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OUR UNIQUE SHELTER: A Proposed Initiative towards Achieving Social Sustainability of Economic Housing in Port Said City- Egypt

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ABSTRACT: *The housing sector's planning always suffering from a wide gap among its different levels especially, in terms of social characteristics, although, housing sector represents the residential buildings which is considered the shelter of people;* who must have the same rights, *but, the principles of quality of life mostly do not cover our economic housing buildings in Egypt, so, residents in economic housing always complain and unsatisfied with their dwellings, therefore, this paper tries to propose an initiative called "**O**UR **U**NIQUE **SH**ELTER" (**OUSH**) for achieving the principles concern social sustainability of Economic Housing Buildings in Port Said city; the proposed initiative addresses a set of principles represent useful guide for participants of the design and planning processes and policymakers.*
KEYWORDS: *Our Unique Shelter, Economic Housing, Urban Environment, Quality of Life, Social Sustainability, Port Said, Egypt.*

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I. INTRODUCTION

Undoubtedly, all people should have the same rights at least a comfort and satisfactory housing and urban environment, from this context, urban quality of life is a notion that has been discussed in various studies as a response to many problems facing the existing and new towns all over the world as well as in Egypt [1]. So, the studies of housing sector increases day after day because it is the most prominent sector of the city components and can aid in rising the efficiency of the cities socially, consequently, it is important to clarify the correlation between social indicators of quality of life and housing sector specially the economic housing, as, within marketing materials of recent economic, social and low-income housing projects found in different Egyptian cities. Based on these materials, this paper discusses three main questions as clarified in Fig.1, moreover, the research problem represents in the dissatisfaction of residents about their dwellings and urban environment (economic housing buildings) in Port Said city, Egypt. Moreover, the research goal is how to applying quality of life indicators to achieve social sustainability of housing sector in Egypt. Within the research hypothesis "Approving that residents' satisfaction lead to achieving social sustainability of housing sector" as the level of quality of life among individuals has declined. Therefore, it is necessary to think about setting urban indicators by which we measure the current status of the level of quality of life on the one hand, and develop successful urban plans and policies on the other hand. So, the researcher proposes such approach as **O**ur **U**nique **Sh**elter (OUSH) which depends on the principles of equity and residents' satisfaction to participate in the role that urban planners and real estate marketers play in re-shaping the spatial perception of the urban cityscape through re-thinking of low-income and economic housing planning.

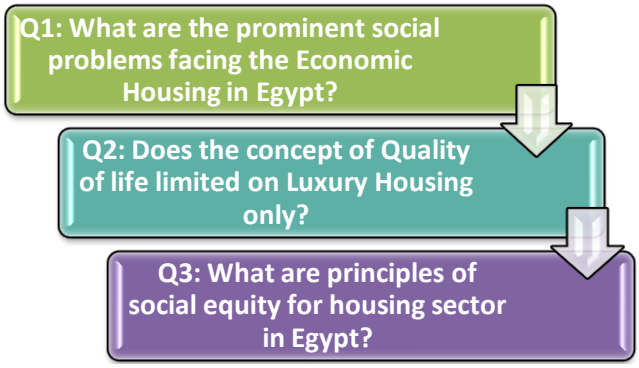


Fig.1. The Research Questions, *The researcher*

II. MATERIALS AND METHODS

The research includes the results of analysis of the conducted the pilot study and literature closely related to the topic and theoretical studies beside, meetings with residents conducted about measuring economic housing buildings in Egypt. Research is conducted in the form of a questionnaire survey consist of 3 major criteria (Being, Belonging and, Becoming) that refer to the residents' satisfaction. Questionnaires were analyzed by Statistical Package for Social Science (SPSS) V.20, the variables include social indicators, concerning with quality of the life of urban environment in Egypt at both of architectural and urban dimensions. The main highlight points used as materials and methods shown below:

- A comprehensive theoretical framework for it and the study of the concept of economic housing satisfaction in Egypt.
- A Pilot study for residents in economic housing buildings in Port Said city, Egypt, within conducting meetings and interviews with residents of housing in two of economic housing buildings in Port-Said governorate (Emirates District Buildings and, Al-Hourrya Buildings).
- Building a checklist and take a sample of the experts to give their points of view in the research topic.
- Statistic Analysis: descriptive statics, Cronbach' alpha test and, Parson's coefficient.

III. THE HOUSING SECTOR AND HUMAN NEEDS

Housing is a social good, complying with basic needs of the people. The luxury of people, and communities based on the firm growth and amendment of the housing supplies [2]. Housing sector of any residential city is considered the major sector hence, it generally drivers show severe demand overall beginning with Egypt's population of more than 100 million which is expected to rise of 2.2% growth. The Egyptian population is kind of young with 50% being under 25 years. There are approximately more one million marriages per annum in Egypt, and culturally newlyweds are expected to own property. Besides, improved healthcare, reduced rate of deaths and an already high fertility rate underscore the nation steady future demand for more real estate development. In addition to, the new products of housing lacks to the criteria of quality of life that make one of the most important part of city can't achieve urban sustainability worldwide [3].

3.1. WHAT DOES HUMAN NEED FROM HIS DEWELING?

One of the main goals of this research is to aid the anthropologists to define the best approach for studying all features belong to satisfactory dwelling such as spaces, areas, facades, surrounding urban area and public services [4]. So, there are a lot of theories addressed human needs but Maslow's hierarchy pyramid is still the most prominent theory can explain human needs in details and deeply, the housing sector is characterized by many factors, so, the researches extracts the main classification of human needs according to Maslow's pyramid as shown in the following figure:

Table (1): Housing and Maslow's Hierarchy

Maslow's Hierarchy Pyramid	The Human Need	Relationship between housing and human needs
	Body Needs 	Physical needs are the basic needs that everyone share, such as eating, breathing, sleeping, and protecting from enemies. The kind of housing required to maintain life changes from place to place.
The need for safety and reassurance 		The needs for safety and reassurance have to do with how well people feel about their lives, their environment, and the safe environment from any external threats. Housing provides some essential protection from factors or the outside world. The satisfaction of the need for safety is through the residence, as it promotes protection from any abnormal external conditions and also provides a healthy environment and is relatively free from external effects.

Source: The researcher after [5]

This study tries also to clarify the relationship between urban pattern and the moral aspect has examined in many studies, and results in suggested two main dimensions related to this relationship; access equity and efficiency of assembly. In addition to, a lot of researches have proven that there is a relationship between the spread of health and social diseases and the presence of incorrect or inappropriate housing conditions [6], some examples of these social diseases are as follows:

1- Increased crime rate than normal level in unhealthy residential area.

2- Some of children and the elderly were negatively affected by the unhealthy residential environment, which managed to a great death rate as an outcome of social diseases causing from the circumstances that are not fit with the residential environment.

3- Greater rate of accidents and fires than the usual rates for unhealthy residential areas paralleled to other proper residential areas.

4- The high proportion of patients with lung diseases and diseases related to the digestive system, and skin diseases that are transferred by some insects or animals that are present in the existence of unhealthy residential environmental circumstances or which are increased by a eliminate in the degree of hygiene and health conditions in the urban environment.

Moreover, social sustainability is depending on the reinforcement of human values, beginning with its core by upholding family bonding up to the supporting of national values.

3.2. QUALITY OF LIFE AND DEWELLINGS

Quality of life or in other words goodness of life is the ability to live successfully and happily within the environment [7] Also, its Indicators symbol quantifiable movements in observable phenomena and can be characterized as marks which send a complex message from possibly numerous causes in a simple and suitable manner [8]&[9]. Some studies affirmed that the theoretical aspect of Quality of life is related to life satisfaction; in particular, the needs satisfaction approaches [10], the concept of residents' satisfaction defined as "The emotional response of the population to their environment, whether it is at the level of their physical or social environment, and their response varies according to living experiences and demographics" [11]. So the current study concludes that the relation between housing quality of life and residents' satisfaction as shown in fig. Whereas, the indicators of quality of life in housing sector should be achieved to make residents full satisfied with their dwellings and surrounding urban environment. Moreover, the researcher tries to find the relation between residents' satisfaction and poor conditions of low income housing.

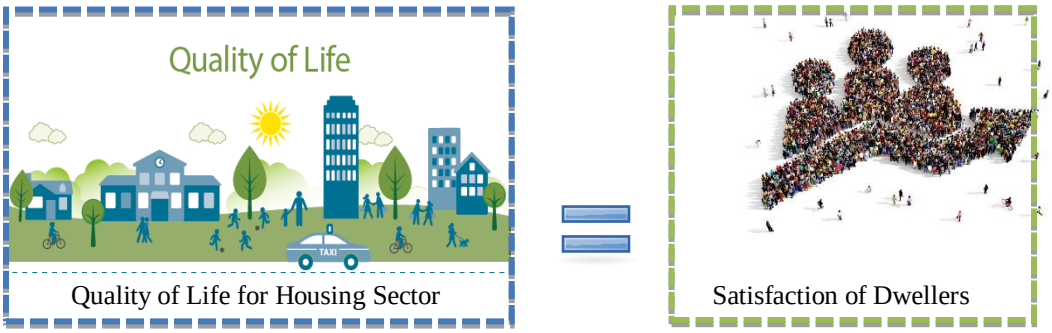


Fig.2. The Equation of Quality of Life for Housing Sector, *The researcher*

3.2.1. REVIEW OF THEORIES OF HUMAN NEEDS

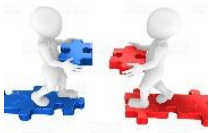
Many previous authors have launched some theories of human needs besides, a lot of theories related to the value of residents' satisfaction, the researcher reviews a lot of these theories and concludes the most prominent common criteria among them as a human equation representing the basic human satisfaction with oneself and the surrounding urban environment as follow:

Table (2): Some of Human Needs and residential satisfaction' Theories and the common items among them

Theories of Human Needs	Description	Common items among the studied theories
Maslow Pyramid	The well-known theory of Maslow's hierarchy pyramid which includes a framework for human needs and how the housing field contributes to satisfying these needs according to 5 categories as shown in	**Being** 

	table.
Findlay Theory	This theory clarified four needs as representing the basic human needs as; Natural needs, Psychological needs, Social needs and Self-realization experience.
Equity Theory	The theory of justice is that people strive to preserve their inputs and the results they get, especially when comparing the results they get with the results of others, who fall under a similar situation, which creates motivation.
Raphael Law	In another words (The weighted equation); this balanced equation for Raphael; the measure of life profile Raphael measured the balanced equation of material, psychological, spiritual - "reflects how it is - being three areas; existence, belonging, appropriateness." Being urban, social, community-specific, - belonging person, "belonging Practical, entertaining, growth - "refers to the activities carried out in daily life. Each relevant - becoming" appropriate field contains three sub-domains, and each sub-field contains 9 elements.
Theories of Residents' Satisfaction	**Description**
Housing needs theory	Housing needs changes in accordance with life cycle phases, as the difference between the current needs and wanted needs raise the feeling of dissatisfaction, the residents overcome their feelings of dissatisfaction about housing environment by immigration to another dwellings.
Psychological construct theory	This theory concentrated on the psychological aspect of human as the concept of residents satisfaction achieved when the current situation of dwelling agrees with the referential situation, the compatibility occurs within adaption or changing the current situation.
Housing deficit theory	Housing deficit appears in the conflict between actual housing standards and the personal standards, hence, the gap between them forms a status of dissatisfaction for residents, but they can mitigate it by housing adaption.

Physical health, Mental health, Balance, Adaptability, self-independence, Self-esteem , Respect, Tolerance, Emotion, Determination, Discipline, Imagination, Calm, Sense of belonging, Consistency, differentiation, Self-affirmation and openness.
Belonging

Food, shelter, work, social security, rights, friendship, relationship with nature, responsibilities and duties, privileges, games, clubs, parties, peace of mind, language, religion, customs and norms, values, equal rights.
Becoming

Living environment, social situation. Living spaces, social environment, housing, privacy, home, intimate spaces, collective space, collective work space Schools, universities, groups, family, local communities, productivity, temporal / spatial interaction, belonging to a place, spaces for expression, freedom, self-recognition, self-recognition, opposition, development, awareness.

Source: The researcher after [5];[12]; [13]; [14];[15];[16];[17];[18]&[19] .

3.3. THE PILOT STUDY REQUIREMENTS

- **Research Sample:** The researcher conducts many meetings and interviews with some residents of economic housing in both of Al-Hourrya buildings and the Emirates district buildings in Port-Said city, total volume of targeted sample is 124 individual (72 individual for Al-Hourrya buildings and 52 individual for Emirates district buildings) according to the well-known equation of Steven Sampson, Al-Hourrya buildings

locate inside urban space of the city but, Emirates district buildings locate outside of urban space of the same city.

- **Data Collection:** Interviews, meetings with residents and structured questionnaires belong [11] (clarified in appendix A) to are the best method aided researcher in collecting the required data (opinions and impressions of residents about their dwellings & surrounding urban environment).
- **Data Analysis:** A software SPSS V.20 used in this analysis in order to test ***reliability*** and ***validity*** of respondents' answers as shown in table. Then conducting a lot of static analyses:

- ***Descriptive Statistic***: means, standard deviation, these were used to summarize and describe the data (outcomes of questionnaires analysis).
- ***Cronbach' alpha test***: estimating the reliability coefficients of the three parts of the survey questionnaires.

IV. ANALYSIS OF QUESTIONNING OF RESIDENTS IN ECONOMIC HOUSING IN PORT-SAID CITY, EGYPT

As previously mentioned, the idea of the questionnaire is to display to what extent the residents of economic housing are satisfied with their residential units and surrounding urban environment. First, it is important to measure the reliability and stability of their answers as shown in the following table:

Table (3): Summary of Reliability Coefficient Test and Validity Test (Mean Values),

Test Level	Al-Hourrya Buildings		Emirates District Buildings	
	[Reliability] Alpha Cronbach' value	[Validity] Spearman Correlation	[Reliability] Alpha Cronbach' value	[Validity] Spearman Correlation
1st part: General information	0.722	0.754:0.478	0.852	0.874:0.514
2nd part: Satisfaction with dwelling	0.941	0.845: 0.587	0.874	0.894: 0.471
3rd part: Satisfaction with public services	0.786	0.798:0.504	0.911	0.901:0.647

Source: The researcher

From the former table, the researcher make sure of all values of reliability and validity tests for respondents' answers in all parts of the questionnaire in both of Al-Hourrya and Emirates District projects as in terms of reliability, all values exceed the recommended value (0.7) according to the known standard [20] so, all answers are reliable, in addition to results of validity test; the first and third groups of answers correlation are strong whereas, the second group has a moderate to strong correlation according to the known standards [21].

After conducting the former tests, the general results of questionnaires clarified as follow:

1- Proportion of participants of males is at a percentage of 46.5% hence, females are about 53.5%.
2- Almost of respondents are youth and educated.
3- The average of living duration is about 6 to 15 years.
4- Almost of residents are owners of their residential units.
5- All residential units are apartments whereas, few attached rooms on roofs of some buildings.

4.1. FEATURES OF HOUSING SECTOR IN PORT-SAID CITY

In recent years, the government always poses a lot of housing projects for youth, these projects are economic regarding to the youth potentials, although, these projects do not get the full satisfaction of residents due to many reasons as explored in pilot study. So, the researcher depends on a questionnaire after [11] that is clarified in Appendix (A).

4.1.1. A CASE INSIDE the URBAN SPACE OF PORT-SAID CITY

Al-Hourrya Buildings:

The answers of first group of questions (Questionnaire A)

- Gender	(49%) Male	(51%) Female	
- Age	(34.8%) 20-30 years	(45.2%) 31-40 years	(20%) 41-50 years
- Education	(0%) Preparatory	(28%) Institute graduate	(5.4%) University student
	(63.9%) B.Sc.	(2.4%) M.Sc.	(0.3%) Ph.D.
- Duration of living in the dwelling	(0.4%) < 2years	(4.1%) 3-5 years	(92.6%) 6-15 years
	(2.9%) >16 years		

- Type dwelling's ownership	(76.8%) Owner (23.2%) Renter
- Type of residential unit	(0%) Isolated (0%) Semi-attached (1.5%) Attached (98.5%) apartment

Fig.3: Perspective of Al-Hourrya buildings

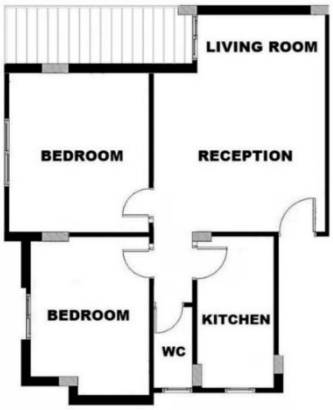


Fig.4: Plan of a residential unit in Al-Hourrya buildings

4.1.2. A CASE OUTSIDE the URBAN SPACE OF PORT-SAID CITY

Emirates District Buildings:

The answers of first group of questions (Questionnaire A)

- Gender	(44%) Male (56%) Female
- Age	(29.4%) 20-30 years (48.9%) 31-40 years (21.7%) 41-50 years
- Education	(4.6%) Preparatory (22%) Institute graduate (4.4%) University student (68.4%) B.Sc. (0.6%) M.Sc. (0%) Ph.D.
- Duration of living in the dwelling	(2.6%) < 2years (2%) 3-5 years (95.4%) 6-15 years (0%) >16 years
- Type dwelling's ownership	(89.5%) Owner (10.5%) Renter
- Type of residential unit	(0%) Isolated (0%) Semi-attached (0.2%) Attached (99.8%) apartment

Fig.5: Perspective of Emirates District buildings

Fig.6: Plan of a residential unit in Emirates District buildings

4.1.3. A COMPARISON AMONG RESIDENTS' RESPONSES OF ECONOMIC HOUSING IN BOTH OF INSIDE AND OUTSIDE URBAN SPACE OF CITY

In terms of status of residents, the results show that a large proportion of responded residents mostly are owners of the dwellings in particular outside urban space of city, whereas, the proportion of renters inside urban space is more, this is due to the residents do not prefer to rent a dwelling outside urban space of city.

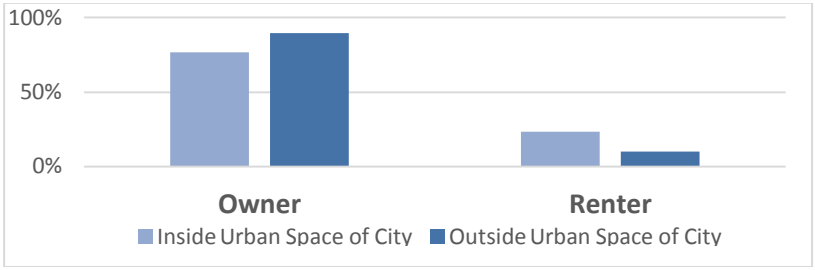


Fig.7: Status of Residents

Although, the all residential units in the studied projects are apartments, some of respondents live in roofs of the buildings as attached light facilities but the researcher noticed that the percentage of that phenomena decreases in outside of urban environment because of air pollution due to the existing industrial park there.

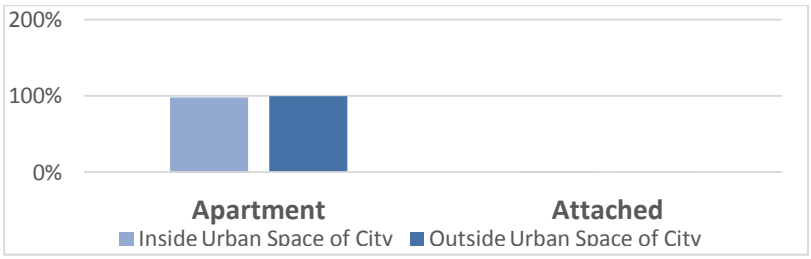


Fig.8: The Type of Dwelling

In terms of satisfaction with buildings' facades, the results show that a large proportion of responded residents live outside urban space of city mostly are undecided with the shape of buildings' facades, this is due to the residents are not interested on the appearance of their Building's facades comparing to their dwellings design.

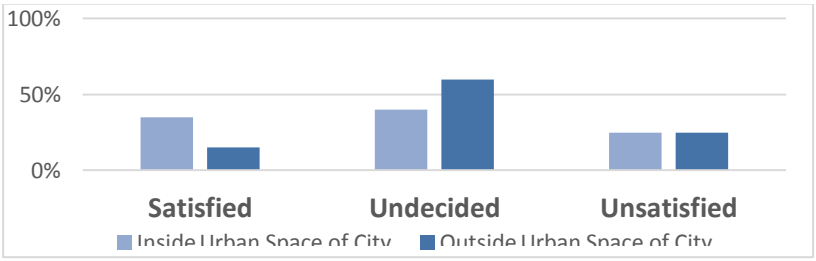


Fig.9: Satisfaction with facades of buildings

In terms of satisfaction with buildings' location, the results show that the residents in outside urban space of city mostly are unsatisfied with the location their buildings, on contract, those who live inside urban space of city hence, they are full satisfied with this issue. This is due to far distance between them and services inside city.

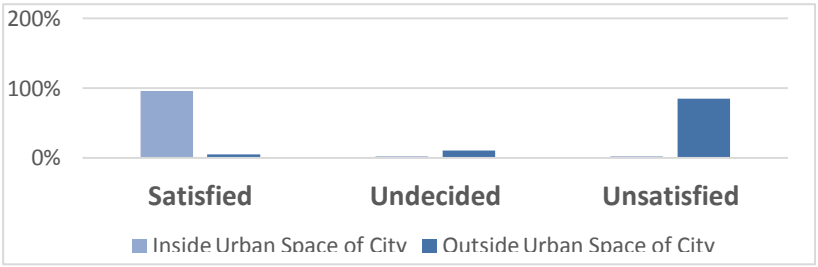


Fig.10: Satisfaction with location of buildings

In terms of satisfaction with architectural spaces, the results show that the residents in inside urban space of city mostly are unsatisfied with the spaces of their dwelling, on contract, those who live outside urban space of city hence, they are full satisfied with this issue. This is due to limited areas of lands inside urban space of city.

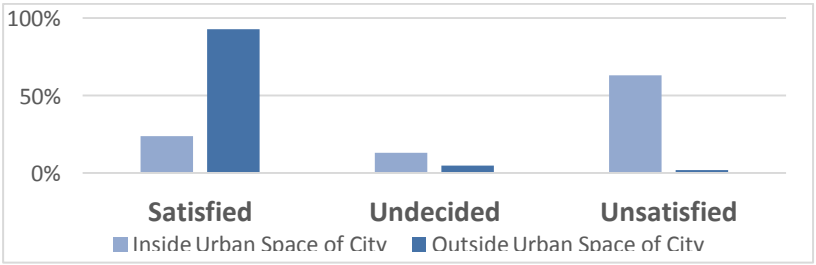


Fig.11: Satisfaction with spaces of dwelling

In terms of the most problems of dwelling's design, the results show that the unsatisfied residents with the design of dwellings live inside urban space of city, on contract, those who live outside urban space of city are mostly satisfied with their dwelling design, hence, areas outside are wider than inside urban space, due to the limited areas of lands inside urban space of city.

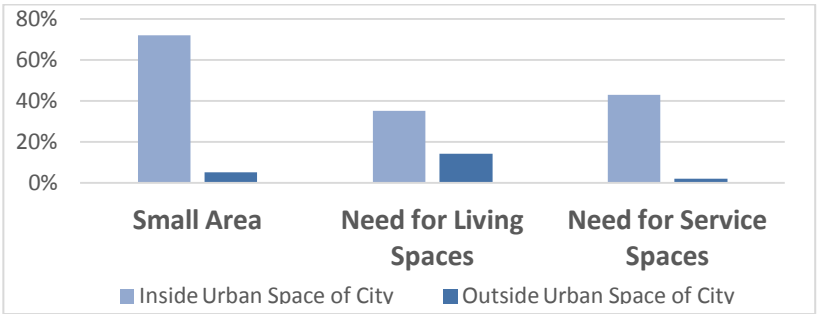


Fig.12: Prominent problems of units design

In terms of satisfaction with public services, the following figures clarify their results

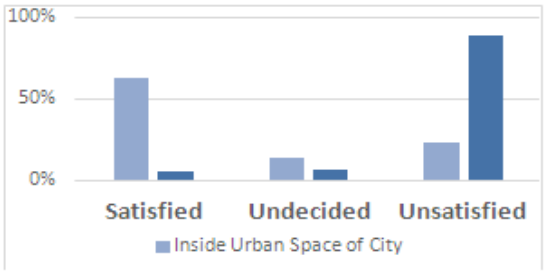


Fig.13: Satisfaction with commercial services

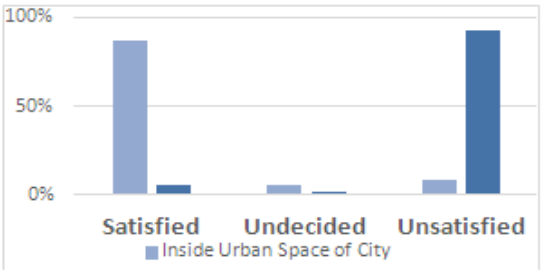


Fig.14: Satisfaction with educational services

Outside urban space of city still suffers from shortage in shops on contract, those who live inside urban space of city are mostly satisfied with this service.

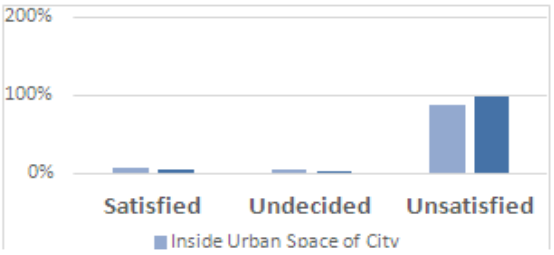


Fig.15: Satisfaction with entertaining services

It is abvious to say that residents outside urban space of city lack eductional services like preparatory, secondary schools and university of region.

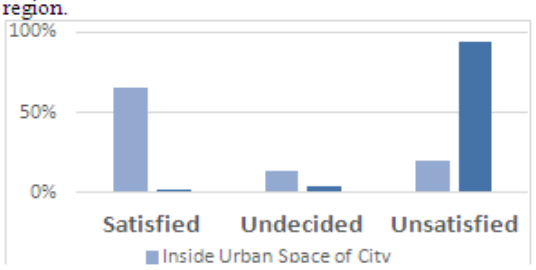


Fig.16: Satisfaction with restaurants and cafes

Almost residents of the studied economic housing buildings in both of inside and outside urban spaces of city suffer from shortage of this service.

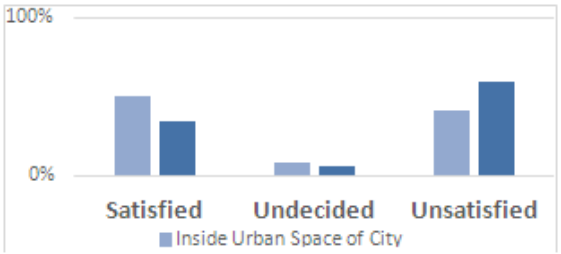


Fig.17: Satisfaction with sidewalks and walkways

Outside urban space of city lacks to existence of restaurants and cafes, on the other hand, those who live inside urban space of city are not suffering from shortage of this service ever.

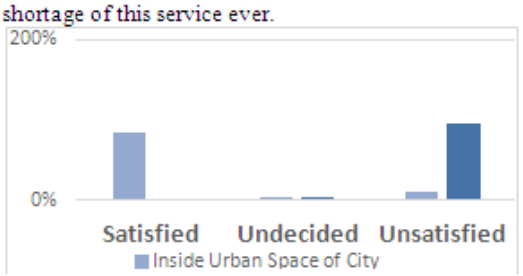


Fig.18: Satisfaction with mass transit in your region

Although, large proportion of residents inside and outside urban space of city are unsatisfied with sidewalks and walkways, the researcher sees that the residents themselves who make this problems by misuse of sidewalks by establishment stalls everywhere.

Outside urban space of city lacks to existence of mass transit, on the other hand, those who live inside urban space of city are not suffering from shortage of this service ever.

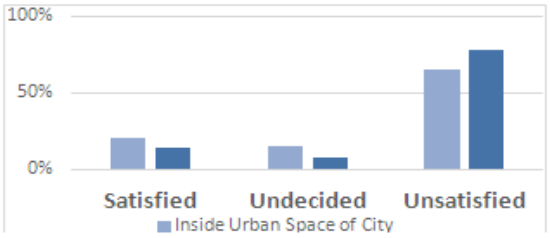


Fig.19: Satisfaction with service of waste collecting

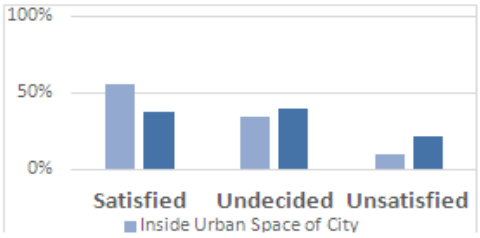


Fig.20: Satisfaction with streets lighting

Almost residents of the studied economic housing buildings in both of inside and outside urban spaces of city suffer from neglecting of waste disposal and collecting.

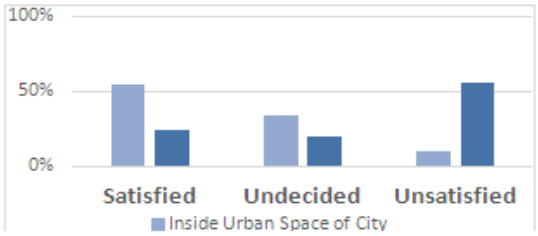


Fig.21: Satisfaction with the level of noisiness

Almost opinions of residents inside and outside urban spaces of city are between satisfied and undecided about this service, hence, A few proportion has another opinion about this service.

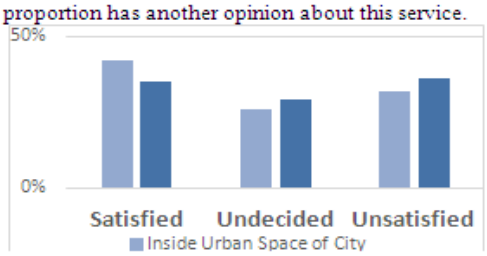


Fig.22: Satisfaction with the level of water services in your region

Unexpectedly, residents outside urban space of city suffer from noisiness because of the nearby industrial park the same as air pollution as previously mentioned, in addition their complaints about shortage of medical services on the contrary of residents inside city who are satisfied with this service. Finally, a large proportion of residents are undecided and unsatisfied with the level of water services because of constant interruption of water during day or night besides, weakness of water pumping. In terms of social environment all following figures (24, 25, 26, 27, 28 & 29), clarify that residents outside urban space of city lack to feeling safety and loyalty to their neighbors besides, they have a routine life.

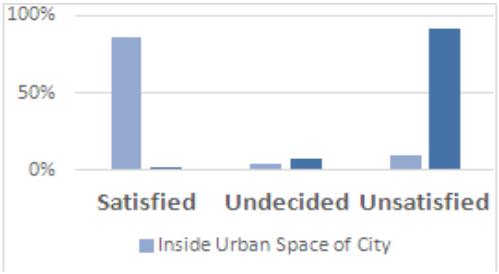


Fig.23: Satisfaction with medical services

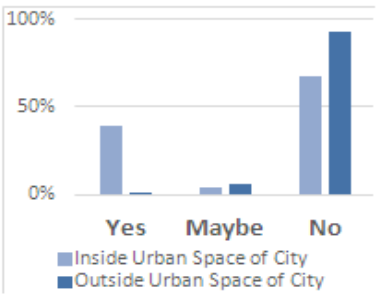


Fig.24: Feeling a comfort life

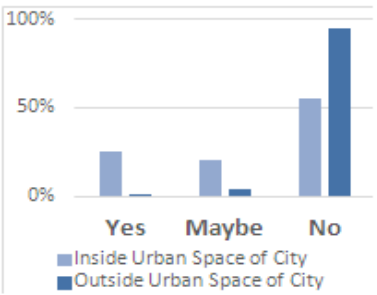


Fig.25: Practice activities make residents satisfied

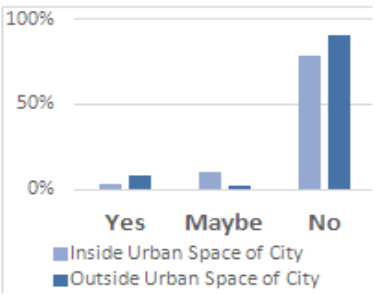


Fig.26: Feeling comfort in dwelling

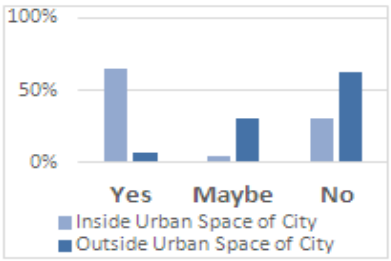


Fig.27: Merge with neighbors

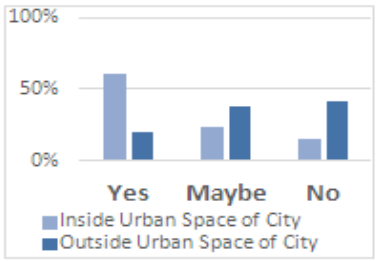


Fig.28: Feeling Inner harmony

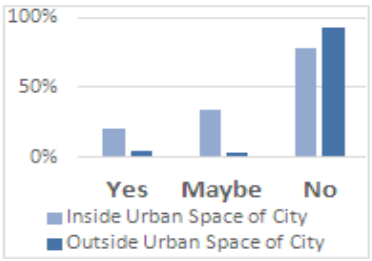


Fig.29: Feeling safety in district

Finally, the researcher reached that the most affecting problems facing residents and causing the feeling of dissatisfaction about their urban environment represent in defects of the unit design at a percentage of 41.2%, hence, about 28.6% suffer from crime occurrence and lack of safety. So, the main objective of these interviews was to attain a list of satisfaction reasons that are suitable for the economic level of Housing in Egypt, the researcher analyzes their answers and concludes the prominent problems facing residents in economic housing buildings as clarified in the following table:

Table (4): Most Prominent Problems Facing Residents of Economic Housing in Egypt

Major Indicator	Sub-Indicators
Poor location	Far location (New Cities)
	Lack of mass transit
	Distance from city center
Planning Defects	Unavailability of commercial, health & educational services
	Unavailability of recreational services
	Mixed-Use blocks
	Unallocated parking
	Insufficient green areas
	Overcrowded population
Units Design Defects	lack of variety of units' shapes & sizes
	Buildings that sun do not enter
	Failure in proper orientation
	Neglecting aesthetic considerations of façades
	Poor infrastructure
	Finishing defects
Lack of Site Maintenance	Walkthrough animals in streets
	Poor green areas
	Ugly façades of buildings
	Dirty streets
	Sewage leakage
Lack of Safety	Steal crimes
	Deliberate sabotage
	No guard
Lack of Quietness & Personality	Increased number of units
	Close blocks
	Non-gated community
	Nuisance
Wrong Behavior of residents	Distortion of facades
	Wrong exploitation of roofs
	Breeding and rearing of birds and animals

Source: The researcher

Besides, more than 95.1% of residents affirmed that their residential buildings (Economic Housing buildings) lack for a lot of merits in luxury and middle Housing buildings such as; poor of facades aesthetics and defects of units design. In addition to, about 92.4% suffered from the choice of poor location for those buildings away from public services. Finally, it is noted that absence of equity value among different levels of the housing and what motivated the researcher to try consolidating the values of justice in housing sector especially in low income ones.

- **Outcomes:** the researcher extracts a checklist from the answers of residents contains all possible features of ideal housing urban environment at both of architectural and urban levels.

4.2. ASSESSMENT OF URBAN ENVIRONMENT USING QUALITY OF LIFE

After conducting the former pilot study and analyzing the output data, the researcher explores the assessment process of urban environment efficiency which is depending on a lot of variables extracted from the theoretical reviews of methods of social sustainability measurement and economic housing design and planning which address the components of urban environment and their items' relation with the quality of life index, these

components cover two areas; urban planning and, architectural aspect, each of them includes a set of sub-areas divided into many elements as clarified in table (5) below.

Table (5) Major and Minor Variables of Urban Environment of Economic Housing in Port-Said City, Egypt

Urban Environment	**Variables of current study**	**Items in details** (Economic Housing)
Urban Dimension	- The location - Street design - Land uses - Services and facilities - General configuration - Building blocks - Spaces and public spaces - Street facilities	• Far location (New Cities) • Lack of mass transit • Distance from city center • Unavailability of commercial, health & educational services • Unavailability of recreational services • Mixed-Use blocks • Unallocated parking • Insufficient green areas • Overcrowded population • Close blocks • Non-gated community • Walkthrough animals in streets • Poor green areas • Ugly façades of buildings • Dirty streets • Sewage leakage • Nuisance • Deliberate sabotage
Architecture Dimension	- The interior design of residential unit - The exterior design of residential buildings	• Lack of variety of units' shapes & sizes • Buildings that sun do not enter • Failure in proper orientation • Neglecting aesthetic considerations of façades • Poor infrastructure • Finishing defects • Distortion of facades • Wrong exploitation of roofs • Breeding and rearing of birds and animals • Increased number of units • Steal crimes • No guard

Source: The researcher

V. OUR UNIQUE SHELTER: A SUGGESTED INITIATIVE FOR LIFE NOT FOR LIVING!

The sentence "***For life not for living***" is not just words, it delivers a lot of meanings for the researcher hence, motivated her to aid both of residents and decision makers to reach the optimal urban environment for Economic housing sector in Egypt. The researcher seek to propose an approach can assess housing projects in Egypt and clarify that is to what extent can achieve social sustainability. As a result of the former survey, the researcher conclude a checklist clarifying the principles of residents' satisfaction and the urban characteristics of their dwellings (economic housing) and urban quality of life dimensions is developed, in order to set a group of principles that address the social concern called **O**UR **U**NIQUE **SH**ELTER abbreviated in "**OUSH**" consist of two main groups contain 42 items can assess the housing project during design phases. These 42 items can be considered as a helpful guide for urban developers and, policy makers in future economic housing buildings.

5.1. PHILOSOPHY BEHIND THE SUGGESTED LOGO

In Terms of Shape: The suggested logo depends on a simple pattern in yellow color that refers to housing (the used Key indicating the Housing sector in Urban planning maps), besides, the title of initiative (**O**ur **U**nique **S**helter).

In Terms of Meaning: The suggested name (**O**ur **U**nique **S**helter) tries to promote the social values related to housing nature as; Being, Belonging & Loyalty, Privacy, Safety, beauty and, becoming.

Fig.30: A Logo of the Suggested Initiative

Table (6): The proposed checklist (Our Unique Shelter)

Assessment Level		Result	
Architectural Dimension			
The interior design	Enough total area		TOTAL RESULT: /42
	Enough living spaces		
	Enough service spaces		
	Suitable areas for living and service spaces		
	Separated spaces for each usage		
	Natural ventilation (Optimal disturbing of openings)		
	Thermal comfort		
The exterior design	Satisfactory designs of facades		
	Far distance between opposite facades (Visual Privacy)		
	Quality of Finishing materials		
Urban Dimension			
General configuration	Optimal orientation of blocks (North direction at 45°)		
	Satisfactory opposite scene		
	Zero pollution in the surrounding environment		
Building blocks	Acceptable number of stories (<= 6 stories)		
	Acceptable number of units per a storey (<= 4 units)		
	Enough total area for a building		
	Preferable urban pattern (Grid-dotted)		
Spaces and public spaces	Existence of green and open spaces		
	Optimal distance between nearest open space and the block (<400m)		
	Existence of benches and pergolas		
	Existence of trash receptacles everywhere		
Street facilities	Existence of connected network of paths with streets		
	Existence of convergent mass transit stations		
	Existence of parking for vehicles and bikes		
	Near distance between parking and blocks		
The location	Plane topography of the blocks site		
	Access to the city center		
	Blocks location for the city center		

Street design	Degradation of streets wide		
	Separation between pedestrian and automatic traffic		
	Easier access to the surrounding areas		
	Existence of tree cover		
	Existence of lighting		
Land uses	Available commercial services		
	Available educational services		
	Available health services		
	Available entertaining services		
	Existence of places of worship		
	Proportion of residential uses to other uses		
Services and facilities	Efficiency of waste disposal		
	Efficiency of water supply		
	Participation in a mass activity		

- **Research Sample:** The researcher nominate the comprehensive inventory Style; (46 individuals) represents in the experts contributing in designing and planning many economic housing projects in port said city, hence, the sample represents civil engineers, architects, technical office engineers who executed the recent economic housing projects during the last 10 years (all respondents work in the department of urban planning at the administrative building of Port-Said governorate).
- **Data Collection:** A proposed checklist (clarified in appendix B) is the used method in collecting the required data (opinions of experts about residents' satisfaction about urban environment and the features of design and planning), within, conducting interviews with experts to clarify the relationship among the collected factors of housing environment and human needs.
- **Data Analysis:** A software SPSS V.20 used in this analysis in order to test ***reliability*** and ***validity*** of respondents' answers as shown in table. Then conducting a lot of static analyses:

- ***Cronbach' alpha test***: estimating the reliability coefficients of the three parts of the survey questionnaires.
- ***Parson's coefficient***: clarifying the correlations between housing urban environment and human needs.

Table (7): Summary of Reliability Coefficient Test and Validity Test (Mean Values),

Sample components	Conducted tests	
	[Reliability] Alpha Cronbach' value	[Validity] Spearman Correlation
Civil Engineers	0.854	0.858:0.688
Architects & Urban planners	0.988	0.901: 0.597
Technical office engineers	0.874	0.882:0.568

Source: The researcher

Table (8): The Referential Matrix of Urban Environment

Human needs/ Urban environment levels			Being	Belonging	Becoming
ARCH	The interior design	Enough total area	0.756	0.421	0.321
		Enough living spaces	0.844	0.247	0.142
		Enough service spaces	0.875	0.241	0.066
		Suitable areas for living and service spaces	0.747	0.504	0.045
		Separated spaces for each usage	0.898	0.124	0.452
		Natural ventilation	0.564	0.022	0.001
		Thermal comfort	0.501	0.042	0.001
	The exterior design	Satisfactory designs of facades	0.757	0.514	0.006
		Far distance between opposite facades	0.987	0.499	0.564
		Quality of Finishing materials	0.412	0.345	0.001
UPL	General configuration	Optimal orientation of blocks	0.541	0.632	0.001
		Satisfactory opposite scene	0.625	0.541	0.651
		Zero pollution in the surrounding environment	0.214	0.545	0.014
	Building blocks	Acceptable number of stories	0.147	0.745	0.541
		Acceptable number of units per a storey	0.185	0.712	0.514
		Enough total area for a building	0.214	0.687	0.324

		Preferable urban pattern (Grid-dotted)	0.154	0.314	0.314
	Spaces and public spaces	Existence of green and open spaces	0.002	0.142	0.641
		Optimal distance between nearest open space and the block	0.014	0.147	0.615
		Existence of benches and pergolas	0.017	0.101	0.741
		Existence of trash receptacles everywhere	0.041	0.014	0.010
	Street facilities	Existence of connected network of paths with streets	0.000	0.198	0.741
		Existence of convergent mass transit stations	0.000	0.245	0.568
		Existence of parking for vehicles and bikes	0.001	0.478	0.654
		Near distance between parking and blocks	0.001	0.147	0.475
	The location	Plane topography of the blocks site	0.004	0.047	0.534
		Access to the city center	0.017	0.149	0.752
		Blocks location for the city center	0.142	0.747	0.847
	Street design	Degradation of streets wide	0.004	0.401	0.541
		Separation between pedestrian and automatic traffic	0.014	0.307	0.341
		Easier access to the surrounding areas	0.000	0.425	0.648
		Existence of tree cover	0.000	0.241	0.411
		Existence of lighting	0.000	0.001	0.547
	Land uses	Available commercial services	0.124	0.154	0.541
		Available educational services	0.412	0.004	0.578
		Available health services	0.514	0.047	0.647
		Available entertaining services	0.147	0.147	0.857
		Existence of places of worship	0.124	0.214	0.455
		Proportion of residential uses to other uses	0.154	0.741	0.567
	Services and facilities	Efficiency of waste disposal	0.041	0.564	0.412
		Efficiency of water supply	0.064	0.748	0.388
		Participation in a mass activity	0.005	0.645	0.847

Source: The researcher

X > 0.7	Very Strong Correlation
0.5> x > 0.7	Strong Correlation
0.3> x > 0.5	Moderate Correlation
0.01> x > 0.3	Weak Correlation
–	No Correlation

- **Outcomes:** the researcher extracts a checklist from the answers of residents contains all possible features of the ideal housing urban environment at both of architectural and urban levels, in addition to, a matrix clarifying the relationship among the principles of Housing planning, the dimensions of quality of life.

Table (9): The Referential Matrix of Urban Environment

Human needs/ Urban environment levels		Being	Belonging	Becoming
Arch	**The interior design**	□	▨	○
	The exterior design	○	▨	▨
UPL	**General configuration**	▨	▨	□
	Building blocks	○	□	●
	Spaces and public spaces	●	●	□
	Street facilities	-	○	□
	The location	○	□	●
	Street design	-	○	●
	Land uses	○	○	□
	Services and facilities	▨	▨	●

Source: The researcher

□	Very Strong Correlation
●	Strong Correlation
▨	Moderate Correlation
○	Weak Correlation

–	No Correlation

VI. CONCLUSION

This research discusses and answers the research questions mentioned in the beginning of research as reviewing the prominent social problems facing the economic housing in Egypt as poor location, planning Defects, units design defects - lack of site maintenance, lack of safety, lack of quietness & personality and, wrong behavior of residents. In addition to, the argument about the concept of quality of life and housing levels as it is not limited to luxury housing only and economic and low-income housing should have the same rights according to all human need theories. Finally, the research conducted a pilot study to extract the main problems facing economic housing sector in port said city then a survey to clarify the principles of residents' satisfaction; that is what achieve principle of equity as, the residents in economic housing buildings and low income ones should have the same rights (Principles of social sustainability) enough like the residents of luxury housing. So, the importance of this research represents in clarifying the responsibility of one of the most important sectors of city (Housing) in improving the urban quality of life index. The proposed initiative (Our Unique Shelter) is *a quality of life* based social sustainability of urban environment in Egypt and present a matrix clarifying the relationship among the principles of Housing planning, the dimensions of quality of life.

VII. RESULTS AND DISCUSSION

- Urban studies in Egypt lack to an assessment tool of urban environment efficiency especially at level of the residential neighborhood, especially with regard to evaluation by the population.
- OUSH is a proposed initiative; a Rafael Equation based rating system seeks to achieve social sustainability of housing sector in Egypt.
- Problems facing housing outside urban space of the city are more than others inside it; lack of public services and safety.
- The residents' satisfaction with their housing units is mixed between dissatisfied and neutral.
- The research found that the highest level of residents' satisfaction was about the characteristics of their housing units, followed by social indicators, and then the general services of the city.
- Dissatisfaction with public services emerged with lack of commercial, educational and health services.
- Residents' dissatisfaction emerged also to the rise in the monthly rental value of the units as estimated to be about two hundred Egyptian pounds (for a unit).
- The population always feels inferior and scornful by officials at the central headquarters of Port Said city.
- The background of the subjects may influence the evaluation process of the level of satisfaction. Especially when the degree of presence of the studied element is not specified.
- During assessment process of the built environment; Spatial assessment (urban) cannot be separated from opinion Population.
- The built environment may lack some elements of evaluation, which makes it difficult to grasp its importance and degree of satisfaction with it, and accordingly, an imbalance occurs in the measure of life efficiency in the built environment.
- The value of "***Becoming***" is strongly correlated with urban planning dimension, hence, "***Being***" is strongly correlated with architecture dimension.
- Designers are limited to the available small areas of projects' lands which do not enable them to put suitable designs.
- Experts saw that the most prominent problems facing economic housing projects in port said city is the limited lands inside the city what make almost recent projects outside the urban space of the city.

A CASE INSIDE URBAN SPACE OF PORT-SAID CITY

Al-Hourrya Buildings:

- Economic housing buildings inside urban space of city suffer from neglecting continuous maintenance for infrastructure and buildings facades.
- The residents are unsatisfied with their units' area and spaces because of small areas and lack of living and service spaces.
- Dissatisfaction of residents focused on increased number of rented units as their original owners did not prefer to live in it.

A CASE OUTSIDE URBAN SPACE OF PORT-SAID CITY

Emirates District Buildings:

- Economic housing buildings outside urban space of city suffering from shortage of almost types of services as commercial, health, entertainment and educational services.
- Residents always complain with pollution because of the surrounding factories.
- The residents are satisfied with their units' areas and spaces except the service spaces.
- The residents are unsatisfied with their buildings location near to the industrial park.
- The residents are unsatisfied with the public services because of the far location of the residential buildings.
- Dissatisfaction of residents focused on lack of residents interactions with their neighbors.

VIII. RECOMMENDATIONS

General Recommendations

- Urban planners and policy makers should pay their attention to the value of "Becoming"; people participation and interactions with the surrounding environment during the prime phases of the economic housing projects.
- The human dimension should be taken in consider during the prime phases of planning and design housing projects in particular economic housing buildings.
- Economic housing buildings should built on cheap and available lands in order to, the residents do not bear more costs due to high price of the project's land.
- Housing buildings should built for life not live to promote the value of human becoming.

Recommendations at the Architectural Design Level

- Researches of Quality of life should be embedded in the branches of urban management.
- The Egyptian law no.119 should adopt the criteria of quality of life and, apply the principles of green urbanism to achieve distinct urban communities.
- Considerateness the aesthetic dimension in the design of the facades of economic housing buildings

Recommendations at the Urban Design and planning Levels

- Raising the efficiency of the Al-Hourrya housing area by raising all waste from it and removing wastewater pools and establishing a lifting station for sanitation.
- Sustainable urban space of residential areas should have more of pedestrians rather than automated roads.

REFERENCES

[1]. Serag El Din, H., Shalaby, A., Farouh, H. E., & Elariane, S. A.: Principles of urban quality of life for a neighborhood. Hbrc Journal, 9(1), 86-92 (2013).
[2]. Hassan, G. F.: Review and re-evaluation of the successive housing Policy in Egypt. Al Azhar University Journal, EAJ (April) (2013).
[3]. Yu, Y.: A comparative analysis of population growth in China and Egypt: people, policies and prospects: a thesis submitted in partial fulfilment of the requirements for the degree of Master of Arts (Politics) in the School of People, Environment and Planning at Massey University, Albany campus, New Zealand (Doctoral dissertation, Massey University) (2011).
[4]. Verney, S., Grégoire, M., & Bloch-Lainé, F.: Human needs in housing. *Ekistics*, *33*(197), 291-294. Retrieved December 15, 2020, from http://www.jstor.org/stable/43621709 (1972).
[5]. McLeod, S.: Maslow's hierarchy of needs. Simply psychology, 1, 1-8 (2007).
[6]. Bagaeen, S., & Uduku, O. (Eds.): Gated communities: social sustainability in contemporary and historical gated developments. Routledge (2010).
[7]. Brown, R.J. and Brown, I.: The application of quality of life. *Journal of Intellectual Disability Research*, 49(10), 718-727 (2005).
[8]. Moussiopoulos, N., Achillas, C., Vlachokostas, C., Spyridi, D., & Nikolaou, K.: Environmental, social and economic information management for the evaluation of sustainability in urban areas: A system of indicators for Thessaloniki, Greece. *Cities*, *27*(5), 377-38 (2010).
[9]. Yakoub, W.: Green Octagon Rating System: A proposed tool for urban environmental assessment of Egyptian coastal cities. Unpublished Ph.D. Thesis, Faculty of Engineering, Port-Said University, Egypt (2020).
[10]. Mohit, M. A.: Quality of life in natural and built environment–an introductory analysis. *Procedia-Social and Behavioral Sciences*, *101*, 33-43 (2013).
[11]. Abbas, S. S., & Salal, S. S.: Residents satisfaction in the Residential Environment. *The iraq journal of architecture and planning*, *13*(1), 37-52 (2017).
[12]. Rossi, P. H.: Why Families Move. Glencoe, 11: FreePress.p14 (1955).

[13]. Morris, E.W., & Winter, M.: A theory of family housing adjustment. *Journal of Marriage and the Family*, (1975).
[14]. Findlay et al,: Life in Cities, New York, USA (1982).
[15]. Galester, G.: Evaluating indicators for housing policy: Residential satisfaction VS marginal improvement priorities". Social Indicator Research. Vol.16. (1985).
[16]. Raphael, D., Rukholm, E., Brown, I., Hill-Bailey, P., & Donato, E: The quality of life profile-Adolescent version: Background, description, and initial validation', Journal of Adolescent Health. 19, 366–375 (1996).
[17]. Smith, J. H., & Briers, G. E.: Quality of life of scholarship recipients. *Journal of Southern Agricultural Education Research*, *51*(1), 114- 123 (2001).
[18]. Layne, M. R.: Supporting Intergenerational Interaction: Affordance of Urban Public Space. the Graduate Faculty of North Carolina State University (2009).
[19]. المرشدى، ريام محمد: تصميم التجمعات العمرانية: الإستدامة الإجتماعية كأداة لرفع كفاءة المجاورات السكنية. رسالة دكتوراه غير منشورة. كلية الهندسة , جامعة القاهرة , مصر (2015).
[20]. Cortina, J: "What is Coefficient Alpha? An examination of Theory and Applications" journal of applied psychology 78:98-104 (1993).
[21]. Cohen, J. W: Statistical Power Analysis for the Behavioral Sciences (2nd edn). Hillsdale, NJ: Lawrence Erlbaum Associates (1988).

APPENDIX (A)

<u>The Used Questionnaire in the pilot study</u> (Questionnaire for residents) [10]

First: General Information about Residents					
1. Gender:	□ Male	□ Female			
2. Age	□ 20-30	□ 31-40	□ 41-50		
3. Education	□ Preparatory	□ Institute graduate	□ University student	□ B.Sc.	□ M.Sc. □ Ph.D.
4. Since when you live in your dwelling?	□ < 2years	□ 3-5 years	□ 6-15 years	□ >16 years	
5. Are you owner or renter?	□ Owner	□ Renter			
6. Which type is your residential unit?	□ Isolated	□ Semi-attached	□ Attached	□ apartment	
Second: To What Extent you are Satisfied with your Dwelling?					
1. A Façade of your dwelling	□ Satisfied	□ Undecided	□ Unsatisfied		
2. Location of your dwelling	□ Satisfied	□ Undecided	□ Unsatisfied		
3. Spaces of your dwelling	□ Satisfied	□ Undecided	□ Unsatisfied		
4. If you are not satisfied with the spaces of your dwelling, what is the reason?	□ Small Area	□ Need for living spaces	□ Need for service spaces		
Third: To What Extent you are Satisfied with the Public Services around your Dwelling?					
1. Commercial services	□ Satisfied	□ Undecided	□ Unsatisfied		
2. Educational services	□ Satisfied	□ Undecided	□ Unsatisfied		
3. Entertaining services	□ Satisfied	□ Undecided	□ Unsatisfied		
4. Restaurants and cafes	□ Satisfied	□ Undecided	□ Unsatisfied		
5. Sidewalks and walkways	□ Satisfied	□ Undecided	□ Unsatisfied		
6. Mass transit in your region	□ Satisfied	□ Undecided	□ Unsatisfied		
7. Service of waste collecting	□ Satisfied	□ Undecided	□ Unsatisfied		
8. Streets lighting	□ Satisfied	□ Undecided	□ Unsatisfied		
To What Extent you are Satisfied with the Following Items?					
9. The level of noisiness	□ Satisfied	□ Undecided	□ Unsatisfied		
10. The level of water services in your region	□ Satisfied	□ Undecided	□		

Unsatisfied				
11.	**Medical services** Unsatisfied	□ Satisfied	□ Undecided	□
The Following Indicators of Social Environment				
1.	**Do you feel living a comfort life?**	□ Yes	□ Maybe	□ No
2.	**Do you practice any different activities make you satisfied?**	□ Yes	□ Maybe	□ No
3.	**Do you feel comfort in your dwelling?**	□ Yes	□ Maybe	□ No
4.	**Do you merge with neighbors?**	□ Yes	□ Maybe	□ No
5.	**Do you feel Inner harmony?**	□ Yes	□ Maybe	□ No
6.	**Do you feel safety in your district?**	□ Yes	□ Maybe	□ No

APPENDIX (B) (Questionnaire for experts)

- **Put the mark (√) in the suitable cell**

Assessment Level		**Elements of Residents' Satisfaction**		
		Being	**Belonging**	**Becoming**
Architectural Dimension				
The interior design	Enough total area			
	Enough living spaces			
	Enough service spaces			
	Suitable areas for living and service spaces			
	Separated spaces for each usage			
	Natural ventilation			
	Thermal comfort			
The exterior design	Satisfactory designs of facades			
	Far distance between opposite facades			
	Quality of Finishing materials			
Urban Dimension				
General configuration	Optimal orientation of blocks			
	Satisfactory opposite scene			
	Zero pollution in the surrounding environment			
Building blocks	Acceptable number of stories			
	Acceptable number of units per a storey			
	Enough total area for a building			
	Preferable urban pattern (Grid-dotted)			
Spaces and public spaces	Existence of green and open spaces			
	Optimal distance between nearest open space and the block			
	Existence of benches and pergolas			
	Existence of trash receptacles everywhere			
Street facilities	Existence of connected network of paths with streets			
	Existence of convergent mass transit stations			
	Existence of parking for vehicles and bikes			
	Near distance between parking and blocks			
The location	Plane topography of the blocks site			
	Access to the city center			
	Blocks location for the city center			
Street design	Degradation of streets wide			
	Separation between pedestrian and automatic traffic			
	Easier access to the surrounding areas			
	Existence of tree cover			
	Existence of lighting			
Land uses	Available commercial services			
	Available educational services			
	Available health services			
	Available entertaining services			
	Existence of places of worship			
	Proportion of residential uses to other uses			
Services and facilities	Efficiency of waste disposal			
	Efficiency of water supply			
	Participation in a mass activity			