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Original Research Article

Exploring Housing Supply and Designing Policies for Low-Incomes; Providing New Policy Frameworks for the Current Situation in Iran

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Abstract

Problem statement: In reaction to the deficiency of policymaking, housing planning and urban development, housing poverty and the formation of slums are increasing and low-income housing has become one of the main challenges in the urban planning system. In the meantime, the separation of centralized and mostly government-based housing policies from local policies and urban development plans is a fundamental issue in this regard, which has led to many problems in accessing affordable housing for low-income groups. The increasing trend of informal settlements and the acceleration of housing poverty also indicate that the housing policy in Iran does not respond to the current demand for low-income housing.

Research objective: The purpose of this research is to investigate the pathology of previous policies for the provision and design of housing in Iran and the offer of a new policy framework according to Iran's conditions.

Research method: In this research, based on the quality approach and the various tools such as content analysis of documents, plans, and existing statistics, we have evaluated policies for the provision and design of low-income housing in the world and Iran. With the pathology of the current condition, new policy frameworks according to the situation of Iran are presented. Solving the issue of low-income housing needs to the local policies, rather than the same pattern and policy and centralized government-based intervention. The local policies are formed by the participation of residents and the urban development process and are influenced by the socio-cultural and economical characteristics of local communities.

Conclusion: The results of this research reveal the need for national housing policymaking integration with local politics and urban plans. Since housing demand is directly related to the urban economy and the provision of employment opportunities, it is necessary to consider the various dimensions of urban planning and housing provision and design programs concerning each other.

Keywords: *Low-income housing, Informal settlement, Housing provision, Housing design.*

Introduction and Statement of the Problem

The formation of urban slums is due to the clear

reflection of the planning and response of the poor residents of cities to provide housing affordability. More than 120,000 people are being added to

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the population of Asian cities every day, while the structure with proper infrastructure is being prepared for less than 20,000 new residents. It is estimated that between 42 and 52 million people in Latin America and the Caribbean apply for regular housing. The estimate of housing demand in Africa is about four million housing units per year with more than 60% of effective demand for urban residents, which is very worrying (Unhabitat, 2008).

According to the latest national population and housing census statistics of the country, the population of Iran in 2016 is 79/ 92 million. Compared to the last few decades, the urban population ratio has increased from 47.03% in 1976, which was the beginning of widespread rural-urban migration, to 74%. The formation of metropolitan area with surrounding slums, the increase in informal settlements outside the formal planning system in existing cities, and the formation of sometimes new low-income settlements are some of the existing realities of urban housing in the country.

Today, in the current situation, the issue of housing, especially low-income housing, is one of the main challenges for the government and municipalities. Informal housing is much faster than formal planning. According to current estimates, about 20 million of the country's urban population live in poor housing and environmental conditions (in the form of underutilized urban fabrics). That is a population of 11 to 12 million people lives in informal settlements. Housing policies in the country by the government have generally been in the form of centralized and top-down programs and have been less in line with local characteristics and programs. Temporary and forced measures before the revolution, extensive and unplanned housing transfers in the early years after the revolution, land preparation plans, the creation of new towns, the Mehr Housing Program, the National Housing Plan, etc., have all been policies and measures that have been implemented with the aim of providing

low-income housing in cities of the country, or at least providing low-income housing has been one of their main goals. Despite these large-scale measures, housing poverty has steadily intensified and the process of informal settlements has also increased. At the local level, although municipalities have increased their attention to the issue of low-income housing in recent years, due to the separation of housing policies from urban development programs and paying attention only to urban areas (instead of the urban region), in planning housing settlements, these measures have not been very effective in responding to the demand for low-income housing.

In this article, an attempt has been made to analyze the current situation of the country by examining the policies of providing and designing low-income housing in the world and Iran, and to provide policies and solutions for forecasting, providing, and designing low-income housing in the country, taking into account the lessons learned and global experiences.

Theoretical Foundations and Background of the Research

• Global approaches to dealing with low-income housing

Public investment in the housing sector was often not considered necessary until the 1960s. Since it was considered uneconomic, by investing in other socio-economic sectors, it was expected that the problem of low-income housing would be solved on its own by improving the situation of people through the market. As time went on and the goals were not achieved and it became clear that economic development could not bring about the expected change in low-income settlements and solve the problem, the choice of other solutions was considered by some governments. Different governments have come up with various policies to address low-income housing around the world. Major international aid agencies, especially the World Bank and the United Nations, have had many

policies and actions in this area for decades. The World Bank has been pursuing housing financing policies since the 1970s. The United Nations Human Settlements Program (Habitat) was established as a United Nations agency in 1978 and through the UN General Assembly is responsible for promoting and promoting the social and environmental development of human housing and achieving the goal of public housing. The agency, over the past four decades, has worked in many parts of the world to build better and brighter futures for rural and urban communities and has gained rich experience in implementing various projects such as policy-making or specific technical cooperation in specific areas of human housing and urban issues ([Http://unhabitat.org](http://unhabitat.org)).

The four major policies used to address the problem of low-income housing, in terms of the United Nations Settlement Program, which have had little effect and result included the following:

- Push the poor out of the city

Confronting the housing problem and urban poverty, many governments have sought to eliminate the poor through anti-urbanism and forced eviction policies. They push the poor from their illegal settlements or destroyed their homes. These policies, in some brutal cases, have never been effective in halting rural-urban migration or slowing the growth of informal settlements. Governments may have been able to demolish settlements developed by the urban poor and wipe out the capital from those who invested in their housing, but urban slums continue to return and recreate. People do not choose to live in such conditions, but they return to those places to survive. The only tangible impact of these policies was the deeper the poverty, the greater and longer the suffering of the poor living conditions in the city. Those whose future living conditions are more dangerous and under-standard ([UN-Habitat Quick Guide 1, 2008, 24](#)) Forced evacuation, rather than reducing poverty, produces it and increases housing problems in cities. In almost every way, forced evacuation is contrary to development ([UN-Habitat Quick Guide, 4, 2008, 8](#)).

- Let the state provide housing for the poor

Many states have provided public housing to help the urban poor. In most countries, public sector housing almost is facing serious financial problems after a few years. This is due to the very high demand for low-income housing compared to what governments are able to provide.

- Let the private sector provide housing for the poor

Some governments' policies encourage the private sector to develop housing for the urban poor. In these countries, municipalities allow private developers to build housing for high-income or middle-income groups; if the developer agrees to build a certain percentage of housing units for low-income groups at low selling or rental prices. Other governments create an environment in which the private sector is encouraged to move in the "down -market" by speeding up the licensing process, reducing the intensity of attractiveness for mortgages, and the minimum size of the plot. Such housing does not target the poorest in the city, and it can only occasionally reduce public sector investment in low-income housing for a small segment of lower-middle- income groups.

- Turn a blind eye to the problem

Faced with a lack of other options or ideas, many states have opted for a policy of ignoring the problem of urban housing. So in the absence of other ideas, many governments chose policies to abandon most of the urban slums and informal settlements or to evacuate only places where there was an immediate construction option for the land. Some states have also established minimal basic services in older and more organized residential areas ([UN-Habitat Quick Guide 1, 2008, 25](#)).

Therefore, by avoiding the above inefficient policies, the United Nations Human Settlement Program has proposed four approaches and a macro policy to address the problem of low-income housing with varying degrees of success as follows:

- On-site upgrading

It means improving the physical, social and

economic environment of an informal settlement, without the movement of people living there. When governments and cities support the process of upgrading informal communities, that is the cheapest and the most humane way to increase housing stock, given the growing need for affordable housing, rather than destroying it. This approach also addresses policies in the following areas.

- Housing: Upgrading existing housing or its complete reconstruction;
- Land: Arranging and securing the tenure of residence land in the long run;
- Income: job promotion and building economic capacity and small jobs;
- Common facilities: Improving facilities such as collective centers, game groups, or collective businesses;
- Access to public services: Improvement of residents' access to education and health;
- Welfare: Establishing a welfare system with collective management that can protect uninsured members (UN-Habitat, Quick Guide, 1, 2008, 14).

For every dollar the state invests in promoting poor communities, poor households invest more than seven dollars to improve their housing.

Resettlement: Moving people from their in urban slums and relocating them to proposed sites should never be the first choice for policymakers. Resettlement often destroys the social network and disintegrates local communities, dramatically reduces income capacity, increases relocation costs, deprives children of their current schooling, and substantially increases their poverty. However, resettlement of informal communities is sometimes inevitable. When resettlement is the only option, it should always be done with the consent of the majority of residents. Without consent, resettlement can easily become forced evacuation (UN-Habitat Quick Guide 2, 2008, 25).

Site and services: the state as the facilitator, not provider: "site and service" is an attempt to strike a balance between community-friendly housing

conditions and what low-income beneficiaries can afford. In these projects, the government plays a lesser role than in building public housing. Around the world, the role of the government as a housing producer has changed to its role as a housing facilitator. The facilitating role is when governments create basic plots and services in a planned way, but allow people to build their own housing on plots of land. The "sites and services" strategy divides the responsibility for producing affordable and suitable housing in the city between the state and the people. State agencies are responsible for preparing parcels of land and providing basic infrastructure. subdivision parcels are then sold, rented, or assigned to operating households.

- City-wide Housing Strategies: City-wide Housing Approaches to housing for all poor households will provide many opportunities to solve the problems of low-income housing. Solving all housing problems is possible only city-wide. Items that are needed to provide low-income housing city-wide (UN-Habitat Quick Guide 2, 2008, 39):

- Political will in the government and society;
- Integrated approaches and a city vision with the demand in the city
- A supportive local policy environment at the local level based on appropriate information base of informal settlements in the city;
- The right national regulatory framework;
- Responsive land and housing policies for low-income housing in cities;
- Policies to secure land tenure;
- Mechanisms for financial sustainability;
- Strategic Alliance with the participation of groups including poor communities, local government, service companies, Formal and informal land developers, non-governmental organizations, universities, religious groups, and the private sector;
- Strong and well-coordinated institutions accepted by all groups;
- Technical capacity: technical and social support

to local communities, planning, participatory architecture, and engineering, leading to appropriate technologies, collaboration program, contract and project management, construction skills tailored to the needs of informal areas, affordable building materials, and micro- financial services (UN-Habitat Quick Guide 2, 2008, 39).

Policies and Experiences of Providing and Designing Housing for Low-income People in the World

The study, research, and experiences in the field of low-income housing design policies in cities around the world and the use of successful and unsuccessful experiences, especially in developing countries, led to dramatic changes in attitudes toward the concept of these settlements and the application of various methods, strategies, solutions, tools and various techniques around the world. Accordingly, this section briefly examines the policies for providing and designing low-income housing in India, Kenya, Thailand, Chile, South Africa, and Spain on four different continents.

• Kenya: Nairobi

The largest informal settlement in terms of area and number of inhabitants in the world is located in Kenya and the city of Nairobi (Guinness, 2005, 1). According to statistics, 60% of the city's population lives in slums (UN-Habitat, 2011). Fig. 1 shows the accommodation status and the quality of settlement in this city.

The first step of the government in improving the

situation of slum dwellers was to build cottage-like houses. Government-built housing only met a small part of the housing need and did not meet the growing demand of the people. Most of these houses were such that one room was provided for each family. The biggest problem of these buildings was the lack of sanitation facilities and not considering enough water in relation to the population. In these units, there was only one toilet for every 500 people (Guinness, 2005, 3). In 2004, the Center for the Development of Nairobi Studies proposed more creative, practical, and realistic solutions, such as government-subsidized land. In this regard, some organizations have proposed reducing housing and neighborhood construction standards for the poor (ibid., 5).

In 2006, Bednarski Studio, to reduce construction costs in line with household incomes and use indigenous patterns, focused on the policy of villa houses with courtyards and the use of shared walls. One of the salient points of this example is paying attention to the details of housing construction in order to achieve the goals and policies of housing. This proposal is shown in Fig. 2

• Thailand: Bangkok

Low-income housing policies in Bangkok can be divided into three time periods. The first period of low-income housing development in Bangkok began in the 1970s with the complete construction of apartment houses. This policy continued until 1977. In this period, the main policy was self-help housing design. Accordingly, the National Housing



Fig. 1. Accommodation status in informal settlements in Nairobi. Source: www.studio-bednarski.com.



Fig. 2. The proposal to build low-income housing in Nairobi Source: www.studio-bednarski.com.

Authority, instead of building complete housing, came up with the idea of building the central core of each building. The construction of the core-housing was initially carried out by the government. The rest of the building was built in the following years and incrementally by the residents (Rondinelli, 1990). Accordingly, the incremental growth of interior spaces of buildings along with the personalization of facade details during the following years, along with the creation of flexible spaces for small businesses, were the main objectives of this policy (Marome & Rittironk, 2010,8-10).

The main focus of low-income housing in the second period, which lasted from 1977 to 1980, was the use of land-service policies. The main policies of this period are to increase the security of tenure, through new blockades for housing, integrated development of infrastructure network and urban spaces next to housing, and reducing construction costs through the use of common walls between four households with separate entrances and with the possibility incremental development was considered (ibid.).

The third period, which lasted until 2000, consisted of policies to upgrade and enable slums using government subsidies (ibid.). According to this policy, the house and land belonged to the private sector and development was mainly individual. In this period, the policy of designing the first houses is single-housing, independent, and in rows and development is mainly in height. Each unit belongs to a household and renting part of housing units to immigrants by residents has been one of the ways to earn money (ibid.).

• South Africa: Cape Town

Also in South Africa, national macro-planning to policy-making and design of the smallest details of housing has adequately addressed the problems of low-income public housing. The main policy of the project called “Empower Shack” in 2012 in Cape Town city was carried out by a group of ETH Zurich D-ARCH, and its purpose was to build a capable society using an incremental development strategy. In this regard, joint workshops were held in the presence of residents to extract the optimal design from their demands (Brillembourg & Klumpner, 2014, 164). In the residential unit’s plan, “possibility of expansion”, from the scale of the neighborhood unit to the neighborhood, was the first goal (Fig. 3). To reduce costs and regulate development, a central core between several housing units was used and it was possible to start a business in common spaces help the household economy.

• Chile: Iquique

The main problem in this city was the resettlement of 100 families in the area of 5000 square meters of land in 2003. The biggest problem of the Chilean government in achieving this goal was the lack of land to create new neighborhoods for low-income housing. By holding numerous meetings with residents and based on existing constraints, designers and planners achieved design policies that allow for incremental development over the years with maximum flexibility. At the beginning of the design, to allocate space to the target households, in-depth studies were conducted on the household dimension and the economic potential of the

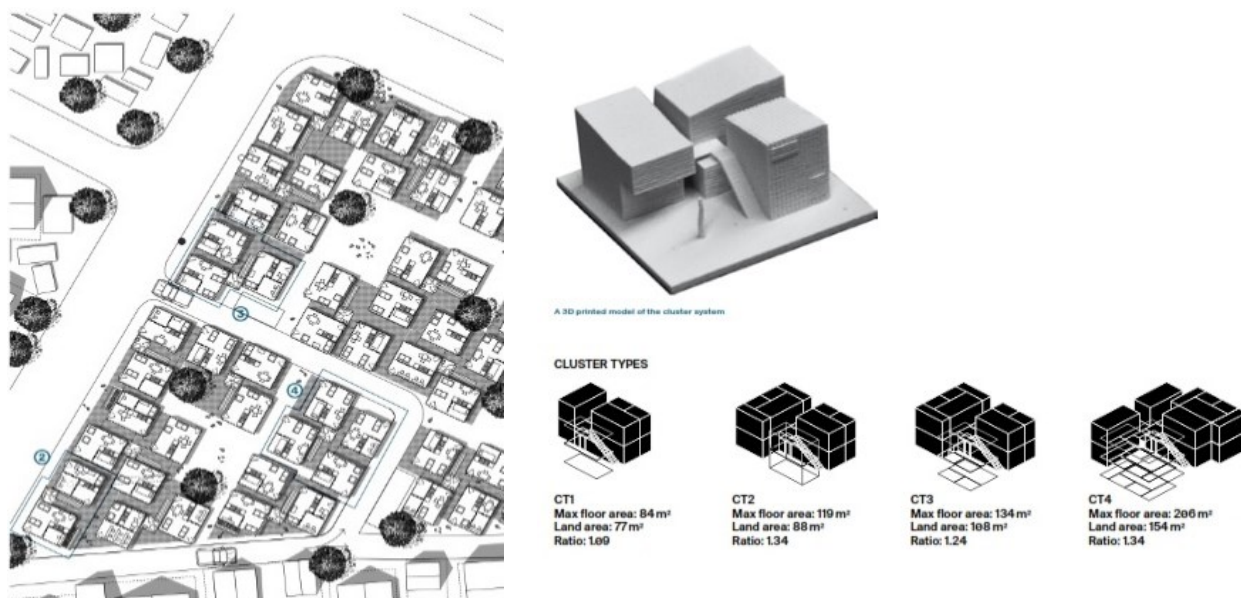


Fig. 3. Cluster system of neighborhood units. Source: Brillembourg & Klumpner, 2014, 187.

residents. The main policy of providing housing, in this case, was incremental development. Based on this, at first, for each household, two 18-meter modules were built, and in the later stages, it was possible to expand each unit up to 72 square meters. The process of developing the proposed model of incremental housing is shown in Fig. 4.

The original structure of the building, along with the equipment and access to the building, was initially built to implement macro policies of incremental development, reduce costs and adapt to the culture and way of life. Parts of each floor remain abandoned due to the possibility of future development. Over time and with the growth of households, it was possible to add these empty spaces with the least cost for residents (construction of only two external walls). In addition, for each unit, a completely private yard was provided in the back front of the building and the front of the building was shared between several units (Aravena & others, 2004, 31). An example of these construction of houses is shown in Fig. 5.

• India: Mumbai and Ahmedabad

The “In- Site Rehabilitation” project was launched in 2009 with the strategy of strengthening buildings and with the aim of formalizing urban slums in

Mumbai. Buildings in target areas had unstable structures and suffered from poor infrastructure (Basulto, 2009). The general policy of the project was based on government assistance to each household and the involvement of each household. So that after the implementation of the initial structure and generalities, its details were done by people in the coming years and with their own taste and ability. Three policies were considered for housing design that provides flexibility and performance change in each part of the building according to the wishes of each unit, freedom of action in the details, and order of the complex as a whole (Basulto, 2009 quoted by www.archdaily.com).

In the first case, the housing policy proposes two-story structures that allow residents to develop an additional floor. The second type was a three-story structure, the first floor of which was considered a pilot. In this case, it is possible to use this space as a parking lot. In addition, with the enable of the family over time, it was possible to turn it into a shop or create an additional room. In the third type, an open space on the second floor is considered, which according to the residents could be turned into a workroom, bedroom, and shop. The three policies

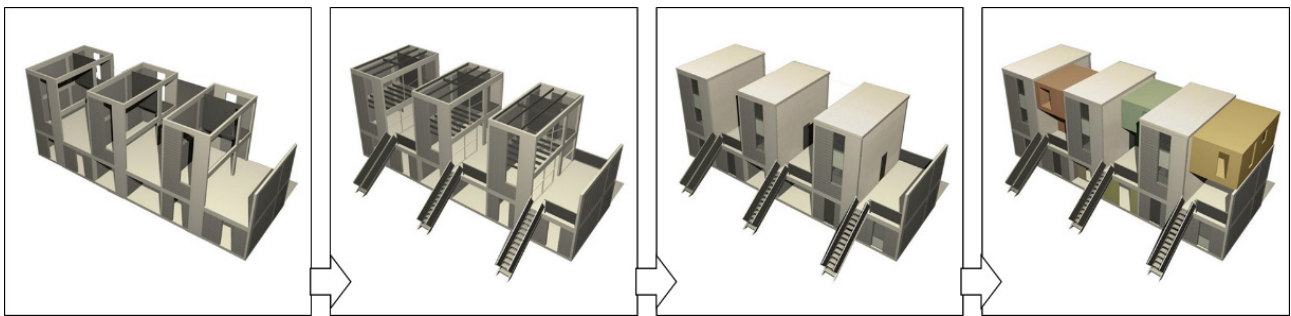


Fig. 4. The process of developing the proposed model of incremental housing. Source:www.alfredsierra-arch607.blogspot.com.



Fig. 5. Implementation of primary housing design policies and developed housing during the years 2004 to 2008. Source: www.archdaily.com.

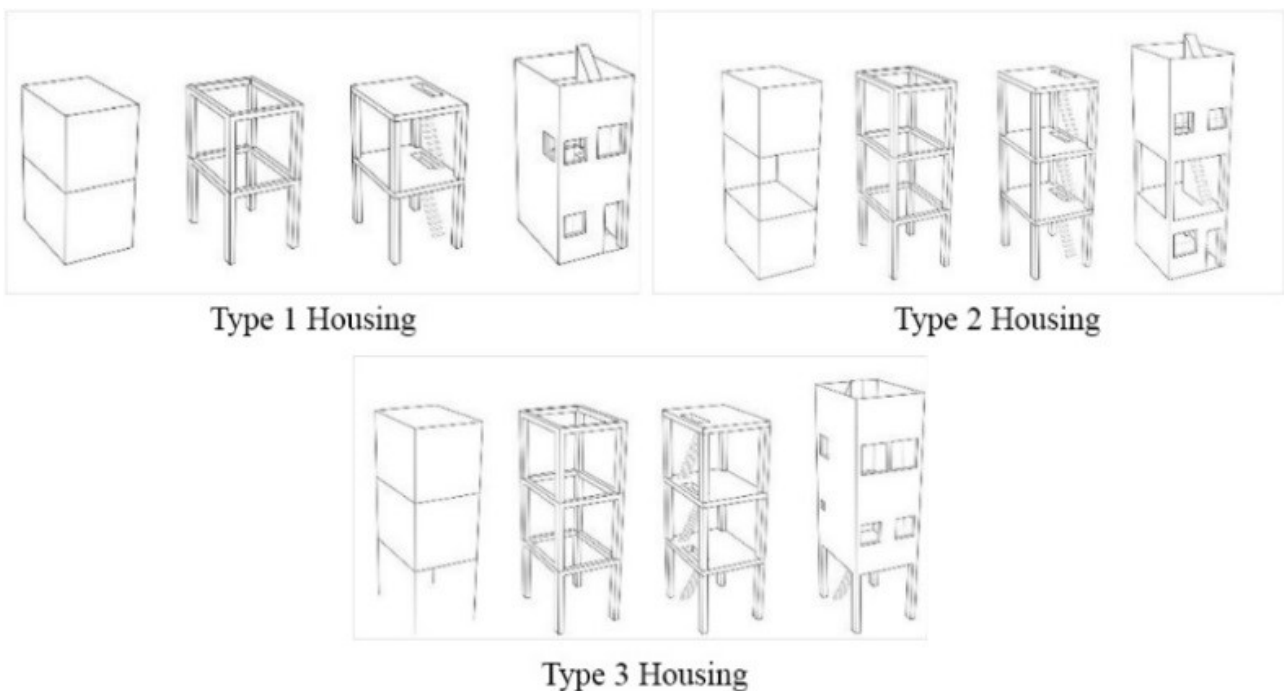


Fig. 6. Triple policies for low-income housing design in Mumbai. Source: www.archdaily.com

of low-income housing design in Mumbai city in the form of “In- Site Rehabilitation” project are shown in Fig.6.

In Ahmedabad city, various policies were implemented to improve the housing of informal settlements. The main policy was to improve

market-based housing conditions and the economic situation of households (UN-Habitat, 2003,201).

Policies for designing Ahmadabad include: creating basic infrastructure, creating a metro station to increase the value of land, studying the type of housing and lifestyle of local people, paying attention to the scale of the neighborhood, using small housing modules, in- Site upgrading, building new housing in arid lands around the neighborhood, 80% share of households in land ownership, regular development in an irregular environment with modulation of houses, leaving the perimeter around each unit for future expansion, independence of residents in housing suitable for families and use of demolished houses to build the center of the neighborhood. The outline of the implementation of these policies is shown in Fig.7.

• **Spain: Carabanchel**

In 2009, a prime example of the provision and design of low-income housing in Spain was completed and put into operation. Its main purpose was to house 82 families on a land of 4400 square meters. The policies are to design a diverse set of one to four-room units, to use the minimum width of the building by placing two residential units on both sides with an outward view and a central space for ventilation and shared use of the units, which creates a large central yard and acts as the core of the building. The connection between several units next to each other in the first level of the hierarchy of territories from public to private (based on the culture of the people of the region) had appropriately increased social interactions

between neighbors in an atmosphere free of city noise.

The design of the central space should be such that it is a sunny place in winter and a moderate place in summer. This space, with the direct supervision of the units, while providing security for the children to play under the supervision of the parents, provides a suitable space for the adults to gather. Based on the experiences reviewed in the field of low-income housing in the cities of different countries of the world, the results and basic points in the field the policies for providing and designing housing are as described in Table.1.

Policies and programs for providing low-income housing and regularizing informal settlement in Iran

The entry of oil revenues into the country’s economy in the second half of the 1930s led to economic prosperity in cities and rural migration. According to the general censuses of 1956 and 1966, statistics show that 4. 4 million people are added to the urban population and the problem of housing and its shortcomings are gradually revealed.

In the third development plan (1962-1967) due to urban issues, the Ministry of Development and Housing in 1964 was established and housing policy work has begun. In addition, the preparation of comprehensive urban plans is also on the agenda. The main purpose of the third plan was to build low-cost houses for the low-income class (Act of the Third Development Plan, 1962).

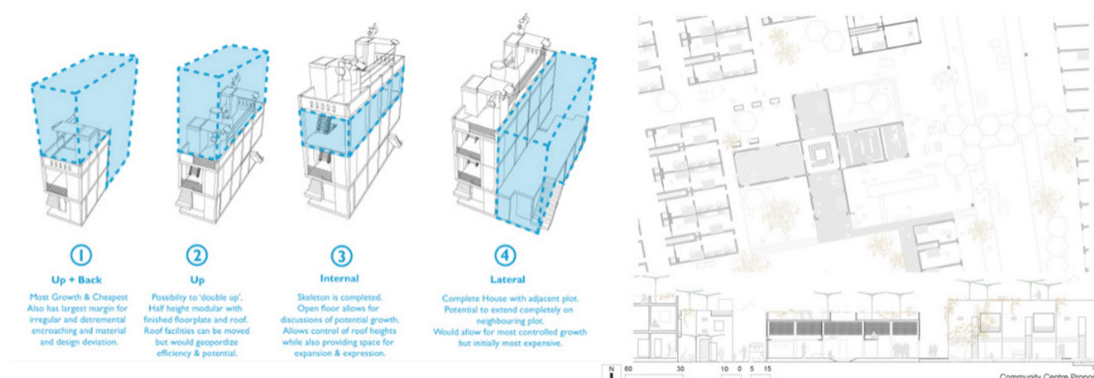


Fig. 7. Implementation of a new expandable housing design policy (left) and the proposed neighborhood center (right). Source: www.behance.net

Table 1. Results of policies and experiences of providing and designing low-income housing in global examples. Source: Authors.

| City/Country | Supply policies | Design policies |
|-------------------------|---|---|
| Nairobi, Kenya | Providing housing by the government | <ul style="list-style-type: none"> - Construction of single-unit cottage buildings - The policy of each household in a room and use of shared services - One toilet for every 500 people - Reduce the level of design standards - Facilitate operations by reducing construction costs and standards |
| | Providing housing through participatory models Government subsidized land | <ul style="list-style-type: none"> - Increasing the level of participation of residents, a lively environment, and increasing a sense of belonging - The opportunity of renting a part of the building to the residents - The opportunity of creating employment in the home space by creating flexible spaces - Use of regional cultural patterns and local materials - Consulting people in construction details (murals, etc.) |
| Bangkok, Thailand | Providing self-help housing | <ul style="list-style-type: none"> - Design and implementation of apartment housing - Incremental growth of interior spaces of buildings - Creating flexible spaces to create small businesses - Construction of the main part of the building by the government and the participation of the residents in the details |
| | Site and service policies | <ul style="list-style-type: none"> - land readjustment - Reduce construction costs by using shared walls between four households with separate entrances - Integrated network development of infrastructure and use of shared infrastructure |
| | -Use of government subsidies (houses and land owned by the private sector and mainly individual development) | <ul style="list-style-type: none"> - Single-family and independent buildings, row and development mainly in height - Single-family units - The possibility of renting part of the housing units to immigrants by residents as one of the ways to earn money |
| Cape Town, South Africa | Empowerment in housing Upgrade on-site and prevent resettlement and enlargement of the informal area and public participation Providing housing on time through incremental development | <ul style="list-style-type: none"> - Possibility to expand from the scale of the neighborhood unit to the neighborhood - Restructuring and reorganizing neighborhoods - Development of self-made housing - Development in height instead of increasing the level of lot coverage on the ground floor - construction of single-family housing on two floors - Create more land for services and public space by increasing density at the height - Paying attention to the internal qualities of housing despite the reduction of standards - Incremental expansion of the module in level and height by the inhabitants - Use the module as a pillar of the house in the initial construction - Considering the diversity of housing area from seven square meters with the ability to develop up to 14 square meters based on household size and economic power - Use people's opinions even in basic designs - Initial construction of the core by the government and handing over the details to the residents - Paying attention to the internal qualities of housing based on the opinions of residents, despite the decrease in the level of standards - Use of simple architectural design with the ability to be implemented by residents - Cluster development at the neighborhood level around a service center due to reduced infrastructure costs - Possibility of using common infrastructures due to the way of cluster construction - Changing the level of construction standards |

Rest of table 1.

| City/Country | Supply policies | Design policies |
|-----------------------------|---|---|
| Iquique Chile | The main configuration providing housing and local services by the government Providing housing on time through incremental development | - Maximum design flexibility - Possibility of incremental development in the coming years - Construction of 1.5 meter modules by the government and the possibility of development by the people themselves up to 3 meters - Reduce costs and adapt to culture and lifestyle - Providing the possibility of adding empty spaces at a minimum cost (construction of only two external walls) for residents with the financial growth of households - Paying attention to the hierarchy of territories in the housing plan in accordance with the culture of the inhabitants - A completely private yard on the back of the building for each unit and sharing the front of the building between several units |
| Mumbai and Ahmedabad, India | Government assistance to each household and their participation In- Site Rehabilitation Improving housing conditions based on the market and the economic situation of households 80% share of households in land ownership Providing housing on time through incremental development | - Flexibility and change of performance in any part of the building - Two-story structures with the possibility of developing an additional floor for residents - Three-story structures (the first floor of which is considered as a pilot) with the possibility of turning the first floor into a shop and a place to create home-based businesses - Establish common joint infrastructure at the beginning of the construction phase - Establishment of a metro station to increase the value of land - Provide a plan based on a study of the type of housing and lifestyle of local people - Construction of new housing in the arid lands around the neighborhood - Regular development in an irregular environment with modulation of houses - Use of small housing modules - Independence of residents in housing commensurate with the family - Use of demolished houses to build the center of the neighborhood |
| Carabanchel Spain | Providing units by the private sector | - Design a diverse set of one to four-room units - Use the minimum width of the building by placing two residential units on both sides with an outward view - A central space for ventilation and shared use of units - Hierarchy of territories from public to private - Designing a common middle space for residents to gather with the possibility of supervision - Climate-friendly design |

The third development plan is a kind of beginning to pay attention to low-income housing in the country. In this regard, the construction of quarters and residential complexes, including Naziabad and Nohom'e Aban quarters in Tehran and other cities such as Mashhad and Bandar Abbas was carried out.

In 1965, in Tehran, the Ministry of Development and Housing implemented the project of the Nohom'e Aban. This project was completed with the construction of 3400 housing units in 1967

without the participation of stakeholders. The housing units were handed over to the settlers of Behjatabad, Rah Ahan, Mehrabad Jonoobi, Rudaki Shomali, and the use of government employees. Over time, these housing units were gradually sold by residents in exchange for another.

The construction of a house for the Kapar residents at the same time in the city of Bandar Abbas was also considered a solution to the Kapar problem. However, the measures taken did not go beyond the census and the preparation of the plan until in

1970, funds were collected from the owners of a part of the lands occupied by the shed dwellers, and a “Kapar dwelling camp” was built in the north of Kamarbandi Street. Several one-story houses were built on the site for the Kapar dwellers. But the project did not end and the houses built remained unused. After that, another plan was implemented to build 600 buildings to house the residents of Kapar. This time, at the end of the work, because the cost of the buildings was not commensurate with the income of the residents of Kapar, the houses were sold to government employees (Niroumand & Ahsan, 1972, 70). Finally, in 1971, the municipality started to build 2,500 houses from government funds for the residents of Kapar, and the construction of these houses began as the final solution to the problem of Kapar residents in Bandar Abbas (ibid.).

In the fourth development plan (1968-1972), on the one hand, the government tried to pave the way for private sector activity by providing bank credits, on the other hand, it tried to provide housing for the workers by industry owners. In addition to these issues, investing in providing affordable housing for low-income groups and cleaning large cities of slums was one of the emphases of the plan (National Land and Housing Organization, 2000). In the fifth development plan, the policies of the previous period continue and the only new policy area is the emphasis on the industrialization of housing (Expediency Discernment Council, 1999, 30).

Prior to the Islamic Republic of Iran revolution, the enactment of various urban laws and the preparation of urban development plans with their own rules and regulations had made it difficult for low-income people to live in cities. The government was also practically lacking the necessary executive capacity to meet the widespread need, despite its goal of building low-cost housing units for the low-income class, especially since the Third Development Plan. In fact, it was thought that the problem of low incomes could be solved simply

by building a house or a residential unit. The combination of these issues created low-income housing in the form of informal settlements around cities, especially large cities.

The government’s policy in the early years of the revolution was largely based on the transfer of cheap land for housing to low-income groups. In this regard, the land was transferred on a large scale at a cheap price. After the massive transfers subsided early in the revolution, solving the housing problem was put on the agenda in the form of land preparation, according to the “Urban Land” Law. These plans were implemented in the cities of the country according to the “Urban Land” law approved in 1975 and with its cancellation after the approval of the “Ownership of abandoned urban lands and the quality of its development” law in 1979 by the Revolutionary Council and subsequent amendments in 1981 by the Ministry of Housing and Urban Development.

In the first five-year plan (1989-1993), the main strategy of the plan in the whole economy of the country was to adopt structural adjustment policies called construction. In this plan, the government in the first decision, by reducing its share to about six percent of the total investment in the housing sector, actually determined the number of its interventions in this field. The government announced its general tendency in the areas of participation in the housing sector by accepting its share in the construction of workers, employees, and house-building houses in the affected areas. Since such constructions are mainly organizational complexes, the government chose mass house building with its own definition as the scale of intervention (Amakchi, 2000, 12).

The creation of new towns based on the decision of the Cabinet in 1985 and in response to increasing demand for urban land with the aim of guiding the overflow of the population of large cities and meeting the housing needs of low and middle-income groups was on the agenda this decade. The first five-year plan envisages the construction of twelve and then 26 new towns.

The main goal of the Second Development Plan (1993 - 1999) was to build housing to implement a “Pak” policy that included savings, mass house building, and downsizing (Khazaghi, 1999, 5). In this plan, relying on market mechanisms and reducing government intervention was still on the agenda, but the target groups were more clearly defined, and direct bank interest subsidies were used more. Within the framework of this plan, three types of social, support, and free housing units were defined, and subsidies were allocated only to the first and second types (Amayesh & Tose'e Alborz Consulting Engineers, 2008).

The Third Development Plan (2000-2007) had two specific policies in this regard, the gradual payment of bank facilities for the construction of housing stages for low-income groups and the support of small housing units with emphasis on integration and mass house building (Economic Report of the year 2003 and four-year performance monitoring Third Development Plan, 2004, 1515). The issue of informal settlements has also been raised since the end of the third plan, and in the framework of this plan, a line of credit was provided for conducting studies entitled “Problem Tissue Studies”.

In the fourth development plan (2005 -2009), the preparation of a comprehensive housing plan is on the agenda. Regarding the necessity of preparing this plan, according to paragraph c of Article 30 of the Fourth Plan Act, the Ministry of Housing and Urban Development is obliged to prepare a comprehensive housing plan by the end of the first year of the fourth plan and submit it to the Cabinet for approval (Fourth Development Plan Law, 2004). Sustainable development, social justice, and enabling the low-income groups were the approaches of this plan. In the comprehensive housing plan for providing low-income housing, a total of five executive plans have been foreseen, of these, only the plan to transfer the right to use the land was implemented in the form of the Mehr housing project. The rest were either stopped in the early stages of implementation or not implemented

at all. With the proposal of the government in the budget law of 2007, the Mehr housing program was approved for the supply of housing and the initial preparations for the implementation of this program began. Then, in 2008, the law on regularizing and supporting the production and supply of housing was approved by the Islamic Parliament of Iran at the suggestion of the government. The target group of the Mehr housing program was determined for people without a house in the lower and middle-income deciles. In this project, about 70% of the construction costs were provided by the Housing Bank in the form of 12 loans and 30% of the construction costs were transferred to the applicants. Based on the calculations and estimates, the financial capacity of the households in the lower income deciles was not consistent with the number of facilities and their repayment in this plan.

The main housing programs were directed to Mehr housing, despite the emphasis of the fourth plan on measures such as regularizing deteriorated urban fabrics and regularizing informal settlements and approving documents and laws such as the national strategies for enabling and regularizing informal settlements in 2003 and the law on revitalization, upgrading, and renovation of deteriorated and underutilized urban fabrics.

In the Fifth Development Plan (2011- 2015), Articles 167 to 176 are allocated to the housing sector. The most important provisions of this plan in relation to the subject under discussion are as follows:

- Emphasis on the implementation of the law on regularizing and supporting the production and supply of housing (approved in the Fourth Development Plan).
- Emphasis on land productivity and land extraction in deteriorated urban fabrics and unsuitable rural areas with an emphasis on revitalizing of deteriorated urban fabrics at least 10% per year of the plan and allocation of at least 50% of resources and facilities for the housing

sector, including Mehr housing projects, youth housing and the needy in deteriorated urban fabrics.

- Improving the residents' sustainable and inclusive environmental conditions of the informal settlements from the benefits of urbanization and prevent and prevention of unauthorized settlements.

Despite these strategies in the Fifth Development Plan, during this plan until the end of the 10th government (2013), the government still has a great focus on completing Mehr housing projects under the auspices of the Law on Regularizing and Supporting the Production and Supply of Housing. In the 11th government (2013-2017), the Mehr housing project was unliked and severely criticized by the new government, and the completion of the targeted units was delayed in the following years. During this period, the social housing program was on the agenda of the Ministry of Roads and Urban Development. However, it was further announced that due to the allocation of most of the resources of the housing sector to complete the Mehr housing project, it is practically impossible to implement the social housing program in the early years of the government activity. Accordingly, at the end of 2016, the Council of Ministers, with the aim of supporting the government in providing housing for low-income groups, approved a program in the form of social housing and supportive housing. Targeting and planning for the annual implementation of 100,000 housing units during the years 2017-2021 in the form of assistance from providing facilities for construction and purchase of the real estate, payment of facilities to builders of rental housing, construction of rental housing, payment of rent and loans, a housing deposit is foreseen in this plan.

During the implementation of the Fifth Development Plan, in 2014, a decade after the approval of the National Strategies for Enabling and Regularizing Informal Settlements in the

country, another document titled "national strategy document on revitalizing, upgrading, renovating, and enabling deteriorated and underutilized urban fabrics" replaces the national task force of enabling informal settlements and the acquisition of the entire range of target urban areas and neighborhoods need to urban revitalizing, upgrading, renovation, including the historic urban district, Middle underutilized (deteriorated urban fabrics) areas, informal settlements and urban areas with rural backgrounds.

In the Sixth Development Plan (2017-2021), the issue of informal settlements and urban slums in various dimensions has been given special attention as described in Articles 2, 59, 61, 62, 80, and 120:

Considering the issue of regeneration of underutilized urban fabrics (informal settlements and deteriorated urban fabrics) as the central issue of the plan and obliging the government to implement plans (projects) related to it in the annual budget (Article 2).

Revitalizing, upgrading, renovation and strengthening and regeneration of at least two hundred and seventy neighborhoods every year in terms of different types, including deteriorated urban fabrics, historical fabric, informal and marginal settlements and with a neighborhood-based approach by the Ministry of Roads and Urban Development and municipalities and other cooperation Members of the Task Force of Sustainable Urban Regeneration at different national, provincial and urban levels (Article 59, paragraph A).

Revitalizing and upgrading at least ten percent of deteriorated urban fabrics by observing the superstructure and infrastructure per capita by the non-governmental sector and municipalities through the implementation of supportive, legal, incentive policies and the provision of subsidized facilities by the government (Article 61, paragraph T).

Proportional distribution of activities and

population and migration in the country, necessary management planning, preventing the development of marginalization (informal settlements) with the approach of strengthening migration bases, by regularizing informal settlements and reducing its population by ten percent annually (Article 62 paragraph A, and part three, paragraph P of article 80).

Organizing the informal settlements determined by the Supreme Council of Urban Planning and Architecture of Iran through the development and implementation of legal, financial, and cultural mechanisms and enabling the residents of the structures located within the urban areas with their participation (Article 62, paragraph B).

Improving the life quality of informal settlements' residents and promoting reverse migration through land use space planning, proper distribution of population and resources, and preventing the occurrence and aggravation of social harms in these areas by creating suitable jobs and housing in rural areas (Part two, paragraphs P of Article 80).

Compilation of National Strategies for Enabling and Regularizing Informal Settlements (Part Three, Paragraph A of Article 120).

During this period and in the twelfth government (2017-2021) in 2018, the National Housing Action Plan was put on the agenda as an alternative to the Mehr Housing Program. Its executive operation is currently underway. This project includes the construction of 400,000 housing units, of which 200,000 units in new towns are going to be built with the participation of the private sector, 100,000 units in urban decay by the Urban Regeneration Corporation of Iran, and 100,000 units will be entrusted to the Housing Foundation of Islamic Revolution. Although housekeeping refers to the poor and middle classes of this project, it is clear from the conditions related to the applicants and its installments that low-income groups have another prize in this project. Owning a home for the poor and middle class is one of the goals of

this plan, but it is clear from the conditions related to the applicants' income and its installments that low-income groups have no place in this plan.

In conclusion, it can be said that all the policies adopted in the first to fifth plans after the Islamic Revolution of Iran, and the years spent since the sixth plan, have not been able to solve the problem of providing housing for low-income people. However, the issue of paying attention to the areas inhabited by the low-income (informal settlements and deteriorated urban fabrics), as well as the issue of providing low-income housing has been considered in most of the plans, specifically in the third development plan. Most of the practical and major investments were made from land transfer in the early days of the revolution to preparation projects, construction of new towns, mass house building and Mehr housing program. Although the provision of low-income housing has been one of their primary goals, on the one hand, these programs and plans have been implemented in non-constructed spaces and out of low-income residential areas range, and on the other hand, in practice, these groups have not been able to enjoy the benefits of this plan due to financial weakness. In this regard, in addition to the inadequacy of the adopted policies, the important point is the inefficiency of urban development plans (comprehensive plans) in the field of urban poverty. Most do not fit well with the economic power of the low-income population and exclude them from the formal land and housing markets. Therefore, low-income people will have no choice except to live in informal settlements.

Research Methodology

This study emphasizes a holistic view and aims to understand the evolution of low-income housing policies in Iran in accordance with theoretical issues and practical models of this issue worldwide. The content of this research and the methodology used in it are based on a qualitative approach in the form of using various tools such

as content analysis of documents, plans, pieces of evidence and available statistics. So that based on the review of global policies and experiences, the country’s policies and actions have been evaluated and diagnosed. Then the optimal low-income housing policy framework in the country is presented. Fig. 8 shows the steps for editing an article.

Discussion

• Housing provision policies in formal planning and the realities of settlement) housing (of the urban population

According to the data of the National Land and Housing Organization, from 1979 to 2012, a total of 41944. 19 hectares of land has been assigned by the government individually and non-individually (cooperatives and mass builders) for housing construction. This amount of assignment includes land preparation plans, individual assignments, and lands of the Mehr housing program.

The total area of newly constructed or under construction cities (26 cities) according to the information published by the New Towns Development Company is 46,117 hectares. Taking into account government transfers and the area intended for the construction of new towns, since the beginning of the revolution a total of 88061. 19 hectares of land has been allocated by the government to provide housing in the country’s

cities. It should be taken into account that part of the area of new towns has been spent on providing services and infrastructure. In addition to these transfers, constructions have been carried out in the cities of the country as usual, for which a permit has been issued by the municipality. These constructions were either new constructions or renovations of decaying and old units. The study of this section has been omitted, due to the lack of documented statistics in this field.

In this regard, a comparison of the amount of land allocated by the government for housing construction with the average population density in the country’s cities and the amount of urban population added in the period between the 1976 to 2016 censuses gives the following results and facts:

The average gross population density in the cities of the country is 49 people per hectare. The amount of land allocated (88061. 19 hectares) by the government to various housing programs after the revolution can only meet the housing of 4314 thousand people. Meanwhile, during this period (between the census of 1976 to 2016), 43. 29 million people have been added to the urban population of the country. Meanwhile, the share of housing programs in attracting this population is about 9.96%.

According to the statistics of the National Task Force of Sustainable Urban Regeneration, 110

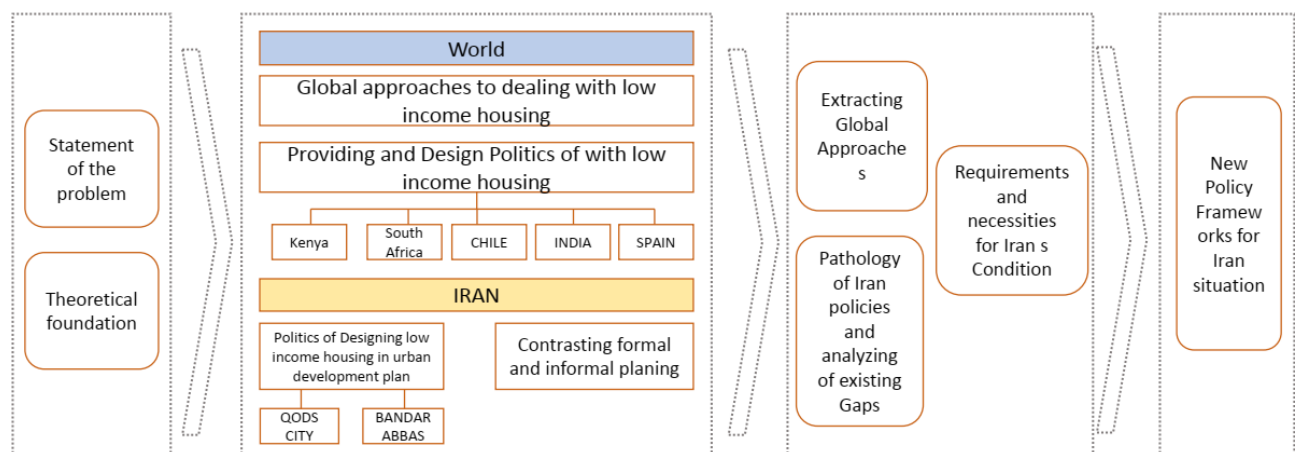


Fig. 8. Study analytical stages. Source: Authors.

cities have been studied in the country with a population of over 41 million people. The population living in informal settlements of these cities is about 6719 thousand people. This population comprised 17.3% of the population living in these cities. However, due to the incompleteness of studies in Tehran and its different methodology, with the deduction of the identified population for the city of Tehran, the identified population living in informal settlements of 109 cities (excluding Tehran) was about 6373 thousand people, which includes 19.21% of the population of these cities. If we attribute this amount to the total urban population of the country based on the 2016 census (59.14 million people), the number of 11.36 million people is obtained who live in informal settlements of the country. This is equivalent to 26.45% of the population added to the urban population of the country after the revolution (43.29 million people) and more than two and a half times the population accumulated by the government due to official housing policies.

A review of the census from 1976 to 2016 shows that during these 40 years, the number of urban areas in the country has more than tripled. From 373 cities in the year 1976 has increased to 1245 cities (areas approved by the government cabinet and the municipality) in 2016. Many of these cities were rural areas that gradually became cities, and part of the increase in the country's urban population after the revolution (43.29 million people) was also due to this process. But in recent decades, some of these cities have been built by low-income people from the beginning, especially around large cities. Tehran metropolitan area (including the provinces of Tehran and Alborz) is a good example to compare the absorption and housing of the population by official housing programs, as well as the formation of various neighborhoods and cities by low-income people.

In the urban region of Tehran, the cities of Andisheh, Hashtgerd, Parand, Pardis, and

Sharifabad have been created in the framework of the policy of constructing new towns. The study of the forecast done in the approved plans of these towns shows that these towns should accommodate 1098 thousand people of this region up to the design horizon. Meanwhile, according to the 2016 census, these towns had a total population of 314,000. Between the years of creating new towns and the beginning of settlement in them (from the census of 1996 to 2016), about six million people have been added to the urban region population of Tehran and increased from 8.91 million to 14.96 million people. The share of new towns in attracting this population until 2016 was 314 thousand people (about 5.18%).

During this period, cities were formed without prior planning and mainly by low-income people in the urban region of Tehran. Many of them now have a population of medium-sized cities in the country. The formation of these cities, especially in the last three decades, is a concrete example of the failure of formal housing policies, including the provision of low-income housing. [Table 2](#) shows cities with more than 100,000 people in the urban region of Tehran (based on the 2016 census). Many of these cities, including Shahr-e Qods, Islamshahr, Golestan, Nasimshahr, Mohammadshahr, Mallard, Pakdasht and Kamalabad, have been formed from the beginning by low incomes. So that in the last three decades, due to the cheaper land and housing prices compared to the cities of Tehran and Karaj and also the possibility of access to employment opportunities in these two cities, have attracted a large population and have become current cities. Most of these cities, as shown in [Table 2](#), were not urban areas until 1986, but after the increase in population, the political-administrative management of the country has inevitably recognized them as cities. So, it can be said that low-income population housing and unplanned housing have more acceleration of policies and planned population housing in the country's cities.

Table 2. The trend of population changes in cities with more than 100000 people located in the urban region of Tehran. Source: Extraction from the results of national population and housing censuses from 1956 to 2017.

| City | 1956 | 1966 | 1976 | 1986 | 1996 | 2006 | 2011 | 2016 |
|--------------|-------------------|-------------------|---------------------------|----------------------------|---------|---------|---------|---------|
| Tehran | 1512082 | 2719730 | 4530223 | 6042584 | 6758845 | 7705036 | 815405 | 8693706 |
| Karaj | 14526 | 44243 | 137926 | 275100 | 940968 | 1377450 | 1614626 | 1592492 |
| Eslamshahr | It was not a city | | | 215129 | 265450 | 357171 | 389102 | 448129 |
| Malard | It was not a city | It was not a city | 5970 | Leaving the list of cities | 88118 | 228673 | 290817 | 281027 |
| Shahr-e Qods | It was not a city | | 7878 | Leaving the list of cities | 138278 | 229354 | 283517 | 309605 |
| Golestan | | | It was not a city | | | 231882 | 259480 | 239556 |
| Shahryar | It was not a city | | 11697 | 22433 | 40058 | 189120 | 249473 | 309607 |
| Pakdasht | | | It was not a city | | 49220 | 126281 | 206490 | 236319 |
| Qarchak | It was not a city | | | 77957 | 142690 | 173832 | 191588 | 231075 |
| Nasimshahr | | | It was not a city | | | 135824 | 157474 | 200393 |
| Kamalshahr | | | It was not a city | | | 80435 | 109943 | 141669 |
| Nazarabad | It was not a city | | 9889 | 21660 | 69342 | 97684 | 107806 | 119512 |
| Mohamadshahr | | | It was not a city | | | 83126 | 100519 | 119415 |
| Varamin | - | 11183 | 29720 | 73226 | 138536 | 208996 | 218991 | 225628 |
| Andisheh | | | did not exist | | 25544 | 75596 | 96807 | 116062 |
| Robt Karim | It was not a city | | | 17903 | - | 62937 | 78097 | 105393 |
| Fardis | | | Part of the city of Karaj | | | | | 181174 |

• **Design policies of Low-income housing in Iran’s urban development plans**

The size and share of the “informal” city is strongly related to the effectiveness of urban planning, building rules and regulations, and the availability of financial and land resources (especially for low-income people). Slum urban areas are evidence of the failure of urban planning. In particular, when plans and programs are not feasible and comprehensive, and as a result, unplanned areas are the only possible option for housing a large part of the population (United Nations Human Settlement Program Annual Report, 2010, quoted by Sarrafi, 2011). The failure of urban planning and the construction sector, in coordination with the demand for housing, has led to a sharp accumulation of housing demand, which has led to the expansion of urban slums globally.

Comprehensive and detailed plans in Iran are prepared based on engineering principles, and they are functionalist. In addition, the proposed programs, rules, and regulations of this plan are developed, mainly without considering issues such as land ownership, environmental capacity for

housing, economic and social characteristics of current and future residents of the city, executive power, and facilities of city managers, public participation and consideration of criteria and regulations of other urban organizations and institutions as well as inter-sectoral processes. As a result, these projects are practically ineffective after a short time. In fact, urban development projects in Iran have been following urban changes and have been less successful in guiding and controlling them. Therefore, in these plans, no organized predictions are made for low-income housing. The proposed regulations and rules these plans are formulated regardless of the existing realities of the urban slums, which have led low-income people into the suburbs (slum) and unsuitable environments. In the following, as an example, the proposals, rules, and regulations of urban development plans in slums and informal settlements of two middle cities of the country have been examined.

• **Bandar Abbas: Kamarbandi Neighborhood**

The area of Bandar Abbas city in 1964 was 500 hectares, which increased to 2405 hectares in 1983

Table 3. the proposed zoning features of Bandar Abbas city comprehensive plan and its comparison with the current situation of Kamarbandi neighborhood. Source: Authors.

| Zone | Title | Strategic -structural plan | | | | | Current status of the neighborhood | | | |
|------|--|----------------------------|----------------|------------------------------|-------------------------------------|----------------------------------|------------------------------------|------------------------|-------------------|---------------------------------|
| | | Building Density | Maximum height | (lot coverage percentage) | Minimum subdivision (square meters) | Minimum lot size (square meters) | Residence coefficient | Gross density | Average parcel | Floors |
| R21 | General residential zone with medium density | 180 | 3 floors | 60 | 250 | 200 | 50 | | | |
| M11 | Mixed regional and trans-regional axis | 250 | 5 floors | 70 ground floor 50 floors | 1000 | 500 | 50 | | | |
| S11 | Administrative, commercial and service axis at the trans-regional functional scale | 370 | 12 floors | 50 ground floor 30 Floors | 2000 | 1000 | 20 | 159 people per hectare | 131 square meters | 98% of a one-story neighborhood |
| S12 | Administrative, commercial, and service axis on a regional scale | 300 | 7 floors | 50 ground floor 45 Floors | 500 | 300 | 30 | | | |

and now it is about 7113 hectares. In fact, over the past five decades, the city has grown by an average of about five percent a year. The population of Bandar Abbas has increased from 17 thousand people in 1956 to 526 thousand people in 2016, of which about 30% of the city's population lives in informal settlements.

The Kamarbandi neighborhood with an area of 162.³ hectares and a population of about 25,000 people is one of the informal settlements in Bandar Abbas, located in the north of the city. In the comprehensive plan of Bandar Abbas city, the criteria presented in this neighborhood have proposed a minimum subdivision of 250 square meters and a minimum parcel area of 200 square meters. Meanwhile, the average number of parcels in the current situation of neighborhood is 131 square meters. Also, the mentioned plan in residential and commercial-service zones has proposed the number of floors from three to twelve floors, but in practice, more than 98% of parcels of the neighborhoods are one-story (Table 3). calculations based on the review of Bandar Abbas

city comprehensive plan (Sharmand consulting engineers, 2008) and the program for enabling and regularizing Informal Settlements in Bandar Abbas (Amayesh & Tose'e Alborz Consulting Engineers, 2012).

In Bandar Abbas city, this amount of population in informal settlements and the obvious and significant non-compliance of the strategic-structural plan regulations with the current situation of these areas shows the inefficiency of urban development plan rules and regulations in guiding and housing the population.

• Shahr-e Qods: Shora-y Jonoobi Neighborhood

Shahr-e Qods is one of the cities around Tehran, which has experienced a growth rate of 23.3% since 1976, with the migration of labor groups in the industrial and construction sectors until 1986. Although the rate of population growth has decreased compared to the previous period from 1986 to 2016, it is still one of the centers of population absorption in the west of Tehran with a growth rate of about 5%. The population of

Table 4. the proposed zoning features of the Strategic -structural plan of Shahr-e Qods and its comparison with the current situation of the Shora-y Jonoobi neighborhood. Source: Authors.

| Proposed zoning of Strategic -structural plan | | | | | | | Current status of the neighborhood | | | |
|---|-------------------------------|--|----------------|---------------------------|--------------------------------------|-----------------------------------|------------------------------------|------------------------|--------------------------------------|------------------------------|
| Zone | Subzone title | Building Density | Maximum height | lot coverage (percentage) | Minimum parcels size (square meters) | Minimum width of passage (meters) | Gross density | Number of floors | Average parcel | |
| R131 | High density housing | 300 -200 | 6 -5floors | 50-40 | 350-300 | Over 20 | | | | |
| G311 | Green space of rivers-valleys | (Protection zone) with the minimum building required | | | | | | 202 people per hectare | 82.9%of first and second floor parts | 80%of parts under 100 meters |

this city has increased from about 900 people in 1956 to 7878 people in 1976, 66thousand people in 1985, and 309 thousand people in 2016. For Shahr-e Qods, during these years, three plans have been prepared, including a guide plan approved in 1993, the revised guide plan approved in 2002, the strategic plan, and the Strategic -structural plan (comprehensive) approved in 2011.

The Shora-y Jonoobi neighborhood is one of the identified informal settlements in the city, which had a 35% physical growth until 1991, and its growth reached 83% by 2006. The area of this neighborhood is 23. 9 hectares and with the population of 6,000. The strategic and structural plan (comprehensive) has proposed R131 and G311 zones, regardless of the socio-economic conditions of the residents and the current situation of the neighborhood, with the specifications of Table 4 for the neighborhood. For example, in the plan, the minimum size of parcels is considered to be 300 to 350 square meters, while in the current situation, 80% of the parcels are less than 100 square meters. calculations based on the structural - strategic plan (comprehensive plan) of Shahr-e Qods (Bavand Consulting Engineers, 2011) and the program for enabling and regularizing Informal Settlements in Shahr-e Qods (Amayesh & Tose'e Alborz Consulting Engineers, 2011).

In this neighborhood, the implementation of the proposed regulations of the strategic and structural plan can lead to the forced evacuation of some residents or increase other forms of bad housing, including roofing retail and further subdivision

of parcels, which is currently common in the neighborhood.

Conclusion

Disordered housing situations or housing poverty is one of the most obvious manifestations of poverty in developing countries. The study of global experiences in this study showed that solving the housing problem, especially low-income housing, with centralized government intervention and providing unified policies and models for a country, cannot be solved and local conditions and capacities are very influential in providing and designing housing.

In the last few decades, the formation of informal settlements and low-income settlements in Iran has been increasing due to the migration of villagers to the city and the drive out of low-income people living in the city. With climate change and an unprecedented increase in droughts in recent years, a new wave of migration to large cities will emerge in the next few years in search of employment opportunities. The results of this study showed that formal housing planning (mainly governmental) has not been in line with the realities of urban housing in the country, and this has greatly increased the formation of slums and informal settlements over the past few decades. In other words, housing policies in the country do not meet the demand for low-income housing and there is no codified and preventive policy to meet this need in the future. In urban development planning in Iran in recent years, housing policies mainly have been pursued

Table 5. Proposed policies and strategies for providing and designing low-income housing. Source: Authors.

| Subject | Policies and solutions |
|---|---|
| Urban planning and design | <ul style="list-style-type: none"> - Housing planning in the framework of urban planning (at the local level) and by local management (in coordination with macro policies) - Providing housing planning for different sections of society - comprehensive and inclusive planning - (the city is not only a place of high-income people; it is also a place of low-income) - Avoiding the mere implementation of housing projects by the government or the public sector and the preparation and implementation of housing construction programs with the participation of the people (residents) <ul style="list-style-type: none"> - Applying integrated approaches according to the extent of poverty, including: <ol style="list-style-type: none"> 1: Upgrading in the housing sector, security of tenure, income, shared facilities, access to and utilization of public services, welfare and insurance coverage and infrastructure 2: Housing and services by dividing the responsibility of producing affordable and suitable housing in the city between the government and the people 3: Housing strategies in urban region and city-wide - Development of a design plan and use design capabilities to reduce costs and improve the quality of the environment and housing, increase the value of land over time and etc. <ul style="list-style-type: none"> - Land readjustment in areas with mere geometric corrections do not guarantee livability - Possibility of integrated development of infrastructure network and use of common infrastructure to reduce construction costs <ul style="list-style-type: none"> - Possibility of expansion from the scale of the neighborhood unit to the neighborhood in design based on the idea of incremental development of low-income housing construction - Providing sufficient number of lands for services and public space by increasing the density at height and using demolished buildings and danger zones if any - Development of infrastructure clusters at the neighborhood level around a service center due to reduced infrastructure costs - Paying attention to the hierarchy of territories in the housing plan up to the neighborhood level in accordance with the culture of the residents <ul style="list-style-type: none"> - Provision of the main structure of local housing and services by the government |
| Urban development plans | <ul style="list-style-type: none"> - Integrated and coordinated development of housing policies and urban development programs - Avoid looking at informal settlements as an urban island and pay attention to their relationship with the city and urban region - Creating the main structure of the neighborhood and public buildings to prevent confusion and the possibility of freedom in detail for people to personalize with their own tastes and ability - Providing the ground for incremental development in the structure of the neighborhood and residential area (in height and ground level) in proportion to the increase in household income <ul style="list-style-type: none"> - Identifying informal neighborhoods in cities and creating visual values in them - Variety in patterns of subdivision of parcels based on the power and ability of households - Avoiding being car-oriented in the spatial framework of the neighborhood and focusing on pedestrian orientation and green space and optimal use of land <ul style="list-style-type: none"> - Developing strategies for the participation of public institutions in all stages of preparing urban development plans - Inter-sectoral cooperation with the participation of all government and public agencies in leading and approving urban development plans - Preparation of design guidelines in the sectors of housing, urban services, urban spaces, etc. in accordance with urban development policies in line with planned strategies |
| Urban Management | <ul style="list-style-type: none"> - Acceptance and implementation of urban planning and rules and regulations for low-income groups in the country's urban policy and development system <ul style="list-style-type: none"> - Avoiding relocation and resettlement as much as possible and use it as a last resort with the satisfaction of residents and maintaining two points; Optimal environmental quality and suitable position in maintaining the maximum form of livelihood and social network <ul style="list-style-type: none"> - Avoiding forced evacuation and destruction of informal settlements - Strategies to secure land tenure and ensure the improvement of poor housing problems - Avoiding the construction of public housing by the government and the public sector and performing the duty of facilitation instead of the ownership (producer) of the government and the public sector - Full support of the government sector in the early stages through the integrated development of the network of infrastructure and urban spaces ensuring proper and integrated development <ul style="list-style-type: none"> - Creating conditions for the possibility of using public sector facilities and resources for low-income households <ul style="list-style-type: none"> - Providing an executive mechanism for long-term rental of subdivision parcels to low-income households - Applying urban design knowledge in urban development decision making |
| Popular and non-governmental institutions | <ul style="list-style-type: none"> - Full participation of people and residents in shaping housing and neighborhoods - Using different options for residents' participation to improve housing conditions based on the economic and social status of households <ul style="list-style-type: none"> - Preparation of training models for social groups with their participation in urban development processes |

Rest of table 5.

| Subject | Policies and solutions |
|-------------|---|
| Housing | <ul style="list-style-type: none"> - Adapting housing policies to the features and programs of local management and avoiding centralized programs and only from top to down <ul style="list-style-type: none"> - Avoiding similar patterns and policies of the housing and neighborhoods throughout the country - Preparation of basic and minimum standards for housing construction gradually and providing the possibility of growth to reach the general standards of housing in terms of quantity of spaces and construction - Using proper methods (such as geometric and modular housing construction) to reduce the cost of housing construction, matching it with household income, and facilitating physical development - Covering low-income housing development policies in four dimensions: housing, infrastructure, location, and land ownership - Improvement on-site as the first solution in the form of housing upgrading and reconstruction, securing land tenure in the long run, job promotion and economic capacity building, improving facilities and welfare, access to public services - A combination of site upgrading policies and in-situ development of housing and revitalization of the structure and reconfiguration of neighborhoods within the framework of sustainable development components - Using context-oriented housing models in accordance with the lifestyle of groups living and migrating to the desired city <ul style="list-style-type: none"> - Providing low-income housing incrementally, participatory, diverse, and flexible - Design and construction of housing and neighborhood in accordance with the way of livelihood and lifestyle, cost-effective, efficient, flexible, and appropriate to economic and social conditions and ethnic ties and socialization of households with the ability to change in function and physical <ul style="list-style-type: none"> - Providing a housing model plan based on the appropriate behavior of all living strata and appropriate to the culture <ul style="list-style-type: none"> - Redefining the concept of standardization in housing in order to reduce costs - Providing the possibility of generating income from parts of the building in housing design, such as starting businesses or renting a part of housing if it complies with the regulations of the place by increasing the level of flexibility of spaces <ul style="list-style-type: none"> - Construction of the main part of the building by the government and the participation of residents in the details <ul style="list-style-type: none"> - Reducing construction costs by using a joint structure between several households with separate entrances <ul style="list-style-type: none"> - Improving the internal qualities of housing despite lowering the level of standards <ul style="list-style-type: none"> - Incremental modular development while possible diversity of modules - Observing the hierarchy of territories from public to private in the housing plan <ul style="list-style-type: none"> - Affordable housing model plan in proportion to the economic level of households |
| Possibility | <ul style="list-style-type: none"> - Reducing the cost of building housing and neighborhoods while observing the minimum standards - Matching the financial capacity of low-income decile households with the number of facilities and repayment - The possibility of creating small businesses in the proposed building plan to strengthen the economic conditions of the family |

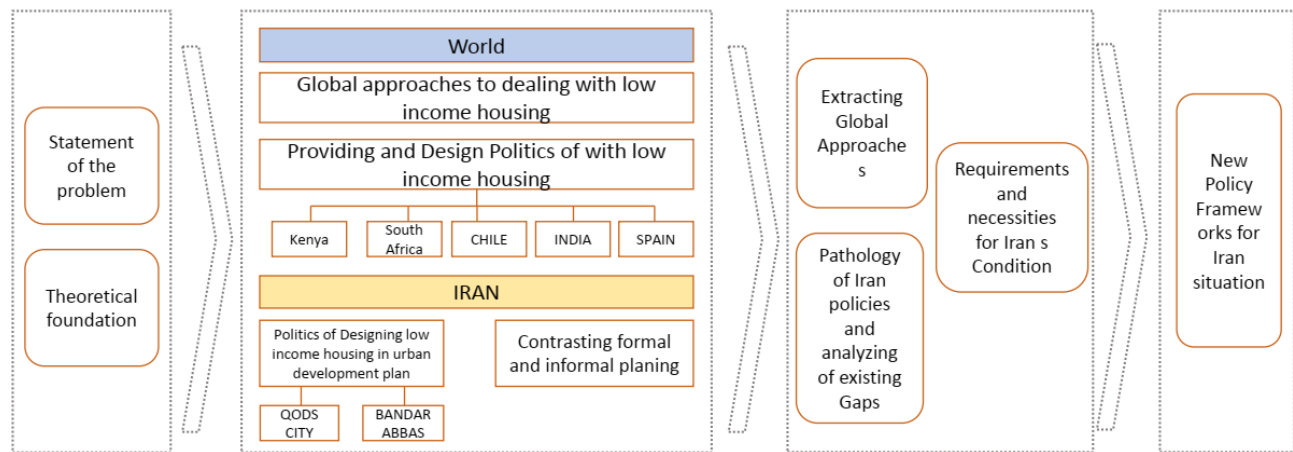


Fig. 8. Study analytical stages. Source: Authors.

by the government and are less related to urban development programs at the local and regional levels. In other words, housing planning has been separated from urban planning. At the same time, the housing issue must be resolved in conjunction with local policies and urban plans. Housing planning should also be considered in urban and regional development plans. Given that the demand

for housing is directly related to the urban economy and the provision of employment opportunities. Urban planning in its various dimensions and housing planning are not two separate categories. The issue that needs to be addressed in the case of low-income housing is that providing housing in their requested location is essential. Based on the global experience and the measures

taken in the country in providing low-income housing, considering several major principles is necessary:

- Large- scale planning for low-income housing and single policies such as land preparation plans, new towns and Mehr housing program is not the answer to solving the problem of providing low-income housing in the country.
- Housing planning is part of urban planning and should be planned and implemented by local management on a local scale (along with macro policies).
- Proper housing requires attention to all aspects of urban planning, including housing construction along with the creation of services, infrastructure, urban space, etc., and the formation of the neighborhood in general.
- To solve the problem of low-income housing, it is necessary to pay attention to social and economic features as well as local capacities.
- The city is a place for high-income and low-income people. Therefore, there is a need for housing planning for different sections of society in an inclusive manner.
- Providing housing for low-income people in the community should be incremental, participatory, diverse, and flexible. [Table 5](#) presents the necessary policies and solutions in the field of providing and designing low-income housing in different areas.

Declaration of non-conflict of interest

The authors declare that there was no conflict of interest for them in conducting this research (conflict of interest is a situation in which the personal or immaterial personal interests of the author or authors conflict with the results of the research and this affects the process of conducting the research or the honest announcement of the results).

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