy. It concludes that design under uncertainty must shift from technical intervention to ethical co-production, grounded in recognition, participation, and lived experience.

Implications: Urban design in informal contexts should prioritize mental health by integrating inclusive, participatory, and community-led design practices that recognize existing spatial agency and foster long-term civic resilience.

Keywords: Right to the City; spatial justice; informal settlements; urban uncertainty; mental well-being; participatory urban design; Lefebvre; Iran; epistemic marginality; Global South urbanism.

1. Introduction

Urban design plays a foundational role in shaping equitable, inclusive, and psychologically sustainable cities (Dempsey et al., 2011; Corburn, 2009). Yet in many contexts across the Global South—particularly in informal or neglected settlements—formal urban design is absent, incomplete, or exclusionary (Watson, 2009; Roy, 2005). This article investigates how such design absences shape experiences of spatial injustice, mental vulnerability, and symbolic marginality. We anchor our analysis in the case of the Palestine neighborhood in Zanjan, Iran: a small informal settlement structurally excluded from official planning frameworks (Pourahmad et al., 2016; Kamyar Rad et al., 2022). Rather than approaching this absence through a purely technical or administrative lens, we draw on Henri Lefebvre's *Right to the City* (1968/1991) and his spatial triad—*conceived*, *lived*, *and perceived space*—to examine how space is produced, experienced, and imagined under conditions of exclusion (Schmid, 2008).

In this context, urban uncertainty refers not only to infrastructural deficits or informal construction but to a broader condition of epistemic marginalization and symbolic invisibility in planning discourse. As Roy (2005, 2016) and Yiftachel (2009) argue, dominant planning paradigms in many Global South cities systematically erase informal neighborhoods from policy imaginaries, rendering them both politically excluded and

epistemologically unknowable. These absences are especially pronounced in centralized planning systems such as Iran's, where technocratic urbanism and megaprojects (e.g., Iran Mall, District 22 of Tehran) overshadow the needs of informal communities (Parizadi & Shamaei, 2024; Ghaderi Hajat & Hfeznia, 2020).

While a growing body of research has addressed informal settlements in Iranian cities, few studies have critically examined how the absence of urban design contributes to psychological precarity and symbolic exclusion at the neighborhood scale (Meshkini et al., 2021; Ebrahimi et al., 2023). This gap is particularly relevant in contexts where planning absence is not accidental but structural, sustained by epistemic blindness and institutional inertia. This article addresses this gap by localizing Lefebvre's spatial theory within Iran's informal settlements and by developing the concept of "informal spatial justice" through grounded empirical research.

Rather than reproducing binaries such as Planned vs. Unplanned or Global North vs. South, we ask how these categories are complicated or even subverted in specific urban contexts. The Palestine neighborhood is not a blank space of non-design; it is a site where space is actively co-produced through informal labor, communal rituals, and adaptive infrastructural strategies. As such, we approach informality not as a deficit, but as an alternative spatial logic that challenges technocratic paradigms of planning (Roy, 2005; Manouchehri & Burns, 2021).

Methodologically, the study draws on Lefebvre's spatial triad in combination with critical discourse analysis and a transductive approach, linking empirical fieldwork—interviews, observations, and policy document analysis—to evolving conceptual frameworks (Krippendorff, 2018; Schmid, 2008). This method allows grounded experiences to reshape theoretical understandings, rather than forcing field data to serve pre-existing models. The research adopts a critical qualitative stance, consistent with recent calls for ethical and localized approaches to spatial justice (Watson, 2019; Roulier, 2022).

This study contributes to the localization and "southernization" of urban theory by testing the limits and possibilities of Lefebvre's radical ideas in the Iranian context. Iran's informal settlements, while sharing characteristics with other Global South cities, reflect unique socio-political configurations shaped by centralized governance, weak civic engagement, and complex legal ambiguity (Kamyar Rad et al., 2022; Tahyarian, 2024). In this light, we ask: How does the absence of formal urban design affect spatial justice in informal neighborhoods like Palestine? How do residents interpret, resist, and reshape urban space under uncertainty? And how might these practices reframe urban design as an ethical and political endeavor, rather than a purely technical one?

To address these questions, the article proceeds in six parts. Section 2 outlines the theoretical framework, including Lefebvre's spatial triad, informal spatial justice, and complementary perspectives from squatting, urban informality, and political economy. Section 3 presents the methodological design and empirical context. Section 4 details the findings, organized by Lefebvre's triad. Section 5 reflects on how theory can help navigate epistemic gaps and reimagine design as a situated, participatory practice. Section 6 concludes with implications for policy and future research in contexts of urban uncertainty.

2. Methodology and Contextual Background

This study employs a critical qualitative methodology to investigate how the absence of formal urban design intersects with spatial injustice and informal urbanism in the Palestine neighborhood of Zanjan, Iran. Rather than assuming a binary of "Planned vs. Unplanned" or importing external theoretical dichotomies, the research adopts a transductive and grounded approach, allowing spatial practices and narratives on the ground to shape and challenge conceptual frameworks. Methodologically, the study integrates three interrelated components:

1. Lefebvre's spatial triad—*conceived, lived, and perceived space*—as an analytical tool to interrogate how spatial injustice is experienced and constructed (Lefebvre, 1991);
2. Critical Discourse Analysis (CDA) to examine how planning discourse produces invisibility, illegitimacy, or marginality (Krippendorff, 2018);

3. A transductive method of theory building in which field data and theory evolve together (Schmid, 2008).

This approach aligns with critical urbanism perspectives that call for situated theory-building in contexts of epistemic neglect and spatial marginality, particularly across the Global South (Roy, 2016; Watson, 2009). Reflecting the speculative nature of theory, the framework emerges through ongoing interaction with the field, rather than being predetermined or externally imposed.

The Palestine neighborhood is framed as a "modal case", not an exception, allowing analytical generalization to other informal settlements facing similar exclusionary conditions in Iranian cities.

2.1.Data Collection and Analytical Strategy

Data collection took place in Spring 2024 and involved:

- Twenty semi-structured interviews with residents (11 women, 9 men) selected through purposive sampling to ensure diversity in age (22–73), gender, occupation, and migration history. Themes included perceptions of injustice, access to services, lived insecurity, and spatial strategies;
- Structured field observations, with systematic recording of housing types, street forms, public space, and infrastructure using a spatial audit checklist;
- Document analysis of master plans, planning maps, health and education service layouts, and informal maps provided by residents, analyzed using CDA.

The data were coded using MAXQDA and structured around Lefebvre's triad. Themes such as service deprivation, symbolic marginality, and informal spatial strategies were mapped across spatial dimensions (see Figure 2).

The coding process emphasized transduction: theory and empirical findings were recursively connected, ensuring that analysis emerged from lived urban realities rather than theoretical projection.

2.2.Site Description: Palestine Neighborhood as a Modal Case

The Palestine neighborhood (Kuy-e Felestin) is an informal settlement located on the southern fringe of Zanjan, bordering the Zanjan–Mianeh railway and the Southern Beltway. It spans approximately 3 hectares and contains 137 households, housing roughly 350 residents, most who are rural migrants from Kurdistan, Lorestan, and Hamadan (see Figure 1).

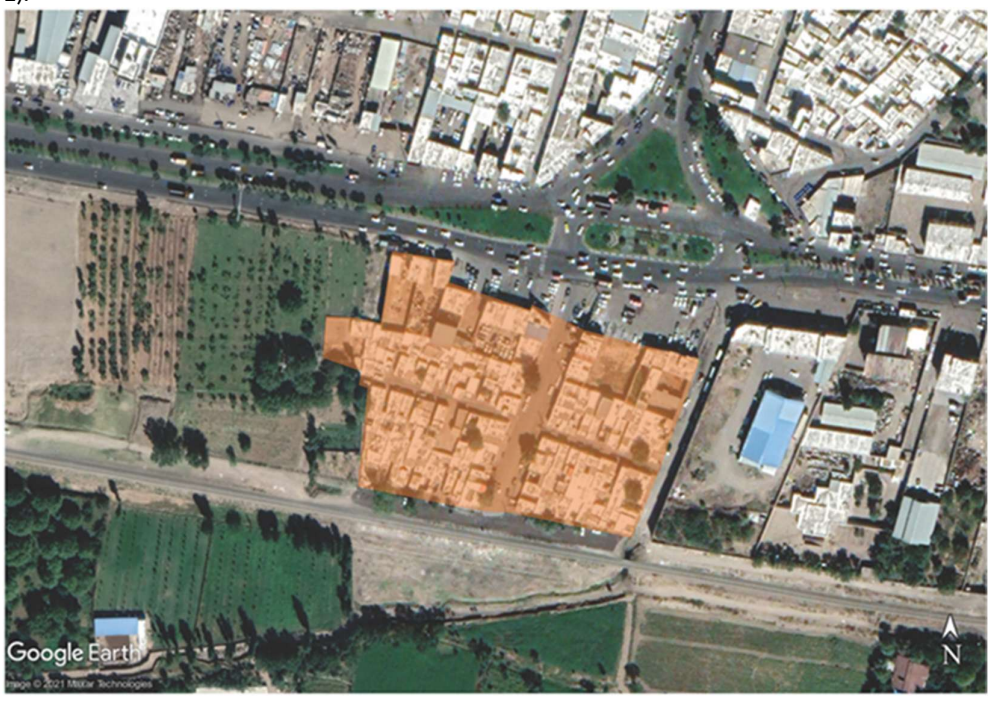

Figure 1. Aerial Photograph of the Palestine Neighborhood, Zanjan

Figure 1 shows an aerial view of the Palestine neighborhood, located on the southern fringe of Zanjan. The image illustrates the settlement's proximity to the railway and Southern Beltway, its compact urban form, and infrastructural disconnection. This spatial context supports the analysis of informal spatial production that follows. Infrastructure and services are extremely limited:

- Streets are unpaved and irregular;
- Most homes are self-constructed without adherence to planning codes;
- There is no formal sewage system, with wastewater flowing in open drainage;
- The neighborhood lacks clinics, schools, parks, and public institutions;
- The closest primary school lies beyond walking distance, along traffic-heavy roads;
- The nearest health clinic is over 1 km away, violating recommended urban accessibility standards (Kamyar Rad et al., 2022).

These features are not unique. GIS studies show that many outlying settlements in Zanjan fall outside service coverage zones (Hajipour & Zanganeh, 2016; Aghayari Hir, 2021), reinforcing the representativeness of Palestine as a modal site. Table 1 presents key infrastructural indicators and their spatial implications.

Table 1. Spatial and Infrastructural Indicators of Palestine Neighborhood

Indicator	Current Status	Implications
Population	~350 residents, 137 households	Small-scale, high-density
Education Access	No schools within neighborhood	Mobility and safety risks for children
Health Services	No clinics or health posts	Heightened vulnerability to health crises
Green/Public Space	Absent	Loss of social interaction and physical relief zones
Wastewater Management	Open drainage	Public health and hygiene risks
Transportation	No bus service; railway barrier	Physical and psychological disconnection
Water & Electricity	Informal/shared supply	Infrastructure insecurity
Cultural Facilities	One small mosque	Limited community-building infrastructure
Community Representation	No formal governance or delegate	Weak municipal linkage, political invisibility

While this study focuses on the Palestine neighborhood, it is important to clarify that the spatial and service-related challenges documented here are not unique or exceptional. Field observations and prior research (Aghayari Hir, 2021; Hajipour & Zanganeh, 2016) confirm that over 80% of Zanjan's informal settlements, including neighborhoods such as Fatemieh, Mahdieh, and Vahdat, suffer from similar infrastructural deficits and planning exclusions. In particular, access to healthcare services remains a systemic challenge. Across these neighborhoods, residents typically must travel at least one kilometer to reach the nearest formal clinic or health post—far exceeding recommended accessibility standards. Therefore, Palestine has been selected not as an anomaly, but as a "modal case"—a representative spatial condition through which broader patterns of informal exclusion and design absence in Iranian cities can be critically analyzed.

2.3 Applying Lefebvre's Spatial Triad

Figure 2 maps the triadic spatial relations based on coded field data:

- Conceived Space: Palestine is absent from Zanjan's official master plan (PlanVision 1404). Its exclusion from formal maps reinforces infrastructural neglect and administrative erasure.
- Lived Space: Residents construct their own urban logic through mutual practices—such as cooperative water sharing, informal childcare, and alley-making—highlighting resilience and spatial agency.
- Perceived Space: Residents describe their neighborhood as "neglected but united," while authorities label it "illegal" or "unplanned," reflecting symbolic marginalization.

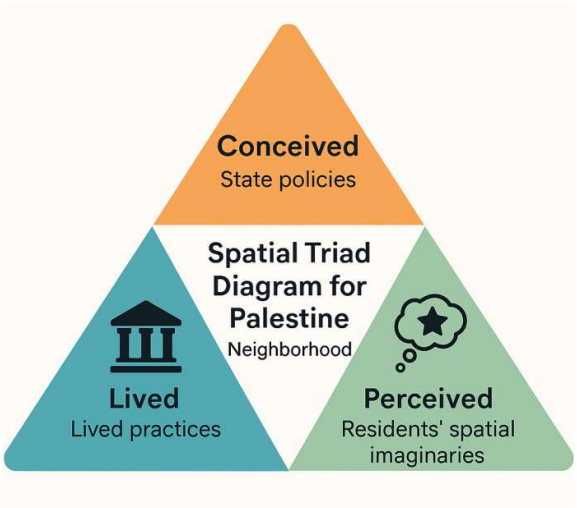

Figure 2. Spatial Triad Diagram for Palestine Neighborhood

This typology challenges simplistic notions of "unplanned equals disorder" and highlights everyday practices of informal design and spatial justice.

2.4.Clarifying the Socio-Political Nature of the Site

Although informally named "Palestine," the neighborhood is not a refugee camp, nor is it politically or ethnically exceptional. Residents are Iranian citizens and internal migrants, and the name was chosen symbolically by early settlers.

Interviews and planning records confirm that the site's exclusion stems from planning neglect, not political resistance. Misinterpretations in public discourse have added symbolic stigma, but the core issue is the absence of urban design and recognition, not deviance or dissent.

This clarification corrects misconceptions and supports a more ethically accurate engagement with spatial justice discourse.

2.5.Ethical Considerations and Epistemic Challenges

Research in informal Iranian neighborhoods presents serious challenges:

- *Epistemic challenge:* There is a lack of public access to planning data, and informal areas are excluded from many state surveys (Ghaderi Hajat & Hfeznia, 2020);
- *Institutional distrust:* Residents fear surveillance or expropriation and may hesitate to speak about government interactions;
- *Gender access:* Women, especially heads of household, face additional vulnerability in participating.

Spatial and Infrastructural Indicators of Palestine Neighborhood

- *Informed oral consent*;
- *Anonymization of all data*;
- *Gender-sensitive engagement*;
- *Consultation with local intermediaries*.

These efforts align with international research ethics for working in vulnerable urban contexts (Corburn, 2009; Manouchehri & Burns, 2021).

2.6.Study Limitations and Epistemic Challenges

As with any critical qualitative study rooted in a specific urban context, this research is subject to important methodological and epistemological limitations. First, the sample size—twenty semi-structured interviews—and the geographic scale of the study—three hectares of an informal settlement—limit the statistical generalizability of the findings. The research does not aim to provide representative data across all of Zanjan or Iran, but rather to engage in analytical generalization through the use of a modal case (Yin, 2014).

Second, access to official data, particularly detailed spatial information such as GIS layers, municipal budget allocations, or facility coverage maps, was highly constrained. Informal neighborhoods like Palestine are frequently excluded from formal datasets and absent from master plans (Ghaderi Hajat & Hfeznia, 2020). This exclusion is not merely logistical but epistemic—a form of structural invisibility that renders the spatial realities of marginalized communities illegible to urban policy frameworks.

Third, the research process was shaped by context-specific constraints related to political sensitivity, resident mistrust, and gendered access. While most participants were cooperative, some hesitated to speak openly about their interactions with municipal authorities. In particular, female-headed households were more difficult to access due to cultural norms and security concerns.

Despite these limitations, the study was able to gather rich qualitative data and spatial insights that support grounded theorization of spatial injustice. Moreover, while the empirical focus is on Palestine, complementary field observations and document reviews confirm that other informal neighborhoods in Zanjan—such as Kuy-e Fatemieh, Kuy-e Mahdieh, and Kuy-e Vahdat—also experience significant service deficiencies, especially in areas of healthcare access, sanitation, and public education (Aghayari Hir, 2021; Hajipour & Zanganeh, 2016). This supports the argument that Palestine is not an outlier, but a representative node within a broader pattern of neglect.

In this sense, the study's findings are contextually anchored and theoretically transferable. By focusing on lived spatial practices and resident narratives, and by applying Lefebvre's conceptual triad as both a methodological and political tool, The study resists speculative abstraction by anchoring its theoretical approach in the empirical realities of marginalized spatial practices and everyday urban experiences.Rather than overextending theory, the study seeks to ground it in the everyday urban experience of those excluded from formal planning systems.

Ultimately, the limitations themselves reinforce the central arguments of the study: that spatial injustice in informal settlements is not only a material condition but also an epistemological one—a form of invisibility that requires critical, reflexive, and participatory modes of urban inquiry.

3. Theoretical Framework: The Right to the City and Informal Spatial Justice

This section establishes the theoretical basis through which the study explores the intersection of spatial injustice, informal urbanism, and the absence of formal urban design in Zanjan's Palestine neighborhood. By grounding the analysis in Henri Lefebvre's theory of the Right to the City, enriched with theories of informality, urban squatting, and epistemic marginality, the article develops a context-sensitive framework for understanding how spatial justice is practiced, denied, and reclaimed in informal urban settings.

3.1.Lefebvre's Right to the City and the Spatial Triad

Henri Lefebvre's (1968/ 1991) notion of the Right to the City critiques the commodification and bureaucratization of urban space. For Lefebvre, the city is not merely a container of infrastructure and services, but a collective "œuvre"—a space produced through symbolic, political, and everyday practices. The right to the city, then, entails not only access but the right to participate in spatial production and to reimagine urban life as a space of encounter, resistance, and emancipation.

At the core of Lefebvre's spatial theory lies the spatial triad:

- Conceived space: space as imagined, represented, and planned by institutions—through maps, zoning codes, and official discourse;
- Perceived space: space as practiced and navigated—via bodily routines, spatial movement, and material interaction;
- Lived space: space as symbolically and emotionally experienced, embedding cultural memory, affect, and social belonging.

In informal contexts, where conceived space often omits entire neighborhoods from official recognition, the triad offers an essential tool to understand how urban life continues despite institutional erasure.

3.2.Spatial Justice and the Politics of Design Absence

Following Soja (2010), spatial justice is understood here as a multi-dimensional condition involving not only the equitable distribution of infrastructure but also the symbolic and epistemic politics of space. This includes questions of visibility, voice, legitimacy, and the politics of absence.

In cities of the Global South, the absence of formal urban design in informal settlements is often viewed as a passive gap. However, such design absences are politically charged: they reflect systemic neglect, reinforce socio-spatial inequality, and produce structural invisibility. This study reframes design not merely as the presence of built form, but as a political instrument—an indicator of who is considered plan-worthy and who is not.

Rethinking urban design from a justice-centered perspective aligns with emerging calls for context-sensitive and ethically engaged planning that foregrounds marginal voices (Watson, 2009; Roulier, 2022). In this framework, the absence of design is not an accident but a condition that reflects and reproduces urban injustice.

3.3.Informality and Urban Squatting: Between Necessity and Agency

Urban informality has often been treated as a deficit—characterized by illegality, disorder, or transition. Yet more recent critical literature, including Roy (2005) and Yiftachel (2009), emphasizes that informality is not a peripheral exception but a central mode of urbanization, especially in the Global South.

Economists such as JK Brueckner (2009) further demonstrate that informal housing markets arise rationally, in response to regulatory exclusion and land price barriers. Informal settlements reflect rational survival behavior, especially where state-led planning fails to meet housing demand. Brueckner argues that squatter settlements are often efficient, adaptive responses to institutional failures, and should be viewed not merely as problems but as part of the urban system.

In parallel, the literature on urban squatting (Pruijt, 2013) recognizes such acts as both material responses to housing exclusion and symbolic challenges to urban governance. Informal residents assert not only their presence but their right to shape space, resist eviction, and articulate alternative spatial imaginaries.

In this study, we approach informality as a mode of spatial production—rooted in necessity but suffused with agency. In neighborhoods like Palestine, residents organize their own spatial systems: building streets, sharing services, managing utilities, and fostering communal networks. These actions challenge the assumption that planning and design are exclusive domains of state authority, and instead assert a bottom-up logic of urban production.

3.4.Urban Uncertainty and Epistemic Marginality

Urban uncertainty is not limited to unstable infrastructure or ambiguous tenure. As Roy (2016) notes, uncertainty in the Global South often reflects an epistemology of ignorance—a situation where informal spaces are uncounted, unmapped, and thus illegible to urban policy. This epistemic marginality becomes both a cause and effect of planning neglect, used to justify exclusion by citing data absence.

In the Iranian context, this epistemic condition is exacerbated by centralized planning, opaque governance, and limited civic participation (Ghaderi Hajat & Hfeznia, 2020). Settlements such as Palestine in Zanjan remain excluded from city master plans, with no formal land registry, unclear service entitlement, and ambiguous legal status. Yiftachel (2009) captures this liminal condition with the concept of “gray spacing”—where communities are neither fully legal nor illegal, but exist in a state of tolerated abandonment.

Lefebvre’s emphasis on lived space and symbolic production provides a critical epistemological intervention here. It challenges technocratic notions of what counts as knowledge and opens space for counter-cartographies, resident narratives, and spatial storytelling. In doing so, it reframes uncertainty not as a vacuum, but as a political condition that reflects deeper structures of exclusion.

3.5.Toward a Situated Theory of Informal Spatial Justice

From the above, we derive a contextualized framework of informal spatial justice—a conceptual and political tool to interpret how justice is claimed and contested in spaces marked by informality and design omission. This framework is built around three interlinked dimensions:

- *Material justice:* access to infrastructure, housing, services, and spatial security;
- *Symbolic justice:* recognition of identity, community, memory, and cultural narratives;
- *Political justice:* inclusion in planning dialogues, representation, and the right to shape urban futures.

In the Palestine neighborhood, these dimensions are enacted through everyday spatial practices: sharing electricity, co-maintaining water lines, informally widening streets, organizing mosque gatherings, and mobilizing social capital to gain basic rights. Such acts are not simply responses to state failure—they are affirmative spatial claims, embedded in place and struggle.

Through this framework, informal settlements are reinterpreted: not as failed or exceptional spaces, but as legitimate terrains of spatial agency and knowledge production. Urban design, in turn, is reframed not just as a formal profession but as an ethical and political process—one that must listen, adapt, and co-create with the very residents whose urban lives have long been ignored.

4. Findings: Spatial Injustice and Everyday Urbanism in the Absence of Design

This section presents the core empirical findings from the fieldwork conducted in the Palestine neighborhood of Zanjan. Structured through Henri Lefebvre's spatial triad—conceived, lived, and perceived space—the analysis unpacks how spatial injustice materializes in conditions of design absence and planning neglect. Drawing on 20 resident interviews, structured observations, and document analysis, the findings reveal the layered dynamics of exclusion, resilience, and informal spatial agency.

4.1. Conceived Space: The Logic of Omission in Planning Representations

Conceived space, in Lefebvre's framework, refers to the rationalized and abstract domain of planning, where urban space is represented through official maps, codes, and institutional logics (Lefebvre, 1991). In the case of the Palestine neighborhood, this space is characterized less by what is planned and more by what is absent.

The neighborhood is entirely excluded from Zanjan's master plan (PlanVision 1404) and appears only as a vague gray area labeled "pending regulation." Municipal documents refer to it as an "unauthorized" or "irregular" area, lacking residential zoning, despite over two decades of permanent settlement. This categorization allows the state to justify infrastructural disinvestment, avoid long-term service commitments, and defer decision-making under the guise of future formalization (Kamyar Rad et al., 2022; Pourahmad et al., 2016).

The broader planning paradigm in Iran is marked by centralized technocratic control and a growth-oriented logic that privileges commercial zones, real estate developments, and state-sponsored mega-projects (Ebrahimzadeh et al., 2023). Informal settlements such as the Palestine neighborhood, which fall outside these priority geographies, are treated not as urban communities but as temporary errors to be eventually resolved.

In the absence of official infrastructure budgets, residents have extended water pipes, electricity cables, and drainage channels from adjacent formal neighborhoods—without permits, without design, and often without safety oversight. The result is a hybrid infrastructural ecology: legally invisible, physically fragile, and socially indispensable.

Table 2. Urban Planning and Design Exclusion in Palestine Neighborhood

Policy Domain	Observed Status	Institutional Impact
Zoning	Not included in official land-use plans	No legal recognition of residential function
Infrastructure	No state-funded sewage, roads, or parks	Residents responsible for service provision
Public Services	No clinics, schools, or transit lines	Exclusion from urban resource allocation

Representation	No local delegate or council presence	Absence from participatory planning mechanisms

This "non-design" condition reflects not technical failure, but an ideological strategy of erasure (Roy, 2005). Informal areas are positioned outside the "designed" city, which enables their long-term neglect and symbolic devaluation. As one official noted in an internal planning memo: "The neighborhood may be integrated if it complies with environmental and security standards." However, such integration remains bureaucratically frozen, reinforcing Palestine's spatial liminality.

4.2.Lived Space: Everyday Practices and the Embodiment of Injustice

Lived space, according to Lefebvre, is the realm of daily experience, where space is encountered through the body, emotion, habit, and community (Lefebvre, 1991). In the neighborhood of Palestine, this lived experience is shaped by a pervasive sense of material deprivation and institutional abandonment.

Interviews revealed a common refrain: "We are not part of the city."

Residents detailed daily struggles with flooding from open drains, respiratory problems due to smoke and sewage, and the risk of walking children across unlit roads to reach schools located over a kilometer away.

"We have no clinic. When someone is sick, we pay for a taxi. There's no bus, and the roads are dangerous for children."(Female resident, 39)

These physical conditions translate into mental health stressors. Many interviewees, especially elderly women and mothers, described symptoms of chronic anxiety, insomnia, and feelings of entrapment.

"At night, it smells so bad I can't sleep. I feel like we're punished for being poor."(Male resident, 58)

Environmental psychology literature confirms that prolonged exposure to degraded built environments correlates with psychological distress and reduced self-efficacy (Evans, 2003; Corburn, 2009). In Palestine, the lack of design becomes a source of both material harm and symbolic disempowerment.

Table 3. Lived Spatial Conditions in Palestine Neighborhood

Indicator	Observed Condition	Resident Impact
Sanitation	Open drains, no sewage network	Illness risk, odor-related discomfort
Education Access	Nearest school ~1.2 km away, no safe pathway	Dropout risk, parental anxiety
Health Access	No local clinic, costly emergency transportation	Delayed treatment, financial strain
Public Space	Only one mosque; no parks or playgrounds	Social isolation, limited mobility for women
Housing Safety	Informal structures, narrow alleys	Fire risk, difficult emergency access

Despite these challenges, residents engage in localized infrastructural improvisation. For example, groups of men fix broken pipes, mothers coordinate childcare, and young people create informal study groups at the mosque. These practices constitute a form of spatial agency under constraint—a counter-design grounded in necessity.

4.3 Perceived Space: Moral Belonging and Counter-Imaginaries

Perceived space, in Lefebvre's triad, refers to the way space is interpreted, narrated, and emotionally constructed. In the Palestine neighborhood, this dimension reveals a powerful disconnect between external categorization and internal belonging.

Residents repeatedly articulated a moral claim to space:

"They say we don't belong, but we built this place. It's ours."(Female resident, 46)

Despite lacking land deeds or legal recognition, residents speak of "my neighborhood" or "our land" with pride. This symbolic ownership reflects years of labor, investment, and community-building.

Residents also draw comparisons with other areas:

"We are 10 minutes from downtown, but they treat us like we're not even on the map." (Male resident, 50)

These comparisons produce what Soja (2010) calls spatial consciousness—an awareness of exclusion, injustice, and inequality that is both local and comparative. Such perceptions are not passive; they animate political critique.

Cultural practices play a key role in this process. Ashura gatherings in alleyways, religious murals painted on informal walls, and shared rituals of hospitality become acts of spatial claiming. These practices not only foster cohesion but challenge dominant narratives that frame informality as disorder or illegitimacy.

Rather than aspiring only for legalization, residents seek recognition—to be seen as citizens, not squatters; as community members, not transients. Their spatial imaginaries suggest alternative visions of the city: one rooted in mutual care, presence, and memory, rather than formal grids and zoning maps.

4.4.Concluding Synthesis

Across all three dimensions—conceived, lived, and perceived—Palestine neighborhood illustrates how spatial injustice is not merely a technical failure but a political condition. The absence of design is not an accidental oversight but a structured absence rooted in ideologies of urban modernity that marginalize informal lives.

By applying Lefebvre's triad in a grounded and contextually rich way, the study responds directly to critiques of theoretical abstraction. The findings show how residents navigate, contest, and reimagine space under conditions of institutional erasure. Their voices, practices, and spatial imaginaries offer a foundation for rethinking design not as imposition, but as ethical engagement.

The next section expands this discussion by reflecting on how informal spatial justice, as both theory and practice, can reshape how we think about design, citizenship, and urban futures in the Global South.

5. Discussion: Navigating Urban Uncertainties with Theoretical Tools

The findings from Zanjan's Palestine neighborhood reveal that spatial injustice in informal settlements cannot be reduced to infrastructural gaps or administrative failure. Rather, it reflects deeper epistemological and political marginality, manifest in the absence of design, exclusion from planning knowledge, and denial of spatial recognition. This section reflects critically on how Henri Lefebvre's Right to the City framework, when situated and operationalized, can serve as a theoretical lens and ethical guide in contexts of urban uncertainty. We also explore the role of theory in navigating data voids, challenging technocratic planning, and reframing urban design as a political practice.

5.1. Reclaiming the Right to the City in the Absence of Formal Design

In mainstream planning discourse, the Right to the City is often interpreted as a demand for more equitable infrastructure, improved services, or participatory mechanisms. Yet in spaces like Palestine, where such infrastructures and institutions are fundamentally absent, the theory requires re-articulation. The right must be reimagined not as access to what exists, but as a claim to reconstitute the very foundations of spatial governance.

For Lefebvre (1968/**1991**), the Right to the City is a political and symbolic demand—a call to transform urban life through collective imagination and participation in space production. In informal neighborhoods, this right is enacted through everyday practices of survival and solidarity: self-built homes, alleyway ceremonies, communal maintenance, and informal service extensions. These practices function as vernacular urban design—practices that embody spatial intelligence, local ethics, and collective authorship without state sanction or formal recognition.

Contrary to dominant narratives that associate informality with disorder, these spatial practices demonstrate a parallel system of urban logic, based not on aesthetic coherence or zoning alignment, but on need, negotiation, and communal care. In Palestine, design is not absent—it is simply uncertified. It arises not from architecture schools or master plans, but from necessity, memory, and resilience.

5.2. Theory and the Data Void: Epistemological Navigation of Informality

One of the key challenges in researching informal settlements is the absence of formal data—no cadastral maps, service inventories, or demographic profiles. This is not merely a logistical gap but an epistemic condition (Roy, 2016). The invisibilization of Palestine from state statistics mirrors its exclusion from rights, recognition, and representation.

Here, theory becomes an epistemological tool. Lefebvre's spatial triad offers a framework to understand space not through numbers but through practices, perceptions, and symbolic systems. It allows the researcher to bridge empirical absences by capturing the material, affective, and political dimensions of space. In this study, the triad revealed how space is conceived (excluded by plans), lived (inhabited through daily hardship), and perceived (imagined through moral claims to belonging).

This approach resists the technocratic urge to reduce informal settlements to "problems to be solved." Instead, it recognizes them as spaces of lived knowledge. Resident narratives, observations, drawings, and community rituals—often dismissed by formal institutions—serve as alternative epistemologies that generate insight into the social and spatial fabric of the neighborhood (Manouchehri & Burns, 2021; Corburn, 2009).

In Palestine, the lack of maps was compensated by residents' oral cartographies—descriptions of danger zones, walkable paths, communal boundaries. The absence of statistics on health outcomes was countered by testimonies of lived stress, insomnia, and adaptive health strategies. These data forms—while not quantifiable—are no less valid for interpreting the dynamics of urban exclusion.

5.3. From Technicality to Ethics: Reframing Design in the Face of Uncertainty

Urban design has traditionally been framed as a technical solution—an application of form, regulation, and aesthetics to manage space. But as the Palestine case shows, design can also function as a technology of exclusion. The absence of design, when strategic and sustained, becomes an instrument of marginalization.

In such contexts, the challenge is not how to insert design into a blank slate, but how to redefine design altogether. Three key shifts are necessary:

- From form to justice: Design must be judged not by visual order but by its capacity to enable dignity, access, and belonging (Soja, 2010; Roulier, 2022).
- From expertise to co-production: Rather than imposing top-down models, planners must listen to local design practices—the ways residents arrange courtyards, allocate utilities, and negotiate common space.
- From certainty to ethical adaptability: Under urban uncertainty, designers must abandon universal models and instead adopt situated ethics—responsive to culture, contingency, and lived context (Watson, 2009; Ghaderi Hajat & Hfeznia, 2020).

This reframing echoes Lefebvre's vision of the city not as a "product" but as an "œuvre"—a lived, open-ended creation shaped by struggle and meaning. In Palestine, the absence of planning has not prevented spatial production. It has merely relocated design to the margins, where it is practiced under constraint, without recognition, yet with purpose.

5.4. Toward a Situated Urban Theory from the Global South

The Palestine neighborhood is not a statistical anomaly, but a modal case—one that illustrates broader dynamics across the Global South. From Dharavi in Mumbai to Ezbet El-Haggana in Cairo and Heliópolis in São Paulo, informal settlements share patterns of legal ambiguity, infrastructural neglect, and symbolic exclusion (Roy, 2016; Robinson, 2013). Yet they also produce alternative modes of spatial agency, cultural identity, and urban solidarity.

This study contributes to the Southern turn in urban theory by demonstrating how Lefebvre's concepts can be situated and stretched. Rather than universalizing theory from the Global North, the article uses empirical findings to re-ground theory in the spatial realities of Iran—adapting the Right to the City to conditions where planning is absent, citizenship is liminal, and justice is lived through infrastructure improvisation and narrative resistance.

By centering informal spatial justice—the right not only to services but to recognition, participation, and presence—the discussion reframes informal settlements as sites of

theoretical production. These spaces do not lack meaning; they lack legitimacy in dominant frameworks. The task of critical urban theory, then, is not to bring order to disorder, but to render visible the order already produced under adversity.

5.5. Conclusion to the Discussion

Navigating urban uncertainties demands more than new technical solutions. It requires a conceptual and ethical reorientation: from planning as control to planning as listening; from design as imposition to design as dialogue; from informality as absence to informality as intelligence.

Lefebvre's triad, when grounded in context, offers a generative tool for making sense of marginal urbanisms. But more importantly, it invites scholars, designers, and policymakers to recognize that design already exists in the shadows of formality—crafted daily by residents who refuse invisibility and claim their right to the city, one act, one wall, one pipe at a time.

6. Conclusion and Policy Implications

This study has examined the intersection of urban uncertainty, spatial injustice, and the absence of formal urban design in the informal Palestine neighborhood of Zanjan, Iran. By applying Henri Lefebvre's Right to the City and spatial triad, the analysis reveals how infrastructural neglect and epistemic erasure operate not merely as technical oversights but as deeply embedded political and ideological practices.

The findings demonstrate that spatial injustice in informal settlements like Palestine does not stem solely from material poverty or informal housing, but from systemic exclusion—the omission of entire communities from urban planning, legal recognition, and institutional visibility. The absence of formal design becomes a mechanism of marginalization, reinforcing health vulnerabilities, psychological distress, and civic disempowerment.

Yet this absence is not total. As shown, residents enact informal spatial agency through self-built infrastructure, shared rituals, and neighborhood-scale governance. These practices constitute alternative modes of urbanism that challenge dominant technocratic paradigms. In this context, Lefebvre's concepts are not abstract ideals but practical tools to reframe informality as a legitimate urban condition—a space of production, resilience, and political demand.

Urban uncertainty, rather than being a barrier, becomes a terrain for ethical engagement, where design must shift from intervention to listening, and from regulation to recognition.

6.1 Policy Recommendations

6.1.1 Recognize Informal Settlements as Integral Urban Spaces

Municipal and national planning frameworks must formally recognize long-standing informal settlements not as irregular anomalies, but as active components of the urban fabric. Legal acknowledgment—through inclusion in master plans, land use registers, and zoning documents—provides a foundation for equitable service provision and infrastructure investment (Kamyar Rad et al., 2022; Meshkini et al., 2021).

6.1.2 Institutionalize Participatory and Contextual Urban Design

Urban design in informal areas must be co-produced with residents, respecting local knowledge, cultural patterns, and community rhythms. Mechanisms such as community mapping, mobile planning units, and informal design charrettes should be institutionalized. In Zanjan, the formation of Community Design Units (CDUs)—comprising municipal planners, social workers, and resident delegates—could coordinate participatory workshops, pilot infrastructure upgrades, and mediate between informal communities and formal governance structures.

At the national level, the Ministry of Roads and Urban Development should adopt a fast-track regularization mechanism for long-established informal neighborhoods demonstrating collective stability, functional infrastructure, and community organization.

6.1.3 Integrate Health and Social Infrastructure in Design Strategies

Design interventions must center on well-being and inclusion. Priorities include safe pedestrian routes, accessible primary healthcare clinics, shaded public gathering areas, and gender-sensitive public spaces. Urban design should not merely fill infrastructural gaps but address mental health vulnerabilities and psychosocial stressors—as shown in this study's findings (Corburn, 2009; Evans, 2003).**6.1.4 Promote Epistemic Inclusion in Urban Governance**

Planning institutions must treat informal knowledge as urban expertise. Resident narratives, experiential maps, and collective histories should be incorporated into decision-making. Platforms for dialogue—such as neighborhood planning councils or community research hubs—can foster epistemic justice by challenging the state's monopoly over urban knowledge (Roy, 2016; Manouchehri & Burns, 2021).

6.2 Directions for Future Research

To build on the insights of this study, further research should:

- Extend the framework of *informal spatial justice* to other Iranian cities (e.g., Mashhad, Ahvaz, Kermanshah) and regional cases in the Global South;
- Conduct *longitudinal studies* to assess the mental health and social impacts of spatial marginalization over time;
- Investigate the outcomes of *participatory design interventions*, examining their potential for empowerment, retention, and replicability;
- Explore *comparative urbanism* across "gray spaces" (Yiftachel, 2009) in diverse postcolonial and semi-peripheral contexts, enabling a grounded theorization of spatial justice beyond the Global North-South binary.

6.3 Final Reflection

This research calls for a shift in how informal settlements are understood—not as failed extensions of the city, but as *alternative urban realities* shaped by struggle, solidarity, and creativity. Urban design, in this light, is not a technical fix but a *moral and political practice*—a means to engage with spatial suffering, reassert the agency of the excluded, and heal cities from within.

Rather than imposing external order, planners and designers must learn from the spatial order that already exists—crafted incrementally, collectively, and often invisibly. By listening to these spaces, urban theory and design practice can begin to realize the radical promise of Lefebvre's Right to the City: a city remade by those who live, suffer, and build it every day (See Table 4).

Table 4. Summary of Key Findings and Policy Implications

Analytical Dimension	Key Findings	Policy Implications
Conceived Space	Exclusion from official plans; non-recognition by municipal frameworks	Legal recognition of informal neighborhoods; inclusion in zoning and infrastructure allocation plans
Lived Space	Everyday hardship: open drains, lack of clinics, unsafe access to education	Integrated provision of health clinics, safe pedestrian paths, and child-friendly infrastructure
Perceived Space	Strong sense of moral ownership and spatial identity despite institutional neglect	Acknowledge cultural narratives in planning; promote spatial citizenship through participatory practices
Urban Design Role	Absence of design reinforces inequality; informal design emerges from necessity	Reframe design as ethical co-production; support bottom-up design innovations with technical assistance
Knowledge and Power	Informal knowledge marginalized; residents narrate space with detail and clarity	Institutionalize epistemic inclusion; create dialogue platforms between planners and communities

Theoretical Contribution	Lefebvre's triad adapted to informal urbanism; design absence as active injustice	Expand urban theory from the Global South; use lived experience as a source of critical urban knowledge

Acknowledgments: The author would like to thank the residents of the Palestine neighborhood for their cooperation and trust during fieldwork.
Conflicts of Interest: The author declares no conflict of interest.
Author Contributions: Conceptualization, methodology, investigation, formal analysis, writing—original draft preparation, writing—review and editing, and visualization were all performed by S.G. The author has read and agreed to the published version of the manuscript.
Funding: This research received no external funding.
Institutional Review Board Statement: Ethical review and approval were waived for this study due to the non-invasive, observational nature of the fieldwork and the anonymized handling of all data.
Informed Consent Statement: Informed oral consent was obtained from all subjects involved in the study.
Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy considerations.

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