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Analysis of Iraq housing policies as a relationship between design and economy

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Abstract. The Iraq policies of National Housing have been working for a long time to develop the possible solutions to the problem of obtaining housing for all Iraq families. However, these policies have not achieved their objectives in the desired manner. The problem of housing in Iraq has become one of the most important problems facing urban development in this country. The study is based on a theoretical framework for housing, which adopts the most important economic and normative characteristics to be followed to achieve the development of the housing sector in Iraq to the cases of institutionalization, and through the four criteria: the size of the housing unit, the level of family income, the system of borrowing required, the ownership to achieve adequate housing for all levels of society that have shown willingness to cooperate and participate in reaching these goals.

Introduction

Despite the recognition of adequate housing as a necessity for the social welfare, Iraq did not have a national housing policy with a clear program. A number of housing programs associated with housing since independence have been implemented by various governments, including people with low-income. However, policies have been lacking in continuity, interdependence, and development, providing adequate economic conditions, and residential and investment environment providing the stimulus to solve the problem of implementing housing and housing policies [1][2]. The investment policy of residential projects was adopted by the government after 2003 [3]. However, the extent of its stability and success depends on the country's general policies and on the basis of the legal and constitutional support required for it. Therefore, it is necessary to provide an agenda that will determine the level of achievement and reduce the area of housing shortage through this policy and the presented research will try to answer this question. Residential Policy has its certain economic conditions for participation in solving housing problems depending on its material capabilities as well as the demographic characteristics [1][3].

The study aims at analyzing the economic, housing and normative contexts of Iraq, evaluating the housing situation based on housing indicators, the current policies and programs and the categories targeting them from the point of view of the architectural design, which is concerned with providing housing solutions in this field. The beneficiaries stimulating response is : 1- by the participation principle, 2 - providing the appropriate housing environments at the required levels, 3 - activating the system of borrowing for affordability and 4 - work in the ownership manner of land in return for the



provision of services, affordable housing for all the society levels having shown willingness to cooperate for that aim.

The economic and demographic characteristics of the residential environment in Iraq

The program to increase the number of residential houses for a family and the number of married people in Iraq determines the economic opportunities available when considering the issue of individual housing ownership [4] for a particular house, land area or a residential apartment. Today, 73.3% of Iraqis have their houses in Baghdad, 81.5% - in Najaf city and live in a rented house, 17.7% in Baghdad and 9.9% percent in Najaf. In addition, there is a program to reduce unemployment of the policies to determine the economic conditions of Iraqi families and to help providing the employment opportunities. Today, on average, 71.3% of the monthly income is spent on the purchase of food and consumer goods in the city of Najaf [5].

The concept of residential tenure refers to the ability of the individual to pay the cost of the residential land as well as the design and implementation of the residential units. This is all related to the size and style of the housing unit required and the factors affecting it, including the planning, design, implementation and the operation costs, which are the important characteristics in the production of a modern house [6][7], which related to the ability to allocate a part of the budget monthly or annually for the purpose of providing housing suitable for life. Also the reliability of the building by using cost-effective common areas, indoor and outdoor spaces, aimed at improving residential efficiency [8] is increased despite the numerous methods of the residential units implementation, but it was found through the survey, that the desire of most residents to obtain soft loans to get the main sources of funding is in public funding, which depends on the government budget, private financing, which includes self-financing by the people themselves, bank financing, or successive financing, which depends on the partnership between the public and the private sectors [6][7]. There are several methods to implement housing units in Iraq, the most important of which are:

- Direct implementation by the people themselves,
- Implementation by means of the investment projects,
- Implementation by the government institutions whose units are distributed to individuals of one category.

The cost per square meter in horizontal housing is less than the cost per square meter in vertical housing.

However, there is a trend in Iraq to establish vertical housing projects with integrated services because of the scarcity of land in urban centers.[9]. As a result of the housing units' shortage, the average construction costs per square meter increased from 49,600 in 2002 to 550,000 in 2012 with a poverty level of about 22% [10]. The inefficient financial system for most people is estimated with the house price to the annual household income rate 6.75[7].

On the other hand, the size of the dwellings depends on income and the family size. The size of the family living in the house is usually not indicated, so when designing, it is necessary to know the number of the family members and the number of employees in the family; family income in general and income per person; family type: extended or normal. Studies have shown that 49.3% of Iraqis have families of five or more. Their homes have two bedrooms, while only 1.6% of families have five bedrooms in their homes. The above-mentioned discussion indicates that the availability of adequate housing is a complex situation between physical and social components that follow a specific behavior, within different levels depending on the extent of the residents' ability to afford and the size of the family, the desire to own their units, the size of the housing units available. That is always considered by the housing policies of Iraq and therefore must be the identification of priorities and housing requirements at the economic level to participate in the development of a suitable solution for the Iraq residential environment.

Housing policy in Iraq

Studies of the Public Housing Scheme in Iraq (1981-2000) are the most important housing studies in Iraq before 2003, which set the standard of living in Iraq where the housing guide explained the

residential patterns (the only family housing). The former includes separate accommodation, courtyard, semi-detached housing and row accommodation. The multi-family housing style includes low rise buildings, medium-rise buildings, and high-rise buildings [11] (refer with: Table 1). The area of the plot is determined according to the type of housing. The plots of land for housing are mandatory as it was indicated by the General Authority for Housing in detailed tables summarizing the mandatory area of housing according to the housing type. The Commission also indicated the required spaces for each housing type or multi-family in terms of bedrooms, living room occupied, traffic irregularities, service spaces, stairs, etc. For certain categories of housing units, it is recommended to plan plots of land for single-family housing within the minimum limits and plots of land for large and very large housing units within the upper limits identified (refer with: Table 1) as mandatory for dwellings of a specific type. The table also shows the proportions and densities of the building within the specific areas of the blocks and boundaries of the plots and the back of the street and is mandatory for housing and buildings.

Table 1. Criteria of the Public Housing Authority for 1982

Housing style		Area of land plot	Width of Land,	Minimum of Street Return	Building Ratio of Plot Area	Net Population Density [person / ha]	Building Density (2 floors)
Single-housing	house with four exposed faces	400-600 [m ²]	16-24 [m]	4 [m]	30%	30-80	0.6
Single-housing	House with three faces exposed	300-400 [m ²]	10-20 [m]	4 [m]	45%	110-160	0.9
Single-housing	House with two faces or two exposed	200-350 [m ²]	5-10 [m]	2.5 [m]	60%	140-200	1.2
Single-housing	House with internal courtyard	150-300 [m ²]	10-15 [m]	2.5 [m]	75%	170-290	1.5
Multi-family housing	Low buildings 3-4 floors	----	----	----	45...65%	200-400	----
Multi-family housing	High buildings more than 4 floors	----	----	----	50...70%	250-500	----

The most important development or addition for these criteria was the connection between the residential unit as an internal environment and the residential environment. Mahalla as an external environment, considering that housing is an integrated system including basic social and technical services as well as the housing unit itself [12] (refer with Fig.1).

The National Housing Policy in Iraq 2010-2016 performed the most important housing policies after 2003 aimed at securing housing and development of the housing sector in Iraq, identifying the housing shortage by about 2 million housing units, which examined the reality of the housing situation in Iraq and its future, including housing in urban, semi-urban and rural areas, playing the key role in providing sustainability and creating the integrated and sustainable residential neighborhoods. The survival of a society able to move from one place to another, to diversify the residential plots and divide the larger

parts into the smaller ones, thus increasing the chances of obtaining adequate housing for the families with diversified income and focusing on the medium- and low-rise housing units[13]. Planning for affordable housing units depends on a combination of economic, social, and political factors. There are four forces in Iraq providing the strategies, policies, legal procedures and financial resources [12].

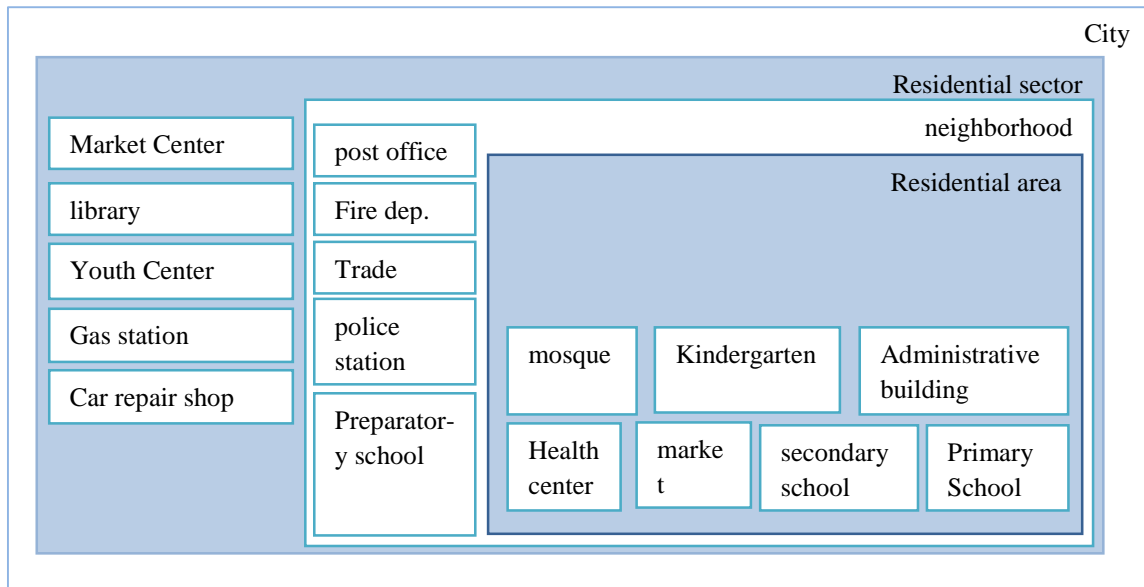


Figure 1. The components of private and public living space

Its performance is reflected in the improvement of the residential life quality by the policies and laws that help in the production of residential forms and provide comfort to the residents according to the required standards, thus, developing standards for the residential patterns favored by a particular community. The housing policy pursued in Iraq was aimed at enabling the citizen to get adequate housing[14]. It is necessary to identify the features effective in creating a comfortable living environment by means of modern architecture and design. It is necessary to address the acute shortage and its relationship to housing growth by the programs and planned sustainable policies, to produce low-cost housing in several residential environments in order to create sustainable communities. It seems that the solution of this complex problem is possible only in the way of creating a relatively high-density residential development, which should be achieved in low-rise construction by adopting the less space for residential units as well as the standard elements for the housing unit design.

The National Investment Commission set up an integrated program to build one million housing units that included all the provinces of Iraq. The number of units in Baghdad was 224000 and in Najaf city - 37000. The Commission also included the possibility of giving land to Arab and foreign investors and adopting modern methods of implementation in the new amendment of the laws, which might save time and money and therefore reflects on the possibility of buying or renting the housing units either funding the Commission sets new mortgage controls provided to the buyers with the investment housing projects in cooperation with the Iraq banks. The General Authority commits the Investment Authority to the developers and investors to implement the public services for the development area such as roads, water, electrification and the construction of schools, markets and the areas outside the development are treated as other investment opportunities [3]. That represents a new economic policy adopted by Iraq after 2003.

Evaluation of housing policies

The physical evaluation of the various housing programs is difficult, given the lack of data on new housing stock, the units developed for each residential program or development and production entities, other than the INA housing program, except for the residential program of the Iraq National Investment

Authority. However, the schemes indicate that although most of these programs were well designed in terms of their objectives, they could not save much because of the reliance on the central government for funds, that is to say a top-down approach with the formulation of programs at the national level based on the cities feedback. If the goals are political and administrative instead of economic considerations and the real situation, the programs also lack the participation of the public in planning and implementation. This is why the research here suggests that the most important points of the housing policies and programs adoption depending on the design of public participation and implementation, especially after the acquisition of the random housing on a lot of urban lands near or far from the cities.

The political instability and the security situation have played a great role in the failure of the Iraq housing programs and policies that are difficult to implement on the ground in unstable security and political situations especially after 2003. The banking situation despite the provision of banking programs (such as borrowing from the Iraq Housing Bank) alongside with the mechanisms and administrative aspects led to the failure to achieving its objectives and did not have an effective impact on the increase in housing stock in the country. All these conditions led to the horrors of residential neighborhoods that are not planned and have no services and infrastructure, exploited agricultural land almost habitable near the city centers. Therefore, the lack of the urban centers and the scarcity of urban land used for the effective urban programs, makes the price of land high in urban cities. That leads to the inability of individuals from the property of a housing unit or even live within the environment of high commodity prices and reduces the availability of employment opportunities.

While one of the best programs developed is the program of the Investment Authority to build one million housing units across the Iraq provinces. However, this program doesn't seem successful due to the scarcity of urban land and the lack of clarity of the land ownership and inflexibility in the implementation of the program's politicians and adoption of high- and medium-income levels without considering the levels. The Investment Authority did not adopt its own standards and patterns of housing to increase the number of housing units in its program, such as the size, area of the housing unit, available services or public roads, but rather met the standards set by the Ministry of Housing of Iraq without updating. Planners and architects in particular and decision-makers in successive governments are to adopt the effective housing programs helping in economic growth and increasing the household income and employment opportunities and thus reflecting the ability of families to acquire decent housing.

Methods of solution

The research presents five criteria for a residential program aimed at the reduction the acute shortage of housing units based on the housing and economic standards - the size of the housing unit, the size of the family, the level of family income, the required borrowing system and the land ownership, which must be accompanied by parliamentary legislative tools, which would give housing policies and programs the legal support against the expected abuses during the program implementation. This program is not claimed to be the only one, but the most comprehensive from the point of view of the architecture. The strong relationship between the program vocabulary and the economic and normative characteristics of the residential architectural environment (Figure. 3), including the program stated formulas for most of the characteristics identified by the researcher (see Table 2). It also shows that the size of the residential unit and the household income level is most closely related to the characteristics of the residential program and the main engine of the other approved formulas (Figure. 4).

Table 2. The relationship between the proposed program and the economic and normative characteristics of the residential environment

Economic and normative characteristics	Residential features	Vocabulary of the proposed program				
		Size Unit	Size Family	Income Family	System Borrowing	Ownership Land
Economic components	Building materials	-	-	X	X	-
	Production of housing	X	-	X	X	X

of the formation	Infrastructure	-	X	X	-	X
	Ownership of residential unit	X	X	X	X	X
	Efficient land use	X	X	-	-	X
	Carry costs	-	X	X	X	X
	Finance System	X	-	X	X	-
Standard configuration components	Standard elements	X	X	X	-	-
	Design Scale	X	X	X	X	X
	Building style	X	X	-	X	X
X = 1 , Strong relationship			- = 0 , no relationship			

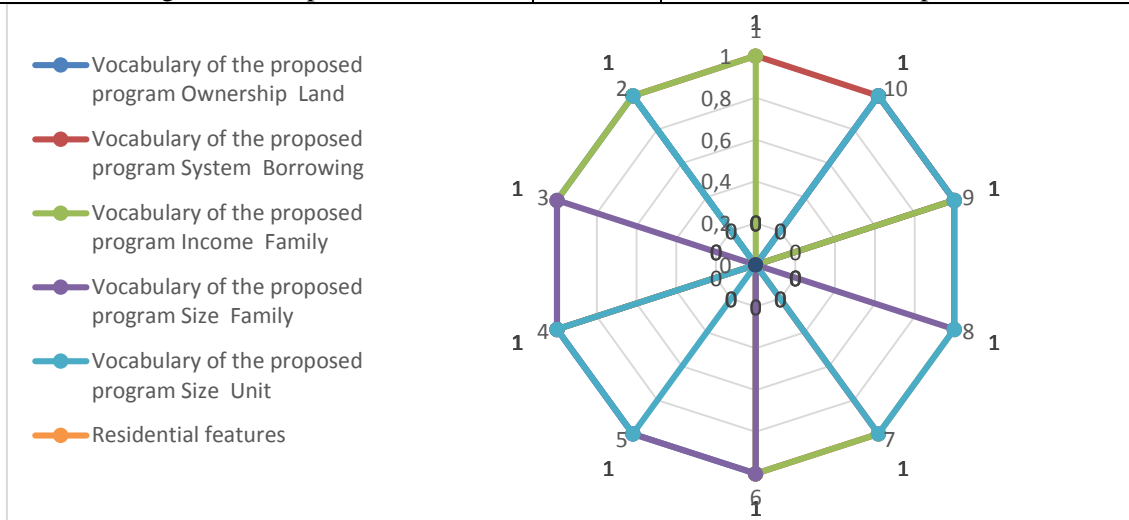


Figure 2. The relationship between the proposed program and the economic and normative characteristics of the residential environment

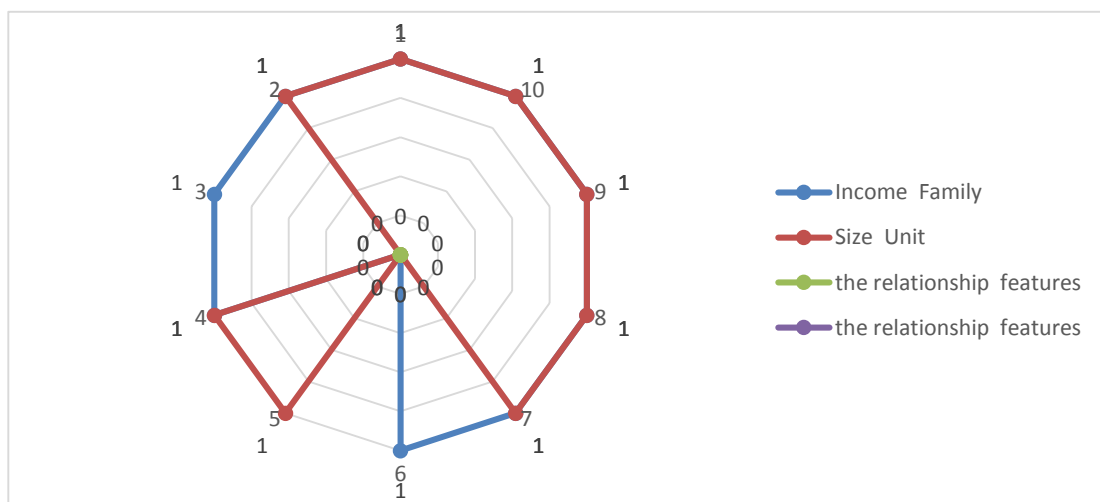


Figure 3. The strength of the relationship to the size of the residential unit and household income with residential characteristics

The architectural designer starts from the standard renovation in the design of residential units based on the following points:

- to provide the appropriate housing environments and levels required,
- to activate the borrowing system for affordability,

- to stimulate the response of beneficiaries through the principle of participation,
- to employ the land ownership in return for providing services.

The designer adopts the standard size of the housing unit specified access to the election of the best design and the best style of reference (Fig.4). On the other hand, the design consumes an appropriate economic size by activating the borrowing system through the series of economic procedural policies in preparing the financial budget for the buyers to determine the affordability. Therefore, the designer decides to set the borrowing standard at specific levels of work to produce the housing unit or land ownership level, where the proposed program imposes legal and constitutional rights for the residents. This may provide suitable housing environment at different levels, while the proposed method of the financial participation between residents and housing policies is one of the methods that achieve the appropriate design for the residents and provide the time and effort exerted to produce the residential unit at certain stages of production, design and operation, by involving the resident in the design and precise identification of the housing requirements and then the size of his participation in the implementation of the proposed housing program (refer with Figure 4).

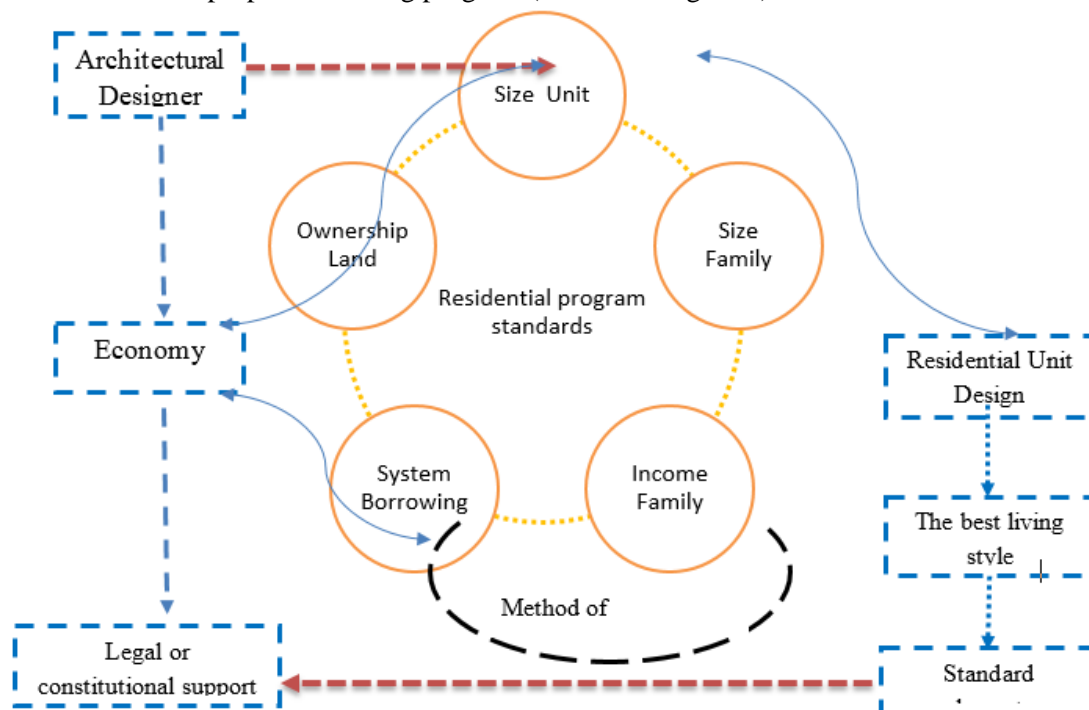


Figure 4. Shows the output of the proposed housing program

Summary

The consideration of the housing policies and programs in Iraq does not mean the total failure to implement them, but rather the change in the political, economic, normative and administrative outputs, stimulating the development of the residential programs within the development strategies adopted in the country for different sectors as a result of the relationship of the architectural designer with the economy.

- one of the most important methods of work in the formulation of housing programs is the participation of the masses with the architectural designer in the preparation of this policy as well as its implementation to reach the satisfactory solutions and the cases of despair.
- housing policies and housing programs attract investors to increase the number of housing units in a manner that adopts the new design standards and to work within the residential programs prepared by the Iraq Investment Authorities and related parties.

- the study presents the principle of providing funds dependent on the government agencies and the public by the preparation of social programs supporting economic opportunities and increasing the household income and its purchasing potential within the residential projects, thus increasing the amount of the expenses paid to obtain the real estate ownership of suitable sizes and spaces.
- urban land, especially near the city centers or nearby infrastructure and social services is subjected to various abuses by the residents there in order to compensate them for the loss of their constitutional right to own a housing unit and to provide an adequate housing. Therefore, the article raises the constitutionality of the appropriation of urban land to its beneficiaries in exchange for providing the necessary services and re-preparing them as urban and renewal.

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