



An Introduction on Greenway Planning Criteria in the Suburban Mountainous Regions in the West of Iran

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Abstract

This paper investigates basic and fundamental criteria concerning greenway planning in the mountainous regions in West of Iran to suggest a special re-organization pattern for the outskirts, suburban, and natural areas of nearby urban settlements based on the local context. The paper makes an effort to represent the most important factors in a special suburban-mountainous greenway which may be appropriate in relationship with local cultures, history, and people's essential needs. To introduce the related fundamental criteria, and local and regional factors, the author demonstrates the necessity of such research in Iran and presents a brief literature review about the greenway movement in the West. This indicates that there is a great gap between research on greenways in the West and Middle Eastern countries in general, and in Iran in particular. As a result, the research focuses on an Iranian context and identifies general characteristics of the geomorphological, physical, spatial, social, cultural, and ideological categories in the West of the country. In the present paper, the author will focus on mountainous and semi-mountainous regions in Iran to suggest the most important and essential greenway planning criteria for people's recreation in suburban areas at weekends. To present an appropriate answer, the author attempts to pose suitable environmental planning to prepare an active and pleasant time for families based on environmental awareness and, at the same time, to conserve natural resources and valuable landscapes by means of environmentally attractive approaches. To achieve the main research targets, the qualitative attitude and descriptive-analytic methods were the selected research strategy.

Keywords: greenway planning, mountainous regions, landscape patterns, suburban areas, west of Iran.

مقدمه‌ای بر معیارهای برنامه‌ریزی سبزراه در مناطق کوهستانی حومه شهری در غرب ایران

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چکیده

مقاله حاضر معیارهای اصلی و پایه‌ای در باب برنامه‌ریزی سبزراه‌ها در مناطق کوهستانی در غرب ایران را پژوهش می‌نماید تا الگویی ویژه برای بازسازماندهی مناطق حاشیه‌ای، حومه‌ای و مناطق طبیعی نزدیک به محیط شهری را بر مبنای ملاحظات محلی پیشنهاد دهد. مقاله در تلاش است تا مهم‌ترین مولفه‌ها در یک سبزراه حومه‌ای - کوهستانی را بر حسب تاریخ و فرهنگ محلی، و نیازهای مردم بازنشاسی نماید. به منظور معرفی معیارهای اصلی و مولفه‌های محلی و منطقه‌ای، در ابتدا پژوهشگر ضرورت پژوهش در ایران را بیان ساخته و به معرفی ادبیات موجود سبزراه‌ها در غرب پرداخته تا نشان دهد فاصله‌ای عمیق بین مفهوم سبزراه‌ها در غرب از یک سو و کشورهای خاورمیانه به شکل عام و ایران به شکل خاص از سوی دیگر وجود دارد. بنابراین، این پژوهش بر یک زمینه ایرانی تمرکز یافته و به شناسایی جنبه‌های کلی تاثیرگذار بر برنامه‌ریزی سبزراه‌ها در غرب ایران شامل ریخت‌شناسی زمین، ویژگی‌های فیزیکی، فضایی، فرهنگی، اجتماعی و ایدئولوژیک، به عنوان مقولانی اصلی در هر برنامه‌ریزی سبزراه در این منطقه می‌پردازد. در این مقاله نگارنده مترصد تمرکز بر شناسایی معیارهای برنامه‌ریزی سبزراه‌ها در مناطق کوهستانی و نیمه کوهستانی غرب ایران به منظور فراهم سازی بستر مناسب برای فعالیت‌های تفریحی مردم در مناطق حومه شهری در تعطیلات آخر هفته است. لذا پژوهشگر در تلاش است برنامه‌ریزی منظر مناسبی جهت مهیا ساختن اوقات مفرح برای خانواده‌های ایرانی بر مبنای آگاهی‌های زیست محیطی و به طور همزمان، حفظ منابع طبیعی و مناظر ارزشمند با استفاده از خط‌مشی‌های زیست محیطی ارائه نماید. به منظور دستیابی به اهداف پژوهش، نگرش کیفی و روش تحلیلی - توصیفی برای این پژوهش برگزیده شده است. در نهایت، پژوهشگر بر اساس ملاحظات منطقه‌ای در غرب ایران هشت معیار برای برنامه‌ریزی سبزراه‌ها در این منطقه ارائه می‌کند.

کلید واژه‌ها: برنامه‌ریزی سبزراه‌ها، مناطق کوهستانی، الگوهای منظر، مناطق حومه‌ای، غرب ایران.

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Introduction

In a nutshell, following an in-depth study, investigation and consideration of greenways, it can be found that almost all applied greenway planning works have focused more on humid case studies in American and European countries to discover better ways for ideal life in urban areas (see: Fabos and Ahern, 1996; Turner, 1996; 1998, Forman, 1995, Little, 1990; Ribeiro and Barao, 2006). Some efforts have been made in Asia in this area as well. For instance, in Singapore, the proposal to form a park connector network was approved by the Garden City Action Committee on December, 4, 1991 (Tan, 2006). Also, greenways have been implemented in a Chinese context based on ecological considerations (Jim, Chen, 2006). In Taiwan, also, greenway planning has been applied within humid regions such as coastal areas and wetlands (Hsieh *et al.*, 2004).

Without question, the vast majority of applied case studies in this field have emphasized on the western countries and/or humid climates. Furthermore, the recent Asian studies and research have focused more on humid climates. Therefore, it can be concluded that the aforementioned studies shed light on the greenways and green networks in developed countries such as the United States, United Kingdom, Germany, Italy and several countries of Southeast Asia.

Unfortunately, with regard to the latest descriptions given above, there seems to be a great gap in this field in Western Asian countries, especially in Middle Eastern countries and in Iran in particular. The authorities cannot adapt the research conducted to Iran because there are hot-arid and cold-mountainous climates in most parts of Iran, identified as one of the most important landscape characteristics of this region of the world. Furthermore, in Iran there is no original research in the field of greenways based on local socio-cultural considerations, in general, and on the local climate, in particular. As a result, the author of the present paper believes that special greenways could be planned to promote urban qualities from the multi-functional point of view across the country,

based on the climate and local socio-cultural attitudes in each region. Researching greenways in Iran is seen to be important from several aspects. Generally and in brief, Iran as a developing country, Iran as a historic country with the great historical background as to ancient and historic green routes, Iran as a hot-arid and mountainous region, Iran as a cross-cultural social complex, and Iran as an Islamic country in the Middle East all require profound investigation of this subject.

The Necessity of the Research

For many years, Iranians have paid special attention to the nature surrounding human settlements. Following both national and religious customs, they have respected nature and, in line with using it, struggled to protect it against human-made destruction. There are many respected references demonstrating this fact; for example, Christensen (1936), Yarshater *et al.* (1982) and Nyberg (1934) point out that Iranians have paid obviously attention to the nature and protected it from ruin.

In spite of city development and urban growth over recent decades in Iran, nowadays spending leisure time in suburban green space areas is a common activity for Iranian families especially at weekends. They all see nature as a recreational resource nearby to their settlements. The author asserts that it is urban congestions, sedentary jobs, air, water and noise pollution across urban areas which encourage people to make occasional visits to the natural context in suburban areas occasionally.

Without any doubt, a major question today derives from the above statement: Are recreational aim the unique purpose of this short-term journey from urban to suburban and natural areas? And the more important question: Does a lack of sustainable landscape planning in these areas lead to destruction and reduction of the natural capacity in the future times?

To answer the questions above, the author suggests using the greenway patterns in these regions. For this reason, he first makes an effort to represent a literature review concerning greenways and, then,

answer the crucial questions below. First, what are the most important landscape planning criteria for these regions? And second, what supplementary functions and purposes could be supposed in the mentioned regions to work in line with recreational activities?

Literature Review

The international greenways movement (Fabos and Ahern, 1996) has spread throughout western countries, starting from the United States. Although there are different interpretations about greenway applications varying from place to place, in general some acceptable concepts can be presented as the main characteristics of greenways.

According to Fabos's ideas, greenways can be divided into three major categories: ecological greenways, recreational greenways and greenways with historical and/or cultural values (Fabos, 2004). Other reliable ideas on greenways have been expressed by Little (1990) and Turner (1996, 1998) in the United States and United Kingdom, respectively. Forman (1995) believes that greenway has numerous ecological as well as human benefits forming a network or matrix of patches and corridors. In American culture, greenways are defined as a tool to provide people with access to open spaces close to where they live and to link rural and urban spaces together in the American landscape, treading through cities and countrysides like a giant circulation system. (Presidential Commission on the American Outdoors, 1987) Little (1990) has also described the greenway systems as a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, scenic road, or other route. In addition, it can be any natural or landscaped course for pedestrian, bicycle passage or an open space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas and, locally, certain strip or linear parks designated as parkway or greenbelt. (Little, 1990, preface)

Turner (1996) believes that the greenway is a route which is useful from an environmental point of view. Following this, Ahern (1996) suggests that Greenways are networks of land containing linear elements that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use. Overall, according to the aforementioned, ten main concepts can be cited that have been prepared by western academics concerning greenway planning in the West including: accessibility, public facility, linkage, hierarchy, non-motorist movement, linear configuration, multi-functionality, public facility, environmentalism, integration, and sustainability (Rastandeh, 2008-A).

Geo-morphological and cultural contexts

In general terms, more than 45 million hectares of Iran are covered by mountainous regions (Rahbar, 2001). Two ranges of mountains named Zagros and Alborz extend across the country from the Northwest to Southeast and from the Northwest to Northeast, respectively. The majority of the main urban settlements and crowded human colonies have been located across these two ranges of mountains since many years ago (Ghobadian, 2003). Almost all big cities in this region, especially across Zagros range, have a great historical background (Garrusin, 2005). The average altitude of human settlements in this mountainous region varies from 1400 to 2300 metres (Kasmaee, 2003). Table 1 gives more information about the eight fully mountainous provinces in the West of Iran.

About 12 million people live in these fully mountainous provinces covering 12.67% of the country's total area; however, more than 13 million should be added to the cited census (CCI, 2007) because many people live in other provinces nearby which are in a semi-mountainous context, too. If that is the case, we should note that in reality 25 million people dwell in mountainous and semi-mountainous regions in the West of Iran. In other words, about 36%

Table 1- Area and population in eight western fully mountainous provinces of Iran.

Province	Area (Km ²)	Population
Western Azerbaijan	37059	2873459
Kurdistan	29152	1440156
Kermanshah	42741	1879385
Hamedan	19545	1703267
Lurestan	28391	1716527
Ilam	20177	545787
Cheharmahal and Bakhtiari	16209	857910
Kohkilouyeh and Boyerahmad	15573	634299
Total	208848	11650790
Percentage in proportion to the whole of Iran	12.67 %	16.52%

of Iranians live in this context sharing very many social, cultural, and historical similarities as well as differences. Indeed, it is extremely important to mention that about 13.5 million people live in Tehran, the capital of Iran, and 31% are in other parts of the country. Without any doubt, this fact shows that the population of 25 million people in the mountainous region across the Zagros range contributes to high human density in the region. From the cultural point of view, it should be stated that several ethnic groups including Fars, Kurd, Turk and Lur live throughout the region. Also, the people of this region are mostly Muslim, the vast majority of them are Shi'a and the minority is Sunni. Sunnis are more scattered in the West and NorthWest of Iran nearby Iraq and Turkey in the western province of Kurdistan (CCI, 2007).

From the linguistic point of view, although the formal language of the people is Persian, local people speak Kurdish in the Kurdish-speaking provinces such as Kurdistan, Ilam and Kermanshah. The author believes that this linguistic difference has contributed to other social and cultural differences between the people of the West of Iran with others in different mountainous regions during the human/socio/cultural history of Iran.

With regard to urbanism and urban planning in the West of Iran, there are almost identical geo-

morphological and landscape features in West of Iran and nearby urban areas (Rastandeh, 2008-B). In the region under study, the author has discovered that is, similarly, a particular self-formed and human-formed connecting pattern. We find many cases, for example, in Hamedan, Ilam, Sanandaj and Kermanshah, the four biggest cities in the West of Iran. This pattern has been identified after informal observations made during three years' study on urban settlements in this region. In almost all cases, a main pathway connects the urban areas to natural areas. However, there is no landscape planning across and along these pathways. Therefore, they can be called self-organized pathways which have to accept a high population load at weekends and, for this reason, they are being destroyed now. This fact can be demonstrated through qualitative and quantitative comparisons.

According to the statements expressed, the common form of connecting urban areas to the nature nearby appears to be similar and can be defined as triplet zones which consist of urban areas, agricultural lands, grasslands, private gardens, terraced gardens, and natural areas. In this pattern, the four semi-natural parts of agricultural lands, grasslands, private gardens, and terraced gardens play the role of a buffer between urban and natural areas. Figure 2 shows the triplet zones defined close to urban areas.

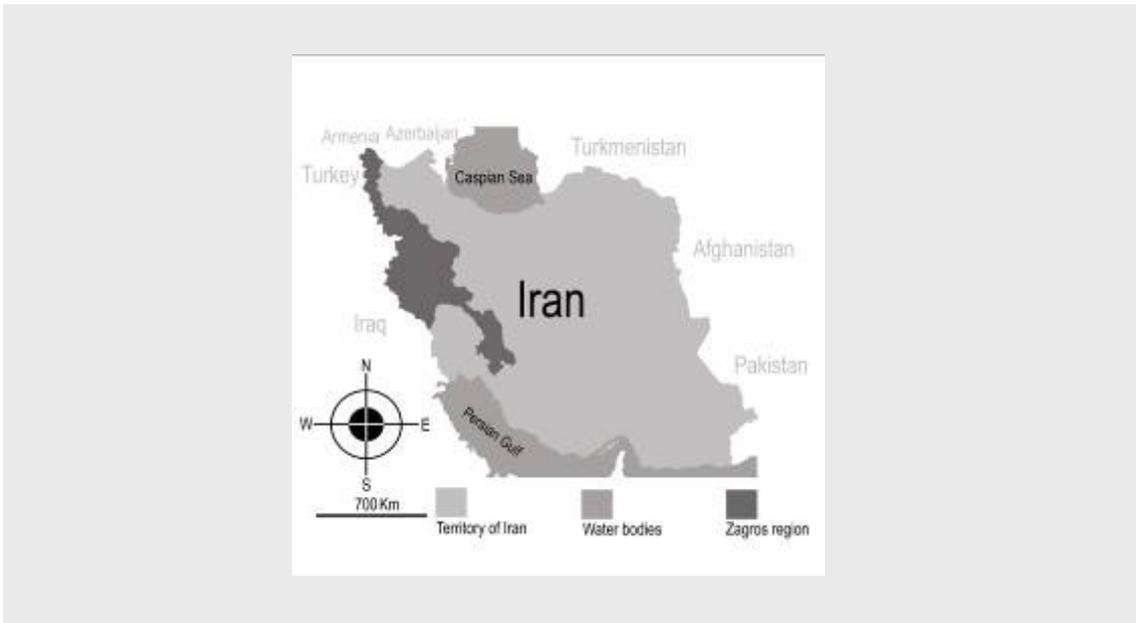


Figure 1. Boundary of the eight fully mountainous provinces of Iran.

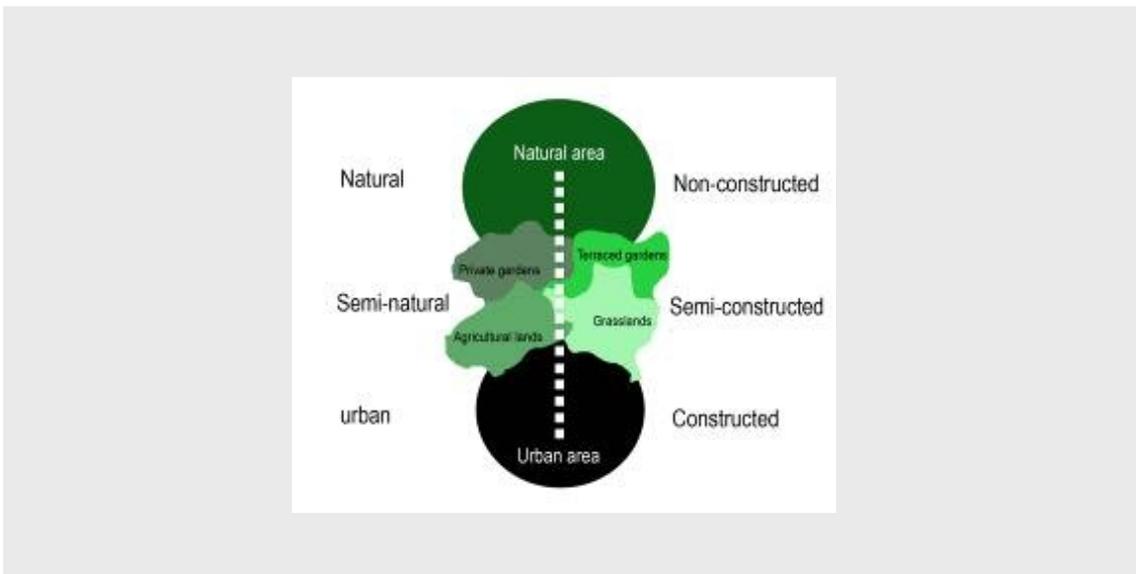


Figure 2. Triplet zones between urban and natural areas in the west of Iran

To identify the condition of the zones more clearly, the following descriptions determine the physical and spatial context of each zone separately. We should remember that this pattern is obviously common and routine in western close to large urban areas.

Zone 1: Agricultural Lands and Grasslands

In the first zone, there is a similar pattern on both left and right hand sides of the road. On the first side, there are small farmed gardens surrounded by stone walls to increase ‘privacy’ for the owners and farmers. Often, indigenous trees complete the stone wall's function

and raise the privacy factor as well. On other side of the road, large grassland has been extended which is mostly used as a pasture for animal husbandry purposes. For the grassland, there is a non-managed but beautiful boundary including stones, rocks and wild plants. Potentially, this edge can protect grassland from water and soil erosion. It could define also an artistic visual articulation for this part of the land to be more easily recognized, however, no long-term policy-making has been made by local authorities. The road has been paved by means of asphalt materials. From the hydrological point of view, it should be noted that there is no suitable drainage system to control run-off and water surface volume in this part. Briefly, the profile below illustrates a general aspect of landscape characteristics in the first zone.

In the first zone, human activities have been summarised within the framework of agriculture, horticulture, gardening, and animal husbandry. Therefore, it can be mentioned that "productivity" is the most important meaning among the functions given above. The visual values of the landscape in this zone are concerned with domestic animals and single trees in the grassland. Also, a constant green color on the land as a supplementary component cannot be ignored. Unfortunately, the stone walls of the small farmed gardens prevent people from seeing the internal beauties of the interior spaces and beauty and regularity of small mosaic agricultural lands, clearly.

Zone 2: Private Gardens and Fruit Terraced Gardens

In the second zone, main threefold landscape characteristics are private gardens, footpath, and fruit terraced gardens. In this zone, each tree has a special meaning. Poplar and plane-trees are the most important plants in the private gardens. In this case, there is a particular planting arrangement. However, we should not forget that Iranian cypress is the most popular tree in Iran but, due to climatic limitations, it cannot be planted in mountainous regions. The private gardens are always sloped from top to bottom to facilitate irrigation. Furthermore, from the visual point of view, the bed slope will lead to better up-to-down perspective for the inhabitants. All components of private gardens are separated off by adobe and brick walls. These gardens have some original characteristics of the Persian Garden but they cannot totally be named "Persian Gardens". Obviously, several original characteristics of the Persian Garden (Pirnia, 1999; Pirnia, 2004; Naima, 2006; Daneshdust, 1990), such as a sloping bed, regular planting of the trees, their selection, and surrounded walls can be seen in these gardens. Without question, residence and recreation is the most important purpose of these private gardens while extraordinary uses, such as special parties and family celebrations, are also held in these places (Rastandeh, 2008). The atmosphere of private gardens is usually

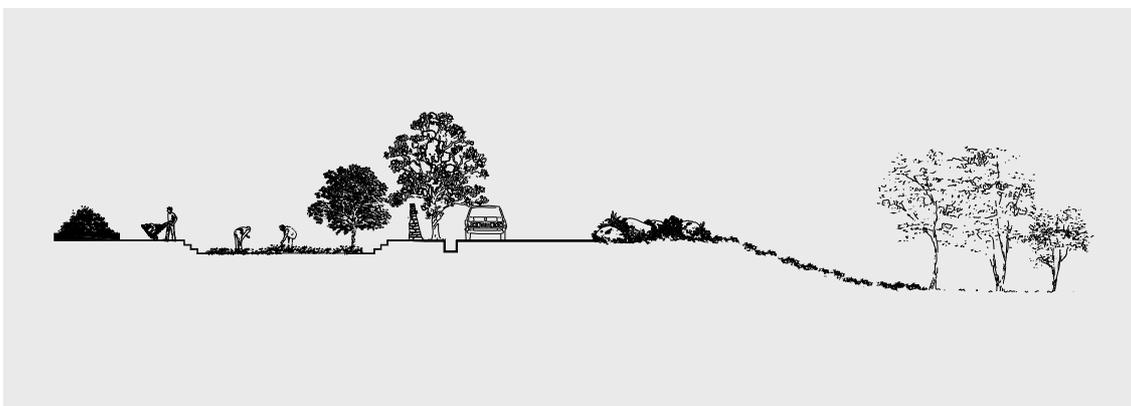


Figure 3. General profile illustrating the status quo of the landscape in the first zone.

safe, secured and full of serenity and beauty for families, in general, and women and children in particular. These gardens have physical and psychological attributes which have caused a special sense of place for residents.

On the other side of the footpath, terraced fruit gardens have been designed in a regular form. In these gardens ash trees play a major role, as a defensive element and to show the boundaries of the garden. In essence, their main function is agricultural productivity without anything else and there is no doubt of this fact because there is no secondary element in the terraced fruit gardens. Terracing these gardens is for irrigation purposes and, in addition, to control water and soil erosion. The author believes that it is an innovative method for local people to obtain more energy from the sun though, perhaps, it may be an accidental practice. The below profile briefly illustrates the landscape characteristics of the second zone.

Zone 3: Riparian Areas and Rocky Lands

The third zone is fully natural and the natural resources are in the best situation yet. Rocky paths, rivers and their banks with the rich plant communities and species are the most important characteristics of this zone and are in a tangible dynamic equilibrium. The beauty and serenity of nature is high compared with the two earlier zones. In this zone, the man-made path continues near rocky bodies and the main river flows across the valley. From a geo-morphological perspective, from the back to the front, the valley topographical form goes into V-shaped valley and this is the most important visual aspect of the third zone, in the author's opinion.

In this zone, recreational activities obviously decrease while sporting activities such as walking and climbing increase. For this reason, social activities are limited and the population falls sharply. Privacy is available at the peak, especially during the week, but it is not true of the weekend in the third zone.

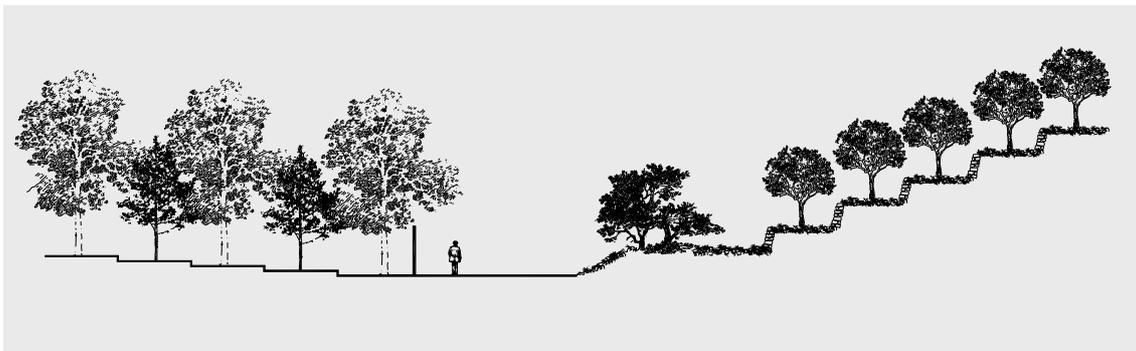


Figure 4. General profile illustrating status quo of the landscape in the second zone.

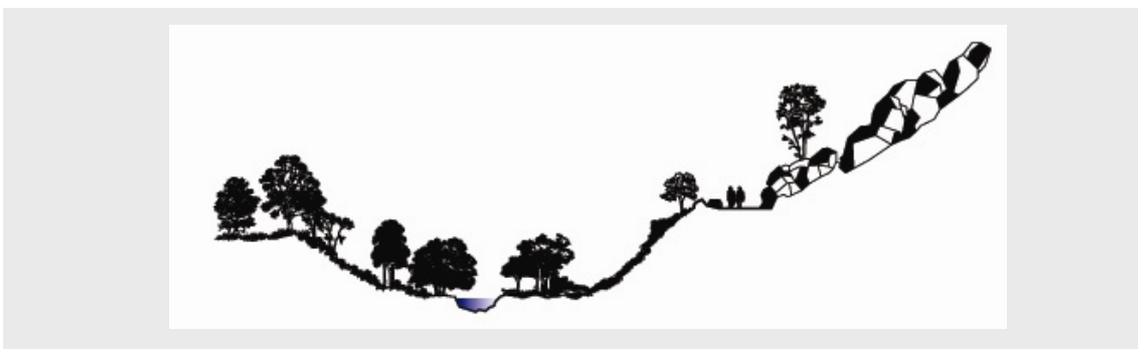


Figure 5. General profile illustrating status quo of the landscape in the third zone.

The environment is of the best quality and environmental assessments demonstrate that the water of the river is clean and safe in 6.5 Km far from the urban areas (ECO, 2006). The greatest environmental hazard in this zone is due to landslides along the path in several places. The author blames increasing landslides on construction works for man-made paths and paying less attention to the indigenous plants which can control soil erosion.

Overall, in the triplet zones, there are several explicit and clear land uses and functions. Table 2

shows these land uses and their function in each zone, separately. Knowledge of this information can be useful, and also necessary, in order to achieve the best sequences in environmental evaluation.

According to the facts given, the author offers the greenway system to re-organize the routes throughout the zones. The greenway can be a strong linear pattern along corridors or other organic land lines at the valleys, mountains and so on. To obtain this goal, it is suggested that greenway planning criteria in the West of Iran close to big urban areas be based on local and regional considerations, limitations, needs, and desires.

Table 2- Zoning, land uses and functions in the triplet zones.

Zoning	Land use	Functions
Zone 1	Agricultural Land	Agricultural
	Roads	Recreational activities
	Grasslands	Market gardening
Zone 2	Private Gardens	Dwelling
	Roads	Gardening
	Terraced Gardens	Recreational activities
Zone 3	Valley	Sporting activities
	Grasslands	Animal husbandry
	Riparian Zones	Recreational activities
	Rocky Bodies	



Figure 6. Organic pathways in the second zone.



Figure 7. Agricultural lands in the first zone.



Figure 8. Nomadic tent in the third zone.



Figure 9. Kurdish women at a private garden.

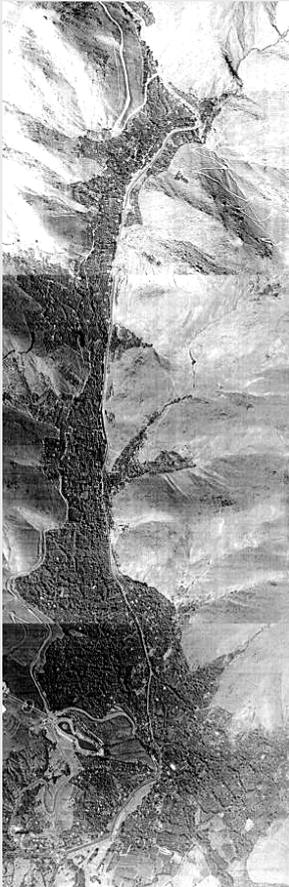


Figure 10. Tabnabar valley in a suburb of Hamedan, Iran.



Figure 11. Urban context near a suburban and natural mountainous body, Kermanshah, Iran.

Greenway Planning Criteria in the West of Iran

According to the descriptions given above, nature in the West of Iran is a great context for rural inhabitants to work in and obtain vital materials from it. But this is not true of urban tourists. They need recreational resources and, for this reason, seek leisure resources in nature at the weekend and this can set up a conflict interaction at times if added to mismanagement. By this inappropriate conflict, natural resources and the cultural and historical heritages will go into steep decline in the future. To preserve the natural, cultural and historical context, natural resources should be restored and rehabilitated and the cultural and historical heritages should be revived. For example, folklore celebrations could be used to celebrate the wonderful character of the region and can be observed by tourists. It can combine with regional planning as a strong tool to organize the natural contextual meaning in which local people should not be eliminated. Landscape characteristics and popular culture are important and can not be ignored. Such strategies can lend a hand to landscape and environmental planners and managers to use the suburban landscapes as a multi-purpose context. If that is the case, the following key concepts have been derived from the social, cultural, political, historical and geographical conditions in the West of Iran and can be identified as the most important landscape planning criteria for suburban areas in the region.

Unity

A coherent and integrated complex with the important relationships between the natural characteristics and man-made landscape elements is necessary to protect natural resources from various threats in these zones. The concept of unity, also, can help to promote the harmonic quality of landscape from the visual point of view. In the West of Iran, agricultural lands and private gardens are two man-made landscapes and should be adapted with the physical and biological context of the nature to create a unique, harmonic, meaningful, and sustainable landscape more than in

the past. This strategy helps local people to transfer nature appropriately to the next generations. In addition, the landscape remains a suitable recreational resource in the outskirts and suburban areas for citizens who travel there at the weekend.

Coexistence

Studies (Rastandeh, 2008-B) have shown that the functional and, in the same period, meaningful relationship between wildlife and human beings is essential from the biological viewpoint in these zones. The ecosystem needs a balance between the natural and non-natural interactions and should not be destroyed. As a result, natural spots, corridors, and paths are important in regional context of the landscape and should be preserved in the framework of an intellectual landscape planning.

Protecting animals in the zones especially in the third zone is extremely important because they can help planners and designers to create more beautiful vistas and landscapes in a natural context. Animals can also help the regional ecosystem to function correctly. In this case, the most visible and common animals in nature here include horses, sheep, rabbits, wolves, mules, eagles, and foxes. The paper supposes that hunting must strictly be controlled because the environmental complex will suffer from any extinction related to the aforementioned categories in the long term.

Variety

The recent psychological-environmental research (Rastandeh, 2008) indicates that West of Iranians would like to stay in the natural areas but in variable conditions, organic places, and different spaces rather than static and rigid man-made landscape designs.

In a step by step comprehensive plan for such regions, wonderful and magical vistas should be found and then, planned. As far as possible, policy makers and local authorities should pay attention to the importance of variety from the aesthetic point of view.

Colorful plants, skylines, land use plans and land functions could be discovered, planned, and used to achieve the aim. Long and short visual corridors can be managed separately, full of insight. In some places, a little artificial landscape design and, in others, just rehabilitation management may be the best approach. The key point is that the comprehensive plan must be integrated to keep the quality of nature at a high level and, parallel with this environmental idea, neither local people's benefits and nor tourists' desires should suffer from the planning.

Social security

Women, girls, teens and children should have a sense of serenity in the heart of nature in a safe and organized context. They all need the sense of security to walk and see the beauties of the nature without any restriction. It is their right to play, walk, run, climb and be in the natural context, happily. To obtain this significant goal, landscape planning will be led to specific factors to promote social security for all people in general and females in particular. Applying crime prevention through environmental design or CPTED strategies (Timothy, 1991) could be useful and appropriate here. Controlling access, visual monitoring, and emergency communication facilities, for instance, will be appropriate to improve the social security (Hooper and Droge, 2005).

In an Iranian context, women rights are respected in general. As a result, local authorities and policy makers struggle to protect women and girls from social injury. In Iranian culture, women are identified as the educators of the human being. Females with their families or friends should be in places that are peaceful and safe, from the social point of view. Iranian women in the west of the country would like to dance, walk, and spend their leisure time together in natural areas. If that is the case, it is up to the relevant authorities to provide safe places for them. In this way, the women's rights branch of city councils, rural

councils, and local municipalities are clearly three powerful and effective bodies to carry out the related strategies.

Archeological Conservation

Historical sites and memorial landmarks are some of the most important characteristics of these sites. In Iran, earliest first signs of human life have been discovered in the West of country (Marzban, 1999). As a result, the historical aspects of the region are an indivisible part of its identity and they should be preserved and protected for the future. This cultural heritage should be transmitted to successive generations without any negligence. It is up to Cultural Heritage Organization (CHO) to represent the historical identity of the region and use the opportunities in the zones close urban areas to introduce the history and culture of the Zagros to families who enjoy recreational activities in suburban and natural areas at the weekends. With long sighted attention to the zones, rehabilitation, restoration, and conservation could be useful and should apply in each part of the land on the basis of its needs and requirements in line with comprehensive plans.

Cross-Cultural Strategy

Though the vast majority of people traveling to suburban areas have the same cultural attitudes, but it can not be forgotten that some deep cultural differences may appear between Iranian families, as well as generations or even sexes. To resolve the challenge, flexible planning can be performed to provide suitable facilities for families, groups of friends and individuals. Sex, generation and family are believed to have been three factors which effect on the qualitative and cultural atmosphere of the place. With regard to the facts given above, social interaction between citizens as tourists and rural people, as the local inhabitants, plays an important role in social decisions in the planning these regions.

Sense of Place

One approach related to natural resource management on a local scale suggests that the community is a 'created space' that frames values, perceptions, and interactions. (Luhmann, 1989; Oelschlaeger, 1992; Orr, 1992). In general, there are multifarious definitions of the concept 'sense of place'. In most cases, the definitions attempt to show a strong tie between 'human being' and 'location'.

For example, Duncan (1994) considers it to be the personal and collective meanings that intersect at a particular physical site; for Williams (1995), it is the product of imbuing meaning to a location. Tuan (1974) focuses on the effective bonds between individuals and particular places that vary in intensity (Bragg, 1996). The phrases mentioned focus on both the psychological and physical aspects in the sense of place. On the one hand, phrases and words "particular physical site", "a location" and "particular places" emphasize the physical aspect and, on the other hand, phrases such as "personal and collective meanings", "imbuing meaning" and "individuals" indicate a real but intangible psychological aspect in this matter.

Landscape cultural attributes can have a pronounced effect on a site's future land uses. Maintaining, or creating a 'sense of place' hinges on understanding and responding to site context (Hough, 1990; Beatley and Manning, 1997). In addition, the physical landscape is a product of the processes of nature and human culture, combined in varying proportions. The human expression in this physical landscape results from a series of decisions made by various people at various times and places (Eckbo, 1969). A place, in which a good gestalt is achieved, then, would be expected to have a strong sense of place and to convey a quality of coherence, rightness, or perfection (Schroeder, 2007).

I look more specifically at the quality of naturalness which, in addition to beauty and serenity, was attributed to special places by many survey respondents. Of course, a sense of place need not

always include a sense of naturalness. Designed and built places without significant natural elements may form a good gestalt and have a strong sense of place. Some of the survey place descriptions did focus on the human elements of a place, such as its history, family connections, built features, and community character. Overall, however, nature was a prominent theme in the place descriptions (perhaps because respondents had been instructed specifically to think about outdoor places). Survey participants often associated naturalness with the gestalt qualities of beauty and serenity (Schroeder, 2007).

The sense of self, sense of place and a sense of belonging are important psychosocial dimensions of displacement. Displacement provokes anxiety and depression and reduces social, functional, and self-management skills. Attachment to place, or the more socially determined 'locale', is central to self-identity, the sense of belonging, and self-efficacy the ability to be and do in the world (Vandemark, 2007). According to all the views mentioned concerning the concept of sense of place in the environment, it can be found all of these foci on social and cultural aspects of human communities in relation with the outdoor environment. Therefore, the great relationship between human mental powers and characteristics of the environment can be traced, obviously. In essence, the author claims that in Iranian mountainous context, it is human activities, land uses and visual aspects which lead to a sense of place in each place. Without question, these three factors affect each other and in the same period, quality and quantity of each factor depend on two other factors. In the West of Iran, it is land uses which affect human activities and this, in itself, leads to an integration and relationship with visual aspects and characteristics of the nature to create the sense of place for local people and urban tourists. Furthermore, physical and psychological attributes are mixed together to create a stronger relationship between place and human being in a mountainous context, as well.

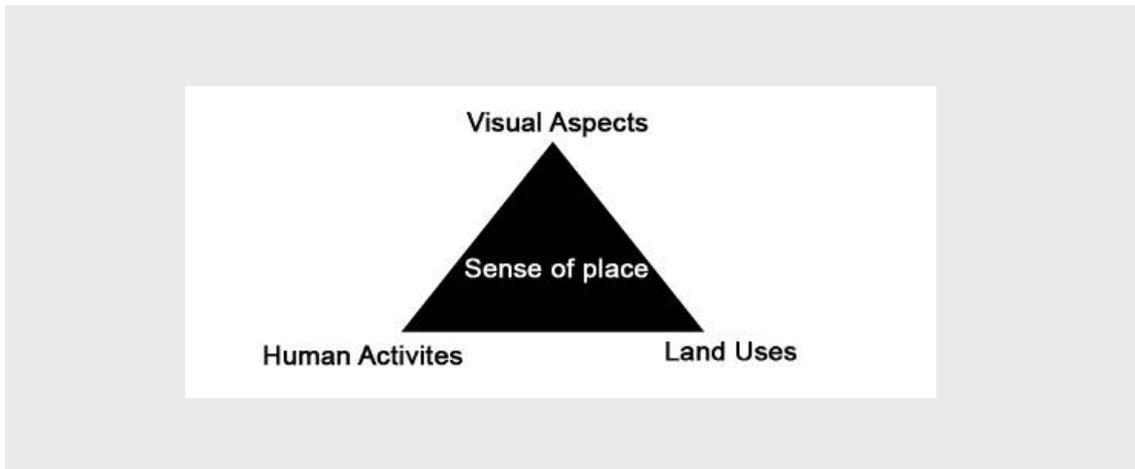


Figure 12. Relationship between visual aspects, human activities, and land uses subject to the sense of place in the West of Iran.

Phytogeography

The author believes that planting arrangements based on selecting indigenous vegetations are the best choice in an Iranian greenway. In the West of the country, the history of plantation can be useful for planners to select meaningful plants. In this case, functionality is important and can not be ignored either. Controlling flooding and run off, controlling air pollution,

providing pleasant shade, covering unpleasant landscapes, defending against cold winds, producing fresh air, controlling erosions and creating beauty are the most important functions of indigenous trees. The author has searched for the best adaptable trees in the region (Rastandeh, 2008-B) and presented these from the point of view of sustainability. The table given below indicates the most accessible local trees with their average extensions and height.

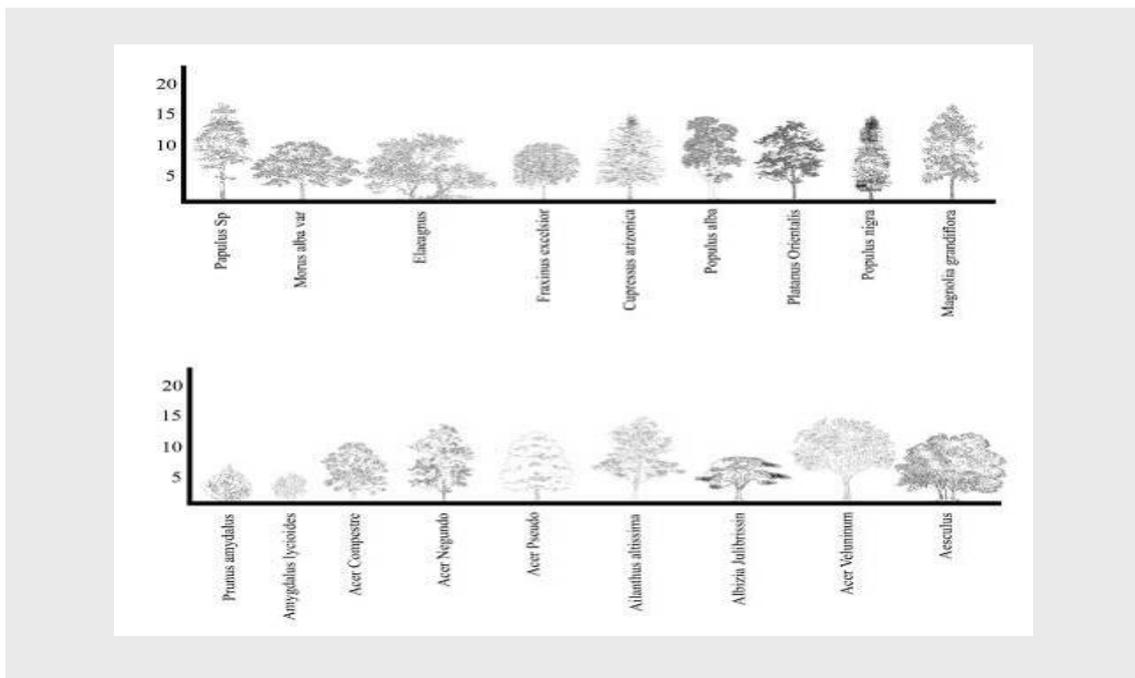


Figure 13. Common Indigenous trees in the West of Iran and their forms.

Table 3-Indigenous trees in suburban areas in the mountainous region of the West of Iran.

Scientific name	Extension (Meter)	Height (Meter)	Main functions
Papulus Sp	3 to 8	8 to 13	Covering unpleasant landscapes Controlling air pollution Landscape design during arid seasons
Morus alba var	6 to 9	7 to 12	Providing pleasant shade
Elaeagnus	5 to 10	7 to 12	Creating natural silverfish beauty Controlling runoff along the floodway
Fraxinus excelsior	3 to 5	6 to 8	Defending against cold winds Producing fresh air
Cupressus arizonica	3 to 9	6 to 18	Controlling erosion Resistance in freezing conditions
Populus alba	8 to 12	8 to 12	Creating pleasant sound with its leaves Controlling runoff along water bodies
Platanus Orientalis	4 to 10	8 to 18	Controlling erosion Controlling runoff along water bodies Providing pleasant shade The second respected tree among Iranians
Populus nigra	3 to 8	12 to 28	Defending against cold winds Providing pleasant shade
Magnolia grandiflora	16 to 21	12 to 18	Providing pleasant shade Creating magical reddish beauty Producing nice smell
Prunus amygdalus	Up to 5	Up to 5	Controlling flooding Resistance in acidic soils Controlling erosion
Amygdalus lycioides	Up to 3	Up to 3	Resistance in very arid conditions Providing pleasant shade
Acer Compestre	12 to 25	12 to 20	Resistance in freeze conditions Creating beauty with its colorful leaves
Acer Negundo	25 to 30	15 to 20	Controlling flooding and runoff Resistance in arid conditions
Acer Pseudo	Up to 18	10 to 30	Providing pleasant shade Defending against cold winds
Ailanthus altissima	12 to 21	9 to 21	Controlling erosion Resistance in arid conditions Controlling air pollution
Albizia Julibrissin	4 to 24	6 to 10	Creating magical and surrealistic landscapes
Aesculus	7 to 16	9 to 18	Providing pleasant shade Defending against cold winds
Acer Veluninum	8 to 18	10 to 25	Controlling erosion Controlling flooding and runoff

Discussion

Paying attention to the unity, coexistence, variety, social security, archeological conservation, cross-cultural strategy, sense of place, and phytogeography are the most important greenway planning criteria in the mountainous regions in the West of Iran close to the extensive urban areas. If these eight criteria are planned, managed, and functioned in the best manner, they can provide a semi-natural buffering zone with multi-functional abilities and capacities within a sustainable and dynamic equilibrium. The suggested strategies are general and as well as flexible. If that is the case, the suggested greenway planning can be used in any similar mountainous regions in other countries such as Turkey, Iraq and Azerbaijan with some differences in details.

On one hand, the buffer zones play a recreational role as promenades for urban tourists on the weekend and, on the other hand, the zones play an important role as natural resources with many useful benefits for local people. In addition, the zones can promote the micro- and macro-climate of the region and urban areas and can even control urban growth in suburban areas and outskirts. Greenways around the urban areas will be the green system as greenbelt but the newly proposed system has more functions and capacities for people and nature in the present and even future time. The greenways can protect mountainous urban areas from dangerous flooding and related disasters. Further, it provides recreational facilities for the citizens in a very close and fresh environment.

Conclusion

Overall, according to the above it can be said that the more comprehensive and intellectual greenway planning, the better the environmental, social, cultural and economical benefits. The research shows that it is multi-purpose planning which will contribute to sustainable conditions in the region.

In the West of Iran, suburban areas near the largest urban settlements which have a close proximity with the nature, should be re-organized, planned, designed and, then, managed intellectually both for the present and the future. The importance of these areas results from their functions, applications, and roles in promoting agricultural productivity, servicing recreational sources, protecting natural resources, controlling run off and flooding, producing fresh air, and controlling urban growth. As a result, the organic and non-organized routes along and across the triplet zones from the urban to natural areas should be re-organized on the basis of the eight main greenway planning criteria given above. After appropriate and accurate greenway planning in the region, the zones will play a crucial role between the urban and natural areas as multi-purpose buffers. Afterwards, the zones nearby the urban settlements can be identified as local, regional and even national treasures for people and their succeeding generations.

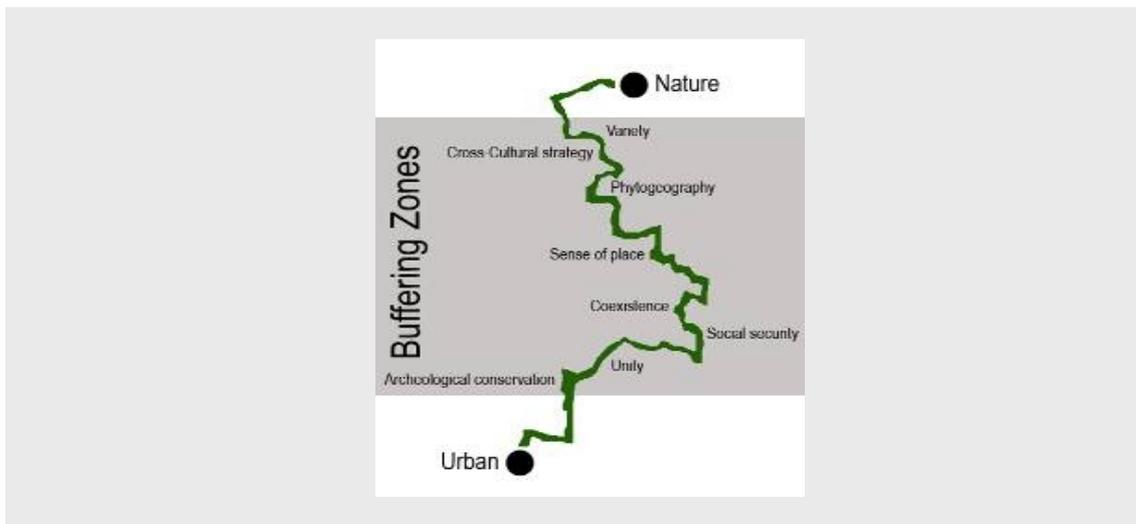


Figure 14. Conceptual map showing the most important criteria for planning a greenway between urban areas and nature in the West of Iran.

References

- Beatley, T. and K. Manning (1997). *The Ecology of Place: Planning for Environment, Economy and Community*. Washington, D.C: Island Press.
- Bragg, E. A. (1996). Towards Ecological Self: Deep Ecology Meets Constructionist Self-theory. *Journal of Environmental Psychology*, 16: 93-108.
- Center for Consensus of Iran (CCI), (2007). *National Census of Iran*. Tehran: CCI Press.
- Daneshdoust, Y. (1990). *Once There Was a Town Called Tabas*. Tehran: Cultural Heritage Organization and Soroush Press.
- Duncan, J. (1994). Place. In: Johnston, R.J., Gregory, D. Smith, D. M. (Eds.). *The Dictionary of Human Geography*, 3rd edn. Blackwell, Oxford, p. 442.
- Eckbo, G. (1969). *The Landscape We See*. New York: McGraw-Hill
- ECO (2006). *The Environmental Assessment of the Rivers in the Province of Hamedan*. Hamedan: ECO.
- Fabos, J. G. and J. Ahern (Eds). (1996). *Greenways: The Beginning of an International Movement*. Amsterdam: Elsevier.
- Fabos, J.G. (2004). Greenway Planning in the United States: its Origins and Recent Case Studies. *Landscape and Urban Planning*, 68: 321-342.
- Forman, R. T. T. (1995). *Land Mosaics: the Ecology of Landscapes and Regions*. New York: Cambridge University Press.
- Garrusin, H. (2005). Historical Geography and the Residences of the Alvand Mountain. Shahr-e-Andisheh, Hamedan.
- Ghobadian, V. (2005). *Climatic Analysis of the Traditional Iranian Buildings*. Tehran: University of Tehran.
- Hopper, L. and M. Droge (2005). *Security and Site Design: A Landscape Architectural Approach to Analysis, Assessment, and Design Implementation*. United States: Wiley.
- Hough, M. (1990). *Out of Place: Restoring Identity to the Regional Landscape*. New Haven, Connecticut: Yale University Press
- Hsieh, H., C. Chen and Y. Lin (2004). Strategic Planning for a Wetlands Conservation Greenway Along the West Coast of Taiwan. *Landscape and Urban Planning*, 76: 257-272.
- Jim, C.Y. and S. S.Chen (2006). Comprehensive Greenspace Planning Based on Landscape Ecology Principles in Compact Nanjing City, China. *Landscape Urban Planning*, 76: 95-116.
- Kasmaee, M. (2003). *Climate and Architecture*. Isfahan: Khak Publication
- Little, C. E. (1990). *Greenways for America*. Baltimore: John Hopkins University Press.
- Luhmann, N. (1989). *Ecological Communication*. Chicago: University of Chicago Press.
- Marzban, P. (1999). *A Summary from History of Art*. Tehran: Scientific and Cultural.
- Naima, G. (2006). *The Gardens of Iran*. Tehran: Payam.
- Nyberg, H. S. (1934). *Texte zum mazdayasnischen Kalender Uppsala*. Universitets Universitets Arsskrift: Arsskrift Press.

- Oelschlaeger, M. (1992). Wilderness, civilization and language. In: Oelschlaeger, M. (Ed), *The wilderness Condition: Essays on Environment and Civilization*. San Francisco, CA: Sierra Club Press.
- Orr, D. W. (1992). *Ecological Literacy: Education and the Transition to a Postmodern World*. Albany, New York: State University of New York Press.
- Pimia, M. (1999). *Islamic Iranian Architecture*. Tehran: Khak Publication
- Pimia, M. (2004). *Typology of Iranian Architecture*, Editor: Me'marian. Tehran: Memar Publication.
- Presidential Commission on the American Outdoors (1987). Report and Recommendation. Reprinted as *American Outdoors: the Challenge*. Washington, DC:US Government Printing Office.
- Rahbar, D. (2001). *National Atlas of Iran*. Tehran: Management and Planning Organization, National Cartographic Center.
- Rastandeh, A. (2008-A). *Suggesting a Multi-Purpose Greenway Planning Along Persian Coastal Areas*. Environmental Sciences, Vol.5, No.2: 51-64.
- Rastandeh, A. (2008-B). *Analysis of Landscape Design Criteria along Inner City Floodways*. M Sc. Dissertation, Tarbiat Modares University, Tehran.
- Ribeiro, L. and T. Barao (2006). Greenways for Recreation and Maintenance of landscape Quality: Five Case Studies in Portugal. *Landscape and Urban Planning*, 76: 79-97.
- Schroeder, H. W. (2007). Place Experience, Gestalt, and the Human-Nature Relationship. *Journal of Environmental Psychology*, 27: 293-309.
- Tan, K. (2006). A Greenway Network for Singapore. *Landscape and Urban Planning*, 76: 45-66.
- Timothy D.C. (1991). *Crime Prevention Through Environmental Design*, Boston. National Crime Prevention Institute.
- Tuan, Y. (1974). *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs, NJ: Prentice-Hall.
- Turner, T. (1996). *City as Landscape*. London: Spon.
- Turner, T. (1998). *Landscape Planning and Environmental Impact Design*. London: UCL.
- Turner, T. (2006). Greenway Planning in Britain: Recent Work and Future Plans. *Landscape and Urban Planning*, 76: 240-251.
- Vandemark, L., M. (2007). Promoting the Sense of Self, Place, and Belonging in Displaced Persons: The Example of Homelessness. *Archives of Psychiatric Nursing*, 21 (5): 241-248.
- Williams, D. R., S. I. Steward (1998). Sense of Place: an Elusive Concept that is Finding a Home in Ecosystem Management. *Journal of Forestry*, 96 (5): 18-23.
- Yarshater, E. (ed.) (1982). *Cambridge History of Iran, Vol. III: Seleucid, Parthian and Sassanian Periods*. Cambridge: Cambridge University Press.



