

Feasibility of the Possible Patterns of Intervention in the Distressed Fabric; Case Study: A Part of Qom City of Iran in Central Sub-Area

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ABSTRACT: It is long time that the subject of distressed and decayed areas has attracted the attention of the public organizations and experts of urbanism and architecture in different countries. Rehabilitation, renovation and restoration are different forms of intervention in the distressed fabric each of which has been implemented with different approaches in different countries worldwide. The applied approaches (including re-adjustment of the land for implementing urban development plans, compulsory acquisition, voluntarily methods such as the persuasive aggregations and density) have their own problems. In many cases, these problems have led to stopping the projects in their initial phase. This applied research is based on the qualitative and quantitative approaches and uses a comprehensive perspective relying on the available solutions and history of research using descriptive-analytical method and secondary data. In analyzing the data and case study, we use library-field methods based on the questionnaire and face-to-face interviews. Statistical population of the research includes the residents of a part of the distressed area in 1st municipal district of Qom city. This article attempts to explain the current proposed approaches (organization, protection, and constructive and fundamental interventions) studies the actions that have been done in relation to the distressed areas of the mentioned region in Qom city. Finally we will state the actions needed in each approach considering different dimensions of the distressed area. The findings of the research show that any feasible solution has to pay enough attention to the financial aspects, mental motivations of the residents, and the participation of the people and government.

Keywords: Distressed Fabric, Feasibility Study, Qom, Rehabilitation, Renovation, Restoration

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INTRODUCTION

Distressed areas form a considerable part of many Iranian cities. Due to their special problems, such areas usually become the problematic parts of the cities. Moreover, apart from their physical problems and issues, social, economic and cultural qualities of the cities and urban areas are deteriorated as well. Several solutions have been offered for the mentioned problem each of which emphasize on specific aspects of the issue. The technical terms such as the rehabilitation, renovation, reconstruction, revitalization, restoration, protection, etc. imply the diversity and complexity of the intervention in the distressed areas in general and the distressed area of the central parts of the cities in particular (Samani, 2011). Currently, Qom city contains more than 1000Ha of distressed areas. Considering the consequent problems of the decayed areas, this research aims to find an optimal pattern of intervention in the distressed areas of its case (i.e. central fabric of Qom city, that extends to Sadouq Street from the north, Somayyeh Street from the south, Abbas Abad from the east, and Dowrshahr Street from the west) in order to improve the physical development, to increase the social and cultural opportunities, to reduce the social threats, to develop the land uses, to create new land uses, and to increase the security of the region. Previous fundamental changes in the mentioned decayed area have made it a better place for life. Moreover, this

area is commercially and religiously very important due to its closeness to the Holly Shrine of Qom and Jamkaran Mosque.

Considering the current unsuitable approaches to the intervention in the mentioned distressed areas (i.e. functional approach and economy-oriented approach), it is critically important to find some methods of intervention with minimum damage and with maximum participation of the citizens and their sense of belonging to the place.

MATERIAL AND METHODS

This research is an applied one relying on different definitions, theories, codes, and congresses on the intervention in the distressed areas for solving the problems of those areas.

At the initial steps of the research we have used the descriptive method (understanding the subject, different types of urban fabrics, and different types of intervention) and then we have used analytical method (analyzing the components and their relations); and finally, based on the qualitative analysis and goal achievement matrix and collection the data through the field studies, survey, questionnaire and interviewing with 500 randomly-selected residents, we dealt with the feasibility study of the possible interventions in three distressed neighborhoods (including Jooy-e Shoor, Abbas Abad and Dowrshahr). It is to be stated that the value of factor

loading in the goal achievement matrix was determined through interviewing the experts of the municipality and the authorities of the Comprehensive Urban Plan of Qom. The proposed questions are exploratory ones with which we can understand and determine the conditions leading to the damage of the urban fabric in order to fine the suitable intervention pattern. Finally, we will explain the actions suitable to each pattern of intervention in the mentioned neighborhoods for reducing the effects of the urban decay.

Review of Literature

The subject of the urban fabric and its critical role in the living conditions of the residents has led to lots of researches in Iran and other countries. During the 20th century several international conferences and congresses were conducted on the urban rehabilitation and renovation in which several experts and researches offered their findings about the best relevant policies and solutions. Among such congresses one can refer to Athens Congress (1931), Venice Congress (1964), Maris Congress (1968), Rome Congress (1972), Amsterdam Congress (1975), Burra Code (1999), México City conference (2000), and ICOMOS and Valetta codes. For example, in 2011, the Valetta Code was formulated in order to respect the cultural values, to promote the residents' quality of life, to control the changes, to achieve the development without increasing the density, and to achieve the sustainable development in the urban areas through the interventional methods such as the rehabilitation, renovation, and reconstruction.

The mentioned code supports the preservation of the traditional activities, protection of the local and indigenous populations, and to define the new activities in accordance with those traditional activities, all in a Comprehensive Urban Restoration Plan (the General Assembly of ICOMOS- Quebec, 2008). In relation to the Iranian codes and laws we can refer to the Iranian Urban Renovation and Urban Development, Article 111 of the Iranian Municipalities' Code for Urban Renovation, and Article 30 of the Iranian Ownership Law. This is while the considerable areas of the distressed fabrics and their consequent problems make the interventions inevitable. On one hand, the lack of strategy in managing the plans has made the few available laws ineffective. Generally speaking, despite the governance of the rules and regulations, current urban plans and their executive mechanisms have not managed to have enough effect on the intervention due to neglecting the physical, social, economic and cultural conditions. On the other hand, the confusions of the decisions being made by the policy-makers and urban managers along with the imperative nature of the plan lead to the waste of the time and waste of the financial and human resources.

Decay and decayed fabric

Urban decayed fabric is the legal limits of the cities where are vulnerable and their local, environmental and economic value is not high due to their physical decay and lacking suitable urban services (Habibi et al., 2007). In the urbanism process, increasing and rapid growth of the cities have an undeniable role in the extension of the cities and in making their previous spaces newer or older

(Baqerian, 2010). Table 1 shows the indicators of the decayed fabric in Iran.

Decay is the factor that leads to the removal of the collective memories, deterioration of the eventual urban life, and formation routine and boring urban life (Ebrahimi Mojarad and Alalhesabi, 2008). The decay is divided to two groups: relative decay and absolute decay. Relative decay occurs in one of the important component of the urban spaces, i.e. whether in the physic of the city or in its activity and consequently leads to the relative decay of the urban space. On the other hand, absolute decay is a decay that takes place in both components of the urban spaces and affects both the physical aspect and the activity of the urban space. Table 2 shows the characteristics of the urban decay.

Patterns of the intervention

The reduction of the qualitative value of the decayed fabrics of one or some aspect of the urban life show that the main indicators or aspects of the decay include the physical, functional, environmental, economic, and social aspects. Accordingly, the intervention in the decayed fabric has to be focused from the mentioned points of view.

Intervention in the urban decayed fabric from the physical point of view: any intervention in the urban fabric has to be done in order to improve the quality of life and residence. Such intervention includes changing the pattern of residence, increasing the per capita open spaces, providing the needs for services, strengthening the buildings, reinforcing the accesses, solidarity of the fabric, promoting the connectivity, removing incompatible adjacencies, etc.

Intervention in the urban decayed fabric from the social point of view:

The social consequences of the intervention in the urban decayed areas must include the promotion of the residential status, residents' trust in the urban authorities, supplying the security of the residents, public participation, creating vital and active centers, reducing the social disorders, supporting the development processes by non-governmental organization, and nurturing the appropriate capabilities.

Intervention in the urban decayed fabric from the economic point of view:

Some economic consequences of the intervention in the urban decayed fabrics include the increase of the land prices, increase of the demand for the lands, promotion of the environmental quality, increase of the access to the urban services, change of the transportation prices due to the change of the land uses, change of the economic efficiency of the current activities, new interests in the appropriate activities, the increase of the investments in the area, and the reduction of the population density.

Up to now, several types of intervention in the urban decayed areas have been experienced all of which can be classified in three general approach as shown in Table 3.

Table 1. Indicators of types of distressed fabric (Momeni et al., 2010)

Time period	Position	Ownership	Pathway network	Residence
Before Safavids	Core of the city	Inheritors	Organic	Occupational
Safavid- Pahlavi	Around the center of the city	Appropriative	Disordered	Rental
Pahlavi I	Disconnected urban development	Official document	Ordered	Private
Pahlavi II	Connected urban development	Official document	Ordered	Private
Islamic Republic		Official document	Ordered	Private

Table 2. Characteristics and damages of the decayed fabric (Authors based on Abadboom Qeshm Consultant Engineers, 2004; Khaksari, 2004; Fathi Beiranvand, 2007)

Type of decay	Characteristics
Functional	Incompatibility of the activities, incompatible activities and density of the population, shortage of the services compared to the planned fabrics, fake and unproductive jobs, etc.
Physical	Buildings: organic fabrics, high-density small fabrics, short fabrics, instability and unsustainability of the buildings, vulnerable buildings in natural and non-natural hazards, establishing the buildings without paying attention to the fault safety, river ground, high-voltage electricity transfer posts, etc.; lack of public spaces; abundance of unequipped (abandoned) spaces.
Network	Fabric impermeability: low-width and low-permeable network; inefficient network with regard to the low capacity of the network of shortage of the traffic facilities and equipment
Environmental	Pollution and lack of public health systems (e.g. sewage disposal, garbage collection, etc.); air pollution and the pollution of surface waters
Economic	Low rate of incomes, lack of motivation for investment, particularly by the private sector, low economic value of the lands and houses
Social	Low social status of the residents, higher rate of the rental units compared to properties; prevalence of the social disorders due to the deterioration of the social status of the region leading to the migration of the local residents to better regions and their replacement with foreign migrants, lower-income classes, and socially disordered people
Infrastructural	Lack or decay of the urban infrastructural installations such as the gas, electricity and water supply networks; shortage or inefficient surface wastewater system
Legal	Units with unclear separating borders; lack of official documents of ownership; presence of several inheritors for the units, etc.
Management	Shortage and weakness of the urban services; shortage and weakness in implementing civil projects and urban services

Table 3. Types and goals of intervention in the urban distressed fabrics (Farshidi, 2010)

Type of intervention	Goal of intervention	Actions (or type of plan)
Organizing	Conducting and controlling the development	Formulating appropriate documents (rules and regulations)
Protection	Absolute protection	Formulating appropriate documents (rules and regulations) and needed actions of the authorities
Constructive intervention	Rehabilitation, reconstruction and/or restoration of the urban (active) spaces	Preparing action plans and appropriate documents for organizing and investing
Fundamental intervention	Renovation, (active) protection, creating the modern urban spaces and structures	Preparing action plans for organizing and investing

There are several solutions for improving the urban centers and urban decayed areas. The main solutions are as follow: a-Rehabilitation, b-Renovation, c-Revitalization, d-Reconstruction. With regard to the scale of the intervention and manipulation in the physical situation of the old and decayed areas, rehabilitation is the minimum scale of manipulation and reconstruction is the maximum scale of manipulation (Khaksari, 2004). The following chart (Figure 1) shows the situation of and links between the different methods of restoring the urban old fabrics with their different solutions.

Rehabilitation

Rehabilitation in the urban development is a process being used for improving the quality of the decayed and ruined areas through one or some of the

following actions: partial reconstruction, repair, remodeling, protection, preparing educational, health and recreational facilities, or increase the mentioned services and facilities (Kulshrestha, 2006). Table 4 shows the different methods of the urban rehabilitation.

Renovation

Renovation is indeed to restore the life of the building and/or space emphasizing on the change of the shape of urban space or making the physical-spatial organization updated and adopted to the needs of the day (Falamaki, 1995). Renovation occurs when a space or building has its function but it has not efficiency due to the decay of its fabric. Table 5 shows the different methods of the urban renovation.

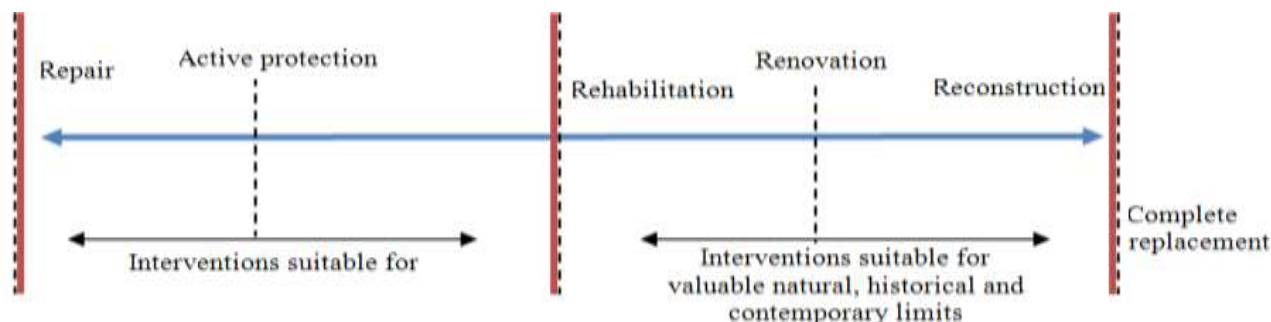
**Figure 1.** Interventional solutions for the decayed fabrics (Khaksari, 2004)

Table 4. Methods of the urban rehabilitation (Hanachi et al. 2007)

Rehabilitation method	Objective	Time period	Tools
Recycling	Restoring the life of the urban spaces	Short-term	Using available vital force of the space
Preservation and prevention	Preserving, maintaining and preventing physical damages	Short-term	Continuous inspections, preservation, repair, discovering the damages resulting from the space and buildings decay
Support	Preparing suitable conditions for protecting the urban spaces	Mid-term	Formulating appropriate rules and regulations, attracting public supports, determining the protective areas and repairing activities
Strengthening	Increasing the security and strength of the space	Mid-term	Improving the durability and solidarity of the spatial structure
Empowerment	Revitalizing the old fabric and promoting the identity of the space	Mid-term	Distributing new activities in the space
Improvement and organization	Minimizing the restrictions and shortages	Mid-term	Emphasizing on the potential and available facilities of the spaces (including social, economic, financial, technical, administrative, physical and spatial aspects)

Table 5. Methods of the urban renovation (Habibi, 2002)

Urban renovation method	Objective	Actions (or type of plan)
Revitalization	Restoring the life to the urban space	Change in the physical-spatial organization, renewing the social, economic, cultural and physical aspects of the space
Adaptation	Making updated	Preparing suitable conditions for the physical and spatial organization, and adopting the old space with the needs of the day
Conversion	Changing the identity	Meeting the needs for removing the disorders resulting from the changes
Conservation	Conserving the natural form and preventing the natural decay	Changing the natural form
Renewal	Re-forming and re-valuing the urban space	Physical-spatial intervention
Restoration	Unifying the spatial organization	Respecting the old quality of the building
Repair	Intervention aiming the increase the age and durability of the urban space	Continuous actions for increasing the durability of the space

Types of urban renovation

-Centralized intervention: destruction and renovation through a centralized management by the developer;

-Participatory intervention: public participation in aggregation and renovation conducted and supervised by the municipality;

-Gradual intervention: renovating the urban blocks along with the spatial desirability;

-Renovation-stimulating (guiding) projects: spatial desirability along with the creation of added value;

-Project shareholder method: attracting the participation of the owners and other investors, and

organizing the capitals focusing on the public participation (Jafari, 2008). The renovation will be fulfilled if the role and share of the public sector and the people in the renovation of their house and neighborhood are specified and defined. Considering the above-mentioned classification of the types of the urban renovation interventions, we can put all these types and methods in two general groups of renovation: neighborhood-based renovation and project-based renovation (Table 6).

The main approaches to the renovation include the empowerment, participatory planning, economic restoration, and urban recreation.

Table 6. Difference between the neighborhood-based and project-based renovations (Qanbari Parsa, 2009)

#	Setting	neighborhood-based renovations	project-based renovations
1	Cultural	Preserving the local identity	Lack of identity in the new-built fabrics
2	Social	Preventing the social disorders to other parts of the city	Distributing the social damages throughout the city
3	Executive	Decentralized execution	Centralized execution
4	Economic	Relying on the capitals of the city	Need for inclusive financial resources
5	Management	Participatory management	Imperative management

Empowerment approach

This approach aims to solve the problems of the residents, meet the primary needs of the residents, conduct activities such as creating and developing the job opportunities, reduce the crimes, promote the vitality and health level, and improve the educational and environmental conditions. Figure 2 shows the theoretical framework of the empowerment approach.

With regard to the rehabilitation and renovation plans, the empowerment methods include the followings:

a) Compulsory renovation (forcing the owners of the decayed buildings to renovate their building or force them to join the participation with their neighbors or investors); b) Participatory renovation (being supported by the relevant authorities and helped by the financial aids and bank facilities); c) Spontaneous renovation (through establishing a coordination committee and the supports of

the relevant authorities) (Haji Aliakbari et al., 2008); d) Aggregation: aggregating the small units by purchasing the decayed buildings regardless of the residents' participation (Jafari, 2008).

The important points for the empowerment of the decayed areas include attracting the participation of all involved parties as the most important base for the renovation, facilitating the participation of the actors of the renovation, and generating the wealth in order to promote the social and economic conditions of the residents, and finally improving the living environment of the residents in the decayed areas. Based on these realities, it is necessary to rely on the participatory solutions and even the partnership and empowerment of the local communities and non-governmental forces (residents, owners, public sector, etc.) for rehabilitating and renovating the urban decayed areas.

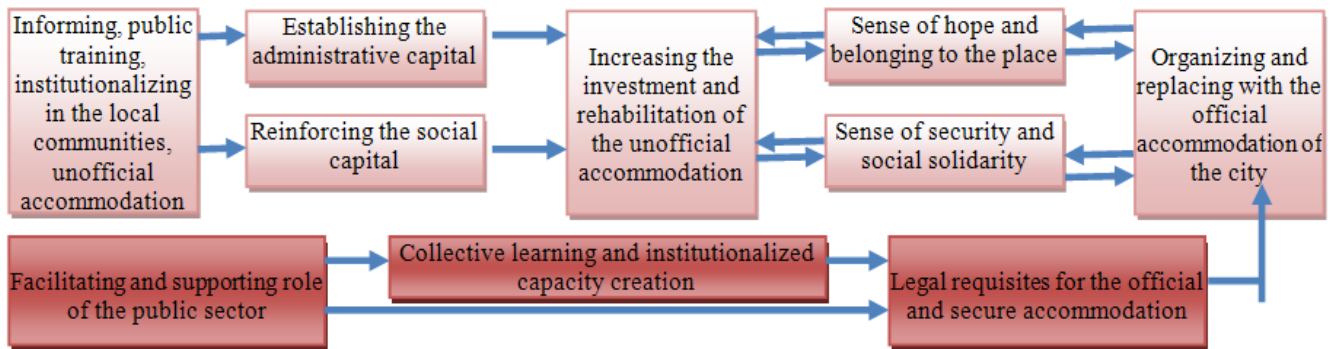


Figure 2. Theoretical framework of the empowerment approach (Fanni, 2009)

Participatory planning approach

One of the features of the developed societies is their prepared settings for the public participation in the decision-making processes relating to the citizens living environments. Participation manifests in several forms such as the organizational (or institutional) participation, social (non-organizational) participation, and spontaneous cooperation of the people without any organizational system or specific plan.

But what makes the sustainable development successful and fulfills the goals of the development in general and the urban development in particular, is the inclusive and comprehensive participation of different social, administrative, religious, economic and political factors so that the authorities can manage the public motivations for the collective interests.

In sum, “participation” can be regarded as a crucially important factor in fulfilling the restoration of the urban distressed areas. Such a fulfillment requires the understanding and exploiting the current and available strengths and situations of the urban neighborhoods and regional and national capacities and attracting the people’s capitals, and coordination of the public and private sectors, all in the framework of a participatory system based on the physical, economic and social typology of the decayed areas (Ardeshiri and Akbarian, 2008).

Economic restoration approach to the urban decayed areas

In this approach, the economic attractive points are discovered as the main cause and motivation of the people’s residence in the urban decayed areas. Indeed, reinforcing the attractive points of the area can add values to the positive performance of those decayed areas (Oppaga, 2005). This procedure can stop the deteriorating and declining prices of the lands in the decayed areas and preserves the economic cycle of the area and motivate the investors to invest more and can prevent the migration of the human resources and finally decrease the severity of the decay (Aeini, 2007).

An important strategy in this regard is the national renovation strategy. Renovating the neighborhoods is a basic part of SEU priorities. Although the national renovation strategy is very effective on the improvement of five main pillars of renovation (i.e. job, crime, health, education, and housing) and although the physical environment is directed toward the vitality of the deprived areas and increasing the hopes in the residents, but the

implementation of the current plans is not suitable and they are implementing even worse in the deprived areas.

There are two other important points in the neighborhood renovation strategy: first, the necessity of the revitalization of the economic life in the most deprived regions whose results can be found and observed in the policies of the skill promotions, helping unemployed people to return to their works, promoting the self-employment processes, and preparing some facilities to care the children. The second point is that we stop seeing the neighborhoods as only physical places, but to regard them as the local communities (that is, to consider the neighborhood empowerment and local participation as the heart of the strategy). The following chart (Figure 3) shows the procedure of preparing the economic driver model.

Urban recreation approach

The objective of implementing urban recreation policies is to improve the qualitative conditions of life by securing the buildings, developing and improving the urban infrastructures, supplying urban services, training the residents, creating job opportunities, strengthening the local management institutions and people-oriented services in the neighborhoods, etc. Recreation pays attention to the improvement of the economic, social and environmental situations of the city and includes different activities that provide a new life for the ruined areas, cleared buildings, and old and out-of-service infrastructures which are under reconstruction (Hull City Plan, 2000). Table 7 compares two main approaches, i.e. urban recreation approach and sustainable urban recreation.

Reconstruction

Reconstruction is an intervention that is mainly implemented in very distressed areas that are open to development (ICOMOS, 1983). Reconstruction is usually defined by the destruction, clearance, re-building, re-modeling, re-unifying, re-expressing and regenerating actions. These actions are implemented by compulsory ownership, volunteer methods and re-adjustment of the lands (Abbasi and Razavi, 2006). Moreover, in terms of the planning technics, the mentioned intervention methods follow three planning methods including top-down (non-participatory and imperative) method, bottom-up (democratic and citizen- oriented) planning method, and combined method (implementing the plans by the first method and citizenship-orientation in the second method).

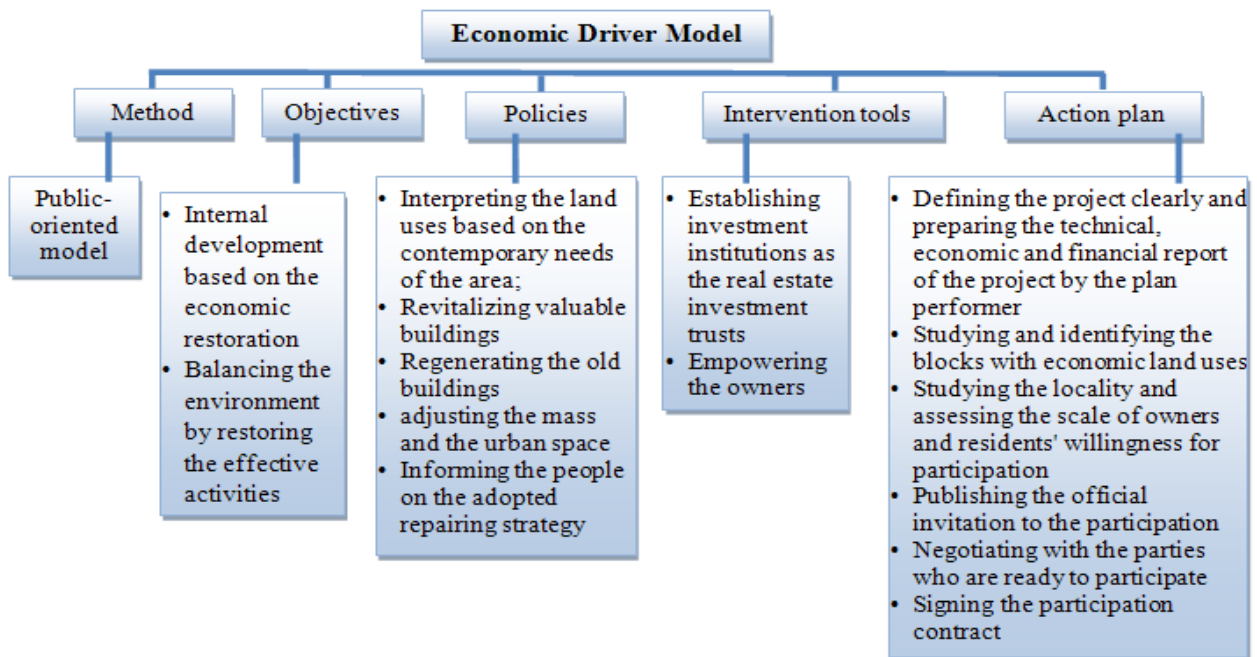


Figure 3. Procedure of the economic driver model (International economic development council, 2008)

Table 7. Comparing the urban recreation approach and sustainable urban recreation approach (Falamaki, 1995; Malakuti, 2001; Hull City Plan, 2000; LUDAE- Compendium, Handbook E 2.48; Vilaplana, 1998)

Approach	Explanations
Urban recreation approach	This approach began in 1970s
	Finding the signs of the urban problems by improving the distressed areas
	Emphasizing on the cooperation of the local forces and private sector and volunteer groups
	Making unity and solidarity between all urban actors and other beneficiaries based on their partnership
	Dealing with the competitive economy and living quality, particularly for those who live in poor neighborhoods
	Using the available capabilities by exploiting the participation at lowest possible budget and restoring the social life and economic prosperity
	Long-term, flexible, and possibility of being changed in different conditions
	Emphasizing on the restoration and revitalization rather than reconstruction with the minimum change in the urban face
	Using the arts, culture and recreational activities as the stimuli of the urban revitalization plans
	Avoiding single-functionality constructions, and motivating the projects with several and mixed land uses
Sustainable urban recreation approach	Emphasizing on the employment, reduction of the social poverty, supplying the social facilities, and education, rather than the physical renovations
	This approach began in 1990s
	Necessity of recreating the sustainable cooperation of the local communities and coming to a general and public agreement
	Formation of institutional types and development of the plan in an integrated bottom-up form
	Creating a sustainable process in the urban development and attempting to use the potential urban facilities for meeting the new needs of the residents
	Highest implementation with a wide range of public participation with the minimum expense
	Needs to think about the cities and neighborhoods in an organic way and understanding the relation between different problems and opportunities
	Society-based integrative, comprehensive and strategic approaches to recreation
	Successfulness in creating the opportunities for empowering the people, extending the public vision, and reinforcing the investments (needs to a deep unity of the decision-makers)
	Paying attention to the re-adjustment of the plans and programs based on the principles of the sustainable development

Schools of intervention in the distressed fabrics

All idealizations about the intervention in the distressed areas can be classified in two schools of thought: functionalism and culturalism.

Functionalism focuses mainly on the economic categories rather than the cultural content while culturalism focuses mainly on the cultural values and conditions in forming the space (Jamalpour, 1999). However, there are schools of thought that are generally derived from the two mentioned schools. Table 8 summarizes the way and scale of intervention in each of the approaches. On the other hand, the different attitudes

toward the urban rehabilitation and renovation can be classified in two general categories as follow:

First category: (1) gentrification theory (improving the social life in the old fabric emphasizing on the high- and mid-income classes), (2) theory of deprivation reduction and social planning strategy (paying attention to the deprivation reduction, and socio-economic rehabilitation and renovation), (3) Replacement (coordination between different parts of the city, providing the financial resources, and the participation of the local communities in improving the physical environment being supported by the private sector), (4)

urban refinement (based on the migration of the residents and being employed outside the city), (5) self-sufficiency and self-regulation (preserving and improving the available properties without residents' displacement), (6) aggregation plan (purchasing non-valuable buildings to reconstruct them), (7) using social capita (empowering the communities by relying on the social capital) (Shamaei and Purahmad, 2005; Heidar, 2007; Yavar, 2002).

Second category: (1) conservative theory (avoiding any intervention in the current situation), (2) radical theory (prescribing the destruction and reconstruction solution), (3) rational theory (conditional reconstruction emphasizing on the natural issues and public participation (Shamaei and Purahmad, 2005).

Table 8. Main schools of thought in the field of intervention in the urban distressed areas

School	Its attitude		
Culturalism	Rehabilitation and renovation through regenerating the previous cultural values		
Promotion-orientation	When renovating and reconstructing the old cities, it preserves nothing except the roads		
Ecology-orientation	The deterioration of the old fabric of the city is the result of the social inequality		
Arrangement-orientation	Considering an integrated totality in the urban rehabilitation and renovation		
Functionalism	Rehabilitation and renovation in order to the urban functional and economic development		
Context-orientation	The presence of the elements of previous cities in forming the contemporary cities	Physical context	Paying attention to the current situations
		Historical context	Paying attention to the order of the urban components during the time
		Social context	Paying attention to the meanings, values and common goals
Structuralism	Rehabilitation and renovation of the physical-spatial complexes rather than the buildings	Organizing the main skeleton of the city	Reforming the skeleton of the city in coordination with the natural characteristics in order to reinforce the visual attractiveness of the city
		Philosophy of the city	Protecting the memories of the past against the promotion-orientation view, considering the truth, advancement, originality, richness and continuous movement
Aesthetics	Considering the visual aspect and emphasizing on the beautification as the only suitable intervention	Visual perception and the urban face	Improving the readability by adjusting the structural pattern and establishing internal connectivity of the components
Humanism	Humanistic intervention		
Neoclassicism (rationalism)	Paying attention to the culture and history without imitating the past but by updating the buildings		
Realism	Modernizing the old fabrics and spaces of the cities with regard to the historical, artistic and cultural dimensions		
Sustainable development	Protecting the natural resources (balancing the hatred of the past and resistance against the new life styles)	Geographical Comprehensiveness	Focusing on the national development, institutional behaviors, capital market, economic and political structures, social and population changes, land uses, and neighborhood changes in order to decide on the place of the neighborhood
Performance-orientation	Paying attention to the economic aspects in the change of the space in order to attain more benefits		
Systemic view	Considering the area as a living organism and paying attention to its internal exchanges and interactions		

Based on the mentioned theories and according to Lynch, any planning has to be done by the participation of the people, experts, and urban authorities. The plans have to pay enough attention to showing the cultural and historical values of different periods in the urban spaces and support the open museums.

Moreover, the natural environment studies are very important in the urban plans in general and in rehabilitation and renovation in particular. Accordingly, the rehabilitation and renovation plans have to adjust the buildings to the conditions and requisites of the time and place. In other words, rehabilitation and renovation of the city has not to be the mere imitation of the past, but they have to change the city in accordance with the current needs while considering the historical and cultural values and memories. Public training to the people and urban authorities on the urban rehabilitation and renovation is critically important.

Case study: Dowr-e Shahr, Abbas Abad and Jooy-e Shoor neighborhoods of Qom city

In order to study the problems of the distressed areas and the relevant solutions for such problems, and considering the wide extent of the distressed areas of Iranian Qom city, we limited our scope of research to these three neighborhoods. Reviewing the available approaches and theories, we selected some criteria to study the scope of the research and to conduct out survey and distributing our questionnaires among the residents and interviewing the experts of the 1st district municipality of Qom city and the managing director of Emarat-e Khorshid Consulting Engineers Co. (which is in charge of the 5th phase of the Qom Ammar Yaser Plan) in order to load the factors and to analyze the findings.

Qom city is the capital of Iranian Qom province with the area of 12,307.3 Ha. The population of the city is equal to 1,095,871 (2011 Census). Several factors have

taken effect on the extension of Qom city among which we can refer to the huge flood of 1934 that destroyed a considerable part of the old fabric of the city and forced many people to migrate to the western margins of the city due to the river flow. Establishing the railroad in this part of the city accelerated its growth and development so that half of the city was gradually built in the western side of the river. Before 1964, the main direction of the urban extension was directed toward the west, northwest and southeast; while the city was extending toward the northeast very little compared to other directions. The urban plans gradually lead to the paralleled extension toward all sides of the city. Figure 4 shows the history of extension of Qom city and its ratio to the urban limits.

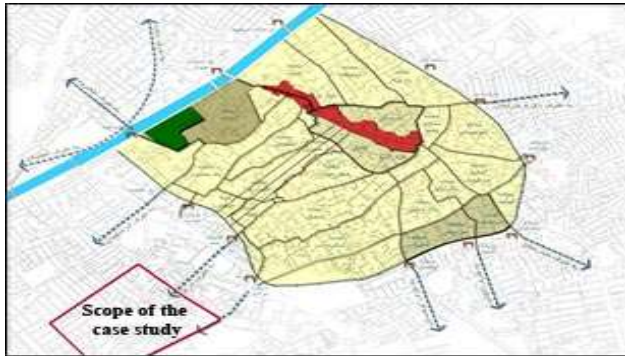


Figure 4. History of extension of Qom city

According to the Comprehensive Plan of Qom City (2011), the scope of the case study locates in the 1st municipal district. This district is located in the northeast of Qom extending to Ammar Yaser Streetm Qom-Kashan Highway, Bajak 3 Street, and Qom rail station. The physical structure of this region includes small blocks, distressed buildings, semi-grid, semi-organism networks, narrow alleys, little open spaces, high density, etc. There is a general homogeneity in the district in terms of its physical fabric. According to the Structural-Strategic Plan of 2005, the scope of this case study has an average density, and its adjacency to the Holly Shrine- Jamkaran Mosque road, it has a cultural pilgrimage position.

Based on the Comprehensive Plan of Qom City (2011), the 5th phase of the Qom Ammar Yaser Plan will be implemented in the northern part of our study scope and consequently, Jooy-e Shoor neighborhood will be destroyed. Moreover, the widening plan of Bigdeli Street will lead to the destruction of the lands in Abbas Abad neighborhood. Moreover, according to the functional ranking plan, Ammar Yaser Street will be merely a road without any other land uses. Thus, undesirable effects of the two mentioned plans on the region will be threatening due to making a break and discontinuity in the area. In order to measure the scale of the decay of neighborhoods, we consider some factors. This scale is determined by loading the mentioned factors. The higher score, the more decay.

Table 9. Final situation of the neighborhoods in terms of their decay (Source: Author)

Criteria and sub-criteria		Score of Dowre Shahr Ne.	Score of Jooye Shoor Ne.	Score of Abbas Abad Ne.
Physical decay	Type of network and granularity of the fabric	-3	1	1
	Establishing the buildings in unsafe places	1	1	1
	Lack of public spaces	-3	-3	-3
	Shortened fabric	1	2	1
	Physical instability of the buildings	1	2	2
	Existence of the abandoned spaces	0	1	2
	Total	-3	4	4
Activity decay	Incompatibility of the activities	-2	-1	0
	Shortage of the services	-1	1	2
	Fake occupations and jobs	-1	2	3
	Total	-4	2	5
Network	Fabric impermeability	-2	2	2
	Inefficient communicative network with low capacity	1	2	2
	Total	-1	4	4
Environmental	Inefficiency of the sewage disposal	-1	1	1
	Inefficiency of the waste disposal	-2	1	1
	Pollution of the surface waters	0	2	1
	Total	-3	4	3
Economic	Low level of incomes	0	2	1
	Lack of motivation for investment	-1	3	3
	Low level of the economic value of the lands	-3	-2	-2
	Total	-4	3	2
Social	High rate of rental houses	2	1	1
	Social disorders	-2	2	1
	Migration of the local residents	-1	2	1
	Total	-1	5	3
Infrastructural	Lack or decay of the infrastructures	1	3	2
	Shortage of the drainage system	-3	3	3
	Total	-2	6	5
Management	Shortage and weakness of supplying urban services	1	3	3
	Weakness in implementing civil projects	1	3	3
	Total	2	6	6

Table 9 shows the final situation of the neighborhoods in terms of their decay; and figure 5 shows the map of the position of the neighborhoods in the scope of our case study. As the table 9 shows, Jooy-e Shoor neighborhood is more close to the decay acriteria, while Dowr-e Shahr neighborhood has a better situation compared to other two neighborhoods.

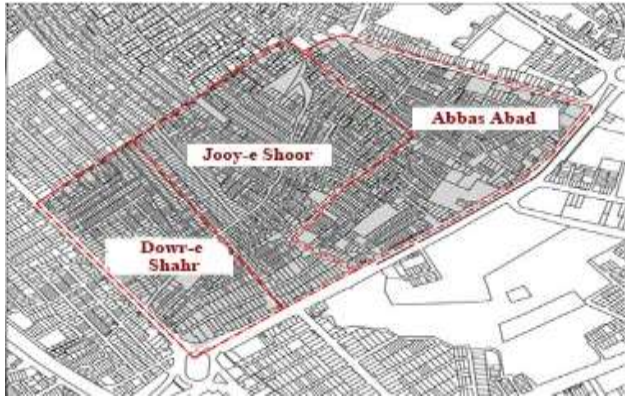


Figure 5. History of extension of Qom city

RESULTS AND DISCUSSION

Based on the interviews with the experts of the field, the factors of each type of the method of intervention in the distressed areas were loaded and each method in each neighborhood obtained a score using goal achievement matrix. The mentioned factors are as follow:

- Protecting the available values of the neighborhood
- Using the available potentials for the development
- Increasing the quality of the living environment
- Promoting the urban infrastructures
- Improving the urban services
- Improving the urban face and visual aspect
- Balancing the land uses
- Improving the communicative network
- Balancing the density
- Adjusting the size of the components
- Reforming or restoring urban spaces
- Creating modern urban structures
- Organization and investment
- Creating residence and job opportunities; and
- Rationalizing the mass and spatial organization

Table 10. Feasibility study of the suitable approach for urban renovation

Urban renovation methods	Criteria of the method
Participatory renovation	Attracting the micro-capitals of the people (need for financial resources)
	Cooperation of the private sector supported by the public sector
	Lack of identity of the new-built fabrics
	Lack of preservation of the current population composition
	Imperative and centralized management
	Improving the infrastructural facilities and supplying the urban needs
	Preserving the local identity
	Preventing the disorders from spreading in other areas due to the preservation of the current population
	Aggregation and renovation using the rules and regulations and being helped by the people
	Participatory and decentralized management
Intensive renovation with destruction	Using the capitals of the city
	Forcing the executive authorities to supply the needed services
	Forcing the owners to participate in the renovation plans
	Interpreting the land uses based on the contemporary needs of residents
	Revitalizing the valuable buildings with suitable performance
Economic restoration approach	Regenerating the old buildings in the area
	Redefining the efficiency of the buildings
	Adjusting the mass and the urban space
Urban recreation approach	Providing suitable settings for the investors
	Empowering the residents in order to attract their participation
	Emphasizing on the social participation, increasing the employments, and reducing the social poverty
	Improvement along with finding the most important problems of the area
	Emphasizing on the cooperation of the local forces and private sector and volunteer groups
	Making unity and solidarity between all urban actors and other beneficiaries based on their partnership
	Dealing with the competitive economy and living quality, particularly for those who live in poor neighborhoods
	Using the available capabilities by exploiting the participation at lowest possible budget and restoring the social life and economic prosperity
	Emphasizing on the restoration and revitalization rather than reconstruction with the minimum change in the urban face
	Using the arts, culture and recreational activities as the stimuli of the urban revitalization plans
Encouraging mixed land uses	
Sustainable urban recreation approach	Emphasizing on the employment, reduction of the social poverty, supplying the social facilities, and education, rather than the physical renovations
	Cooperation of the local communities and coming to a general and public agreement
	Bottom-up participatory plans with minimum costs
	Formation of institutional types for supplying the financial resources
	Understanding the relation between different problems and opportunities
	Society-based integrative, comprehensive and strategic approaches to recreation
Empowering the people, extending the public vision, and reinforcing the investments	
Considering the re-adjustment of the plan based on the sustainable development	

The results of the scoring shows that the Dowr-e Shahr neighborhood has not sever problems. Due to its adjacency to the Dowr-e Shahr commercial center (that is

one of the most important commercial centers of Qom city), this neighborhood doesn't face with serious shortage of the services, and consequently, the situation of its

residents is better than the two other neighborhoods. Thus the organization approach (including the conduction and control of the development by the driving rules and regulations) can solve the current and coming problems of this neighborhood. But Abbas Abad and Jooy-e Shoor face more problems among which we can refer to the mechanistic communicative network and narrow pathways.

Moreover, these neighborhoods suffer from the shortage of the services. Thus for Abbas Abad neighborhood it seems that the most suitable approach of intervention, is the fundamental intervention including the renovation-reconstruction, and active protection of the area. Besides, the best approach for Jooy-e Shoor is the fundamental intervention and rehabilitation-renovation approach.

These two approaches require suitable organization and investment. At the next step, we have to determine the best ways of renovation and rehabilitation.

With regard to its long history and wide historical memories, Jooy-e Shoor neighborhood requires to policies for intervention, i.e. strengthening and adjusting the spatial organization, and rehabilitation by inserting activities simultaneously (the best ways of urban rehabilitation are summarized in Table 10). Moreover, in feasibility study of the renovation method for Abbas Abad neighborhood, we determined some criteria as summarized in Table 10.

In the above-mentioned cases, the common criteria were mixed in a separate table. Thus the level of paying attention to each approach of the renovation to these criteria was evaluated using qualitative analysis. Among the mentioned approaches, sustainable urban recreation approach has the most attention to the relevant criteria. In determining the type of the renovation and rehabilitation theory, we determined some criteria based on the obtained results of the questionnaire (N=500).

These criteria included the improvement of the social life, improvement of economic conditions, construction with regard to the migrations, return of investment to the central part of the cities, understanding the current situation on order to organize, paying attention to the deprivation reduction, renovation/rehabilitation with regard to the expected age of the reconstructed buildings, paying attention to the participation of the local communities, and paying attention to the empowerment using the social capital.

Qualitative analysis shows that the latter criterion (i.e. "paying attention to the empowerment using the social capital") has the most attention to the mentioned criteria. It seems that the best approach to renovation and rehabilitation for the areas of this research is to combine the mentioned approach with the self-sufficiency and self-regulating strategies.

CONCLUSION

The time puts its footprints on the urban life. Time is passing with a rapid speed in the place. The footprint of this rapid pass can be seen in the face of the cities because it changes the meaning of the city and urban life. Undoubtedly, one of the most important results of the time in the city is the decay of the urban spaces and activities.

To overcome such an effect we need to adopt some suitable solutions.

Analyzing three neighborhoods of the Iranian Qom City we found that the decayed fabrics of these neighborhoods are not stable and safe due to several reasons such as their age, application of non-durable materials, and lack of paying enough attention to the construction methods. Another important issue is the lack of efficiency and inability of these fabrics for meeting the needs of the citizens. Unsuitable accessibility and impermeability of these fabrics not only imposes some problems for aiding but it causes the car traffic and if the authorities and people don't control the mentioned problems, they will lead to several social problems and disorders as well.

Based on the above analyses, each neighborhood requires different intervention approach. At the following, we will introduce the needed activities and approaches for each of the studied neighborhoods

Dowr-e Shahr Neighborhood → Organization approach

Generally, the strategies of this approach can be divided into some several parts as follow:

- a. Extending the urban green and open spaces
- b. Organizing and providing recreational activities for the spare times of the citizens
- c. Assigning suitable services for this neighborhood
- d. Improving the situation of the pathways, installations and lightings
- e. Improving the social security for the residents

Jooy-e Shoor Neighborhood → Urban rehabilitation

Physical strategies

- a. Offering land uses for preserving and promoting the old (cultural and touristic) structures
- b. Adjusting the old and new fabrics using the natural elements
- c. Emphasizing the shadow of the history on the spatial aspects of the area
- d. Building additional structures for reinforcing the old fabric by strengthening the spatial organization of the center of neighborhood
- e. Building green spaces at the beginning of Ammar Yaser Blvd and Bigdeli Street
- f. Creating commercial land uses in Ammar and Bigdeli streets in order to increase their vitality and security
- g. Strengthening the decayed buildings, particularly in Sadouq Street.
- h. Promoting the social values of the neighborhood and restoring its identity
- i. Identifying and removing unsecure points by suitable lightings at nights

Socio-economic strategies

- a. The presence of the local residents in order to protect the fabric in a vital and spontaneous form by establishing local institutions such as the mosques
- b. Improving the job opportunities in order to increase the incomes of the families

Management strategies

Asking the support and help of the relevant organizations (such as the Shrine Rehabilitation Organization)

Physical strategies

- a. Creating the identity of the space and coordinating the artificial and natural elements
- b. Identifying and removing unsecure points by suitable lightings at nights
- c. Preparing and increasing different types of activities and land uses in a single space
- d. Improving the spatial organization by creating signs and nodes of activities
- e. Increasing and facilitating the accesses by improving the pathways
- f. Adjusting the relation between the mass and the space
- g. Increasing the open and green spaces in the neighborhood in order to increase the urban vitality
- h. Renovation in order to improve the services, improving the pathways and the structural and infrastructural facilities and installations

Socio-economic and management strategies

- a. Improving the job opportunities in order to increase the incomes of the families
 - b. Activating the spaces in different times of the day for different groups of people
 - c. Being equipped with the foreign resources such as attracting the investors and securing the return of the capital
 - d. Publishing participation bonds for the urban rehabilitation plans based on the self-sufficiency and social planning strategy
 - e. Empowering the residents of the neighborhoods by granting bank facilities to them
 - f. Establishing cooperative renovation organizations in the neighborhoods (through the agreement of the users and implementers of the project).
- The important point is to increase the role of the local people.

Investigating the causes of the formation and extension of the distressed fabrics clearly show that we have to pay especial attention to the social and economic aspects in all renovation plans and to consider the solution for the social and economic problems along with the physical aspects of the neighborhoods.

Thus the strategies such as the empowerment, improving the employment situation, economic restoration of the neighborhoods, improving the health, promoting the vitality of the neighborhoods, etc. are some basic strategies that are not necessarily dependent on the physical actions but they are considered and defined under the social and economic activities. Thus we can summarize the specific renovation plan in the following strategies:

- *Strategy 1*: empowering the residents by informing, training, developing the employment, and institutionalization
- *Strategy 2*: attracting the participation of all involved actors by identifying the effective actors, asking their interaction and participation, explaining the institutional requisites, and formulating relevant frameworks and instructions
- *Strategy 3*: facilitating the presence of the beneficiary parties by preparing the renovation plans,

establishing specific offices for the renovation services in the neighborhoods, predicting the facilities and incentives, reducing the legal barriers, and other cultural activities such as publishing relevant informative journals

- *Strategy 4*: generating the wealth by defining the value-adding and economically driving projects and conducting the investments toward the development of the distressed areas.

Competing interests

The authors have not declared any conflict of interest.

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