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Architectural Education for Sustainable Urban Regeneration

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Abstract

Urban regeneration is one of the important agendas of Turkey as a developing country. Rapid urbanization problems have been causing vital social and economic problems together with physical and spatial ones especially in big cities of Turkey. Thus, national and local governments handled urban regeneration as a practical method for solution of these problems. However, they unfortunately don't implement urban regeneration according to its real requirements. Instead, this multi-dimensional and complex process is seen as a pull down and built up operation. Considering this situation and being in awareness of the responsibilities of architects throughout urban regeneration process, the authors think that urban regeneration should be discussed in the scope of architectural education. This paper presents the purpose, the process and the products of an undergraduate architectural design studio that was undertaken at Bursa Uludağ University, Faculty of Architecture. The architectural and urban design projects of the students of which aim was to offer a livable and sustainable mixed used living environments are discussed together with their conceptual backgrounds. Putting stress on the differences between theory and practice, the conclusion introduces a critical evaluation of urban regeneration and sustainable housing concepts in Turkey.

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Keywords

Urban Regeneration; Sustainable Development; Architecture; Living Environments; Education

1. Introduction: Urban Regeneration for Sustainable Development

The most comprehensive definition of urban regeneration is ; an extensive vision and actions aimed at providing a lasting solution to the economic, physical, social and environmental conditions of problematic urban areas in order to solve urban problems. The concept of sustainable development is also most widely accepted by various platforms of the world as the economically feasable development that increases the quality of environment and social life. In this case, urban regeneration implementations are emerging as important forms of intervention in providing sustainable urban development. Thus, it is clear that the concept of sustainability should not be considered separately from 'regeneration' in urban regeneration implementations.

In this context, the overall aim of sustainable urban regeneration can be defined as the development and implementation of multi-dimensional and integrated projects for urban environments in different scales with various qualifications (e.g. streets, neighborhoods, districts and cities), with collaboration of the related parties.

Urban regeneration provides a great contribution to sustainable development by reducing the speed of expansion of city boundaries while enabling the recycling of urban land and buildings, while allowing the use of existing urban areas in a more compact and more intensive way. Taken from this point of view, it is expected that urban

transformation activities, policies and processes should integrate technical, spatial and socioeconomic problems with an holistic approach to reduce not only the negative impacts of urbanization, but also the harms of environmental risks. On the other hand, urban regeneration should also improve the quality of urban life.

However, urban regeneration studies can not be implemented in this ideal form everywhere in the world. Especially in developing countries which are experiencing a rapid urbanization process but have economic insufficiency, these regeneration implementations are far away from ideal urban regeneration applications. Turkey is one of these countries. Especially in big cities, demolition and reconstruction is generally referred to as "urban regeneration" by local governments and contractors. In order to create livable cities that offer a sustainable life, ideal urban regeneration practices should take the place of these practices, which threaten the future of the cities.

In this study, the importance of architectural education will be emphasized in the achievement of ideal urban regeneration studies which will contribute to sustainable urban development. First, the current situation will be clarified regarding the issue briefly mentioning the urban regeneration projects in Turkey. In the next section, the architectural studio process and the products obtained by the authors will be presented, with emphasis on the necessity of integrating concepts of housing, urban housing and urban regeneration with the concept of sustainability in architectural education. The study concludes with the discussion of students' approach to the subject. It is considered that this study once again emphasizes the importance of architectural design studios, which form the backbone of the architectural education, for sustainable urban development.

2. Urban Regeneration in Turkey

The urban transformation studies carried out in Turkey can be classified as; urban regeneration in slum areas, urban regeneration in urban centers, urban regeneration that is inevitable when industrial centers abandon the various urban centers of successor cities, urban regeneration to reduce disaster damage and urban risks. Görgülü(2009), indicates that the squatterization process experienced between 1950-1980 because of rapid internal and external migration is an important breaking point for Turkey. In this period, the squatter areas that were formed by illegal settlement became unhealthier with the improvement plans developed by local governments. This situation shows that urban regeneration is perceived as a process of demolish and rebuild in Turkey. The years between 1980 and 2000 was the period in which especially the large cities of Turkey were affected by the outward-oriented liberal economy and globalization. The two important developments in this period were; the construction of licensed and unlicensed settlements in the city and the expansion of settlement areas towards the fringes of the city.

Urban regeneration studies observed in this period have shown their selves in the industrial, central and coastal areas of the cities as well as in residential areas. Preservation of historic areas by gentrification is also began to be used at this period, as well as renovation, rehabilitation and redevelopment of low quality and risky urban areas (Ataöv and Osmay 2007).

Tekeli (2011), also emphasizes the importance of 1980s in the urban development process of Turkey. In the early '80s, cities were growing with the increase in the number of individual buildings. Subsequently cities went on growing with formation of large urban areas such as mass housing districts, education and service campuses, and organized industrial zones.

These areas, which are far from the city centers, have caused the functions of the city centers to be derelict, or they have been built to carry these functions from the city center. This situation has caused the cities to grow rapidly in their vicinities. Regeneration studies have been implemented in these areas in order to ensure that vacated city centers do not become a depressed area, and practices in these areas have generally resulted in gentrification.

In the period covering 2000 and beyond, local government's cooperation with the private sector accelerated and urban regeneration was defined as a strategy for the first time. This strategy, which is defined as urban renewal only, has begun to be applied to transform different urban parts into places with different uses. The gentrification and preservation of the historical residential areas and the improvement of the apartment areas are the implementations of this period.

In addition to the implementations for improving the socio-economic disadvantages, the revitalization implementations for tourism have been made and the implementations for transforming the slum areas into livable residential areas have begun to gain importance. However, in Turkey, often it is observed that, urban regeneration projects are far from taking reference from the architectural and urban identity of the city and they are alien to the spirit of the city. Mostly focusing on real estate and ignoring the socio-cultural and economic necessities, the implementations just have physical space arrangements. On the other hand, unfortunately, local people have been the aggrieved party of all these studies.

3. Urban Regeneration Discussed in Architectural Education

As a rapidly developing country with so many implementations of urban regeneration projects in Turkey should be considered as an opportunity to create livable and sustainable cities. However, in order to take advantage of this opportunity architectural and urban design and practices that are consistent with sustainable urban development principles are inevitable. At this point, it is necessary to put stress on the importance of architectural education.

During the past decades, urban environmental education and education for sustainability concepts have been increasingly taking place in the undergraduate programs of architecture and urban design. As long as rapid urbanisation continues to be one of the greatest challenges facing the world today, sustainability and sustainable cities will be one of the main topics of design faculties. Many institutions that have included “sustainability” concept in their mission and vision emphasize various sustainable urban development requirements in their educational curriculum and apply them as different approaches. These can be summarized as; compact urban design, creating livable communities through high quality design, encouraging sustainable building design and sustainable housing, greening cities, encouraging sustainable energy use, maintaining and preserving built and cultural heritage and promoting positive urban processes to create livable environments (Halliday, 2006).

On the other hand, Salama(2002) indicates that, embedding “sustainability” concept in architectural education has made transdisciplinary thinking a necessity when architects, urban designers and planners are approaching the design of the built environments. And the objective outcomes of transdisciplinary thinking paradigm can be seen and evaluated via architectural design studios. As Ledewitz(1985) explains, enabling students to simulate an actual process of professional action in a simplified way is the benefit of design projects. Thus, project-based learning is considered to be the backbone of the design studios.

The validity of predicting that architectural education has an important role in achieving sustainable urban regeneration ideally that has been discussed at the beginning of the study can be experienced in architectural design studios. Problems about urban life and urban environment in real life should be addressed in design studios with project-based and problem-solving approaches. Candidates of architects should experience this critical thinking process with a holistic approach. The authors, who set out with the belief in this necessity, discussed sustainable urban regeneration in architectural design studio 4, in which they collaborated.

3.1. The Case: An Architectural Design Studio Discussing Urban Regeneration

In the scope of this study, the aims, inclusion and outcomes of the Architectural Design Studio IV are presented via example student projects. It is one of the main compulsory courses of the undergraduate Program of Architecture at Faculty of Architecture in Bursa Uludağ University, Turkey. The main aim of this fourth design studio is to make students conscious about the importance of existing natural and built environment throughout their design process. The students are expected to develop solutions considering the potentials and problems of the existing built environment (Bursa Uludağ University web page).

The authors as the instructors of the design studio coordinated at 2016-17 Spring Semester, put stress on the concept of “Sustainable Urban Regeneration”. The students were expected to develop a mixed-used housing complex in one of high-density residential areas of Bursa, which is the fourth biggest city of Turkey. This area is preferred as to be the project area because of being at one of the rapidly developing axes of the modern city. Also, along this main street there are so many building constructions called as “urban regeneration” by the local government.

The key concepts discussed throughout fourteen weeks studio curriculum were; sustainable housing, livable communities, sustainable urban development and urban regeneration. In the first weeks the students made a literature survey about these concepts while exploring the physical and socio-cultural characteristics of the project area and its near environment through maps, models, dioramas and surveys conducted to the local people. After these analysis they all came up to the point that they should develop housing projects that offer facilities and services that meet residents' basic needs and build community cohesion through open spaces, community gardens or leisure facilities. They understood that they should handle the design problem with a holistic approach including environmental and socio-cultural issues. However, as being the second year undergraduate students they didn't know how to do that. Some successful examples selected from the developed projects are presented below with brief explanations. The process of developing students' thoughts and projects and the final products are discussed in the conclusion.

3.2. Example Projects

This building complex in which people are able to meet their social activities, various kinds of sportive activities and the other daily life needs, is located over a sloped land. The upper and lower level streets are connected with the public spaces between the housing blocks which are designed in harmony with the topography. People will prefer to live in these blocks, not only for their need of housing, but also for their social needs which are very important for an urban life. The green roof gardens of the blocks also serve the residents as meeting places, see Figure 1.



Figure 1. Muhammet Yusuf Birinci - Activity Valley

This housing project including mixed used functions is designed on a building plot which is located in a high density neighbourhood. A primary school, a middle school and a high school take place around this plot. For this reason, the student aimed to design a residence which also includes cultural and commercial activities for young people. The surrounding roads, which people are familiar with, continue through the building plot and a public space is formed at the junction of them. The organic forms of the building blocks let this complex to have an active green route for pedestrian flow and act as a meeting point especially for the young people, see Figure 2.

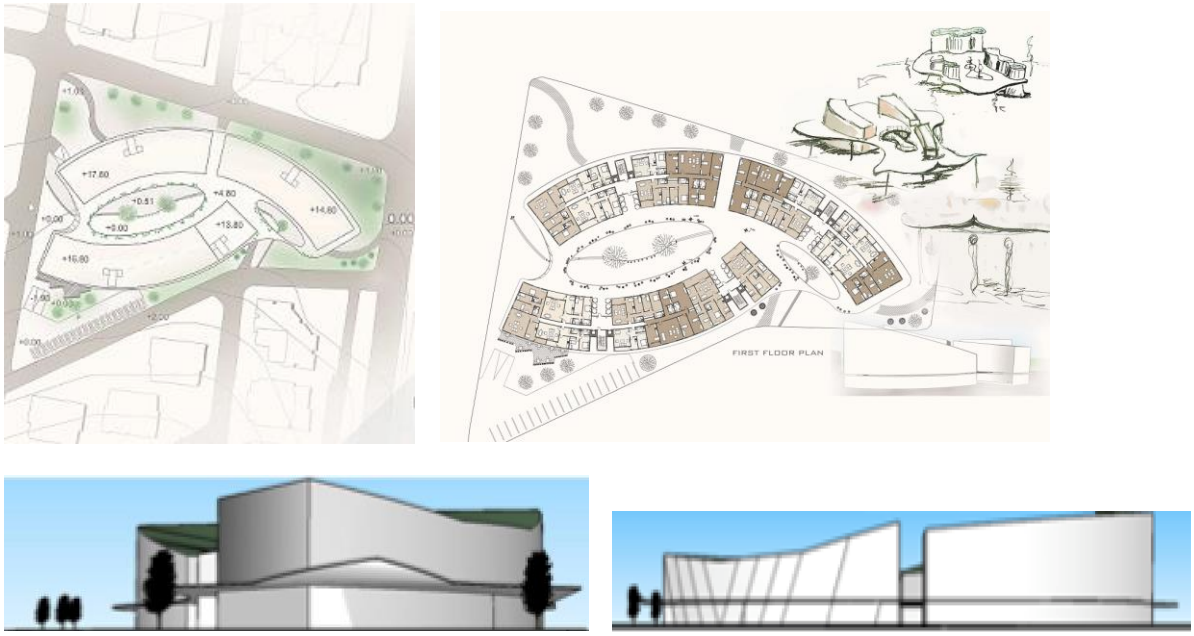


Figure 2. Büşra Beşen - Public Space for Youth

The main aim of this housing complex design is to provide green open spaces for people living in this high density neighbourhood. The unbroken fronts of the blocks create a canyon effect, where a public garden is formed at the more silent part of the building plot. This public garden constitute an open place for various kinds of social and cultural activities that take place on the ground floor of the blocks. The outdoor vertical and horizontal circulation system of the blocks let the residents to see eachother more than usual in their everyday life. The complex offers various types of flats for different life styles, see Figure 3.

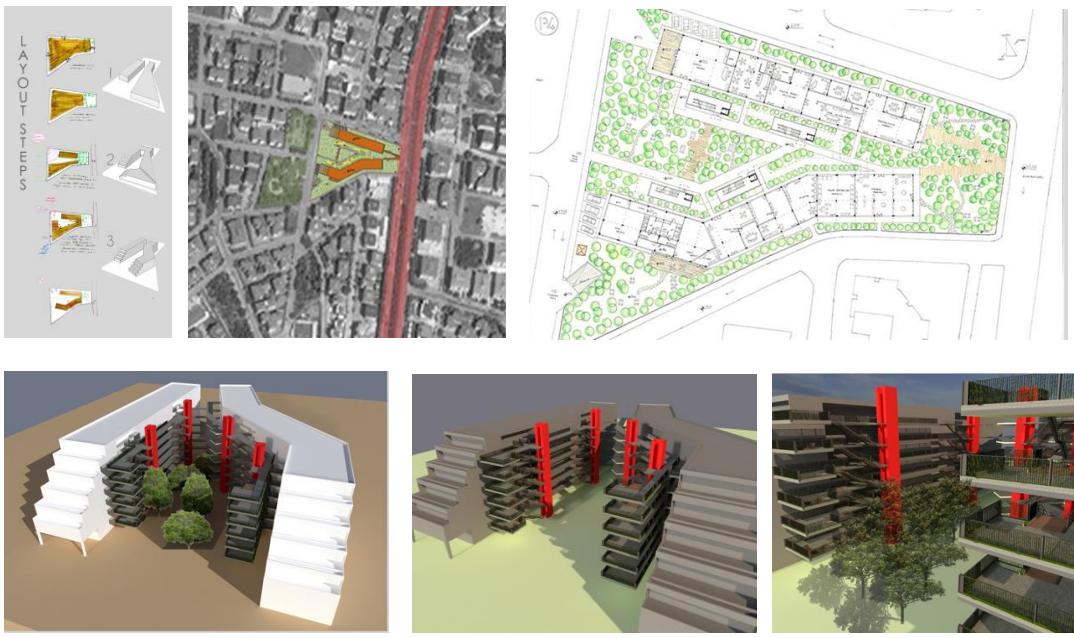


Figure 3. Zeynep Fazilet Kaya - GREEN CANYON

A modular design approach is adopted for this urban housing complex. All of the indoor and outdoor spaces have similar modules providing to use the building plot with optimum capacity. It includes various types of flats designed with modules. Also, the facades of the building complex reflect the similar modular proportions that enable shady living places. The continuity of the public places, which provide various kinds of indoor and outdoor social activities, let this urban housing complex to be livelier, see Figure 4.



Figure 4. Zeynep Sena Sancak - Modular Living Space

The main aim of this mixed used housing complex is to offer social activities and shopping alternatives not only for its residents, but also for local people. The ground floor includes commercial and social spaces that are integrated with the public garden in the middle of the three main blocks. The uninterrupted pedestrian alley connects the main street with a greater public garden while the commercial axis invites people to the courtyard, which is an intersection of activities, see Figure 5.



Figure 5. Merlinda Mollavequri- Intersection of Activities

4. Conclusion

It has been seen that the critical thinking skills of the students have been improved with the studies carried out within the scope of the presented architectural studio. Despite being second-year students, they could integrate the data they got from their initial analysis. These are sustainability concepts and requirements they have learned from the literature analysis, the positive aspects of the successful implementations they have found from example case studies, and the needs of the local people. In this studio students experienced a problem-solving process including

many different aspects of a high-density residential area together with the necessities of a mixed-used housing complex with different socio-cultural and commercial functions.

It has been the greatest achievement of the semester for students to gain the awareness that they can contribute achieving sustainable urban development as future architects. For this purpose, they have developed scenarios for creating livable communities and sustainable living environments. However, since their architectural design skills have not yet reached sufficient maturity, it has been seen that students could not fully reflect the life scenarios and concepts they proposed to their architectural and urban design projects. It is thought that in the ongoing process of their education our students will overcome the problems they experienced when they were trying to reflect their key concepts to their architectural projects. However, the most important thing is to empower students to translate the lessons they have learnt during their education as positive and sustainable changes to their professional and daily lives.

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