A Trivalent Approach to the Quality of the "*Khoshk River*" Landscape in *Shiraz*

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Abstract

By considering certain factors like those mentioned by Ian Thompson (2005) in his definition of landscape, i.e. ecology, community and delight, in designing landscapes, one can find the vocation more applicable and useful. City rivers can play a very important role with regard to such values. In fact, the presence of nature and wildlife could not only be the lifeline of a city, but also a factor for community activities. Environmental quality improvement case study (aesthetically) among today's building constructions is the result of approaching landscape from such a perspective. In the present paper, a river in Shiraz called the '*Khoshk* River'–the river that keeps people safe during the rainy seasons by providing a passage for the excess water–is studied based on the factors of designing landscapes. In this regard, the ecological effect of the river as a natural corridor in a warm and dry climate is obvious; however, the two other effects of community and delight are ignored in relation to the landscape of this natural axis. Thus, apart from considering its ecological role, bringing the spirit of society and delight back into the seasonal lifeline is one of the purposes of this study. The river was a recreation area for the people in the past. However, it is now surrounded by different residential, commercial, and administrative buildings, and the society factor (with minimum attention to its ecological and landscape values) is active outside this natural axis. In attention towards the river's landscape, using the river to resolve traffic problems (building overpasses and underpasses), and a subway nearby, have created an undesirable image of this natural phenomenon.

Keywords: *Khoshk* River, Ecology, Delight, Community, Landscape Values, Shiraz

1. Introduction

Man has always been cruel to nature. This cruelty gets more devastating when it comes to nature in large cities (i.e. valleys and seasonal rivers). Giving certain names to some floodways we bring about their destruction; one example is the above mentioned river which is named "*Khoshk*" meaning "Dry" in Shiraz. The river flowing from the mountain to the plain and linking the Nahr-e-*Azam* Dam to a salt lake (the Maharlou Lake) has created a lush green valley which could make the city lively and fresh. But, not only the river banks but also the river itself are under construction; therefore, nothing remains from its landscape and the river is considered just as an inundation place. In some places, to prevent accidents and to prevent pedestrians from falling into the canal, the levies on the banks are made so high that it is impossible to see the river easily. The presence of many auto repair shops, construction and swage wastes pouring into the river are some of the other destructive and harmful elements of the landscape and the surrounding environment (Kaplan & others, 1989).

Furthermore, the meaning and the context of landscape, according to Thompson, called the delight(s) aspect–as he puts it–and added to the dimensions increases the complexities of decision making process. Clearly, delight plays a key role in giving identity to the urban landscape, thus the landscape aesthetic and its enhancement should be considered beyond the visual aspects and in combination with other dimensions of the urban environment. Aesthetical values can be assessed through different approaches. Current literature and materials include different approaches that concern these purposes from a professional and expert point of view. Other approaches are driven from the social sciences' framework, namely environmental psychology, integrating behavioral studies in terms of aesthetical and public perceptions (Eckbo, 1998).

There is no doubt that rivers, as natural urban corridors, play key roles in many cities by connecting various areas and different cultures. The importance of such rivers lies in their historical and monumental aspects as cultural heritage, giving identity to their surroundings, and their undeniable effect on the ecology and quality enhancement of the environment (McHarg, 1992).

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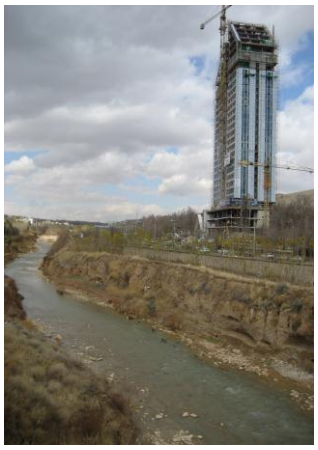
Fig. 1. The *Khoshk* stream landscape

2. Description of the *Khoshk* River consider

When the population of Shiraz was around 300000, the glen of *Khoshk* River passing through the city did not play a significant role in either space occupation or ecology. Now as the population of the city has reached 2 millions, the lands around the glen, all located in the downtown area and the south of Shiraz University within and beside the *Ghasr-e-Dasht* gardens, cannot be ignored anymore. In order to enhance the welfare level and cultural and urban activities, these lands should, efficiency-wise, undergo urban planning again. There is no doubt that this efficiency comprises public welfare as well as suitable and beautiful access to the river, and takes away one low-spirited space from the city and turns it into a hopping civil center. Although the necessity of preparing an organization plan for the *Khoshk* River has been approved by the Municipal Council and the Contemporary Designing Organization of Shiraz, it is not clear why the studies have not been continued or have not achieved any results. This may be partly due to the lack of a comprehensive plan for rivers in urban and regional planning. Yet, since Shiraz is not in a desirable condition regarding recreational facilities and parks, and since the *Khoshk* River has the potential for these facilities, it seems necessary to use this opportunity in a convenient manner. This natural body had strongly affected the quality of man-made environment and the perception of the city. As the name of the river (*Khoshk* (dry) shows, it is dry about half of the year, and in the rainy seasons from the middle of fall to the middle of spring it carries the flood water to the salt lake. During the droughts, the river is dry most of the time (Poormokhtar, 2001).

Natural elements of the urban landscape play a key role in the enhancement of the environment quality. In this regard, water is one of the most important elements in mankind's life and a key natural resource of sustainability. Considering the fact that landscaping is significant for the (urban) open space's environmental quality (Hough, 1990), the city/water relationship is a complex one which can be described through Thompson's point of view by ecology, society, and delight. The existence of the *Khoshk* River in Shiraz and its passage through the city bestows different characteristics to the urban environment which should be taken into consideration. This paper aims to do so.

However, beside the historical, geographical and morphological contexts of the *Khoshk* River, other aspects such as water quality, flood vulnerability, and accessibility need to be taken into consideration and thus are discussed briefly in this article. Above all, what concerns the authors of this paper is paying attention to the increased delight and landscape value of this seasonal river and its contribution to the increased urban attractiveness. As a result, water quality and even quantity improvement, and directing it to the current location of the *Khoshk* River should be considered in the process of enhancing the urban landscape.



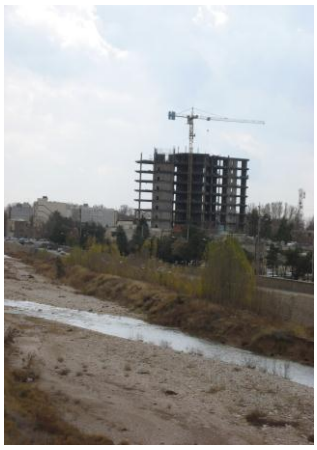


Fig. 2, 3. Effects of construction on the river landscape

Negligence of the values is evident in the residential buildings alongside the river. The *Khoshk* River, as part of the cultural heritage which revives memories of the old days, possesses a social aspect neglected by the authorities. Obviously place identity is important for understanding the environmental changes and problems. Damaging an old construction is considered to be a criminal act while destruction of an identity-giving and ecologically valuable natural-historical axis not only has

never been considered a crime but also is being condoned by the authorities every day (by developing bypasses, overpasses, subway tunnels, and their installations) (Poormokhtar, 2001).

In the present study, we hypothesize that by considering three main dimensions of community (social factors), ecology, and delight (which is not confined to aesthetics aspects) in landscape design and planning, many problems associated with the city rivers could be solved.

Since many experts point to these issues in the area of landscaping, the authors consider them as a solution to the problems with the *Khoshk* River.

3. Landscape and (natural and artifact) waterfront of the *Khoshk* River

The waterfronts of the *Khoshk* River can be divided into the following categories. The first two categories are natural and the third one is man-made:

A. The main river bed area.
B. The natural waterfronts of the river which are either abandoned or tree planted, etc.
C. The waterfronts changed to the highways for the rapid transit of cars.

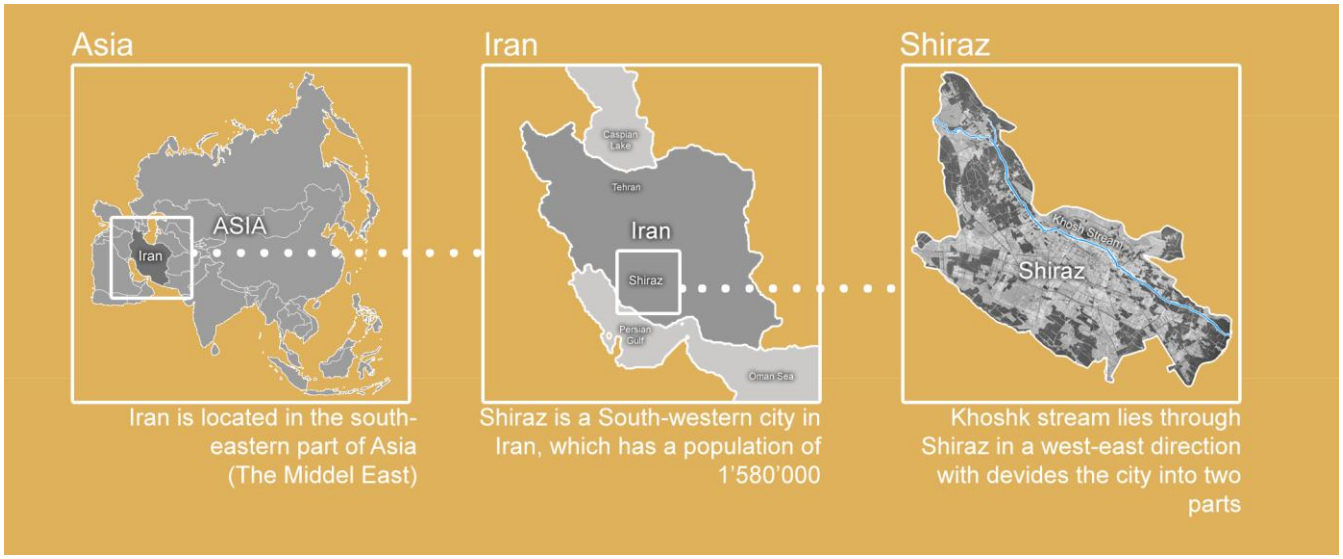


Fig. 4. The locations of Khoshk Stream, Shiraz, and Iran

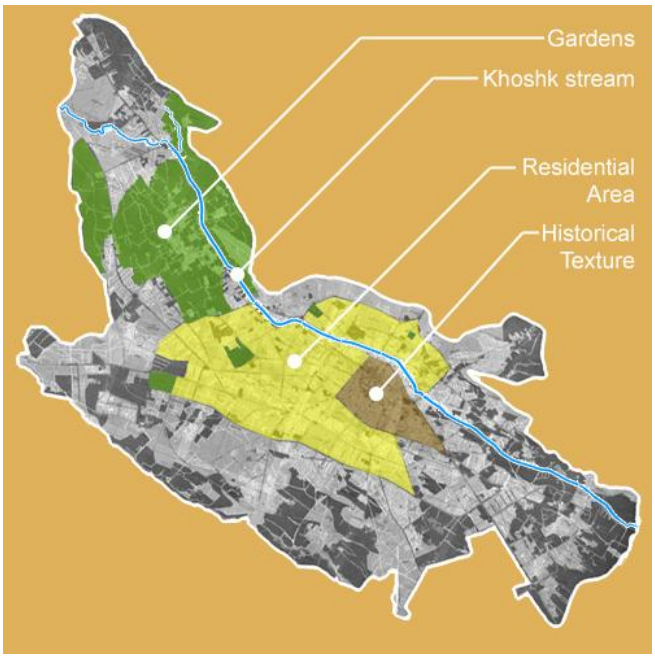


Fig. 5. The *Khoshk* Stream as a natural axis links different zones of Shiraz

Fig. 6: An old bridge on the *Khoshk* River as a cultural landscape potential (public memories)

Nevertheless, Thompson believes that this statement is too poetic (Thompson, 2005).

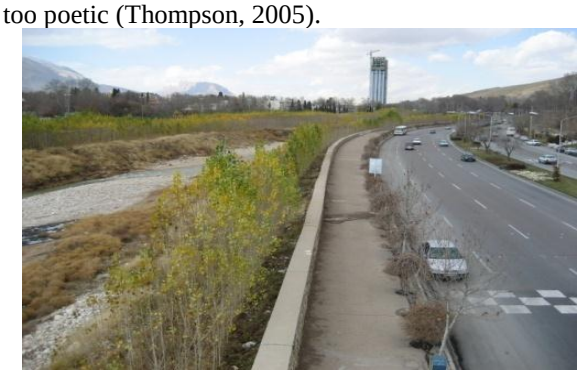


Fig. 8, 9. Effects of pollution (visual & environmental) on the ecology and landscape of the *Khoshk* River

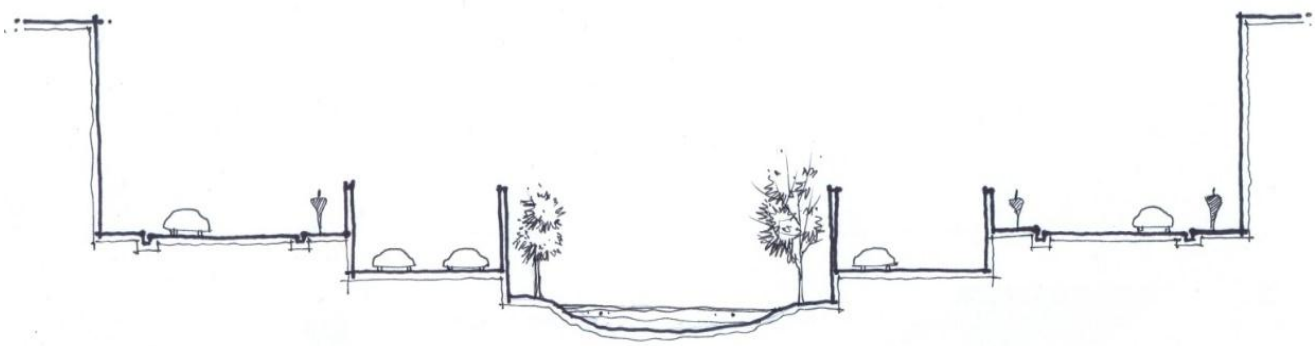


Fig. 7: A cross-section of the *Khoshk* River

A. Ecology:

The necessity of confronting the environmental challenges in today's world, eliminating them by using expertise, emphasizing on the main bed's landscape, welcoming nature and its inevitable role in protection and sustainability of the environment, and the professional value of ecologic approach for architectural landscape activities and projects should be taken into consideration in designing, planning, and management (Roshani, 1995). We believe that "landscape architects always know themselves as environmentologists" (Wu, 2007, p. 281). This theory might be true about the western world as the results of a study indicate that Iranian landscape architects do not look at the ecological dimension as a value in landscape design. Mc Harg states that landscape design should be a factor for the coexistence of man and nature.

B. Community:

Landscape architecture can fulfill a significant role in creating a part of social and public spaces of the environmental systems. Since the main part of social activities takes place in open spaces, considering community values that could enrich such spaces is necessary (Thompson, 2000). Public contribution to the creation of these spaces can help with this important issue. "Public river landscape perception" is the process of extracting meaning from stimuli and important events happened in river landscapes.

Tunnard (1948) believes that "Landscapes should be designed in accordance with the human needs" (Tunnard, 1948, p. 78). Similarly, Mark Treib emphasizes "Landscapes are for people" (Treib, 1993). From a

modern and functional perspective, Pye maintains that "the landscape designers like the architects and engineers are responsible towards their clients and users in order to make their landscapes functional and safe" (Pye, 1987, p. 77).

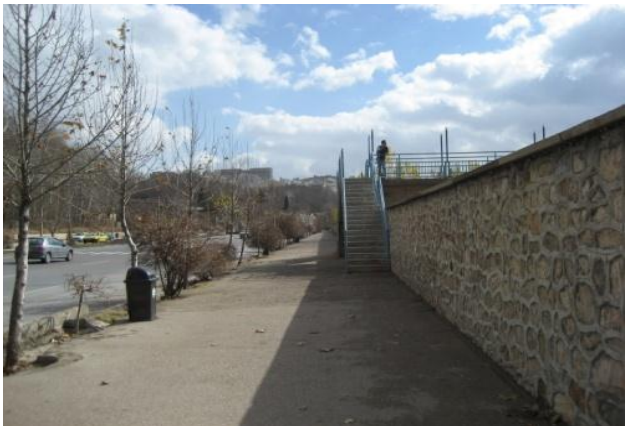


Fig. 10. The *Khoshk* River and human visual relations

If the river is considered as an important focal point and a generator of events but it causes disruptions in the city and may become devastating, we must investigate the problem of major urban roads using the river as a corridor attentively.

C. Delight

Delight and aestheticism is an innate tendency of mankind which exists in him from the first moment of his birth and lives within him all his life. The effect of this natural tendency can be seen in all aspects of man's life including whatever he makes or builds. Landscape designing as the man's interference with the nature for meeting some parts of his physical and spiritual needs is not an exception to this and it should always contain aesthetic values (Thompson, 2000). The presence and crossing of the river in the city can bring an additional quality enhancement and aesthetic to the environment. The riverfronts which remain more natural possess more potential aesthetically. But, express by-passes, overpasses, subway tunnels and their installations including manmade levies weaken the capacity of the river to present its aesthetics. Yet, the manmade environment of the landscape of the *Khoshk* River can be used in a way to present its natural features to the public. Leopold states "a science which preserves the integrity, beauty, and stability of the live world is right and if these criteria are breached, that act is wrong" (Leopold, 1981, p. 245). Thompson maintains that "a complicated ecosystem has an innate value and that value is in the aesthetic aspect" (Thompson, 2005, p. 9). Hackett has also discussed this matter extensively. He believes that "satisfaction of the landscape aesthetic dimension can be a secondary production such as health. Therefore, landscape planning has been done in the direction of ecologic matters and aesthetics more or less supports itself" (Hackett, 1971, p. 40).

Table 1
Effective factors in the evaluation of the river landscape

Effective factors in the landscape	
Ecology	biological diversity water quality environmental pollution (air, noise, ...) diversity of plants and trees (green spaces) and their quantity means of man's transportation in the riverside and defining walkways and bike ways
Social (community)	means of man's transportation in the riverside and defining walkways and bike ways formation of public events visual permeability (the depth and width of views)
Delight	visual permeability (the depth and width of views) worthiness of the river as a cultural heritage physical relationship of man with the water defining leisure and tourist units beside the river passing of the river attractiveness of the river front arrangement of the biodiversity river dimension in width and length passing of bypasses and overpasses, etc. and the quality of man-made environment

Fig. 11: The effect of technology on the landscape of the *Khoshk* Stream

As Table 1 shows, several factors affect the landscape of the *Khoshk* River and each can present a different landscape if changed.

4. The research procedure with a look at a project in Seoul (*Cheonggyecheon*)

As mentioned before, this research is based on the approach that includes the effects of three factors, namely ecology, society (community), and delight. In this context, the *Khoshk* River is considered as the material (natural) world and as the focal point of this article, and according to Ian Thompson's theory, "society" and community, "ecology", and finally "delight" and aesthetics are its three effective factors (Fig. 12). These three poles can have fundamental effects on the landscape quality of this urban body (i.e. the *Khoshk* River).

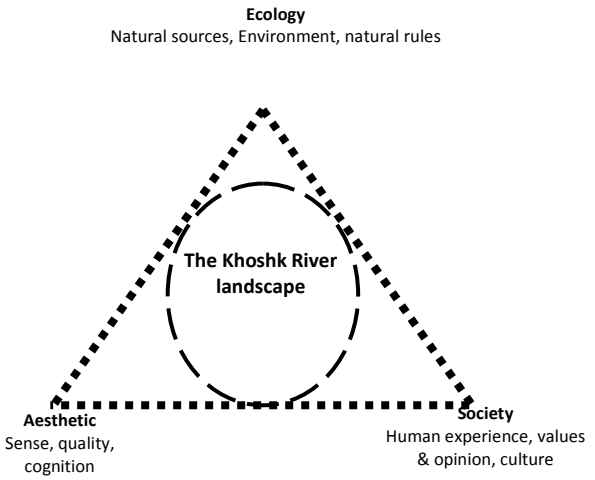


Fig. 12. Effective factors (ecology, community, delight) on the landscape of the *Khoshk* River

The *Cheonggyecheon* project in Seoul is an interesting experience which is very similar to the project of this study in Shiraz. The *Cheonggyecheon* project was designed and performed by four Korean landscape architectures. The experts and the Municipal Authorities of Seoul found out that even if constructing roads, tunnels, and bridges alongside and over the main river of this city could lessen the traffic problem of the city, it would create irreparable losses for the future of Seoul. The river, like the *Khoshk* River in Shiraz, is significant for the physical and ecological structure of Seoul (www.citymayors.com/development/seoul_development.html, 2007).

Fig. 13, 14. The landscape of the *Cheonggye* River and new constructions

Restoring this six-kilometer river in the heart of Seoul that has been covered by expressways and overpasses for fifty years is not an easy task. The task is even more difficult since the river meanders through one of the largest and most densely populated cities in the world. The project of *Cheonggyecheon* or the *Cheonggye* River restoration is without question the most famous urban renewal scheme which has ever been undertaken in the history of Seoul (Hwang, 2003).

Considering the example mentioned above, in the following section a few visual corrections are suggested based on the previously discussed factors to promote the urban landscape quality of the *Khoshk* River.

5. Data Analysis

A brief review of the project of *Cheonggyecheon* not only familiarizes us with a better management of city (landscape) problems, but also makes us look more cautiously at the remaining environmental and natural values of our cities not just through Thompson's principles but through any analytic look. Table 2 below presents a comparison between the current conditions of

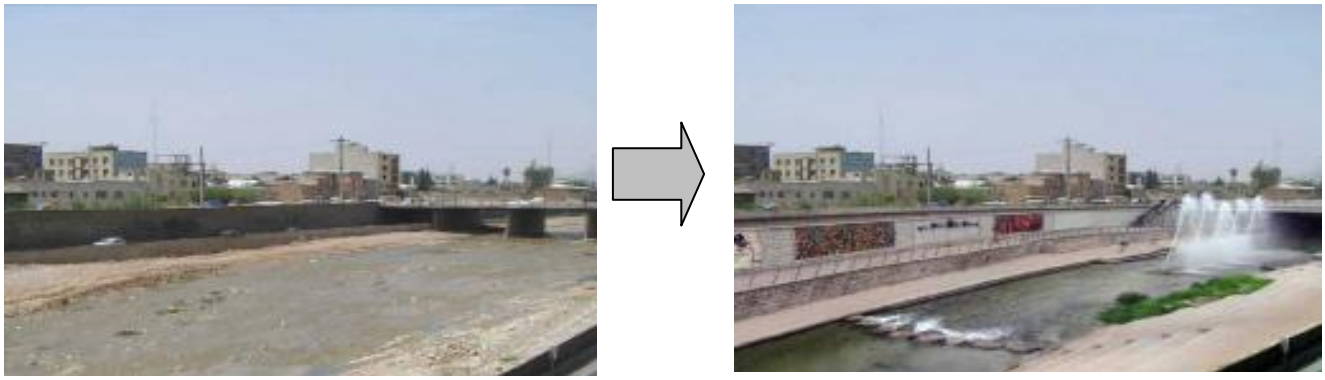
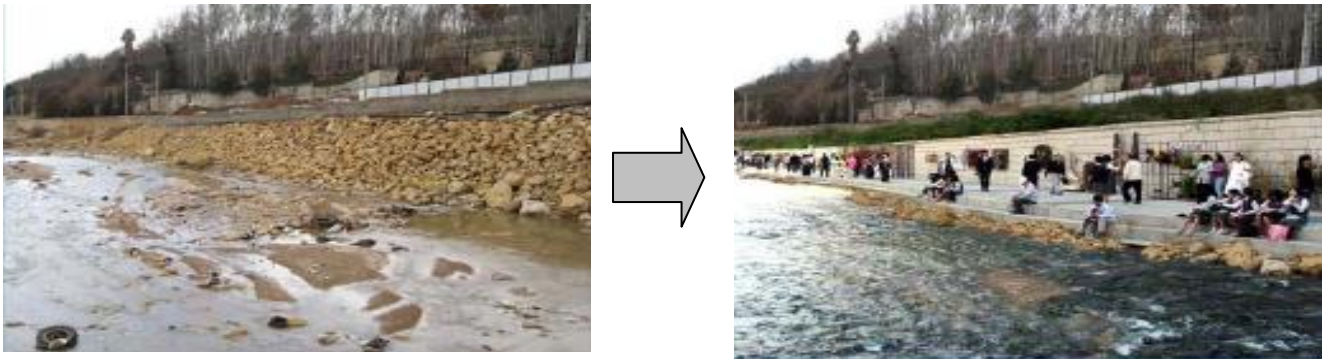


Fig. 15, 18. Urban landscape quality promotion (Shiraz *Khoshk* river)



the *Khoshk* River and the condition of the *Cheonggye* River in the past. The table can inform us about the values of the *Khoshk* River from different angles and its high potentials for landscape quality enhancement. It also illustrates how a desirable landscape could be achieved for the *Khoshk* River with considering the aforementioned potentials and values.

6. Conclusion

From Ian Thompson's viewpoint, landscape evaluation can be considered as a parallel process including the analyses of ecology, community, and delight. Ecologic analysis starts with one point and with earth, topography, and geology of the lower levels but then in landscape evaluation, dominant cultural layers are usually studied (that can involve social views). In ecologic analysis, vegetations, wild life and ecosystem processes are also discussed. On the other hand, aestheticism of man in the community makes him interested in a landscape which has a high quality of design (even visually). Most probably the source of landscape changes is human and not nature.

Our evaluation in this article includes the process of landscape changes too. Yet, in order to achieve the aforementioned qualities in landscape, many factors including biological diversity, water quality, environmental pollution such as air and sound pollution, diversity of green spaces, plants, trees, and their quantity in the ecology should be considered. Furthermore, means of man's transportation in the riverside area and defining walkways and bike-ways, visual permeability or the depth and width of the views, value of the river as a cultural heritage, the physical relationship between the man and the waterfront, defining leisure and tourist units surrounding the river (socially), passing of bypasses and overpasses, etc., the quality of man-made environment, and river dimensions in width and length (aesthetically) are a few other factors which also should be taken into consideration.

The results of the analysis of these factors in this study are presented in the following S.W.O.T table.

Furthermore, other findings of this research are as follows:

1. A unilateral judgment should be avoided in landscape evaluation. Thus, different effective factors were tried to be used in the evaluation of the *Khoshk* River.
2. A landscape should be examined using theoretical and detailed criteria. Thus, in this research Thompson's principles were applied to the landscape evaluation.
3. An actual experience could be very efficient. Seoul project and its similarities with the *Khoshk* River was an interesting example. Seoul experience illustrates the high potentiality of this river for the landscape quality enhancement.

Table 2
A comparison of the current condition of the *Khoshk* River and the condition of the *Cheonggye* River in the past through Thompson's threefold viewpoint

Effective factors in landscape	Related features	Common points	Different points	Evaluation
Ecology	biological diversity	*		**Biological diversity is almost equal in both projects.**
	water quality	*		**It seems that there is no significant difference between the water quality of the rivers.**
	Environmental pollution (air, noise,..)		*	**It can be said that environmental pollutions in Seoul (because of its larger population and machinery) are more than Shiraz.**
	diversity of plants and trees (green spaces) and their quantity		*	**It seems that the *Khoshk* River offers more capabilities in this regard. This can play a better role in landscape designing of the river.**
Society (community)	modes of man's transportation in the riverside and defining walkways and bike ways		*	**According to the current evidence, the traffic and the road ways were more convenient in Seoul.**
	visual permeability (the depth and width of views)		*	**There is a more visual view of the inside of the *Cheonggye* River and it is not so about the *Khoshk* River. This reduces the relationship of the public with the landscape.**
	worthiness of the river as a cultural heritage		*	**The Cheonggye River has had more historical evolutions in comparison with the *Khoshk* River and thus it has more capabilities for becoming a cultural heritage.**
	physical relationship of man with the water	*		**The location of the rivers makes them similar with regard to this feature.**
	defining leisure and tourist units beside the river	*		**Both rivers have the same condition (except in Chamran region that the constructions are in the distance from the river).**
Aesthetic (Delight)	passing of the river	*		**Passing of both rivers in their beds are similar.**
	attractiveness of the river edge		*	**Although the fronts of both rivers are similar, it can be said that the attractiveness of the *Khoshk* River in its margins is higher as a result of the existence of more open spaces.**
	arrangement of the biodiversity		*	**Plants and trees arrangements of the *Khoshk* River show more diversity. This causes an enhancement in the landscape and increases the possibility of landscape designing.**
	river dimension in width and length		*	**The *Khoshk* River is both longer and wider than the *Cheonggye* River and therefore it offers more possibilities for designing.**
	passing of bypasses and overpasses, etc. and the quality of man-made environment		*	**Because of its higher techniques and technology, the constructed artifact surrounding the Seoul project has a better condition than the constructions around the *Khoshk* River.**

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