

Vertical Informality: The case of Kufr Aqab in East Jerusalem

Abstract: This paper explores the phenomenon of *vertical informality*, an under-studied form of informal housing at large scale, and the role of developers within vertical informality. We investigate the case of vertical informality in Kufr Aqab, East Jerusalem, where developers have constructed multiple high-rise apartment buildings with thousands of inhabited apartments without land registration, zoning or building permits. We investigate the conditions for the formation of vertical informality in Kufr Aqab and explore the developers' perspectives and risks, including land ownership, finance, reputation and professional ethics, and construction standards. Drawing from the case study and interviews with local developers, as well as literature on informality, we define vertical informality as (i) developer-built high-rise or mid-rise housing for sale or for rent, that (ii) lacks formal registration and bank-financing, and (iii) does not comply with formal planning and building codes. Some aspects of vertical informality are unique to Kufr Aqab, relating mainly to the geopolitical status of contested East Jerusalem. Other aspects are significant worldwide, shedding light on the role of the real estate developers in informal housing. We conclude with directions for future research.

Key words: Vertical informality; Informal Housing; affordable housing; Jerusalem; Real estate developers; Kufr Aqab

1. Introduction

Kufr Aqab, a neighbourhood in East Jerusalem,¹ was a quiet, sleepy green village on the outskirts of the city until a radical transformation began in the mid-2000s. Developers constructed tens of high-rise apartment buildings, up to fifteen stories, replacing four-story family homes and courtyards (Alkhalili 2019; Asmar 2018). This dramatic verticality was not part of a plan: indeed, most construction proceeded without planning permission, without compliance with building codes, without bank loans or insurance, and often on unregistered land.

In this paper, we explore the emerging phenomenon of large-scale-developer-built vertical housing in informal areas, and discuss the rather different challenges faced by developers. Housing in informal areas is typically low-rise, built by individual families without external developers, and without formal land registration, mortgage financing, planning permits and construction codes. In contrast, vertical housing is usually formal: developer-built, on registered land, with bank financing and according to building codes. What happens, then, when developers build high-rise or vertical housing under conditions of informality? We profile the methods and rationale of developers taking extreme risks to construct fifteen story apartment buildings without land registration, planning permission and bank loans, in a highly unstable political context.

Scholarship on informal housing is vast, encompassing multiple aspects of urban policy, land tenure, and form, among others (Avni and Yiftachel 2014; Roy 2005; Bhan

¹East Jerusalem is the predominant term for Palestinian Jerusalem, deriving from its location east of the Green Line. However, the term 'east' is not geographically accurate since some Palestinian neighbourhoods are located north and south of the line. Moreover, there are Jewish-Israeli neighbourhoods in East Jerusalem. Geographically, Kufr Aqab is situated in the northernmost part of the Israeli municipal borders for Jerusalem, expanded following the 1967 War.

2009; Dovey and King 2011). In the last two decades, verticality has also increasingly come under scholarly attention (Harris 2015; Graham and Hewitt 2013; Rosen and Charney 2018; Weizman 2007). Some studies of informality have, *inter alia*, identified mid and even higher-rise housing, particularly among the developing economies of southeastern Europe (Tsenkova et al. 2009). However, the links between informality and verticality have rarely been the direct focus of investigation. The case study of Kufr Aqab offers an opportunity to narrow this gap.

The paper is structured as follows: first, we examine the literature about informal housing, searching for analyses of vertical informality, and then we review research on the role of real estate developers in formal vertical housing. We use this literature review to propose a definition of vertical informality as (i) developer-built high-rise or mid-rise housing for sale or for rent, that (ii) lacks formal registration and bank-financing, and (iii) does not comply with formal planning and building codes.

The second strand of the paper explores the formation of vertical informality in Kufr Aqab through interviews with fourteen developers about five issues: (i) land ownership, (ii) financialization, (iii) construction standards, (iv) supply and demand in the context of political uncertainty and (v) developer reputation and social responsibility. Our findings indicate that developers face significantly different risks and challenges in situations of vertical informality. In conclusion, we suggest that while formal verticality is often envisioned as a symbol of power and capital (Graham 2015; Acuto 2010), vertical informality may be a more ordinary, yet important and under-studied, housing form with implications for residents, developers and governance that deserve both scholarly and policy attention. Essentially, we aim to continue the move from "isolated

accounts of vertical expansion occurring in different places and different times”

(Nethercote 2018, 3) towards a more comprehensive, international perspective of the phenomenon in the context of urban informality.

2. Vertical informality: An emerging phenomenon

2.1. Informal housing

Informal housing in its myriad forms is home to over a third of the world’s population, although the percentage can be as high as 60-70 percent of urban housing in some countries (UN Habitat 2016, UNECE 2015). Over the last several decades, scholars have developed a nuanced and sophisticated understanding of informal housing, which goes beyond a binary of the ‘formal’ and ‘informal’ (de Satgé and Watson 2018; Dovey and King 2011; Bhan 2009; Roy 2005). Informal housing has been contextualized within the broader political, cultural, and social structures that shape it, both in the global north and south (Parnell and Oldfield 2014; Chiodelli and Tzfadia 2016; Dekel, Meir, and Alfasi 2019). There are different categories of what constitutes the ‘informal,’ and land tenure is a continuum made up of varying degrees of security and legal statuses (Payne 2001). Informality often exists in a state of ‘gray space’ (Yiftachel 2009), which is neither fully integrated nor totally eliminated from society, forming unstable, permanent temporalities (Avni and Yiftachel 2014).

As one (critical) component of informality, the term ‘informal housing’ is used to refer to at least three different forms, and their variations:

A) Self-built housing on 'illegal' land, which occurs when individuals build their homes on land that they do not own, and have no legal right to use (Harris and Wahba 2002; Dündar 2001; Tsenekova et al. 2009, van Gelder 2013). This is perhaps the most familiar form of informality, which carries great risks and perceived as a 'threat' by municipalities (Shmueli and Khamaisi 2011).

B) Self-built housing on legal land provided by the public or public sector (Perlman 2010). Self-built and self-help housing has increasingly been regarded as part of the solution to the high cost of public or private sector built homes (Ombard and Huxley 2011; UN Habitat 2016).

C) Non-compliance with building codes (Porter et al. 2011; van Gelder 2013; Gonzales 2009, Potsiou, 2010). This may take the form of unpermitted subdivision of apartments, additional rooms (or porches, gardens, and parking), and even the construction of entire mid and high-rise buildings.

These three categories suggest the multiple forms that informal housing may take, varying across countries, cities, and even neighbourhoods. However, the vast majority of the academic literature still overlooks *vertical* informality as an important and significantly different, form of informality.

2.2. Vertical urbanism

The second component of our discussion of vertical informality is 'verticality.' Although not a new phenomenon, the last two decades have seen a growing scholarly focus on urban verticality and its physical, social, and political characteristics (Nethercote 2019; Rokem et al. 2017; McNeill 2005; Harris 2015). Scholars have urged to consider

verticality beyond its immediate spatial form—typically tall buildings—to explore issues of the multiple forms and scales of power, lived experiences, and materialities embodied in high-rise buildings, including apartment buildings (Graham 2015).

A notable body of literature on verticality has focused on aspects of militarism, surveillance, and violence, for example, Weizman's (2007) influential work on the architecture of Israeli power in the West Bank and Gaza, Elden's (2013) study on tunnels in Israel's borders, and Adey's (2010) work on vertical security in megacities. Building on Weizman's work, Graham & Hewitt (2013, 73) suggest verticality as a key term that can help move beyond a 'pervasive horizontalism' of urban research towards a more 'volumetric' understanding of politics at multiple scales—while they, too, focus mostly on militarism and surveillance.

However, verticality has also been studied from more 'mundane' lenses of ordinary urbanism (Harris 2015; Rokem et al. 2017). Scholars have employed the term to study new forms of social fragmentation and urban segregation (Pow 2011; Costello 2005; Blander, Moser, and Avni 2018), architecture and design (Harker 2014), planning policies and regulations (Rosen and Charney 2018; Margalit 2013; Mualam, Salinger, and Max 2019), capital circulation and political economy (Nethercote 2018; Craggs 2018), and symbolism, iconicity, and power (Acuto 2010; McNeill 2002; Bunnell 1999; Kaika 2010). Verticality has also been explored from the perspective of 'home' and the different meanings, embodiments and practices attached to living in high-rises (Baxter 2017; Blunt 2008; Ghosh 2014). Importantly, while verticality is a global phenomenon—with cities across the world competing for the tallest skyline—it is not uniform in its characteristics, design and scope (Nethercote 2018).

Living informally, vertically

We now turn to 'vertical informality' as the junction between verticality, typically studied as part of the formal real estate sector, and informal housing, typically construed as low-rise and often self-built. We postulate that vertical informality is a significant phenomenon, and not merely an exacerbated form of informality, and may have distinctive characteristics including: conditions of formation; the environmental, social and economic impact; the lived experience of residents; the developer risks and perspectives, and the governmental approach to the challenge.

Examples of vertical informality abound in south-eastern Europe, as carefully detailed in UNECE research from Albania, Cyprus, Greece, Montenegro and the Former Yugoslav Republic of Macedonia (Tsenkova et al 2009.; Potsiou 2014; UNECE 2015). This literature records a massive proliferation with up to 50 million people living in informal homes, and, in Montenegro with more than 80% of all homes "falling under the term illegal" (Potsiou 2014:35). The country case studies identify commercial buildings rising to ten floors and multi-family informal housing at four to six floors high particularly in Montenegro and in Greece. The research compares the conditions leading to massive informality across the five countries, including weak state oversight, rapid urban migration, and the expensive and time consuming processes of authorization. These important studies also contrast the changing governmental approaches to formalization, registration, taxation and legalization of informal housing, sometimes alongside changing approaches to citizenship status (see especially Potsiou 2014). The research does not distinguish between vertical and horizontal informality on terms of social, economic and environmental impacts, the development process, or the lived experience, perhaps

because the differences are more limited when, as in these cases, housing is limited to four to six stories.

Additional reported cases of higher rise multi-family informal housing come from rapidly urbanizing cities with high rates of informality including Nairobi, Cairo, Damascus, Dhaka and refugee camps in Lebanon, although these cases lack detail on the development process. Nairobi, for example, has entire districts with eight-story informal multi-family housing for rent (Huchzermeyer 2007; Wells 2001), while greater Cairo has numerous informal apartment buildings of five-to ten floors, with some rising as high as fifteen floors (Angélil and Malterre-Barthes, 2016). Importantly, these homes are describe not as “shacks or fragile temporary constructions, but well built, intelligent and significant neighborhoods that are an integral part of the city” (Angelilil and Malterre-Barthes 2016: 130, see also Elgendy and Frigerio 2019).

Informal housing of up to seven floors is also reported in Damascus, exacerbated by the high demand for rental housing from Iraqi refugees (Franziska 2010). In Dhaka, Kamruzzaman and Ogura (2009) report on informal construction of up to ten-story buildings for rent, primarily by small-scale builders and developers. And in the refugee camps of Lebanon, informal apartment buildings rise up to 14 floors (Hanadi 2019), with a rise in verticality following a recent influx of Syrian refugees.

The role of developers in vertical informality

These studies of higher-rise informal housing do not discuss a central feature of our research, the development process and the role of real-estate developers in vertical informality. Indeed, the role of developers in shaping *informal housing at large* has been little studied to date. Four points from recent research on the role of real-estate

developers in formal residential urban development can help to frame the comparison with our case study.

First, recent scholarship has noted that developers are not a homogenous group but are differentiated according to different scales, motives, and modes of development (Coiacetto 2000; Mosselson 2020). Second, research points to the importance of local knowledge and local and communities ties in shaping developer attitudes (Brill and Robin 2019, Kimelberg 2011), and their capacity to successfully navigate the political arena, the regulatory environment, investors' preferences, and the community needs (Alfasi and Fabian 2008; Rosen 2017). Third, studies point to the importance of trust and the personal relationship between developers and residents, particularly in cases of large scale regeneration of residential land (Geva and Rosen, 2018; Robin 2018). Finally, studies show that particular spatial settings may strongly influence developer's practices (Mosselson 2019).

In the following sections, we probe developer practices in vertical informality at Kufr Aqab, paying close attention to variations in motivations, local knowledge, trust, and the impact of the particular spatial setting, as well as additional risks incurred in informal development.

3. Vertical informality in Kufr Aqab, Jerusalem

Kufr Aqab is a residential neighbourhood in the north of East Jerusalem (Figure 1), home to 60,000-70,000 residents (Asmar, 2018),² predominantly Palestinian Jerusalemites (Ir Amim 2015). The built form of Kufr Aqab has changed radically since 2007. The quiet

²To date there is no accurate reliable data on the exact number of residents in Kufr Aqab.

neighborhood of predominantly one to four story homes has been entirely reshaped with a new high-rise skyline (see Figure 1). While no official data exist, we estimate that there are about 800 apartment buildings, ranging from eight to sixteen floors, typically with two 120 square metre apartments per floor. In order to help the reader understand this phenomenon, we briefly review the unique political circumstances that define this area.

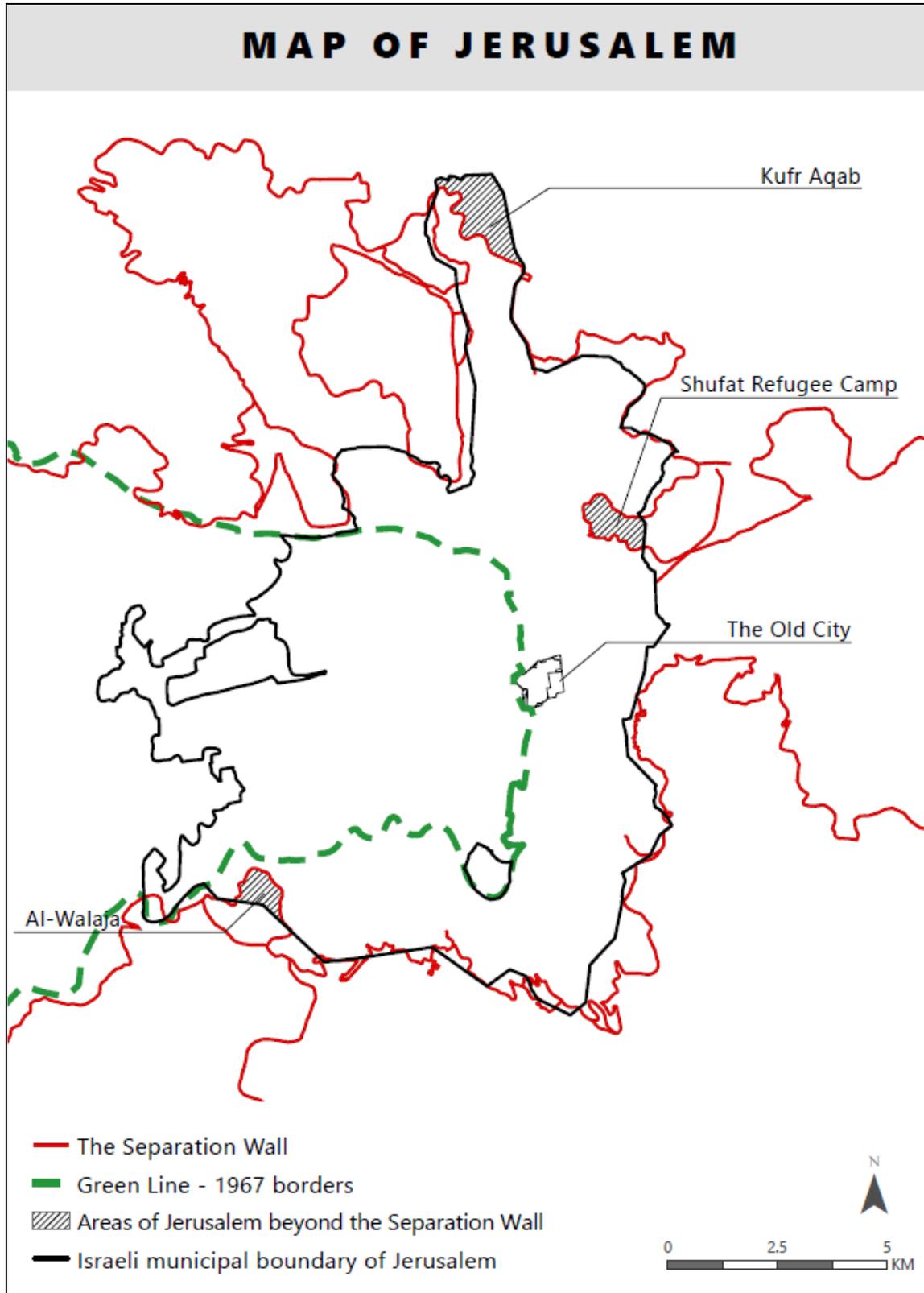


Figure 1: A) Map of Kufr Aqab in relation to Jerusalem.

Source: Jerusalem Municipality GIS

Figure 1 B) Informal construction in Kufr Aqab

Photo credit: Ibrahim Al-Mohtaseb



Since 1967, East Jerusalem has been ruled by the Israeli State and administered by its civil authorities (Alkhalili 2019; Hasson 1996). Palestinians living there are mostly permanent residents and not citizens of Israel (Amir 2011; Shlomo 2017). According to the ‘center of life’ policy enforced by the Israeli State, East-Jerusalemite Palestinians must prove that they live in Israel on an ongoing basis, or else their permanent resident

status may be revoked. For the majority of them, who do not have any other citizenship, this outcome would result "in [a] status of paperless people"³(Amir 2011: 777).

In addition to the precarious residency status, the housing supply for Palestinians in East Jerusalem is very limited. As has been widely documented in the literature and policy reports, since 1967, one of the main goals of Israeli planning policy in Jerusalem has been maintaining a 'demographic balance' in the percentage of Jewish and Palestinian residents, aiming to retain a Jewish majority (Shlay and Rosen 2015; Chiodelli 2012; UN Habitat 2015). Israeli authorities had not undertaken a formal process of land registration to date, and have not completed a process of approving master plans for many Palestinian neighbourhoods (UN Habitat 2015).

The planning and permitting process for new construction is lengthy and expensive in Israel overall, and particularly limited in East Jerusalem. Israeli census data from the decade between 2009 to 2018 points to an annual gap between the construction of new homes in Palestinian areas of East Jerusalem, about 500 annually, and the number of new Palestinian households in East Jerusalem, about 2000 annually (Israeli Central Bureau of Statistics 2018). The income-price ratio of a formally built apartment in East Jerusalem is five times higher than what is considered affordable and informal construction is rampant (IPCC 2013). Given the gap between new household formation and new home construction, and the lengthy and expensive construction process in East Jerusalem, the housing shortage for East Jerusalemites is considered acute.

³ Unlike Palestinians born in the West Bank, who have Palestinian citizenship, Palestinians born in Jerusalem have a permanent residency in Israel and a permanent Jordanian passport. However, this does not grant them full rights as Jordanian citizens, as they do not have Jordanian identity documents and are not allowed to own land in Jordan.

Starting in 2002, Israel built a 'Separation Wall' between Israel and the Palestinian territories in the West Bank, thus adding pressure to the already over-populated Palestinian neighbourhoods. Kufr Aqab is one of three neighbourhoods within the municipal boundaries of Jerusalem that were placed beyond the Separation Wall (Figure 1). While the Jerusalem Municipality includes these neighbourhoods under its jurisdiction, they severely lack services, infrastructure and law enforcement (Asmar 2018; Abu Hatoum 2018; Alkhalili 2019). The adjacent Palestinian municipality of Ramallah is forbidden from providing services to Kufr Aqab,⁴ and professional Palestinian architects and engineers are not legally permitted to work there. The Separation Wall has increased socio-economic spatial segregation: well-to-do families moved to other nearby Palestinian neighbourhoods in East Jerusalem or Ramallah, while lower-middle-income families have migrated in (IPCC 2008).

3.1. Vertical expansion in Kufr Aqab

There are at least four reasons for the radical vertical growth in housing construction in Kufr Aqab. First, there was available land in the former agricultural village. Second, the Israeli government has not enforced building regulations in Palestinian neighborhoods on the eastern side of the Separation Wall. This lack of enforcement, in sharp contrast to their strict observance elsewhere, has allowed developers to quickly construct tall and closely adjacent buildings in Kufr Aqab – it takes only two years to construct a sixteen story apartment building in Kufr Aqab, in contrast to ten years or more for an equivalent building in East Jerusalem (developer interviews). Third, the area is officially a part of

⁴ The Palestinian Authority is not allowed to act under Israeli jurisdiction. In some special circumstances, the PA can ask for permission, e.g. to send fire trucks to Kufr Aqab.

Jerusalem, which makes it attractive for couples where at least one member is a Jerusalemite Palestinian who must comply with the 'center of life' policy requiring residency in Jerusalem. Fourth, the apartments are much more affordable compared to other neighbourhoods in East Jerusalem: the average price for an apartment is about 75% lower than that of an apartment in other parts of East Jerusalem, where Israeli planning codes are enforced (IPCC 2013). Given these circumstances, purchasers and renters of property in Kufr Aqab fall into two main categories: a) lower and middle income Jerusalemite households attracted by the large, low-cost apartments and b), 'mixed-couples' from Jerusalem and the West Bank where only one person has a Jerusalem ID, looking to maintain their Jerusalem residency.

In addition to the particular political circumstances, vertical informality in Kufr Aqab is enabled by more universally applicable factors, particularly the proximity to formal vertical construction sites. Developers and workers have experience in vertical construction, often in Israel, and the technologies and construction materials are widely available. Developers buy cranes, bulldozers, concrete pumps, iron bars, concrete mix and other essential supplies from Israeli companies.

While the lure of affordable housing in an area within the Jerusalem municipal borders is a big draw for the new residents in Kufr Aqab, daily life there is very challenging. The massive, rapid, and unregulated developer-built informal high-rise housing, and the lack of any master planning, has resulted in chaotic and opportunistic development. Frequent electricity breaks and water cut-offs, heavy traffic, sewerage overflows and garbage pileups are typical problems (Asmar 2018). Nevertheless, Kufr

Aqab is providing a much-needed and affordable Jerusalem address for tens of thousands of Palestinian Jerusalemites.

4. Developers' experiences with Vertical Informality in Kufr Aqab:

This section aims to add the Kufr Aqab experience to the small body of research on the role of developers in vertical informality. We used semi-structured interviews with fourteen developers at Kufr Aqab to explore five key challenges: (i) purchasing land rights without formal registration, (ii) construction standards without permits or inspections, (iii) financing without bank mortgages, (iv) estimating demand for housing in the context of political uncertainty and (v) developer reputation and social responsibility.

All the interviews were conducted in Arabic during 2017-2018, by the first author, who is herself Palestinian. Despite this, finding developers who were willing to be interviewed was quite challenging. The interviewer was at that time a graduate student at an Israeli University, and this caused concern for the Palestinian developers who feared that the Israeli government could access the highly-sensitive data they shared with the researcher. This difficulty was mitigated by personal circumstances: the interviewer grew up in Kufr Aqab, her family name is well-known in the area, and she has reputable relatives who still live there. The second challenge was being a female interviewer in a masculine world: all the developers were conservative males, who were uncomfortable, or unwilling, to be interviewed by a woman alone. To overcome this problem, the researcher was accompanied at all times by a male relative, whose presence encouraged developers to express themselves freely. In addition to the semi-structured interviews, 25 informal interviews and conversations with residents of informal vertical buildings took part

during the authors' multiple visits to the area, affording a first-hand impression of Kufr Aqab's social and physical environment.

4.1. Land ownership without registration

"Almost every plot of land here has a problem, the key is to go for the plots that are less problematic, where you can find a simple solution"(interview, January 2017).

Formal land registration in Kufr Aqab is sparse, recorded in fits and starts from Ottoman, British, Jordanian and Israeli planning systems. Two developers whose roots are from Kufr Aqab reported that they know and recognize the ownership of each plot of land in their village: *"It used to be a village where everybody knew everything about every individual,"* said one interviewee (interview, October 2018). They also reported that sometimes they witnessed people selling the same plot to multiple purchasers, as well as selling plots of land whose owners live abroad. As another developer noted: *"Building on informally-registered land carries great risks. The unwitting developer can get caught purchasing land from those who do not legally own it."* According to fourth developer, only about twenty percent of the built plots were formally registered to a recognized owner who has agreed to sell.

How do developers who are not local mitigate the risks of building high-rise apartment buildings on land that is not formally registered? Developers from outside Kufr Aqab reported partnering with locals, who help them unravel the complexities of land ownership. "Barter" is another coping mechanism: the developer pays the putative owner with apartments in lieu of cash, assuming that the rightful owner will turn up by

the time the building is completed, and can receive those apartments as payment. Another method is to demonstrably drive a tractor around the land, waiting for a rightful owner to object. The common factor in all these cases is the lack of formal, regulated process for purchasing land: *"the law is not applied within the boundaries of Kufr-Aqab, nobody cares, not the Israeli government nor the Palestinian one!"* (interview with a developer, October 2017).

4.2 Construction standards

When developers do not need to submit buildings for inspection or permits, at what levels of construction standards do they choose to build? Building standards are particularly important in a situation of vertical informality where each building houses many families, and the safety of each building impacts the adjacent households.

Construction standards are low in Kufr Aqab. Registered architects and engineers are rarely involved in the design or site supervision, according to interviews with developers and engineering and architectural professionals. Our observations noted pervasive use of inferior materials including thinner than required stone cladding and a lower than the standard ratio of iron bars to concrete. Despite fire standards, we noted few fire extinguishers on the floors or smoke detectors on the staircase. None of the buildings have fire escapes, and there is often no access for fire trucks.

There is also no documentation that any of the buildings meet earthquake resistance standards. The offset between the high-rise buildings is six meters, insufficient to allow for sunlight, air, and privacy—all mentioned as major grievances in conversations with residents. On paper, all buildings provide one parking space per

apartment, but by the end of construction, and in the absence of inspection, some of these have been transformed into apartments or underground storage spaces for rent. Residents mentioned fights over parking space as a frequent cause for confrontation among neighbours and the lack of parking as a major drawback of the area (public transportation barely exists). Developers link their buildings to the existing sewage system, which was designed for a population of 10,000 and wildly insufficient for the 2018 estimate of 70,000 residents in Kufr Aqab. These issues are experienced daily by residents, who may have found an affordable housing solution but one filled with challenges, as one interviewee recounted:

I purchased a ground floor apartment to avoid the complications of accessibility and fire safety in the upper floors, but I have to deal with other problems like sewage water flooding back to my apartment, rainwater in winter, the noise and the absence of privacy as there is no fence or space between my apartment and the main street" (interview with a resident, December 2017).

Interestingly, some developers do choose to build at a higher standard. Developers reported that while some buyers are primarily interested in the lowest possible cost of the homes, those with more means seek higher quality construction and, equally important, a higher quality social environment. The challenge for the developer here is to persuade these potential purchasers before construction begins, that the developer will build at reasonable standards despite the absence of building codes or inspection. Two developers (interviewed in January February 2018) even noted that despite the potential for profit, they do not build more than eight floors because they are concerned for the safety of the residents. A medium-height is safer in case of a fire,

reduces density and requires less sophisticated elevators, which often fail due to power cuts.

4.3 Financing construction without bank mortgages

How is development financed in an informal area like Kufr Aqab? Banks are reluctant to give loans to developers, given the difficulties of establishing formal land ownership and the lack of construction standards, as well as the risks involved in the political future of the area. Banks will also not provide mortgages to purchasers since the homes have no legal building permits.

Of the fourteen developers interviewed for this research, none received bank loans. Five financed the buildings primarily with their own capital, or that of partners who invested with them, while the other nine financed developments through advance sales before construction of the apartments. One developer explained:

If you have no money and you still want to invest in Kufr-Aqab (because you think that it's a win-win case) one way to finance your project is to make a deal with other people who think like you. One pays for the land, another pays for the concrete, another one for the iron bars, the stones, and so on. You don't see any profits until four years down the line when you have sold the apartments to individual purchasers and the capital investment has been recouped.

(Interview, October 2017)

Nine other developers, those without initial capital, all financed their development primarily through direct on-paper sales. Without bank mortgages, purchasers hand over a

lump sum payment of 20-30% to the developer and sign over post-dated monthly checks to cover the subsequent payments for the remaining sum over eight to ten years. Developers use the down payments to begin building, sometimes obtaining land and building supplies in exchange for handing over some of the post-dated checks. In a few cases, developers waive down-payments and begin construction on post-dated monthly checks alone.

This system is problematic both for developers and buyers. Some developers, recounted many cases in which buyers stopped their checks, and, because there is no system of bank mortgages, and no law enforcement, the developers had no legal recourse. One developer showed an entire box filled with blocked checks. Other developers, however, said it is rare that people stop paying without urgent or unexpected conditions: *"They are simple people that want to live peacefully in a decent shelter and they know that the ownership of the apartment will remain mine until they pay the last payment"* (Interview, January 2017).

Developers often find that the building costs are higher than anticipated. Sometimes, in order to obtain the cash to finish one project, developers begin a second project, or a third, to attract cash payments for 20-30% of the value of those apartments—and use that new money to finish the previous project. For some, this pyramid system almost works: one developer explained that he was now working on the 10th project to cover the costs of the 9th one. But, he pointed to the tremendous stress involved and said: *"I want to leave this business as soon as I get the chance to!"* (Interview, October 2017).

Some developers focused on clients with a more stable income, by raising the initial deposit from 20% to 30% and shortening the payment schedule from eight to four

years. But the most frequently repeated comment from developers on the issue of financing was the importance of having initial capital before beginning construction. One developer said: *You are on the safe side as long as you start the project with an initial capital that covers at least 50% of the project's cost, otherwise, the probability of bankruptcy will be higher* (interview, November 2017).

Of the 14 developers we interviewed, three went bankrupt. Bankruptcy leaves purchasers with an incomplete apartment, and, with no insurance or guarantees, no way to recoup their investment. Some residents told of joining forces with other buyers in the same building, to complete construction together at additional expenses, while others told of illegal or violent methods used to try to recover investment from defaulting developers.

4.4 Managing supply in the context of political uncertainty

How do developers estimate the demand for housing in vertical informality in Kufr Aqab, and of rental or homeownership tenure? Some noted that they anticipated an unending demand, given the limited alternatives and the need for Palestinians to maintain their Jerusalem address: *"There is a client for every kind of apartment, I don't worry about the demand,"* said one developer (Interview, October 2017). Others, however, reported a sharp decline in the *pace* of demand for homeownership. Where entire buildings once sold out before construction broke ground, by 2018, developers reported that only about 30% of the units are sold prior to construction.

The decline is attributed to the uncertain political future of Kufr Aqab. The Israeli parliament has promoted legislation that, if passed, would change Jerusalem's borders,

placing Kufr Aqab outside municipal boundaries—within the Palestinian Authority jurisdiction (Ir Amim, 2018).⁵ If Kufr Aqab were no longer considered part of municipal Jerusalem, the value of the homes would plunge. Purchasers would at least retain their apartments, but developers would be left with unsold properties. Rental housing might still be attractive, particularly to those who cannot afford the 20-30% down payments, but the risk of changing municipal status, alongside the absence of bank loans, severely limits the motivation for developers to build rental housing, as a change in borders would leave them holding a large stock of undesirable apartments.

Developer Reputation, Ethics and Social Responsibility

Several developers noted that in the absence of regulation, enforcement, and bank guarantees, "*developer reputation here is the most important capital*" (interview, February 2018). Reputation was judged by traditional factors, such as financial stability to complete the project and the quality of construction at previous projects. The third factor in developer reputation, perhaps more critical in vertical informality, is their ability to sell only to 'good neighbors'—decent people who will pay their full payments, including building management, and abide by common social codes despite the absence of law enforcement. "*It will be hard to market my projects if people hear that I sell apartments to bad people*", said one developer (Interview, December 2017). Accordingly, developers often base client selection on people that they already know:

Almost all the transactions here are based on social connections. You don't simply come to me and buy an apartment unless someone trustworthy to you

⁵ Proposed Israeli legislation aims to retain a Jewish demographic majority in Jerusalem in two ways: first by annexing additional Jewish settlements near Jerusalem, and second by excluding Palestinian towns beyond the Separation Wall.

recommended me, and I never agree to sell you an apartment unless I ask about you, and someone trustworthy to me recommends dealing with you.

(Interview, October 2017)

This principle of relying on social connections was corroborated in conversations with residents, who also emphasized the need to build rapport with other purchasers. One interviewee said: "*We didn't ask only about the reputation of the developer prior to purchasing our apartment, but also about the other purchasers, it was important to us that all our neighbors come from a similar background to ours, and that's mainly to avoid complications and problems in the future*" (Interview, January 2018).

If the developer does not know the prospective purchaser, they may choose to work through an intermediary: someone who is trusted by both the customer and the developers. This contact ensures that the client will pay, and guarantees to cover any default from their own resources. A second strategy is to select clients who can afford higher initial and monthly payments and restrict purchasers only to households where both spouses are employed full time.

Social responsibility was a recurrent topic in many of the conversations, with some developers probing their own actions. One developer justified the poor quality of his buildings by explaining that at least they provide people with the opportunity to remain in Jerusalem, which is seen as an act of resistance in the face of the occupation: "*What we are offering for people is great, they pay monthly payments that are similar to the rent but at the end of the fourth year they will own the apartment-- that's a great opportunity! I'm happy to help people own a home*" (interview, November 2017). A home within the jurisdiction of the Jerusalem Municipality is key in maintaining people's

permanent residency in light of the 'center of life' policy enacted by the Israeli government and as such, serves a political purpose.

Others spoke of a feeling of social responsibility that can be fulfilled, for example, by providing at least one parking space per apartment: they were aware that the shortage in parking spaces engenders serious conflicts between residents, and therefore by providing parking spaces they are contributing to reducing violence in the area. For others, the social responsibility was expressed in terms of responses to cases of non-payment: *"I understand that we are living under occupation and that nothing is stable in our lives so I can never kick someone out of his home that he has been dreaming about for years and years just because they lost their job—that's not decent"* (Interview, January 2018). These developers may choose to re-negotiate the payment schedule, reducing the monthly amount and extending the period of return, for example for over ten years instead of eight, rather than remove the client. Three interviewees reported feeling so bad about selling substandard and dangerous apartments that, one of them said, *"At some point I felt that it's unethical to do that to people, so I decided to quit"* (Interview, January 2018).

5. Discussion

How does the role of the developer at Kufr Aqab, and potentially at other sites of vertical informality, differ from that of the developers in formal vertical housing? In Kufr Aqab, as in formal vertical housing, we observed many variations in motivations among developers. The importance of local knowledge and trust-building seems to be even more important in this case of vertical formality. Developers faced extreme risks,

without financial insurance and in the face of insecure political realities, and compensated with site-specific mechanisms to mitigate that risk. Perhaps even the sense of purpose or social value mentioned by many of the developers can also be seen as a mechanism for coping with the extreme risks.

Based on this case, as well as the (limited) international literature on informal high-rises, we propose to define '*vertical informality*' as a composite of the following three features:

i) **Height:** Housing that is well above the average building in that location. The definition for 'high-rise' varies across cities and countries, but generally, they are defined as any building that requires the installation of an elevator, typically above five or six stories.

ii) **Informal:** Lacking formal land registration and/or planning permission, built without formal financing mechanisms such as mortgages and loans, and/or lacking compliance with design and construction codes. While the physical and legal status of the building is informal, the status of occupancy may be internally recognized and registered within the community and/or municipality.

iii) **Developer-built and market-based:** Housing built for profit, whether for sale or rental, including as an investment. High-rises are expensive, require large up-front budgets and technical expertise, and incur significant risk. Hence, in contrast to low rise informal housing, often built and expanded by the inhabitant or a skilled and trusted partner, vertical informality almost necessarily involves a trained contractor/developer.

We can use this definition to distinguish vertical informality from three other forms of informality: horizontal informality, informal verticality, and informal additions: 'Horizontal informal housing is usually up to four stories, and typically much lower. The houses are in non-compliance with at least some aspects of land registration, planning

permission, and design and construction codes. Developers are usually not involved in horizontal informality: instead, individual families build homes for themselves or buy them from others (Gonzales 2009; Hall and Pfeiffer 2000; Brenner 2000). *Informal Verticality* refers to tall buildings constructed with full formal planning permission and land registration, and intended for sale or rent, but which have devolved into informal or unregulated occupancy, such as the famous "Torre David" in Caracas, Venezuela (McGuirk 2014; Caldieron 2013). *Informal additions* refer to cases in which single families have added new stories on their home for extended family members, without intending to rent or sell the homes. Informal additions may employ the services of contractors for the complex building needs, but there is no profit-based role for a developer. These distinctions are summarized in Table 1 below; vertical informality incorporates all three aspects of height, informal construction, and a for-profit developer role, while the other three forms include only one or two of these aspects.

Table 1: A matrix of vertical informality

	Height of over four stories	Developer involvement	Informal building, lacks registration/permission.
Formal Verticality	+	+	
Horizontal informality			+
Informal Additions	+		+
Vertical informality	+	+	+

6. Conclusions

This paper has proposed an initial definition of 'vertical informality' as developer-built mid/high-rise housing that lacks formal registration and bank-financing and does not comply with formal planning and building codes. Through our case study and literature review we compared the factors leading to vertical informality with those that combine to foster low-rise informal housing. Shared factors include the high demand for lower-cost housing (sometimes in a specific area) and low or no enforcement of building regulations. However, our research indicates that vertical informality requires two additional conditions: topographical or geopolitical restrictions to sprawl, and the availability of high-rise technology and construction materials for vertical expansion with a work-force experienced in high-rise construction.

Looking next at the strengths and weaknesses of vertical informality we find that vertical informality is likely to result in increased vulnerability to hazards such as earthquakes, low-quality and over-burdened infrastructure with resulting environmental damages, and lack of privacy. On the other hand, vertical informality in Kufr Aqab resulted in the speedy provision of a large quantity of relatively affordable housing units. Despite the risks associated with purchasing an apartment that lacks formal registration and quality construction standards, and lacking other viable alternatives, thousands of Palestinian Jerusalemites have chosen to purchase these homes in order to maintain their residence in Jerusalem.

Our case study focussed on the role of developers, seeking to isolate the distinctive challenges and practices of real-estate development in these extreme conditions of vertical informality. Developers interviewed described creative coping

mechanisms to mitigate the significant risks, and emphasized the vital importance of local knowledge, trust and reputation.

While the geopolitical considerations that have contributed to the rapid vertical informality in Kufr Aqab may be unique, the experiences of residents and developers can be comparable to other informal areas around the world. A great deal of further research is needed to understand the extent and potential of vertical informality. It is important to identify additional cases from across the globe, and compare the conditions under which they form, as well as residents' satisfaction and lived experiences (Ramanath 2018; Harris 2012; Eizenberg, Sasson, and Shilon 2019), the role of developers (Nam 2017), and the role of local and national government policies and attitude in fostering and sustaining vertical informality (Nethercote 2019; Craggs 2018).

With more detailed studies, it should be possible to develop a typology of vertical informality, investigate the social, economic and environmental impacts, and the strengths and weaknesses of this form of housing for residents, developers and government, and to begin to compare governmental approaches to formalization.

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