

## ARTICLE

# APPLYING URBAN VILLAGE APPROACH, APPROPRIATE SOLUTION AT REALIZATION OF SUSTAINABLE HUMAN SETTLEMENTS (CASE STUDY: HAMEDAN MORADBEIG VALLEY)

Mohsen Ghorbankhani<sup>1</sup> and Kianoush Zakerhaghighi<sup>2</sup>

<sup>1</sup>Dept. of Urban Design, College of Arts and Architecture, Hamedan Branch, Islamic Azad University, Hamedan, IRAN

<sup>2</sup>Dept. of Urbanism, College of Arts and Architecture, Hamedan Branch, Islamic Azad University, Hamedan, IRAN

## ABSTRACT

The idea of "urban village" as a strategy for realization of stability in settlements with different conditions and different social and economic motives, as a solution for urban and rural sustainable development is used, and its success at many samples shows the universality of it. This idea was raised as a strategy for realization of sustainable development in the UK. It aims to create an environment with diverse uses, self-sufficient, with priority for public transport and pedestrian and an attractive communal spaces to encourage the development of the local community and public participation. At this study it was examined and aimed at on the urban villages design principles through library and field studies. In the formulation of experiences related to this idea, after introducing the project and its history, instructions and key strategies used in each one, especially of aspects of architecture and urban design, accesses and paths, the proposed uses, the type of buildings as well as strategies used to promote sustainability and reduce energy consumption, has been proposed. Creation of sustainable human settlements using urban village approach, will be the solution to existing problems and to control the development of organic textures. This study aims , with using of theoretical principles, the determination of concept of urban village, and examination of international successful experiences related to the topic, according to the local conditions of the country for a case study (Moradbeig Valley settlements Hamadan), to offer the proposals for achieving the development control strategies and inconsistent constructions in rural-urban settlements. Implementation of the principles of this model will be extended according to the circumstances of each region and after adapting to the needs of local residents.

## INTRODUCTION

The issue of sustainability and sustainable locations' planning and design at recent years, allocated a large part of literature architecture and urbanism to itself. At theoretical areas many doctrines and ideas are provided by scientific communities, institutions and organizations [1]. Including: the notion of a compact city, smart city, green city, the traditional new city, Eco City and so on. Many scientists and analysts believe that sustainability requires a change in thinking or a fundamental change at our way of thinking and acting, but few went even further and express the characteristics of such a development. In fact, despite that in the theoretical and philosophical framework, the sustainability issues were studied several times, how to achieve it, and strategies to promote stability in settlements, were not clear and tangible. Between the 70s to 90s, scientific views, somewhat were in doubt and questioned, and thus movements such as New Urbanism movement in America, and urban village in England, were formed. This approach is based on pragmatism and relies on experience and deals with problem-solving process without directly addressing the broad and complex theoretical principles theories. Limiting up to suitable size, high density, and diversity and mixing land uses, employment possibility and housing for different groups, relative economic independence, priority presence of pedestrians and reducing dependence on cars, make up the main elements of urban village.

## MATERIALS AND METHODS

The aim of this study is assessing urban village approach in achieving sustainable human settlements. The research method is analytical-navigational, that initially deals with investigating and extracting design principles about urban villages through library studies. In relation to identification of case of study, by doing field studies and presence of in space we attempt to assess the status quo.

### Research background

Urban villages with an area of one hectare to 300 hectares have been identified. Living population in urban villages is variable from 160 people to 15 thousand people. Urban villages in rural areas, the suburbs and urban centers are feasible to create [2]. Following successful foreign examples are discussed and details of each of these urban villages will be provided in the form of images and tables.

### KEY WORDS:

Urban village,  
sustainable  
development,  
sustainable settlements,  
settlement Moradbyg  
Valley.

Published: 1 October 2016

### \*Corresponding Author

Email:  
mohsenghorbankhani@gmail.  
com  
Tel.: +989196326628

**Bilston urban village**

Bilston is one of the cities in the region of West Midlands in England, that is located in a distance of four kilometers in southeast of the city of Wolver Hampton. Strategic plan and position of Bilston Urban Village is shown in [Fig. 1].

In Bilston Urban Village project what is most considered, is considering the environmental context of the plot, natural environment factors (water channels and land topography). The plan emphasis is on riding and pedestrian traffic and attention to the strategy of traffic calming, especially in residential areas. Project proposals are ,in this field, by setting a package of measures, to limit the speed of vehicles , and this is raised by changing the flooring and defining some side streets to the main streets, only with priority given to pedestrian movement.

Considering texture identity, collective open spaces and incorporation of land use and types of buildings, has been considered. So that plan has caused readability of area texture and has emphasized on strong identity of region by defining central squares and strengthening active spaces alternative to disabled spaces. Infrastructure and infrastructure facilities are of the points that have been addressed and the project on a large scale (whole area) is discussed in detail [3].



**Fig.1:** Geographical location and plans designed Bilston Urban Village [3]

**Table 1:** Experience Bilston urban village

<b>Regional position</b>	One of the cities in southeast England West Midlands region Wolver Hampton
<b>Design time</b>	years 2004 s
<b>The designer or company employer</b>	Wolver Hampton union council in the city
<b>The executive plan</b>	has been done
<b>The main arguments and the key concepts plan</b>	According to the plan, ecological context, natural environment factors (water channels and topography), especially in residential areas, traffic relaxation strategies, according to tissue identity, open spaces and public infrastructure, land use mix and types of buildings

(Source: [5])

**Kelvin Grove Urban Village**

Kelvin Grove Urban Village in Australia is a collection with all residential, educational, business and leisure services, with area of 16 hectares, that its project started in 2002, and are elapsing its complementary stages of development in 2010. In this urban village, emphasis is on respect for the environment and attention to security and convenience of residents, capability of walking and pedestrians. Of the points of emphasis is considering the dimensions of landscape, visual attractions. Buildings, both functionally and in terms of color facade materials, both technically and in terms of density vary greatly. So that also covered various social classes and provide their needs. Mixed land use, are other remarkable aspects in this project that created the lively and identified environment [4].



**Fig.2:** Kelvin Grove Urban Village geographical location and plan designed [3]

**Table 2:** Kelvin Grove Urban Village experience

<b>Regional position</b>	In Queen Island in northern Australia
<b>Design time</b>	years 2002 s
<b>The designer or company employer</b>	UDIA Institute of urban development and protection of the environment , EPA
<b>The executive plan</b>	Further development is done in stages
<b>The main arguments and the key concepts plan</b>	Respect for the environment, pay attention to security, convenience, convenient access to facilities and services and walkability, according to the dimensions of landscape and visual attraction, a variety of buildings and mixed land use, environment and identity lively

(Source: [5])

Derived criteria from two experiences above (Bilston and Kelvin Grove) that are similar to a large extent are classified as follows:

- 1- to pay attention to environmental factors and respect for the environment;
- 2- The principle of reducing travel by car and convenient access to facilities, services and features walkways;
- 3- To create an lively environment and with identity through strengthening active spaces and open spaces considering the dimensions of landscape and visual attractions;
- 4- To mix land use and variety of buildings (Bahrain and Haji Bandeh, 2011: p. 59).

### Greenwich Millennium Village city

Urban area Greenwich Peninsula, with an area 325 acres, is located in the heart of London in Britain, and is adjacent to the River Thames. Greenwich Millennium Village city strategic plan, including the public transport station, elementary school, Footpaths along the river, view of the buildings constructed adjacent the river and central village squares with a higher density than vertical mixed land uses, is designed, and now their construction was completed. Placement of village near the river has raised importance of environmental aspects of the plan [3].



Fig. 3: Urban design plan of the Greenwich Millennium Village[3]

Table 3: Urban Greenwich Millennium Village experience

<b>Regional position</b>	Greenwich peninsula in the urban area in the heart of London, in Britain
<b>Design time</b>	years 2000 s
<b>The designer or company employer</b>	Ralph Erskine partners and companies and plants and revive England , with Taylor Woodrow
<b>The executive plan</b>	performed and its development has been completed
<b>The main arguments and the key concepts plan</b>	emphasis on the local public transport and promote the building and construction techniques and consistent with the environment, according to provide all facilities and services , including restaurants , cafes, schools, housing , health services and infrastructure , equipment and serious attention to the development of common residential areas and design and compatible with the nature of spaces

(Source [3])  
Lakel and Village city

The village Lakeland urban area located in the United States and has an area of 1200 acres, the potential of natural resources, forest vegetation is dense. Lake land Green village city is of the type of Green Field's project. A project that is located in the largest green area. Development of mixed land uses, pedestrian-priority community and a lot of potential for walking and needs of pedestrians that more than half of it is dedicated to public green areas , and high percentage of protected green lands make residents able to experience both urban life and rural life with walkable distances from their homes . It should be noted that only some parts of the plan have been implemented and project's complementary development in the region continues. One of the distinctive features of this urban village is its development in harmony with the natural context [3].



Fig.4: Designed Plan of the village of urban Lakeland and urban spaces that [3]

**Table 4:** the experience of urban village Lakeland

<b>Regional position</b>	In the region of Lake land is located in Tennessee, near Memphis in the United States.
<b>Design time</b>	years 2004 s
<b>The designer or company employer</b>	Governmental institution in Tennessee
<b>The executive plan</b>	in progress
<b>The main arguments and the key concepts plan</b>	emphasis on land use complex , construction, consistent with the environment, according to the pedestrian priority and the ability to walk , stressing the public spaces, vivacious, according to walk away from residential houses to service, benefiting from the site of the component and natural forests of the region and preserve natural environment , according to the application of new energy

(Source: [3])

Classification based on the extraction methods used in the above experimental samples (urban village Lakeland and Greenwich Millennium), is as follows:

1. Utilization of natural components of the site, and pay attention to environmental protection through the construction compatible with the natural environment,
2. Emphasis on local public transport and its promotion, considering the priority of pedestrians and walking distance to service residential home,
3. Emphasis on lively public spaces and in harmony with nature,
4. Mixing land use and considering all the services and facilities,
5. Regarding the use of renewable energies [3].

### Research theoretical principles

#### principles and concepts of urban village

Urban village concept, in fact came into existence in rejecting one-dimensional modernist urban planning (innovative). Because in innovative urban planning, work and leisure and living spaces have been separated, these spaces were governed by cold and lifeless environment, and excessive use of the car has reduced human relationships and causes environmental pollution as well, and consequently leads to reduction of stability in settlements [3]. The first spark of this idea was struck by the Prince of Wales (Krier), and by designers, planners, architects, builders and developers, it was flaming. While the Prince of Wales (Prince England) described urban village as the place that has a human scale, intimacy, identity and vitality, in this regard, he gathered a group of architects, designers and planners together and a group known as the "urban village" is formed. The group start travelling in looking for places that are efficient, attractive and are responsive and finally by analyzing the places that they had found, they reached to the urban village model. The purpose of this group from their studies was to acquire the principles governing the human environment and to offer suggestions and solutions for how to use these principles in new development [6]. The findings of the members of the urban village group was released in 1992 in "urban village report " and in 1995 another report entitled "The Economics of urban villages" concept of urban village success and viability was demonstrated [7] and also second Edition of "urban village report " was published in 1997 [8]. As urban compact form, urban villages use lands more effectively and efficiently and reduce pressures for development on agricultural and open spaces. They also improve regional air quality by reducing car journeys, and they use resources such as land and energy more efficiently and more effectively than where these resources are scattered. Successful urban villages are able to attract people to themselves and provide social, recreational and cultural places and provide services for neighbors, regions, local residents and tourists. They can arise in urban and rural areas and can have high or low population [9].

#### Characteristics of urban village

In a report entitled urban village report in the UK that was released in 1992, the main pillars of the movement were announced as follows: development of adequate space and mass, walkability and attractive pedestrian environment, proper mixing land uses and opportunities employment, diverse and sustainable architecture, blending residential and employment uses, the possibility of providing basic necessities, Health and education, relative independency [10]. The following describes the characteristics of urban villages:

## The environmental characteristics of urban village

Creating a healthy microclimate is protected in urban villages, by decreasing long journeys and reducing need for private vehicles. Walking and bicycle use has priority over private vehicle, and thus less environmental pollution produced. New technologies for constructing and using of renewable and clean energies are used as far as possible. The integration of manmade environment with natural environment can be seen in most urban village spaces. Minimal interference takes place in the natural environment in an urban village. Presence of sufficient Green and open spaces has significant effect on micro climate and causes air pollution decreasing. Reducing fuel consumption as well as waste recycling and reusing are of those significant and important issues in an urban village [11]. In general it can be said that the optimal balance between nature and resources exists.

## Social features urban village

In order that stability in a village or any other settlement can the value and credibility, it should cover social aspects and in parallel with regarding the environmental issues, considering social and human issues. Major features of the social urban village are as follows:

- 1- A population of about 3 to 5 thousand for an urban village, is recommended (Neal, 2003: p. 91).
- 2- Creation and supporting active human environment and public spaces alive, is considered [3].
- 3- Social interactions with many social ties of inhabitants are of the characteristics of an urban village.
- 4- An urban village, in the same relation to the surrounding areas, is a relatively closed society with its own characteristics and identity [12].
- 5- There is the sense of belonging to the living place in all the inhabitants.
- 6- Local residents participate in various activities and processes, can be seen. High quality of life and finally social sustainability are the main goal of an urban village [13].

## Economic characteristics of urban village

urban villages are places that are relatively self-supporting [10], which means that the majority of residents are employed in a near distance to their location and to provide most of their daily and weekly needs, they didn't need to go long trips to rural and other areas, of course, it is necessary to note that this is a relative self-sufficiency and looking at a urban village or a neighborhood as a completely standalone unit cannot be reasonable [3].

Jane Jacobs considers the lack of full social and economic self-reliance natural and necessary, and emphasize on considering the urban neighborhoods or villages as a whole [14]. Residents engaged in a variety of economic activities including farming, small scale industry, tourism and so on and there are different types of land ownership [10]. Necessary infrastructures are provided for different employment fields including agriculture, handicrafts, livestock, etc. New technologies for using and making clean and renewable energy are used in buildings as much as possible [3].

## Physical features urban village

### Dimensions and sizes

Dimensions of an urban village is that small that neighborhood concept will be felt and causes reinforcing the sense of place and increasing in social interactions and face to face interactions and at the same time it is that big that can have capability to provide a wide range of facilities in a reasonable way. The notion of a group urban village poses an area of about 40 hectares that accommodates a population of about three to five thousand people in itself [15].

### Network communication

Among the noteworthy strategies in designing communication network of an urban village, the following points may be noted: the priority for walking routes and special cycling route should be considered. Pedestrian capability is the basic criterion of action in reaching to daily and sometimes weekly uses. Therefore, the maximum available radius considered to be 600 meters, to encourage walking and minimize use the car. Walking paths and even the most local riding routes equipped with Preparations such as putting absorbing spaces and pause places with suitable urban furniture, and provide an opportunity for social communicating and valuing the environment, and in fact multi-dimensional role of streets and roads in order not to sacrifice the needs of car performance and even human [10]. Network riding paths should be considered in a way that communication of urban village with the surrounding villages and other surrounding neighborhoods is possible and the routes that are considered in the design of urban villages, if possible, be based on the existing ones. Existing Cavalry routes should control the speed of riding with provisions such as change in width, creating bumps and so on in urban village.

Efficient public transportation system should be considered for the collection of urban villages. Variations should be seen in the different sequence in existing paths in an urban village [3].

### Uses and activities

Mixed use and variety of activities to reduce the need for long travel as well as vitality of urban settlements is of urban village's characteristics [16]. There are active uses at different hours of the 24/7 in many places of urban village. As Jacobs writes: "Whatever a use is, it is solely inefficient like creating a urban diversity, if this use combined with other use which causes movement of the people to the street at the same time, it wouldn't work, but when a use combined effectively by other use which draws people to the streets at different times it would have a stimulating effect[14]. The mass uses and public spaces that encourage people to do social activity and campaigns in public open spaces are very important in an urban village, campaigns, have not crucial aspects, and they have been done in circumstances that desired background is provided and social activity are subject to the presence of other people in the space, and out of the collective shape they are not possible[17].

### Visibility and perspectives

Diverse and successive views in trails attract and encourage pedestrians to walk. Existence of green and open spaces causes vitality of space and integration of natural and artificial environment and it causes the spatial variation. Existence of Semi-open and open spaces create a spatial contrast and aesthetic principles are considered in designing details of space such as furniture, flooring and other elements [3].

### Principles of sustainable human settlements based on the concept of urban village

Based on what was said, the principles governing the human environment to some extent sustainable that have been named as urban villages are as follows: A location contains human scale, intimacy, identity and lush: Social strong links and creating many social interaction of residents, i.e. participation of inhabitants in various local activities and processes, and creating and supporting active human environment and live public spaces are of the characteristics of an urban village that while connected with surrounding areas, is a society relatively closed with its own characteristics and identity that there is a sense of belonging to place in all the tenants living there. It has compact urban form with the appropriate space development and sufficient mass. In this way, by efficient use of land and energy resources, compared to those places where these resources are scattered, reduce development pressures on agricultural land and open spaces more effectively. Furthermore, it creates various and more stable architecture with different types of land ownership. New technologies for construction and use of clean and renewable energy is used as far as possible in buildings. It is a walkability-focused and attractive pedestrian environment: Therefore, reducing car trips improves regional air quality. It is a place with proper mixing land uses and activities: there is the possibility of providing basic necessities for shopping, Health and Education, employment opportunities and in total relative self-reliance. Residents engage in a variety of economic activities including farming, small scale industry, tourism and other fields and necessary infrastructures for making different fields of employment including agriculture, handicrafts, livestock, etc. are provided. Therefore, as social, recreational and cultural places have power to attract people and at the same time give services to local residents, neighborhoods, regions and tourists.

it is a place with physical features, determined dimensions, with clear stationing way from the neighborhood so an urban village is small to the extent that in which the neighborhood concept is felt, and it strengthens the sense of place and increasing in social interactions and face to face confrontations and at the same time, is big to an extent that have the ability to supply a wide range of facilities in a convenient and logical way. The pedestrian ability is the main criteria to act in availability to daily and sometimes weekly uses. On this basis, the maximum available radius of 600 meters, is considered [3].

### Study domain

Moradbeig Valley settlement is located 3 kilometers away from the center of Hamedan that is settled in one of the middle valleys of northern slopes of Alvand Mountain in a special mountainous position. This region is stretched from north to south and is limited by the elevations from the West and the East. The average height of this region is 2050 meters above sea level that is located 228 meters above the center of the city of Hamedan. The height difference that this Demographic point has, compared to the center of Hamedan, has caused relatively cooler temperature than other parts of the city.

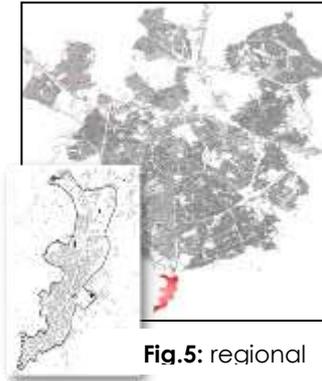


Fig. 5: regional

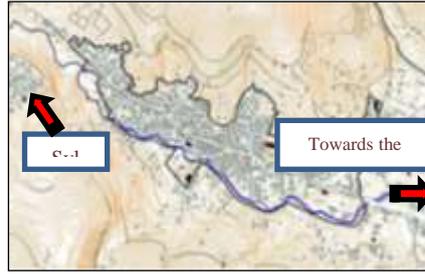


Fig. 6 : regional

On the east side of it, the river Olusjerd flows, and the Silvar village is located in the south of it. Fertile soil of the region and existence of adequate water has provided suitable conditions for horticulture territorially. Cool air of mountainous settlements in the warm months and desire relative humidity with existence of suitable vegetation, provides a suitable climatic conditions for recreation and spending leisure time and tourism in the warm months of year which is rare in its own kind. Length of the region from the viaduct of Moradbeig valley to the end of that is about 1,400 meters and according to the formation of the region in the valley and construction limitations due to high altitude and rivers, expansion of the city was taken place to the mountains in places where the slope is less, and residential buildings penetrated into the mountains, in areas where construction is not possible, the width of the region is reduced. In Above Map Moradbeig valley width has been determined from a distance of 150 meters before the Baharestan Square in form of each 200 meters.

System of land use and activities

Present land use

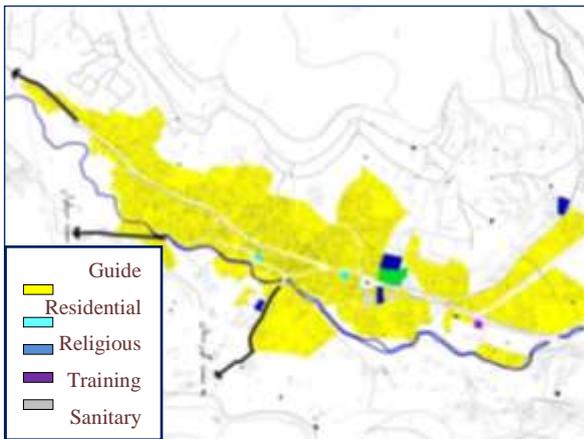


Fig. 7: user status quo

Table 5 : Area and per capita status quo

Percent	Capitation	Area	user
87/18	49/25	311105	Residential
1/50	0/76	5388	Training
0/11	0/06	415	Health
0/18	0/09	674	Religious, cultural
11/03	6/21	39254	Passages

Baharestan square chamber activity and the main axis are in form of mixed residential commercial.

The activities of the index

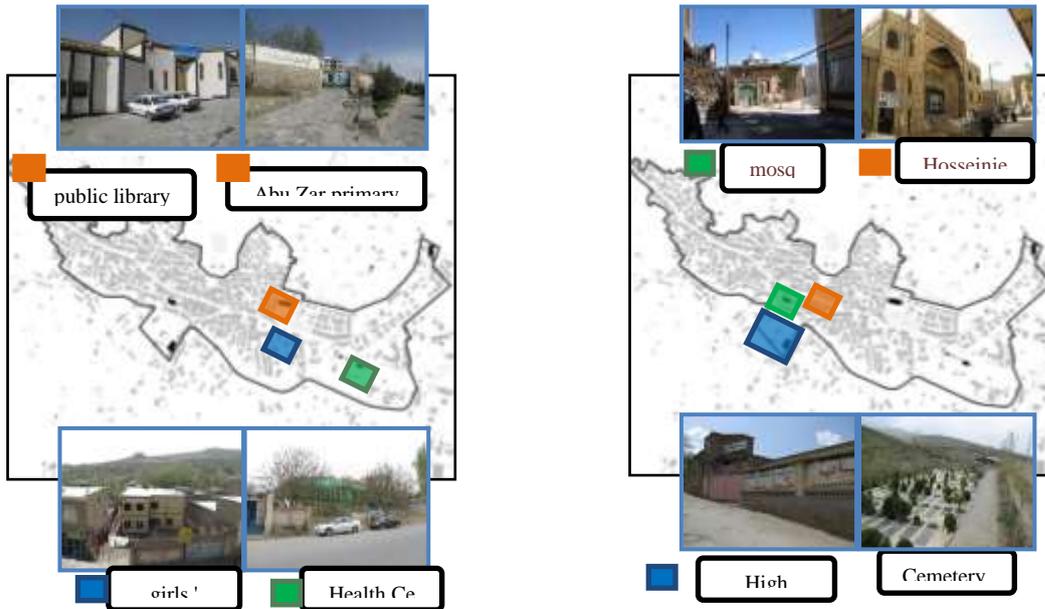


Fig.8 : the activities of the index

Natural order

River

usjerd River flows in the southern, southeastern and eastern part of Moradbeig valley. This river is one of branches of Abshineh River that originated in northeast slope of Mount Alvand and has the direction of southern northern and after irrigation Silvar villages Moradbeig valley crosses Hamadan and joins to Khezr River in the village of Gara Choqa. The length of the river of Moradbeig valley is about 18 km and extension of its basin is approximately 30 square kilometers. This river has a permanent regime .this river is in open roof form and has natural wall and bed. This river after getting into town becomes roofed channels and after going out of the city becomes open roof. And goes into downstream agricultural land, and after irrigating agricultural land connects to Devin River and continues the path to the north. Runoff available at rivers due to urban sewage evacuation as well as entering subterranean water into this river several bridges has been constructed on Moradbeig Valley River. floor of the river is natural and stony .The walls of river is natural and with various vegetation covering along the route and at certain intervals channel walls are covered with cement mortar and rubble and improved. Calverts have different dimensions along the path in built bridges' position. Along the way, construction and household wastes are seen. Also sewage system output of village discharged into the river completely. Of course, all the waste water by irrigating streams are driven from river path to the gardens and agricultural land around the river.

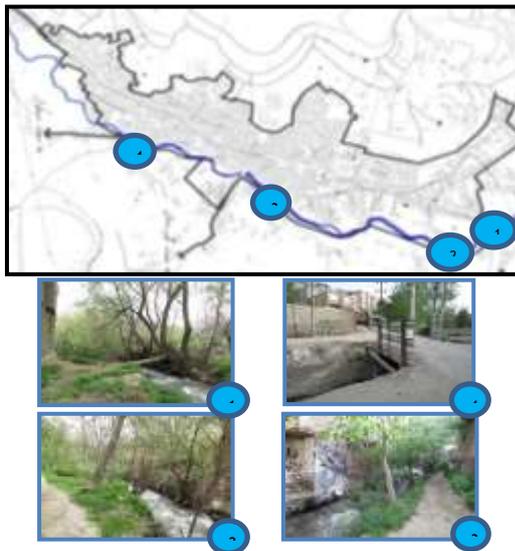


Fig. 9: River frontage situation

Vegetation covering, in some parts of the river, is very dense. In a way that, the river bed is not visible. The effective width of the river is 3 km and its depth varies and is almost equivalent to 2 meters. Territory of this river is 24 meters which unfortunately in construction Moradbeig Valley area, this territory has not been observed.

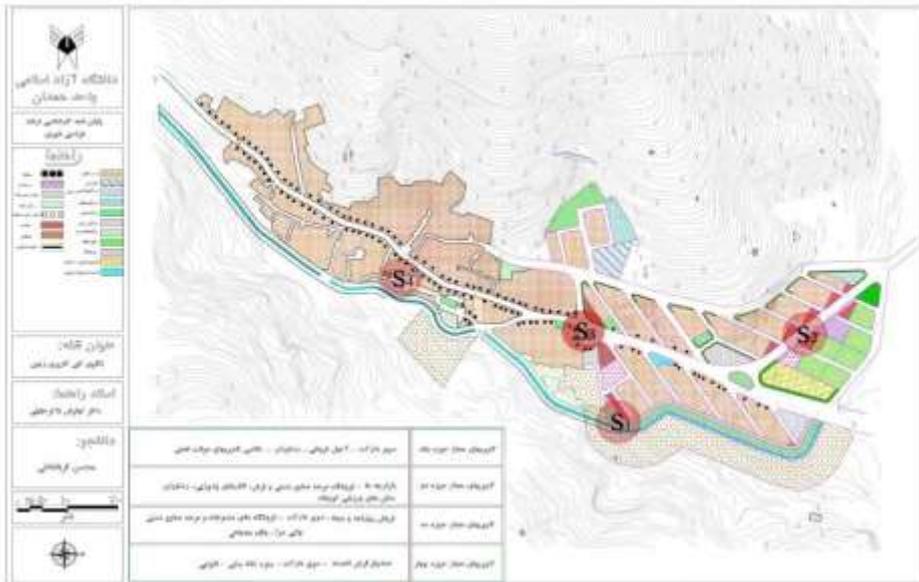
**System of physical form to survey Buildings Architecture**

Architectural style: This area has a rural texture and includes buildings that were built in different periods of time and have different features, and they have not a specific architectural style. Orientation of buildings: according to natural limitations and climatic features, buildings in this area have been made in Western Eastern direction and the openings are in East side.

**The analysis of research findings**

**Evaluation and selection of optimal conceptual choice**

With regard to the goals and policies presented in the study, proposed alternatives, on the basis of the five urban form is presented, followed by a rating based on macro and micro objectives, and considering the significance of each of the options objectives, provided an overall score each option is determined, and the optimal variant is chosen. In order to offer proposal plan considering urban village approaches , in order to achieve this goal, Moradbeig valley settlement was divided into two different regions (areas) , In which the first area, an area of approximately 21 hectares, due to proximity to residential texture of Hamadan and empty land and other facilities for the development etc. urban design is presented with renewal approach, and the second area with approximately 28 hectares, urban design is presented with development approach to preserve the rural texture and organic of Moradbeig Valley etc. In this study in order to analyze the data through qualitative methods SWOT, integrated analytical framework based on three-dimensional urban design and master plan is used so that after the identification of Hamadan and settlements, Moradbeig Valley as a case of study, in order to accurately assess the mutual impact and inspiration of two strategic area and local areas, in recognition phase of studies, in the form of five layers of urban form including user and activity system , movement and accessibility system, the framework system of public spaces, System of physical form and the urban landscape system, action has been done. And we tried to provide strategies and suggestions to pulling out city from the contamination and the physical and visual chaos and achieving sustainable human settlements through the application of principles and concepts of urban village. In this study four domains has been designed in form of specific areas in five system , and principles and specific criteria have been proposed for each one , which is from the subject areas the first area as an example (edge of river ) Has been studied.

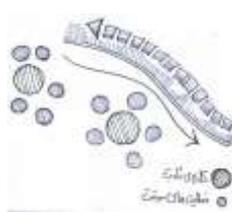


**Fig.10:** the introduction of public areas and design specific areas

**Special area's conditions S1 (River's Edge)**

Modernization of marginal urban water including recovering river's natural system, development areas of side water or both of them again. Restoring natural systems such as rivers' margin and streams territory leads to a healthier environment and prepare the conditions for the activities. Design of water next to the

city should be a set of principles, flood control and environmental design strategies that could cause development in river's ecological systems.



**System performance and activity**

It is recommended that any constant uses in its surrounding provides a better base for compatible temporary activities .Temporary activities such as street vending, theatrics and drama, provided to compliance with core activities should be encouraged.

**Physical system**

For body of the river it is better to use natural materials such as sand and gravel .The maximum number of storeys on the edge of the river 2.5 floor and in the case of wrapping property on a steep slope maximum 3.5 floors can be built. The establishment of temporary structures and style is essential in the form of canopies and pavilions.

**Movement and access system**

At the length of walking path by the river's edge, urban furniture should be placed in a way that would not interfere with the ease of commuting on foot. Pedestrian path must be create with the width of at least 3 meters along the route, and continue along the axis. The route must executed with the lowest ups and downs and as far as possible without stairs. In case of requirement of building stairs, the disabled people

route must be seen. Ability to move across the river must be provided. Territory of river must be considered 24 meters. All buildings constructed in river's territory should be destroyed.

### Urban landscape system

- To locate community centers along the river's edge should be performed according to the views fit into the surrounding landscape.
- To create diversity in the color palette of facade, the use of materials such as colored stones, colored cement and ... with warm colors is recommended.
- Facade building of all visible glazed is required.

### Public spaces system

- Furniture Design, for all parts of the river's edge ,should be done in a way that encourage a diverse range of activities.
- Lighting river's edge must be in a way that provide the security of presence in space to the public at night and create a pleasant environment.
- Locating street furniture and vegetation covering is recommended in combination with each other so that make a variety of fields to understand the scale of walking in passages.
- Gender of living dungeons should be of non-metallic materials such as wood . it is obvious that this is in line with increasing opportunities for making social interaction.
- Shaded areas, through drawings or vegetation, must be allocated to pause and stand spaces.
- Construction of furniture to sit is allowed at two locations:
  - The desired aesthetics towards city and its natural scenery
  - Spaces with the appropriate shade during public gathering

Five general principles is proposed for the success of the project:

#### General Principle 1

The ecological objectives and economic development have mutual benefit. The public and private development that attracts people near the river to live, relax, eat and participate in cultural activities creates a sense of connection and belonging to the river. The rivers that have lively and suitable performance have many attractions for residents and merchants. People who enjoy activities and characteristics of the river are also concerned about its long-term health.

#### General Principle 2

Protection and restoring the natural river Components and Functions Rivers provide natural vital interests for us which should be protected. Natural features of rivers such as twists and turns, canals and edges with gentle slopes, have essential ecological functions. They also have benefits for humans which contains healthier water and preventing from the spread of floods. In many urban areas it is possible that the recovery of natural elements couldn't not occur, but even the slightest effort can also have many results. Improving environmental conditions even in the side water that have been strongly influenced by urban development, is also possible.

#### General Principle 3

Restoration of side water as a human realm A side water development project should overcome physical, political, social and economic barriers in order to increase public use and enjoyment from this public source. Side water successful plans have considered requirements of different groups of residents in different ages and cultures. They make it possible for residents to experience the river closely.

#### General Principle 4

To achieve multiple objectives we should act balanced .urban side water often located in places that there are competing interests over them. Exclusive emphasis on economic development alone, or environmental concerns, by no means, is not desirable. But they must be considered together. Due to existing development, a few towns have the ability to create a completely natural side water. On the other hand the development that aimed at improving the economic conditions should not hurt side river natural features, or limit public access.

#### General Principle 5

It is better that the design process of side water to be done participatory, to the greatest possible extent, Design and planning of side water must be accompanied by broad participation of people. This process must go beyond the usual stakeholder groups and residents who normally have not used the river side, should also be included. Needs of different communities are variable and, in case of compliance with these priorities, side project would have liveliness, inclusiveness and more success.



Fig.11: a comprehensive plan for the next three urban planning for the field

## CONCLUSIONS AND PRESENTING STRATEGY

Urban development pressure on the region and daily increasing constructions in the range (external threat), not only is a threat to organic texture but also is the cause of environmental degradation and turning upset the equilibrium of region's nature. Thus, by improving the quality of life and meeting the needs of context residents, it has been prevented from migration into the city. Urban Village approach, since it offers principles of a special design for more small-scale neighborhoods than the city and often located in the ecological context, taking into account the certain population and the specified and desired size for settlements, has defined and limited development in a defined scale practically that this caused the prevention of future settlements dispersed development. Urban village designing has caused attention to sustainable communities with focus on attention to the human dimension consistent with the preservation of the natural environment and led to the creation sustainable and humanistic tendencies. The result and outcome of these experiences has led to valuable goals that the most important of those is attention to human and human values which has created more efficient communication of humans and the environment, and has led to the sustainable development of human settlements. Benefiting from studying successful experiences, architectural guidelines, landscape architecture and practical urban design of urban village of Pond Barry and Kelvin Grove in the successful application of this concept and its features, according to local conditions of Moradbeig Valley area for achieving to strategies of sustainable realization in stable settlements in the country, following suggested solutions, are offered:

### Application of the principle of mixed uses

To achieve a level of self-sufficiency in urban village, one of the strategies to achieve a holistic approach in the current situation in Iran is the application of the principle of mixed uses, and define new functions, based on role of settlements in the region. On this basis these new functions that are compatible with each other, are defined depending on the historical tourism and cultural role of the region. Also in harmonious balance between industry and agriculture, namely the concept of integration of urban and rural settlements performance, that combines the industrial spirit of city with the farming spirit of the village, and realizes partly self-sufficient settlements.

### People participation

The most important principle associated with the development is emphasized in this approach. Public participation in project development model, and most importantly, is the relationship between providers and residents of the region and believing in that the realization of development projects in order to achieve sustainable development, is collective and universal, and is through participatory planning and implementation. So that should be managed constantly through people and inhabitants. Through the continued application of this principle, resistance against changing will be reduced and strategic planning discussions can develop in more open lines. Also, emphasis on native elements especially in terms of cultural and social properties and social traditions is of proposed principles of strengthening the identity of settlements in the current situation in Iran.

### The use of compressed form with suitable development space

Due to the efficient use of land, development pressures on agricultural and natural land will be reduced, and spent energy on travel and also in the building will be reduced, and by reducing traveling by private cars, the air quality in the region will be helped. In these circumstances with the efficient use of land and energy resources, compared to the places where these resources are scattered, development pressures on farmland and open spaces will be reduced more effectively. Besides, more diverse and stable architecture will be generated with different types of ownership in lands and new creation technologies such as the cases discussed in this article, and the use of clean and renewable energies, as much as possible, will be used in buildings.

## The principle of the diversity

This principle is one of the core principles (in particular in architectural pattern and density of buildings) that should be considered. Also organizing of local and ultra-local access is recommended on the basis of urban village's principles, with pedestrian priority and emphasis on native elements, in terms of physical forms in the neighborhood units organizing. Essentially, the application of urban village pattern needs for technical expertise and comprehensive knowledge of local features of each case to adapt model designing principles in every area. Undoubtedly, in a successful urban or rural development, one of the goals of the planners and designers is creation of a balance between development and conservation. Application of proposed principles, in the Urban Village Model, has the ability to make this equilibrium and balance, and it seems that achieving to a comprehensive understanding of this procedure and more comprehensive and more perfect study of it can be a convenient and efficient way in controlling development of urban and rural areas. Also, the idea of urban villages, with strategies for designing principles of sustainable settlements, can prevent from irregular development of suburbs and villages seriously. In the meantime, one of the goals of urban villages that is the development of sustainable housing, should be considered. Because designing sustainable housing, as the core of planning, can over shadow foundation and basis of design. To achieve stable housing, design principles and related concepts should be identified, and influencing factors and problems of its realization should be explored. As a basic matter, it can be said that any policy and planning for rural housing in the country can be close to success when that the plans and actions are compatible with the features and characteristics of rural architecture and ethnic and cultural traditions and existing climatic diversity in different parts of the country. Lack of segregation of strategic and operational policy of urban and rural housing, and generalizing strategic policy of urban housing to rural areas, is one of the most important qualitative inability which is seen in the rural housing programs, and its continuation has led to revealing the signs of urbanization of rural homes in the face of the village now. Among other shortcomings in strategic policy realm, which regarding them for the realization of programs is necessary, we can point at the lack of local architecture system, finance - credit system, founding technical institutions which are overseeing the construction, providing residential land, organizing materials producing, and dissemination of appropriate technology for construction. Neglecting other qualitative aspects of house such as environmental aspects, health facilities, light, manufacturing technology, visual qualities, and local-regional identities and climatic geography are considered as a tangible gap and of the most important weaknesses of rural housing programs. Reflecting on patterns of vernacular architecture and reliance on resources and local knowledge can be a good start for designing and executive thinking in this field.

### CONFLICT OF INTEREST

There is no conflict of interest

### ACKNOWLEDGEMENTS

We are grateful to Islamic Azad University Hamedan Branch and Research Center of Hamedan City Council and municipal Hamedan Authorities, for their useful collaboration

### FINANCIAL DISCLOSURE

None

## REFERENCES

- [1] Pourmohamadreza N, Sarah H. [2007] Stability in the city from yesterday to today", seven city, *Journal of Urban Planning and architecture*.
- [2] Bell David, Jayne Mark, (eds.). [2004] *City of Quarters: Urban Villages in the Contemporary City*, Ashgate, Basingstoke, Hampshire, ISBN.
- [3] Bahrain Hussain, Hajibandeh Mona. [2011] *Urban Village Model: An Efficient Approach to Achieve Sustainable rural settlements (Case Study: Mianlab village located in the area of Safarood of Ramsar city)*, *Journal of Housing and Rural Environment*.134:74-49.
- [4] Mofidi, Seyed Majid and Yamani Parisa. [2008] *Urban village a model for sustainable urban development*, *Journal Abadi* eighteenth year. 60: 59-56.
- [5] Bahrain Hossein. [2008] *Comparison of the concepts of development and sustainable development"*, *Proceedings of sustainable urban development*, compiled by B. Amin Zadeh, Tehran: Tehran University Press
- [6] Thompson-Fawcett M. [1996] *The urbanism revision of development*. Urban design International. 4. [www.indigodev.com/Sustain](http://www.indigodev.com/Sustain)
- [7] Aldous T. [1995] *The Economics of Urban Villages*. London: Urban Village Forum.
- [8] Aldous T. [1997] *Urban Villages: A concept for creating mixed-use urban developments on a sustainable scale*. 2nd edn London: Urban Villages Group
- [9] Neal, Peter. [2003] *Urban Villages and the Making of Communities*. Spon Press, London and New York.
- [10] Fleming, Randall. [2000] *the Case for Urban Villages*. Viewed on [2007], <http://www.fscr.org/index.html>.
- [11] Lock David. [2003] *Planning for Sustainable Communities in Urban villages and the making of communities*. London: Spon Press. 50-62.
- [12] Franklin, Bridget. [2002] *constructing an image: The Urban Village concept in UK*. Cardiff University.
- [13] Bahrain Hossein. [2008] *Comparison of the concepts of development and sustainable development"*, *Proceedings of sustainable urban development*, compiled by B. Amin Zadeh, Tehran: Tehran University Press.
- [14] Jacobs Jane. [2007] *Death and Life of Great American Cities*, translation by Parsi Hamid Reza and Aflatooni Arezoo, Tehran: Tehran University Press
- [15] Tabibian Manouchehr. [2008] *City and criteria for the realization of a sustainable city for reducing environmental impacts*, *Proceedings of sustainable urban development*, compiled by Behnaz Amin Zadeh, Tehran: Tehran University Press.
- [16] Sucher David. [2003] *How to build an Urban Village*. City Comforts Press.
- [17] Pakzad, Jahanshah. [2006] *Theoretical principles of urban design process*. Tehran: Shahidi Publication.
- [18] Fleming R. [2000] *the Case for Urban Villages*. Viewed on [2007], <http://www.fscr.org/index.html>.
- [19] Mofidi Seyed Majid, Yamani Parisa. [2008] *Urban village a model for sustainable urban development*, *Journal Abadi* eighteenth year. 60: 56-59.