

Internal Development, a Strategy for Revitalization of Urban Distressed Areas: Distressed Areas of Zanjan City (Case Study)

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ABSTRACT: The urban population growth has a long history in Iran. Because of increase in population and the massive immigrations to the towns, the possibility of detailed planning for achieving the different needs of employment, accommodation, education, and health has been decreased. Therefore, the indiscriminate and uncontrolled expansion of cities has led to damage to the urban fabric in terms of spatial coherence and appropriate distribution of services. Nowadays, given the importance of conserving natural resources and reducing the environmental effects of uncontrolled urban development, internal development has been proposed as an approach to urban planning. However, this study aimed to enhance the productivity, optimize the urban land uses, and make possible the internal development of urban distressed areas in Zanjan province in order to meet the needs of the city and prevent from physical unbalanced development. For this purpose, library resources, documents, and field reviews was studied to investigate the internal development in this urban distressed areas of Zanjan province. The results of developed pattern for internal development of urban distressed areas showed valuable results about the expandable lands of these areas (2,054 pieces, 822,895.5 square meters, or 82 hectares). In addition to meeting the needs of current applications, it would be effective in creating continuity between adjacent areas and would prevent the physical development of Zanjan province.

Keywords: Internal Development, Distressed Areas, Zanjan City

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INTRODUCTION

Today, urban development and its economic growth occur regardless of the old texture. Thus, the old parts of the city- that was the economic and main centers for a long time- has been destroyed. Due to the technological developments and the public's tendency to use them, people move to the new parts of the city due to the inefficiency of the old structure (Pir Babai et al., 2010). However, considering the specific nature of the old cities and urban distressed areas, neglecting these areas should be avoided. Economically, they have potential infrastructure and superstructure facilities. Culturally, they are the origins of the modern cities and a relic of the past history and culture. And physically- despite the exhaustion- it still has unique architecture and urban development values (Arabi et al., 2010).

In Iran, considering old tissues in the process of urban development was started in early 40s. There were harmonious and proportional relationship between the city and regional areas in Iran for attracting people to excess areas.

From this decade later, it was replaced by a national surplus (oil) and a specific breakdown in relationship between the city and regional areas was created. The developments- were called modernization- influenced the physic of cities in Iran and also changed the organic relationship that was formed as unified urban areas (Etemad, 1984). The incompatibility with the new

developments imposed two-fold structure to the old cities: 1 - The old city which includes the past life and its elements, 2 - The new structure is formed to meet the new requirements (Meshkini, 2004).

Despite the potential features and precious capital, the old and historic structure faces many challenges. If necessary actions are not being done, the damages will be irreparable and cultural assets will be wasted. Urban Distressed Areas of Zanjan is approximately 492 acres that includes 7.97% of city (6169.77 acres) (Utopia, 2009).

In terms of position, this old structure is in the center area of Zanjan. According to the last housing census (2006), it has a population of 51,317 people and a population density of 119 people per hectare (Utopia, 2007, 18). This area has a historical background. It is valuable in terms of its culture, history, society, and economy. Therefore, it has high capacity for returning life and dynamism.

However, the failure to address the specific problems of this area along with its inability to renew itself has led to fading of these values and the lack of efficient use of development capacities in this area. Because of oldness of structure, there is increased tendency toward moving to new structures in urban neighborhoods. Thus, for attracting human and financial resources and using these resources for the most pressing and most urgent problem in this area (population move to surrounding areas) and solving the problem of urban lands

lack, internal development should be planned to encourage the people and private sector investors to continue to reside in these structures.

MATERIAL AND METHODS

The descriptive - analytical method was used in this study. The observation, interviews, and library research has been used to collect the data. The statistics and research information has been obtained from the National Housing and Land Centre, Housing and Land Organization of Zanjan, Zanjan's urban land administration, Statistical Center of Iran, the Management and Planning center of Zanjan, and Cultural Heritage Organization of Zanjan as well as Internet sites, libraries, and databases. In the analysis of data, the detailed sketch maps and data and statistical block of Zanjan (2006) was used to draw maps using software such as Arcview and ArcGis.

Internal development of city

Various definitions have been proposed about the concept of endogenous development. It should be noted that all these definitions share common concepts that some of the most important definitions will be provided.

-Using the power and opportunities based on the relevant urban planning, the urban endogenous development emphasize on the qualitative and quantitative balance in distribution of the population, coordination between the foundations of social life, escape from urban poverty, and finally the participation and social dynamics of people (Ayinii et al., 2009).

Internal growth does not mean abandoning suburb area; however, it seeks to regulate them, too. This regulation includes balanced and harmonious distribution of urban facilities and equipment both internally and externally. This balance will lead to internal and external, old and new, and today and tomorrow consistency (Habibi, 2004).

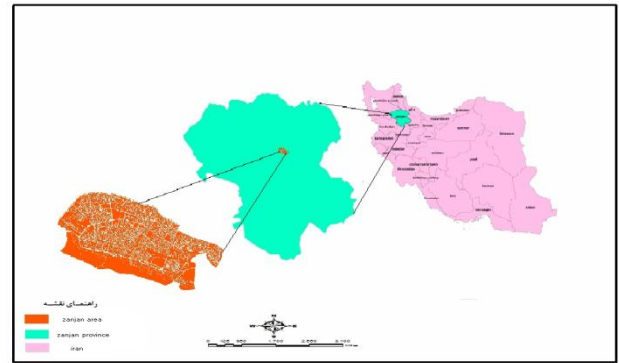
In fact, internal development means modernization, rehabilitation, re-uses the existing urban areas (Bahadori, 1997), fair and equal distribution of buildings and urban facilities at all areas, and rebuilding and reorganizing the physic of city (Varesi, 2004). The successful internal development links the new structures to the background of city and tries to consider existing facilities and the future constructions together (EPA, 2004).

Internal development is the economic use of vacant lands within developed urban areas, where there is services and facilities such as water, sewers, access roads, and public transportation or some of these facilities (Greensboro Comprehensive Plan, 2000).

Features and geographical location of Zanjan

Zanjan is north-western city of Iran and is located between the geographical lengths of $47^{\circ} 10'$ to $49^{\circ} 26'$ of east and latitudes of $35^{\circ} 33'$ to $37^{\circ} 15'$ of North (Farzin Saba, 2005).

Based on the latest political - administrative divisions (2006), Zanjan has an area of over 21,773 square kilometers. It includes approximately 1.34% of the total area of the Iran. It is limited to Tarom and Abhar from the north, to Khodabande from the south, and to Mahnesan from the west (Perchekani, 2004) (Map I).

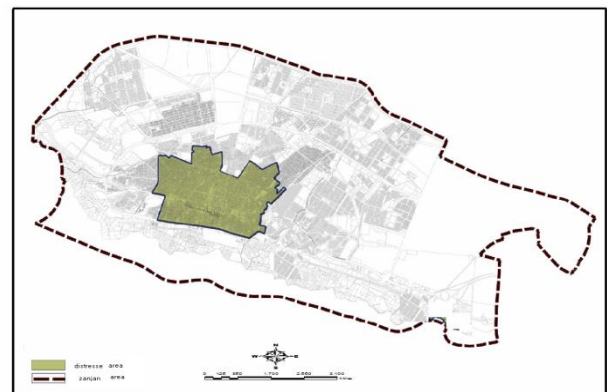


Map 1. Location of Zanjan (Source: author)

RESULTS AND DISCUSSION

Identification of urban distressed areas of Zanjan

Urban Distressed Areas of Zanjan is approximately 492 acres that includes 7.97% of city (6169.77 acres) (Utopia, 2009). In terms of location, this old structure is in the center area of Zanjan and ends in Kargar, Sarbaz, and Modares, and 17 Shahrivar streets from the north, in Jomhoori Eslami Street and Keshavarz Boulevard from the east, in Motahari Street and 15 Khordad Boulevard from the west, and Shahid Beheshti Boulevard from the south. It is consisted of areas including Darvaze Ark, Yeddi Boroogh, Amjadiyeh, Gavanieh, Mahdiye, Razbin, Hosseinieh, Dabaghlar, Masjedyeri, and Ghirbashi (Map II). According to the last housing census (2006), it has a population of 51,317 people and a population density of 119 people per hectare (Utopia, 2007). This area has a historical background. It is valuable in terms of its culture, history, society, and economy. Therefore, it has high capacity for returning life and dynamism. However, the failure to address the specific problems of this area along with its inability to renew itself has led to fading of these values and the lack of efficient use of development capacities in this area.

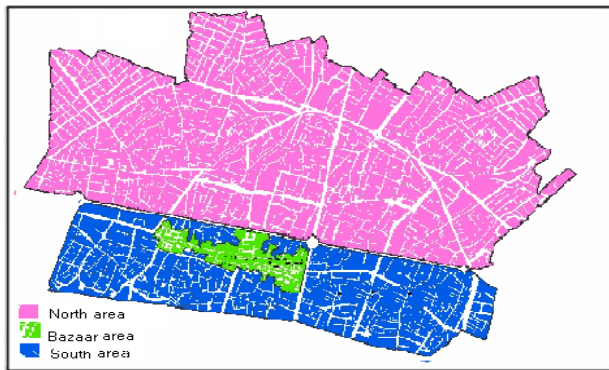


Map 2. The location of urban distressed areas of Zanjan (Source: Utopia Consulting Engineers, 2010)

According to research and identification of urban distressed areas range, this structure is divided into three areas: North structure, south structure, and Bazaar (Map III).

In terms of functional status, North and Bazaar structures are more desirable than South structure. However, there are high levels of functional exhaustion in residential area adjacent to the Bazaar. The incompatible

uses of residential areas such as warehouses and workshops have intensified the functional exhaustion in these areas. The land value, tendency of people and private sector to invest, and the tendency to constructing is higher in North structures than the south structure and Bazaar. Physical and structural deterioration can be observed in all urban distressed areas and only the intensity varies. The physical and structural deterioration in North structures is lower and has new history. In terms of social topography of the urban distressed areas, residents of North structure have better economic - social situation than the two other structures. In terms the natural topography, north is better than two other structures.



Map 3. Zoning of Urban Distressed Areas of Zanjan
(Source: authors)

The indicators of internal development within the context of urban distressed areas of Zanjan

After the division of urban distressed areas of Zanjan into three structures, we will determine the relevant parameters of internal development. Therefore, the potential and opportunities of urban endogenous development in each area will be determined and developable lands can be allocated for residential purposes. Taking into account the objectives, the internal development indicators are divided into two categories:

The internal development indicators measure the maximum capacity of each area in terms of constructing buildings. Internal developable lands include wastelands, abandoned lands, and lands with inefficient urban use (military, garrison, etc.). In terms of type and priority, these lands can be classified into two parts:

1-First class developable lands: The empty and desolate lands and those that are not used optimally can be choose to connect the adjacent areas. Therefore, the white spots caused by unused land within cities will be covered and the city will have better view and landscape.

2-Second class developable lands: The lands already has been in use. These buildings have the capacity of destruction and reconstruction. Therefore, the buildings are choose which are damaged, have low quality, their used materials is clay, stone, and wood, as are dating back more than 30 years. The following table shows the first and second class internal development indices (Table 1).

Table 1. Selected physical parameters for internal development of urban distressed areas in Zanjan

Type of Development	Bazaar area	North Area	South Area	Considerations
Class One Developable lands	Vacant lands	Vacant lands	Vacant lands	-
	Desolated lands	Desolated lands	Desolated lands	
	Application Without Optimal Functioning	Application Without Optimal Functioning	Application Without Optimal Functioning	
The Quality of Building	Destructive	Destructive	Destructive	-
	Ruin	Ruin	Ruin	
	Lack of quality	Lack of quality	Lack of quality	
Class Second Developable lands	Over 30 years	Over 30 years	Over 30 years	The buildings over 30 years should be destroyed and have not the value for maintenance.
	Mud brick	Mud brick	Mud brick	The buildings are built by brick, wood, and Mud brick without the worth for maintenance are considered
	Lack of skeletons	Lack of skeletons	Lack of skeletons	
The Separation System	Over 300 Meters	Over 300 Meters	Less than 100 Meters	-
Passages width	Over 8 Meters	Over 8 Meters	Less than 6 Meters	-

Capacities and potentials of internal development in each area

Potential of internal development within the context of Bazaar: As the backbone and center of the city, Bazaar is one of the valuable historic areas in Iran. Despite high land use, it still has the potential to be developed.

With identification of non-functional and vacant lands in the area of Bazaar, first class developable lands are 170,382.4 m² that includes 54 pieces of this area.

About the second class developable lands, it can be said that after combining six indicators of second class development, 141 pieces have the development potential that includes 15.3 % of total Bazaar. This is equivalent to an area of 188564 square meters (Table 2). Map 4 shows the distribution of first and second class developable pieces in the area.

Potential of internal development within the context of North distressed area

In terms of time period, there is another area can be identified in the north of the historic area that is connected to the Bazaar structure. It includes the northern parts of Imam Khomeini Avenue in the South and Bazaar area. The properties of this area are somewhat similar to southern area. But, the focus of functional areas is lower than that South area. This area is approximately 2,625,284.52 square meters (262.5284 hectares). There are about 14,148 pieces with user separation. Approximately 81.18% of the total area of 2,131,115.1 square meters is for residential users.

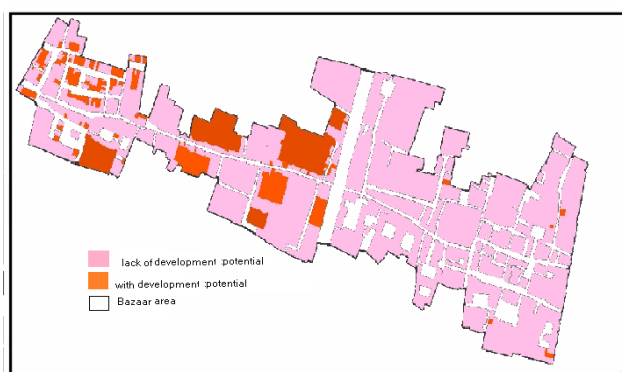
Northern distressed area is new in comparison to other areas (Bazaar and South area) and it can have a major contribution in the internal development. In this area, the first class developable lands are 160,408.1 m².

The following table shows the result of the overlap of second class developable lands indicators is developed by using GIS. From the existing 14,148 pieces in this area, 641 pieces (4.5%) have the potential for this type of development which is an area of 457, 264.5 sq.m. Map 5 shows the distribution of these components in area.

Table 2. Number of developable pieces in the old area of the Bazaar after integrating all indices

Description	Number of developable pieces	Area (square meter)
Total area units (the status quo)	2018	123163.9
Integration of internal development indicators Level 1	54	20582.5
Integration of internal development indicators Level 2	141	18856.4
Total expandable lands	195	39438.7

(Source: author's calculations)

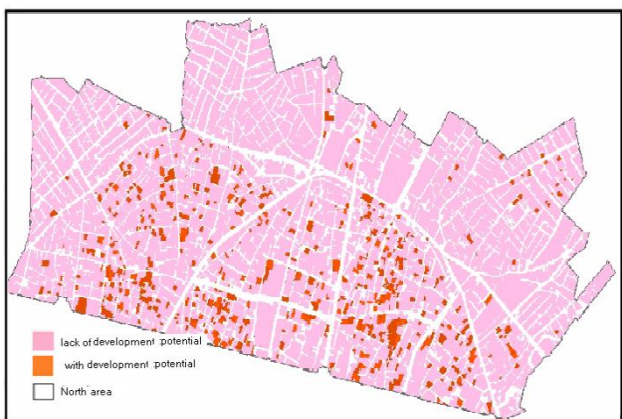


Map 4. First and second class developable lands within the Bazaar range (Source: author)

Table 3. Number of housing units with development potential in North distressed area after integrating all indices

Description	Number of developable pieces	Area (square meter)
Total area units (the status quo)	14148	2625284.5
Integration of internal development indicators Level 1	439	160408.1
Integration of internal development indicators Level 2	645	457264.5
Total expandable lands	1084	617672.6

(Source: author's calculations)



Map 5. Distribution of second class pieces with development potential in northern distressed areas (Source: author)

CONCLUSION

Assessment of internal development potential within the southern distressed areas

The southern distressed areas of Zanjan are the core of city. This zone is the oldest part of the Zanjan and its formation history dates back to the years before 1220. Considering the history and the value of its buildings such as Bazaar, Masjed Jamee, Emamzadeh Seyed Ibrahim, Masjed chehel Sotoon, Caravan Saraye Sangy, Hoseyniye Azaam, and former slaughterhouse (Current Cultural Heritage Organization), this area is valuable. In addition to historical, cultural, and identity values of this area, the traditional Bazaar in Zanjan and its activities has led to economic and activity centralization. Characteristics of these areas can be expressed as follows:

- Lack of proper tracks for emergency services and vehicles.
- Lack of residential units access to basic network of communications.
- Low income and poverty
- Exhaustion and low quality of building blocks due to lack of renewal
- Severe lack of educational, cultural, recreational, and therapeutic services and allocation of 88 percent of all area to residential building blocks.
- Pollution raised from industrial sites around the axis of Khayam (Utopia, 2004, 52). This area is 1,004,636.33 square meters (100.4636 hectares). More than 69 percent of this area is occupied by residential areas that are in very good condition.

The south area has particular problems especially in the case of housing such as high population density, the presence of fine-grained components, low quality materials, and etc. Therefore, policies should be provided for using existing internal development capacities and developing residential areas.

In other words, policies must be developed to solve its problems. Thus, its indicators are somewhat different from two other areas. Because the indicators were explained economically in the North and Bazaar look less attractive in the south. For example, restructuring is explained for markets over 300 meters with no useful function in North area.

But in south areas, minimal interference occurs on parts of 300 sq.m and utmost attention is paid to 100 sq.m for aggregation. In this area, by considering the criteria, the first class developable lands are 195 pieces which are equal to 76,282.8 square meters that includes 7.5% of this area.

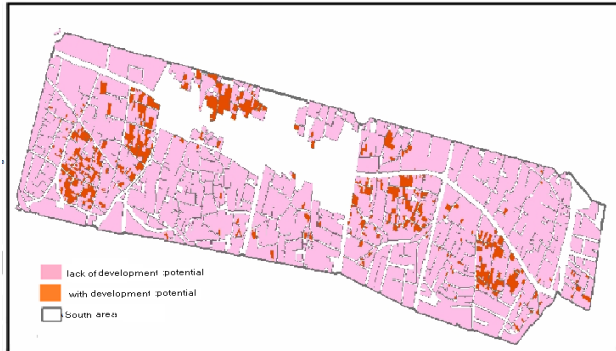
Among the second class developable lands, the separation system with 2215 pieces has the highest potential and quality of buildings with 725 piece has the minimum potential. The following table shows the results of combined indices.

Accordingly, the number of second class developable lands is 580 pieces. They are 89401.09 square meters and 8.8% of the total area is allocated to them (Table IV).

Due to the fine-grained and compact pieces, policies in this area may include aggregation of pieces, lower occupying level, and limited building density. In this area, 1,550 units can be established by integrating two residential pieces to have a capacity of 4 residential units.

Table 4. Number of housing units with development potential in South area after integrating all indices

Description	Number of developable pieces	Area (square meter)
Total area units (the status quo)	5468	1004636.3
Integration of internal development indicators Level 1	195	76282.8
Integration of internal development indicators Level 2	580	89401.09
Total expandable lands	775	165683.8

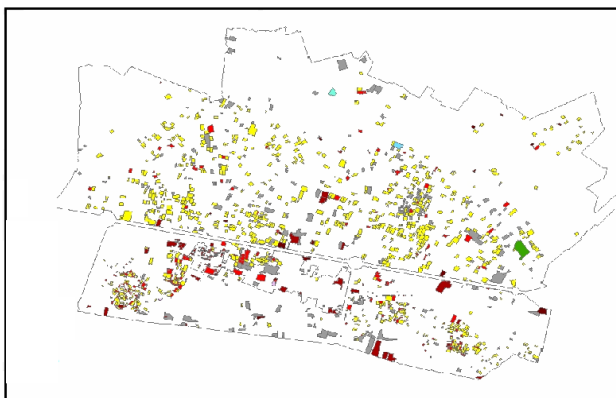


Map 6. Distribution of second class pieces with development potential in the south disserted area (Source: author)

Table 5. Total developable lands of distressed areas in Zanjan

Area	The separated units without considering the criteria				The separated units considering the criteria
	Internal development level 1		Internal development level 2		
	The number of pieces	Area (square meter)	The number of pieces	Area (square meter)	
Bazaar area	54	20582.5	141	18856.4	585
North area	439	160408.1	645	457364.5	4336
South area	195	76282.8	580	89401.09	1550
Total	688	257273.5	1366	565622	6471

Significant contribution to the development of lands compared to other urban areas (In terms of oldness, quality of building, type of skeleton, applications without optimal performance, desolated lands, vacant lands). So, it can be said that this area may have significant contribution in internal development.



Map 7. The uses of developable lands in distressed areas of Zanjan (Source: authors)

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