



Determining the Impact of Syrian Refugees on the Urban Host Communities in Jordan: An Analytical Study of the Za'atari Region

Mwfeq Al Haddad, Al-Balqa Applied University, Jordan

Rami Al Shawabkeh, Al al-Bayt University, Jordan

Mays Haddad, Ummal-Jimal Archaeological Project, Jordan

Fedaa Salameh, Arab Potash Company, Jordan

Received: 01/24/2023; **Accepted:** 06/27/2023; **Published:** 09/01/2023

Abstract: Mafraq has witnessed rapid urban growth over successive years. This growth has been heavily impacted by the presence of 180,000 Syrian refugees inside the city. The wider Jordanian economy has been affected by the continuous influx of Syrian refugees since the beginning of the crisis in March 2011. Some of the Syrian refugees live in refugee camps, while the majority of them prefer to live among the local communities and the Jordanians themselves, which has led to an impact on Jordanian urbanism and the society itself. In Mafraq, this led to the opening of new streets and shops along Jerash Street and Baghdad Street, which extended in all directions, especially from the Mafraq center toward the Za'atari camp area. The main aim of this article is to determine the impact of refugees on host communities by analyzing the real situation of the Syrian refugees and their impacts of them. The study used a mixed-method approach using qualitative and quantitative research to achieve the main aim of this research. It is concluded that urban refugees are an important factor in the transformation of cities occupied by them and play a key role in reforming the urban and architectural void in the cities in which they settled. Therefore, the research calls on decision-makers in the governments containing the refugees to enact specialized regulations and laws that are fitting to reduce the negative impacts, such as the random spread of housing and disorganized urban expansion. This can be applied by setting a comprehensive plan for urban characteristics and architectural style.

Keywords: Urban Fabric, Architectural Style, Urban Expansion Areas, Syrian Refugees

Introduction

Due to the Arab Spring revolutions that started in 2010, there was an influx of Syrian refugees to neighboring countries in 2011, and the most important of these countries was Jordan, represented by the Ministry of Planning and International Cooperation (MOPIC 2015). According to the High Commission for Refugees statistics in the United Nations, the number of those refugees in the world increased by the end of 2019 by 9 million people to reach a record unprecedented level of 79.5 million, which is equivalent to about 1 percent of the world's population. Of these millions, Syrians are considered one of the leaders in the number of refugees and displaced persons (Al shawabkeh et al. 2019).

Universal Declaration of Human Rights (UDHR, n.d.) pointed out the rights that national jurisprudence grants to refugees. The most important rights and obligations that relate to the research subject are (1) the right to build a special lifestyle, housing, and family privacy while respecting the local community's lifestyles and (2) the right to participate in the cultural life of

a community without affecting the local community's patterns and conditions. In this context, the existence of Syrian refugees in Jordan affected the main economic, social, security, and cultural conditions; therefore, there was an impact on the Jordanian communities. This was because of the opening of Jordanian borders in front of those refugees and allowing them into Jordan (Nasser and Symansky 2014). Jordan received 1.2 million Syrian refugees due to this crisis, 84 percent of them were living outside camps, specifically in Irbid and Amman, and 16 percent were settled inside the selected camps (MOPIC 2015). One of the areas affected by their presence and the change in the urban fabric is the Za'atari region near Mafraq (Al-Asad, n.d.). The refugees were distributed among the governorates of Jordan, and Mafraq city was second concerning the number of Syrian refugees, which led to the establishment of a refugee camp in the Za'atari area. Refugees preferred to move to built-up areas—including large towns and cities—where they hope to find a sense of community, security, and economic freedom (Pavanello, Elhawary, and Pantuliano 2010).

The involvement of Syrian refugees shifts the demographic composition of Mafraq city host and leads to changes. These changes were in terms of economic and social life between them (Alshoubaki and Harris 2018). A demographic shift is being generated by urban Syrian refugees, triggering a housing crisis, rapid and unsustainable urbanization, a decrease in community cohesion, and losses in fabric and traditional architectural features. There is an essential task for the Jordanian–Syrian interaction community to promote the activation of the role of building the city vitally. This increasing demand for ensuring more housing due to the rapid expansion spatially transformed the region, triggering a shift in the host community's original behavior patterns (Alshadfan 2015).

Many scientific studies about the Za'atari area have analyzed the camp itself but have not addressed the wider region. Therefore, this article focuses on the expansion of urban planning in the Za'atari region outside of the camp in the Mafraq Governorate. Many changes in this area must be explained to highlight the emergence of a strange trend of architecture and planning that resulted from the impact of Syrian refugees. The presence of these refugees has altered the normal urban fabric in the region. Therefore, this article focused on the recent expansion of space, and it provided a detailed comparison of the Za'atari region before and after the presence of Syrian refugees.

The main aim of this article is to determine the impact of refugees on host communities by analyzing the real situation of the Syrian refugees and their impacts of them. This research discusses the impact of refugees moving to a new country for improving their living conditions by developing the main skills and communications. On the other hand, they were forcibly displaced from their home country. Therefore, there was an effect of refugees providing basic humanitarian assistance through international institutions. The study reviewed the refugee literature to build the main argument of this research and then used a mixed-method approach using qualitative and quantitative research to achieve the main aim of this research.

Literature Review

There are 2.9 million non-Jordanian citizens among Jordan's total population of 9.5 million, according to Jordan's census (2016), among which 1.265 million are Syrian residents (Alshawabkeh et al. 2019; Jamhawi, Al-Shawabkeh and Alobaidat 2020; Al Shawabkeh et al. 2020). The small size of Jordan and the shortage of natural and economic resources have worsened both the refugees and the host community's living conditions.

Jordan has been affected by the civil war in the Syrian Arab Republic, according to the United Nations refugee agency, and the influx of Syrian refugees into Jordan has placed a significant burden on the national system and infrastructure (Alzoubay, Al-Shawabkeh, and Dweiri 2019). As a receiving state, the mass influx of Syrian refugees into Jordan creates a huge burden for Jordan's governance. As the conflict in Syria continues, the number of refugees is growing and there is also a rise in demand for public services, contributing to unprecedented population growth.

The residential communities in Mafrq city were focused on kinship or friendship relationships before the Syrian crisis. Mafrq is a small town with an intimate architectural and social fabric built by a special urban character. For example, small roads were planned to serve all residents, and shops were spread among them. It is noted that the urban fabric in the Mafrq region as a whole was characterized by shops that were topped with apartments and served citizens close to their places of residence and work. It is a poor town with scarce local services and high domestic job levels (MercyCorps 2013). The city's urban fabric was not perfect, but it was homogenous and fit with local people's needs. The number of the native population has equaled or surpassed the influx of Syrian refugees. The city is overwhelmed, and the pressure of newcomers can no longer be absorbed (MOPIC 2015).

Furthermore, it increases competitiveness in the labor market and basic living necessities between local Jordanians and Syrians. It also involves a housing crisis arising from a supply shortage relative to high demand, in particular for affordable housing (Alshadfan 2015). Some rental prices have risen to six times their precrisis rates, while average rates have almost tripled, impacting both the newly displaced and local communities (Al Shawabkeh et al. 2020; MercyCorps 2013). New construction is estimated to have resulted in an expanded supply of housing from 3,700 to 5,600 units for approximately 25,900 to 39,200 Syrian families (MOPIC 2013; Wells et al. 2016).

Families resort to living in temporary buildings with minimal access to basic facilities, living in places not designed to host refugees, such as storage and retail spaces, and moving in under one shelter with other relatives (Alshadfan 2015; MOPIC 2015; Wells et al. 2016). Therefore, in the area, new residential buildings appear haphazardly. Owing to the lack of any planning or housing policy, the new developments neglect the current urban fabric (Al Shawabkeh et al. 2020). Most skilled staff in the building and construction industries are currently comprised of Syrian refugees from various Syrian cities. They bear with them their prior awareness, expectations, and experience. They introduce various elements, principles, and

techniques of construction and use them in their work, which can lead to chaotic architectural features within the fabric of the city that may hurt the entire area's urban context. This article discusses the impacts of the presence of Syrian refugees on the Jordanian urban fabric in the Za'atari region and creates an integrated, comprehensive database of them.

The Research Methodology

The existence of Syrian refugees in Jordan has worked on changing the demographical structure of the host community in Mafraq. This was because of the existence of many differences in terms of economic and social life between them (Alshoubaki and Harris 2018). This led to emerging tensions between them, which forms the main cause of achieving instability socially (Hiruy 2009). Therefore, the significance of this study is presenting a set of recommendations relating to urban refugees and their impacts. Accordingly, the main hypothesis posits that the increased interaction between inhabitants and refugees leads to an evolution in the social and cultural status of the local community, which in turn leads to changes in the urban and architectural fabric.

Za'atari region in Mafraq is considered one of the areas most affected by Syrian asylum, and because it contains the Za'atari camp, the refugees had a direct impact on the expansion and development of the area. The main aim of this article is to determine the impact of refugees on host communities by analyzing the real situation of the Syrian refugees and their impacts of them. This was achieved through four objectives: (1) understanding and clarifying the nature and variety of larger architectural context of new domestic neighborhoods that did not exist previously; (2) describing the distinctive architectural and urban characteristics resulting from the diverse new cultural identities in the region; (3) establishing a connection between function, form, economics, and urbanism within one community; and (4) enriching and enhancing the urban database of the Za'atari region and then linking it to that of Mafraq city.

To achieve that, this research uses a mixed-method approach by comparing and combining the available information in books and research studies with the existing situation of the urban fabric. This article documents the current situation of the Za'atari urban region based on observations and studies on the ground and interviews with mayors of many municipalities in Mafraq and Za'atari, as well as interviews with local Jordanians and Syrian refugees. The research attempts to record and describe all observations in the study area to determine the key impacts of Syrian refugees on the urban fabric, which has a specific role in the urban fabric evolution. As a result, this article provides a descriptive analysis of the Za'atari region's urban planning, identifying the most influential variables and their role in creating strong concerns about the effects on residents of the area and their life.

The Characteristics of the Study Area

Mafraq city is located in Jordan at 26 square kilometers and is linked geographically to a set of cities such as Irbid, Zarqa, and Jerash (Greater Mafraq Municipality 2020). This city consists of

main districts such as Mafraq, Eastern Um Al-Na'am, Idunn Beni Hassan, Hayyan Almisharef, Eastern Alboaidah, and Thugrate Al-jub (Alzouby, Al-Shawabkeh, and Dweiri 2019).

The estimated area of Mafraq at the end of the 1960s was about 4.5 square kilometers; it reached 5 square kilometers at the end of the 1970s, and it was around 7 square kilometers in 1992. The total area of Mafraq and its districts (Greater Mafraq) recently reached 100 square kilometers, about 40 square kilometers of which is an organized area. The area of Mafraq city is 26 square kilometers, of which only 11 square kilometers are organized (Greater Mafraq Municipality 2020).

According to the 2004 census, the population of the Mafraq Governorate was 244,188—30 percent are considered urban and 70 percent rural. Around 94 percent of the population are Jordanian citizens. The civil war in Syria in 2011 and 2012 resulted in the immigration to Jordan of more than 180,000 Syrian refugees, most of whom settled in the counties of Jordan. Mafraq Governorate took in the second-largest number of refugees (Rjoub and Al Shawabkeh 2018). In July 2012, the Za'atari refugee camp was opened in the Mafraq Governorate for Syrian refugees. In 2018, the World Bank estimated that the population was 593,900. The distribution of Syrian refugees in the governorates of Jordan has changed, and the percentage has varied over time. Irbid used to have the highest percentage in the beginning, but now in 2020, the capital has the highest percentage, with Mafraq second (Figure 1). The total refugee population in 2020 is estimated to be 661,997 (Figure 2) (MercyCorps 2013).

Location name	Source	Data date	Population	
Amman Governorate	UNHCR	30 Jun 2023	29.8%	196,229
Mafraq Governorate	UNHCR	30 Jun 2023	25.6%	169,116
Irbid Governorate	UNHCR	30 Jun 2023	19.6%	129,384
Zarqa Governorate	UNHCR	30 Jun 2023	14.8%	97,651
Balqa Governorate	UNHCR	30 Jun 2023	2.6%	17,153
Madaba Governorate	UNHCR	30 Jun 2023	2.0%	13,084
Jarash Governorate	UNHCR	30 Jun 2023	1.3%	8,555
Karak Govenorate	UNHCR	30 Jun 2023	1.3%	8,374
Maan Governorate	UNHCR	30 Jun 2023	1.3%	8,274
Ajlun Governorate	UNHCR	30 Jun 2023	0.9%	5,816
Aqaba Governorate	UNHCR	30 Jun 2023	0.6%	3,845
Tafilah Govenorate	UNHCR	30 Jun 2023	0.2%	1,433
Other	UNHCR	30 Jun 2023	0.1%	543

Figure 1: Number of Syrian Refugees in Jordan, November 2020

Source: UNHCR 2020

Refugees from Syria by date

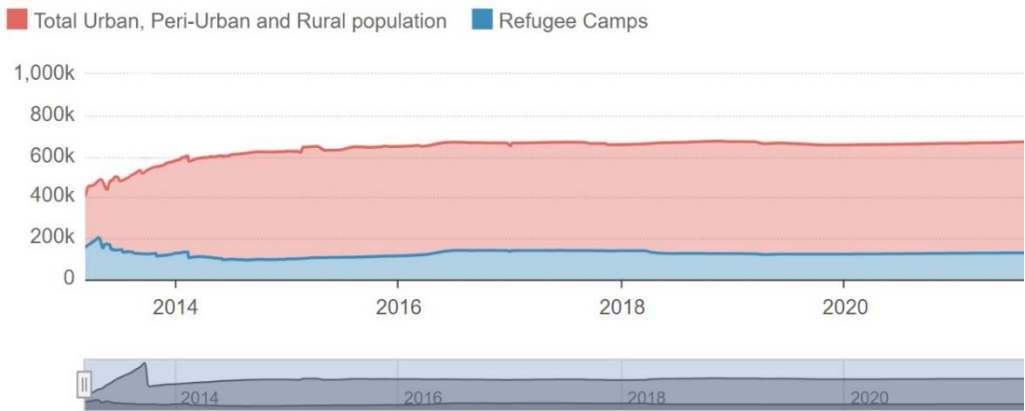


Figure 2: Number of Syrian Refugees in Jordan, November 2020
Source: UNHCR 2020

Urban Development of Mafraq City

In 1972, the urban expansion of the city of Mafraq began and consisted of small neighborhoods that continued to expand at multistages (Al-Hisan 1994, 1999; Al Shawabkeh 2018; Rjoub and Al Shawabkeh 2018). Then, in 1983, as a result of the urban expansion of the region, an organizational plan was drawn up, covering the new expansion areas to include a wider area. After that, urban expansion areas increased as the population grew in addition to newly added areas to the organization lands in 1994 (MOPIC 2013; Sqour, Rjoub, and Tarrad 2016).

At the beginning of the Syrian crisis in 2011, urban expansion areas were increased and the city has become in need of more land organization processes. Thus, there are a set of changes in these areas, which are represented in (1) the process of land organization spreading in the western and eastern directions, (2) the use of lands increased with changes in some status of land uses, and (3) adding areas within the organized areas in addition to opening service streets (Figure 3). However, the last organizational plan for the region was created in 2016. The expansion and engagement between the refugee and local population have continued to the present (Greater Mafraq Municipality 2018).

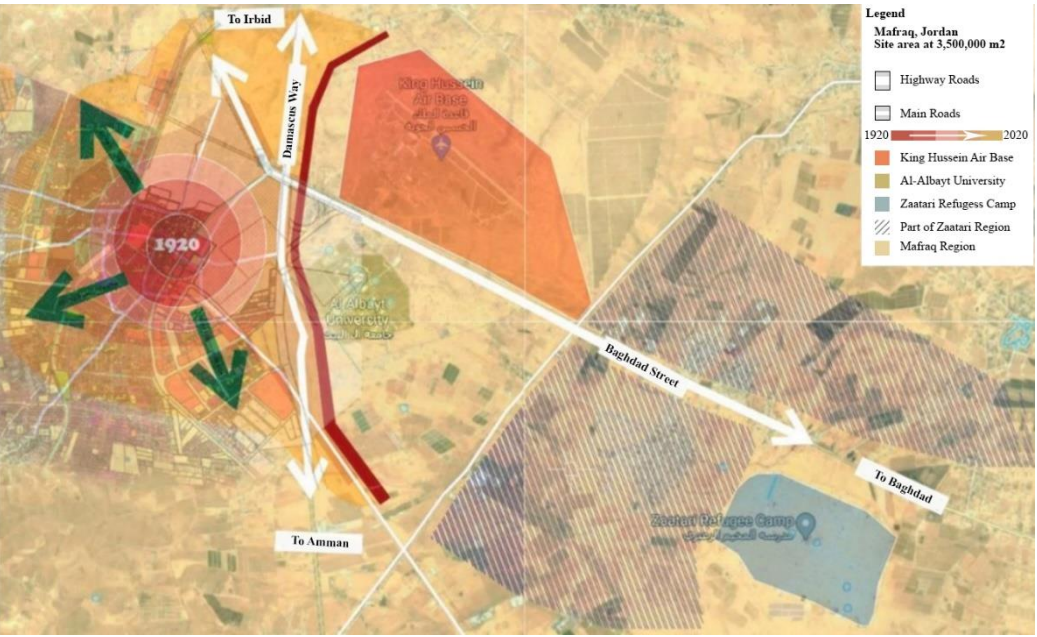


Figure 3: Map of the Urban Organization of Mafraq from 1920 to 2020

Urban Development of Mafraq City after the Syrian Crisis

Since the beginning of the Syrian crisis, the Mafraq Governorate has been overcrowded with refugees: the number of Syrians within the province has reached 120,000 while the Jordanians number 80,000. The population boom put increased pressure on the city's services and increased competition for all work between Jordanians and Syrians inside and outside the camp (Rjoub and Al Shawabkeh 2018; Yassin 2019).

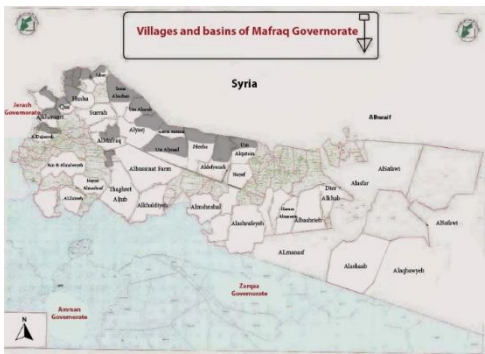


Figure 4: Arrival of Syrian Refugee to Jordanian Cities, Which Were Connected to the Syrian Borders
Note: The gray shaded regions are where Syrian refugees were located in 2011.

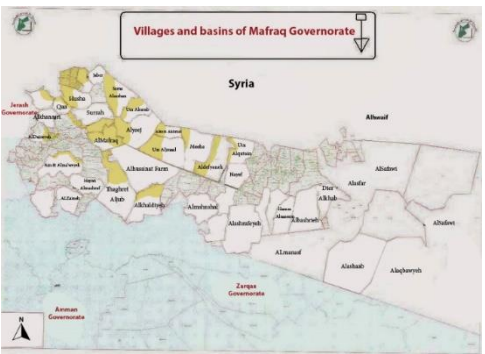


Figure 5: Growth of Syrian Refugee in Jordanian Cities and Spread toward the City Center and Surrounding Towns
Note: The yellow shaded regions are where Syrian refugees were located in 2018.

Source: Adapted from Greater Mafraq Municipality 2020

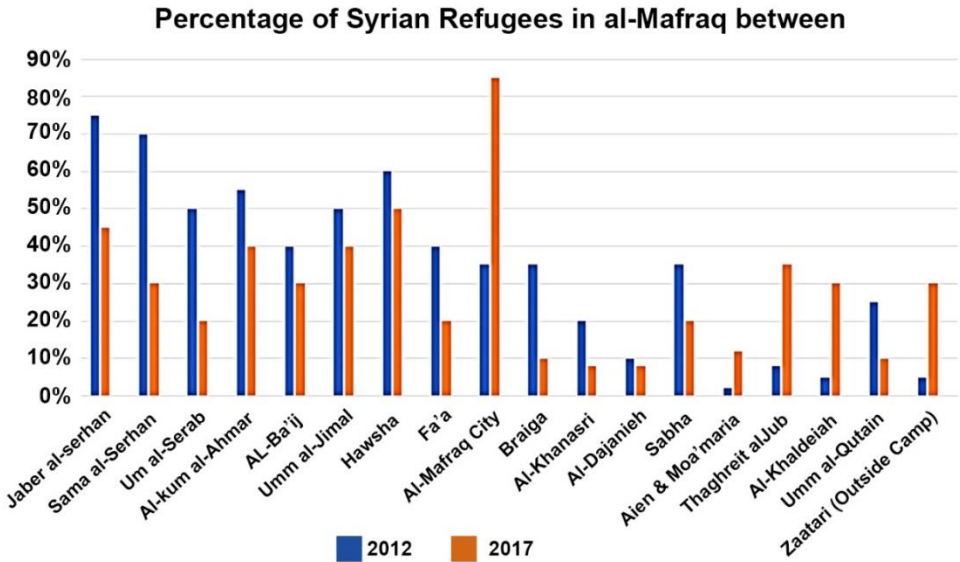


Figure 6: Percentage of Syrian Refugees in Selected Areas of Mafraq between 2012 and 2017
Source: Adapted from the Mayor's database of municipals in Mafraq and Za'atari

Figure 4 shows that Syrians were distributed throughout the governorate borders and its provinces. However, other reasons have allowed Syrians to reach the border areas illegally, where some Syrian governorates share the same Jordanian border region (Greater Mafraq Municipality 2020). Figure 5 shows that there is a clear difference in moving the refugees toward the city center of Mafraq, due to the ease of life and the presence of businesses and essentials. The proportion of refugees varies from one region to the other according to several factors, including housing, work, and living conditions (Figure 6). This explains the high rise in certain places for Jaber al-Serhan and Sama al-Serhan at the beginning of the Syrian crisis (Figure 6). In this context, a high percentage of Syrians were distributed in the gathering places as close as possible to the markets to facilitate movement for them and thus facilitate living (see also Figure 7). Therefore, the largest percentage of refugees is in or close to the commercial center of the city (Figure 7).

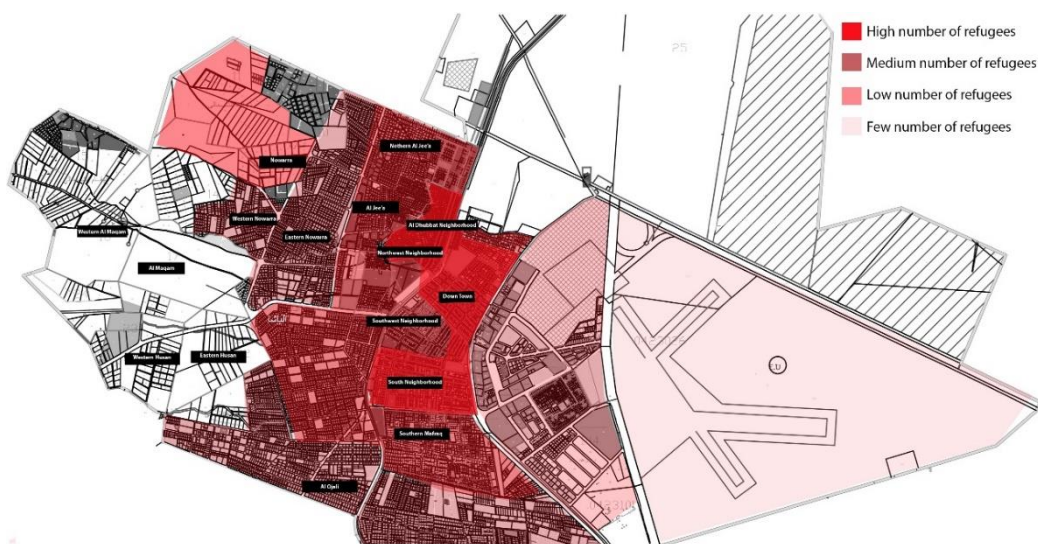


Figure 7: Distribution of Syrian Refugees in Mafraq City
Source: Adapted from Greater Mafraq Municipality 2020

Impact of Syrian Refugee Presence on Za'atari Urban Expansion

Za'atari is a residential area located in the northwestern Badia District, Mafraq Governorate in Jordan (Figure 8). "Za'atari municipality is one of the municipalities of Mafraq governorate and is 14 km from the center of the governorate with 14,000 habitants" (Greater Mafraq Municipality 2020). The municipality consists of two areas: the Za'atari and the Manshiyah areas. In this context, there are approximately 100 shops before the crisis, and there is an increase in these shops to reach 350 shops. Seventy percent of the shop workers are Syrian refugees (MOPIC 2013).

It is noted that the camp has become an essential part of the region which cannot be separated from the city of Mafraq, as it is considered a basis for changes and developments occurring there (Figure 8). Despite the changing population of the Za'atari camp, its population is nonetheless larger than the city of Mafraq itself (Greater Mafraq Municipality 2020). At its peak, the Za'atari camp housed around 150,000 Syrian refugees, making it the fourth-largest city in Jordan (Figure 10). Now, the refugee camp houses around 79,000 Syrians and is divided into twelve districts (Figure 10). At the beginning of the crisis, it was not expected that the number of refugees would be so high, and the numbers exceeded the expected services provided in the camp, which led to the expansion of the camp at the expense of the Za'atari area (Figures 10 and 11). In 2012–2013, there was an explosion in numbers and abnormal inflation (Figures 9–12). After that, refugees began to leave the camp, whether in legal form or not, due to their work experience (MercyCorps 2013).

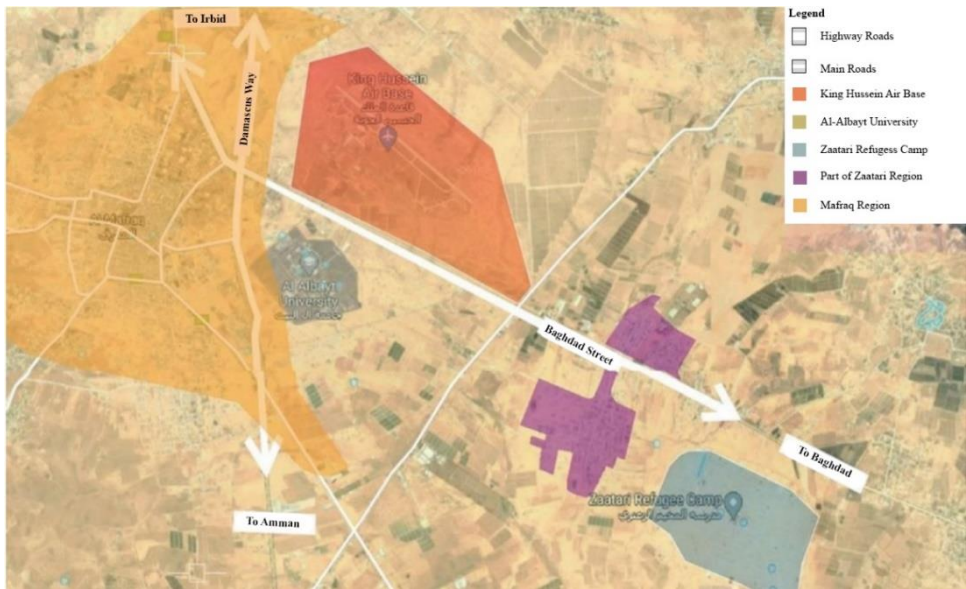


Figure 8: Part of the Mafraq City Map, Showing the Refugee Camp and Za'atari Region
Source: Modified from Google Maps 2020



Figure 9: Refugee Camp, November 2012



Figure 10: Refugee Camp, January 2015



Figure 11: Refugee Camp, February 2018



Figure 12: Refugee Camp, July 2020

Source: Digital Globe, UNHCR 2020

It is noted that the number of people in the Za'atari area has doubled because of the presence of Syrian refugees (Figure 12). The Syrian refugees tried to get their property by exploiting their relations with the original Jordanian residents. This, therefore, has led to changes in the classification of land uses in the region and the general shape of the district. The expansion areas

were in all directions, especially toward the camp from the southeast and the northwest. These lands surrounding the commercial lands are classified as belonging to the B housing organization. This forms a huge pressure on social infrastructure services such as schools, hospitals, and so on. Also, this caused a shortage of water in addition to the need for more sanitation networks.

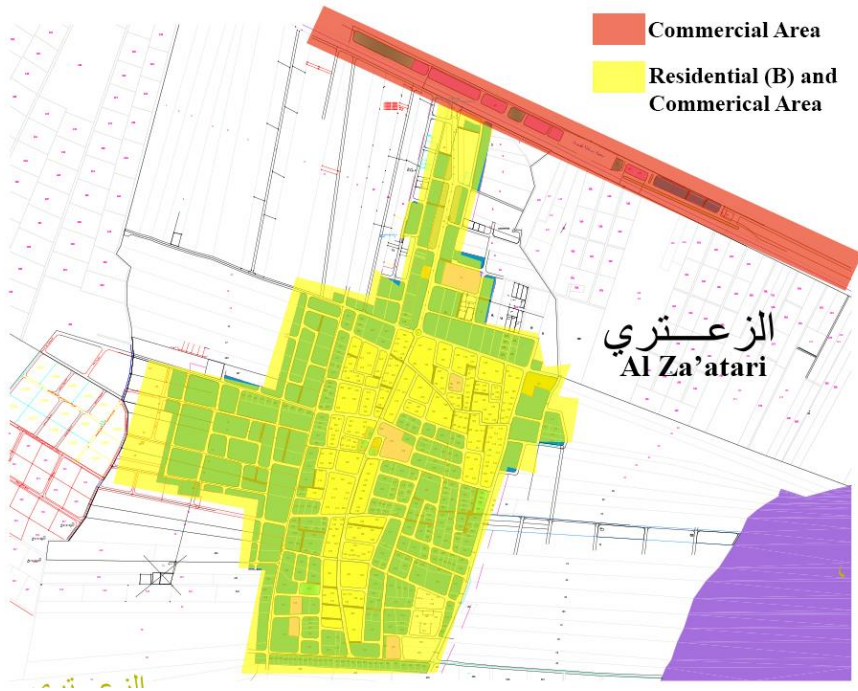


Figure 13: Urban Organizations of Za'atari before Expansion
Source: Adapted from Greater Mafraq Municipality 2020

Before the Syrian crisis, Za'atari was considered a small village with a special Bedouin rural character, limited resources, and differing levels of unemployment. The customs and traditions of the region were reflected in the urban and architectural character of residences and businesses. For example, small roads were planned to serve all residents, and shops were spread along them. If residents needed goods not found locally, they would go to Mafraq city center. The city's urban fabric was not optimal, but it served the needs of the local population (Figure 13).

On the other hand, the resident and refugees opened more than 500 different shops of all types on the main road to the camp (Baghdad Street), offering a wide range of goods and services from groceries and fresh bread to mobile phones (Figures 14–16). These various services and new transportation services through Za'atari region were provided to accommodate the increased population in the area (Figures 19–21).

Accordingly, the economic growth and expansion of areas with new urbanization were accompanied by an impact on places of residence and their architectural character. This impact was different from one area to others based on the social and economic factors, which were apparent in the residential quarters (Figures 22–24).



Figure 14: Commercial Area, Baghdad Street, 2020



Figure 15: Residential Area, Za'atari, 2020



Figure 16: Commercial Area, Baghdad Street, 2020

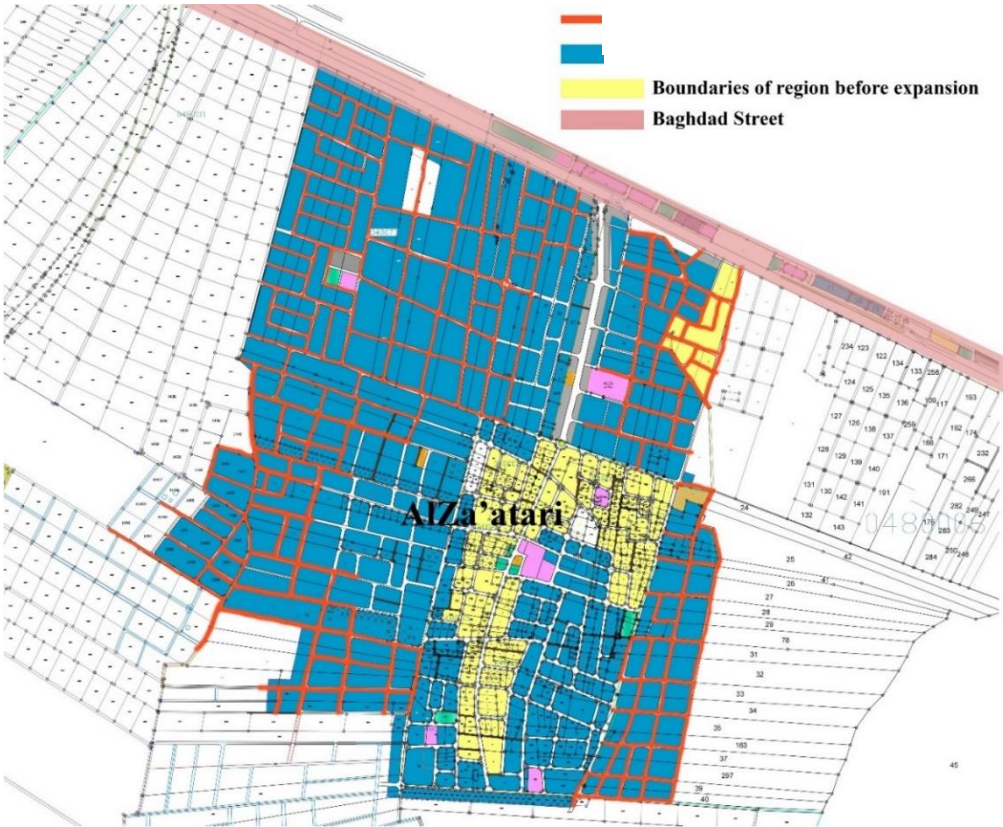


Figure 17: Urban Organizations of Za'atari after Expansion, 2018
Source: Adapted from Greater Mafraq Municipality 2020

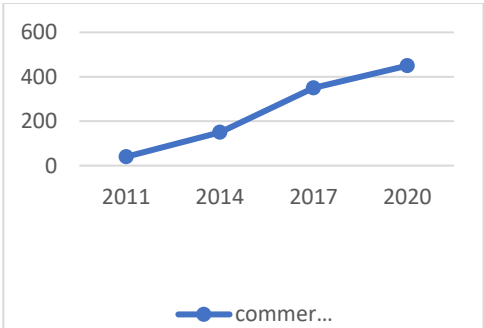


Figure 18: Increase of Shops in the Za'atari Region



Figure 19: Commercial Area, Baghdad Street, 2019



Figure 20: Baghdad Street, 2019



Figure 21: Baghdad Street, 2019

Since only Jordanian nationals can own property, Syrians chose to rent. However, many Syrians wanted to own property in the region, and the best solution was social in nature. Through marriage with local Jordanians, Syrians were able to own property using their spouse's name. The intermarriage of Jordanians and refugee populations, and therefore the sharing of two cultures, has had a strong impact on society (Greater Mafraq Municipality 2018).



Figure 22: Za'atrai Circle,
November 2020



Figure 23: Services Road,
November 2020



Figure 24: Services Road,
November 2020

Findings and Result

Before the arrival of Syrian refugees in Jordan, it is noted that the urban fabric in the Mafraq region as a whole was characterized by shops that were topped with apartments and that served citizens close to their places of residence and work (Figures 26, 27, and 29). After the refugee crisis in 2011, urban expansion areas moved in different directions, due to the annoyance coming from the many shops that were opened as a result of the increased population in the city (Figures 25 and 26). Therefore, the city center of Mafraq was replaced by the Syrian refugees due to moving the Jordanian residents to the outer expansion areas of the city (Figure 27). This process led to the creation of new shops and services to serve these areas and this called for the onset of Syrian asylum in the Mafraq area outside the camp, and the number of Syrians in the crowded commercial market area has increased as a result of lower wages.

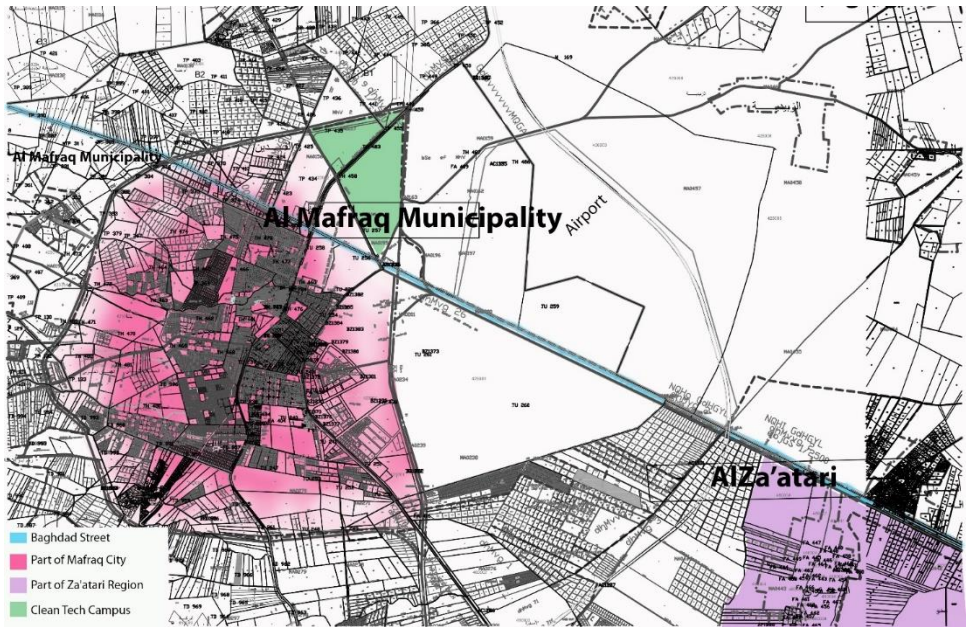


Figure 25: Connection Layout between Mafrag City, Za'atari Region, and the New Campus, 2018
Source: Adapted from the Master Plan of the Mafrag Municipal

In 2017, social, demographic, and architectural changes and urban sprawl appeared as a result of the arrival of many Syrian refugees in Mafrag and the rapid population increase. All of them led to an increase in pressure on the infrastructure in all its aspects and the absence of urban planning and organizing. Therefore, public institutions expanded the streets leading to the Za'atari camp as a result of urban expansion and increased pressure on services. They also redeveloped the use of lands and provided the appropriate transportation, water, electricity, and sanitation features.



Figure 26: Street Expansion, 2020



Figure 27: Shops beside the Street Expansion, 2020



Figure 28: New Shops beside the Street Expansion, 2020



Figure 29: Architectural Design of Buildings in the Za'atari Area, 2020

Note: These are accessible from the intersection of Baghdad Street and Al Za'atari Triangle.

It is noted that Jordanian residents have taken advantage of this situation, where they built a wide range of housing (Figures 32 and 33). This is reflected in the current situation of the rental apartments with double prices after the Syrian crisis (Figure 29). This helped to change the architectural style of the building where there was a clear increase in the number of apartment buildings; therefore, this situation turned the independent houses into apartment buildings aimed at making money. This, therefore, has greatly affected the architectural style and urban fabric in general. In this context, random buildings appeared without any relation to previous urban studies.

For the architectural design of buildings, they are low cost with poor materials in addition to the absence of harmony and balance. This was because most buildings have been occupied before their construction was finished (Figure 29). Figures 30 and 32 show such buildings with windows closed with wooden panels and others with glass. Also, the cladding of these buildings is different according to financial means, some being gray concrete, others finished with paint and plaster as well as some of them were cladded with stones of different quality (Figures 32 and 33). Therefore, the exterior of these buildings varied due to the different use of materials and elements haphazardly. This gives us a sense that these buildings have been architectural formation that contains spaces without the presence of any soul in these buildings and spaces, as they are silent and rigid.

In this context, there is no blame on the refugees in general and their effects just, despite they created a palette of the muddled architectural and urban fabric. This formed an obstacle for the viewer's visual stability due to the architectural chaos that was undermined by the Jordanian national building regulations and laws. This refers to that the refugees themselves designed their buildings without any commitment to the local laws. However, there are some common elements of the architectural design of the individual homes, such as the stone in the elevations, and the symmetry between the elevations was greatly reduced, and some additional decorative elements, such as cornices and columns (Figures 31 and 34). All of these elements could not give any sense to create harmony and balance in the proportions and form in general. Therefore, Mafraq city lost part of its identity due to the intermingling and heterogeneity of cultures within one community.



Figure 30: New Street, Residential and Commercial, 2020



Figure 31: New Residential and Commercial Building, 2020



Figure 32: Poor Syrian Houses, Third Category, 2018



Figure 33: Poor Syrian Houses, Third Category, 2018



Figure 34: Wealthy Syrian Villas, First Category, 2018

Through tuning analysis, this study compared the Za'atari region before and after the Syrian refugee crisis as shown in Table 1. The research presented a set of characteristics of the city of Mafraq, such as the population number, social infrastructure services, competition for services, ownership, urban expansion area, commercial building, types of buildings, number of individuals in the house, culture and community, social relations, architectural character, architectural space, architectural finishes and cladding, and architectural style. Therefore, this study identified the nature and variety of larger architectural contexts of new domestic neighborhoods that did not exist previously. Also, it described the distinctive architectural and urban characteristics resulting from the diverse new cultural identities in the region. Hence, this study enriched and enhanced the urban database of the Za'atari region and then linked it to that of Mafraq city as clarified in Table 1.

Table 1: Comparison of the Za'atari Region before and after the Syrian Crisis

<i>Syrian Presence/ Comparison of Za'atari</i>	<i>Before Syrian Crisis</i>	<i>After Syrian Crisis</i>
Population	Mafrq: 244,188 (2004) Za'atari: 5,055 (2004)	Mafrq: 661,997 (2020) Za'atari: 14,000–78,338 inside the camp (2016)
Za'atari description	Small village with limited resources	Small village that provides all services
Infrastructure	Other services are obtained from the city of Mafrq	All services and shops are available, and there is no need to go outside the area
Pressure on infrastructure	Does not exist	Tremendous pressure
Competition for services	All citizens are equally served	Great competition between citizens and refugees
Ownership	For Jordanians	For Jordanians and refugee kinship
Urban areas	There is a main street (Baghdad International Street), and some small shops and residential neighborhoods are close to places of service	Many of the streets emerge from the main street, and there are shops on both sides of it. There is also housing diversity regarding the architecture
Commercial building	Small shops	Many types of shops
Types of buildings	Independent houses with no more than two floors	Various types ranging from tents, regular homes, multiple floors, luxury homes, and villas
Number of individuals in the house	One family	Many families
Culture and community	Jordanian	Two cultures and two communities
Architectural character	Rural character	Random character (not planned)
Social relations	Between Jordanians	Between Jordanians and Syrians
Architectural space	Suitable place to live comfortably	Any space that secures shelter without the lowest standards or a luxurious place to live
Architectural finishes and cladding	Suitable finishes	Low cost, poor construction materials, and a lack of balance and harmony
Architectural appearance	Traditional Jordanian architecture	Architectural chaos

Conclusion and Recommendations

The study concludes that the refugee crisis led to the urban expansion areas moving in different directions toward the occupied region by the refugees. This, therefore, created tensions between the host community and the refugees in urban areas. This was consistent with what was stated by the World Economic Forum in 2017. For real social cohesion, those communities live together in the same geographical region without any combined social activities. However, there have been many attempts to strengthen dialogue between them to minimize tension between the two communities. Therefore, this study calls to enhance the communication between the two communities to initiate dialogue for reducing tensions between them and therefore improving social relations.

Following this detailed study of the Syrian refugees in the city of Mafrq, it is found that Syrian refugees located in Mafrq, especially in the Za'atari region, changed the urban fabric of the region and altered their lifestyles when they entered their new home. Also, they present their expertise to the residents, strengthening the economic growth of the local community in the city of Mafrq. This was contrary to what was authorized by the World Bank in 2023.

Accordingly, it is concluded that urban refugees are an important factor in the transformation of cities occupied by them and play a key role in reforming the urban and architectural void in the cities in which they settled. In the Za'atari area, refugees developed current spaces and created new spaces close to them, serving the surrounding context. Therefore, this led to disorganized urban growth with low-building quality aimed at short-term investment without respecting the local regulations and laws and monitoring their application by local institutions. Therefore, the research calls on decision-makers in the governments containing the refugees to enact specialized regulations and laws that are fitting to reduce the negative impacts, such as random spread of housing and disorganized urban expansion. This can be applied by setting a comprehensive plan for urban characteristics and architectural style according to the guidelines mentioned in Table 1.

Acknowledgment

This work has been carried out during a sabbatical leave granted to the author, Dr. Mwfeq Alhaddad, from Al-Balqa Applied University during the academic year 2021–2022.

Conflict of Interest

The authors declare that there is no conflict of interest.

REFERENCES

- Al Shawabkeh, Rami, Ahmad Alzouby, Abdelmajeed Rjoub, Mays Alsmadi, Maram AlKhamaiseh, Deema Shboul, Ahmad Smadi, Ahmad Al-Bzou, Rawan Al-Omari, and Esraa Alobaidat. 2020. "Evaluating the Satisfaction Rate for Affordable Housing in Non-Gated Residential Area (NGR): The Case of Al-Sharq Housing Project in Zarqa-Jordan." *International Journal of Housing and Markets and Analysis* 14 (1): 192–217. <https://doi.org/10.1108/IJHMA-10-2019-0105>.
- Al Shawabkeh, Rami, Samer Bagaeen, A'Kif Al_Fugara, and Huda Hijazi. 2019. "The Role of Land Use Change in Developing City Spatial Models in Jordan: The Case of the Irbid Master Plan (1970–2017)." *Alexandria Engineering Journal (AEJ)* 58 (3): 861–875. <https://doi.org/10.1016/j.aej.2019.08.001>.
- Al Shawabkeh, Rami. 2018. "New Urban Regeneration for the City of Amman Using Sustainable Urban Design Principles: Al-Abdali Area as a Case Study." *International Journal of Applied Engineering Research* 13 (19): 14345–14358. <https://doi.org/10.37622/IJAER/13.19.2018.14345-14358>.
- Al-Asad, Mohammad. n.d. "The Domination of Amman Urban Crossroads." *Center for the Study of the Built Environment*. Accessed June 1, 203. <https://www.csbe.org/crossroads-intro>.
- Al-Hisan, Abdulqader. 1994. "Al Mafrqa as a Desert Jewel." *Journal of Zahra, Al-al Bayt University* 3:190.

- Al-Hisan, Abdulqader. 1999. "Al Mafrq through Time Journey." *Journal of the Sound of Generation, Ministry of Culture, Jordan* 13:131–136.
- Alshadfan, Razan. 2015. "Host Communities between Solidarity and Hardship." PhD diss., University of Stuttgart. https://iusd.asu.edu.eg/wp-content/uploads/2015/11/3rdInt_Alshadfan1.pdf.
- Alshoubaki, Wa'ed, and Michael Harris. 2018. "The Impact of Syrian Refugees on Jordan: A Framework for Analysis." *Journal of International Studies* 11 (2): 154–179. <https://doi.org/10.14254/2071-8330.2018/11-2/11>.
- Alzoubi, Ahmad, Rami Al-Shawabkeh, and Mays Dweiri. 2019. "Integrated Infrastructure: A Study of Rehabilitation of Al-Akaider Landfill." *Alexandria Engineering Journal* 58 (1): 261–271. <https://doi.org/10.1016/j.aej.2019.02.003>.
- Greater Mafrq Municipality. 2018. "Report on the Impact of the Refugees on the City Development." <https://www.mafrq.gov.jo/>.
- Greater Mafrq Municipality. 2020. "Report on City Urban Development." <https://www.mafrq.gov.jo/>.
- Hiruy, Kiros. 2009. "Finding Home Far Away from Home: Place Attachment, Place-Identity, Belonging and Resettlement among African-Australians in Hobart." PhD diss., University of Tasmania. https://figshare.utas.edu.au/articles/thesis/Finding_home_far_away_from_home_place_attachment_place-identity_belonging_and_resettlement_among_African-Australians_in_Hobart/23208629.
- Jamhawi, Monther, Rami Al-Shawabkeh, and Esraa Alobaidat. 2020. "Spatial Modeling of Transformation of Public Open Spaces in Zarqa, Jordan." *International Journal of Sustainable Development and Planning* 15 (5): 686–703. <https://doi.org/10.18280/ijstdp.150511>.
- MercyCorps. 2013. "Mapping of Host Community-Refugee Tensions in Mafrq and Ramtha." *Operational Data Portal*. <https://data.unhcr.org/en/documents/details/38301>.
- MOPIC (Ministry of Planning and International Cooperation). 2013. *Host Community Support Platform: Needs Assessment Review of the Impact of the Syrian*. Amman, Jordan: Ministry of Planning and International Cooperation.
- MOPIC (Ministry of Planning and International Cooperation). 2015. *Jordan Response Plan for the Syria Crisis (JPR)*. Amman, Jordan: Ministry of Planning and International Cooperation.
- Nasser, Razan, and Steven Symansky. 2014. "The Fiscal Impact of the Syrian Refugee Crisis on Jordan." *United States Agency for International Development (USAID)*. <https://jordankmportal.com/resources/the-fiscal-impact-of-the-syrian-refugee-crisis-on-jordan-2014>.
- Pavanello, Sara, Samir Elhawary, and Sara Pantuliano. 2010. "Hidden and Exposed: Urban Refugees in Nairobi, Kenya." *Overseas Development Institute, Humanitarian Policy Group*. <https://odi.org/en/publications/hidden-and-exposedurban-refugees-in-nairobi-kenya/>.

- Rjoub, Abdelmajeed, and Rami Al Shawabkeh. 2018. "Urban and Architectural Impacts of Hejaz Railway in Mafrq-Jordan." *International Journal of Humanities and Social Science* 8 (1): 121–131. https://www.researchgate.net/profile/Rami-Alshawabkeh/publication/328416175_Urban_and_Architectural_Impacts_of_Hejaz_Railway_in_Mafrq-Jordan/links/5bccd517299bf17a1c653066/Urban-and-Architectural-Impacts-of-Hejaz-Railway-in-Mafrq-Jordan.pdf.
- Sqour, Saqr Mustafa, Abdelmajeed Rjoub, and Mohannad Tarrad. 2016. "Development and Trends of Urban Growth in Mafrq City, Jordan." *Architecture Research* 6 (5): 116–122. <http://article.sapub.org/10.5923.j.arch.20160605.02.html>.
- UDHR (Universal Declaration of Human Rights). n.d. "Homepage." Accessed August 17, 2023. <https://www.un.org>.
- UNHCR (United Nations High Commissioner for Refugees). 2020. "Total Persons of Concerns." <http://data2.unhcr.org/en/situations/syria/location/36>.
- Wells, Ruth, Zachary Steel, Mohammad Abo-Hilal, Abdul Halim Hassan, and Catalina Lawsin. 2016. "Psychosocial Concerns Reported by Syrian Refugees Living in Jordan: Systematic Review of Unpublished Needs Assessments." *British Journal of Psychiatry* 209:99–106. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/284E48EEBBAEB62C2AD183F5EE5B37E0/S0007125000244541a.pdf/psychosocial_concerns_reported_by_syrian_refugees_living_in_jordan_systematic_review_of_unpublished_needs_assessments.pdf.
- Yassin, Nasser. 2019. *101 Facts & Figures on the Syrian Refugee Crisis*, vol. 2. Beirut, Lebanon: UNHCR.

ABOUT THE AUTHORS

Mwfeq Al Haddad: Associate Professor, Department of Architecture, Al-Balqa Applied University, Salt, Jordan
Corresponding Author's Email: mwfeqqkk@bau.edu.jo

Rami Al Shawabkeh: Associate Professor, Vice Dean of Faculty of Engineering, Department of Architecture, Al al-Bayt University, Mafrq, Jordan
Email: sh.rami83@aabu.edu.jo

Mays Haddad: Eng., Ummal-Jimal Archaeological Project, Department of Historical Studies, Calvin University, Grand Rapids, Michigan, USA
Email: H_mais@yahoo.com

Fedaa Salameh: Eng., Social Responsibility Department, Arab Potash Company, Amman, Jordan
Email: Fedaasalameh94@yahoo.com