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Urban Design, As a Tool for Sustainability of Cultural Heritage

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Abstract - Historical environments and historical city textures are tangible documents of cultural heritage that have created and shaped places. In Turkey, the plans aiming the maintenance of historical urban textures have not been successfully put into practice yet. Thus, most of the historical urban textures could not be protected. There is an urgent need to build a bridge between the past and the future by means of urban design projects to conserve, restore, re-function and to improve historical city structures of the settlements in Turkey. The aim of this paper is to present a case study improving urban design strategies on traditional urban texture of Bartın, where the Phthentius goes through. At first, physical conditions at historical urban texture have been researched in this case study. The problems have been determined and the urban design strategies have been developed in accordance with the potential scenarios.

Keywords: Cultural heritage, cultural identity, historical environment, sustainability, urban design.

1. Introduction
As a result of the urban development, city centers are being transformed continuously. The monumental urban textures, neighborhoods and historical surroundings created by the pre-industrial society in the process of adaptation to nature are disappearing gradually. Along with this process, the human dimension in cities has been neglected, historical traces created by the cultural identity have been fading away and the bonds between the people and the changing faces of the cities have been diminishing.

In the process of reconciling the human and the city, it is imperative to create modern cities that conserve their cultural identities and to transmit the cultural heritage to the future generations. Therefore, it should be kept in mind that the richness of the historical structure heritage cannot be sacrificed to modern construction [1].

Sustainability is a concept that requires protection and rational usages of both natural and cultural resources. All over the world conservation of historic settlements and historical urban textures have gained importance thanks to a great emphasis placed on sustainability.

Turkey has a lot of historic settlements reflecting living styles and cultural identities of different civilizations. In Turkey, the plans aiming the maintenance of historical urban textures have not been successfully put into practice yet. Thus, there is an urgent need to build a bridge between the past and the future by means of urban design projects to conserve, restore, re-function and to determine certain urban design strategies and also to improve historical city structures of the settlements in Turkey.

It is essential that planners, architects, landscape architects, and others whoever studies on urban issues should recognize the need to provide the sustainability of cultural identity. Cultural heritage should be transmitted to the next generation as it has been transmitted from past generation to the present. Both urban planning and every kind of design are the scenarios related to community or individuals [2]. Forming city structure, urban design has a critical role it can play in protection of the cultural heritage and in achieving a sustainable city. Urban design is the best tool to provide sustainability of historical and cultural heritage.

2 The Role of Urban Design in Sustainability of Cultural Heritage
Historical settings are part of the cultural heritage that reflects the socio-economic and cultural structures, life-styles, architectural and aesthetic characteristics of past civilizations. Those settings have to be protected in order to sustain the unique and universal cultures. Historical urban textures, urban spaces that take into consideration the human dimension, attract anyone with their rich composition, narrow-curved streets and delicate labor-work. They are not only fascinating examples but also informative and
instructive ones. Therefore, the main target of planning the historical settings is to promote the cultural heritage by protecting and developing them. Protection planning can be applied on a variety of scales, on a country in general, a single building or even city furniture in particular. The planning, applied on a country, a region, a neighborhood, a city, a street, a square and building groups is not only related to the city planning, but also the urban design and community design.

Physical structure of the city, as a fundamental element of urban life, is of great importance. Planning and design frameworks should be used to control development in order to ensure that at any stage of their development cities are people friendly and have a positive environmental impact [3].

A successful urban design assists to improve the urban quality and to create a space that is suitable for human habitation. This can only happen by focusing on the formation of cities at both macro and micro levels, ranging from the shape, quality, and location of the city furniture to the dimension of space, the relationship between the elements involved in the space and their relationship with their vicinity [4].

In accordance with the principle of protection/maintenance/development, urban design activities are indispensable in achieving structural and spatial integration to improve the quality and attractiveness of cities. Urban design is the sole means to guarantee the reconstruction of historical settings by integrating them with the contemporary surroundings; therefore, it enables the sustainability of historical development.

The process of urban design requires an integrative approach same as the process of urban planning. In order to preserve the historical texture, every aspect and element of the city, from city to street dimension and from the building to street furniture, have to be interconnected with its environment and the city as a whole. With urban design applications, protection, sanitation and re-functioning of the assets that have the qualifications of being a cultural heritage will be possible. Therefore, they will be transmitted to future generations [5]. In this process, urban design approach has to reach a synthesis that is appropriate to national conditions, local characteristics, diversity, possibilities and potentials.

4 Physical Characteristics of the Settlement

In this section, it has been mentioned that historical development and urban morphology of Bartın settlement.

4.1 Historical Development of Bartın Settlement

Bartın, a settlement located in the North-west Black Sea region of Turkey with a population of around 36,000, takes its name from the Bartın River. The river was named from “Pharthenius” that means “God of Water” and “Young Virgin” in the years of Bartın, which is encircled by greens, has a 59 km coastal line along the Black Sea.

Stretching 12 km from the sea to inside the land, Bartın River had enabled intense trade activities with the outside world and had played a crucial role in information, development and settlement structure of the city. Because of Bartın River’s convenience in transporting goods on its waterway, the region has been a highly active trade and market center. These activities changed into a settlement as a result of the need for accommodation caused by trade activities. At the same time, the river became a social space for cultural activities such as fairs to gather the local people. These cultural ceremonies have to alive and transmit to the future.

4.2 Urban morphology

The densely settled part of the city is on a peninsula surrounded by rivers and connected to its environment through bridges (Fig.1).

The existing city center of Bartın, which has been an important trade, production and cultural center since the 19th century, still keeps its characteristics of a traditional trade center. In the city center, there are examples of civil architecture and monumental buildings such as public fountains, tradin
6 The Potentials and the Development Scenarios

The city has a tourism potential due to its natural, historical and cultural values. Thus, the most strong scenario relation to the city in the future is that the city has to be acquired a tourism identity all over it. There are some projects aiming this scenario. One of the most essential projects in this context is to keep the Bartın River alive and to integrate it into the daily life. This can be achieved by urban design projects that would allow the river correlate to the streets stretching to it.

The other projects, not only aiming this scenario but aiming conservation the historical urban texture, are Urban Design Projects and Urban Design Applications in urban restoration and urban conservation context.

Khans in the city center have the spatial potentialities for new uses in accordance with the tourism potential of the city. Some of the samples of civil architecture to be left by owners can be re-functioned as a café or a restaurant also.

7 Urban Design Strategies on a Case Street Reflecting the Historical Urban Texture of Bartın

Samancıoğlu Street, one of the streets in the historical urban texture, is close to the city center and stretches to the river (Fig.1). It has an old building restored and re-functioned to be use as a city museum. For that reason, this street was selected on the case study.

Firstly, the characteristics of the case street selected for this study have been emphasized and in accordance with these characteristics, urban design suggestions have been improved.

7.1 The characteristics of the case street

Almost all of the buildings on this street are used as residences and they are detached houses with gardens. Only in the two buildings situated on both sides of the street at the entrance from the city center, the whole land is used as the base land and the ground floors are used for commercial purposes (Fig.2).

The relation between the street and the buildings is executed by front gardens. The linear-structured street has wooden houses with two or three floors and bay windows or balconies. The houses exhibit a unique example of civil architecture peculiar to Bartın. The constructions of these 100, 150, 200-years-old houses consist of wooden pillars and beams. The surfaces of most of these examples of civil architecture having
wooden constructions are covered with timber on all sides. Only one of them is covered with timber on one floor and plaster on another. The ground floor of these building are higher than the street level and have a single or a couple of stairs.

Fig.2 Land uses on Samancioglu Street and its vicinity

7.2 Urban Design project for Samancioglu street

Taking the typologies of the buildings, frontages, garden walls, into account and considering the principles of conservation, re-animation, re-functioning, urban design strategies were determined. In accordance with the scenarios relation to the city, the suggestions were improved.

The suggestions for this street can be considered for the other streets in historical urban texture of the city.

7.2.1 The street as a public space

It is space production and consumption that promote changes in the character of public space and citizens’ participation in public life [6]. Street is a public space where its inhabitants meet each other and interact as they come across when going out of their private spaces. Streets of Bartın constitute the historical urban texture of the city, thus, they are not only passages for city dwellers, but also a space for living and meeting for inhabitants of that particular street.

People feel safe and comfortable in well-integrated areas of appropriate human scale [7]. Hence, streets, as a part of urban structure, are of great importance. This should be considered to provide the human with well-planned and well-designed environment.

In accordance with the urban design project, Samancioglu Street should be re-organized as a pedestrian street and the motor vehicles should not be allowed in. Street ground has to be covered by granite cobble-stones or bricks, which would keep in harmony with the stones used in the traditional street texture (Fig.3).

Fig.3 Samancioglu Street

In the future, many people will visit the street due to the city museum. Therefore, some of the buildings in the street can be re-functioned in tourism potential context as a café or a restaurant.

7.2.2 Boarders of public space: building frontages and garden walls

Borders both determine an area and describe its identity [8]. Building frontages and garden walls determine not only the borders of private and public spaces, but also the relations between these spaces. Bay windows and balconies, vertical and horizontal elements, details and equipments on the frontages of the buildings constitute an interface between public and private spaces. They are also the spatial elements that reflect the relationship between the building and its vicinity, as well as the life style in the period it was built.

The wooden houses in Samancioglu street are the documents of the unique architectural style that formed the historical urban texture of Bartın (Fig.4). Therefore, when implementing a design project for the buildings on this street, this peculiar architectural typology has to be taken into account. For instance, in the traditional building frontages the ratio of the window dimension is 1/2. The windows are opened by sliding from bottom to top. Accordingly, new arrangements have been suggested for new buildings.
with great care and their structural and plant design should be done accordingly.

Planting trees in the front gardens of these houses in Samancıoğlu street would enable the passers-by to see the nature in its structural environment and contribute to the green outlook of the city. In the selection of the colors, shapes and sizes of the plants in the front gardens of these wooden houses, plant design should be done so as to allow a better sight of both building frontages and plant clusters.

7.2.4 Street equipments

Sitting equipments, waste-bins, illumination elements and public fountains to be placed on the street are all considered as street equipments. In the design and selection of these items, the foremost principle should be to keep the harmony with the historical urban texture and the traditional architectural identity of the area. The practicality, durability and the ease of maintenance of these equipments should also be taken into consideration. Sitting equipments to be placed on the relevant plots on the street should have a wrought iron construction and should be covered with impregnated timber.

Street illumination equipments should be preferably 2.5 meters high. Illumination for the houses should be provided by lambs placed on the garden walls and on both sides of the entrance gates. The original fountain made of iron in front of Samancıoğlu house, the details of the house given below, should be preserved. On the same street, the other fountain should be restored complementing the other.

7.2.5 An urban landmark: Kemal Samancıoğlu City Museum

The house of Kemal Samancıoğlu, a well-known house belonging to Samancıoğlu family, is now being restored to be used as Bartın City Ethnography Museum. Kemal Samancıoğlu is the former mayor of Bartın, who left his name in the history of Bartın by his distinguished urban projects. Giving this building a new function as a museum will make it a landmark at urban scale.

The garden design of the museum has been applied in accordance with the needs of the visitors. Traditional building elements in the garden like a bakery, the well and the stand for washing clothes are intended to be revitalized; and thus new functions may be suggested for these items. To provide the illumination of the museum and the garden at night, appropriate projectors and illuminating equipments will be placed on the building, the garden and the yard. Accordingly, illuminating equipments of 1.5-2.5 meters and ground illumination should be utilized.
7.2.6 Connections: making a link between Samancıoğlu street and the river
As it has been mentioned above, Samancıoğlu street is a street that reflects the historical city structure of Bartın and stretches to the river. The urban restoration of Samancıoğlu street is one of the major components of the whole urban design project on historical city structure. Revitalizing the Bartın River with tourism and recreation activities and making a connecting link between streets and the river are major decisions in the whole urban design project. Accordingly, as in ancient times, a wharf could be constructed by the river upright towards the street. The wharf would facilitate the visitors to reach the street through the river.

8 Conclusion
Today, as a result of the development and the growth of the built environment, it has been hard to preserve and maintain both the historical traces that shape the cultural identity and the historical urban texture that constitutes a significant part of the cultural heritage. In order to avoid the appearance of the historical urban texture and to transmit it to the future, urban design applications are crucial in the restoration and reconstruction process of. For this reason, there is a need to utilize certain design tools and design guides for orienting the design applications at urban and street scale. It is time to consider historical traces that settlements have. Firstly design policies should be determined. Design policies embrace urban design, architecture, landscape and conservation. Urban design policies should be given priority to emphasize that design is more than external appearance [9]. In urban design process, major emphasis should be placed on public space policies to make man at peace with his environment.

An urban area which reflects living style of the community is a community form. Urban design is as important as urban planning on behalf of the community design. Since, while settling the spatial rules in the course of urban design, community design is also realized. Of course the Urban Design is the appropriate instrument for creating the spatial facilities of the urban life and the social life of a community.

Therefore, integrative approach should be the only criterion in both low-scale and high-scale planning and design. It is necessary to integrate the area and the elements under focus into its vicinity and the city as a whole. This should be considered from city to street scale and from buildings to street equipment. All in all, the historical urban texture is to be restored by taking into consideration a traditional architectural typology.

In the process of rehabilitation, restoration, renovation of the historical city texture, urban design is the best tool to provide both protection and sustainability of historical heritage. Urban conservation and urban design projects should be prepared and applied on the street scale not only the areas which constitute the historical city structure but also the ones that are excluded from the frame of historical urban texture. In these regions, innovative city furniture designs should be developed. In the selection and design of city equipment (street furniture, illumination elements, flower beds, phone boxes, garden walls, waste bins etc.) the materials to be used must be in harmony with the color and structure of the historical urban texture.

Urban design strategies in historical urban texture of Bartın were determined under four topics.
Conservation strategies:
- To adopt the principles of conservation, restoration, re-animations, re-functioning and sustainability.
- To determine a protective land-use policy in planning and application process.
- To protect historical traces and maintain traditional architecture.
- To restore historical buildings damaged.

Development strategies:
- To give new functions to some buildings in the historical urban texture in tourism potential context.
- Integration of the new buildings with traditional ones.
- To produce new harmonic typologies for rebuilding to provide suitability with the cultural identity and traditional architecture.
- To provide visual integrity and harmony with the historical environment.

Public space strategies:
- To create of the new spatial usages for pedestrians.
- To close of some of the streets for auto traffic and reduce the negative effects of it on the streets.
- To make a connection between the river and the streets stretching it by means of the wharfs.
- To create harmony between urban equipments in public spaces and historical environment.
- To select the pavements harmoniously with the historical environment.
- To design urban equipments in a way to emphasize historical environment.
To develop the standards of equipments not causing visual contamination.

Vegetal design strategies:
- To emphasize historical environment by vegetal design.
- To create open green areas in surroundings of the historical buildings.
- To protect natural elements and groups of trees.
- To protect vegetal material in the gardens of monumental buildings and of traditional architecture samples.

In order to create a harmonic and sustainable historical environment, urban design guides writing design approaches and principles mentioned above should be prepared. It should not be forgotten that urban design is the best tool to provide sustainability of cultural heritage.

Finally, by means of the urban design strategies presented in this paper, concerning the renewal and restoration of Samancıoğlu street, which is a symbol of historical urban texture, sustainable protection and sustainability of cultural heritage can be achieved and a bridge between the past and the future can be built in Bartın settlement.

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