

### **About Urban Regeneration**

Urban spaces are complex and dynamic systems like living organisms, which may be deformed by natural disasters, unplanned urbanization caused by increasing population and various other issues. Roberts (2000) defines urban regeneration as a constant rehabilitation of the physical, economic, social and environmental circumstances of a place, which is a comprehensive and integral vision and action. In this sense, it means redevelopment and revival of a missing economic facility, making a non-operating social function operative again, providing social integration in areas of social exclusion, regaining the balance of environmental quality or balance where it has been lost.

### **Urban Regeneration in Turkey**

With the increasing population in its city centres, Turkey experienced urban regeneration with the failure of slum areas, which had started to appear after the 2<sup>nd</sup> World War. This resulted with rapid changes in urban planning strategies to overcome the housing problem. These strategies not only considered sheltering rural immigrants, but were also affected by political and economic profit rates. The regeneration title even covered increasing land value through tourism centred 'restoration' projects, which do not take the existing life of these regenerated areas into primary concern. It is clear that the inconsistent precautions taken against the problems of urban regeneration weakens the system of urban space. With such an approach, Turkey preferred to produce spontaneous solutions to emerging problems rather than applying a carefully prepared program of controlled urban transformations. The regeneration problems have been reduced solely to the supply of physical space by overlooking the social, economic, and environmental inputs. On the contrary, urban regeneration can only be successful when all these inputs are considered comprehensively as a whole to enable environmental and social sustainability.

### **Site Selection: Kocaeli, Turkey**

The Kocaeli province is at the Marmara Region in Turkey, with Marmara Sea on the South and Black Sea on the North. It is located on the auto route that connects Europe to Middle East, very close to İstanbul. It is the second big industrial city in Turkey after İstanbul, with a constantly increasing population.

### **Risk Definitions:**

The site is located on a 1st degree earthquake zone and has experienced the last earthquake occasion in 1999, August 17<sup>th</sup>, with a life loss rate of 18 thousand people, due to improper planning and structurally insufficient buildings. Moreover, the urban regeneration approach overlooking the social, economic, cultural references of the settlement, results with the loss of the spirit of the city. As a result of acting as the suburbia of İstanbul, the industrial zones of the city have captured its liveable spaces. This is a threat for the future social life of the city, especially when it is considered as the extension of the rapidly enlarging metropolis of İstanbul. Besides, tourism centred restoration projects affect negatively the neighbouring patterns and social life in the selected area.

Focusing on the selected site, it is possible to observe an urban pressure that threatens the remaining part of an historical neighbourhood. This pressure includes increasing city population, the tourism projections of the local government, and the income

expectations of investors. The selected site reflects the past consequences of this pressure as multi-storey apartments that have curtailed off the historical settlement from the rest of the city as well as from the bay view. In these apartment blocks single people and crowded families live in identical units with a size of approximately 110 -120 m<sup>2</sup>; but without any shared or communal space in-between. What is more, these blocks are inadequate in terms of earthquake resistance according to the current legislations, and are about to take a primary part in governments' regeneration agenda. Notably, these blocks are obviously totally ignoring the historical neighbourhood right next to them. However, with their co-existence the site constitutes a transitory zone.

### “What is the city but the people?”

Where to start when suggesting a new system for a city? Which references should be taken as basis for proceeding for a city like Kocaeli, which accommodates several layers? All of these questions can be answered by the famous words of Shakespeare “what is the city but the people?”

#### A. LAYERS

Like any city, Kocaeli possesses a layered structure. Each layer has been built upon and blocks another layer.

- **Earthquake layer** arising out of the urban life changing after big earthquake of 1999 in the area
- **Industrial and industry layer** arising out of acting like a suburb of a metropolis, İstanbul.
- **Historical layer** arising out of the fact that it has important historical art works of great empires from Roman to Seljukid.
- **Economic layer** occurring as a result of intensity of industrialization and marine trading
- **Cultural layer** created by history layer and enlarging through interaction
- **NEIGHBOURHOOD AND SOCIAL BOND LAYER** created by organic street texture and still continuing.

**Table 1: Layers of Kocaeli**

**The Purpose** is to achieve urban layers of changing intensity without capturing each other's territory. With a design framework centred on human life, it is aimed to re-interpret the layers and adapt time and location of such layers of changing intensity without ignoring each other and the human scale. In short, the starting point was **the principle of terminating the act of ignoring.**

**System:** The design was started with the definition of a system rejecting the layers' state of ignoring, pressing others, being superior to others. This system was planned to eliminate the existing danger within itself, separating and distributing it when required and functioning within a natural recycling. For the depicted layers, the design strategy permits getting stronger with the idea of living together and becoming one, enlarging on this basis and aiming a bigger integrity. Cultural integrity is the most important power to melt down such adversity to revitalize.

People finding subjects related to themselves on the street, in the city, or the ones like themselves become the city itself. This seems to affirm the answer by the city people to the question of Coriolanus Sicinius of Shakespeare 'what is the city but the people?' Therefore a system, protecting the existing ones, integrating its positive aspects with the new area and achieving physical improvements even under minimized circumstances is proposed.

**B. PRESSURE – COUNTER PRESSURE**

A pressure invading the area and forced to transform has been discovered. The reason for creation of such pressure is the absence of a system on effect action and location level.

<b>Pressure:</b>	<b>Counter Pressure:</b>
- Serving for profitability	_Resisting
_Causing unplanned urbanization	_Standing
_Non-balancing intensity and causing a gap in social life due to such disproportioned intensity	_Trying to survive but doing it without termination
	_Protecting urban texture
	_Considering permanency of life

**Table 2: Pressure - Counter Pressure**

It is aimed to release the area under pressure from the depicted risks by means of forming a **counter pressure system**. This system is planned to be developed from within the protection and reproduction of the existent. This feature foresees an uninterrupted system that interconnects all layers. This connection would work in balance without supressing one another, and by resisting together. Each layer would relate to the site and inhabitants in a proper level, to build a social life network. The system, after resisting for a while, would diffuse other areas and enclose new layers to work as a more rigid and variable system.

The system of *Counter Pressure* has the capabilities of **reproduction, separation** and **integration**. In other words, the system can work and be integrated with a different set of layers in a different place and time. This would be the proof that the system would work in any district.

**C. THE UNINTERRUPTED SHARED SPACE**

The selected site for the design work is nested with registered historical buildings at a neighbourhood scale with a general height of 1 to 2 storeys. It is an area in-between the low and high sloped areas, old and newly built areas, high density and low density areas, high rise and low rise areas. It is including an apartment zone which was a result of unplanned urban regeneration applications of the past. With these features, the selected site is considered to constitute proofs for the adaptability and variability of the proposed system to differing densities uninterruptedly.

**Nodal points:** The strongest parts of the system are the nodal points as the intersection points where the social organism works densely. As the scale grows, these nodal points form new nodes and create the **social integrity Network**. The network arrangement is founded on the spatial coordination starting from a single unit scale of a prototype.

**Integrity:** The uninterrupted shared space is a core concept in the system by enabling integration within. The concept of uninterrupted shared space integrates the permanent and temporary entities, which corresponds to changing spatial and social needs of inhabitants. Leaving proper space for constant change and transformation continues integration; so that the shared space could remain uninterrupted. The nodal points are going to be the integration spaces that the social life requires.

It was decided to protect the existing retaining walls and reusable foundation systems of the replaced buildings. In the uninterrupted shared spaces a hidden foundation system would enable short term integration within the living system.

Moreover, collection of rain water with cisterns is a tradition in the site, which is planned to be revitalized and applied for the communal activity of watering the vegetable gardens and green areas in summer times.

**Social Sustainability:** It is one of the basic principles of the proposed system. The increasing density can be overcome with increasing shared spaces that focus on interaction rather than inefficient private interior areas. Additionally, the gardens and courtyards, which are the core of social spaces, are considered to be semi-public spaces, so that public and semi-public spaces could be reinterpreted to form an uninterrupted social network.

### **PROTOTYPE DESIGN**

In prototype design, living spaces are considered as adaptable to the functions included. A prototype scheme is designed so as to allow rapid construction, space flexibility, and integration regarding the changing needs.

**Stable-flexible:** The spaces are distinguished as stable and flexible parallel with the system decisions. Living spaces are proposed as flexible in the prototype, where the wet spaces are regarded stable. The fundamental purpose of this distinction of spaces is to enable integrated system.

**Free and stable dividing walls:** The flexible walls in living areas will enable the user to decide and meet needs in the best possible way within the minimum space area. The locally available materials for this temporary separation technique are Medium density fiberboard and recycled paper walls. The stable walls are made of bricks, which are cheap, easy to construct and recyclable on factory basis.

**Structural system:** Reinforced concrete frame system is selected; for being durable, easy to integrate with different materials, cheaper, familiar to local people, available from factories located in the neighbourhood.

**Sloped roof structure and construction:** According to the heavy annual precipitation, sloped roof with Marseilles type roof tiling is proposed, which is also popular and cheap in the region. Cold and warm roof can be applied according to the needs of the user.

**Prototype Triangle:** The plan organisation scheme was based on flexible living spaces with openings to the uninterrupted shared space. At the scale of a single prototype housing unit, living space-cooking space-shared space is the smallest system triangle. Here shared space is the outside semi-public area usually placed in front of the entrance or the living space of a single unit; be it a garden or a terrace. If the smallest scale node is considered to be the node where two housing triangles coincide, the scale may be enlarged by adding other housing triangles, trades facilities, and social spaces to this system.

### **REGENERATION SCENARIO – THE WORK PLAN:**

If the habitants of the site organize an urban forum, with an intention to revitalize the social relations, this forum might include discussions on; the failure to respond the changing needs of inhabitants and the threat of the ongoing urban regeneration approaches. If this forum extends the discussion into a solution proposal they might decide; to achieve a locally governed urban regeneration program by developing a cooperative. With such a decision a working program and a regenerative system, which is the system that is proposed for this competition, could be designed before deciding on a pilot area to apply the designed

transformation. During the application the inhabitants could perform a mutual help to each other during the construction phase. For instance, the total program could be divided into 4 phases for four different parts of the site. The residents of each part could accommodate in their neighbours' house during construction of that part, while at the same time working together for the construction of their own houses, which is a familiar task to these people.

**COST ACCOUNTS:**

a one storey house with 16 square meters base area would cost about 2.810€, a two storey house with 65 square meters base area would cost about 11790€, a three storey apartment with 80 square meters base area would cost about 14.418€.€, a four storey apartment with 45 square meters base area would cost about 8170€. (according to approximative construction unit costs statement published by Chamber of Architects of Turkey).by protecting present foundation system and using recycling materials, the cost has been reduced % 25 .

**References:**

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