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Urban Safety is a Tool for Containing Slums to Reach a Sustainable Urban Structure

Sara Mahmood Al-Jawari*, Fatima Muhammed Kadhim, Naseer Abdul Razak Albasri

Urban Planning Department, Faculty of Physical Planning, University of Kufa, Najaf 54001, Iraq

Corresponding Author Email: sarahm.hpetr@uokufa.edu.iq

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ABSTRACT

Many cities suffer from the large spread of slums, especially the cities of the Middle East. The purpose of the paper is to study the reality of informal housing in Al-Barrakia and the most important problems that it suffers from. The paper also seeks to study the presence or absence of a correlation between urban safety indicators and urban containment indicators as one of the methods of developing and planning cities. This can be achieved through sustainable urban management. The slums are a source of many urban problems that threaten the security and safety of the residents and represent a focus for the concentration of crimes and drugs. The paper seeks to answer the following question: How can urban safety be improved through urban containment indicators? The research uses the descriptive analytical method by presenting urban problems related to slums and the most important indicators of slum containment to improve urban safety. Several indicators of urban containment were identified and classified into (community, physical, social, economic, politics). Influencing urban security within the economic and social dimension, the analysis was adopted through questionnaire, observation and statistical method. The paper concluded that there is a high correlation between urban containment indicators and urban safety, as the coefficient of determination R reached 94%. This means that the urban containment indicators explained 94% of Urban safety, The remaining percentage was explained by other indicators that were out of the scope of the present paper.

1. INTRODUCTION

The right to adequate housing is a key objective of sustainable development and is central to providing stability and security for individuals. It is not just about having a home; it is about recognizing that it is a human right to live in security and peace, with access to all the essential services that should be available in every community. Official data from years ago indicates that Iraq has 4,000 slum compounds, with Baghdad, the capital, having the highest number of slums among the provinces. In Najaf Governorate, there are approximately 99 slums [1, 2].

Brown-Luthango et al. [3] argued in their study that people living in informal settlements are disproportionately affected by violence, poor health, and various other social and economic issues. These conditions are mostly related to the hazardous and unhealthy physical environments in which they live. In addition to being proposed as a strategy to improve the economic, social, and health outcomes for residents of informal settlements, interventions in the built environment through the provision of physical infrastructure have also been suggested as tools to address the unprecedented levels of violence and insecurity in many South African cities. In addition to being suggested as a strategy to improve the economic and social aspects. While there is a compelling argument for enhancing the living conditions of slum residents, there is still considerable debate and uncertainty about what exactly constitutes improvement, the most effective strategies for improvement, and the objectives and expected outcomes of improvement interventions. Through a comparison of three distinct upgrading projects, each employing a different method and approach, and their impact on the beneficiaries' perceptions of safety, this research aims to illuminate the complexity of upgrading interventions. The study results demonstrate the importance of providing a comprehensive range of basic services in addition to physical upgrades to improve living conditions, reduce vulnerabilities, and enhance the safety of residents in informal settlements. In addition to being suggested as a strategy to improve the economic and social aspects. However, for people's living conditions to actually improve, these initiatives must be supported by social and economic measures. However, research from all three sources indicates that improving interventions will have a diminished long-term impact and be less sustainable in an environment with limited opportunities to break the cycle of poverty, high unemployment, and inadequate education. This is because there are no targeted programs that address the structural factors contributing to and perpetuating high levels of crime and violence. The phenomenon of illegal housing has become particularly prevalent in Arab cities due to a variety of factors, including economic, political, demographic, and natural conditions. Population growth can be considered one of the most significant factors for this phenomenon. The rapid expansion of unplanned neighborhoods is often accompanied

by a lack of adequate services and high concentrations of poverty. The current average annual population increase in cities of developing countries is estimated at 64 million people, which equates to an average of 175,000 people per day. Half of this increase is due to natural population growth within these cities [4].

The increasing migration to cities and urban centers from rural areas is driven by various factors, including limited agricultural land, lack of job opportunities, inadequate health and medical services, and natural disasters such as river floods. Additionally, the centralization of cities in developing countries, with concentrated education and trade opportunities, as well as government ministries and departments, serves as a significant attraction for migrants. Unbalanced development, the lack of regional planning, and the neglect of rural areas in terms of increasing wages and improving services are among the primary reasons for migration from rural to urban areas. According to Al-Jawari [2], there is a failure to keep pace with the various planning stages and master plans to address the needs of urban expansion and emergency changes. Additionally, there is a lack of periodic review of plans and preparation of proposals, alternatives, or amendments to accommodate population growth and housing issues [5]. In Millward's 2005 study, the focus was on conducting an analysis of the strategic plans for six case-study cities. This paper offers a comparative assessment of the nature and impact of urban confinement policies in three nations. A conceptual model of strategic choices for urban containment is compared to recent development trends and current planning strategies. The rationales for confinement, geographic features of areas where growth is encouraged or discouraged, the overall availability of land for development, and policies regarding development densities are all prioritized.

The case studies demonstrate that in Britain and Japan, there are shorter time horizons and more restrictive development regulations compared to Canada. This results in more rigid control over the location, timing, and density of growth. To promote transit-oriented development, Canadian communities are aiming for higher population densities [6].

Rakauskas et al. [7] addressed the higher prevalence of road fatalities in rural areas compared to urban areas. This has been explained by several theories, including those related to road design, access to emergency medical services, and human factors. This study examined how the attitudes of rural drivers contribute to the higher likelihood of fatal crashes in rural areas. This study utilized a large-scale survey to examine disparities between rural and urban drivers in terms of self-reported risk-taking driving behaviors linked to fatal crashes and attitudes toward safety initiatives. The results indicated that drivers in rural areas are less aware of the risks involved in such behaviors, leading them to engage in riskier behavior, such as not wearing seat belts. The findings also revealed that seatbelt use and the frequency of drunk driving may be associated with vehicle type (such as pickup trucks versus passenger cars). Compared to urban drivers, rural drivers perceived government-sponsored traffic safety programs as less useful. This study provides insights into the role of human factors in fatal rural crashes and offers policy recommendations for developing safety initiatives that consider the psychological aspects unique to rural culture.

Desai [8] focused on the Sabarmati Riverfront Development Project, an urban mega-project in Ahmedabad. The project's inclusion politics are based on the "flexible governing" of the people who live in the informal settlements along the riverfront. Due to the state's flexibility, the project has been modified to further develop the riverfront, and has been officially portrayed as inclusive. However, social justice issues have received little attention over the past ten years and still need to be adequately addressed. By analyzing the planning initiative from the late 1990s through the initial steps of official resettlement a decade later, this dissertation investigates the politics of slum resettlement and inclusion. According to Minnery et al. [9], slum upgrading is often considered one of the most successful strategies for addressing urban poverty. However, the methods and effectiveness of slum upgrading plans vary significantly. This article provides a comparative analysis of slum upgrading experiences in Bandung, Indonesia. Vietnam's capital, Hanoi, and the Philippines' Quezon City. The task was accomplished using a modified version of the sustainable livelihoods framework, which adopted a leveled hierarchy approach to updating policies. The study highlighted the importance of tenure security (with varying definitions across case studies), the need to integrate sustainable economic activities into the upgrading process, the critical role of governance and institutions, and the contributions of the community and civil society.

It is worth noting that previous studies have addressed the issue of urban safety from various perspectives. In this study, we aim to explore the relationship between urban containment of slums and the key indicators that impact safety within these areas in a comprehensive way.

From the above, the research question can be formulated as follows:

How can urban containment positively impact the achievement of urban safety?

By identifying the gaps in previous literature.

Understanding the urban containment pattern is essential in city planning to promote urban sustainability, particularly in addressing slums and enhancing urban safety.

The relationship has not been statistically studied in previous literature and interpreted using a multiple linear regression model.

This study identified the intervention priorities for the case study based on the urban context it is affected by.

2. SLUMS AND URBAN SAFETY

We typically find that slums are populated by people with relatively low incomes and a modest standard of living. Most slums have been associated with the spread of crime due to the pervasive sense of social inequality, division, and urban exclusion, which create a suitable environment for criminals [10]. For instance, a study titled “Urban growth and its impact on shaping patterns of deviant behavior in society” concluded that 93.3% of criminal activities and health violations are attributed to slums in the city of Jeddah. This percentage is notably high, particularly when compared to planned areas, where such issues are nearly non-existent. The study also warned that slums are potential time bombs that may explode at any moment, leading to a segment of the teenage and young adult population becoming victims of drugs and crime (www.okaz.com.sa).

In addition, some slums serve as a haven for outlaws and drug traffickers, attracting individuals involved in social corruption and causing disturbances for the neighboring communities [11, 12].

Informal areas often experience environmental degradation. The environment is often unclean due to inadequate waste disposal methods, narrow and irregular transport roads, and a lack of sanitation and community services from health or educational institutions. This situation is reflected in the deterioration of public health and the spread of diseases [13]. Slums are characterized by a significant lack of social services, including social, administrative, educational, health, entertainment, and marketing institutions [14]. Additionally, poorly lit streets, sidewalks, and roads contribute to insecurity, especially at night. it is also characterized by its lack of connection to drinking water, sewage, and electricity networks. In urban areas, the infrastructure is deteriorating, and the buildings are densely packed with residential units constructed using basic materials [15]. Slums are known for their high population and housing densities, and the absence of green spaces. Serious social problems are also exacerbated, including the spread of unemployment, homelessness, the housing crisis, and increased pressure on public services to meet the needs of the residents. According to Patel and Shah [5], it is also a hotspot for the spread of diseases [16, 17].

The overall population density of the slums in Najaf was 0.56 people per square kilometer, as reported by the Ministry of Planning for the year 2018. The reason for this is the rise in population numbers due to an increase in births and immigration.

Critics may argue that the primary causes of crime and insecurity are not inherent to slums, but rather stem from societal inequalities and poverty [18]. Several other important factors to consider include the lack of social services, inadequate management, and political instability.

From the foregoing, we can derive the most important indicators affecting urban safety and its primary causes, as detailed in Table 1.

Table 1. The indicators of urban safety

Reasons	Urban Safety Indicators
Poverty Social inequality Sense of urban division and distancing	The existence of social problems such as crimes, drug addiction, theft, begging Insecurity
Uninhabitable environment	Dissatisfaction with the residential environment
Blurred pedestrian paths Poor Lane lighting Lack of green areas	Lack of social interaction
Poor access to water and electricity services Sanitation	Encroachment on public water network, electricity and sanitation services
Access to the transport network	Poor availability of public transport Poor construction condition of roads
Not good health Students are not enrolled in schools	Poor access to superstructure and infrastructure services
Low household income – high unemployment rate	Lack of job opportunities
Lack of participation in decision-making	Weak involvement of citizens in slum upgrading projects

3. URBAN CONTAINMENT FOR A SUSTAINABLE URBAN STRUCTURE

Urban confinement is a technique that helps communities The plan aims to meet urban development needs and support these objectives in a manner that safeguards public property, reduces financial strain, promotes equitable distribution of growth benefits, and enhances quality of life. Urban confinement focuses on investing in public infrastructure to achieve these objectives. Moreover, the land's intended uses and the planned manner of development will facilitate inhabitants' access to services. Metropolitan containment policies explicitly restrict land use development outside of a designated metropolitan area while encouraging development within the urban area, including in slums. This sets them apart from traditional methods of managing land use.

The primary goals of urban containment include the efficient provision of public utilities, preservation of agricultural land and forests, reduction of air, water, and land pollution, and enhancement of the quality of life through the creation of a unique urban atmosphere [19]. When these goals are effectively implemented, urban containment provides access to all urban destinations for residents throughout the regions. Mixed-use developments, such as shopping and employment centers, are located closer to residential areas and can be more easily accessed by both private and public transportation. Urban pollution can be reduced through compact development, and cultural centers and public spaces are well-coordinated to align with traffic patterns, making them more relevant to the lives of citizens.

Pedestrian paths, open spaces, and green areas should be designed to maximize social interaction and vitality [20]. The design of the urban environment also contributes to increased urban safety by preventing outsiders from entering residential areas [21].

Local participation is proving crucial in catalyzing partnerships that enable communities to address urgent needs within their regions. Participation can be transformed into a powerful tool for mobilizing low-income communities around land and urban planning challenges, as it is viewed as politically meaningful to them [22]. Laws and regulations also contribute to reducing abuses and securing land tenure. Reliance on local or national authorities to enforce these rights is essential for maintaining social stability [23-25].

Indicators of urban containment of slums can be summarized in Table 2.

It is important to note the role of technology and innovation in promoting urban containment and monitoring its outcomes.

Due to its ability to provide equal access to resources and information, technology is essential in addressing issues of equality and social justice. Information has become a source of power in the modern digital age, and technology can help bridge the knowledge gap across societies by democratizing access to knowledge. For instance, communities can access information about social services, employment prospects, educational opportunities, and healthcare facilities through internet platforms and databases. This helps to level the playing field for marginalized populations and empowers people who might find it difficult to access these resources [26]. Additionally, technology can help increase citizen involvement and engagement in urban planning projects, ensuring that all community members' perspectives are heard and taken into consideration. Urban planners and communities can collaborate in real time by using online platforms and mobile applications to solicit feedback and gather public input. Urban planning procedures can be more open and inclusive by leveraging technology, which will enable a variety of perspectives to influence decision-making. This can prevent certain communities from being marginalized and lead to

fairer outcomes [27].

Table 2. The indicators of urban containment

Dimensions			Urban Containment Indicators
1	community	1	Social integration through educational and training courses
		2	Increase social ties and reduce social inequality
2	Urban	3	Designing the urban environment to prevent the entry of intruders and strangers
		4	Finding open and green spaces
		5	Provide adequate lighting in the tracks to increase the sense of security
3	Social	6	Easy access to health and education services
		7	Access to the public transport network
		8	Achieve a good pedestrian environment
4	Economic	9	Creating job opportunities Reducing youth unemployment
		10	Providing affordable housing units
5	Institutional	11	Institutional empowerment Loans, subsidies and security of tenure
		12	Developing the capacity of workers to prepare and allocate projects
		13	Creating strict laws and regulations

Technology makes it possible to collect and analyze data on a scale that was previously unimaginable. Urban planners can gain valuable insights into the needs and challenges of different communities by using big data and analytics. This data-driven strategy can help identify areas of social injustice and inequality and provide information for making evidence-based decisions. Policymakers may be prompted to address gaps in affordable and efficient public transit access by analyzing commute times and traffic patterns [28].

Urban containment strategies reduce or exacerbate social inequality. For example, weak control over the housing market, land prices, and the lack of provision of housing units for low-income people can cause people to move to slums. Providing affordable housing and sufficient job opportunities reduces the increase in demand for housing.

Improving infrastructure services reduces the feeling of social marginalization of the population, and the participation of all segments of society in the planning decision-making process. In order to achieve successful containment policies, all policies that will improve the quality of life must be integrated.

4. METHODOLOGY

After reviewing and studying previous research, the research problem and hypothesis were developed to identify the knowledge gap that requires further investigation. It was observed that there is a lack of studies examining the relationship between urban security, urban containment, and slums in order to establish a sustainable spatial structure. The research aimed to explore this relationship using various indicators for urban security and urban containment. A questionnaire was designed for a random sample of 50 experts. Subsequently, the research questions' consistency will be assessed during the analysis using Cronbach's Alpha to ensure the validity of the study tool. Regression analysis will be conducted to formulate a multiple linear regression equation for the questionnaire results, aiming to investigate the relationship and impact of the sustainability dimensions of urban containment. These dimensions have been classified in each of the dimensions (societal, urban, social, economic, institutional) are symbolized by (X1, X2, X3, X4, X5) respectively, on the dependent variable (urban security), symbolized by the symbol Y. Therefore, the equation for multiple linear regression is as follows (Eq. (1)):

$$\boldsymbol{Y = a + b1x1 + b2X2 + b3x3 + b4X4 + b5X5} \quad (1)$$

where, a: constant value – b1 coefficient of the first independent variable – b2 coefficient of the second independent variable ... etc.

X1: First Independent Variable – X2 Second Independent Variable ... etc. Figure 1 illustrates the Methodology of the research.

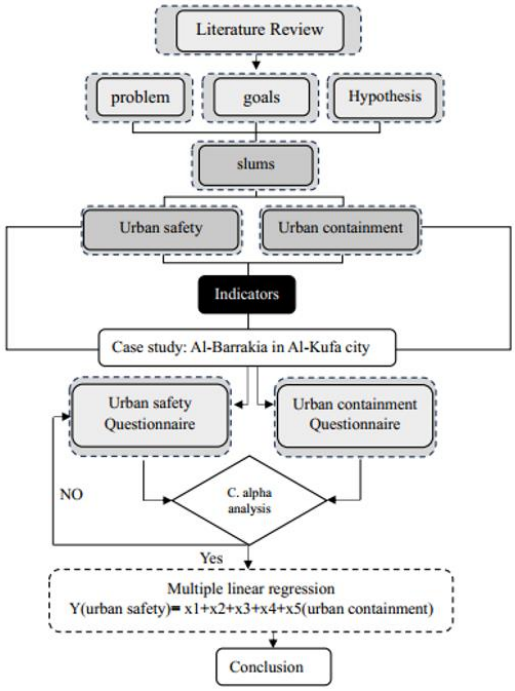

Figure 1. Methodology of the research

4.1 Study area: Barrakia slum

The area is situated in the city of Kufa, within the province of Najaf. Approximately 90% of the housing in this area is informal, and the province of Najaf is making efforts to designate it as one of the slums in need of development due to its significant impact on the city. This motivated the practical aspect of the research to study this area.

The area is situated in the southern part of the city of Kufa, as depicted in Figure 2. There has been a significant and rapid increase in informal housing, especially following the events of the Iraq war after 2003. This is due to the weakened law enforcement and the displacement of large numbers of citizens from other provinces to the city of Najaf.

Figure 3 illustrates the comparison of housing status before and after 2003, demonstrating the shift of the area from predominantly agricultural to mainly residential. Hypothesis testing in multiple linear regression:

1- There is no effect of the dimensions of the independent variables (urban containment) on the dependent variable (urban safety). H1: $M \neq 0$

2. The dimensions of the independent variable have an

effect on the dependent variable, where H0=M=0. The error level is 0.05, and the confidence level is 0.95, using the multiple linear regression model as shown in Eq. (1).

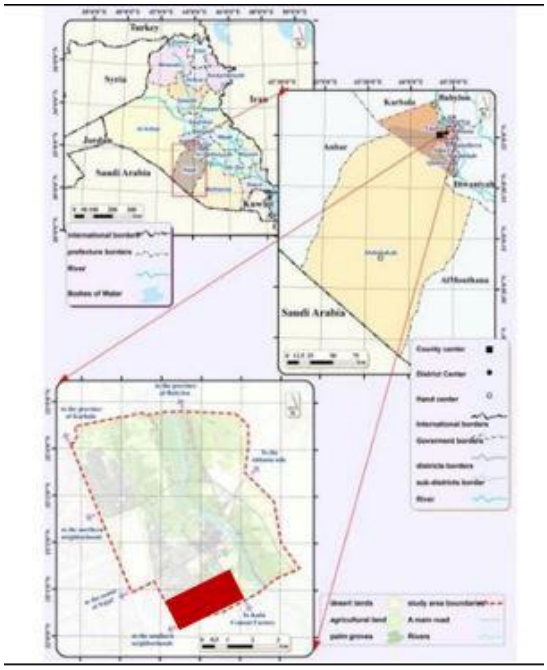

Figure 2. Location of Al-Barrakia slum from Kufa and Iraq

(A) Al-Barrakia in 2003

(B) Al-Barrakia in 2020

Figure 3. Al-Barrakia between 2003 & 2020 [29, 30]

The population in the area is approximately 150,000 to 200,000 people. According to the census of the selected area (due to the lack of data in state departments), there are about 25,000 housing units. The number of residents per household is high, ranging from 6 to 8 family members. The area has very few services compared to the high number of housing units, making it difficult to provide services to the residents without removing part of their homes.

For the purpose of studying urban safety indicators in the Brrakia area, 383 forms were prepared and distributed to a sample of residents, which is the optimal sample size for the community's population.

4.2 Study of urban safety indicators in the Barrakia AREA

Al-Barrakia lacks essential services such as healthcare, sanitation, environmental restoration, security, and basic amenities, including educational services. There are no schools at any level, contributing to widespread illiteracy among its children. A report from the Iraqi Ministry of Health, issued by the Communicable Diseases and Epidemiology Surveillance Department, highlights the prevalence of diseases in the majority of slums, which are often located near areas designated for waste disposal. Providing services is challenging for several reasons, including the informal nature of the housing and potential government denial of its existence. Political instability has also led to the disruption of essential services. this has posed a challenge for local governments in providing assistance to those in need and maintaining the provision of basic services. The most significant reasons include a lack of funding. Local governments often do not have the necessary funding to provide basic services, leading to a shortage of resources and infrastructure, as well as weak coordination, planning, and implementation. Sustainability involves prioritizing the provision of essential services for all slum residents, particularly infrastructure services, both now and in the future. This is especially crucial given the limited funding available for developing policies and programs that ensure a high quality of life for citizens. The development goals and sustainable development goals call for ensuring access to sustainable services and adopting quick, long-term solutions. One of the most significant challenges for sustainability is the scarcity of essential services like water and sanitation, as well as limited access to safe transportation services, coupled with high levels of poverty. The problem here is not only the access to the service but also its efficiency. The constant demand creates additional pressure on resources, which is exacerbated by the weak response of the responsible authorities in addressing these needs. Consequently, neglecting slums leads to numerous problems in terms of urban safety, as indicated by numerous studies in this field. The concept of sustainability is inseparable from the economic, social, and cultural rights of individuals, as well as human rights related to participation and empowerment.

4.3 Successful case studies

There are no unified urban containment tools for cities, as they may differ to stop the economic, social and physical deterioration of urban areas and move towards sustainable development that includes everyone in their cities.

Singapore: Redevelopment of poor and dilapidated urban areas through partnership with the private sector [31].

City of Santiago (Chile): Use of national housing support

for reconstruction.

Seoul city: The population of slums has become more than twice the city's general average. Seoul launched the Revitalization Project to redevelop an 18-lane overpass highway into a modern path with a total of 16.3 hectares of green public space [32].

Jordan: Owning land for residents, developing housing, and providing infrastructure

This part will be studied urban safety indicators in AL-Barakia, some of the data was obtained through a questionnaire of the reality of the study area, some of them through interviews with people working in the municipality of Kufa and the Directorate of Urban Planning, and some during the field study and observation, and pictures of the area were also taken, and this was difficult for researchers due to the deterioration of the security situation [33].

1. Social problems:

The study field indicates that there are several crimes spread in Al-Barrakia. This is because it is one of the most frequent areas of drug addiction. Most of the crimes that have been recorded were answered by 60% refers to theft crimes, 35% of them indicated that they are crimes resulting from quarrels with hands with different weapons. 5% were exposed to crimes whose cause is not yet known.

2. Sense of security:

80% of the respondents indicated that they do not feel safe in their homes, not even when they go shopping, and 10% of the sample agree in an average way with a weak sense of security and 10% find that they do not care about it, and we note that these 10% were within the units that live closer to the main street and the neighboring official area.

3. Satisfaction with the residential environment:

76% of the sample indicated dissatisfaction with the general residential environment, citing issues such as unkempt houses, a lack of green areas, poor sanitation, and accessibility problems. They also reported high crime rates, a disintegrated community, social isolation, and restricted access to healthcare and education as part of the social environment. The state of the economy was also a concern, with mentions of destitution, unemployment, and a lack of job opportunities. Some families do not have sufficient income to support themselves and are forced to beg in nearby areas. The field study revealed poor structural conditions of buildings and the widespread presence of waste, as depicted in Figure 4 and Figure 5. In contrast, 24% of the sample indicated moderate satisfaction.

4. Social interaction:

Through the field visit, we noticed the absence of any of the positive urban components, the absence of green areas and spaces that encourage social communication and children playing in the yards near their homes. Moreover, there is a lack of enrollment in school, especially primary school students due to the distance of schools from their areas of residence.

5. Infringement on infrastructure services:

It is worth noting that the majority of the residences have resolved their infrastructure needs through self-reliance, bypassing the neighboring areas' infrastructure services. They have provided their own electrical energy, as depicted in Figure 6, and do not have access to the sewage network. Instead, they have implemented temporary solutions using containers. Additionally, they have bypassed the drinking water networks from neighboring areas.

Neighboring residents are disturbed by these behaviors because they experience inadequate services in general, as a result of pressure from offenders. Additionally, they feel fear and discomfort due to the presence of informal housing in their vicinity.

Figure 4. The spread of waste in the Barrakia area

Figure 5. The deteriorating state of the housing construction in the Barrakia area

Figure 6. Infringement of infrastructure in the Barrakia

6. Access to transport networks and the construction status of roads:

We noticed that there are no lines for the public transport network, but there are some residential units whose owners' own vehicles (taxis) for work and some of them are personal transport (Figure 7). There are no regular streets neither straightening nor in the construction situation (Figure 8).

Figure 7. Personal transport cars in Al-Barrakia

Figure 8. Streets in Al-Barrakia

7. Employment:

The percentage indicates that 53% of the sample size owns a job, of which 25% work in government departments, 27% work on daily wages according to the availability of the opportunity to work as construction workers, and 20% do not have any job opportunity.

8. Involving citizens in slum upgrading projects

The study field showed and by people working in government departments that the area of Al-Barrakia was chosen from among the slums that will be developed after its population exceeded 25 thousand people. The people demand to improve their service reality through demonstrations and appeals, but when the residents were asked about their involvement in development projects, 80% of the sample answered that no one involved them in the Al-Barrakia development project, and no one from officials heard from them about what their needs and requests are. 20% are not even aware of the inclusion of their area in the development project.

After studying the reality of the situation of the Barrakia area, we will study the relationship between it and the indicators of urban containment of slums, the results of the questionnaires for the study area and the questionnaire of specialists, we will investigate the validity of the study tool through the analysis of Alpha Cronbach and then the analysis Correlation analysis of the variables under study using multiple linear regression to reach conclusions and recommendations

4.4 Validity and stability of the measurement tool for the study

Content truthfulness or apparent truthfulness (Validity): In order to confirm that the study tool's content is valid and that it fulfills the study's objectives, it was given to a group of arbitrators with expertise in sustainability. They were asked to review the tool and provide feedback on its suitability for the indicator given the content, as well as whether it was adequate in terms of the number of paragraphs, comprehensiveness, diversity of content, and output, as well as any appropriate comments about amendment, change, or deletion in accordance with the arbitrator's opinion when the (Stability) the Cronbach's alpha coefficient (stability coefficient Alpha Cronbach's) was measured, which is used to know the internal consistency whose value ranges between (0-1) and the value is statistically acceptable when it is 60% and more This means that reusing the tool under the same conditions will lead to the same results, and the results were as in the Table 3.

Table 3. the results of Alpha Cronbach's analysis

Sustainability Dimension's	Validity a	Reliability $\sqrt{\propto}$	The Number of Phrase Groups
Community	0.685	0.849	2
Physical	0.791	0.749	3
Social	0.702	0.802	3
Economic	0.723	0.829	2
Institutional	0.695	0.891	3
Total	**0.7192**	0.824	13

It is clear from Table 3 that the value of the Cronbach alpha coefficient for the questionnaire items was (0.72) and this indicates that there is a high internal consistency of the questionnaire items, which is statistically acceptable and confirms the stability of the measurement tool and the possibility of its application.

For the purpose of arranging paragraphs on the basis of their importance in terms of the least coefficient of difference, we note that the respondents correspond to the economic and social axis.

4.5 Discussion of results

The Table 4 represents the statistical analysis of the questionnaire (Mean, Standard deviation, ratio of answers, T test, sample orientation) for the answers. Through the table, we note that question No. (9), which is (finding job opportunities to reduce youth unemployment), which is dependent on the economic dimension, and according to the responses of the respondents, they were completely in agreement with 99.5% Creating job opportunities for slum dwellers would work on Improving urban safety with an arithmetic mean equal to 4.64 and a standard deviation of 0.63, which was confirmed by the T test that there is statistical significance in the respondents' responses, Ensuring a decent living includes access to services such as housing, transportation, health care, and education.

Table 4. Questionnaire analyses of indicators of urban containment

Question Rank	Sample Orientation	T Test	Ratio	Standard Deviation	Mean	St. Disagree	Disagree	Neutral	Agree	Strongly Agree	No.
1	strongly agree	18.4044	92.8	0.63	4.64	0	0	4	10	36	9
2	strongly agree	10.8407	87.6	0.9	4.38	0	3	5	12	30	2
3	agree	3.85636	75.6	1.43	3.78	8	0	9	11	22	1
4	agree	4.30828	75.6	1.28	3.78	3	9	2	18	18	10
5	agree	3.45871	73.6	1.39	3.68	6	5	7	13	19	3
6	agree	3.27884	72.8	1.38	3.64	5	7	8	11	19	11
7	agree	2.13744	70.4	1.72	3.52	9	12	0	2	27	5
8	agree	0.41	68.23	1.09	3.41	3	9	2	18	18	6
9	neutral	0.33	67.79	1.75	3.39	6	5	7	13	19	13
10	neutral	0.29	67.17	1.59	3.36	5	7	8	11	19	4
11	neutral	0	60	1.28	3	6	13	15	7	9	7
12	disagree	-3.3037	50	1.07	2.5	9	18	14	7	2	8
13	disagree	-2.7867	49.2	1.37	2.46	14	19	3	8	6	12

Table 5. SPSS correlation calculation table

Model Summary				
Model	**R**	**R2**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.961[a]	.941	.923	3.020

a. Predictors: (Constant), community, physical, social, Economic, Politics
b. Dependent Variable: urban safety

Table 6. Multiple linear regression results

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	15.507	6.580		2.347	.025
community	1.256	.870	.093	1.343	.158
physical	1.847	1.387	.124	1.330	.192
social	.815	.747	.049	1.081	.283
Economic	3.889	1.912	.270	2.044	.050
Institutional	-6.201	1.420	-.536	-4.366	<.001

a. Dependent Variable: urban safety

Hence, urban safety relates to family conditions, which are reflected as responses to the urban structure. Therefore, responsible authorities must focus more on improving the economic conditions of residents, which leads to improving the quality of life. Therefore, we find that it is ranked first according to the answer ranks of the requirements, which is reflected in improving per capita income. followed by the importance of the need to reduce social inequality and increase social ties, while most respondents find that the weakest indicators for urban safety is to achieve a good pedestrian environment and develop the capabilities of workers to prepare and allocate projects other indicators cited are more important for urban safety.

To determine the correlation of the five dimensions that have been derived in urban containment and its impact on urban safety, the analysis will be done by correlation coefficients and coefficient of determination using the statistical analysis program (SPSS v.29).

To extract the coefficients of independent variables (urban containment variables) on the independent variable (urban safety) through multiple linear regression analysis, the results were as in Table 6.

We note the value of the coefficient of determination (0.941) in Table 5. SPSS correlation calculation, meaning that the dimensions that were extracted were able to interpret by (94.1%) of the possibility of achieving urban safety, while the remaining percentage is explained by other indicators not included in the research. To confirm the response of the dimensions of urban inclusion to the impact on the level of urban safety, the value of t=2.357, which is greater than the tabular value of 2.000, in statistical terms of 0.001, which is less than 0.05, can be seen from the observation value of f The calculated is (5.216), which is greater than its tabular value (3.232) with a level of statistical significance (Sig=0.006), which is less than (0.05), which means that the multiple regression model is a statistically significant model with a significance level of (0.006) and this confirms the existence of the effect of independent variables on the dependent variable.

5. CONCLUSION

Mechanisms for enhancing the Al-Barrakia environment and urban safety improvement:

- Comprehensive development involves correcting the land ownership situation and providing necessary funding for housing improvement and reconstruction operations. It also includes improving environmental conditions by upgrading water, sewerage, electricity, and road infrastructure, as well as providing social services.
- Implementing housing projects for low-income individuals within urban areas and promoting cooperative housing initiatives. This includes allocating habitable land for those with limited income and enhancing municipal oversight in construction legislation to effectively reduce unauthorized building construction and lax regulatory requirements. It is

imperative to enforce legal regulations. To protect the lands from further random encroachments.

- Establishing the essential urban factors for horizontal expansion in these areas enables increased construction intensity and reduces random expansion. Additionally, obtaining percentages of land suitable for development, particularly in strategic locations for investment exploitation, provides incentives to encourage private sector involvement in development.

- We aim to increase the number of organized plans and develop a comprehensive planning vision that will lead to a rise in population and building density in the region. This will also result in an increase in the provision of services and facilities, although it may be challenging to secure them. The ultimate goal is to eliminate slum areas in the city and ensure they keep pace with the urban development it is currently experiencing.

The concept of urban containment is one of the important concepts that support the urban structure, its safety and sustainability, especially those that live an insecure quality of life socially and in services. Urban security can be achieved by trying to improve the economic environment of slums by creating job opportunities and eliminating unemployment, especially youth unemployment, and the better it gets. The social environment and integrating slum dwellers with the existing urban environment and reducing their sense of social exclusion and exclusion through the provision of health and educational services and infrastructure networks and accommodating the community's need and requirements whenever this has a positive impact on urban security in general and this is what reduces crimes and non-enrollment in school and encroachment on the services of neighboring areas and then After a stage of improving income, providing job opportunities, services of the region and linking it to the public transport network, the stage of work to revive the region and its vitality can come. However, these difficulties can be overcome if serious work is done by the government to improve the housing situation in general and help needy families with financing or provide loans to help them own a housing unit. community by income level. The research recommends that slum development projects and their relationship to reducing crime be studied.

REFERENCES

[1] Al-Mosawy, S.K., Al-Jawari, S.M., Al-Yassri, I.J. (2021). Estimation of domestic urban electricity consumption: A case study of Baghdad, Iraq. Periodicals of Engineering and Natural Sciences, 9(2): 678-683. http://doi.org/10.21533/pen.v9i2.1869

[2] Al-Jawari, S.M. (2020). Study for the informal settlement supposed to be distributed by the Iraq government for poor people in Baghdad city-republic of Iraq. In IOP Conference Series: Earth and Environmental Science, 459(6): 062107. http://doi.org/10.1088/1755-1315/459/6/062107

[3] Brown-Luthango, M., Reyes, E., Gubevu, M. (2017). Informal settlement upgrading and safety: Experiences from Cape Town, South Africa. Journal of Housing and the Built Environment, 32: 471-493. https://doi.org/10.1007/s10901-016-9523-4

[4] Chege, F., Maina, L., Mitchell, C., Rothman, M. (2014). A safe house? Girls' drawings on safety and security in slums in and around Nairobi. Girlhood Studies, 7(2): 130-135. https://doi.org/10.3167/ghs.2014.070209

[5] Patel, A., Shah, P. (2021). Rethinking slums, cities, and urban planning: Lessons from the COVID-19 pandemic. Cities & Health, 5(sup1): S145-S147. https://doi.org/10.1080/23748834.2020.1790252

[6] Millward, H. (2006). Urban containment strategies: A case-study appraisal of plans and policies in Japanese, British, and Canadian cities. Land Use Policy, 23(4): 473-485. https://doi.org/10.1016/j.landusepol.2005.02.004

[7] Rakauskas, M.E., Ward, N.J., Gerberich, S.G. (2009). Identification of differences between rural and urban safety cultures. Accident Analysis & Prevention, 41(5): 931-937. https://doi.org/10.1016/j.aap.2009.05.008

[8] Desai, R. (2012). Governing the urban poor: Riverfront development, slum resettlement and the politics of inclusion in Ahmedabad. Economic and Political Weekly, 47(2): 49-56. https://www.jstor.org/stable/23065609.

[9] Minnery, J., Argo, T., Winarso, H., Hau, D., Veneracion, C. C., Forbes, D., Childs, I. (2013). Slum upgrading and urban governance: Case studies in three South East Asian cities. Habitat International, 39: 162-169. https://doi.org/10.1016/j.habitatint.2012.12.002

[10] Felbab-Brown, V. (2011). Bringing the State to the Slum: Confronting organized crime and urban violence in Latin America. Brookings Institution, December.

[11] Zembroski, D. (2011). Sociological theories of crime and delinquency. Journal of Human Behavior in the Social Environment, 21(3): 240-254. https://doi.org/10.1080/10911359.2011.564553

[12] Al-Jawari, S.M., Al-Mosawy, S.K., Al-Jabari, A.A., Al-Baghdadi, A.N. (2020). Strategic analysis of new cities (Case Study Basmaya City-Republic of Iraq) an analytical study of strength, Weakness, Opportunity, and Threat. IOP Conference Series: Earth and Environmental Science, 459(6): 062108. https://doi.org/10.1088/1755-1315/459/6/062108

[13] Nguyen, T.T., Grote, U., Neubacher, F., Do, M.H., Paudel, G.P. (2023). Security risks from climate change and environmental degradation: Implications for sustainable land use transformation in the Global South. Current Opinion in Environmental Sustainability, 63: 101322. https://doi.org/10.1016/j.cosust.2023.101322

[14] Isunju, J.B., Schwartz, K., Schouten, M.A., Johnson, W. P., van Dijk, M.P. (2011). Socio-economic aspects of improved sanitation in slums: A review. Public Health, 125(6): 368-376. https://doi.org/10.1016/j.puhe.2011.03.008

[15] Mahabir, R., Crooks, A., Croitoru, A., Agouris, P. (2016). The study of slums as social and physical constructs: Challenges and emerging research opportunities. Regional Studies, Regional Science, 3(1): 399-419. https://doi.org/10.1080/21681376.2016.1229130

[16] Gupta, I., Guin, P. (2015). Health status and access to health services in Indian slums. Health, 7(2): 245. https://doi.org/10.4236/health.2015.72029

[17] Razak Hasach Albasri, N.A., Shakir, H.S., Al-Jawari, S.M. (2023). Monitoring and prediction functional change of land uses toward urban sustainability. International Journal of Sustainable Development & Planning, 18(7): 2015-2023. https://doi.org/10.18280/ijsdp.180703

[18] Sugiharti, L., Purwono, R., Esquivias, M.A., Rohmawati,

H. (2023). The nexus between crime rates, poverty, and income inequality: A case study of Indonesia. Economies, 11(2): 62. https://doi.org/10.3390/economies11020062

[19] Torres, I. (2012). Branding slums: A community-driven strategy for urban inclusion in Rio de Janeiro. Journal of Place Management and Development, 5(3): 198-211. https://doi.org/10.1108/17538331211269611

[20] Stoker, P., Garfinkel-Castro, A., Khayesi, M., Odero, W., Mwangi, M.N., Peden, M., Ewing, R. (2015). Pedestrian safety and the built environment: A review of the risk factors. Journal of Planning Literature, 30(4): 377-392. https://doi.org/10.1177/0885412215595438

[21] Moffait, R.E. (1983). Crime prevention through environmental design—A management perspective. Canadian Journal of Criminology, 25(1): 19-31. https://doi.org/10.3138/cjcrim.25.1.19

[22] Falco, E., Zambrano-Verratti, J., Kleinhans, R. (2019). Web-based participatory mapping in informal settlements: The slums of Caracas, Venezuela. Habitat International, 94: 102038. https://doi.org/10.1016/j.habitatint.2019.102038

[23] Nakamura, S. (2016). Revealing invisible rules in slums: The nexus between perceived tenure security and housing investment. Habitat International, 53: 151-162.

[24] Abelson, P. (1996). Evaluation of slum improvements: Case study in Visakhapatnam, India. Cities, 13(2): 97-108. https://doi.org/10.1016/0264-2751(95)00129-8

[25] Bartik, T.J. (1994). Jobs, productivity, and local economic development: What implications does economic research have for the role of government? National Tax Journal, 47(4): 847-861. https://doi.org/10.1086/NTJ41789113

[26] Eneqvist, E., Karvonen, A. (2021). Experimental governance and urban planning futures: Five strategic functions for municipalities in local innovation. Urban Planning, 6(1): 183-194. https://doi.org/10.17645/up.v6i1.3396

[27] Khudhur, D.H.A., Al-Jawari, S.M. (2023). Empowerment and its impact on affordable housing sustainable planning: A case study of Al-Sultan housing complex in Al-Najaf. In AIP Conference Proceedings, 2776(1): 060001. https://doi.org/10.1063/5.0135982

[28] Goi, C.L. (2017). The impact of technological innovation on building a sustainable city. International Journal of Quality Innovation, 3: 1-13. https://doi.org/10.1186/s40887-017-0014-9

[29] Jedi, Z.A.J., Al-Jawari, S.M. (2023). Prediction of formal transformations in city structure (Kufa as a Model) based on the cellular automation model and Markov chains. International Journal of Sustainable Development & Planning, 18(5): 1417-1424. https://doi.org/10.18280/ijsdp.180512

[30] Jedi, Z.A.J., Al-Jawari, S.M. (2023). Analysing formal transformations in sustainable urban structures in Kufa City, Iraq. Environmental & Socio-economic Studies, 11(2): 52-63. 10.2478/environ-2023-0011

[31] Fainstein, S.S. (2021). State domination in Singapore's public–private partnerships. Journal of Urban Affairs, 43(2): 270-287. https://doi.org/10.1080/07352166.2017.1406787

[32] Huynh, D. (2020). Seoul. In: Making Megacities in Asia. SpringerBriefs in Regional Science. Springer, Singapore. https://doi.org/10.1007/978-981-15-0660-4_2

[33] Al-Jawari, S.M. (2020). Regional development prospects for sustainable urbanization. Case Study--Qalaat Salih in Iraq. Journal of Settlements & Spatial Planning, 11(2): 57. https://doi.org/10.24193/JSSP.2020.2.01