

How decisions are made: Urban and architectural transformations of a modern residential district in Baghdad (1958-2024)

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Abstract

The article identifies the main decisions, acts and processes that contributed to the development of a modern residential district of Baghdad, Zayouna, between 1958 and 2024. While the majority of existing literature on contemporary Baghdad focuses on traditional architecture, landmark buildings and planning documents prepared by foreign consultants, less is known about the urban and architectural transformations of its modern residential neighborhoods. The article addresses this gap by proposing an analytical framework that draws from the structuration theory of Anthony Giddens and investigates interaction between the top-down decision-making and bottom-up initiatives that led to transformations in house design and urban situation. The resultant model shows a shift in the orientation and character of these transformations: from the dominant role of top-down decision-making until the mid-1980s to the increasing impact of bottom-up initiatives due to the deteriorating economic situation and the weakened ability of state institutions to invest in housing and enforce regulations. The article is based on qualitative research conducted between January 2024 and March 2025 that included literature review, interviews with Iraqi experts in architecture and urban planning, and archival research.

Keywords

Baghdad, House design, Structuration theory, Top-down and bottom-up, Urban situation.

1. Introduction

The article examines the key decisions, acts and processes that shaped the transformations in house design and urban situation of Zayouna -- a modern residential district of Baghdad -- since its inception in the late 1950s till the mid-2020s. It addresses top-down decision-making by state institutions and bottom-up initiatives by residents, analyzing how these two interacted and the outcomes this interaction produced on the ground. The analysis is divided into three temporal periods, reflecting the historical events that shaped contemporary Iraq and had significant consequences for the urban development of Baghdad:

- 1. From the 1958 revolution till 1979;
- 2. From the beginning of 1980 war till the war of 2003;
- 3. From 2003 to the mid-2020s.

Such historical perspective allows to unpack the changing role of state and non-state actors in the shaping of Zayouna district in particular and modern residential districts of Baghdad in general. As such, the research addresses a gap in the existing literature that tends to focus on traditional areas of Baghdad (Al-Saaidy, 2020; Alamiri & Alzubaidy, 2018; Al Siliq, 2008), landmark buildings designed by Western and Iraqi architects (Isenstadt, 2001; Kulić, 2014; Kultermann, 1982, 1999; Marefat, 2008; Pieri, 2013), and planning documents prepared by foreign consultants (Bernhardson, 2008; Fathi, 1985; Marefat, 2007; Stanek, 2012).

To theorize top-down decisions, bottom-up initiatives, and -- most importantly -- their interaction and its role in shaping house design and urban situation of Zayouna, the article draws on structuration theory formulated by Anthony Giddens (1984). Central to his concept is the duality of structure understood as the mutual dependence of structure and agency, as they are instantiated in action. Here, the structure is based on rules -- that can mean both legislated laws and customary practices or routines -- and resources that can be either allocative (involve command over material objects) or authoritative (involve command over people) (Whittington, 2015, p. 111). Contrary to many earlier sociological concep-

tualizations, Giddens emphasizes that "structure is not equated with constraint but is always both constraining and enabling" (Giddens, 1984, p. 25). Agency, on the other hand, is a human capacity to "make a difference" through action. For Giddens, humans are "purposive agents," who have reasons behind their activities and can engage in intentional action. It is in the course of action that agents draw upon rules and resources that "are at the same time the means of system reproduction" (Giddens, 1984, p. 19). Importantly, as shown by Giddens, interaction between structure and agency that drives the continuous flow of action may result in both continuity of the social system and structural changes. While appreciative of human capacity for intentional action, he nonetheless recognizes that the exercise of agency often leads to unintended consequences that may then "form unacknowledged conditions of action in a feedback fashion" (Giddens, 1984, p.27).

Through its emphasis on practice and ability to connect structure and agency in the analysis, structuration theory has proven useful across disciplines and levels of inquiry -- from macro analysis of institutions to micro analysis of praxis (Whittington, 2015, p. 109). For example, Sumari et al. (2025) applied the theory to a study of climate change adaptation planning, investigating the interplay between national climate change governance -- understood as policies, laws and resource allocation schemes -- and community-based initiatives (Sumari et al., 2025, pp. 853-4). Fillion (2021, p. 256), on the other hand, used it to analyze how urban planners navigate between the pursuit of their self-defined ideas and agendas and the structural constraints of the institutional, political and economic contexts in which they work, as well as how tensions between the two are reflected in planning outcomes. This article adopts a different approach, analyzing the top-down decisions and bottom-up initiatives that shaped Zayouna district. The top-down decisions, or structure in Giddens' terminology, consists of rules -- i.e., planning documents, laws or building standards -- and resources understood as

the state's ability to enforce regulations (authoritative) and to provide housing solutions and the necessary infrastructure (allocative). Agency, then, is residents' capability to "make a difference" in the urban environment. Here, the interaction between such-defined structure and agency in the continuous "flow of action" is what produces urban and architectural transformations of the district (see Figure 1-A).

Many studies have argued for the development of methodologies that integrate top-down and bottom-up approaches to urban planning (El Asmar et al., 2012; Breuer, 2014; Pissourios, 2014; Semeraro et al., 2020; Jeličić et al., 2021), and participatory planning and design practices have become increasingly widespread worldwide since the second half of the twentieth century (Türken & Eyuboğlu, 2021, p. 169). In these types of solutions, it is the governance system -- be it national, regional and/or local -- that provides and sustains a framework for citizens to exercise some form of agency over the urban environment. Yet in many urban contexts -- such as Cairo (Shawkat, 2020, pp. 7-25), Homs (Mazur, 2025, p. 127) or Beirut (Bou Akar, 2018, p. 178), to cite examples from the MENA region -- the inability or weakness of governance systems to enforce regulations and mobilize resources for the implementation of housing policies leaves citizens with few options than to take matters in their own hands. This process can take form of community organizing for the provision of affordable housing or infrastructure

(e.g., Ibem, 2009, pp. 126-127), as well as what Asef Bayat called "quiet encroachment" meaning "noncollective but prolonged direct actions of dispersed individuals and families to acquire the basic necessities of their lives [...] in a quiet and unassuming illegal fashion" (Bayat, 2010, p. 45).

As this article shows, "quiet encroachment" captures the character of most bottom-up initiatives that shaped Zayouna. The structuration theory is especially useful for analyzing these processes given its emphasis on practice and its capacity to capture how the reality on the ground -- produced by residents' actions -- can influence structure (see Figure 1-B).

The article focuses on the case study of Zayouna district, officially listed as Al-Muthanna in the records of the Mayorality of Baghdad [1]. Zayouna is located in the northeast part of the capital, consists of five neighborhoods and covers an area of 660 hectares. The historical development of the district is analyzed based on relevant Arabic- and English-language literature and archival research at the Mayorality of Baghdad, Officers' Housing Cooperative Society in Zayouna, Municipality of Al-Ghadeer, which Zayouna is part of, and the Ministry of Planning. Like much other research on contemporary Iraq, the study suffered from gaps in documentary data that had been destroyed or otherwise permanently lost during subsequent wars and years of political turmoil. These gaps were addressed with expert interviews and field observations that were conducted

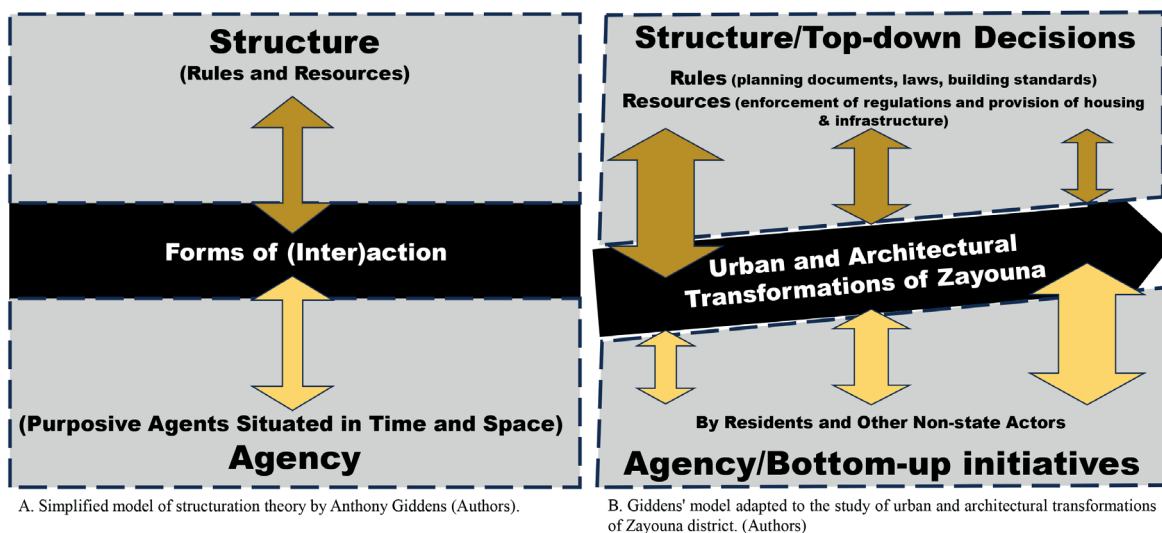


Figure 1. Theoretical framework.

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in Zayouna district and documented in the form of notes, photographs and sketches. Between January 2024 and March 2025, the authors carried out sixteen expert interviews with Iraqi architects, planners and municipal employees (past and present). The interviewees were chosen following the purposive sampling strategy (Miles & Huberman, 1994, p. 27-28) that aimed to identify experts who are most knowledgeable about Zayouna district. Six of the interviewees were female and six, other than being experts on the urban development of Baghdad, were also past or present residents of the district. The interviews employed a semi-structured format in which respondents were asked a set of pre-prepared questions while being afforded the opportunity to provide open-ended responses. The responses were recorded either in the form of notes or audio-recording, with informed consent of the participants, and then transcribed. All interviews were fully anonymized according to the ethical standards for qualitative research in sensitive contexts (Fontana & Frey, 1998, p. 70). In line with methodological understanding of expert interviews (Döringer, 2021, pp. 266-267), the analysis focused on experts' knowledge about the urban and architectural transformations of Zayouna.

2. Urban and architectural transformations of Zayouna between 1958 and 1979

The origins of Zayouna district go back to 1955 when the Iraq Development Board commissioned the Greek architect and planner, Constantinos A. Doxiadis, to prepare a housing program for the country, with a focus on its capital (Pyla, 2008, pp. 3-6). In this program, Doxiadis proposed three types of housing projects for Iraq -- urban, rural, and "special" (Doxiadis Associates, 1959, p. 507) -- with Zayouna district planned as one of the special projects in Baghdad. The 1958 revolution marked a shift in the governmental system, from monarchy to republic (Sluglett & Sluglett, 2001, pp. 49-51). However, the need for new residential developments remained of clear importance to the new authorities, which led to both

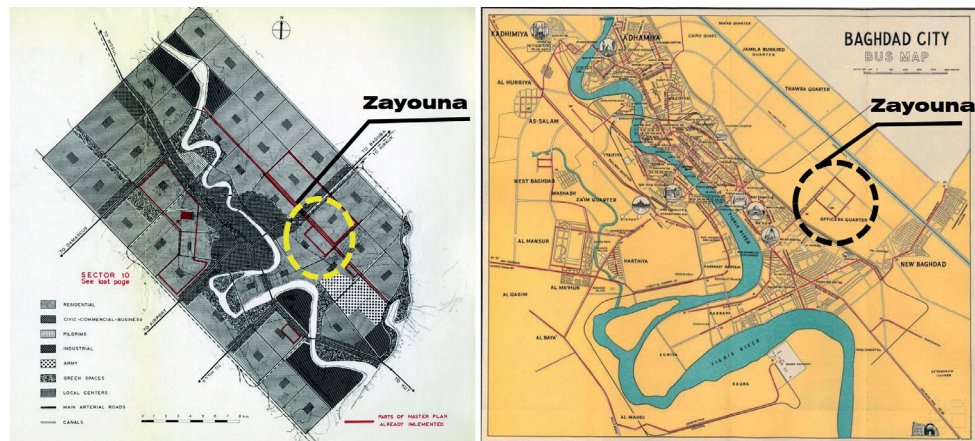
the continuation of projects that predated the regime change and new investments. According to the initial plan by Doxiadis, the "special" housing project in Zayouna was meant for military officers. The first planned area of the district was built with typical houses and the remaining land was distributed to officers as plots through the Housing Cooperative Societies [2]. As such, it was an example of the general state policy whereby the cooperatives were organized according to the profession of their members leading to creation of the Doctors' District, the Engineers' District, the Officers' District and the like (Nooraddin, 2004, pp. 77-78; Raouf, 1984, pp. 340-345). The following section analyzes these two main state interventions that shaped Zayouna between 1958 and 1979 that is solutions based on Doxiadis' work in Iraq and the policy of plots distribution through Housing Cooperative Societies.

2.1. Doxiadis' work in Iraq

While there are no official documents confirming that the design of Zayouna district was prepared by Doxiadis Associates (DA), it was indicated by most of the interviewed experts and can be inferred from at least two sources. First, the general layout of Zayouna district is visible in the Master Plan of Baghdad presented by the DA in 1958 (Theodosis, 2015, p. 168). Second, the DA bulletin published in 1960 shows Zayouna as one part of the Master Plan that had been implemented (Pyla, 2019, p. 102). Marked with red line in Figure 2-A below, the implemented parts include the Western Baghdad Development scheme, a small area south of it and three adjacent areas in Eastern Baghdad. Few references to eastern parts of the city found in the archives mention an upper-income neighborhood located at the southwest of the Army Canal (i.e., Zayouna) and a low-income community situated at the northeast (i.e., Thawra City, nowadays known as Sadr City). Zayouna was probably one of the last projects developed entirely by the DA in Iraq (Theodosis, 2015, p. 180). Within Baghdad, the three types of housing projects -- rural, urban, and special --

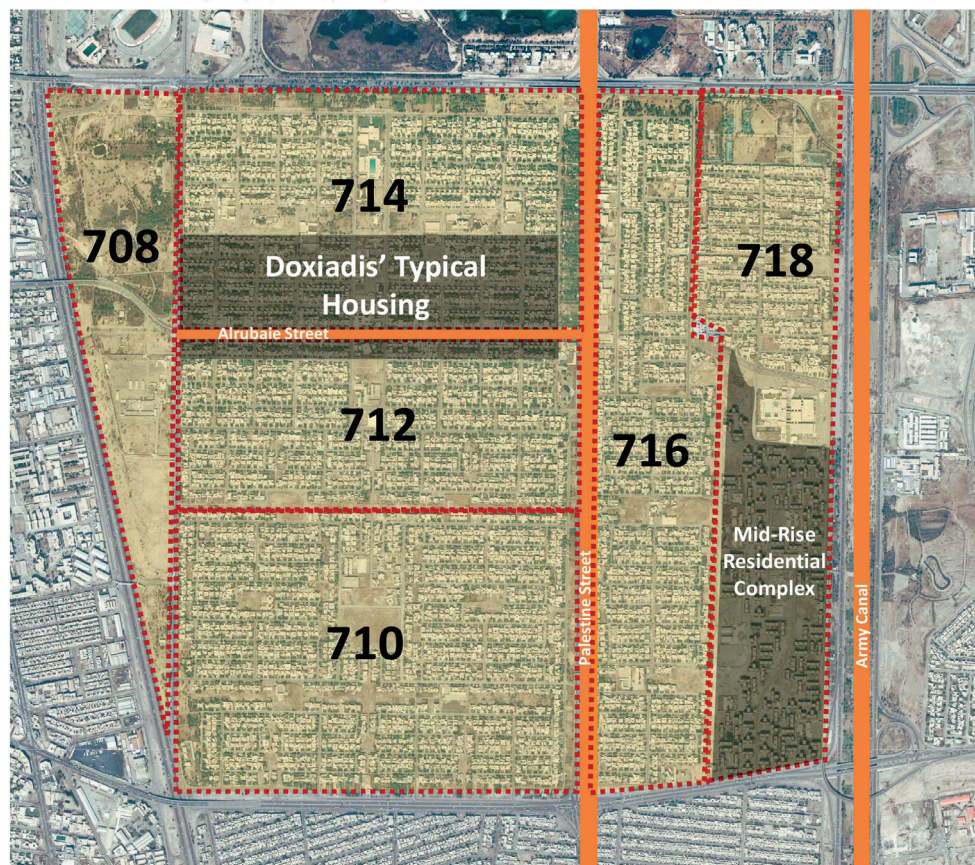
were meant to provide accommodation according to socioeconomic class of its residents, i.e., creating low-class, middle-class and high-class neighborhoods. According to that, there were two districts of high-class housing assigned to officers of the Iraqi army in Baghdad, Zayouna or “Officers’ City” in Rusafa, and Yarmouk or “Al-Qasim Quarter” located in Karkh [3] (see Figure 2-B).

The layout of residential areas in Zayouna clearly shows the planning principles of Doxiadis, i.e., it contains a central services’ zone that includes schools, Officers’ Club, and other commercial facilities, the surrounding green belt, and gardens in the back of each residential unit (Majeed & Abaas, 2023, p. 203). In Iraq, Doxiadis aimed to solve the housing problem by constructing houses that were suitable



A. Doxiadis Associates plan for Baghdad with parts of master plan already implemented, including Zayouna, marked in red line (DA Monthly Bulletin, n. 9, January 1960). © Constantinos and Emma Doxiadis Foundation. (P. Pyla, 2019, p. 102)

B. Zayouna District (previously Officers Quarter) was already included in Baghdad City Bus Map of 1961. Directorate of Public Transportation, Baghdad, Iraq, 1961 (Gupta, 2021)



C. The map of Zayouna with residential neighborhoods (numbered) (Authors based on Mayoralty of Baghdad).

Figure 2. Zayouna District's location in the city of Baghdad.

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economically, socially, environmentally, and geographically. The government supported these efforts, increasing funds earmarked for housing from 6£ million for the years 1955-1959 to 24£ million for the years 1955-1960 (The Economist, 1958, p. 47). Yet, the Doxiadis Master Plan was never formally approved -- considered incomplete and unrealistic by the authorities -- even though a famous Iraqi architect, Rifat Chadirji, was asked to work with Doxiadis after 1958 to adjust his designs to the needs of Iraqi society (Chadirji, 1991, p. 87). While the contract with the DA ended by 1960, their main principles and planning schemes for housing districts were used as prototypes for many housing projects in Iraq of the time (Pyla, 2008, p. 11).

On the level of single-house design, Zayouna had two types of typical houses that were built by the Ministry of Labor and Housing [4] and distributed to Iraqi army officers in the 1950s and 1960s (see Figure 2-C and Figure 3). These typical houses represent the design style of Doxiadis in regard to spatial organization, building materials, and climatic considerations -- as seen in the Western Baghdad Development (Ahmed, 2008, p. 141). In Zayouna, the typical houses were located in the 714 Neighborhood and two lines of blocks in the 712 Neighborhood. The original dimension of each plot was 18 by 33 meters, with the total plot area of 594 m² (plot size corresponded to land classifications in the Law no.44 of 1935 (Iraqi Laws, 1935)) [5].

The typical houses in Zayouna were implemented by an Iraqi construction company under the supervision of the manager Majid al-Nahr (Alsultany, 2024). The implementation of such a large number of residential units -- managing their construction work, ensuring highest standards and record time -- was a pioneering construction experience for Iraqi engineers and contractors at the time [6]. The acknowledgement of engineer al-Nahr's achievement, and that of his fellow contractors, was voiced in the speech of the Officers' City's opening in July 1960 (Alsultany, 2024).

2.2. The Housing Cooperative Societies and Real Estate Bank

The Housing Cooperative Societies (HCSs) and Real Estate Bank (REB) were important institutions that shaped Zayouna in the 1960s and 1970s. They became the cornerstone of a new Iraqi government housing policy that prioritized distributing land plots and providing state-subsidized construction loans, rather than building complete housing units as had been done in the first phase of Zayouna development. Importantly, the new policy was less costly, which was an important factor for the Iraqi state in light of the housing shortage (Raouf, 1985, pp. 376-377).

The 1958 revolution and its ideological environment supported the cooperative movement, which can be analyzed through the legislation that regulated how lands were distributed

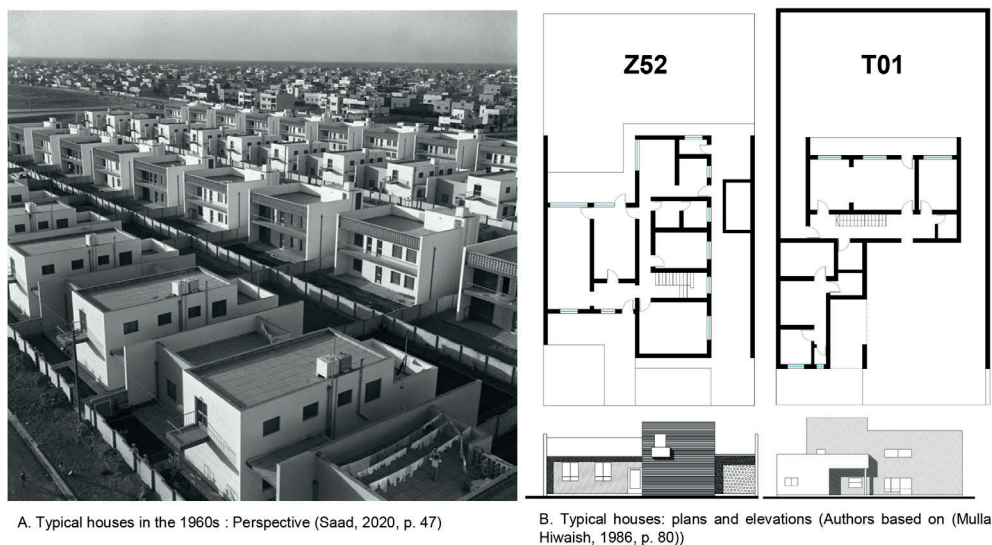


Figure 3. The typical houses T01 and Z52 implemented in Zayouna.

to the people. The Law no.73 of 1959, for example, gave government the right to transform lands from agricultural to residential use in order to divide and distribute the resulting plots among members of the HCSs (Raouf, 1984, pp. 335–337) - as was the case of Zayouna. The HCSs searched for lands available for housing, determined their ownership (private or state-owned) and means of obtaining them. The plots were divided by a team of planners and engineers working for the Mayorality of Baghdad and then distributed to members of the HCS by lottery. A person who acquired a residential plot had to pay the plot's fees and did not have the right to sell it until two years after the house completion (Raouf, 1984, pp. 339–340). The cost of building a house was covered through a loan from the Cooperative Bank and then from the REB after the first was closed in 1970 [7].

After 1963, the private sector had a significant impact on housing, as construction on plots distributed by the HCSs was done by land owners themselves and horizontally, i.e., through a single-family housing type (Mulla Hiwaish, 1988, p. 70). Already by 1970, 40% of the total area of Baghdad was covered with plots distributed by the cooperatives (Raouf, 1984, p. 338). Yet, as pointed out by Raouf, the HCSs and REB did not ensure equal access to housing among different socioeconomic strata of the society as citizens lacking permanent employment could not join cooperative societies to obtain a residential plot or a loan (Raouf, 1984, p. 350).

The idea of officers' housing was started by Haseeb Al-Rubaie, who established the Officers' Cooperative Housing Society in 1953 with the aim to support officers in acquiring their own houses (Al-Rubaie, 2019). According to Law no. 51 of 1970, the Iraqi government decided to give loans for Iraqi officers who received plots from the Officers' HCS. The loans were given by the REB and guaranteed by the HCS to encourage local and foreign companies to contribute in the building process (Iraqi Laws, 1970). In Zayouna of the 1960s and the 1970s, the land surrounding Doxiadis typical housing

-- in neighborhoods 716, 712, and 710 (see Figure 2-C) -- was distributed to officers by the Officers' HCS. Each plot of land was 600 m² (20 by 30 meters) and the houses were built according to their owner's choice, as non-typical designs [8]. The planning of neighborhoods established through the plot distribution by the Officers' HCS (710 and 716) included cul-de-sac and loops, and in that way differed from the grid-shaped streets planned by Doxiadis for neighborhoods 712 and 714 (Theodosis, 2015, pp. 181–182).

From the 1950s until 1979, Baghdad enjoyed the status of "a privileged site of oil-financed modernization," marked by extensive investments in urban development and the housing sector (Walter, 2025, p. 60). The first phase of Zayouna's development, guided by Doxiadis' Master Plan and typical house design, exemplified a strongly top-down approach in which the state acted as the provider not only of the urban layout but also of ready-made housing units. At this stage, residents functioned primarily as recipients of the state-sponsored housing policy, and their influence on development of the district was minimal. The second phase, marked by the distribution of plots through the HCS and the provision of subsidized loans by the REB, brought some changes. Although the overall framework continued to be set by the state, the HCSs mechanism gave more space for bottom-up agency, allowing Zayouna residents to decide regarding the design of their own residential units. Nevertheless, state institutions retained control over key aspects of the urban situation -- most notably the allocation of plots, the enforcement of laws and regulations and the provision of infrastructure -- while residents' agency was largely confined to the design of their houses.

3. Urban and architectural transformations of Zayouna between 1980 and 2003

As argued by Dina Khoury (2013, p. 45), Iraq was effectively at war from 1980 and 2003: the conventional war with Iran (1980–88) was followed by the First Gulf War (1990–1) (Khadduri & Ghareeb, 1997, pp. 169–179), and then

what Joy Gordon (2012) has termed the “invisible war” of harsh economic sanctions (1990-2003). These wars had a profound impact on the Iraqi state and population, including in the field of urban development and housing. The Iran-Iraq War (1980-1988) severely undermined the Iraqi economy and weakened the top-down decision-making in regard to development of residential areas. The first half of the 1980s witnessed implementation of big investment projects in Baghdad, including Haifa Street and Abu Nuwas developments, high-end hotels and a new international airport (Cantacuzino, 1982, pp. 58-59). The second half of the decade, however, brought a significant decrease of oil revenues and the available resources were earmarked for the war effort. By the mid-1980s, all public housing projects were halted [9]. The international sanctions imposed on Iraq between 1990 and 2003 led to further deterioration of the economic situation, sharp inflation in the prices of all goods and services, including housing (Alnasrawi, 2001, pp. 208-215), and impoverishment of large segments of the society (Abdullah, 2012, p. 126).

3.1. Implementation of mid-rise residential complex in Zayouna

In 1965, the Polish firm Miastoprojekt-Kraków signed a contract for the development of a new master and zoning plan for Baghdad (Stanek, 2012, p. 367). The master plan was officially accepted in 1973 and remains in force to this day (henceforth the 1973 Master Plan). Among the major consequences of changing town planning principles from Doxiadis to the 1973 Master Plan -- in Iraq known as Polservice master plan after the Polish foreign trade agency that formally signed the contract with the Iraqi government -- was the proposal for high-rise housing as a solution to the housing problem in Baghdad. It suggested increasing the number of high-rise buildings so as to house some 20% of the city's population (Nooraddin, 2004, pp. 67-68). This recommendation was adopted as government's strategic plan for Baghdad between 1975 and 1979.

The Law no. 911 of 1973 prioritized high-rise housing projects, with 70% of the residential units planned for construction earmarked as residential flats and the ratio of single-family houses reduced to 30% (Mulla Hiwaish, 1986, p. 89). Although a new master plan for Baghdad was commissioned to and nearly completed by the Japanese company JCCF, it was neither legally approved nor implemented due to the 1991 Gulf War (Albadri, 2013, p. 85).

The government's decision to prioritize mid- and high-rise housing projects aimed to address the housing shortage in line with socialist measures for building high-rise industrialized housing systems (Raouf, 1985, p. 378). The governmental studies of the time showed a need for more than 3 million housing units to be constructed between 1981 and 2000. In Zayouna, this policy resulted in the construction of a multi-story residential complex by the General Housing Corporation that began in 1980 (General Housing Corporation, 1982, pp. 2-3). The complex is located in the south-eastern part of Zayouna district, in the 718 Neighborhood (see Figure 2-C) and includes two types of buildings: eighty-six three-story buildings and sixty-seven five-story buildings (see Figure 4). The housing units were distributed to public employees after registration in the General Housing Corporation (Ahmed, 2013, pp. 131-132) and through a lottery [9].

3.2. Transformation of individual houses

During the 1960s and 1970s, most houses in Zayouna preserved their original shape and design. Transformations of individual houses began to appear in the 1980s and due to a number of reasons that affected Baghdad city as a whole: the economic decline due to the Iraq-Iran War, population growth, increased need for housing caused by the freezing of public housing projects, the scarcity of land within the formal boundaries of Baghdad or new regulations regarding the allowed residential plot size. The scarcity of land within the city led the Mayorality of Baghdad to halt the distribution of residential plots



A. Site Plan (Google Earth)



B. Perspective view (Authors)

Figure 4. *Mid-rise residential complex of Zayouna.*

inside its administrative boundaries during the 1980s, in line with the 1973 Master Plan [10]. As a result, new plots allocated to officers and martyrs were located outside city limits -- though still within Baghdad Governorate -- but their remote location discouraged Baghdad residents from relocating there [11]. Another factor that led to increase in the residential density of Baghdad in the 1980s was the Law no. 850 of 1979, which allowed the allocation of residential plots of land with a minimum area of 120 m² (Iraqi Laws, 1979). Its negative impact on the city led to a modification by the end of the next decade, when the Law no. 940 of 1987 raised the minimum residential plot area to 200 m² (Iraqi Laws, 1987). These changes in regulations had a significant impact on Zayouna district, where prior to 1979 the minimal residential plot size was 600 m². On the city level, the changes in plot area regulations and in policies of land distribution, combined with the decision not to extend the formal boundaries of Baghdad city, led to gradual residential densification of older districts (such as Zayouna) from the 1980s onwards.

The population growth has also played an important role. In Zayouna, the number of residents increased due to both the growth of local families, whose members generally preferred to settle within the district [12], and immigration from other areas of the city. Until the 1980s, Zayouna was inhabited predominantly by military officers and their families [13], but it later became a popular destination for people from other districts. As argued by experts interviewed, the immigration was driven by different “pull factors” such as the availability of services (e.g., continuous provision of electricity), accessibility and good location within Baghdad, and safety - even during the years of sectarian violence that followed the 2003 invasion [14]. To accommodate expanding families, or gain additional income from rent, in the 1980s the residents of Zayouna began to transform their houses either horizontally -- by adding more spaces to the ground floor -- or vertically by building another floor to create a separate residential unit with an external staircase (see Figure 5).

In the 1990s, the policies and realities of the housing sector reflected the difficult socioeconomic reality of a country under sanctions. Some residential

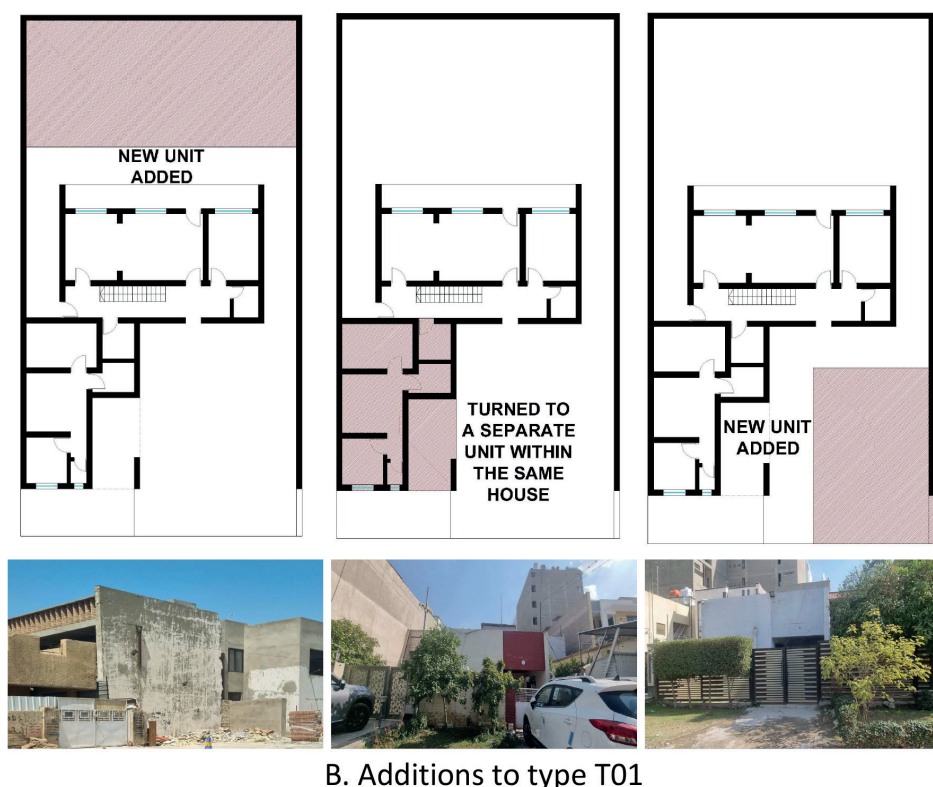
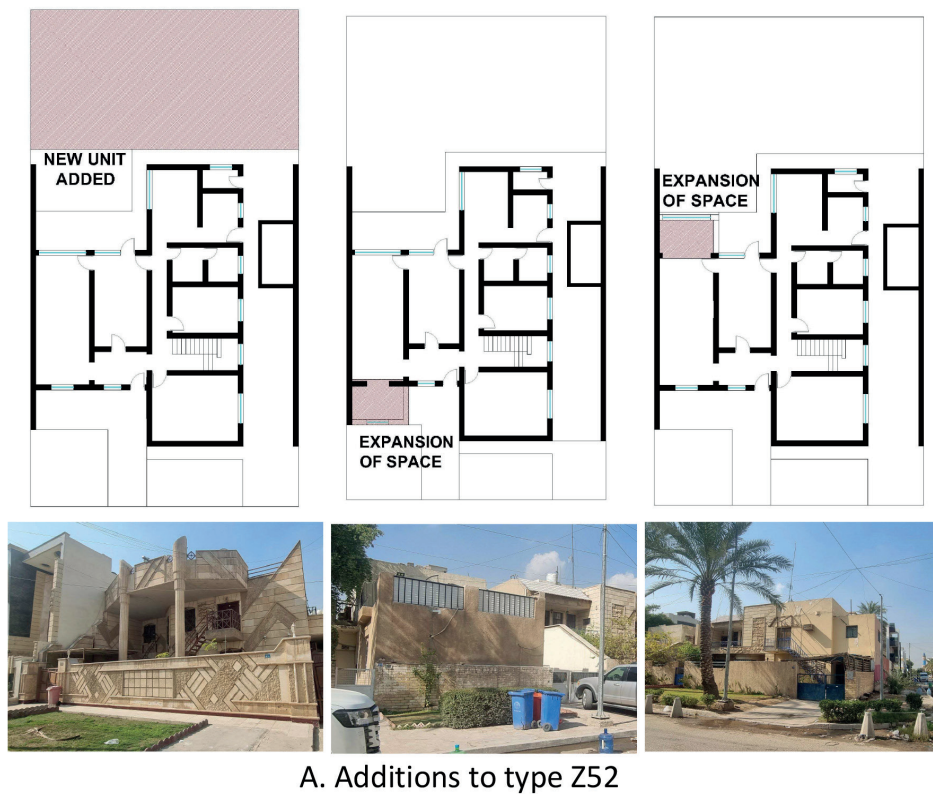


Figure 5. Additions to typical houses, shown in pink. (Authors based on interviews and field observations)

lands were distributed to specific categories of citizens, such as post-graduate degrees holders or military staff, to remedy devaluation of their salaries. This round of distributions was made within the boundaries of Baghdad city

and according to land uses of the 1973 Master Plan. The subsequent round of distributions, carried out between 2000 and 2003, involved the use of agricultural lands and green areas and changing them to residential use – a pattern

that continued after 2003 (Zori, 2008, pp. 46–47). In Zayouna, no land was allocated during these two rounds of distributions and its residents generally preferred to stay near their relatives, either by renting or buying houses in the district, or by adding small houses to the original family house.

The vast state-sponsored construction projects that had been common throughout the 1970s and early 1980s were halted or disappeared altogether in the 1990s (Nooraddin, 2004, p. 78). As a result, residential construction in the 1990s was largely limited to private investments in single-family housing – and even this type declined significantly compared with levels recorded in late 1980s (Wojtaszek et al., 2025, p. 12). This trend reflected the economic conditions of a society in which most citizens were primarily concerned with securing their basic needs under sanctions (Ashour, 2002, p. 93). At the same time, however, the period witnessed emergence of a new social class of merchants and individuals who benefitted from state policies of the 1980s and 1990s [15]. These economic disparities translated into individual house transformations that came down to two types of changes in the facades:

- 1. Subdivision of the original facade to create a smaller residential unit on the same plot for family members or for rent.
- 2. New design features in houses built for newly rich people characterized by lack of attention to human scale, double volume, non-familiar shapes and proportions, and high fences to achieve isolation and luxurious effect (Rzouki & Kubba, 2011, pp. 24–30).

The reality of sanctions meant that all construction projects undertaken in the 1990s had to be carried out by Iraqi professional cadres, using locally available resources and implemented in the most cost-effective manner possible. In that way, the sanctions impacted not only what was built but how. One example was the use of stone sourced from northern Iraq to build facades in the capital, instead of the famous Iraqi brick that became more expensive at the time (Mehdi, 1999, p.

113). Change in material led to change in design, what could be noted through many examples of local architecture in Baghdad. Popular design elements, borrowed from the European classic architecture. In this way, the residential houses imitated the presidential palaces of the time that followed the classical style [16]. This led to the labelling of residential architecture of the 1990s as “façade architecture” (see Figures 6-A and 8-A). Overall, the dominant transformations of individual houses in modern residential districts of Baghdad, such as Zayouna, in the period from 1980 to 2003 came down to the increase of plot coverage and floor area ratio of housing units (due to subdivisions), and transformations in architectural features of the existing and newly built houses (Albadri, 2013, p. 174).

3.3. Transformation of residential streets to commercial use

Al-Rubaie Street, officially registered as “Ammar bin Yaser Street,” is one of the main streets of Zayouna. It lies between two neighborhoods (712 and 714) and connects two major thoroughfares: Palestine Street and Mohammad Al-Qasim Highway. The street has gradually transformed from a residential street of typical houses planned by Doxiadis to a commercial street. First stage of the transformation occurred in the 1980s, when small shops were constructed as part of houses’ facades [17]. In 1985, a survey was conducted by architects and architecture students from the University of Baghdad and University of Technology to measure the attitudes of local residents towards changing the use of the street. The survey found that actually 39% of the residential units were already transformed to commercial use [18]. Following the survey, the Higher Committee of the Master Plan of Baghdad at the Mayorality of Baghdad approved the transformation of Al-Rubaie Street to commercial use around the mid-1980s [19]. However, the change began to be noticeable to residents in the 1990s, after opening of the famous Tadmor pharmacy and the subsequent total transformation of the street’s use [20].

In the 1990s, the Mayoralty of Baghdad developed a procedure that regulated the transformation of residential streets to commercial use and the change in heights of their buildings. These regulations are in place till now and include the following steps:

- 1. A formal request from a group of residents to change the street's use is directed to the local municipality.
- 2. The municipality conducts a questionnaire among residents of the street.
- 3. The request and the results of the conducted questionnaire are presented to a committee at the Mayoralty of Baghdad.
- 4. The committee writes its recommendations to the Higher Committee of the Master Plan of Baghdad to approve or decline the proposed change [21].

In Zayouna, the example of a major street that was transformed through this mechanism is Mousa bin Nossair Street. As discussed above, the sanctions caused a major disruption in economic structure of the Iraqi society, which affected the urban residential landscape of Baghdad. In Zayouna, like in other districts of the capital, the changes included the spread of small shops established within residential plots, adjacent to existing houses. Run by resident families of medium and limited income, the small shops became means to mitigate the effects of financial hardship. In later decades, the spread of small shops contributed to the gradual transformation of many residential streets in Zayouna to commercial use.

In Zayouna, the early 1980s saw a continued dominance of top-down decision-making evident in the state's capacity to mobilize resources for the construction of a multi-family housing complex and to introduce regulations that legalized sub-divisions of the original 600 m² plots, leading to densification of the district. Yet when the state attempted to reverse this decision in 1987, it was unable to enforce it effectively. From the mid-1980s onwards -- and particularly between 1990 and 2003 -- the state grew increasingly weak in its capacity to mobilize resources for the provision of housing solutions and

to enforce existing building regulations through the Mayoralty of Baghdad and the local municipalities [22] (see also Sluglett, 2010, p. 14). In this context, residents undertook bottom-up initiatives to meet their housing needs -- such as by subdividing original family houses or adding small units to them -- and to secure new sources of income under sanctions by opening small shops or renting parts of their homes. The growing influence of residents' agency on architectural and urban transformations of the district was not the result of a state-sanctioned participatory framework, but rather of the state's weakening capacity to provide and regulate. Here, the one exception was the commercial street regulations, which incorporated residents' input into the process. Importantly, however, residents' bottom-up agency did not take the form of community organizing, which remained highly restricted under Iraq's authoritarian regime. Instead, it was exercised through individual actions that brought aggregated results on the district level. While these actions were clearly intentional, aimed at improving the circumstances of individual households, they also -- especially when continued after 2003 -- generated unintended long-term consequences for the urban situation, including the loss of large gardens (Abdullah, 2012, pp. 123–124) or the overburdening of district's infrastructure.

4. Urban and architectural transformations of Zayouna between 2003 and 2024

The war of 2003 (Tripp, 2007, p. 277), and the civil violence of 2006–2009 had a profound impact on Baghdad, triggering migration between city districts and leading to sectarian segregation of residential neighborhoods (Rashid & Alobaydi, 2015, pp. 184–188). Urban infrastructure and public services, already weakened by decades of wars and sanctions, deteriorated further, posing a continuous challenge for city residents (Walter, 2025, p. 187). Law enforcement remained fragile in the post-2003 reality (Sassoon, 2010, pp. 121–122), which in the urban domain resulted in a significant increase in various forms of building violations

(Kadhim & Abbas, 2023). The following section examines the changes that the post-2003 context brought to individual houses and urban situation of Zayouna.

4.1. Transformation of individual houses: sub-divisions, violations and imitations

In regard to architecture and housing of Baghdad, one of the most prominent changes brought by the 2003 invasion was the cancellation of the Law no. 157 of 1994 that limited the right to buy property within Baghdad Governorate to citizens who were registered in the governorate during the 1957 census (Iraqi Laws, 1994). It meant that from 2004 onwards, every Iraqi citizen had the right to own property in Baghdad, which resulted in large-scale immigration to the capital [23]. One of the strategies used by the state to mitigate the resulting housing shortage was to convert areas marked as open spaces in the 1973 Master Plan into residential plots and distribute them to citizens [24]. This was but one step that contributed to the gradual yet continuous depletion of green and open spaces in Baghdad. The demographic growth of Zayouna was due to both the growth of local families and immigration from other areas of the city for security reasons. The increased residential density was not equally distributed within the district - for example, in the 714 Neighborhood the population remained virtually the same between 1997 and 2012 (7,331 vs. 7,586), while in the 712 Neighborhood the number of residents increased by 1,408 over the same period (Abdullah, 2012, p. 121).

Mohamed Salih (2016) identified four main phenomena that shaped residential neighborhoods of the post-2003 Baghdad. First, the division and subdivision of houses and plots that followed two general patterns in the post-2003 Baghdad:

- 1) Division of the original residential unit to smaller units of 50 m² or even less – what resembles the above-mentioned transformations of the 1980s and 1990s;
- 2) Demolition of the original house and building five/six new units on the same plot, as shown in Figure 6.

The latter pattern resulted in the creation of residential houses ranging between 50 and 150 m² and was often implemented by private investors (Mohamed Salih, 2016, pp. 63–64).

Both patterns became widespread after the regime change of 2003 (Motlak & Rzouki, 2013, p. 61) and, as was evident from field observations, Zayouna took a share of these modifications and changes (see Figure 6). According to a survey conducted by the Mayorality of Baghdad in 2023/24, in Al-Ghadeer municipality -- which Zayouna is part of -- 39% of the area was covered by subdivided plots of less than the legal minimum of 200 m²[25].

The second phenomenon has been the rise in building density through increase in the number of floors and shrinking of open and green spaces. In 2004, the Mayorality of Baghdad issued a decision that allowed addition of a third floor to residential buildings (Regulation No.2/4/21721 from 7 Dec 2004). While in the twentieth century Baghdadi skyline was characterized by clear horizontality and homogeneity in residential areas, the change in regulations caused fluctuation in the urban skyline and disharmony between residential houses of different heights (Abdullah, 2012, p. 126). Also, the studies by Abdullah (2012) and Al-Silq & Mohamed Salih (2017) showed a clear increase in the plot coverage within the residential areas after 2003. While before 2003 the residential units were of detached and semi-detached types, they are now entirely of the attached type, which led to the loss of inter-spaces between adjacent residential units. The rise in building density and loss of open areas is clearly visible in Zayouna. In 2014/2015, for example, some of the remaining public green spaces were distributed to martyrs' families by the Officers' HCS as residential plots of about 200 m² each (see Figure 9 on the left: in green are shown open spaces converted to single family houses, in orange are open spaces converted to high-rise complexes).

The third phenomenon regards the violations of building regulations, on both urban and architectural level, which have increased in the post-2003 Baghdad. According to Kawther (2015,



A. Sub-divisions examples (Authors)



B. Part of the 712 Neighborhood

C. Part of the 714 Neighborhood

Figure 6. Sub-divisions of residential units in a single plot. (Authors based on (Abdullah, 2012, p. 138))

p. 72), the first type of violation involves building houses on non-residential land, while the second comes down to building housing units that do not follow building regulations. The most noticeable examples of such violations include the coverage of open spaces within residential plots, building additional spaces in the house garden or parking lot, having more than three-floor-height buildings, dividing a single plot to accommodate twin or triplet identical housing units (Abdullah, 2012, pp. 125-127), ignoring the mandatory front recession distance from the street or building on the sidewalk (Alishaqee & Albazaz, 2019, p. 9). All these types of violations can be found in Zayouna, as shown in Figure 7.

The fourth and final phenomenon is the imitation of whole buildings or respective architectural features from international and local designs. The

phenomenon was started by contractors who worked on the implementation of public projects in the 1980s. As mentioned above, in the 1990s, with the freeze of public investment, these contractors worked for the private residential sector tapping into their earlier professional experiences. The increased role of contractors in the individual house design during the 1990s, at the expense of architects, affected the features of housing units that became more related to the decisions of clients. Ashour (2002) identified two types of imitations that have been used in house design. The first type, mentioned also in the conducted interviews [26], involved the use of massive forms and high fences -- referencing the palatial architecture of the former Iraqi regime -- and the introduction of new functions such as cold and hot kitchen spaces. The second type, regarded the



A. Having more than three-floor-height buildings in one residential plot



B. Covering open spaces and ignoring recession distance

Figure 7. Examples of building regulations' violations in Zayouna. (Authors)

imitation of traditional features, such as “shanasheel” or projecting oriel windows, with the use of new building materials such as glass and steel (Ashour, 2002, p. 97). While the phenomenon of imitation started in the 1990s, it gained momentum after 2003 and the Internet became an important factor facilitating the process (Nooraddin, 2004, p. 78). In the literature, the phenomenon is also referred to as “image culture,” where the decision-making is based on an image of the design that the client presents to the architect and asks for its implementation (Mohamed Salih, 2019, p. 159). The imitation phenomenon affected house design in Zayouna, as shown in Figure 8.

4.2. Transformations of the urban situation: height restrictions and investment projects

Other than house transformations described above, in the post-2003 Zayouna it was the changes in height restrictions and implementation of investment projects that had the main impact on the urban situation of the district. In terms of the former, already in 2009 there were no typical houses left on Al-Rubaie Street, which was now flanked with buildings ranging from three to seven stories – although height restrictions at the time allowed for three to four floors in the case of commercial streets [27]. In 2015, the Mayorality of Baghdad approved new regulations that tied height restrictions to the ratio of building height to street width. In line with the regulations, it was now allowed to build seven-story structures at Al-Rubaie Street, with the condition of establishing a helicopter landing on top of each building [28]. This led to converting the whole street to commercial use, with tall buildings on both sides (see Figure 9). In 2024, the number of shops on the street reached 923 [29] and it became famous for electronic commerce, internet and communications centers. Among the street landmarks are Al-Rubaie Mosque, Officers’ HCS and several modern commercial malls such as Al-Ameer Mall, Al-Jawhara Mall, and Piano Mall (Al-Rufeye, 2022, p. 133). Currently, more streets in Zayouna are being transformed for commercial use,

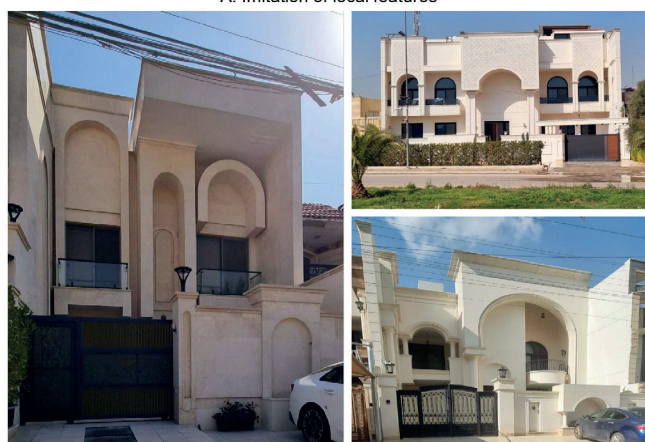
especially on the borders of respective neighborhoods. The process of their transformation follows the procedure described above [30].

It is not only residential streets that have been converted to commercial use – green and public spaces of Zayouna have also been affected. One prominent case is the “Al-Firdous Park,” located in the 708 Neighborhood on the so-called “highway prohibited lands,” adjacent to the Mohammad Al-Qasim Highway, and designated as a public park in the 1973 Master Plan. Nonetheless, it was changed to commercial use under the Investment Law no. 13 of 2006 and its later modifications (Iraqi Laws, 2006; Iraqi Laws, 2010; Iraqi Laws, 2015) and given for building commercial malls (Najah et al., 2023, p. 558). It led to overcrowding and put considerable pressure on the local infrastructure (see Figure 9). Ultimately, construction of two malls in this area became a turning point that led to the transformation of adjacent residential streets into commercial use [31].

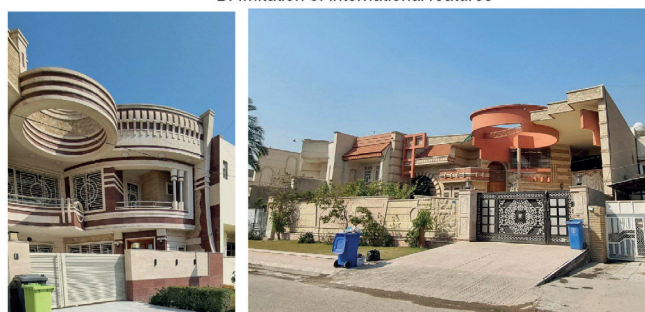
Other examples of changing land use for investment can be found, according to the field observations, in neighborhoods 710, 712, 714 and 716, where some houses are being demolished and changed to private schools. These transformations are considered illegal because the area of 600 m² is insufficient for a school building. At the same time, other public open spaces are being taken for investment to build high-rise residential complexes. This includes the “Al-Thulatha’a Market,” a public market in the 718 Neighborhood, which was demolished in 2022 and is being replaced with a high-rise residential complex of more than ten floors. According to the experts interviewed, these changes in land use occur because the lands are owned by different ministries, such as the Ministry of Trade in the case of Al-Thulatha’a Market or the Ministry of Finance in the case of open public spaces. It means that these changes are out of control of the Mayorality of Baghdad [32]. Importantly, the phenomenon of building high-rise residential complexes by private investors or through public-private partnerships is not specific to Baghdad and, in fact, started in other governorates before it reached the capital (Yass, 2014).



A. Imitation of local features



B. Imitation of international features



C. Combination of imitated features

Figure 8. Examples of imitation in house design in Zayouna. (Authors)

Of the three periods analyzed (see Figure 10), residents' agency had its most significant and visible impact on the architecture and urban situation of Zayouna in the post-2003 era. Confronted with the shortcomings of the state and the reality of weak law enforcement, residents took it upon themselves to secure their housing and financial needs -- while private investors pursued their own agendas -- often with little or no regard to the existing laws and regulations. Although origins of these practices can be traced back to the 1990s, unregulated construction

gained full momentum in the post-2003 Zayouna, mirroring developments across Baghdad as a whole. The new state policies and laws that directly affected the district were largely deregulatory in character -- from revised height restrictions and investment laws to changes in land use -- and appeared to be reactive to bottom-up pressures rather than a result of top-down vision. In Giddens' terms, the Iraqi state lost much of its allocative and authoritative resources in the aftermath of the 2003 invasion. Although laws and regulations formally remained in place, they were no longer reproduced in action by actors on the ground, who began to "do something differently" in order to meet their needs.

5. Conclusions

It could be concluded that it is possible to capture how the forms of interaction between structure and agency evolved through Zayouna district's urban and architectural transformations across the three periods under study.

In this context, the theory's analytical strength lies in its focus on action, which, when applied to urban change, highlights certain transformations of the urban environment. The focus on top-down decision-making risks overemphasizing the role of the state in shaping the built environment. On the other hand, there could be forms of urban agency that are neither mediated through formal participatory frameworks nor collective organizing, but instead emerge from bottom-up initiatives aimed at improving the circumstances of individual actors. By accounting for both the intended and unintended consequences produced by the urban agency, it allows changes on the ground to be analyzed from the perspectives of different agents and across multiple timeframes (e.g., short- or long-term).

The case of Zayouna is an example of a broader process of the gradual weakening of the capacity to mobilize resources in the fields of housing and urban development, whether through the provision of housing solutions or the enforcement of policies and regulations. Although the state continued to introduce new laws and regulations

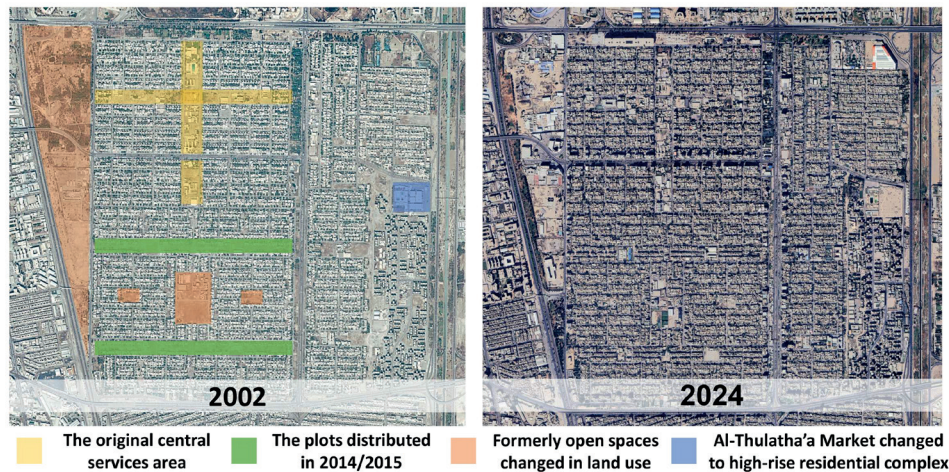


Figure 9. The changes of land use in Zayouna after 2003. [29]

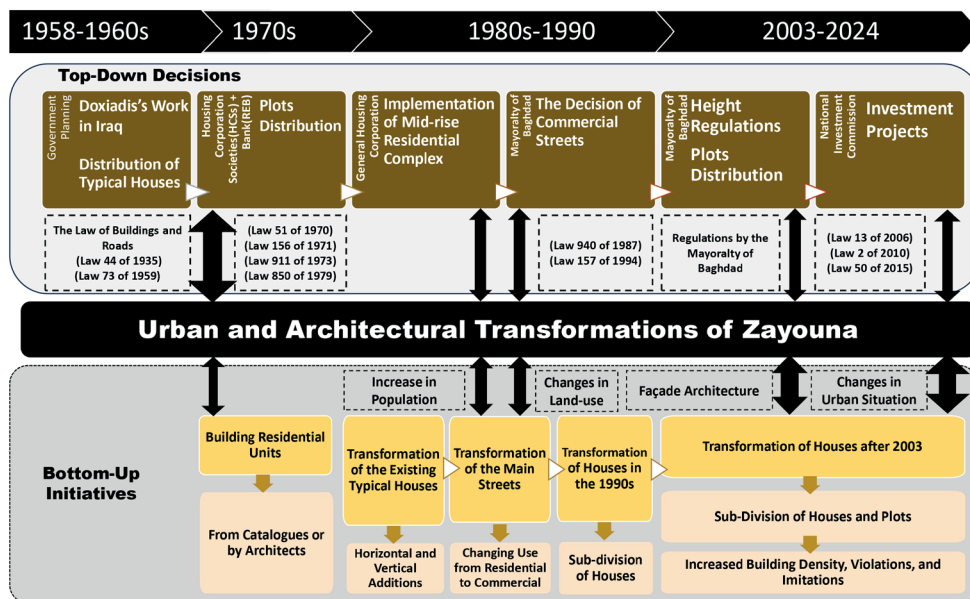


Figure 10. Top-down and bottom-up decisions that shaped Zayouna. (Authors)

affecting the district after the 2003 regime change, these measures were largely deregulatory and reactionary in character and, in this sense, did not resemble the top-down decision-making of the first period (1958-1979), which aimed to provide vision, guidance and control. The analysis shows that, over time, quiet encroachment became the dominant mode of urban agency shaping the district's urban and architectural transformations. The unintended consequences of these bottom-up actions became evident in the long run, including overcrowding, the overburdening of infrastructure and the loss of green and open spaces. While an effective strategy for individual actors to secure housing and financial needs, the quiet encroachment mode of urban agency did not generate collective vi-

sions or solutions for Zayouna's urban situation among its residents, nor did it promote an understanding of the district's urban space as a public good.

Endnotes

[1] The Mayorality of Baghdad was called the capital's municipality "Amanat Al-Asima (AAA)" till 1987.

[2] Expert interview 01, Baghdad, 21/1/2024; Expert interview 05, Baghdad, 29/2/2024; Expert interview 08, Baghdad, 5/3/2024; Expert interview 11, Baghdad, 9/6/2024. All interviews were fully anonymized and in endnotes they are identified by interview number, location and date.

[3] Expert interview 10, Baghdad, 25/4/2024.

[4] The name of the Ministry was

changed to “Housing and Construction” in the 1890s, and “Construction, Housing, Municipalities and Public Works” after 2003.

[5] Expert interview 01, Baghdad, 21/1/2024.

[6] According to the expert interview 08 (Baghdad, 5/3/2024), it was the first attempt to use standardization in construction of low-cost houses in Baghdad and the construction standards were as follows: 36-centimeters-wide walls, white facades, satin flooring (tiles with dimensions of 25 * 25 cm), mixed ribbed concrete roofing, ceramic tiles in the bathrooms to a height of one meter and in the kitchen only behind the sink.

[7] The value of the loan was 3,000 dinars, disbursed in three parts, and was to be repaid over 25 years in case of fixed-paid employees (Raouf, 1984, p. 347; Expert interview 05, Baghdad, 29/2/2024).

[8] Expert interview 03, Baghdad, 25/1/2024; Expert interview 04, Baghdad, 29/2/2024; Expert interview 05, Baghdad, 29/2/2024; Expert interview 06, Baghdad, 2/3/2024; Expert interview 08, Baghdad, 5/3/2024; Expert interview 09, Baghdad, 11/3/2024.

[9] Expert interview 01, Baghdad, 21/1/2024.

[10] Expert interview 03, Baghdad, 25/1/2024.

[11] Expert interview 12, Baghdad, 9/6/2024.

[12] Expert interview 05, Baghdad, 29/2/2024; Expert interview 12, Baghdad, 9/6/2024.

[13] Expert interview 08, Baghdad, 5/3/2024.

[14] Expert interview 01, Baghdad, 21/1/2024; Expert interview, 06, Baghdad, 2/3/2024; Expert interview 10, Baghdad, 25/4/2024; Expert interview 11, Baghdad, 2/5/2024; Expert interview 12, Baghdad, 9/6/2024.

[15] Expert interview 07, online meeting, 4/3/2024.

[16] Expert interview 11, Baghdad, 02/05/2024.

[17] Expert interview 05, Baghdad, 29/2/2024; Expert interview 08, Baghdad, 5/3/2024.

[18] Unpublished Report, Mayorality of Baghdad, “Planning and design standards and regulations for some

mixed-use streets in Baghdad,” Baghdad, 1985.

[19] Expert interview 01, Baghdad, 21/1/2024; Expert interview 02, Baghdad, 23/1/2024.

[20] Expert interview 12, Baghdad, 9/6/2024.

[21] Expert interview 14, Baghdad, 5/11/2024.

[22] Expert interview 03, Baghdad, 25/1/2024; Expert interview 06, Baghdad, 2/3/2024.

[23] Expert interview 15, Baghdad, 5/11/2024.

[24] Expert interview 12, Baghdad, 9/6/2024; Expert interview 15, Baghdad, 5/11/2024.

[25] Expert interview 13, Baghdad, 5/11/2024.

[26] Expert interview 10, Baghdad, 25/04/2024; Expert interview 11, Baghdad, 02/05/2024.

[27] Mayorality of Baghdad, Regulation No. 14783, 5th July 2005.

[28] Mayorality of Baghdad, Regulation No. 2392, 4th March 2015.

[29] Expert interview 16, Baghdad, 3/12/2024.

[30] Expert interview 15, Baghdad, 5/11/2024.

[31] Expert interview 09, Baghdad, 11/3/2024; Expert interview 11, Baghdad, 2/5/2024; Expert interview 12, Baghdad, 9/6/2024.

[32] Expert interview 16, Baghdad, 3/12/2024.

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