The Impacts of Building Contraventions and Informal Residential Land Subdivision on the Quality of Life in Baghdad

A.S. Hajer Al Ishaqee¹ and A. Enam Albazaz²
¹Governmental Contract Department, University of Baghdad, Baghdad, Iraq
²Architecture Department, engineering collage, University of Baghdad, Baghdad, Iraq
E-mail: hajer.aleshaqi@gmail.com (A.S. Hajer Al Ishaqee)

Abstract. Building contraventions and illegal subdivision of residential land are common phenomena in developing countries. These practices have major implications for the urban quality of life and place an enormous strain on urban services. The main purpose of the paper is to identify and discuss the impacts of building contraventions and informal land subdivision on the Quality of Life (QOL) within the context of the Al ‘Utayfiyah area, located in the Al Karkh district of Baghdad, Iraq. A mixed methods approach involving a questionnaire and interview surveys and field observations was adopted to obtain the necessary data. Results indicate that building contraventions and informal land subdivision have significantly diminished the QOL in the study area. Specifically, it was found that the public utility networks are in poor conditions. Furthermore, these illegal activities have reduced open and public spaces and have put excessive pressure on urban infrastructure, resulting in an unhealthy and aesthetically unappealing urban environment. The paper concludes with some policy recommendations for improving regulation enforcement and building control in Baghdad.

1. Introduction
The land is a highly valuable commodity in most major Iraqi cities, especially in the capital city, Baghdad. This has made enforcement of land use and building regulations a challenging task for local authorities. As a result, numerous cases of informal residential land subdivision as well as building contravention can seem across the city. This has put significant strains on urban infrastructure planning and management. For instance, the water and electricity networks are frequently disrupted during the summertime due to the excessive demand caused by informal and unregistered residential buildings. Such disruptions diminish the urban Quality of Life (QOL). Despite the frequent occurrence of informal subdivisions and building contraventions in Baghdad, there is no research exploring its impacts on the urban QOL. This is a gap that this study intends to fill. United Nations defines the QOL as human well-being, measured by social points rather than "quantitative" indicators of income & production"([http://data.un.org/Glossary.aspx](http://data.un.org/Glossary.aspx)). In a similar way, the World Health Organization report in 1997 (WHO) defined the QOL as a subjective and value-laden concept that is highly influenced by human perceptions [1]. The QOL has also been defined as “the condition of social comfort of individuals or groups” [2], as well as the extent to which individual needs and aspirations are met. In this research, we define it as "the extent of satisfaction and well-being of people". The major indicators that will be used to measure satisfaction and well-being are the fulfillment of the needs and expectations of people regarding the appropriate provision of public utility services.

2. Literature Review:
Informal land subdivision has always been a dominant feature of urbanization in many developing countries in Africa, Asia, and Latin America. For instance, over the past four decades, various cases of
the informal subdivision have been reported in Asian cities such as Indonesia, Malesia, Manila, Kolkata, Dhaka, Iran, Karachi, and Seoul [3], (Xinomilaki, E, 2004). Recent United Nations (UN) housing reports show that informal settlements developed following informal land subdivision are no longer only limited to Asian cities. Instead, there is an increase in informal settlements at the international level [4], especially in Major African cities such as Tripoli, Lagos, Khartoum, and Kano, which were found to be the most likely locations for the growth of illegal settlements [5]. In the Middle East, particularly in Iraq and the Palestinian Territories, factors such as geopolitical tensions and migration have led to the emergence and growth of several semi-formal settlements [6]. Godwin et al., 2016 [7] pointed that these practices are not a new phenomenon, but in the same time it increased the scale and intensity in the last years as a result of booming residential and commercial activities.

Due to the rural-urban migration, the population of Baghdad has grown rapidly over the past few decades. The inability of the authorities to appropriately respond to the increased demand for housing has resulted in the rise of informal subdivision of residential land for the purpose of meeting housing needs. Other common contraventions are related to setback rules, Floor Area Ratio (FAR), building height violation, and other structural violations. Overall, the main motivation behind these contraventions is to maximize the amount of available floor space that is needed to accommodate the increased urban population. In the absence of proper monitoring and control by the responsible planning authorities, these contraventions have grown significantly, causing serious issues for the urban QOL (Tahir, 1989).

The division of agricultural land in developing countries is widespread, primarily from agricultural areas. Where it became natural to divide the agricultural land into plots of land and sell them to people to develop into houses. They are often not reported. Government entities are not informed of such divisions. It found that 32% of all planned government land was illegally divided, and 7.5% were merged, while 90% were non-governmental planning. Among the reasons that led to these divisions was the ignorance of 54.5% of the owners of land that these divisions are illegal [8].

2.1 Building Contraventions:
The urban legislation was adopted to ensure the QOL and respect for civil rights. Where urban law defines what can be built [9]. They described as building standards and operational tools for master plans, which non-conform to it causes a broad social, economic, physical and spatial impacts. This building, contraventions is defining as the non-compliance, disregard, disobedience, or breaking of civil laws [10]. Previous studies reported non-compliance with requirements of building standard in a global context (e.g., Lwaro&Mwasha,2010). Non-conform with, and enforcement of, codes, standard, and energy building regulation have registered in some countries (Ryghaug and Sorensen ,2009), especially in Africa, Latin America and Middle East (e.g., Fayaz and Kari, 2009 Lwaro and Mwasha, 2010). Also, Sabri et al., (2017) conclude that in Malaysian community poor compliance become a common phenomenon.

In the last four decades of the rapid urbanization, disaster risk increased dramatically because of unplanned increase of the built environment [11]. The main effects of building contraventions are the urban expansion, increasing unsafe buildings, expanding squatters and slums, destroying green landscapes and imbalances between vertical density and population density [12].

There are also many different terms used to define building violations in the countries of the world as shown in table 1.
Table 1. different terms of building contraventions

| Definition                  | Authors |
|-----------------------------|---------|
| Informal building           | [13]; [14]; [15]; [16]; [17]; [18]; [19]; [20] |
| Unauthorized Building       | [13]; [21]; [14]; [17]; [19] |
| Unlimited building          | [13]; [14] |
| Illegal building            | [13]; [14]; [16]; [18] |
| Rough building              | [13] |
| Building Without a building Permit | [16]; [18] |
| Unplanned building          | [13]; [16]; [19] |

The procedures of ignoring these building contraventions or accepting a fine for this violation or committing to remove or modify these violations are some of the methods used by the urban administration in some countries to deal with the violators of construction. The municipalities of Baghdad are responsible for monitoring the construction processes that take place inside the city, each municipality within the framework of its authority. However, despite these measures, building contraventions continue to be practiced in the city. So, the best effective way to deal with these contraventions is to respond to the underlying causes.

2.1.1 Floor Area Ratio Contravention:
The Floor Area Ratio (F.A.R) is one of the essential tools used in organizing or guiding urban development. It defines the percentage of human density that occupies an area or space or the rate of construction density in a residential area or a built-up area. They represent the area of the block or structure that is entirely built and explain the portion of the building area of the floor to the land area.

Therefore, the controls of violation of the floor area ratio defined as merely exceeding the permitted building density stipulated in the building laws and regulations for that area. Any change in the density of the building will have short-term impacts on society and the city physical structure by increasing the building density of the area beyond the permissible limit and thus increasing pressure on services and infrastructure [22].

Affects the social, cultural and environmental aspects of the decisions taken on the density of the building affect the QOL of the population in the local area. Moreover, it changes the comfort and accessibility of buildings as well as shading and traffic. In addition, non-compliance with laws and regulations relating to building density leads to imbalances in the distribution of population density, destruction of the spatial system and the city's main structure, destroying of gardens and green areas as sources and lungs to breathe the city and exacerbate the social and cultural problems of the inhabitants of residential neighborhoods.

The types of building violations mentioned in the literature on structural abuses, some of which lead to non-compliance with the building density laws, will be reviewed (Table 2).
Table 2. types of building contraventions in countries

| Types of building contraventions | Cities or countries where there are different types of structural violations | Building contraventions lead to disregard of the laws on F.A.R. |
|---------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------|
| Add floors or additions to the building illegally | Turkey [17], Tehran [23] | |
| The addition of building parts consists of (garage, stores, sheds, umbrellas, stores, etc.) | Belgrade [20], Tehran [23] | |
| Non-compliance with plot coverage ratio and occupancy rate | Abadan-Nigeria [21], Tehran [23] | |
| Change the building plan | Belgrade [20], Abadan-Nigeria [21], Tehran [23] | |
| Variation from the building line | Jakarta [24], Greek [16], Tehran [23] | |
| Building without a building permit | Turkey [17], South Africa [15], South Africa Desert [14], Mexico City (Aguilar, 2008) | |
| Informal exploitation of urban land | Abadan [21] | |
| Lack of basic facilities (kitchen, bathroom, utilities, etc.) | Belgrade [20], Abadan-Nigeria [21], San Paolo & Johannesburg [25] | |
| Change the use of the building | Belgrade [20], Abadan-Nigeria [21], San Paolo & Johannesburg [25] | |
| Building illegal housing | Belgrade [20], Abadan –Nigeria [21], Old Salat [13], San Paolo & Johannesburg [25] | |
| Poor ventilation, acoustic and thermal insulation | San Paolo & Johannesburg [25], South Africa desert [14], Jakarta [24] | |
| The informal subdivision of land as well as residential and commercial buildings | San Paolo & Johannesburg [25], South Africa desert [14], Jakarta [24] | |

In another statement, the addition of floors and illegal balconies to the building, and the construction of additional parts such as car garages, umbrellas, sheds, warehouses or outdoor bathrooms, etc., non-conform with the laws of coverage, occupancy, change the building plan, variation from the building line, and construction without a building permit, to maximize the floor area, which all will lead to a violation of the law of the floor area ratio FAR.

As urban planners attempt to change the laws on the size of the building area of the floor according to each location in the city and according to the characteristics of this site, the number of violations of the building area of the floor is related to spatial differences and urban structure.

3. Methods and Material:

The study used mixed methods to collect its data Figure1. First was the observation survey method, that the researcher walked through the neighborhood houses to collect the data about the types of building contraventions and the informal subdivision of residential land; also there was a questionnaire survey, that includes 17 questions, administered in July 2018. A total of 136 household surveys were collected from the neighborhood. Table 2 shows the characteristics of the neighborhood samples. This represents 48.5% of the total households in the neighborhood. A researcher went door to door collecting responses
over many of weeks. As a result, there was a 100% response rate. The third method was the interviews with the Al-Karkh municipality officers which they were: The Mayer, building permit department manager, Real Estate registration department manager, the Architect, civil engineer, and a 20 employee who are responsible for monitoring the built environment. The interview consists of 15 questions, the participants respond to a series of semi-structured, open-ended questions and conducted on September 2018, each lasting about an hour, were transcribed and audio-recorded. The notes of discussions were analyzed using the “Thematic analysis” style, to draw out similarities within the responses (Strauss and Corbin,1998). The survey for both the households and municipality officers done in Arabic language, due to the difficulties in the English Language.

3.1 Data analysis:
The process of data analyzing of the questioner, interviews, and observations are going through some steps which include (Data collection & management, Organizing & data preparing, Coding & data describing, classifying, categorizing, Connecting and data interrelating, Interpretation, originating explanatory accounts & providing meaning). Statistical analyses were conducted using SPSS 24.0.
Figure 1. Flow chart of the methods used in the study
4. Characteristics of the study area:
Baghdad has 15 municipalities. Each municipal takes the responsibility of some neighborhoods. These municipalities have a set of specific housing and population density standards for each neighborhood as well as a set of planning laws and design standards for residential units aimed at ensuring that residents of the area have a specific level of goodwill and well-being.

The study area located within the municipality of Al-Karkh, which is in charge of three neighborhoods (Al ‘Utayfiyah, Al-Harithiya, and Al-Kindi) (Figure 2). All the three neighborhoods have the same issues So that we choose Al ‘Utayfiyah neighborhood as a case study.

Figure 2. The three neighborhoods location (google maps)

Al ‘Utayfiyah is a residential area on the Al Karkh side, one of Baghdad’s high-end districts. It is the site where the Abbasid Caliph Abu Jaafar al-Mansur built his round city and formed the nucleus of modern Baghdad. Al ‘Utayfiyah is not the current center of the city but is adjacent to the center Figure 3. Surrounded by the Tigris River on both sides of the north and east. Al ‘Utayfiyah neighborhood is famous for its historic mosque, Bratha, which is one of the most important religious and social centers of the time.
The area divided into River Street with a width of 60 m with sidewalks, main streets with a diameter of 30 m with sidewalks, and secondary roads with a width of 15 m with sidewalks. As for the plots of land, the land parcels overlooking the River Street will be 1000 m$^2$. The corner parcels were between 500 m$^2$ - 600 m$^2$, while the parcels located within the secondary roads were 300 m$^2$ (15 m * 20 m). Houses start constructed in the region in the early 1950s by the owners of the land, not by the government. After Iraq war in 2003, The majority of the neighborhood houses experienced a demolishing and reconstruction, these new houses built under a lot of building contraventions and illegal subdivision of residential land led to in the increase in houses and population of the neighborhood. This was done regardless of the planned and specific density of the area and thus distorted the original plan of the city.

5. Results
5.1 Informal Subdivision of Residential Land:
Al ‘Utayfiyah neighborhood consists of approximately 280 plots of land with residential buildings. Through observation survey that done by the researcher that they walked through all the streets of the neighborhood, it noted that there was an informal subdivision of its land after the demolition of existing residential buildings without the authorities’ approval. These activities are widespread within the neighborhood, indicating the inability of the municipal authorities to stop them.

Table (4) shows the number of plots divided into two parts each, amounting to about 35 housing units, which makes the total number of plots 70 residential houses, most of them were two stories high that built on an area of 150 m$^2$. While the 22 parcels divided into three parts each, a total of 66 pieces, some of which were two stories high and the other section three stories high. It also noted that a group of these parcels that built on an area of 100 m$^2$ constructed to be apartment building consisted of three floors with an apartment in each floor. While the parcels with 600 m$^2$ some of them divided into four units and other to six units. Besides, the larger parcels, especially in the corner parcels, included Three-stories residential buildings and the fourth was covering half of the floor area only, which numbered about 14 buildings. As a result of these large numbers of informal subdivisions a severe problem has arisen concerning service, social, health, and other aspects.
Table 4. The illegal subdivision of land in the Al ‘Urayfiyah area in Baghdad

| Variables                  | Number of subdivided parcels | Numbers of houses on the subdivided parcels |
|----------------------------|------------------------------|--------------------------------------------|
| Parcels subdivided into 2  | 35                           | 70                                         |
| Parcels subdivided into 3  | 22                           | 66                                         |
| Total                      | 57                           | 136                                        |

Table 4 shows that about 20.3% of all the land in the area has been illegally or unofficially divided. 61.4% of the total number of pieces divided into two parts, while the proportion of 39.3% was divided into three parts, so the total number of divided parts was 57 contained about 136 housing units.

5.2 Types of Building Contraventions:
The observation survey used to collect information about types of building contraventions. The building is contravening if it violates the urban legislation and building regulations that are used to govern and control the urbanism, the actions of individuals and group. The legal framework that controls urban environment is (building & streets laws no. 44-year 1935, planning & designing standard March 1999, municipality law no. 165-year 1964, and Revolution Command Council dissolved No. 940 of 1988).

Types of building contraventions can be identified and not limited to: (Figures 4,5,6,7,8,9)
1- Deviation from building the line
2- Non-commitment to the front setback and side setback.
3 – Trespass the sidewalk when construction.
4 - Mutting main entrances and stairs on the sidewalks
5 - Construction does not commit to the height specified by legislation and controls
6- Contravene the F.A.R.
7- Non-compliance with plot coverage.
8- The difference between the constricted plan and the plan used for issuing a building permit.
9- Changing the use of the building.
10- Building without a permit.
11- Violate the use of the land.
12- The informal subdivision residential land.

Godwin K. et al. (2016) [7], determined forms of non-compliance: no building permit for new constructions, different between approved plans by authorities and implemented plans, non-compliance with structural & technical regulations, contravention utility standard, non-adherence with the space requirement, and building on forbidden places.

According to Aziz (2017), Possible causes of these contraventions are lack of awareness, ignorance of building regulations, financial profitability, stringent building regulations and the shortage of space.
Figure 4. Violation of height and the use from a single house to multi-story residential building.

Figure 5. Violation of the plot coverage, no parking spaces, F.A.R ration, and air conditions unit, resulting in distortion of the architectural appearance of the façade.
Figure 6. violation of the height limitation and the appearance of architectural façade

Figure 7. image shows empty plots without fences and rubbles
Figure 8. shows lack of esthetics in the neighborhood.

Figure 9. shows the difference between the plots size, the architectural details, material, and no parking spaces.

5.3 The Role of municipal departments in the informal land subdivision and the enforcement of Iraqi laws in force:
The results in this section revealed after interviews with the municipality stakeholders, The Mayer, head of departments, the architect, the civil engineer and group of employees. They were all about 25 people and the interview consist of 15 questions; it conducted in September 2018. The result shows that there are many obstacles faced the workers in the municipal departments, which would increase the crisis of informal subdivision of land; it includes:
1. The shortage of qualified workers from the government and the lack of training for building control officers contributed in lack of understanding the regulations [26]. Therefore, inadequate expertise is an obstacle to the proper enforcement of building regulations.

2. Old equipment and tools to monitor the changes that occur in the urban environment, which were limited to the field visit to the area, since the air monitoring system is not operational. This result emphasizes Godwin et al. (2016) [7] conclusion about planning system needs a new planning technique and tools such as geographical information system (GIS), manipulation, analysis, that would enhance the work of planning authorities.

3. The laws and legislation are strict: they must adhere to the application of some laws including (Road and Building Law No. 44 of 1935, the planning and designing control for the year 1999, and Resolution No. 940 of 1988). It does not allow any exception except the Secretariat of Baghdad or higher authorities. Kironde notes that the current building standard are inappropriate to regional conditions, strict and not flexible, and there are no tools to execute them [27]. therefore, the contradiction between laws and context conditions give rise to non-conform.

4. The weakness of the control authority: The employees of the municipal departments cannot stop any informal subdivision or building contraventions of an illegal building because of the lack of legal authority due to the situation in the country. Also, Samantha J. et. al. (2017) [28], for example, argues that in less fully-governed countries, it is the fulfillment of building regulations that is counted to be the big challenge. While Alnsour and Meaton (2009) [13] admonished that compliance with planning regulations reflect the capability of authorities to guide and control urban development.

5. Administrative corruption finds between the municipal departments and observers of the urban environment and others. Krimgold, 2011[11] Notes that building owners/developer may find it less expensive to bribe a regulatory official than to compliance to building regulations. That corruption leads to an illegal permit issued [28]. While Godwin et al. (2016) [7] suggest that the corruption need to stop, and the culprits should be punished to clear the system from wrong practices.

5.4 Factors that led to the subdivision of land:
Informal subdivisions of residential land were carried out in the Al ‘Utayfiyah area of Baghdad for many reasons. The study shows that there are two main reasons for this division: inheritance and economy (Table 5). The results revealed in a questionnaire that distributed to only 60 households of the total 136 households. The sample here was just the original owners of the residential land who was own it before the subdivision. A researcher went door to door gathering responses over 14 days. As, a result, the response rate was 100%.

| Reasons for informal land subdivision | Frequency | %  |
|-------------------------------------|-----------|----|
| Inheritance reasons                 | 15        | 25 |
| Economic reasons                    | 40        | 66.6 |
| Other reasons                       | 5         | 8.3 |
| Total                               | 60        | 100 |

The results indicate that 66.6% of respondents subdivided their plots for economic reasons. This subdivision came for either selling part of the land because they do not have the financial means to build the whole property. Through selling this part, they managed to build a modern private dwelling on the other part or to sell the entire piece and buy in another area. The profits generated by the sale were mostly very high. Also, 25% of the informal subdivision of land happened because of heredity. Whereas an Islamic society and according to Islamic Shariah system when the father dies, he inherits his sons and thus shares the property. While the other reasons count for 5% represented by the father cut part of the land to build a house to his children with him within the house and the other factor is to change the use from residential to commercial and from a single home to residential departments.
5.5 Effects of Informal Subdivisions of Residential Land and Building contraventions:
The built environment in Iraq is said to be deteriorating rapidly [29] due to urbanization, urban migration, low economic growth, insufficient infrastructure and more. In addition to other things, (Ahianba et al., 2008) all of that, in turn, affect the QOL through results found by questioning the residents about the problems that they suffer from due to the building contraventions and informal subdivisions.

1. Adequate infrastructure and public services: Subdivisions have led to poor clean water, electricity and narrow streets due to side street parking on both sides of the road and increasing pressure on electrical transformers. Which are no longer can handle this increase, as a result, led to its failure and therefore rely on private generators that cause Noise and pollution as well as fire.

2. Overcrowding: Since the number of houses resulting from the subdivision is higher than the number of dwellings initially planned, there is inadequate ventilation due to the small size of plots or homes and the disappearance of the garden space which contributed to the increase of pollution. All these things contribute to physical fatigue and also affect the productivity of the individual and reduce the age.

3. Poor sewage networks: due to the enormous pressure that is not designed to absorb it.

4. Insufficient parking: leading to the spread of side parking and on the sidewalks.

5. Inadequate play areas and public areas: Public squares and playgrounds have transformed into residential buildings.

6. Lack of aesthetics: the appearance of buildings in the residential areas because of the failure to apply the legislation on the type of allowed use and the height of construction and other specific leads to the loss of character of a neighborhood.

This study found that all the mentioned above have negatively affected the QOL of people settled in the neighborhood, as well as negative impacts on future government plans. Which include loss of control and relative power, disruption of master plans, incorrect distribution of land, urban contravention and the emergence of land use that lead to environmental degradation. Overall, it can summarize that informal development can have a significant social and health impact.

5.5.1 Lack of parking spaces:
Another result of the subdivision is the lack of parking spaces. According to the design plans, the owner of the house with a car is supposed to provide enough space to accommodate his car. Figure 10 shows the residents’ answers about where they parked their cars.

![Figure 10. Parking spaces for owners of the building built on illegally subdivided land](image)

Of the 122 people who owned cars, 22 of them stopped his car in his garage while 100 of them parked his car on the side of the street or the sidewalk. Side parking prevents access to the destination specified, in addition to the problem the owner of a garage suffered from getting their cars in /out from their garage. In the questioner, most of the violators respond that they park their vehicle on the sidewalk because they don’t leave a space for parking to maximize the use of land. Aziz (2017) [30] conclude that the main reasons for non-compliance with parking provision are profitability and lack of awareness.
5.5.2 Water and electricity supply:
Clean water and electricity provided through the pipeline by the government, which reflects the QOL in Baghdad. The results indicate that all resident (100%) who established a house without building permission on the informal land subdivision relied on the old pipe of the original land and then divided it to feed the new units. Others may dig the street for the purpose. This has caused not only an inadequate supply of water and power but also the failure of the water and electricity system to cope with this unplanned increase, as demand has exhausted the supply. We note the continuous interruption of electricity, as well as the large transformer fires supplied to the neighborhood due to increased pressure as the capacity of these transformers, could not stand in front of this increase. The quality of life in this neighborhood, which does not provide water and electricity for its inhabitants, is classified as low. Building contraventions and informal land subdivision are therefore trouble that can have a straight effect on the welfare of people living in this neighborhood.

6. Discussion:
6.1 Implications for Policy:
From the previous discussion, it may be noted that informal residential land subdivisions and building contraventions have negatively affected the lives of the people who lived in the neighborhood. Therefore, the following measures can be proposed to address or limit the continuation of the situation:

1. The planned effort by the municipality and people to eliminate these malpractices and these abuses of plans through effective campaigns and training to raise awareness. This result echoes the suggestion made by Wai Pan and Helen Garmston (2012) [26] that training is necessary for officials of the municipality to achieve a better understanding for the building regulations.

2. Review the decision of the Revolution Command Council dissolved No. 940 of 1988 and the set of planning and designing controls for the year 1999 to provide the possibility of adopting lower standards as a condition to produce the residential plots. And giving some flexibility to make the application of these laws possible and in line with the needs of the population.

3. Flexibility in the implementation of the rules of the land subdivision and building regulations where the municipal departments or competent authorities to develop design standards for residential sectors to accommodate the needs of the people who cannot build or afford larger pieces.

4. Simplifying the procedures of obtaining building permits and reducing the fees resulting from getting them.

5. Provision of new eligible areas and housing projects and the adoption of a funding mechanism as in many countries as well as plots of land for new families and graduates for housing.

6. Public participation with their own decisions and consultation in implementing the law. This result echo the conclusion made by Sabri et al. (2017), that back up the significance of improving public participation in enforcing the law.

6.2 Future Research:
1. building contraventions and its effect on the built environment and the aesthetics of the city.
2. studying the land regulations and how can be minimized for those who cannot afford larger parcels.
3. measuring the quality of life by investigating the satisfaction of households with the new land subdivision.

7. Conclusion:
Building contraventions and informal subdivision of residential land are standard practices in the city of Baghdad, Iraq, where two reasons for this phenomenon - the economy and inheritance - have been recorded in the study area. The impact on QOL concerning the presence of residents within the neighborhood more than what was planned to hold and thus emerged problems such as water shortages and inadequate electricity supply and sanitation, leading to dissatisfaction with the residents living situation.

It can conclude that the condition in Al ‘Utayfiyah neighborhood was the result of pressure extend by individuals who wanted to construct houses and settle in them but faced the challenge of declining purchasing power. This situation forced them to divide their space illegally into smaller parts, sell some
parts and use the money to build the remaining ones. They may also sell the entire piece to a group of people, each person creating his part, and so on. Which produced a residential role lacking ventilation, lighting and unhealthy due to the small area. All these conditions contributed to the lack of social and economic services regarding services that cannot afford the new increase. Also, the municipality should assure Flexibility in the implementation of the urban legislation; they should develop design standards for residential sectors to accommodate the necessarily of those who cannot build larger pieces.

References
[1] WHO 1997 WHOQOL: Measuring quality of life. Division of mental health and prevention of substance abuse, WHO [cited 30/9/2018]. Available from: www.who.int/mental health / media/68.pdf.
[2] Hafaza B A 2007 The quality of life of residents of urban low-cost flats in Klang and Sham Alam, Selangor, Malaysia PhD dissertation School of Social, Development and Environmental Studies, Universiti Kebangsaan Malaysia, Universiti Kebangsaan Malaysia.
[3] McGee T G 1971 The urbanization process in the Third World. G. Bell and Sons Ltd, London.
NBS (2009) National Bureau of Statistics of Nigeria: Social Statistics in Nigeria. Available from: http://www.nigerianstat.gov.ng/ext/latest_release/ssd09.pdf.
[4] United Nations 2007 The Millennium Development Goals report. United Nations, New York.
[5] UN-HABITAT 2007 Slum dwellers to double by 2030: Millennium Development Goal could fall short, background paper, 21st session of the UN-Habitat Governing Council, Nairobi, Kenya.
[6] Campbell E and Rosen N 2010 Iraq: humanitarian needs persist. Field Report, Refugees International Available from: www.refugeesinternational.org.
[7] Godwin A, Kenneth O, Nii K, Allotey and Ebenezer A. F 2016 Non-compliance with building permit regulations in Accra-Tema city region, Ghana; exploring the reason from the perspective of multiple stakeholders planning and theory practice.
[8] Ibrahim S S 2008 Informal subdivision of residential layouts in Kano (MEM thesis) Geography Department, Bayero University, Kano, Nigeria. in Isfahan, Modares Olum International 28 41–56.
[9] Sarkheyli E 2010 Barresie tasire sakhtare fazaei Tehran bar ruye voghue takhalofate sakhtemani (An exploration of influence of Tehran’s spatial structure on occurrence of building contraventions). Unpublished master’s thesis, Tarbiat Modares University, Tehran, Iran
[10] Behesthiravi M 1993 Assessing the Physical Effects of Building Contravention on Cities, case study: Tehran, Unpublished master's thesis, Tehran: Faculty of Fine Arts, the University of Tehran between building violation and earthquake vulnerability.
[11] Krimgold F 2011 Disaster risk reduction and the evolution of physical development regulation Environmental Hazards 10 53–58.
[12] ZangiAbadi A, Ghaedrahmati S, Mohammadi J and Safayi H 2010 Spatial analysis of interaction between building violation and earthquake vulnerability in Isfahan Modares Olum Ensani, Barnamerizi Va Amayeshe Faza 14 1-21.
[13] Alnsour J and Meaton, J 2009 Factors affecting compliance with residential standards in the city of Old Salt, Jordan Habitat International 33 301–309.
[14] Fekade W 2000 Deficits of formal urban land management and informal responses under rapid urban growth: An international perspective Habitat International 24 127–150.
[15] Huchzermeyer M 2004 From “contravention of laws” to “lack of rights”: Redefining the problem of informal settlements in South Africa Habitat International 28 333–347.
[16] Ioannidis Ch, Psaltis Ch and Potsiou Ch 2009 Towards a strategy for control of suburban informal buildings through automatic change detection. Computers Environment and Urban Systems 33 64–74.
[17] Kahraman S, Saati A and Misir S 2006 Effects of adding illegal storeys to structural systems Sâdhanâ 31 15–526.
[18] Kapoor M, and Blanc D 2008 Measuring risk on investment in informal (illegal) housing: Theory and evidence from Pune, India Regional Science and Urban Economics 38 311–329.

[19] Rukwaro R W 2009 The owner occupier democracy and violation of building bylaws.sakhtemani dar shahrdarie Tehran (Pathology of municipality of Tehran's)

[20] Zegarac Z 1999 Illegal construction in Belgrade and prospects for urban development planning Cities 16 365–370.

[21] Arimah C and Adeagbo D 2000 Compliance with urban development and planning regulations in Ibadan Nigeria Habitat International 24 279–294.

[22] Azizi M 2002 The Role of Building Density in Urban Development, Tehran, Iran: presented in The First Construction Seminar in Capital.

[23] Diargah architectural and urban planning consultant firm 2010 The revision and modification of the process of building contraventions' control in Tehran, Planning and architecture department of Tehran municipality, Tehran, Iran.

[24] Winayanti, L and Lang H 2004 Provision of urban services in an informal settlement: a case study of Kampung Penas Tanggul, Jakarta Habitat International 28 41-65.

[25] Few R, Gouveia N, Mathee T, Harpham A, Cohn A and Swart A 2004 Informal subdivision of residential and commercial buildings in Sao Paulo and Johannesburg: Living conditions and policy implications Habitat International 30 427-442.

[26] Wei P and Helen G 2012 Building regulations in energy efficiency: Compliance in England and Wales Energy Policy 45 494-605.

[27] Kironde L 1992 Received concepts and theories in African urbanization and management strategies: The struggle continues Urban Studies 29 1277–1292.

[28] Samantha J and Vishal V 2017 Compliance with building bylaws and earthquake safety in urban areas of Bihar: progress, constraints and challenges Enviromental Hazards 1314246.

[29] World Bank 2005 Global strategy and booster programme. Annual Review. World Bank, New York.

[30] Aziz 2018 Exminating the root causes of deficient building control and its nonconforming impact in Lahore journal of urbam planning and development 144.