

A STUDY ON THE URBAN FORM OF ERBIL CITY (THE CAPITAL OF KURDISTAN REGION) AS AN EXAMPLE OF HISTORICAL AND FAST GROWING CITY

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Erbil as a historical city has faced a notable growth in different periods after the establishment of Iraq state in1920, especially after 2003 when it has witnessed its largest expansion rate. This, in turn has influenced the rate of the change of the urban form. This paper addresses the issue of the urban morphology of Erbil city in different periods since 1920. It presents the change of the urban form of the city through the frame of legislation which is supposed to reflect policies that meet a number of factors such as political, economic, social, cultural, environmental-climate, and technological. A descriptive and interpretative approach is adopted as an aim toprovide an understanding of how and why this process of change has happened. The sources of data such as maps, photographs and legislative texts are used.

Keywords: Regulations (Legislation), Urban form, Morphology, Erbil city.

Introduction

From the point of view of urban designers 'urban form' has two different and integrated meanings. It means street pattern and areas when it is interpreted as a two-dimensional object while three dimensionally, it refers to heights and shapes¹. Albert Levy identified four main elements (plot, street, constructed space, and open space) that define the physical urban form of cites². However, Emily Talen has outlined three main elements that significantly affect the urban form of cities. Those are street width, heightof buildings, and buildings' line and setback³. However, "A type is an 'abstract object built through analysis' that reproduces the properties that are deemed essential by the analyst of a family of real object". Using type as a mean to interpret the change in urban places and their structure is a theory of

¹M Lowndes and K Murray, 'Monuments Dilemmas and the Development of the Rules of Thumb for Urban Designer', The Planner, 74 (1988), 20–23.

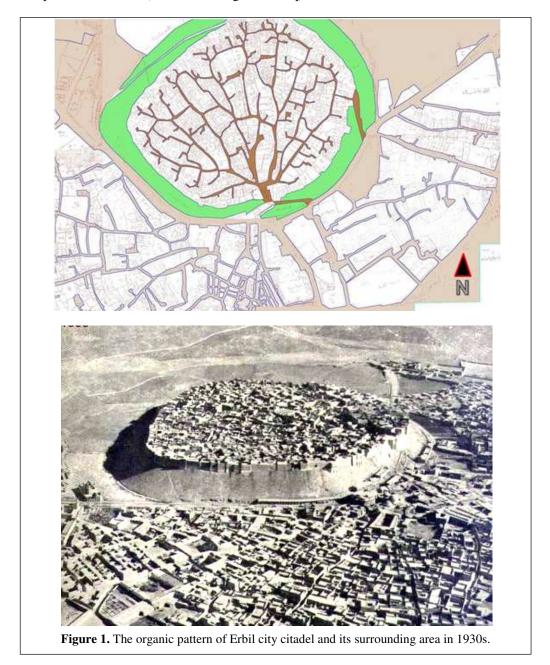
²Albert Levy, 'Urban Morphology and the Problem of Modern Urban Fabric: Some Questions for Research', Urban Morphology, 3 (1999), 79–85.

³E. Talen, City Rules, How Regulations Affect Urban Form (Washington: Island Press, 2012).

⁴A. V. Moudon, "Getting to Know the Built Landscape: Typomorphology" From Ordering Space: Types in Architecture and Design (1994)', in *The Urban Design Reader*, ed. by M. Larice and E. Macdonald (London: Routledge, 2006), p. 271.

typo-morphology which involves the physical structure of cities by basing on classifying the type of urban form (buildings and open spaces)⁵.

Erbil as it is perhaps the oldest present-day city in the world is a clear example of organic growth of cities by having a tell with a cellular urban grain [Figure 1] at its early stages, specifically in Sumerian period when it was named 'Arbela'. However, this organic pattern has not continued in the growth of the later periods of the city. Erbil now is the fourth biggest cityof Iraq after Baghdad, Basra, and Mosul and it is the capital of Kurdistan (the northern region of Iraq).



⁵A. V. Moudon, "'Getting to Know the Built Landscape: Typomorphology" From Ordering Space: Types in Architecture and Design (1994)', p. 257.

⁶A.E.J. Morris, *History of Urban Form, Before the Industrial Revolutions*, 3rd ed (Essex: Longman Group UK Ltd, 1994).

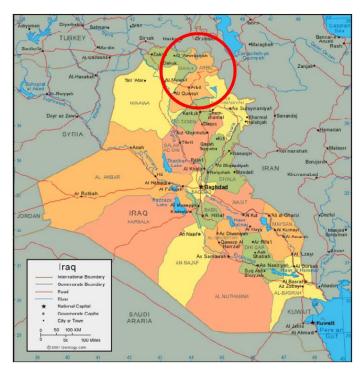


Figure 2. Erbil province location within Iraq.

After the establishment of Iraq state in 1920[Figure 2] Erbil's urban form and its changes has been affected by a series and subsequent regulations regarding building and planning issued from Baghdad by the central government and then by those which have been issuedby Kurdistan regional government and local authorities in Erbil. The two prominent political, economic, social changes were after 1991 and then after 2003. Consequently, these have led to a considerable change in the city's life aspects especiallythe urban form and its morphology which this paper focuses on. The aim is to provide a better understanding by analytically justifying the change and the transformation of the urban form of Erbil from 1920 till 2013. This physical change of the city is contributed to a set of factors including legal and legislation which this paper deals with.

Urban Development and Urban form in Relation to Key Historical Moments of Erbil

In order to understand Erbil city, a historical overview of it and its planning and design system are needed to be given. Erbil is known as the ancient citadel that has been continuously inhabited for 6000-8000 years⁷. This is represented in the citadel at the centre of it. Erbil passed under the ruling of different empires over the history. However, the period from the establishment of Iraq in 1920 to 2013 is the focus of the paper. More than 90% of the city has been built in that period. See [Figure 3]

In 1900 the area of the three provinces: Basra, Baghdad, and Mosul⁸ within the border which is now called Iraq state was belonged to the Ottoman Empire which was ruling the area since the mid of 15th century. Each province which was then called "Vilayat" was governed by a ruler called "Vali" and Erbil was belonged to Mosul province [Figure 4].

⁷Morris.

⁸Andrew C. Mclaughlin III, 'Thoughts on the Formation of the State of Iraq' (presented at the Chit Chat Club, San Francisco, Califorinia, 2008).

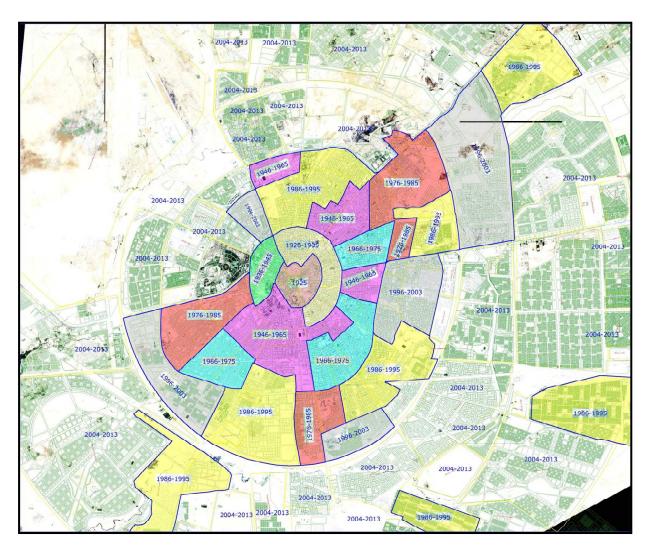


Figure 3. The growth of Erbil city: The first development of different parts of the city in different periods

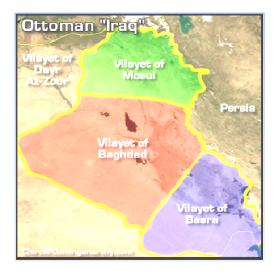


Figure 4. The three provinces which now consists of the Iraq state belonged to the Ottoman Empire before 1918.

The Period 1920-1958

The term 'Iraq' was used by Arab geographers since 8th century. It means 'the shore of a great river along its length, as well as the grazing land surrounding it⁹. After the First World War in 1918, according to the 'Sykes-Picot Agreement' which was made secretly between Britain and France, the area became under the British control¹⁰. In 1920 the state of Iraq, which included the three provinces, was established and became under the British mandate. The Land Settlement Law, which outlined a certain form of land ownership, was issued. However this law was just a continuity of the previous Ottomans' reforms 'Tanzimat' which had a trend of land privatization ¹¹. Based on the amendments of the law of municipalities' administration number 84 and 24 in 1931and 1934 respectively, in 1935 The System of Roads and Buildings No. 44 was issued ¹². The serial amendments on the system in the subsequent periods (1936, 1937, 1938, 1939, 1940, 1942, 1953, 1955, and 1956) influenced not only the new areas and developments of the city but also the existing ones and caused an accumulation of different layers of urban form changes on the already existing areas. This legislation divided the settlement into different urban area categories based on the density factor which was physically represented in plot size, street width, building orientation, and building ratio [Table 1 and Table 2].

Table 1. Minimum allowed area of plots according to the amended System of Roads and Buildings No.44 in 1935¹³.

Urban area category	Minimum lot area (m ²)	Minimum plot front width
The first	100 m ²	
The second	200 m ²	
The third	300 m ²	15m
The fourth	600 m ²	20m
The distinct	800 m ²	25m
The special	2000 m^2	25m

Table 2. Minimum front setback distances according to the amended System of Roads and Buildings No.44 in 1935¹⁴.

Urban area category	Minimum Setback distance from the street (m)	
The first	Zero	
The second	Zero	
The third	2.5 m	
The fourth	4 m	
The distinct and special	5 m	

⁹CHARLES TRIPP, A HISTORY OF IRAQ, 3rd edn (Cambridge: University Press, 2007), p. 8.

¹⁰Constance Johnson, *IRAQ: LEGAL HISTORY AND TRADITIONS* (Washington,: The Law Library of Congress, 2004).

¹¹Johnson.

¹²The Royal Iraq, 'Set of Laws and Systems', *Iraqi Gazette No. 1465* (Baghdad, 1935), p. 195.

¹³The President of the Republic, *The Amended System of Roads and Buildings No.44 in 1935*, sec. 47 and 52.

¹⁴The President of the Republic, *The Amended System of Roads and Buildings No.44 in 1935*, sec. 53.

The Period 1958-1991

A revolution in 14th July 1958 led to the change in the country's governance system from Royal to Republic system. By then the system of Roads and Buildings no. 44 had had a notable influence on shaping the city's urban form. It was applied on all cities in Iraq regardless the local characteristics of cities and differences between them. Cultural, social, geographical, and topographic differences are apparent between some northern (Kurdistan), middle, and southern cities. However the system gave some power to the local authorities, yet the essential broad line of it was more influential.

Some events in addition to the issuance of some legislation had influenced rural and urban areas as well. Law no. 80 in 1958 on land and agricultural reforms allowed the small groups and peasants to have the right of holding lands as small plots by redistributing them. In cities low-cost housing projects targeted families and individuals working in different governmental sectors. One of the main housing projects was the procedure of land subdivision and offering them to people who are in need of it and providing low interest loans to allow people to build their own houses¹⁵.

In 1964 the law of municipalities' administration No. 84 in 1931 was replaced by the law of municipalities' administration No. 165 in a response to the new system of the governance. The old law classified towns according to the town's revenue. However, the new law did this on the base of the population size into five classifications: Distinct municipalities' classes, first classes, second classes, third classes and the last which was the smallest was the fourth. Baghdad which was the capital of Iraq was an exception from this classification¹⁶. According to this law Erbil city had been classified as the first-class municipality with a population size higher than 75000 people. Consequently, according to the amended system of buildings and roads No. 44 in 1935 Erbil city had been divided into four urban area categories which meant that the distinct and special urban area categories did not exist¹⁷.

The main characteristic of the republic system was that it had a trend of socialism in which the government took the stronger power. According to the amended system of buildings and roads the housing complexes built by the public sectors were exempted from the classification of urban areas. The building type of these complexes' houses was typical. Meanwhile, the emergence of signs that attempted to reduce the density differences between different urban areas, increasing the built up ratio on plots for residential purposes, and the growth of families that the extended families tended to reside in a larger house with more number of rooms, all combined together, in 1964 resulted in the abolition of the section number 53 of the system which was about building setback distances and it was replaced by a new section that only impose front setback when it was previously also applied the other three sides of the plot which are mostly adjacent to the next plots¹⁸

In the beginnings of 1970s the government started to nationalize the petrol companies working in Iraq and in 1972 the Iraqi government nationalised IPC (Iraq Petroleum Company) whichwas the most important development in Iraq since 1958 ¹⁹. However legal actions targeting this issue had been previously in 1961 started when the Public Law no. 80 was issued ²⁰. The economic growth led to an improvement in many sectors although there were political problems. The increasing demand on housing, the continuity of the government policy to reduce the differences between the neighbourhoods, and to limit the extravagance and the waste in using lands areas for housing purposes as it was justified by the government, it issued the decision number 850 in 1979.

¹⁶The President of the Republic, *The municipalities' administration law No. 165 in 1964*, *In Iraqi Gazette No. 1033*, 1964, sec. 11.

¹⁵Johnson.

¹⁷The monarch of the kingdom, *The Amended System of Roads and Buildings No.44 in 1935*, sec. 3.

¹⁸The President of the Republic, *The Amended System of Roads and Buildings No.44 in 1935*, *In Iraqi Gazette No. 993*, 1964.

¹⁹Michael E. Brown, 'The Nationalization of the Iraqi Petroleum Company', International Journal of Middle East Studies, 10 (1979), 107–24.

²⁰Johnson.

According to this decision the minimum allowed area of the plot subdivision was 120 m2 in the centre of provinces (cities) regardless the urban area category and 100 m2 in towns and suburbs. Section 7 of this decision aborted any text in the system of roads and buildings no. 44 which contradicts with the decision. This meant that the density differences in urban area categories in cities are going to be vanishing and the whole city is treated as one urban area. The decision also prevented building a single house on a plot that its area exceeds 800m2 in all existed urban area categories and also in new developed urban areas²¹. This decision made a shift in changing the urban form and building types of houses in all Iraqi cities generally including Erbil city.

Moreover, this legislation allowed building more than one house on one plot if each house area is not less than 120 m2 regardless the dimension of the plot²². This means that it is highly possible that unbuilt or vacant plots which have an area equal to or more than 240 m2 in already existing urban areas can be subdivided into two or more plots. As a result of this, two or more houses can be built on such a type of plot. Nevertheless, the majority of new developments or new areas were subdivided according to this order. The possible impact of this decision on the urban form in existing areas was a shift from homogeneous houses in areas to heterogeneous fabric with various ranges of houses' areas. To exemplify this, rather than building one house on a plot with 300m2 in the third urban area category, the owners tendedto build two houses. Although this case was more typical, it cannot be generalised because there were numbers of examples were the contrary.

The year after, the prescriptive number 851 concerning building houses and instructions about the implementation of the decision number 850 in 1979 was issued. The section number 4 of this prescriptive detailed the setback distances for single house buildings [Table]. It also limited 6m as a minimum width of houses and stated that the plots that more than one house is built on can be subdivided into as many as the numbers of houses but the minimum width of each should not be less than 6m²³ .See [Figure 5].A single amendment on the system of roads and buildings number 44 concerning the building license and the erection process duration was made in 1984 and this was the last amendment on the system.

Urban area category or the plot area (m ²)	Minimum Setback distance from the street (m)
The first	Zero
The second	Zero
100 ≥ *Plot area ≥ 200 *for plots that are subdivided according to the decision no. 850 in 1979	1.5
200 > Plot area > 600	2.5
600 ≥ plot area	4

Table 3. Minimum front setback distances according to the prescriptive no. 851 in 1980²⁴.

Due to the war between Iraq and Iran from 1980 until 1988, the economic and political instability, and the migration from rural areas to urban areas due to the reason that the government destroyed Kurdish villages and forced people to leave them, the government's focus on dealing with the housing crisis was

²¹Revolutionary Command Council, *Decision No. 850 in 1979 on setting plot areas limits for housing purposes, In Iraqi Gazette No. 2722*, 1979.

²²Revolutionary Command Council, *Decision No. 850 in 1979 on setting plot areas limits for housing purposes.*

²³Revolutionary Command Council, *Prescriptive No. 851 in 1980 on building houses, In Iraqi Gazette No. 2756*, 1980.

²⁴Revolutionary Command Council, *Prescriptive No. 851 in 1980 on building houses*, sec. 4.

firstly through the extension of the policy that aims to minimise the houses areas in cities and towns and secondly through building residential camps for the migrated and displaced people from their villages. These camps were called 'coercive camps' and they were generally located nearby cities where can easily be controlled by authorities. However, the government continued on the policy of providing lands for people to build their own houses and this reinforced by offering mortgages.



Figure 5. Subdivision number 72/ District number 44 Warish in Erbil city shows the re-division of some plots into two plots after the issuance of the decision number 850 in 1979.

Over the war period the government offered martyrs and soldier families lands for free or low prices for housing purposes. The municipalities in cities and towns were obliged to prepare new developments or new neighbourhoods for these families for this issue. These new neighbourhoods were named martyrs', militaries', and officers' neighbourhoods. The area of plots in these neighbourhoods ranged between 200 m2 to 600m2. A common and typical characteristic can be noticed in houses were built in this period although people were free to have their own touch on the design of their houses and they were affected by the building regulations that were in use at these times in addition to the available building technologies.

In 1987 an amendment on the decision number 850 was made by the decision number 940. This amendment changed the minimum area of the plot and increased it from 120 m2 to 200 m2 in cities, 250 m2 in towns (Qaza), and 300 m2 in suburbs (Nahiya)²⁵. This decision confirmed the idea of treating with the whole city as one unit and aborted the notion of the variety and differences between different parts.

Some regulations on land use have significantly affected the urban form of the city. According to the municipalities' administration law No. 165 in 1964 the municipality's council is in charge of the preparation of master and detailed plan for the city and its districts and make changes on them as well²⁶. Accordingly, the use of some residential plots on certain streets in some areas were changed to mixed or commercial uses although on some of these plots single house families had already built on while the rest were still unbuilt. This encouraged the owner of the unbuilt plots to build commercial and multi-storey buildings rather than single houses. The multi-storey and commercial buildings were built according to an issued regulation in 1989 from Baghdad²⁷.

These decisions resulted in changing the panoramic view of some streets when single house buildings and multi-storey buildings were built adjacent to each other on the same street (axis). However the owners of plots were free to build either single family house or mixed or commercial multi-storey building, yet the higher economic income of multi-storey buildings encouraged the owners to build multi-storey buildings. This decision resulted in social, economic, and even aesthetic consequences as well. See [Figure 6].



Figure 6. Single family houses adjacent to multi-storey buildings.

The Period 1991-2003

After the end of the war between Iraq and I ran in 1980, Iraq faced some economic problems and in 1990 occupied Kuwait and then this led to the first gulf war. This action brought series consequences to the country and resulted in putting Iraq under economic siege and led to the uprising in southern cities and Kurdistan cities in the north as well. Kurds finally could liberate their region²⁸. Kurd could establish their

²⁵Revolutionary Command Council, *Decision No. 940 in 1987 About the Amendment on the Decision No. 850 in 1979, In Iraqi Gazette No. 3183*, 1988.

²⁶The President of the Republic, *The municipalities' administration law No. 165 in 1964*, sec. 43.

²⁷Ministry of Local Governance/ General Directorate of Urban Planning, *Building Regulations in Commercial Areas*, 4131, 1989.

²⁸TRIPP, pp. 248–250.

autonomous region and in 1992 the election resulted in the establishment of the first parliament of Kurdistan and the first cabinet. Some new laws in different sectors were issued by the parliament. The municipalities' administration law No. 6 in 1993 was issued. This law was mainly borrowed its principles from the Iraqi law number 165 in 1964, but there were some changes on it to adapt the new situation of Kurdistan region and its new system.

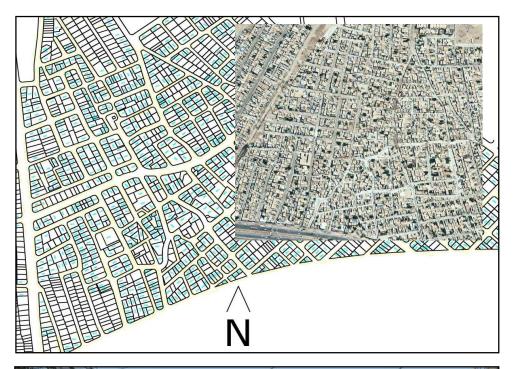




Figure 7. An illegal quarter in Erbil city which is known as "Badawa illegal quarter".

This period witnessed the stagnancy in the building process due to the economic crises that faced the country generally and Kurdistan region especially. However, some new developments and new neighbourhoods were built. Some of these were built by the people who received money from outside sources especially from their relatives who were living outside the country especially in Europe. However the UN organizations especially HABITAT built few residential complexes, yet their contribution was very limited. These complexes were characterized by a typical and one floor houses.

Due to the unstable political and economic conditions of the country and the city as well when the authority was incapable of providing fundamental services and the inability to control the urbanization and building process, some illegal and slum quarters appeared. These quarters were characterised by its irregular streets and blocks patterns [Figure 7]

Some official studies have been done on Erbil city. The first master plan for the city was approved in 1977 and the next in 1994. However, these two plans which were named 'master plan' were not supported by a comprehensive study and analysis. They were just a graphic drawing. Yet the crucial period that the city has witnessed is after 2003, after the fall of the regime, when Kurdistan region was legally recognized as a federal region within the state of new federal Iraq²⁹.

The Period 2003- 2013

The region and Erbil city as its capital witnessed a considerable growth and development after 2003. The first master plan for the city was prepared from 2006-2009 [Figure 8]. This was followed by the preparation of the city centre master plan [Figure 9], preparing guidelines for the buffer zone of the citadel, the master plan for the first green belt ring, issuing investment law of Kurdistan number 4 in 2006 from the Kurdistan parliament which resulted in building many residential complexes in Erbil city [Figure Error! No text of specified style in document..2 10], and some amendments on the building regulations have led to a considerable change in the urban form of the city.

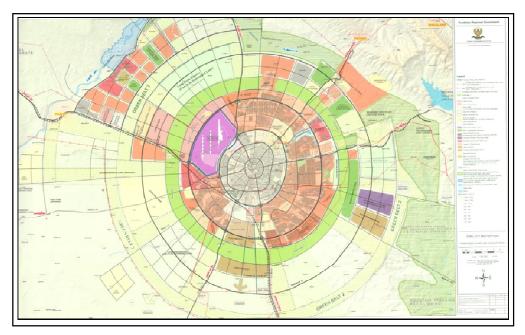


Figure 8. Erbil city master plan which was approved in 2009.

²⁹TRIPP.

the migrated Kurdish families from Iran and other countries who had been forced to leave Kurdistan over the period since 1960s until 2003, and fourthly the increasing number in regional and international companies in the region which they also needed places for their offices, resulted in the appearance of some phenomena in building type. These can be summarised in firstly building two houses on 200 m² plots when the share of each house was 100 m² with 5m width, and secondly building attached single family houses with three floors which sometimes resulted in the creation of social problems between neighbours. However previously the height of houses did not exceed two floors not due to the limits of the legislation but it was a common tradition [Figure 11] and [Figure 12].



Figure 11. Two symmetric houses each has 100 m² with 5 m width on one 200 m².

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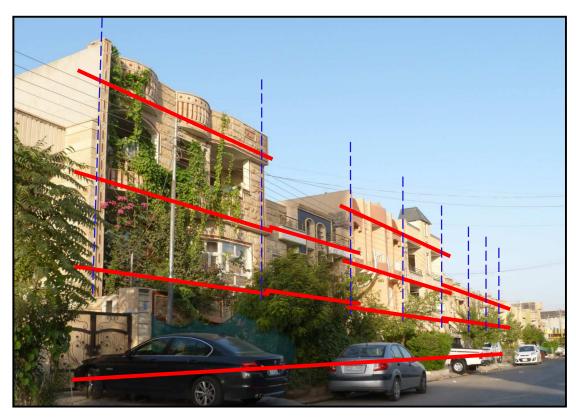


Figure 12. Attached houses with two and three floors in one block.

Overall, there have been four types of policies that have influenced the formation and the transformation of the urban form and its types from 1920-2013:

- 1) **Policy 1 (1920-2013):** Residential single plots are distributed on and allocated to people and they build their own houses on these plots by themselves individually according to building permit regulations adopted by the municipalities in successive periods.
- 2) **Policy 2(1960-2013):**Residential campuses build by the government and its public sectors and they are exempted from the municipalities' regulations.
- 3) **Policy 3 (1991-2003):**Residential campuses built by organisations such as the HABITAT (They are exempted from the municipalities' regulations.)
- 4) **Policy 4 (2003-2013):**Residential campuses built by private companies. (They are exempted from the municipalities' regulations.)
- 5) **Policy 5(2003-2013)**Illegal quarters which build in certain periods and then the government with organisations adopted some policies to develop them.

Conclusion

The urban form of Erbil city has witnessed both dramatic changes and shifts in different periods. These changes were mainly correlated to legislation factor in parallel to social, economic, and politic determinants over four subsequent periods. The first was from 1920 when the Iraq state was established until 1958. The governance system of this period was royal system. The effective legislation in this period were the law of municipalities' administration number 84 and 24 in 1931 and 1934 respectively and the

system of roads and buildings no. 44 in 1935. In this period the organic pattern which characterised Erbil city's urban form before 1920 did not extend in the city's expansion. This was a shift and an interruption in the change process. At the same time, that organic pattern was affected by the issuance of the new regulations and faced transformations.

The second period starts from 1958 when the system of the governance changed from royal to republic by the revolution of 14th July and continues until 1991 Some new legislation were issued and several amendments were made on the system of roads and buildings of 1935 which in general aimed to increase the density by minimising the plot sizes and then reducing the differences between the different urban area categories. These were due to the political, economic and social circumstances of the period. The third period is from the uprising in 1991 which followed the first Gulf War until 2003. A relatively limited changes in the urban form happened in this period due to the economic siege resulted by the Gulf War of 1991. Some illegal quarters were the result of the absence of applying regulations. This led to the appearance of a non-organised form. However, a few of small neighborhoods which were characterised by having a typical house forms were built by some international organisations. The last period starts after 2003 when Iraq became a federal state. A considerable fast growth happened in this period. Master plan preparation for the city and its centre by the ministry of municipalities and the issuance of investment law by Kurdistan parliament were the facilitators of this fast growth.

Over these four periods five different policies of housing that influenced the formation and the transformation of the city's urban form were adopted. Some of these policies have had a continual and cumulative influence on the city's urban form and morphology due their adoption in all or most of these periods. The policy 1 is the example of these. However, some of these policies have a limited imprint on the urban form of the city due to their limited adoption firstly and they have been in force for a short period secondly. The policy 2 and 3 are examples.

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