

## The study of informal residence of Mashhad Qoli in Conurbation of Mashhad, Iran

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**Abstract:** Urbanization is wide and complex in the current world and it is considered metropolis or Conurbation. Mashhad with the population of 2.4 million people is the second metropolis after Tehran and the population of its instable margin is more than 800 thousand people covering it as a belt in Mashhad Conurbation. Motahari Township (Mashhad Qoli) is one of the informal residences in Mashhad Conurbation being faced with many social, economical and structural problems including housing, the lack of housing, low quality of housing, proximity with inconsistent use with residential, etc. the current study is performed with the objective to achieving a strategy to organize and improve the condition of housing and residential. The study was descriptive-analytical method and the data collection was done by attribute-library studies and field studies were done by observation, filling out questionnaire and photograph. Based on the results of the study, the great part of housing in informal residential of Mashhad Qoli were repaired with low durable materials, second hand without build license. Also, establishing low income rural immigrants caused the dominance of unprofessional mechanisms, long building period and reduction of housing construction in this region. Thus, any attempt to remove poverty from this residential can be considered an effective step to reduce housing problems.

[M. A. Shokouhi, M. R. Mabhoot. **The study of informal residence of Mashhad Qoli in Conurbation of Mashhad, Iran.** *Life Sci J* 2013;10(7s):614-621] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 98

**Keywords:** Slum; informal residential; Conurbation; housing

### 1. Introduction

Informal residential is one of the evident examples of urban poverty being formed inside or in the proximity of cities (namely big cities) without license and formal urbanization planning with a collection of low income class and low level of quality and quantity of life. It is recognized by some titles as slum living, informal residential, unsuitable residential (Harvey, 1997: 72). The term "Informal residential" is attributed to west and dates back to the writing of some theorists as Robert Park, Ort Stone, John Turner and Cahlz Abrams (Piran, 1987:52). As informal residential are dominant factor in urbanization and providing housing for urban poor, these residential should be viewed as poor share to solve their problem (Gilbert et al. 1996:23). Some factors as the lack of basic services, the lack of security of occupying land, the residency of low income families and considerable dependency to informal job opportunities ( Sarafi,2002:6).

In Iran, the lack of housing in urban areas is evident mostly as informal residential and is developing (Athari, 2005:113). Informal residential as informal housing without legal identity being dispersed around the cities (Hadizadeh Bazaz, 2003:15). The residential units are built with instable and wear out materials and the urban services are inadequate (Kazemi, 2004: 376). One of the most important symbols in recognizing the condition of

residency in these regions is considering structural indices of housing (UN-HABITAT, 2005:1).

The review of literature of informal residential in Iran show that formation of informal residential in Iran dates back to 1966. Rapid growth of population and structural changes of Iran rural economical system after 1966 caused the immigration of rural population to the cities. Here, most of the immigrants without the affordability of residing in the formal scope of the city and paying the housing costs and residing in legal region of the cities went to the cities to provide a shelter namely in great cities in slum areas (Lakuyan, 1985:31). Thus, informal residential of the margin of cities, namely metropolis, had great share in providing the rural immigrants housing and improving the quality of housing of slum areas were the important issues in this section.

Explorative studies of this study show unsuitable condition of housing (residential units and residential environment) in informal residential of Mashhad Qoli. The housing and its environmental conditions are effective factor in satisfaction of a person about residing in a township (Westaway, 2006: 187). Low-income people to provide the housing in the cities, from the first stage of selecting a good place to reside in the city to providing land, license of housing construction, financing construction cost and its equipments are faced with some problems. Increasing development of housing problems in the cities and removing them make necessary to consider their

reasons. Mashhad Qoli residential is encountered with the lack of housing and unsuitable housing.

This study was performed to find strategies to organize and improve housing and residing in margin residential of Mashhad Qoli and the major goal is followed in the form of the following goal:

“The investigation of structure of margin residential of Mashhad Qoli and its relation with economical and income structure of its residents”. Achieving this goal leads into the increase of welfare of the residents of township, establishing social justice in achieving the urban services and facilities and creating stable and dynamic township.

It seems that good response to the issues of housing section in margin residential of Mashhad Qoli, requires to answer the following questions:

a. What is the main reason of creating residential of Mashhad Qoli and how is the residential condition of Mashhad Qoli? What factors created unsuitable conditions of residing in this township?

b. What is the main reason of solving a part of housing problems in this residential?

The research hypotheses were formulated as following.

- It seems that unsuitable condition of housing in Mashhad Qoli is relate with financial affordability and residing in formal region of the city and paying housing costs and living in legal region of the city and migrated to this residential to provide their shelter.

- It seems that economical, social characteristics of the residents living in the slum are effective in their structural formation and in case of changing the structural environment, its residents will change and migrate to other regions and it developed the unsuitable residential in the region.

## 2. Materials and Methods

The current study is applied and descriptive-analytical method was used. Data collection was done by attribute-library studies techniques and field interpretation via observation, filling out questionnaire and taking photograph. The sample size in this study and based on previous studies and criterion error  $\pm 0.05$  and significance level 95% and Nieman method and infinite communities formula and by considering 10% of not achieving some of the research units, 100 was considered and 100 questionnaires were completed.

$$n = \frac{(\sum N_h S_h)}{N^2 D^2 + \sum N_h S_h^2}$$

Where, n is the size of required sample, N the total number of members of the society,  $N_h$  the number of class hth,  $S_h$  standard deviation of class hth,  $S_h^2$ : Sample variance of the observations of class

hth, d: accuracy ( $\bar{x} - \bar{X}$ ), z is confidence coefficient (1.96 shows 95% confidence),  $D^2 = d^2 / z^2$ .

After data collection of the study and via questionnaires, the data were extracted and analyzed and the required data were studied and were reflected in a Table.

### The introduction of variables and indices

“The establishment of low-income groups in Mashhad Qoli and “unsuitable condition of housing” were independent and dependent variables in this study. In the study of independent variable, we used per capital costs of each household as the representative of household income and to investigate the dependent variable, we used the number of household in residential unit, per residential unit, the number of rooms in residential unit, the people for each room, average land area, the quality of building, type of materials, construction license, occupy method, the number of storey, construction period, construction method and construction condition, having main services, wastewater disposal, public transportation condition, social security, passage lighting, asphalt condition and par and green space quality.

### Concepts definition

#### Housing

In Persian dictionary, housing means residential, house and position (Amid, 1992:1805). Housing in Latin means shelter and is an achievement or process including the inside and outside physical space of the building in which the family grow and die (Seyfoldini, 2006:165).

Housing is a physical place and is considered as shelter, initial need of the household. In this shelter, the initial requirements of the family as food, resting and protection are protected against weather conditions (Ahary et al., 1998:7). Mokhaber in the book of social dimensions of housing believed that the concept of housing besides physical space includes all residential space as all the necessary services and facilities to live better and job plans, education and health of people. Indeed, the general definition of housing is not a residential unit; it includes all residential space (Mokhaber, 1984:17).

In another definition of housing, “Housing is something more than physical shelter and includes all required public facilities for living and it should have long-term occupy for the user (Knapp, 1982; 35). In the second association of human being residential (1996) held in Istanbul, the suitable housing is defined as:” Good shelter is not meaning a ceiling above each person, good shelter means good comfort, good space, physical access and suitable security, ownership security, structure stability, lighting, good ventilation

and heating system, good initial infrastructures as water system, health and education, rubbish disposal, good quality of environment, good health factors, good and accessible place in terms of working and initial facilities and all the items should be provided based on affordability of people (Dalalpour, 2000: 3,4). The common points of the above definitions show that housing is not only a shelter but also it is a set of units in a physical place to present intense services. In addition, some people believe that housing is not a residential unit and it is including all residential environments with all required services and facilities.

### **Informal residential**

Informal residential have different definitions in various countries and are defined based on various parameters.

Informal residential in Iran is applied with various names. Namely, slum, margin living, unsuitable housing, self-motivated residential, (Hataminejad et al.2006:133). Generally, in defining the concept of informal residential, economy and providing shelter are meaningful. Economy is the most important basis of the life of a family, sometimes human beings to provide their living, move their house and this is done as migration to village-city or intracity to attempt to have a better life in third world countries. The metropolis regions in these countries have more advantages to improve their life and improve job opportunities. For informal society residents in these cities, achieving a shelter have vital functions. These communities are the product of separating land and housing market to formal and informal sections. As John F Turner said, self-motivated planning of urban poor is occurred in a society in which urban planners don't have a plan to reside the poor (Piran, 2003:9). Informal residential regions are the ones created with special structural, economical, social, legal, infrastructural and environmental inside or around the cities. In other words, informal residential is instable urban living manifested in inside or suburb of the city out of formal and planned regions (Sarafi, 2003:262). In another definition of the residential, there are some textures located more in the margin of cities and metropolises and are formed out of the formal plan of development. These residents are low-income groups and rural immigrants. These self-motivated textures are made rapidly and they lack safety, stability, social security, urban infrastructures (approved in 1385/3/16 of high council of architecture and urbanization in Iran).

### **Conurbation**

Conurbation is called a wide scope created of the development of various cities and township as in structural link; it keeps its separate entity. In other words, Conurbation is a space region consisting of one or more main cities and population centers, services with economical, social and structural-spatial relations as mutual, direct, continuous and increasing and composing a unit market of residential, employment, services and delicacy.

Mashhad Conurbation is a geographical area consisting of Mashhad city and population, producing, service and tourism centers with environmental, economical, social and spatial interaction with each other and form a unit system of residential, activity and services and unit activity of residential, activity and services in present and future. Planning and management of this set is done in the form of spatial unit of organization (Mahdizadeh, 2006: 111).

Mashhad Conurbation has unique characteristics distinguishing it of other urban Conurbation. As special religious centrality, border geopolitics situation and important historical background at national local and super national scale. Indeed, Mashhad city is one of the greatest religious cities and one of the important religious cities in Islam world. On the other hand, as a metropolis and the center of Conurbation, it has various economical, social, political, cultural and communication roles at local, national and super national scales (Mahdizadeh, 2007:6).

### **Theoretical basics**

As one of the main hypotheses of this study is the main reason of creating margin residential as the migration of rural people to Mashhad metropolis, the investigations in this regard show that increasing the population of mentioned regions and emergence of slum is one of the main causes of immigration being done for various reasons and various goals. Thus, achieving effective reasons in migration can show a vivid image in formation of slum regions. Thus, one of the main frameworks of the current study is the reason of migration.

Regarding the reason of migration, there are various theories and most of them know the reason in push-pull model. Luice said:” For every movement leading into migration and slum, some factors are mentioned and most important of them are “escaping” and “absorbing”. Immigrant groups migrate mostly due to pushing force in village and in some cases pulling factor of the cities. When pushing factor of city (considerable costs) have opposite directions with two previous forces, there is a great barrier for immigrants to the main body of the city, the main cores of margin communities are found (Hosseinzadeh Dalir, 1991: 64).

Todar et al. presented expected income of migrant in destination. The model presented by Todaro is such that the decision to migrate from village to city is affected by the performance of two great variables as push and pull: 1- The considerable difference between urban and rural income, 2- The probability to achieve a kind of employment in city. Todaro knows such assumption correct selecting unemployment in the city for selecting unemployment in city and village. Because city future has vivid vision to the village (Papliyazdi, Rajabi Sanagerdi, 2003:25).

Other theories in this regard are excepting city and exploding metropolis that is repeated in most of the metropolises in the world. In other words, great cities absorbing an important part of increasing population of living locations, after structural saturation and increase of housing price send the extra population of other cities to suburb areas. The urban locations and surrounding rural areas of these cities are increased rapidly and concentration in urban region is replaced by concentration in formal region of metropolis (Taleqani, 1999:8).

Regarding the major policies of facing with housing problems in informal residential, the governments to provide housing condition of low-income groups in informal residential tried to take special policies and by short and long-term plans attempted to meet the demands of housing in these groups (Shafaqi and Khubayand, 2001: 69). As:

- The main and structural measurements or long-term policies: In this approach, the experts recommend prevention more than anything. Thus, in the first stage, the new comers to the cities, namely great cities are done via legal ways (e.g. law), structural (e.g construction of green band) and supervision (related to different kinds of owner less land) and then all the residents of informal residential inside the city are a part of city people and are supported and to solve the problems, it should be attempted (Ahmadian, 2003:289).

- Local-subject policies: During 1950,1960s, slum approach is considered as destruction of

information residential (Shabirchima, 2000: 149-149). In 1960s, renovation and destruction policy as destruction and then construction of new cheap residential units in these regions (Ahmadian, 2003: 291) and in 1970s, the land equipped with urban services in land plan and services are performed (Merrill, 1977:166). In 1980s, improving the quality of residential via keeping the ability by relying on empowering people and the groups without housing were used (Khatam, 1996: 640).

### Research scope

Population core of Mashhad Qoli is located in the north east of Mashhad beside old road of Quchan and it has linear form. This population core of old Quchan road is started of Shahid Fahmiden square located in ring road 100m and extended to the north, parallel with Santo road and in the right side of this road we reach a rout as 3800 m to Mashhad Qoli. The main reason of developing this population core is the proximity with old road of Quchan, the presence of manufacturing and services centers, low value of land, high potential of the region for migration, city availability and access to its urban services. The initial core of Mashhad Qoli is formed beside a well and the surround land is turned into small parts by major owners and besides destroying the gardens and agriculture land is turned to residential area. This region dates back to more than 3 centuries. As in a long year of formation of Kalateh, there was a person called Qoli, this place was called after him as "Morshed Qoli" and later it was called "Mashhad Qoli". In terms of population changes, as is shown in Table 1, Mashhad Qoli had 368 people in 1966 with the growth of 6.8% per year reaching 2504 people in 1976. In this period, the population of margin residential of Mashhad was doubled and this fact was true for the years 1976 to 1986. In this period, (1976 to 1986), the population of 2504 people of Mashhad Qoli increased by 10912 people with the growth of 15.9% per year. It means that during 10 years, the population increased by 4.5 times.

**Table 1-** The comparison of the changes of metropolis population of Mashhad with slum residential of its conurbation

Year	The number of population in Mashhad	10-year growth rate	The number of margin residential population of Mashhad conurbation	10-year growth rate	The number of population of Mashhad Qoli residential	Household number	Household dimension	10-year growth rate
1966	409616	5.1	46262	5	368	88	4.2	6.8
1976	667770		74894		2504	571	4.4	
1986	1463508	8.2	148958	25.8	10912	1905	5.7	15.9
1996	1887405	2.57	478994	12.4	13093	2675	4.9	1.8
2006	2427316	2.55	735470	4.4	37402	8312	4.5	13.2

Source: Iran statistics center, housing and statistics center

Turning point of slum in metropolis of Mashhad dates back to 1986 to 1996 and the population of slum residential of Mashhad city were three times and the share of Mashhad Qoli margin residential was ignorable and by a little growth as 1.8% per year, its population was increased from 10912 people in 1986 to 13093 people in 1996. Finally, during 1996 to 2006 with the growth of 13.2% per year, the population of Mashhad Qoli reached from 13093 in 1996 to 37402 people in 2006 and the population of margin of Mashhad city was doubled.

According to the above table and population changes of Mashhad conurbation and comparing the population growth rate of Mashhad metropolis with margin residential of conurbation, during 1966 to 2006, it was defined that after structural saturation and increasing the housing price and services in Mashhad metropolis, the extra and immigrant population who came from other cities to this metropolis couldn't live in legal region of this city and were obliged to select surrounding locations due to housing cheap price and services. In other words, according to the view of metropolis exploding and escaping the city after structural saturation and increasing the price and services in Mashhad metropolis, this city sent the extra population of other cities to surrounding locations as urban and rural locations around Mashhad metropolis were increased rapidly and concentration in urban region was replaced by concentration in legal region of this metropolis.

### 3. Main discussion

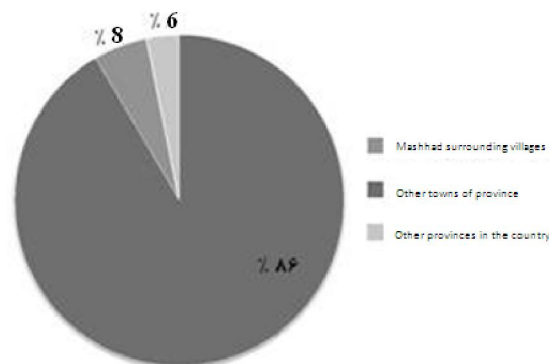
#### Migration characteristics

In this section, it is attempted to investigate the migration characteristics of the residents of Mashhad Qoli based on the migration origin and destination characteristics and migration process as:

Regarding the origin of migration, the investigations showed that 73% of the heads of households living in Mashhad Qoli had rural origin and regarding the initial origin of migration, the results showed that 8% of household heads came from surrounding villages of Mashhad, 86% of the heads of other towns of Khorasan province and 6% remaining were from other provinces of this country (Chart).

Regarding the residential time of residents in the current location and the places before residing in the study region, some questions were raised and by the responses we can say that 63% of the residents in the study region had residential history of more than 15 years and only 11% of the residents had less than 5 years living in this place. This issue based on the old nature of region shows the high history of residing of Mashhad Qoli residents. Following residential history in previous locations of these households showed that

as most of the households living in Mashhad Qoli have rural origin and they came from other towns to this place, they didn't have considerable residential history in the locations except the current location. As 64% of respondents came from their initial place directly. Regarding the reasons of migration, there was a question that why you came here. In response to the mentioned questions, various reasons were presented and by concluding the reasons, the major reason to come to this place (about 51%) was purchasing this residential unit and after that some motivations as cheap renting and proximity to relatives were high. Regarding the previous information of people regarding their current residential place, before migration, 61% of people tried to migrate with the information they achieved of their relatives who migrated.



**Chart 1:** The migration origin in informal residential of Mashhad Qoli

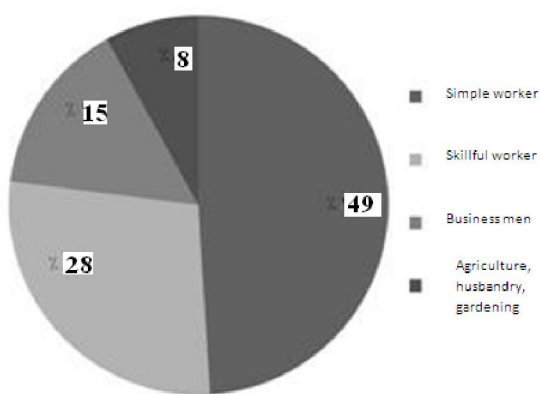
#### Economical characteristics of sample households

##### a) Job characteristics

Regarding the job characteristics, there were some questions about current job of people, previous job and their job at birth place. Regarding the reason of selecting the current job and job location, there were some questions raised and the results of their investigation is observed. In response to the type of job, a great part of jobs ranging from simple worker without any specialization to specialized worker and other jobs being defined and questioned among household heads, the highest frequency was dedicated to simple workers without any specializations including 49% of the people. After simple worker, the figures of skilled worker with 28% and business men with 15% had the highest frequency. The minimum frequency was dedicated to agriculture, husbandry and gardening jobs and about 8% of the household heads are working (Chart 2).

The investigations regarding the type of job among other household members showed that 78% of household members (the wife of head-mother) are homemakers. Regarding after the third member of the

household, the investigations showed that by increase of children age, the ratio of educated people is reduced and the number of employed is increased and this employment is related to the jobs requiring special skill. In other words, these people by leaving school by receiving low wage tried to achieve specialization and skill and after this stage, turned into one of the active members of the family to gain money. The next question being asked of the residents regarding the type of job in birth place showed that as most of the people were rural originally, they were working in agriculture and husbandry (41%) in their birth place. After agriculture, the highest frequency was given to simple workers and after that skillful worker.



**Chart 2:** The job of household heads living in Mashhad Qoli

Regarding the previous job and the job of people before leaving the birth place and a stage before current job, it is observed that the highest percent was dedicated to simple workers that by losing their agriculture land in birth place and the lack of adequate specialization were simple workers to make a living at the beginning of entering the current place. Another point is that these simple workers over the time and achieving specialization were changed into skillful workers and by achieving capital, tried some other jobs as sale, driving, etc. regarding the reason of selecting the job from the respondents, various responses were given as specialization, history, being obliged to select this job, proximity to residential place. Finally, the highest frequency was dedicated to having previous history about the job and least frequency was given to comfort and proximity of job place to residential area. Job security is one of the job characteristics being emphasized in questionnaires. To receive a good response, some questions were raised about insurance and the type of wage as daily or monthly wage. As the maximum percent was dedicated simple workers, high percent of employers are people who don't receive permanent wage and are considered as daily wage receive people. Based on

this issue, most of the people receiving wage didn't have good insurance.

#### b) Financial characteristics

To investigate the financial characteristics of the residents of per capital costs of each household was used as the agent of household income. As at first, the household costs had more statistical validity and don't have the sensitivity of income for the respondents and second, raw data of this index exist in costs statistics and income of urban households of Iran statistics center (statistical calendar). According to statistical calendar data of Khorasan province, the average total costs of an urban household in 2010 was 9573010 Rls and average total monthly costs of each urban household is about 7980000 Rls (Statistical calendar of Khorasan Razavi, 2010:739) and average total monthly costs of each household of Mashhad Qoli was 4912350 Rls and it showed the establishment of low-income groups in residential.

#### c) Spatial characteristics of employment

The spatial characteristics of employment were investigated by some indices as employment job, instrument to commute and required time for it and the results of the investigations were considered in this section. Among the investigated people, most of the people working in an environment other than their living environment. On the other hand, the mentioned people can be classified in two groups. The first group is dedicated to people with definite working place and commonly they were the people who need about 1 to two hours to reach their work place. The second groups are people without fix working place and are moved in the city, construction workers have the highest ratio. As the working place of these people is changing continually and a fixed place is not considered for them, special time is not considered to reach their work place. Regarding the vehicle for commuting of the people working in Mashhad Qoli, the highest frequency was given to the people using bus. After than bicycle and motorcycle in short paths had the highest percent.

#### The condition of residential units in Mashhad Qoli with emphasis on housing characteristics

The housing characteristics are classified in the following groups:

- i. Quantity characteristics of housing including area width, infrastructure area, storey and the number of rooms.
- ii. Density characteristics of housing including different kinds of density, per capita in residential unit in room.
- iii. Construction characteristics as the type of materials, building life, the existing facilities in unit.

iv. Other characteristics as regulations, participation in construction, type of use and occupying housing unit.

#### d) Quantity characteristics of housing

In the investigations, the field area and units or separating part and infrastructure level were questioned. The residential parts level and infrastructure level of the residential in Mashhad Qoli were shown in Tables 2, 3 in five storeys consisting of areas less than 40m to the areas more than 120m, respectively. As is shown in Table 2, the average residential part level in Mashhad Qoli was about 63m<sup>2</sup> and it showed the small parts in the study region.

**Table 2-** The area of residential parts

NO.	FIELD AREA	NUMBER
1	Less than 40m	10
2	41-60m	50
3	61-100m	22
4	101-120m	6
5	More than 120m	12
6	Sum	100

Regarding the infrastructure level of the residential, as is shown in Table 3, the infrastructure level in Mashhad Qoli was ranging from 25m<sup>2</sup> to 125m<sup>2</sup> and the average infrastructure in the study region was 60m<sup>2</sup>.

**Table 3-** The residential infrastructure area

NO.	FIELD AREA	NUMBER
1	Less than 40m	17
2	41-60m	25
3	61-80m	51
4	80-100m	4
5	More than 100m	3
6	Sum	100

Another index being considered regarding the quantity characteristics of housing is the number of storey of residential. Most of the residential buildings in the study region were one-storey building as 89% of the required buildings were one-storey. The number of residential units in each building based on collected data via questionnaire was about one residential unit in each building. The last index considered in quantity characteristics of housing was the number of rooms in residential unit. The investigations showed that 59% of residential units in the study region were two-room. On other hand, the average number of residential rooms was 2.11.

#### e) Density characteristics of housing

Regarding the density characteristics of housing, density indices as density of a person in residential unit, density of household in residential unit, density

of a person in room and room per capita for each household. Regarding the density of a person in residential unit being achieved of dividing the number of population by the number of residential unit. The less this index, the best is the housing. In the study region, this density is about 4.49 person in each residential unit and on the condition of consistency and observing related standards and compared to the average urban regions in 2006 was 3.95 (Arabi Belaqi, 2007: 70-72). It showed the good condition. Another index regarding the density characteristics of housing is household density in residential unit and the less the index, the best it is. The extracted results of questionnaires showed that about 86% of residential units have one household and this index compared to its equivalent for urban regions in 2006 is 1.08 (Iran statistics, 2007) is good. 14% of remaining residential units with more than one household, the second family has tenant relation to the main family.

The last index being considered in this regard is the density of person per room and this figure in the study residential (Mashhad Qoli) is 2.3 people. The average ratio of population to room is 1.29 and 1.06 in Khorasan Razavi and in Mashhad Qoli residential, this index is in bad condition and people per room are more than the equivalent value in Iran and province. Room per capita for each household was calculated and this figure in the required residential was 1.69 room to each household.

#### f) Housing construction characteristics

To investigate the construction quality, some indices as the type of construction materials in the building and building life are questioned. Of the studied residential units in population core of Mashhad Qoli, 72% of the units were made of brick and iron. As the most of residential units via self-help and collaboration of family members without skill are built and the lack of using good materials, we should be doubtful to the durability of these buildings.

The results of questionnaires regarding the life of investigated buildings in Mashhad Qoli showed that 54% of the buildings with the life of less than 5 years and only 12 percent of the buildings had more than 10 years and this showed the new buildings in the region. But due to the lack of using good materials and the lack of affordability in completing the façade of buildings as it is found rarely that its façade is finished, this residential showed wear out. The last index that is considered is the type of facilities in housing. Different kinds of facilities are considered as electricity, electricity contour, drinking water, water contour, telephone, gas, cooler, bathroom, WC and kitchen being shown in Table 4 as the percent of users of facilities.

**Table 4-** The existing facilities in residential units in Mashhad Qoli

NO.	THE TYPE OF APPLIED FACILITIES	APPLICATION PERCENT
1	Electricity	97
2	Electricity contour	97
3	Drinking water	98
4	Water contour	89
5	Telephone	81
6	Piping gas	94
7	Cooler	35
8	bathroom	86
9	Kitchen	100

**g) Other characteristics**

In this section, some characteristics as existing rules in the region, the participation in residential units, construction unit type and its occupy are considered and the results of completing the questionnaires are as follow:

One of the most important reasons to form and grow margin residential, easy regulations or the lack of rules are the most important cases. Ignoring the regulations in these regions is more possible than the intricacy regions more control is applied on them. To investigate this issue and receiving vivid response to the presence or absence of construction rules in population core Mashhad Qoli, an indirect question was raised with this issue in the questionnaires that construction is free in this region? Based on the high sensitivity of this issue for respondents, 91% of the responses were such that construction is free and only 9% of respondents mentioned illegal ways of purchasing construction rules as via nightly construction. Regarding the participation method in building residential units, it was defined that in Mashhad Qol, 86% of residential units were dedicated to people who tried to build their residential unit and the least frequency was dedicated to people who purchased the house and among the people to tried to build the residential unit, the highest frequency was given to the people who completed their residential unit via self-help and lowest frequency was given to people that tried to build via hiring architecture. Regarding the occupy of residential units as is shown in Table 5, more than 75% of the people living in this region are the owner. This is due to cheap price of land and small size of the house compared to Mashhad metropolis.

The last characteristic in housing section is the type of using house. Based on the investigations, it was observed that 91% of residential units in Mashhad Qoli were lacking any other performance than residential. Here, about 6% of residential units dedicated a part of their space to construction of shop.

**Table 5-** The occupy method of residential units (%)

OCCUPY METHOD	OWNERSHIP	RENT	OTHER	SUM (%)
%	75	21	4	100

**Environmental characteristics**

Generally, separating the environment of slum living from other residents and establishing them in low value regions (eg. Quality and land price) and low welfare and economical and culture issues in these regions, it led into negative factors and unsuitable conditions of environment causing some physical and mental diseases among people living in slum. In this section to investigate the environmental characteristics of the region, some issues as wastewater disposal and surface water and rubbish disposal were analyzed.

Regarding the wastewater disposal and as the region doesn't have network wastewater system, wastewater disposal and surface water is done unsuitably as in all paths, the surface water and wastewater are mixed together flowing in open paths. In addition to the field observations, there were some questions regarding the problem of unsuitable wastewater disposal and surface water of the people living in the study region. Most of the people were concerned about unsuitable disposal of wastewater and emphasized on such problem. Regarding the rubbish disposal, we should say that unfortunately some of the staffs to collect rubbish were ignoring the neighboring townships of slums and didn't do their duties well. It means that not only they didn't collect the rubbishes of these regions, but also it is possible to transfer the m to slum regions. It is surprising to say that there is no reaction or protest to this act from people living in this region. Because at first they are not informed of bad environmental outcomes and second they considered the rubbishes a kind of tool to make money. Thus, 56% of respondents in the study region stated that they don't have any problem in terms of unsuitable disposal of rubbish. The existence of mud in winter and dust in summer and the presence of some elements as open channels of wastewater, keeping some animals as sheep, cow, calf and dog and poultry had considerable effect in contamination of their environment.

**Access**

Regarding the access to urban facilities and services, the services are education services as kindergarten, elementary school, guidance school and high school, health services and health as health center, commercial centers as shop to purchase the requirements, sport services and green space, cultural and religious spaces as mosque, cinema and other



services are considered. Each of them are shown separately in Table 6.

**Table 6- The access to various services in Mashhad Qoli (%)**

NO.	ACCESS TO SERVICES	THE RATIO OF PEOPLE HAVING ACCESS TO SERVICES (%)	
1	Sport facilities	11	
2	Children playground	0	
3	Park and green space	0	
4	Education	Kindergarten	5
5		Elementary school	95
6		Guidance and high school	40
7	Health center	76	
8	Cinema	0	
9	Mosque	100	
10	The shop for shopping	96	
11	Public vehicle	93	

#### **Mutual effects of economical-social and structural characteristics**

One of the effective factors in improving the structural environment, belonging to continuing living. If the residents have belonging feeling to their residential and know their life as temporary in the environment are not inclined to improve their environment. On other hand, a good structural environment cause to live in the place and people continue to live. Here and to investigate the inclination of people to live in the study region, the issue was considered from many aspects. The first issue is the inclination of people to continue living in the region and economical conditions of residents. Here two factors "job stability" and "costs and income balance" are considered. Regarding the job stability two indices "insurance" and "income continuity" (daily wage or permanent wage) are considered.

In the studies, it was defined that "insurance index" is the main factor in inclination of people to continue living in the place as the people with good insurance had less inclination to return to their birth place and try to continue their living in the place. But "income continuity index" is an effective factor in people inclination to continue their living or they are not inclined to return to their birth place. In other words, the respondents with permanent, monthly or daily income had similar conditions to incline to the birth place.

Income and job stability factor were effective in inclination of people to continue their living. As the people with good wage are more inclined to continue their life in the current place and they prefer to stage in the region instead of returning to the birth place.

Regarding the ownership factor of residential unit, we should say that there was a significant relation between inclination to return to birth place and the lack of residential ownership as the people who can not afford to own their residential unit, are more inclined to return to their birth place. But the people who are the owner of residential unit are more inclined to continue living in the current location. Finally, we should say that the more the job stability and economical stability of people in these places, the more their inclination to continue their life in the current place and this can lead into the improvement of structural conditions of the residential over the time.

#### **Hypothesis test**

1-6 the first hypothesis: Using household cost per capita index in Mashhad Qoli residential and comparing it with the equivalent value in urban regions and Mashhad showed that the households living in this township were in low-income group. In addition, based on various researches, economical poverty is related with citizens' law escaping (e.g. not paying the renovation cost or construction license) (Mahroyi, 2002: 25). The residents of Mashhad Qoli considered without license constructions, the lack of their affordability. Despite the residents of township, the long construction period, inclination to unprofessional construction, using second hand materials were related to their financial problems. Also, the effect of residential occupy related to economical basis of the households was manifested as reduction of rich nature of residential units and finally caused the lack of good indices of "The number of rooms in residential unit" and "density of person in room" in study region. The study hypothesis regarding the unsuitable condition of housing in Mashhad Qoli was associated with the establishment of low-income groups in this township.

2-6 Second hypothesis: The findings of case study emphasized the effectiveness and effect of economical, social and structural characteristics on each other. The results of the studies showed that the required residential had some structural characteristics as high population density, shortage of service per capita, unsuitable visual aspects and considerable problems in the road network and in case of any improvement of structural characteristics, the residents of these residential are changed.

#### **4. Conclusion**

1-7 Based on the findings of the study, the housing built in Mashhad Qoli residential in cheap land located in illegal regions of the city are made without legal construction license with second hand materials with the participation of household

members. We can say that in informal housing typology in Iran, we can add “unsuitable and unregulated” housing.

2-7 Based on economical characteristics of sample households (job, financial and place characteristics of the job) and investigating some indices as average household costs, unemployment and dominant job of household head, we can say that most of the people living in Mashhad Qoli residential is of low-income group.

3-7 Unprofessional construction by low-income households in Mashhad Qoli caused the long period of construction and reduction of the producing of housing in these residential and on the other hand had negative influence on reducing the quality of construction. The underlying economical conditions in this region led into low and bad housing condition.

4-7 regarding the governing of the share of low-income households in producing housing, empowerment strategy was used to activate the supply and empowering them to build new housing (with more storey, durable materials, with construction license) and improving the condition of housing. Any attempt to remove poverty and increasing the affordability of households directly and indirectly can give them the opportunity to improve the conditions of house and living place.

## 5. Recommendation

Based on the economical condition of the residents of Mashhad Qoli residential and quality and quantity dimensions of housing in these residential and related problems of residential place of residents and based on the current study, the following policies are recommended:

1-8 it seems that the main strategy of housing organizing in Mashhad Qoli residential is empowering with improving the quality of residency. In empowerment strategy, the governments used seven major tools. Three effective tools on “demand” as guaranteeing ownership right, increasing and developing access to financing facilities and paying logical subsidy and three effective tools on “supply” as providing required infrastructures to prepare land, adjusting and supervising the land and removing unnecessary regulations and organizing the construction materials production industries and a general measurement, improving the urban management institutions and improving general participation in decisions and improving the relation of private organizations with local organizations (Athari, 2002:29).

2-8 using self-help of low-income families living in this residential to improve the residential quality with the assumption that in low-income regions, extra

human resource is observed. Traditional help was common as facilitating the work as collective (Aprodissa, 1985:33).

3-8 The application of cheap methods of construction as using cheap materials and minimum standards to provide main needs of households.

4-8 The stabilization of the existing housing and education the residents regarding the advantages of standard housing and the disadvantages of non-standard housing and encouraging the professional manufacturers to produce housing in the required region.

5-8 Assigning credits of housing and easy access of the residents to it and supporting informal financial institutions as family fund or Qarzolhasaneh and charity foundations. Because low-income people not having fixed income and not suitable saving and not adequate guarantee visit informal financial institutions. The main problem of these institutions is low loan and their short payment time (housing mass construction housing, 2000: 83-85).

6-8 providing house construction by industry owners for workers based on placement of this residential in the proximity of industrial township No. 1 in Mashhad.

7-8 Using supported housing policy being constructed based on consumption model standards and government by paying the subsidy of water, electricity, gas, infrastructure taxes and cheap loans support it.

8-8 Renovation method (repair) of old residential unit, because there are some buildings in this residential that are not wear out to be destroyed. Thus, they can be kept and they should be renovated. Because avoiding the destruction of the units, pave the way to meet the demands of housing in terms of quality and quantity.

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12/6/2012