Crisis of Upgrading Poor Urban Environment; Urban Development Projects of Sustaining Communities Ecological Urban Space

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Abstract: A society in crisis presents both a challenge and an opportunity, that’s why the sustainability of communities finds itself today forced to represents an integral challenge to the economy, the institutions, and the values of its society. At the same time, it provides an opportunity for changing structures that no longer work particularly for the needs of the most excluded and poorest who are often marginalized. Another manifestation of crisis is the emergence of desolated urban built environment, a phenomenon linked to a breakdown in ingredients of life as well as rules of human, social behaviors. This research aims to clear out the causes of the Deterioration in the physical urban environment of the city, and present the experiment of the development of the City of Baghdad to some local communities as a way of achieving upgrading urban built environment to these local communities with a view to sustaining socially. In order to create sustaining communities, the solution lies in the uses of the participatory urban appraisal methodology, Finally, the research has attain conclusion that; Since urban development has always been a key aspect of local community cooperation to achieve Qualitative upgrading, the urban appraisal methodology for completion upgrading urban built environment for sustaining community should diagnose the variables of many aspects: political, economical, social, technological, and ecological and taking them into consideration in the development urban projects to show a model capable to repeat in futuristic projects.

1. Introduction
Now a day, the Sustainable Development has become a priority in public and private sectors so could maintain social quality and support economic development that could preserve the environment. Social sustainability precisely has become the most important element in the development of any poor urban environment through the interaction between the sustainability of social capital and elements of urban and built environment. This research explores the meaning of sustainable development and its implications for communities and urban environment, and it conclude a strategically thinking to develop capital framework for sustainable community development. From there we explore the concept of community capital “Socially and Economically” as a frame work for making sustainable development real in our communities as we will find in a small community in poor residential environment in Baghdad, and put it as a methodical approach to evaluating and creating development project tools to support city sustainability objectives.
Research Problem: it’s clear to the research, that there is a problem required to study, represented by: “There is a need to understand and extract the aspects of upgrading the poor urban built environment in a trying to create a sustainable society.”

Research Hypothesis: the search made a hypothesis to solve the problem at hand, represented by: “achieved upgrading poor urban built environment within the sustainability of social capital requires to follow the strategy of retaining ownership of the land.

Using the history of urban development in Al-Karkh region of Baghdad at the West Bank of the Tigris River, one of the oldest neighborhoods in the city as a reference point, a key element of the planning process is to engage local citizens and groups with low-income communities who are generally left out of community discussion on sustainability issues.

Even though, there are many indicators for evaluating sustainable development in urban projects, still, there is a need for some norms and a model for decision makers to make good quantification of sustainable development. The main targets of this research are to develop: (1) a set of metrics and a model for evaluating sustainable development in urban neighborhoods, (2) a decision tool works as prototype to support model which could facilitate the applications of the developed area by decision-makers. As an example for these applications, the research analyzed a developed model to illustrate the capabilities of the decision support tool in quantifying sustainable development performances in residential neighborhoods with different elements of social sustainability in contemporary urban environment.

2. Cognitive Framework

2.1. Crisis causes
So far, the same crisis of late 20th century pervade into the early 21th century, this is what was called to the need to regulate these urban poor and the urban environment crisis in most neighborhoods of the city of Baghdad. Jurgen Habermas provides a useful taxonomy of systemic crisis comprising a fourfold classification of: Economic crisis, Rationality crisis, Legitimating crisis, and Motivation crisis. [1]. Causes of the crises of Urban deteriorated environment can be interpreted as the inability of the governments on long term, to properly manage and regulate the economic system. This economic depression demand phenomenon of “rationalizing the crisis “, the lack of practicing this phenomenon causes a breakdown of rational administrative which is necessary to maintain the economy. This breakdown characterized in the level public support performance and trust on existing institutions.

Legitimating crises and motivation crises lie in the essence of the socio-cultural realm, the realm of “values, traditions, and norms of society”, and the boundaries may shift depending on the nature of crises during a given period. Iraq has had one of the most severe legacy of the Persian Gulf War on Iraq, and enduring sanctions imposed on it for more than a decade, and that a rise economic sclerosis arising out of the sanctions, and that create wide range of problems confronting the people of Iraq, and is still the city of Baghdad, “being the capital of the State of Iraq” suffering from excited bad political circumstances and terrorism and unstable economic situation of the country. in post-WWII Iraq faced theoretical and empirical questions about the ruptures and continuities of Baghdad’s urban and political history, using the built environment of the city as a canvas for understanding struggles over Iraq’s position in a global context shaped by ongoing war tensions (from the Cold War to the Gulf War and beyond) to more recent Middle East conflicts. Focused on the relationship between war and urbanism, a theme that will reemerge comparatively and historically in subsequent day’s panels which focus on a range of theoretical, historical, and practical dilemmas facing Baghdad as a city mostly including of poor built urban environment for the residential districts.

2.2. Community level social institutions, perverse social capital
To clarify how the term “Social Capital” could contribute to contemporary policy development in sustainable environment, it’s necessary to define the concept and ideas related with; so that as Robinson
mentioned, Putnam uses the concept of Social Capital to refer to “networks of repeated social interaction which reinforce social norms, especially trust” [3]. For that, Crampton suggests; “Social capital may be defined as the social connections and the attendant norms and trust that enable participants to act together more effectively to pursue shared objectives. It is chiefly a characteristic of societies rather than individuals”. According to Reid, “It exists within the social space between families, firms and governments that is (civil society)”. There are three basic elements: Trust, and Networks and share with deliberative governance. [4]. Countries in crisis rarely experience economic growth and development and this challenge put the social capital in a very important role in development processes, those processes should deal with the consequences of social conflict which erodes trust and social cohesion.

The research concludes that the sustaining of Social Identity of any community is the most important aspect of perverting social capital, Social Identity always subject to change from two sources: the Internal Culture of the society, and Foreign Culture. The architecture as a visible product to the culture of the community and attended subject to permanent change, and this change is a binary source: the first is the internal culture of the society with mechanisms of influence are deeply and directly on the local architecture, and the second is a foreign culture with mechanisms appear as a visible part on the architecture like interpretation and explanation.

2.3. Community Participation

The most desirable component in any democratic society is "Community Participation", this tendency has increased because of its diverse levels specially in urban planning and urban design and applications of new technologies as well. As Alterman wrote in 1982, “ The concept of public participation has gone a long way to becoming an acceptable component of public decision-making “, diverse opinions clarify the necessity of community participation; one opinion considers it limited to deal with the the plans of functions, and services and priorities of the needs and demands of the users, another, believe that the public should also have influence over policy, decision making. [5]. Alterman (1982) and et al. (1991) suggested that the effective community participation strategy needs the following variables to be used in the process of decision-making:

a) The planning subject and the context of participation.
b) The goals behind this participation.
c) The balance of relationship between the decision-makers and the public.
d) The exact definition of Public.
e) The planning phase.
f) The resources needed and available for participation. [6]

Local communities can also have a role in implementing urban projects and managing aftercare. Involvement and commitment can be harnessed on these targets through early involvement of community in the design process. Collaborative planning and design processes and a shared understanding of the issues ensure get attention to local concerns and reduce possible antagonism from local communities to change. Social Capital is very important to the success of collaborative processes and the help of these processes to build, strengthen and bridge Social Capital” Witten-Hannah observed that in many cases for development projects of poor urban environments, the way at which a collaborative process interacted with the hierarchy of decision-making needs to shifted out from the City Council or other major authority, more than previously. Still, the Council retained ultimate decision making, but, the decision-making shift looks like it increased the amount of social capital. [7]

2.4. Government institutions, perverse Economic and Social capital

If we put the economic capital into historical perspective, Marx, as well as other 19th century political theorists highlighted the fact that the most important political changes in history were surrounded by radical social change accompanied by breakdown of economic capital. In a crises situation, public objectives may start to be replaced by private interests, in this sense administrative practices of
governments weaken to conditions prevail for preventing public assets in return to private benefits, and that for sure enlarge the legitimating crises (for poor category) and eroding trust and confidence in government and other public institutions.[8].

Many theorists considered that “there is a need to shift the policy emphasis from those policies which place an emphasis on individual’s financial wellbeing (largely unspecified) to policies which enhance community wellbeing from economic, social and environmental perspectives” and that “the leadership for changing the policy focus would need to come from central government” (Pomeroy, 1998). The social stability means continuing presence of models and social and cultural phenomena in the community - local or large - without exposure to a sudden change Or radical, and this does not necessarily mean the existence of a state of absolute stability prevail community (because the community hard - I suppose if it was - to be stable). Any society that arises by gradual and slow enough changes to re-compatibility without that lead to disorder or breakup is a stable society [9].

In order to work on the organization of society as a step to work on preserving the strategy of Keeping the Land, the role of civil society organizations here is the formation of the intermediate points to coordinate with state institutions and work on the application of sustainable communities properties, and begin to create a solution to the problem institutions and issues of public and individual ownership and decision-making bodies (figure 1), and that’s how the development built urban environment really work for a sustainable community.

![Figure 1. Aspects of achievement of sustainable urban environment](image)

3. The Strategy of Retaining Ownership of the Land
Successful communities require a full range of local services and facilities, including commercial, educational, health, spiritual and civic uses. These need to be conveniently sited and connected to residential areas by safe and comfortable routes, but traditionally, towns have developed in residential districts with neighborhood units, and small supporting activities with local communities’ uses around the original core of the city center. Yet, despite the virtues of mixed development, in modern development it
often remains the exception to keep the privacy of housing function in conservative environment, rather than the rule.

A successful and sustainable local neighborhood is a product of the distances people have to walk to access daily facilities, the presence of a sufficient range of such facilities to support their needs, and places and spaces where a variety of activities can take place, and that required not more than a ratio from the land for public services and keep the majority proportion for residential function of low lying coverage to keep the identity of the low rise urban environment characteristic of residential areas of the city of Baghdad. Individual belongs in any society to a family, it is the first social unit and the core of its society, which is the basis for any system, although this figure is happening within the nucleus of the environment in which individuals live in a land within a geographical context, this creates two types of Belonging: belonging of the place and belonging to the community as (family or neighborhood).

These affiliations are governed by the cultural geographical context of the community and that its mission is not theorizing cultural reality in certain urban environment, but is governed by its mission to understand and communicate the impact of the place and its components on the composition of that “culture” and the area of movement and vitality, which is facing complexities in the extremely Iraqi fertility for a set of customs and traditions of the changing society [10].

In order to support sustainable development in urban areas, local governments adopt various strategies such as land use planning that require the quantification of sustainable development performance to ensure the success of such strategy (see figure 1).

4. Case Study
This paper draws on the projects of Al-Karkh development in the eighties of last century that aimed to improve the life conditions of the community lived in these residential districts which had sponsored by the government. In the early fifties of the last century, the Affordable case families of the old Karkh move to new suburbs, where had begun a fundamental change in the nature of the city of Baghdad throughout its long history, which paved the way for expansion, which jumped a quick and amazing strides since the early fifties, where constructed revive with new neighborhoods emerged with Al-Karkh region, leaving the city of old neighborhoods of low income small communities prone to collapse, creating poor built urban environment. The research defined its’ methodological steps as:
 a) To characterize and analyze the existing patterns of built urban environment.
 b) To determine criteria of successful sustainable environment.
 c) To determine the factors that influence social sustainability success in the community pattern of the chosen neighborhood.
 d) To determine the factors that can be changed, and to recommend for strategies of creating the desired changes.
 e) Develop alternative models and intervention tools to how integrate land use for effective sustainable community based on the conclusions derived from this research.

4.1. The Change in the fabric of the old Karkh
The fabric of old Karkh composed of old buildings with one or two floors Baghdadi houses, a homogeneous architecture and in terms of construction materials used valuable constructed, although some old, but it is of architectural and historical value, the street doesn’t allowed any vehicles, but converge houses and narrow and bends alleys lead to the entrances of the houses just allow them to pedestrian walk only, and protects pedestrians from the sun as an environmental treatment by using architectural element called “ Al-Chenchool “ as external addition on the alleys. The fundamentals Baghdadi house has on those internal Glade (yard) that make static in touch directly with the sky, Baghdadi house Lacks for the front and rear gardens and into the side lanes, and seems to be unable to provide services to residents that fit to his contemporary life-style and that need made him move to form a new role meet the needs of its people and the neighborhood in general [11].
Morphological stages IV: for the period for the period (1950-1982), the Genotype of ancient heritage areas changed due to the operations of road construction and the old fabric exposure to the waves of demolition and destruction due to urbanization and modern functional requirements for housing, work, and was the most important event in this stage is the incision of Haifa Street, which was parallel to the Tigris River. But, the new street opened depending on their origin in the old traditional fabric including Haifa Street. The new streets remained on the relationship with the river because the main historical trails in Old Karkh parallel and perpendicular to the river, and it was the old Karkh touch with his surroundings through those trails to the main gates. (see figures 2,3,4,5,6) (12)

Figure 2. shows the traditional urban fabric of Baghdad, Source (Soosa, 1961)
Figure 3. shows the Morphological stages IV: for the period (1950-1982), (Soosa, 1961)

Figure 4. shows the river side elevation of Old Karkh district, Source (Makkeya, 2005)
Figure 5. shows the Court yard open sky space of Baghdadi house, Source (Makkeya, 2005)

Figure 6. shows the traditional alley with Al-Chanchool, Source (Makkeya, 2005)
Starting with the establishment of Haifa Street and development operations, old Karkh (area of site development) had a population of 60 thousand people distinguished in the same old residential neighborhoods. Approximately 8% of them only in the region Literal careers and 15.6 in other areas of Al-Karkh and 61.1 in other areas of Baghdad. The social relations between the inhabitants of the old Karkh look close and strong, so it was found that 78.4 of the population have relatives and friends in their home region and good relations with their neighbors, and 12.4 of them denied the existence of any social relations with their neighbors [13]. But the harmonies that distinguished the old Karkh district has been affected due to a lot of strangers who dwelt there, and this effect in the decay of the neighborhood, as a unit of the Social Residential composition where formerly known as the families that inhabited in and which belong to the same clan and control of kinship which provide for the organization of trade and social relations and control behavior within the neighborhood limits, but this organizational form no longer practice in planning the modern neighborhood in Baghdad.

4.2. The present image of the urban fabric
The development process of these neighborhoods of old Karkh are limited to only remove a small percentage of the old role and establish a new role while retaining the same two-story height of the merge with the surrounding urban environment. The master plan of the project of Al-Karkh development plan presented by Technical studies bureau to the municipality of Baghdad, design on residential strategies generally keeps the existing urban form in the region with trying to make Haifa Street residential element integrated in Al- Karkh district. (see figures 7,8,9)

*Figure 7.* shows the new streets similar as possible to the old streets, Source (Municipality of Baghdad)
Figure 8. shows the Master plan of old Al-Karkh (land use map), Source (Municipality of Baghdad)

Figure 9. shows the edge of Haifa street and the surrounding traditional context, Source (wikepedia.com)

The form of high rise buildings on both sides of Haifa Street and other petition streets surrounding the residential areas, between five and eight floors, and sometimes up to 15 floors, form the edges of urban peripheral maintain the privacy of residential neighborhoods. The use of these buildings varies between limited mixed uses, and pure residential buildings. By the end of Implementation of Haifa Street; the residential area covered (228753 m²) for Housing, divided into (2096) flat, (75% of which are three bedrooms, a 25% two-bedroom) inhabited (14 244 inhabitants), but leaving the old neighborhoods behind
those modern edges composed of houses at a rate of more than 100 years old occupied of more than 2 or 3 families in unhealthy environment. (see figures 10, 11)

Figure 10. shows the difference of construction of contemporary and traditional linear street of the site, Haifa and Mousa AlKadhim, Source (wikipedia.com)

Figure 11. shows the urban fabric of old existing context of old Karkh, Source (Municipality of Baghdad)
4.3. Redevelopment project of Souq Hamada neighborhood / Al-Idrissi Engineering Consulting Center - Municipality of Baghdad -engineering department

The first criterion in the master plan for Al-Karkh is to strengthen the residential character of the area and developed to fit the requirements of the high standards of living, for the project, “Souq Hamada“, it has been identified housing strategy “Traditional Redevelopment within the Conservation Zone” However, the situation of the desolated construction for about (90%) of the build structure of the area to be removed and replaced, making housing strategy tend to respond to the re-development and translation to preserve the urban planning criteria specific to traditional features according to the local architecture of the neighborhood area, to get to the solutions Policy for urban planning and relevant to the region, in a manner to ensure the continuity of character, and developed following the latest contemporary engineering approaches. The design depends on geometric shapes fit to traditional street forms and tries to retain the original morphological shape of these streets, taking into account the horizontal and vertical dimensions of the buildings. (figure 8), and Movement axes perpendicular to the river, which gives a visual and walkable streets along with the river, and Isolate the pedestrian traffic from car traffic by using arcade corridors environmentally suitable to allow the passage of light and ventilation. (see figure 12)

Figure 12. shows the built environment of Souq Hamada with Haifa & existing context of old Karkh, Source(GIS map Municipality of Baghdad)
Residential units as used in generating composition units similar to those existing in the region, characterized as standard units (residential unit) centrally organized around open sky traditional courtyard, which is important topic to achieve privacy (see figure 13), and has been distributed in a way to keep the network alleys similar to the context as much as possible. The area rate of residential unit is \(113 \text{ m}^2\) with courtyard for individual family, the site consist of 105 housing units, six varying samples of flats contained.

![Diagram of residential units](image)

**Figure 13.** shows the Configurable illustrates profile mass residential units on individual Outer Space

In order to preserve the local character of the architecture in the old Baghdadi Al-Karkh area; the design adopted the courtyards individual residential role for one individual families of one floor and when the family expanded and for the possibility of socially sustaining, a housing unit could expand to a third floor. This unit use local architectural characteristics and elements in the elevation like arches and small opening in the ground floor to provide privacy and it use Al-Chenacheel on the top floor to control the inside to the outside and bearings, and to achieve the shade in the street, and the material of construction is similar to the traditional role of bricks and wood which are environmentally appropriate.

For the purpose of maintaining the privacy of the traditional public housing assembly and structure in an integrated manner from the main street pattern in the region, has used “corridor” as an intermediary between them, the traditional use of the corridors marked by the preservation of the fixed architectural configuration items, its units contain arcs in both directions system was integrated into the Structural system and to highlight the difference in the direction of the secondary axis associated by changing the scale, and this richness gave the main street its’ distinguishing from local streets.

(figures 14,15,16,17,18,19, 20) are some pictures of Souq Hamada neighborhood showing the existing built urban environment and the local architectural treatment showing the identity of the context, all the picture from a site visit by the researcher and the students of Department of Architecture / UT.
Figure 14. shows main street of Souq Hamada neighborhood with the shaded arcade corridor.

Figure 15-16. shows relations to local pedestrian street and the privacy from car main road through traditional arcade.

Figure 17. shows the open river side urban elevation of the neighborhood.

Figure 18-19. shows details of treatment of traditional brick cladding and modern concrete clanchool. Pic18 shows affinity of two rowe house.
Figure 20. shows the contemporary urban environment with spirit of traditional chanchool alley

The most important aspect of sustainable community is the alignment between the number of households in the region and the space occupied, and because the Iraqi community living population growth rate (average annual %) of 2.9 from 2010-2015, and urban population growth rate (average annual %) of 3.1 from 2010-2015 and that depending on urban population 66.4% on year 2013, there is a need to dwell the people of the districts of Old-Karkh outside their region in the suburb of Baghdad, but usually the habitants of heritage urban context refuse to leave their places prefer living in bad built environment than leaving their land. And that the challenge should take to create sustainable society.

5. Public policy and strategies recommendations

In order to work on a sustainable community in Iraq and around the world, citizens and their governments should embrace sustainability, not as an afterthought onto community plans, but as a new way of thinking about their future. The public policy for sustaining community should improve the quality of community life in all aspects “socially, culturally, healthily, environmentally, and as built urban constructions” and make inclusive and participatory decisions that include the desire of their community.

The concept of “human capital” was not defined or discussed extensively by the authors in this subject. But, my understanding is based on usage whereby human capital is “the stock of skills, knowledge, experience and capabilities which an individual possesses and utilizes in living”. Human capital and social capital are terms which are in relatively regular usage in a range of social policy contexts but, as with social capital.
The concept of “capital” in the economic sense has been debated for some 150 years and is therefore more developed. Our understanding of the meaning of “human” and “social” has also evolved with use over time. The concept of social capital may well need time to evolve through debate and application, too.

- In order to achieve the goal of research to transform residential neighborhood into a more sustainable development built environment considering elements that would make a community more livable, walkable, and socially sustainable, the design strategy focuses on ways to catalyze private investment to the individuals of the same neighborhood’s community, and accept the case of higher density and mixed-use urban areas yield a higher return to depend on strategic public investments.

- To solve the problem of increasing growth that the Strategy of Retaining the land should must challenged, it will be appropriate for the government to take decisions of inhabit ratio of the families in flats in residential building of 3-4 stories on the boundaries of the residential area versus the financial support for individual investment. The Ministry of Research, the Ministry of Housing and Construction and the Ministry of Science and Technology should guide the consultation process and developed Agenda and scenarios about improving Iraqi citizens’ life in 10 years time by redeveloping projects for the residential districts of Baghdad within the policy of sustainable community.

- Any change in the traditional fabric must take into account the perpendicular streets to rivers to appear across the river perspective and also form the compact fabric of the traditional context and deal with urban space roofed corridors interspersed with spaces and shades.

- Adopt the traditional Courtyard as a treatment for residential unit could maintains the privacy of the family and shows social integration of housing unit family within the open space.

- Accreditation Rowe housing unit style that adopted in the development of the locality project of Souq Hamada as a model for creating a mini neighborhood unit to the families of kinship and nearby replicated as the basis for the creation of appropriate urban environment to sustain the community, and help the Strategy of Retaining of land to the indigenous population to maintain these relationships.

6. Design modeling of Contemporary Neighborhood Unit

To show a model that is capable to repeat in futuristic development urban projects for a contemporary neighborhood unit, the research reach most important criteria’s put depending on what has been recommended in this research about the characteristics of sustaining community (see fig.21).
That characteristics should be confirmed in the design as:
1. Maintaining the reservation historical axes in the fabric of the context because they are an extension to the Historical Urban Veins of the region and maintain heritage buildings.
2. The area of any old traditional neighborhood in Baghdad has no longer suitable to be scalable and future changes and can’t provide good residential units with contemporary criteria to their people and that any-existant presence in the reality should provide several types of housing units for the vertical and horizontal.
3. Adoption of stacking to find forms of sustainable urban alleys and to maintain on-site recommends using protrusions of the blocks on the streets similar to (Achenachel) to achieve the architectural and aesthetic and environmental aspects as well as providing visual extension.
4. Hallway used for pedestrian traffic movement and the car parking identified in distinguished areas nearby the residential buildings.
5. The Iraqi society is a conservative society and that characterized by high specificity through space defender adopt and supervise the inside to the outside.
6. Provide a gathering place, and green belt to isolate the vertical buildings from the horizontal Residential units.

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