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POST OCCUPANCY EVALUATION OF ENERGY-EFFICIENT BUILDINGS IN TROPICAL CLIMATES – MALAYSIA

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Abstract
There exists a well-known gap between occupants and building’s energy-efficient designs. A comprehensive building performance diagnostic technique, Post Occupancy Evaluation (POE) may surpass the current evaluation method by reducing the gap between occupants and building’s energy-efficient design. Due to these reasons, the aim of this research is to identify the problems with respect to energy-efficient design which affect occupants’ comfort. This research focuses on the application of energy-efficient design in office building and was conducted on energy-efficient buildings in Malaysia. A building performance survey framework, Energy-efficient Building Environmental Quality Questionnaire (EBeQ²), was used to identify the problems affecting occupants’ comfort and buildings’ Indoor Environmental Quality (IEQ). The result was analyzed using Statistical Package for Social Science (SPSS). The research outcome shows that majority of occupants are not satisfied with the thermal comfort and lighting condition of the buildings. Building certified with sustainable building rating tools does not guarantee better IEQ performance. Thus continuous research is needed to ensure energy-efficient building concept is applied effectively in each type of building.

Keywords: post occupancy evaluation; indoor environmental quality; sustainable building rating tools; energy-efficient building; office building.

INTRODUCTION

In the current situation, reducing the consumption of energy in various sectors has become the main agenda for sustainable development. According to United Nations Development Program (2009), in many countries, municipalities and public buildings have been the principal targets for energy efficiency programs, both at the national and local levels. The U.S. Congress drafted Section 914 of the Energy Policy Act (2005) to address not just more energy efficient or “green” buildings but rather high performance buildings that combine the objectives of reducing resource energy consumption while improving the environmental impact, functionality, human comfort and productivity of the building (National Institute of Building Sciences, 2008). Since the energy-efficient designs of a building are aimed to fit occupants’ comfort, hence it can be said that occupants are the end users of a building, and their requirements and perceptions towards energy-efficient design can bring significant improvement to the building.

Post Occupancy Evaluation (POE) is one of the ideal methods to analyze energy-efficient design of a building after occupancy. POE systematically analyzes and identifies successful design features to be repeated in the future (Watson, 2003). Among the benefits of POE are improvement of the design databases, standards, criteria, and guidance literature, better-informed design decision-making, and understanding of the consequences of design (Preiser, 2002).

In this study, the term “energy-efficient building” is used as a collective term for different types of buildings made to reduce energy consumption. The aim of these buildings is to cope with the problems derived from the over consumption of natural resources mostly coal, which is used during buildings’ operational process. At present, there are three (3) office buildings specifically...
designed with energy-efficient features in Malaysia, such as Ministry of Energy, Communications, and Multimedia office or more well known as Low Energy Office (LEO); the, Green Energy Office (GEO) which housed the office building for Malaysia Green Technology Corporations; and the Energy Commission office or known as ST Diamond. Those buildings are the initiatives demonstrated by the government to fully engage in the sustainable development, which is in line with the Vision 2020 in the effort to become a developed nation.

The development of green building rating system such as Leadership in Energy and Environmental Design (LEED), and Malaysian Green Building Index (GBI) reflected the current focus of the building performance objectives mostly on optimizing energy and resource efficiently. However, according to the Department of Energy (2001), in the development of energy efficiency program for building, it is important to appreciate that the fundamental purpose of the building is neither to save nor use energy. Somewhat, the building is there to serve the occupants and their activities.

Evidence from recent post-occupancy evaluations done by Abbaszadeh et al., (2006) suggests that, there were potential for green building to enhance the IEQ, however, they often fall short. Their research found out that, although some of the best green buildings can rank higher than the best conventional buildings in terms of occupants experience toward comfort, health and productivity, a few of the lowest scoring buildings on user experience are also reported as green building. Occupants demand high performance of energy-efficient design with the aim of improving their comfort. The relationship between occupants’ satisfaction and building’s IEQ can be positively correlated with better building performance as shown in Figure 1 (Wilkinson et al., 2011).

![Figure 1: Correlation between occupants’ satisfaction level towards Indoor Environmental Quality (IEQ) and building performance (Source: Authors).](image)

According to Leaman et al. (2010), building performance analysis can be studied from three different perspectives such as, occupants, environmental performance and economic value, as shown in Figure 2.

![Figure 2: Building's performance evaluation perspectives (Source: Leaman et al., 2010).](image)
Occupants’ perspective towards building performance is focused on how well their needs are met; for the environmental performance, energy and water efficiency are assessed, and; economic value of building is in regard to whether the building makes economic sense, such as value for money or return on investment. Most of the time, client or building owner and designer are more interested in building’s environmental performance and economic value since these two perspectives have direct impact in reducing the energy cost. Thus, occupants’ perspective is often neglected due to its insignificant economic value. Understanding the experience of the buildings from the occupants’ point of view is equally important as an assessment of the building’s technological performance (Leaman et al., 2007) as shown in Figure 3.

![Figure 3: Occupants’ point of view is equally important as its technological performance (Source: Leaman et al., 2007).](image)

If a comprehensive building evaluation which encompasses occupants’ perspective is not being conducted to the energy-efficient building, energy-efficient building design team would not easily identify the problems that affect the building performance. This is because the occupants are the end users of the building, and the occupants’ behavior while using the building can directly affect the building performance. Although the development of energy-efficient building in Malaysia is still at the beginning stage, the industry players should focus not only on the development of new energy-efficient building solely and the study on the existing energy-efficient building must not be neglected.

A comprehensive building performance diagnostic technique which includes occupants’ perspective in identifying the problems causing low performance of IEQ is needed in order to reduce the gap between occupants and building’s energy-efficient design. POE encompasses the most comprehensive building performance analysis from occupants’ perspective compared to other methods, whereas the variables of instruments involved are questionnaire, interview, and observation related to occupants’ perspective, and the period of assessment carried out is for after occupancy. Hence, justified by the reasons stated above, POE is the most suitable building assessment method from occupants’ perspective. A comprehensive building performance diagnostic technique, Post Occupancy Evaluation (POE) may surpass the current evaluation method and reduce the gap between occupants and building’s energy-efficient design. The aim of this research is to identify the problems with respect to energy-efficient design which affect occupants’ comfort.

**METHODOLOGY**

This research was carried out in three phases; the first phase involves preliminary study, literature review, and mapping of previous studies. After the completion of the first phase, the second phase of the research began with construction of initial survey framework, survey framework development, content validity test and pilot study. The third phase or the final phase involved preliminary study, framework testing, data collection, data analysis, and lastly conclusion, and recommendation.
Energy-efficient Building Environmental Quality Questionnaire (EBEQ²)

The EBEQ² was constructed based on the information gathered from previous studies or literature review. The information gathered were further mapped into their respective nature such as thermal comfort, acoustics, indoor air quality, and lighting as shown in Table 1. The information is crucial for the formation of the EBEQ².

Mapping previous studies

Table 1: Energy-efficient design problems affecting occupants’ comfort with respect to IEQ criteria (Source: Authors).

<table>
<thead>
<tr>
<th>No.</th>
<th>Researchers (Year)</th>
<th>Part of energy-efficient design</th>
<th>IEQ criteria</th>
<th>Identified problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Steemers &amp; Manchanda (2010)</td>
<td>• Air conditioning system  • Natural ventilation system</td>
<td>• Thermal comfort</td>
<td>Lack of occupants control over air conditioning system; and ventilation system (window) caused thermal discomfort.</td>
</tr>
<tr>
<td>2.</td>
<td>Wong et al. (2005)</td>
<td>• Window</td>
<td>• Thermal comfort</td>
<td>(Large window area) Fully glazed façade cause thermal discomfort due to high solar gain.</td>
</tr>
<tr>
<td>3.</td>
<td>Mumma (2002)</td>
<td>• Radiant ceiling cooling system</td>
<td>• Thermal comfort</td>
<td>Condensation; Radiant asymmetry</td>
</tr>
<tr>
<td>4.</td>
<td>Lim et al. (2006)</td>
<td>• Radiant floor cooling system</td>
<td>• Thermal comfort</td>
<td>Floor surface condensation; Radiant asymmetry causes local discomfort</td>
</tr>
<tr>
<td>5.</td>
<td>Zhen &amp; James (2006)</td>
<td>• Radiant floor cooling system</td>
<td>• Thermal comfort</td>
<td>Local discomfort (radiant asymmetry)</td>
</tr>
<tr>
<td>6.</td>
<td>Raja et al. (2001),</td>
<td>• Natural ventilation system</td>
<td>• Thermal comfort</td>
<td>Lack of occupants control over ventilation system (window)</td>
</tr>
<tr>
<td>7.</td>
<td>Hua et al. (2011)</td>
<td>• Artificial lighting  • Window shades</td>
<td>• Lighting</td>
<td>Lack of occupants control over artificial lighting and; window shades of the building</td>
</tr>
<tr>
<td>8.</td>
<td>Galasiu &amp; Veitch (2006)</td>
<td>• Artificial lighting  • Window shades</td>
<td>• Lighting</td>
<td>Limitations of current knowledge about how people respond to daylight (eg. artificial lighting and; Window shades control).</td>
</tr>
<tr>
<td>9.</td>
<td>Altan et al. (2008)</td>
<td>• Window</td>
<td>• Lighting  • Thermal comfort</td>
<td>High intensity solar radiation transmitting through the glazed areas can cause unwanted glare effect and; interior overheating</td>
</tr>
<tr>
<td>10.</td>
<td>Bülow-Hübe (2008)</td>
<td>• Window</td>
<td>• Lighting</td>
<td>The larger the window area, the greater is the chance that a window might create glare</td>
</tr>
<tr>
<td>11.</td>
<td>Wilkinson et al. (2011)</td>
<td>• Office layout</td>
<td>• Acoustics</td>
<td>Lack of privacy; Noise problems</td>
</tr>
<tr>
<td>12.</td>
<td>Lee (2010)</td>
<td>• Office layout</td>
<td>• Acoustics</td>
<td>Poor visual privacy; Noise problems</td>
</tr>
<tr>
<td>13.</td>
<td>Muehleisen (2010)</td>
<td>• Natural ventilation system  • Window</td>
<td>• Acoustics</td>
<td>Excessive noise; Lack of speech clarity and; privacy</td>
</tr>
<tr>
<td>14.</td>
<td>Taeyon &amp; Jeong (2011)</td>
<td>• Window  • Window shades</td>
<td>• Lighting</td>
<td>Glare, darkness; Unqualified shade materials; Logic error of shade</td>
</tr>
<tr>
<td>15.</td>
<td>Goins et al. (2010)</td>
<td>• Office layout</td>
<td>• Acoustics</td>
<td>Lack of sound privacy</td>
</tr>
<tr>
<td>16.</td>
<td>O’Brien et al. (2012)</td>
<td>• Window shades</td>
<td>• Lighting  • Thermal comfort</td>
<td>Difficulty to operate shades causing solar gain and; glare</td>
</tr>
<tr>
<td>17.</td>
<td>Foster &amp; Oreszczyn (2001)</td>
<td>• Window</td>
<td>• Lighting  • Thermal comfort</td>
<td>Over glazed in most of the buildings (window) causing solar gain and; glare</td>
</tr>
<tr>
<td>18.</td>
<td>Persson et al. (2006)</td>
<td>• Window</td>
<td>• Thermal comfort</td>
<td>Large window glass area contribute to thermal discomfort</td>
</tr>
</tbody>
</table>
Table 1: Continued

Yu et al. (2009) carried out a research on air conditioning systems and indoor air quality control for human health and found that ineffective air conditioning systems could contribute to poor indoor air quality and the low indoor air quality poses a threat to human health, particularly for the everyday users. The importance of occupants control over room temperature is further supported by a research done by Steemers & Manchanda (2010), according to the findings of their research, the results demonstrated that increased energy use in the studied buildings is associated with increased mechanization for example centralized air condition/ventilation, and reduced occupants’ control. The results show that the reduced control in turn is related to reduced occupants’ comfort and satisfaction.

A research done by Thomsen et al. (2005) in 12 solar low energy building revealed some of the problems encountered by the occupants toward buildings’ indoor environmental quality. The main reason for the high indoor temperature in Danish house is due to lack of cross ventilation and lack of solar shading. Besides, the mechanical ventilation system causes noise and draught problems. Another project in Norwegian shows noise in the living room is caused by the heat pump compressor. A research done by Wong et al. (2005) in Singapore showed that fully glazed facade that has been increasingly used in the country due to the advantages of reducing lighting energy consumption has caused higher energy consumption and thermal discomfort owing to higher solar gain. The use of double glazed façade system with ventilation system is one way to resolve these problems.

Mumma (2002) in his research identified that radiant cooling system facing the design issues can contribute to problems such as condensation and radiant asymmetry. Condensation may occur when the chilled ceiling panel’s temperature is lower than its enclosure’s temperature. Meanwhile, radiant asymmetry will occur when most of the enclosures are at 25.6 degree Celsius and the chilled ceiling panels at approximately 15.6 degree Celsius, a 10 degree Celsius radiant asymmetry temperature exists. A research by Lim et al. (2006) found that in radiant floor cooling system, floor surface condensation and comfort are major concerns for field application. To prevent floor surface condensation, the supply water temperature could be manipulated according to the dew point temperature in the most humid room and in an individual’s rooms; the water flow rate (on/off control) can be controlled.
A study by Zhen & James (2006) on buildings with radiant cooling system showed that local discomforts are the identified problems that can cause occupants’ discomfort. The survey results of the research revealed that about 14-22% of participants are in the arm-hand and the leg-foot region. According to Raja et al. (2001), a field study of thermal comfort of workers in natural ventilated office buildings in Oxford and Aberdeen, UK was carried out and it was found that occupants who have greater access to controls (e.g. those close to a window) report less discomfort than those who have less access (e.g. away from the window). A research carried out by Hua et al. (2011) on a LEED - Gold building, shows that occupants desired more control over the light and shading in their workplaces. This may due to the fact that the large blinds controlled with thin strings are difficult to operate, which contributes to lack of effort from the occupants to adjust them for visual comfort. Furthermore, some of the occupants even de-lamped their lighting fixtures voluntarily in order to make the environment more suitable for work. The findings show that occupants prefer to change lighting condition themselves, rather than have them automatically controlled and it is consistent with findings from the studies done by other researchers.

Galasiu & Veitch (2006) conducted a research on occupant preferences and satisfaction with the luminous environment and control systems in day-lit offices, and it was concluded that improving the energy-efficiency of commercial building lighting should include better use of daylight, but that will require the development of control systems that result in luminous conditions that are suitable to occupants. Their research have shown that limitations of current knowledge about how people respond to daylight, and particularly how they respond to automated photo-controlled lighting and shading controls are the main problems faced by the day-lit office design. A study of a glazed office building by Altan et al. (2008) shows that high intensity solar radiation transmitting through the glazed areas can cause unwanted glare effect and interior overheating during warm and sunny days, although glazed facades are able to maximize the daylighting with high indoor luminance in an open plan floor spaces in buildings.

A study by Bülow-Hübe (2008) on glazed office building in Sweden identified that very large windows do not mean that the light is automatically better. This is because, the larger the window area, the greater is the chance that a window might create glare. It can be difficult to achieve a glare free environment without additional measures, for example by adding interior curtains or blinds. Taeyon & Jeong (2011) investigated the effects of indoor lighting on occupants’ visual comfort and eye health in green building and found that the indoor lighting and visual environment of the building were poor and the visual annoyance were caused by glare, darkness, unqualified shade materials, and logic error of shade. A case study of Kresge foundation office complex in Troy, Michigan by Goins et al. (2010) shows that although the building acquired LEED-platinum rating, the building is still facing significant problems in the acoustics performance. Occupants have low satisfaction towards the acoustics performance of the building although other IEQ criteria have high satisfaction score; the research also found that sound privacy is the main concern of the problem.

A review on manually- operated window shade patterns in office buildings done by O’Brien et al. (2012) found that the difficulty to operate shades is the reason occupants of the building less frequently use shades in reducing thermal discomfort or glare and tend to rely on energy-consuming technology to achieve thermal comfort and reduce glare. Another research also shows that over glazing can contribute to thermal discomfort, and according to the researcher, Persson et al. (2006), a larger glass area of 40% means more than double of the cooling power compared to the case of a 50% reduced window area. Foster & Oreszczyn (2001) carried out a research on occupants’ control of passive system of venetian blinds. The research finding shows that majority of the blinds tend to be kept down most of the time, due to the over glazing of the building, thus a much smaller window can reduce thermal discomfort and glare problems.

A research done by Wilkinson et al. (2011) shows that most of the energy-efficient buildings share a common problem which is lack of privacy. The research found that high levels of dissatisfaction are related to the area of privacy within the offices with more than one
respondent noting: ‘lack of privacy in office is the biggest problem’ and ‘critical problem - lack of privacy’. The overall level of satisfaction was very low for privacy. It should be noted that lack of privacy is closely related to the poor acoustic performance and high rates of sound transmission from office to office and corridor to offices. Lee (2010), carried out a study investigating on office layout affecting privacy, interaction and acoustic quality in LEED – certified buildings and found that people in high cubicles significantly had lower satisfaction and job performance in relation to visual privacy and interaction with co-workers than both enclosed private and enclosed shared office types.

Muehleisen (2010) identified acoustics as the least satisfaction indoor environmental criteria for energy-efficient building after post occupancy evaluation have been carried out in 181 buildings. The result shows that excessive noise, speech clarity and privacy are the types of acoustics problem in energy-efficient building. Jensen et al. (2005) analyzed acoustic satisfaction in office environments in buildings surveyed by the Center for the Built Environment (CBE). The study found that office workers are significantly more dissatisfied with the lack of speech privacy than with the level of noise. Occupants in open office environments are more satisfied than the occupants of either type of cubicle with noise and speech privacy.

The current energy-efficient envelope is featuring air tightness with minimal infiltration/exfiltration to reduce energy losses. The tight envelope can aggravate potential Indoor Air Quality (IAQ) problems (Wendt, et al., 2004). Yu & Kim (2012) conducted a research on indoor air quality in low carbon emission house; the result shows that volatile organic compounds (VOCs) in energy-efficient house are higher than the conventional house. The concentration of VOCs maintained for the rest of the 7-year monitoring shows ineffectiveness of the ventilation system for removal of VOCs in the indoor environment of the air-tight house and there was always a “reservoir” of VOCs existing in the house. Pank et al. (2008) reporting on sustainability of tall building found out that façade air-tightness is a major issue where pressure differentials from higher winds at the top of a building can cause problems in controlling internal temperatures and drafts. Using the right window façade such as double-glazing window can reduce the differential of pressure.

Paul et al. (2010) carried out a research on effect of mechanically induced ventilation on the indoor air quality of building envelopes. The research findings show increases in the dust particle concentration level and the interior wall moisture content values by 20–50%; during the operation of the mechanical ventilation system. Crump et al. (2009) found that homeowners do not use the mechanical ventilation systems on a continuous basis because of concerns on wasted energy, noise and discomfort caused by cold draughts.

Questionnaire developments

The information gathered from mapping previous studies is used for the formation of initial questionnaire template, IEQ variables, and the energy-efficient design variables are identified. The information obtained, is used to formulate the EBEQ² survey framework as shown in Figure 4.

![Figure 4: EBEQ² survey framework, energy-efficient design variables and Indoor Environmental Quality (IEQ) variables (Source: Authors).](image-url)
The research was carried out at three (3) showcase energy-efficient buildings in Malaysia: Ministry of Energy, Communications, and Multimedia office and Energy Commission office situated in Putrajaya, and Malaysia Green Technology Corporation office located in Bandar Baru Bangi. The sets of EBEQ² survey questionnaire were distributed to the occupants of the showcase energy-efficient building as shown in Figure 5.

RESULTS
A total of 134 sets of questionnaire were distributed to all selected respondents from case study buildings, 111 sets (82.84%) were returned. The respondents during the pilot test were asked to answer the same questionnaire sheets after two weeks of the initial pilot test was carried out. This process is important to test the reliability of each question. It is hypothesized that, respondents will give the same answer after two weeks of initial pilot test. For test-retest reliability, intra-class correlation coefficients (ICCs) were computed to assess the total variance of the subscale between respondents when the test was carried out two weeks after the initial pilot test. The result of the ICC reliability is shown in Table 2.
Besides the Test-retest reliability analysis, Cronbach’s Alpha was also used to evaluate the internal consistency of the questionnaire. Cronbach’s Alpha is able to help to identify redundant item in the questionnaire. High Cronbach’s Alpha show signifies no redundant item or repeated questions in the questionnaire. Cronbach’s Alpha for Building A, Building B, and Building C, are
0.7326, 0.7065, and 0.7440 respectively, which. The numbers are greater than 0.7. Hence, it is concluded that, the consistency for the collected data are high and there are no redundant items in the questionnaire and no items are deleted. Overall, the data collected from Building A, Building B, and Building C are acceptable.

**Comparison of overall comfort with sustainable building rating tools score**

![Figure 6: Overall comfort mean scores for case study building (Source: Authors).](image)

Based on Figure 6, Building B scores the highest mean value with 5.25 compared to other buildings. This is followed by Building A with a mean score of 5.19 and Building C is having the lowest mean score among the case study buildings which is only 4.57. The result implicates that the occupants from Building B have the highest satisfaction level of the building’s overall comfort and followed by Building A and Building C. Although Building C has the lowest satisfaction level among the buildings, it is the only building that has obtained certification of sustainable building rating tools, Green Building Index, GBI Platinum - Malaysia and Green Mark Platinum – Singapore, compared to other case study building. The result implicates that sustainable building rating tool could not precisely predict the response or the occupants’ satisfaction towards IEQ comfort during building operation.

Throughout the research, the feedbacks from the respondents show low satisfaction of building’s lighting condition particularly for Building A and Building C. Based on Table 3, the question regarding the position of the window in the office building suitable in providing maximum daylight, the result shows less satisfaction or agreement with the above statement. This correlates with the real office condition as shown in Figure 7 where some of the workplace areas have limited window features after renovation. Due to limitation of window features in some parts of the building, respondents also have satisfaction toward the intensity of natural daylight in the office building.

<table>
<thead>
<tr>
<th>Table 3: Descriptive analysis of lighting – Building A (Source: Authors).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The natural daylight in the office building is sufficient for you to execute your work</strong></td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>54</td>
</tr>
<tr>
<td><strong>The position of the window in the office building is suitable in providing maximum daylight</strong></td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>54</td>
</tr>
</tbody>
</table>
The mean score of glare from the sun in EBEQ\(^2\) is 4.2432 as displayed in Table 4, which indicates that most of the respondents agree with the given statement. Throughout the execution of this research, some of the respondents complain about the glare problems in the building and they requested that the building owner to install additional shading in order to reduce glare caused by sunlight as shown in Figure 8.

**Table 4:** Descriptive analysis of lighting – Building C (Source: Authors).

<table>
<thead>
<tr>
<th>Are you often interrupted by the glare/reflection caused by natural daylight while working?</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>37</td>
<td>2.00</td>
<td>6.00</td>
<td>4.2432</td>
</tr>
</tbody>
</table>

**DISCUSSION AND CONCLUSION**

As a conclusion, the results show that there exists a significant gap between sustainable building rating tools and actual building performance post building occupancy. The research also shows that although Building C has obtained the sustainable building rating tools certification from Green Building Index (GBI) Platinum – Malaysia and Green Mark Platinum – Singapore, the building occupants have ranked low satisfaction towards building IEQ performance. The findings were supported by the fact that additional features such as window blinds were added when the building is being used. Building A and Building B also show similar trend, additional fans as shown in Figure 9 have been installed for cooling purposes for the two case study buildings.
In summary, occupants from the case study buildings are generally indicating low satisfaction towards building’s thermal comfort and lighting condition. The findings also show that satisfaction level of the thermal comfort correlates with the number of years the building has been used. This is because occupants from Building C with two years of occupancy have no problems with the thermal comfort compared to Building A and B which have more than two years of occupancy. This shows that the maintenance plays an important factor in maintaining the energy-efficient buildings’ IEQ performance. Besides that, the sustainable building rating tools are not effective enough in ensuring high performance of energy-efficient building especially in terms of IEQ. Building C with the certification of sustainable building rating tools, GBI – Malaysia and Green Mark Singapore has low satisfaction in the overall comfort. Occupants from Building C are also facing glare problems compared to occupants from Building A and B. This might be due to the fact that the designer of the building was overly focused on maximizing daylighting feature of the building and neglected the glare problems that may occur due to large window area. Hence, more research needs to be done in order to overcome the problems faced by the users of the energy-efficient building. Post Occupancy Evaluation (POE) is crucial to get the feedback from occupants after the building is being used. In conclusion, building owners, occupants, and people involved at the design stage of the building need to have a healthy communication among them in order to fill the gap between the actual building performance and the intended performance.

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IMPORTING URBAN GIANTS:
Re-Imaging Shanghai and Dubai with Skyscrapers

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Abstract
Shanghai and Dubai have recently marked a new epoch in the history of skyscrapers. Through the examination of these two cities, this paper attempts to identify the key driving forces for constructing skyscrapers in newly emerging global cities. The findings indicate that in addition to economic factors, globalization, political support, tourism, branding, openness to Western culture are the primary drivers that spurred the proliferation of skyscrapers in Shanghai and Dubai. While globalization has facilitated the spread of homogeneity and standardized architectural practices, it has also simultaneously pushed star architects to create unique architecture as exemplified by some of the iconic skyscrapers in Shanghai and Dubai. Moreover, these two cities are compared and criticized for using skyscrapers as a means to attain international stature and to enhance global imageability at the expense of environmental well-being and quality of life. The paper recommends embracing a “glocal” approach that strikes a balance between the local needs and global forces so that a distinct local identity is ensured while global forces are addressed.

Keywords: Globalization, architecture, skyscraper, place identity, culture.

INTRODUCTION

Overview
Today, skyscraper construction is a global phenomenon. For roughly 115 years America reigned supreme as the tallest nation in the world; however, recently, there has been a geographic shift of skyscrapers from Western to non-Western countries. In 1990, 80% of the 100 tallest skyscrapers in the world were built in North America; by 2010, however, about 80% of the tallest were built elsewhere. An aggressive race to earn the world’s tallest building title continues, while at the same time, cities are constructing higher buildings in greater numbers (see Figure 1), (Al-Kodmany and Ali, 2013; Wood, 2011).

The goal of this paper is to establish a better understanding of the forces that shape recent vertical developments in non-Western countries. It examines Shanghai and Dubai because they have recently been among the most active places in constructing skyscrapers and other large-scale projects. The paper attempts to provide an extensive account of the cultural, political, and socio-economic factors that led to vertical developments and tries to answer important questions of why and how predominantly low-rise cities have suddenly become the home of skyscrapers. This analytical discourse is intended to facilitate a better understanding of the skyscraper phenomenon in the 21st century city, so that lessons learned from Shanghai and Dubai will benefit other global cities.
Figure 1: Tendency to build higher and in greater numbers in the past two decades, 1990-2010. An exponential rise in height can be seen since 1990 culminating in the dramatic climb in 2010 with the construction of Burj Khalifa, Dubai. (Graph by K. Al-Kodmany; adopted from SkyscraperCity.com).

Globalization processes have a myriad of tangible and intangible dimensions that influence the proliferation of skyscrapers. Globalization has created a new dynamic that includes openness to the "outside world" particularly to the Western culture. Other consequences of globalization have been the accumulation of wealth, the demonstration of skyscrapers as symbols of prosperity, and global tourism and political views that consider skyscrapers as a means for promoting places. The tallest skyscrapers in Dubai should be understood as part of the city’s ambition to create an image of progress and dynamism where the fastest, biggest, most amazing structures are being built to attract the affluent and the talented. This ambition is essential to the consolidation of the successful Dubai brand, epitomized through the world’s tallest tower, Burj Khalifa (“Burj” means tower in Arabic). Similarly, Shanghai wanted to quickly attain global status and communicate to the world its economic prosperity, industrial advancement, and scientific advancement. The underlying force behind the boom in skyscrapers is a national pride in China regaining its status as a great world power and the expectation of international recognition.

With an exploding population migrating from rural areas to large cities, particularly in Asia, problems of residential and commercial/mercantile accommodation and city services continue to magnify. As many Asian cities are experiencing a population explosion and economic expansion, the unprecedentedly rapid increase in the urban scale in the early 21st century has caused the creation of megacities (cities with a population of 10 million or more). A dilemma that faces urban designers and planners of all newly emerging Asian high-rise cities is to come up with a new model of development; that is, how to move away from established Western models and establish new Eastern models of urban growth, or combine Western models with past historical and evolving Eastern models. In the East today, giant skyscrapers of gargantuan dimension and
flamboyant form are challenging conventional rules of construction and theories of traditional architecture that were “imported” from the West (Stiglitz, 2002; Yan, et al. 2009).

**Globalization of Architecture**

Globalization represents a web of social, political and economic changes that affect everything in our life and almost all disciplines of knowledge. As summarized by Jürgen Habermas: “By ‘globalization’ is meant the cumulative processes of a worldwide expansion of trade and production, commodity and financial markets, fashions, the media and computer programs, news and communications networks, transportation systems and flows of migration, the risks engendered by large-scale technology, environmental damage and epidemics, as well as organized crime and terrorism” (Habermas, 2006, p. 175). The intensification of worldwide social relations has created an interesting dynamic between the local and global spheres. Indeed, the phenomenon that “local happenings are shaped by events occurring many miles away and vice versa” is prevailing so that both “thinking globally and acting locally” and “thinking locally and acting globally” are promoted as strategies to solve worldwide problems (Giddens, 1991, p64).

Some researchers consider globalization to be ‘high-modernity’ (Abbinnett, 2003) and the realization of the ideals of the Western Enlightenment, while others believe it to be a new phenomenon of equal but different significance from the Western Enlightenment (Albrow, 1996; Dor, 2004). At this stage, however, it is a new world order clearly dominated by North-Atlantic Western culture and the most evident outcome has been the spread of products and corporations including skyscrapers. The effect is described by Helena Norberg-Hodge as:

> “Western consumer conformity is descending on the less industrialized parts of the world like an avalanche. ‘Development’ brings tourism, Western films and products and, more recently, satellite television to the remotest corners of the Earth. All provide overwhelming images of luxury and power. … Advertisers make it clear that Westernized fashion accessories equal sophistication and ‘cool’. In diverse ‘developing’ nations around the world, people are induced to meet their needs not through their community or local economy, but by trying to ‘buy in’ to the global market” (Norberg-Hodge, 1999, p195).

In the same vein, architecture has also been globalized. Globalized commercial architecture has developed a symbiotic relationship with a new breed of global star architects. As cities, more than nations, now compete to attract global investment and global tourism, they seek brand differentiation and symbolic modernity. The commissioning of extra-ordinary public buildings by star architects is now an established marketing technique. The names are familiar and include Frank Gehry, Daniel Libeskind, Jean Nouvel, Rem Koolhaus, Norman Foster, Santiago Calatrava, Renzo Piano, and Adrian Smith. Cities’ competitive marketing of these buildings has set up an upward demand spiral. However, these architects’ work is often conceptual displaying their personal creative artistry, and they often overlook the fine grain of culture, identity, or locality unless specifically requested by their clients. Because the goal is to create a global building with fluid and futuristic form that represents the “signature” characteristics of the star architect, local distinctiveness is lost in the process.

The proliferation of skyscrapers in many cities both reflects the globalization of architecture and further perpetuates globalization by serving a population of globally connected businesses and individuals. Skyscrapers are home to many international companies’ headquarters, banks, world trade centers, five-star hotels, shopping malls, brand-name stores, boutiques, restaurants, fitness centers, and multi-screen cinemas. Increasingly, global multifunctional skyscrapers cater to the market needs and functional agendas of international business and industry, the corporate worlds of finance, manufacturing, retailing, travel and hospitality, recreation, and entertainment. In contrast, other urban building types are relatively less impacted by globalization because they are built by, and primarily serve, citizens of local communities.
Because of their sheer size, skyscrapers are visible and dominant elements in the urban landscape. Moreover, they are often designed by renowned architects who increasingly push design boundaries. Cities’ competitive marketing of skyscrapers has increased demand and resulted in new skyscraper designs that embrace unprecedented forms of spiral or twisted, tilted, leaning, or chorographical syntactic composition.

Globalization has supported the exportation of exotic design and construction of many buildings including skyscrapers. Today, many state-of-the-art building materials—glass, aluminum, stainless steel, copper, titanium, natural stone—used to clad and finish buildings are readily available throughout the world. It is no longer unusual, for example, to find a building in Dubai with a sophisticated glass and metal curtain wall manufactured in England or Germany and, in its lobby, granite and marble veneers imported from Italy or Spain. While this once would have been considered prohibitively expensive, global shipping of goods and services for building construction has become routine, fast and affordable. In addition, translational graphic and design communication is now possible through digital and mobile technologies that render expert skyscraper design and construction -- usually from the West -- readily transferrable.

**A TALE OF TWO CITIES**

Although this paper is focused on Shanghai and Dubai -- the two skyscraper cities, a broader view of what is happening in the regions where these cities are located is appropriate. Both these regions have remarkably come a long way since the 1990s in terms of skyscraper construction.

**The Larger Context: East Asia and the Middle East**

The global skyscraper now has a stronghold in many Asian cities, particularly in the Pacific Rim countries and the Middle East, which together contain more than two-thirds of the world’s 100 tallest buildings. More skyscrapers are being constructed, and some to greater heights, in Asia today than in America, Europe, and Australia combined. China is leading skyscraper construction, building a skyscraper every five days in the coming three years (Wood, 2011). The construction boom in China is unprecedented by any account in the entire world history of building construction. With only 10 skyscrapers from 1929 until 1945, China was a non-factor in any skyscraper discourse. Today, however, China has exceeded the U.S. in the number of skyscrapers that it contains. The country now accounts for 53% of the world’s skyscrapers that are under construction. There are currently 259 skyscrapers (buildings over 150m/492 ft) under construction in China, more than any other single country. Nine of the tallest 20 buildings under construction are located in China, three times more than any other country. China now plans to build the tallest skyscraper, Sky City, in Changsha that will be a 220-story structure standing at 2,749ft (838m). It will house 17,400 people and also boast hotels, hospitals, schools, office space and 104 high-speed lifts. However, according to the Council on Tall Building and Urban Habitat (CTBUH) data, China’s global percentage of building completions has begun to drop off slightly. In 2009, China contained 45% of the skyscrapers completed and 26% in 2011. One reason for the recent slowdown is the central government’s safety and overbuilding concerns (Wood, 2011). Some newly built cities in China have already turned into ghost cities as people do not want to move there even though the residential high-rise building units have been bought by speculative investors. These are ominous indications that the construction glut has resulted in a housing bubble that will likely burst in the near future. This is making many prominent builders nervous.

In the Middle East, in addition to Dubai, Dubai’s sister Emirate, Abu Dhabi, Doha in Qatar, Kuwait City in Kuwait, Manama in Bahrain, and Mecca, Jeddah, and Riyadh in Saudi Arabia are investing in skyscrapers. The intensity of skyscraper construction and the height of the buildings are changing the face of many of these cities (Al-Kodmany and Ali, 2013). The oil rich Middle Eastern countries like the United Arab Emirates (UAE), Saudi Arabia, and Qatar have been building tall towers in their cities as well. Abu Dhabi, Dubai, Doha, Mecca, Jeddah, and Riyadh are some of the cities constructing skyscrapers, with Dubai leading the list. In Mecca, Saudi
Arabia, the 601-m (1,972-ft) megatall (exceeding 600m tall) Abraj Al-Bait Towers Complex across
and overlooking the site of Islam’s holiest shrine, the Kaaba, has recently been completed. It has
a large elevated clock, a seven-star hotel, an enormous prayer area, and shopping mall, and is
the tallest building in Saudi Arabia, and has the largest floor area of any building in the world, at
about 1.5 million square meters (16 million square feet). The project has been criticized for
destroying the historic character of the holy city and the sanctity of the holy site containing the
Grand Mosque and the Kaaba in order to make room for the rich. Architect Norman Foster
explains in the Economist: “The Royal Clock Tower in Mecca … dominates the Kaaba with such
croniness that the thought must occur, even to a non-believer, that the building is an abuse of
Islam more egregious than any burning of the Koran” (Ledgard, 2013). At this writing,
construction of the 1,000m (3,281 ft) high Kingdom Tower in Jeddah has recently been approved
by the Saudi authorities. When built, it will be the tallest building in the world surpassing the
height of the Burj Khalifa. Doha, Qatar -- another skyscraper city -- has seen unprecedented
growth in tall buildings, including the Burj Qatar, a supertall building rising 231m (760 ft), the
300m (984 ft) Aspire Tower, the tallest building in Doha at present, and the unfinished Doha
Tower, rising 550m (1805 ft). If built, it will be the tallest in Qatar (Al-Kodmany and Ali, 2013).

Interestingly, Dubai and Shanghai rank close to each other in the number of tallest buildings
in their cities. According to the Emporis world-wide skyscraper database, which defines
skyscrapers as buildings over 100 meters, Dubai ranks as the fifth city in the world for number of
skyscrapers (238 skyscrapers) while Shanghai ranks sixth (229 skyscrapers). According to the
CTBUH, Dubai ranks third in terms of number of skyscrapers higher than 150 meters, while
Shanghai ranks fourth (153 in Dubai; 130 in Shanghai). Dubai currently hosts the world’s tallest
building, Burj Khalifa (completed in 2010); and Shanghai will soon have the world’s second tallest
building, Shanghai Tower (to be completed in 2014), (Wood, 2011).

SHANGHAI

The coastal city of Shanghai, now a major skyscraper city with the largest urban population in
China, is located at the mouth of the Yangtze River. As of 2010, the city has reached a population
of over 22 million. With the open door policy of 1978, the city experienced a commercial revival
and took great strides towards building itself into a megalopolis. As the city grew into a major
trading hub, the foundation for banking services was laid. Shanghai physically and economically
transformed from a monumental relic of colonial ambition into one of the most aggressive
international mercantile cities in the world in the span of two decades. Shanghai has increasingly
become the new center of Asian finance together with existing centers of Hong Kong, Singapore,
and Tokyo.

Shanghai’s physical transformation began in 1990 when the Pudong area, to the east of
the Huangpu River, was designated as one of China’s Special Economic Zones with tax
incentives and exemptions to entice foreign direct investment. By the end of 2010, 149 countries
and districts (Hong Kong, Macau and Taiwan) had invested in Shanghai; 305 cross-national
corporations and 213 international investment bank and companies had established their
headquarters in the city. In 2010, $15.1 billion Foreign Direct Investments (FDIs) were invested in
Shanghai (Zhang 2007b).

Plans for improved infrastructure and new high-rise development accelerated after
China’s leadership made the reconstructing of Shanghai a key policy by which to lead the nation
into the new century. After economic reforms in 1979, the city underwent a construction boom.
During 1991-1996, international bidding projects amounted to about 40% of the total design
projects in Shanghai. Since the turn of the 21st Century, Shanghai has become an international
laboratory for experimental architecture and urban design, particularly in the Pudong district.
Shanghai is now home to 16 skyscrapers taller than 250m (820 ft), with Dubai being the only city
in the world to have more (Wood, 2011). With money pouring continuously into new urban
development projects, the skyline is constantly changing.

In sum, the history of Shanghai has closely echoed that of China itself. Shanghai has
always played a special role in history because of its strategic location, outside influence, and its
cosmopolitan community. Therefore, Shanghai has been regarded as the key to understanding the progression of skyscrapers and the architectural history of China.

**Shanghai: Case Studies**

**Shanghai Tower**

Shanghai Tower (also called Shanghai Center) is under construction in the Pudong District and was designed by Gensler and engineered by Thornton Tomasetti who worked with the Architectural Design and Research Institute of Tongji University, Shanghai. When completed in 2014, it will be the tallest building in China, rising to 632m (2,074 ft) and having 121 stories; and the second tallest in the world, next to Burj Khalifa in Dubai. Shanghai Tower is a multi-use building comprised of offices, hotel, retail, sky gardens, public space, etc. The tower will have a twisting curtain wall that will be rotated approximately one degree at each floor around stacked floor plates. Nine indoor zones provide public space for visitors, including an atrium featuring gardens, cafes, restaurants, retail space, and panoramic views of the city. This new tower will undoubtedly be a new icon on Shanghai’s skyline. It will anchor the Lujiazui area and will become one of the foremost commercial destinations of the world. The tower sits next to two important and ultra-tall skyscrapers: the Shanghai World Financial Center and Jin Mao Tower (see Figure 2), (Xia, et al., 2010).

![Shanghai Tower in construction](image)

**Shanghai World Financial Center**

Designed by Kohn Pedersen Fox (KPF) and East China Architectural Design & Research Institute Co. Ltd, the construction of this multi-use tower began in 1997. Due to a series of problems in the midst of the Asian financial crisis, construction was delayed and finally this super-
skyscraper was completed in 2008. In 1994 it was conceived as the tallest building in the world, symbolizing China’s economic prosperity. The building is 492m (1,614 ft) tall and has 101 floors. The skyscraper consists of offices, conference rooms, and shopping malls on the lower floors, the luxurious Park Hyatt Shanghai hotel on upper floors, and restaurants around the large aperture near the top. The form of the tower represents an elegant “singular object,” looking like a sculpture with playful geometry. Its glass and steel façade emphasizes its monolithic simplicity without any architectural or decorative elements. The building terminates with a trapezoidal opening, which improves the aerodynamic performance of the tower and adds to the iconic character. The Council on Tall Buildings and the Urban Habitat has named the Shanghai World Financial Center the “Best Tall Building Overall” in 2008 (Lepik, 2008).

**Jin Mao Tower**

Jin Mao Tower, rising 421m (1,380 ft) was completed in 1999. Designed by SOM, this tower is a multi-use development incorporating office, hotel, retail, service amenities, and parking; and is also known as a culturally sensitive building. Together with the Petronas Towers in Kuala Lumpur and Taipei 101 in Taipei, it is part of a series of supertall skyscrapers that shot up in Asia in rapid succession around the turn of the century. The Jin Mao Tower has many parallels to Taipei 101 but none as apparent as its architectural style - oriental revivalism. In the Chinese culture the number “eight” is considered to be a number that represents luck, wealth, and prosperity and Jin Mao represents this in the number of floors—88. Jin Mao continues to pull from the local culture in its stunning reversal of historic pagoda forms throughout the height of the tower. The base of the tower is six stories tall holding yet more uses: hotel function areas, a conference and exhibition center, a cinema auditorium, and a 20,749 m² (226,000 sq ft) retail galleria. The top of the tower consists of a crown-like steel pinnacle, reminiscent of the Art Deco style. The Jin Mao Tower is a new architectural symbol of China and has set a new standard for skyscrapers in the Far East. It is recognized as one of the two best architecture design projects in mainland China—the other is Xianshan Hotel in Beijing by I.M.Pei (Beedle, et al., 2007) as both demonstrate a successful combination of modern and vernacular spirits.

**DUBAI**

Dubai, one of the seven emirates of the United Arab Emirates (UAE), is located south of the Persian Gulf coast on the Arabian Peninsula. In the early 1990s, Dubai was a small town of only 9 km² (3.5 sq mi). Today, Dubai is more than 10 times that size and has many innovative skyscraper developments.

Four growth periods have been identified in Dubai (Ali, 2010; Beedle, et al., 2007). These are: 1) Slow (1900-1955), i.e., a period of limited expansion; 2) Compact (1956-1970), i.e., based on a slow plan consisting of road systems, zoning, and the creation of the largest harbor at Jebel Ali; 3) Suburban (1971-1980), i.e., an ambitious plan allowing for ring roads around the city, radial street networks to suburbs, and construction of the Shindagha Tunnel; and, 4) Rapid (1981-Present), i.e., a large-scale urban expansion and mega scale projects including major skyscrapers. During the last phase, in the early 1990s, the ruler of Dubai developed a new guide for economic and urban development -- the Strategic Plan of 1993-2012. The plan was completed in 2005, and another Dubai Strategic Plan of 2015 was formulated, propelled by visionary leadership, high quality infrastructure development, zero tax on personal and corporate income, and an immigrant-friendly cosmopolitan environment.

Dubai emphasized the creation of a world class built environment consisting of remarkable skyscrapers, shopping malls, hotels, and tourist destinations. However, the effects of the global economic recession were felt in 2009, when real estate prices dropped 40% in just six months. A few ultra-tall tower projects, including the 1,000-m (3,280-ft) tall Nakheel Tower, were put on hold. Dubai also failed to pay close attention to its infrastructure, particularly its transportation system, to keep pace with the large-scale construction of mega-projects. As a result, problems with physical connections among these projects began to emerge. The government is addressing this by creating new infrastructure (the Dubai Metro, bridges and
flyovers, etc.) to reduce traffic congestion (Acuto, 2010). Despite this, four of the six tallest buildings were completed in Dubai in 2012 including the world’s tallest hotel, the 355-m (1,165-ft) tall JW Marriott Marquis.

**Dubai: Case Studies**

**Burj Al Arab**
This luxury hotel building, located in Dubai’s Jumeirah Beach strip, is the city's earliest and most recognizable landmark. The tower, a unique forerunner of skyscrapers in Saudi Arabia, is 321m (1,053 ft) tall and has 60 floors. It was completed in 1999 and stands offshore on an artificial island linked to the mainland by a private bridge. It drew world attention to Dubai when it was built. The tower’s form resembles the sail of a *dhow*, a typical Arabian ship. While the exterior has a modern aesthetic, the interior is a lavish collection of luxurious architectural styles of both the East and the West with 22-carat gold leaf and 30 different expensive marbles. A fountain in the lobby area creates a three-dimensional Islamic star pattern and the pointed arch forms throughout the building’s interior recall the Islamic architectural style. Structurally, the tower has two wings spread out in a V-form creating a vast mast. The space between them contains a mammoth 180m- (590 ft-) high atrium, the tallest in the world. To protect it from the harsh desert elements of heat, wind, and sand, it has employed materials such as Teflon-coated fiberglass and Dyneon coated with DuPont Teflon. The “all too evident symbolism places the building very much in the vicinity of the ‘theme architecture’ of Las Vegas,” (Lepik, 2008, p. 129), (see Figure 3).

![Figure 3: Burj Al Arab, Dubai, a *dhow* (a sailboat in the Persian Gulf)-shaped spectacular luxury hotel. It stands on an artificial island 300m (985 ft) from the coast and is connected to the mainland by a private bridge. Its urban design concept was modeled after the Concord Pacific in British Columbia, Canada. (Sketch by K. Al-Kodmany).](image)

**Burj Khalifa**
The tallest building of the world, Burj Khalifa was designed by SOM with Adrian Smith acting as chief architect and Bill Baker as chief structural engineer. Its height is 828m (2,717 ft) with 160 floors. The construction of this mega-tower, whose original name was Burj Dubai, started in 2004 and was completed in 2010. The global financial crisis caused Dubai to borrow money from oil-
rich Abu Dhabi to complete the project. Therefore, the tower was renamed to honor the ruler of UAE for his support of the project. The tower's construction was rooted in the government's efforts to draw international attention and foreign investment. The tower was designed as a centerpiece of a large mixed-use development that would include 30,000 homes, 9 hotels, 19 residential towers, the Dubai Mall, 3 ha (7.5 acres) of parkland, and a 12-ha (30-acre) man-made Burj Khalifa Lake. The tower is made of three wings forming a Y-shaped floor plan around a central plan. The three wings act as buttresses and offer panoramic views of the surroundings, including the Persian Gulf. The exterior cladding system was designed to withstand Dubai's extreme summer and consists of reflective glazing, aluminum, and textured stainless steel spandrel panels with vertical fins (Smith, 2007). After a lightning strike in December 2012, the tower was fitted with a 4,000 ton steel spire designed to protect it from lightning (see Figure 4).

Figure 4: Burj Khalifa, Dubai, the world's tallest building. (Courtesy: Adrian Smith + Gordon Gillis Architecture; photograph by J. Steinkamp).
FACTORS LEADING TO SKYSCRAPER CONSTRUCTION BOOMS: A CRITICAL COMPARISON OF SHANGHAI AND DUBAI

What are the common threads that led to the development of Shanghai and Dubai as major skyscraper cities? The following discourse explains that a complex web of cultural, political and economic factors at the local and global scales spurred their development.

Global Aspirations and Market Considerations

Shanghai and Dubai have attracted firms and businesses from all over the world, which has resulted in high demand for prime real estate. Dubai’s efforts to become an international trade hub started a few decades ago when the previous ruler Sheikh Maktoum bin Rashid Al-Maktoum realized that Dubai had a limited supply of oil and gas reserves. Today, Dubai’s economy no longer relies solely on oil, and the share of non-oil GDP exceeds 92% of the total GDP and is rising (Al-Kodmany and Ali, 2013).

Trading activities, the opening up of the market, and the acceptance of foreign ownership of property in Dubai have resulted in an excessive demand for property (Bradley, et al., 2002). Competition for space and agglomeration of socio-economic activities increased property prices. Land prices have always been a principal driver for constructing skyscrapers. This view has been supported by Carol Willis and Cass Gilbert (prominent American Architect, 1859-1934) who explained: “a skyscraper is a machine that makes the land pay” (Willis, 1995, p.63). In Dubai, international investors have driven up the demand for property, which paved the way for vertical development.

Similarly, Shanghai aimed to function as a global finance and trade center (Zhang, 2007a, p. 114). Martona and Wub 2006, p. 16, explained that China aimed to revive Shanghai as “an international economic, trading, financing and shipping center.” Shanghai intended to serve as the “dragon’s head,” leading the development of other cities along the Yangzi River (Zhang, 2007b, p. 12). Indeed, the city has been aggressively seeking multinational investments, corporations, and a flowering of the arts (Martona and Wub, 2006). During the 1990s, more than 2,600 financial institutions, including 51 foreign banks and financial companies, and 163 representative offices, have opened for business in Shanghai. In just a decade, Shanghai attracted more than half of the world’s 500 top transnational corporations to open branches. From 1990 to 2000, a total of USD 45.423 billion, for 22,270 projects, was invested in Shanghai (Zhang, 2007b, p. 14). Hundreds of manufacturing bases have been constructed for multinational corporations. These activities have created demand for property in key locations, caused increased property prices, and thus vertical expansion.

Urban Symbols, Place Identity, and Re-Imaging

Cities use skyscrapers to boost their development and global prominence. Skyscrapers are urban symbols that “capture the public’s imagination through novelty and sheer size,” (Al-Kodmany and Ali, p. 188); and they play a key role in making a city known. Brandon Moor, 2006, p. 123, explained that the pride and enthusiasm felt by Americans for their skyscrapers has transcended time, and place, and has taken hold in the rest of the world. Both Shanghai and Dubai used skyscrapers to improve their imageability. Dubai was an unrecognized city but by constantly building tall, taller, and the tallest, Dubai rose to fame quickly, and came to be perceived as a major global city. Similarly, “Because of its brightly illuminated skyscrapers, Shanghai enjoys international fame as the “Pearl of the Orient” (Hsu, et al., 2009, 1227).

Shanghai views skyscrapers as a means to remake its image and revive its glorious past (Wua and Mab, 2006). In the early 20th century, Shanghai was a global city of majestic economic and industrial power center referred to as the “Paris of the East,” “the bright pearl of the Orient,” and “the paradise for adventures.” The new landscape, replete with skyscrapers, is a manifestation of the renewed commitment to restore Shanghai’s glorious past (Wu, 2000, 168).

In a similar vein, Dubai wanted to revive its magnificent history. When Mohamed Ali Alabbar, Chairman of EMAAR Properties, was asked why Dubai is building the “tallest,” he...
explained that recently the Middle East has been a source of “bad news,” and that Dubai’s exciting projects, including the tallest building, are meant to counter that image by bringing “good news.” In this regard, the developers stated (EMAAR, 2006):

The goal of Burj Dubai [Khalifa] is not simply to be the world’s highest building. It’s to embody the world’s highest aspirations. Burj Dubai [Khalifa] looks different depending on where you’re standing. For those living nearby, it is a shining accomplishment – tangible proof of Dubai’s central role in a growing world. For those standing in other global capitals, it is a shining symbol – an icon of the new Middle East: prosperous, dynamic, and successful. In fact, Burj Dubai [Khalifa] is both. It is a fact – an unprecedented example of international cooperation – and a symbol – a beacon of progress for the entire world.

**Tourism**

Dubai’s “one-of-a-kind” strategy is to lure tourists and garner international interest by building tall. Indeed, Dubai built many of the “biggest” and “best” projects that the contemporary world has known. It built the world’s largest mall, the Mall of Arabia, covering over 465 million sq m (5 billion sq ft) – it is the most visited tourist destination worldwide (Yeoman, 2008). The city also built the world’s largest manmade islands with hundreds of kilometers of waterfront. Dubai is the first to build a 7-star hotel, Burj Al Arab; and plans to build a 10-star underwater hotel, the Hydropolis. It also built the world’s largest indoor ski resort.

Tallest buildings with key design features make them more attractive. For example, Jin Mao boasts the world’s highest hotel lobby; the Burj Al Arab hotel brags that its atrium is the world’s tallest. Shanghai World Finance Center incorporates the highest enclosed observation deck; meanwhile, Shanghai Tower will incorporate the highest outdoor observation deck. Burj Khalifa hosts the world’s highest restaurant. These places usually provide exceptional and enjoyable panoramic views of the city during day and night times, and consequently make skyscrapers more attractive.

Shanghai aimed to attract tourists by building spectacular urban infrastructure projects, including the new Shanghai Pudong International Airport, the Metro System (one of the world’s largest), the pedestrian tunnel across the Huangpu River, and a 100m (328 ft) wide Millennium Boulevard threading more than 100 skyscrapers in Pudong (Wu, 2000, p. 356). Also, Shanghai attracts tourists by providing quality amenities and hotels, upscale shopping services, and cultural facilities, including the Shanghai Museum, the Shanghai Grand Theatre, and the Shanghai Library. Another example of the importance of tourism in Shanghai is the Lujiazui Finance and Trade Zone. Within a ring of high-rise (50- to 60-story) skyscrapers, 3.7 million sq m (40 million sq ft) of luxury housing and 4.6 million sq m (50 million sq ft) of hotel space have been constructed (Li and Wu, 2006, p. 253). In 2010, Shanghai hosted the 2010 World Expo, which attracted over 74 million visitors, the largest and most popular in Expo history.

**Politicians and City Planners**

A pro-skyscraper ideology is a response to the global pressures on governments to embrace a “place promotion” strategy (Wu, 2000). Xia, et al., 2010 explain that city officials and planners may find skyscrapers useful vehicles to convey that their cities are changing their status from a “Third World” country to a “First World” country.

In Shanghai, political leaders realized that skyscrapers are great place promoters. In this regard, Kris Olds (1997, p. 116) wrote:

> Shanghai Urban Planning and Design Institute (SUPDI) also realized that the CBD needed to act as “an important symbol and image of the results of reform” and the ‘successes’ of the New Open Door Policy. The most appropriate method to express the goals and successes of the reform era, in their minds, was through the emergence of gleaming skyscrapers with striking downtown skylines.
Many second tier Chinese cities have joined the Shanghai-Beijing led skyscraper movement. The Chicago-based firm of Adrian Smith + Gordon Gill Architecture has completed the design of Wuhan Greenland Center, a 119-story, 606-meter tall mixed-use tower in Wuhan at middle China (see Figure 5).

Figure 5: The proposed 119-story Wuhan Greenland Center in Wuhan, China by A. Smith. Its tripod-like base and tapered sides with rounded corners make an extremely efficient, aerodynamic profile that will reduce wind loading, thereby reducing the amount of structural material required for construction. (Sketch by K. Al-Kodmany)

G. Lin, 2003, p. 151, explains that municipal Chinese governments have all shown a firm commitment to ‘place promotion’ and invested heavily in the urban infrastructure to build ring
roads, subway systems, pedestrian shopping streets (*buxingjie*), convention centers, and most importantly, new CBDs with skyscrapers. City-planners also view the skyscraper as the architectural form that ensures that city’s succeed in the competition for global attention (Olds, 1997, p. 386).

Skyscrapers promote a place even before construction. F. Wu, 2000, illustrated the practice of place promotion with Internet materials that show Shanghai as a booming international city. The promotional materials were published in multiple languages targeting overseas developers and facilitating the commodification of place (Wu, 2000, p. 349). In addition, the Pudong New Area Administration Committee published *Shanghai Pudong New Area Handbook*, projecting the image of several dozens of iconic skyscrapers. Extensive advertisement and the projected modern image of new Shanghai have proved to attract overseas developers and investors (Croll, 2006; Lee, 1999).

The governments of Shanghai and Dubai provided incentives for global investors to support skyscrapers. These incentives included tax exemptions, one-stop services, shortened approval times, and lower charges on foreign investments. F. Wu, 2000, p. 356, explains that the Shanghai Municipal Government’s website shows how speedily the government is dealing with potential investors. The website provides detailed information on how to apply for a visa or for the entry of private/chartered planes, and more. Many of the major projects and the overall urbanization of Dubai are also attributed to the vision and political support of rulers Sheikh Maktoum bin Rashid Al-Maktoum, and Sheikh Mohammed bin Rashid Al-Maktoum (2006 to present). Specifically, Sheikh Mohammad supported building Burj Khalifa in order to put Dubai on the world map (Acuto, 2010). Despite its dwindling oil resources and its lack of demand for increased density, such a vision was actualized because of the strong influence and backing of its ruler.

**Openness to Western Culture**

Both the cities of Shanghai and Dubai opened their doors widely to the West. Shanghai is one of China’s cities most influenced by the Western culture, and similarly Dubai is one of the most westernized cities in the Middle East. Both Shanghai and Dubai exhibit and cater to Western culture through television programs, commodities, restaurants, international schools, malls, nightclubs, museums, recreational facilities, and sports such as golfing and skiing. They also embrace the English language in business, major newspapers, and TV programs. Western influence is present in the logos of multinational products such as Coca-Cola, Pepsi, 7Up, Visa, McDonalds, Subway, KFC, and the like. These Western images and amenities have welcomed international developers and investors to conduct many projects including skyscrapers. Acceptance of Western culture was also manifested in the invitation of elite Western design professionals to counsel on development projects such as Lujiazui (Olds, 1997, p. 118).

**Wealth Accumulation**

Because they are costly, constructing skyscrapers hinges on the availability of financial resources. Both Shanghai and Dubai have accumulated considerable wealth in the past two decades. Dubai sponsored large-scale developments including skyscrapers through oil wealth, trade and tourism. Similarly, the economic well-being of Shanghai has helped in sponsoring expensive projects including skyscrapers. Shanghai has become among the world’s largest exporters, a leading world manufacturer, and a global economic hub. Shanghai’s per capita GDP was $12,075.23 in 2011, but much higher than China's average $5,563; even back to 2002, its per capita GDP was already 4.1 times higher than China’s average (China Statistical Yearbook, 2012). The accumulation of wealth has allowed for expensive skyscraper construction in Shanghai and Dubai.
attention and have had geopolitical influence on other cities to build taller. Burj Khalifa in Dubai, for example, has inspired Kingdom Tower (soon under construction) in Jeddah, a neighboring city to Dubai. Other cities following the lead are Abu Dhabi and Doha.

However, the major issue surrounding skyscrapers is how these buildings fit into the larger urban web. These skyscrapers have good architecture, and some are indeed spectacular; however, they will benefit from better planning for integration into their cities. The following issues are worth considering carefully in the planning process.

**Economics**

Skyscrapers are costly projects. Their construction requires a premium because of their need for sophisticated foundations, complex structural systems to carry high wind loads, and high-tech mechanical, electrical, elevator, and fire-resistant systems. While about 70% of a skyscraper's gross floor area is usable space, more than 80% is generally usable for low-rise buildings. Skyscrapers also suffer from higher costs for elevator maintenance and emergency response preparedness. For supertall buildings, architectural and engineering firms usually need to carry out special studies and employ a cutting-edge technology, which adds to the total cost. For example, Burj Khalifa required the latest design, materials and construction technology in order to be able to reach to heights never achieved before. Walls were formed by using an automatic self-climbing formwork system and concrete was pumped via specially developed pumps that were able to pump to heights of 600 m (1,970 ft) in a single stage. These unique systems increase the total cost of the tower (Baker, et al., 2007).

Because skyscrapers are costly structures, the reasons for constructing them should incorporate economics. Escalating land values, property taxes and demands to be in close proximity to downtown business districts resulted in the vertical growth of city centers (Starrett, 1928). In difficult economic times, however, towers may not generate enough sales or rental value to make up for the high construction costs. At this writing, due to an unexpected global economic downturn, Burj Khalifa faces significant vacancy rates. Earlier, the Empire State building in New York faced a similar problem. “The most colossal miscalculation of the 1920s was the Empire State Building which remained three quarters empty for a decade after its opening in 1931 and did not turn an annual profit until 1950” (Willis, 1995, p. 90).

Today, however, the drivers for building skyscrapers tilts away from economic demand and toward delivering prestige, attracting tourists and businesses, and attaining global status, as exemplified by Dubai and Shanghai. Interestingly, enhancing imageability may turn into positive economics. For example, building Burj Khalifa to such height does not necessarily make economic sense. But Burj Khalifa, as an icon and tourist attraction for Dubai, helped raised the value of land around the project, a phenomenon often referred to as the “Burj Khalifa Effect.” Developers are using similar calculations for Kingdom Tower, which will be the centerpiece of a new location in Jeddah, Saudi Arabia.

It is a simple idea: build taller to increase revenues in order to offset land and development costs. However, there is a balance between building tall to recoup expenses versus the design, engineering, construction, and long-term operational costs of physically challenging buildings. That balance is termed the “economic height” of the skyscraper. The true economic height of a structure is that height which will secure the maximum ultimate return on total investment within the life of the structure under appropriate conditions (Al-Kodmany and Ali, 2013).

It is hard to explain skyscraper mushrooming in Dubai by using conventional local land-use economics. Nothing but such pride-driven international competition could nurture a glorious aberration like the Burj Khalifa. For Dubai: “it was always the height that was the one thing they were trying to do” (Smith, 2007). However, EMAAR, the developer of Burj Khalifa explains that Burj Khalifa is meant to do something impossible: to function as a catalyst for new downtown development to Dubai. In late 2009, Dubai was in a crisis as it failed to repay its debts, faced a threat of its economic downturn, and was bailed out by Abu Dhabi. In three short years, surprisingly, it has bounced back with a boost in its GDP by 4.1% in the first half of 2012 as
estimated by the International Monetary Fund (IMF). Dubai is a resilient city and is prepared to venture into speculative projects by taking risk (Zhang, 2007a).

**Socio-cultural Issues**

Western firms that may not be attuned to the local culture designed most of the skyscrapers in Shanghai and Dubai (Al-Kodmany and Ali, 2013; Kong, 2007; Pacione, 2005). Indeed, among the consequences of a wholesale “importation” of the “urban giants” has been the loss of local architectural tradition. Opinion surveys in Dubai and Shanghai indicate that local people and architects are not necessarily pleased with new “Western” environments, including high-rise developments (Bagaeen, 2007; Wu, 2000). There is a need to adopt policies that make skyscrapers respect local tradition, culture, and heritage. To attract foreigners to the city, Dubai seems to have severed its strong cultural roots and opted for a cosmopolitan city with an open door policy to outside cultures. The city’s glistening and lax nightly environment reminds one of Las Vegas more than any other regional city.

Design approaches that respect local cultures have been mostly superficial. In the case of Burj Khalifa, the design inspiration, as has been proclaimed, was local and native plants. However, the form of Burj Khalifa does not really reflect that. Despite the propagated claims, the tower’s design does not explicitly relate to Islamic and local culture.

In the same manner, Jin Mao’s design is said to be based on the Chinese lucky number “8.” Most viewers will, however, not be able to tell that the design of this building was based on this lucky number. Additionally, does reference to eastern numerology actually signify serious cultural accommodation and improve sense of place? Nevertheless, Jin Mao’s design deserves credit in terms of drawing its shape from the traditional Chinese Pagoda.

In the case of Shanghai Tower, Gensler applied the notion of traditional lane houses found in Shanghai’s vernacular *shikumen* house, where rooms are arranged around a communal open space, and a cluster of *shikumen* houses forms a *lilong* or a neighborhood. However, when Gensler translated this concept on the vertical plane, the benefits of the traditional concept were lost and the intended sense of community was abated (Xia, et al., 2010).

Local governments and residents have raised concerns about losing local and cultural identity. After seeking global status, these governments have come to the realization that preserving local identity through the built environment is important; it is not enough to be global at the expense of losing their local identity.

This loss of identity and the need to preserve the built heritage is increasingly taking significance in the design and planning discourse. Most new developments in Dubai are now announced in terms of what they bring to the city and how they contribute to its cultural identity. The government leadership believes that the traditional urban fabric should not only be preserved but should inspire future development as well. The late UAE Emir (president), Sheikh Zayed (1971-2004), was famously quoted: “Who has no past, has no present, and no future,” (Pacione, 2005, p. 229) Tremendous efforts have been initiated to restore historic city landmarks and to rebuild ‘portions’ of the old fabric now destroyed.

Skyscrapers designed by foreign architects have been a controversial issue among Chinese architects and planners for years. However, many government officials and the young middle class often support the projects because they view these “super modern” buildings as an indication of China’s rising power. Foreign designers’ efforts to reflect Chinese vernacular style have been well received, such as the case of Jin Mao Tower in Shanghai (Zhang, T. 2007a).

**Environmental Impacts**

The article titled: “Soaring to Sinking: How Building Up Is Bringing Shanghai Down” by Kate Springer, 2012, warns that skyscrapers are a major contributor to Shanghai’s subsidence. She explains that while this problem has been going on for several decades (the city has reportedly subsided 406 mm (16 in) in the last 50 years), the large concentration of skyscrapers built in soft soil has accelerated the sinking of land. Shanghai has inherently soft soil because of its geographical position at the mouth of the Yangtze River basin and groundwater accounts for
nearly 70% of land subsidence; however, a report by the Shanghai Geological Research Institute claims that the physical weight of skyscrapers accounts for 30% of Shanghai’s surface subsidence. Shanghai is sinking by an average of 10mm (0.39 in) per year. The government has limited building heights and begun pumping water back underground in an effort to stop the trend. Unfortunately, the implications will only grow graver with the pace of development and rising sea levels due to global warming (Springer, 2012).

New regulations are needed in order to create preventive measures for environmental problems resulting from massive skyscraper construction. Reducing groundwater pumping, decreasing the density of buildings and skyscrapers will help to mitigate the problem.

Furthermore, large concentrations of skyscrapers may create strong wind through the tunnel effect, as has been experienced in business districts in Shanghai’s downtown areas including the Lujiazui financial zone (Simeng, 2006). Wind speeds increase between high buildings, as wind currents often form mini whirlwinds and turbulence around densely built skyscrapers, which negatively impact pedestrians. New regulations are needed to regulate heights and spaces between skyscrapers and to require proper landscaping in order to mitigate wind effect.

Similar to Shanghai, Dubai faces the problem of wind turbulence around its supertall buildings. To minimize wind turbulence around tall buildings, Dubai Municipality has drawn up a new wind code requiring developers to take account of how tall towers are changing wind patterns. Skyscrapers also need to address the problem of sandstorms in Dubai’s desert environment (Pacione, 2005).

In excessive heat, skyscraper’s windows, if not well designed and constructed, may crack and crash into the ground. Recently, there have been incidences of this in both Dubai and Shanghai. This problem requires regulations that review high-rise glass design, construction, and maintenance. As more skyscrapers are built, many with all-glass-clad walls, these concerns become more pertinent (Al-Kodmany and Ali, 2013).

Furthermore, skyscrapers should be built with considerations of their impact on water, sewer and electrical infrastructure. Dubai’s biggest challenge is water, which is undrinkable without desalination. Dubai continues to rely on oil to desalinate water used for multiple purposes, including air-conditioning its massive skyscrapers’ interior spaces. Practices such as this have made Dubai and the other emirates to have one of the world’s largest carbon footprints. They also generate enormous amounts of heated sludge, which is pumped back into the sea. In the face of global warming, skyscrapers in Dubai need to perpetuate sustainable practices (Reuters, 2010).

The location of skyscrapers in relation to transportation systems should be carefully studied. It is desirable to cluster skyscrapers close to mass transit so that the environmental impact of transportation is minimized. Transportation considerations are largely lacking in Dubai. Shanghai is a better example where the city enjoys an effective metro system. However, while Dubai’s population has grown at an average annual rate of 6.4%, the number of cars on the road has increased by 10% each year from 2004–2006. Average daily trips in Dubai are anticipated to grow from 3.1 million per day to 13.1 million by 2020 (Ahmed, 2005). Dubai is building a driverless metro that is meant to partially solve transportation problems.

Finally, glittering new skyscrapers and residential towers may be dangerously susceptible to natural disasters like typhoons, hurricanes, strong winds, tornadoes, rainstorms and floods. With too few shelters for the population, too little public education and training on flood mitigation, and relatively ineffective institutional systems for crisis management, Shanghai and Dubai could be under considerable threat in the future.

**Green Skyscrapers**

The significance of embracing green or sustainable design principles for skyscrapers can hardly be overemphasized and has been extensively covered in the literature (Al-Kodmany and Ali, 2013; Ali and Armstrong, 2008; Dalton and John, 2008). Shanghai Tower’s green design process employing sustainable technologies may provide a good model. The tower’s swiveling,
asymmetrical glass façade reduces wind loads on the building. The building’s spiraling parapet collects rainwater to be used for the tower's heating and air conditioning systems, and wind turbines situated below the parapet generate on-site power. Further, the gardens nestled within the building’s façade create a thermal buffer zone while improving indoor air quality. Power for the building will also be partially generated by wind turbines (Xia, et al., 2010).

Given their tremendous scale, the materials that go into the construction of skyscrapers should be carefully selected. Preferably, materials should come from recycled sources from areas closer to the skyscraper’s location so that the CO₂ emission generated by transporting materials is reduced. Constructing skyscrapers requires steel and aluminum smelting, raising environmental questions due to their use of electricity. Similarly, cement production for concrete releases large amounts of CO₂ into the atmosphere (Al-Kodmany, 2012b; Aboulnaga, 2006).

Skyscrapers are often cited as one of the largest energy consumers in a city, but the new generation of skyscrapers is addressing these issues in innovative ways. Skyscrapers in Dubai could consider integrating photovoltaic technology to harness solar energy. Skyscrapers in Shanghai could help in collecting rainwater to reduce flooding events. The treatment of waste has become a serious environmental issue in Dubai; green skyscrapers may provide self-treatment for waste. These tall buildings can also employ air filters to improve air quality as the case of Bank of America Tower in New York City.

SUMMARY AND CONCLUSIONS

This paper has investigated the forces that led to the construction of skyscrapers in Shanghai and Dubai. It has argued that with the advent of globalization, skyscraper developments were energized by a synergistic relationship between global and local forces embedded within cultural, political, and geographic contexts. The two cities are significantly different, however, from a broader perspective, they possess similarities in regards to the factors that caused skyscraper development discussed in this paper, including: openness to the “outside world,” particularly to the West, accumulation of economic wealth, using skyscrapers as urban symbols of prosperity; global tourism and political support and governance that considers skyscrapers as a means for place promotion.

Both Shanghai and Dubai have strived to become a hub of global commerce, a top tourist destination and a shopping Mecca. These cities have used skyscrapers to reinforce their respective ambitions to become major global cities. They have spent billions of dollars to build skyscrapers of astonishing heights all within the past two decades. Pudong, a district in Shanghai has become known as the Manhattan of the Far East while Dubai became known as the Manhattan of the Middle East. They both rose to modernism swiftly and opened channels of communication and trade with the West. Combining the involvement of global businesses and innovative strategies of urban marketing with headline-catching projects, they transformed their urban landscape.

Opportunities and Threats

From the previous review of key skyscrapers we summarize some lessons and see how global and local forces can interact, either to mediate or eradicate the architectural forms that express cultural identities. In the case of Jin Mao, one can see the positive potentials for global and local forces to interact. In this project the designers attempted to employ advanced technology to integrate contemporary design language with architectural forms that express local cultural identities and historical roots. The globalization of the skyscraper also presents an opportunity to promote green technologies as presented in the example of Shanghai Tower.

Threats represent the negative influences that should be taken into consideration while acting globally and locally. Architects and developers distinguish themselves with new, impressive forms, disregarding local considerations. Local cultures, identities and practices are largely ignored in the process of designing eye-catching skyscrapers. In the case of the Shanghai World Financial Center Tower, the negative potentials and threats of globalization are clearly apparent in how the tower is cut off from the past and ignores the place identity and architectural
heritage. The project defies Shanghai’s older fabric and vernacular architecture. It tries to “shock and awe” rather than empathize. Further, skyscrapers are causing environmental problems. In Dubai, skyscrapers are contributing to significant increase in energy consumption and increase in greenhouse gas emission. Lastly, skyscrapers can be a massive and speculative misallocation of capital.

**Recommendations**

Skyscraper development should take into consideration their impact on city life, environment, transportation, public communal spaces and pedestrian life, sidewalks, and safety. In constructing futuristic skyscrapers and intensifying land use, public spaces have become less common and smaller. Concern about quality of public space is increasingly important since new skyscrapers are owned by private developers. Most importantly, Shanghai and Dubai need to reexamine the need for skyscrapers, since they have been constructing skyscrapers without sufficient underlying demand (Al-Kodmany and Ali, 2013).

The development of skyscrapers should be carried out by a multi-disciplinary team that possesses diverse qualifications and combines skills from several professions, encompassing both the modern technologies of the age and the richness of local heritage. This can be implemented by respecting the dominant styles in the locality in order to achieve a degree of consensus among local people. When considering globalization, architects and planners should perceive the opportunities that globalization provides from place-identity considerations. They must anticipate the threats that affect our local heritage in order to link global technologies (including green technology and modernization) with local values and cultures. This will require great sensitivity and substantial talent to successfully weave together appropriately chosen, traditional characteristics with technologically modern elements. It demands a regionally derived, form-making language, with its own compositional grammar and vocabulary for materials and details that makes a skyscraper in Dubai different from one in Shanghai.

Architects, planners, and urban designers need to analyze and select aspects of local tradition and vernacular architecture—functional relationships determined by social customs and behavior, formal geometries, materials, colors, ornament—to be incorporated cleverly in what would be a “modern” building. The hope is to make architecture look both contemporary and reflect local identity whether Chinese or Middle Eastern. In a nutshell, the design team should think “glocally,” a composite term that refers to an inclusive design approach that combines considerations of local needs and global forces. The aim is to promote “glocalization”; that is to unite the local and global outlooks and to find balance between them, reinforcing a distinct urban identity while at the same time remaining open to positive foreign influences.

**Ending Notes**

As the skyscraper goes global, more and more competition is likely to come from different parts of the world. Using skyscrapers as symbols of prosperity is being embraced by many emerging cities at the global stage. For example Korean cities, such as Seoul and Busan, are increasingly building skyscrapers as icons that elevate their cities’ image to world-class cities. The same applies to other cities such as Panama City and Abu Dhabi and many others in Central and South America, and Asia. Skyscrapers are not only appearing in many cities but also becoming taller. Recently Azerbaijan proposed to build a 1050 meter (3444 ft) tall tower later this decade. Other, even loftier projects will likely emerge as well; for example Adrian Smith + Gordon Gill, the firm responsible for the design of the Kingdom Tower in Jeddah, Saudi Arabia, has already begun modeling a prospective mile-high tower. Within a few years, the Empire State Building will no longer appear on the CTBUH’s list of the 20 tallest buildings in the world. As such, careful and comprehensive studies about skyscraper development will be increasingly important.

The analysis provided in this paper forms a starting point to piece together a clear picture of the multi-faceted aspects of skyscraper development in emerging global cities. The stories of Dubai and Shanghai as modern leaders in building skyscrapers are important to other cities that are aspiring to grow. It is hoped that this paper has laid the foundation for rigorous research on
this topic and provided some meaningful lessons. Future researchers may carry out comparative studies, or may dwell on other subtle and important issues such as users’ experiences and perspectives on the development of skyscrapers in their cities from a socio-psychological viewpoint.

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ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN URBAN SPACES: A Case Study of Ankara, Turkey

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Abstract
The number of people with disabilities who can move without help is quite low in the urban spaces. This significantly indicates the extent to which disabled people’s participation in urban and social life is low, and opportunities for them to move independently are constrained. The aim of this article was to determine the problems of people with disabilities encountered in urban areas. Limited accessibility for people with disabilities to the services offered in urban spaces, due to the architectural obstacles that result from the built environment, was put forward as the main problem. Issues such as accessibility for people with disabilities to the physical space, using the space and leaving the space, the limitations in terms of accessibility and the problems encountered within urban spaces were elaborated on. The current situation in the streets of the Kızılay city centre, Ankara, was observed, in order to determine whether the accessibility standards had been applied in an urban space. Orthopedically and visually impaired people who can be considered to encounter more obstacles in using urban spaces when compared with other impairment groups, constituted the field study group. According to the results of the field study, it was confirmed that the design standards for people with disabilities were not taken into account in the sample field.

Keywords: Disability; disabled people; accessibility; universal design; urban planning.

INTRODUCTION
Urban spaces include the buildings in which urban-dwellers live and where all urban activities are linked and brought together. All urban spaces play a key role in human-environment interaction and enable people to develop their creative powers. During the rapid urbanization process, only the standard requirements have been taken into account in the newly designed living spaces. This tendency resulted in the emergence of urban spaces and surroundings that were not really suitable for people and they did not meet their needs. The most effective way to create livable urban environment is to consider barrier-free and universal design principles. In this context, urban design should take a non-discriminatory and pluralist approach to facilitate the integration of disabled persons into society. However, large parts of cities and their buildings are not accessible to people with disabilities. Today people with disabilities still encounter many obstacles while using urban spaces.

The participation of people with disabilities in social and economic life is one of the indicators of modernity in societies. The primary factor, it is even a prerequisite, is the need to provide people with disabilities with the same living conditions as everyone else. A properly designed built environment is required to fulfill the needs of people with disabilities (Maraz, 2009). It is a fact that people with disabilities have different life styles from the able-bodied, this is due to their disabilities, and they fulfill their needs in their own ways. In addition, it is not rational to think that people with disabilities are different from the able-bodied except for their disabled organs, and sometimes there is a lack of necessary skills or abilities. It should not be ruled out that people with disabilities may not be able to do every job that the able-bodied can, but; they can do many jobs for which their disabilities are not an obstacle by means of their particular skills and abilities, and they can also be beneficial to society (Güngör, 2007).

It is totally wrong to think that people with disabilities are different from other people in any way except for their problems with mobility. It can reasonably be said that people with disabilities may not be able to do every single job that the able-bodied can do, but they can take jobs...
appropriate for themselves, using their skills and abilities, and in that way they can benefit society as a whole. In addition, it is an obligation, which must be met, in modern society to provide people with disabilities all the benefits of a social life. In this context, the factors that create obstacles for people with disabilities in urban spaces should be researched.

THEORITICAL BACKGROUND

Accessibility and Universal Design Debate

Accessibility is about giving equal access to everyone. Without being able to access the facilities and services found in the community, persons with disabilities will never be fully included (United Nations, 2007). This description includes the freedom of choice in entering, approaching, communicating with or making use of a situation. Access should have these dimensions; orientation, independence, mobility, occupation of time, social integration, economic self-sufficiency, transition and change. Adaptive and barrier free environments; safe and free access to public spaces and facilities, buildings and the other fields of social life will certainly raise the quality of life of people with disabilities. It is important to understand the demands of people with disabilities and realize that they are not a homogeneous group and have different body experiences before planning, designing and refurbishing built environments providing easy, independent and comfortable movement. Not only do different disability groups need different arrangements for mobility, but different detail requirements should also be considered under the main disability groups (Caglayan, 2008).

Universal Design is defined as the design of products and environments to be usable by all people, to the greatest extent possible, without adaptation or specialized design (Christophersen, 2002). It has also been defined as a design for all approach. This is widely linked to discourses of social inclusion and human diversity. The general aim is to improve the physical and social environment and so the need for special provision and assistive technologies is to be reduced (Steinfield, 2006; Barnes, 2011).

According to Asmervik (2002), the universal design concept simply means an attitude or way of considering things, where surroundings, buildings and products are planned and designed so they can be used by everyone to the greatest extent possible. An accessible building was generally perceived as a building that could be entered by a person in a wheelchair, but exactly where the entrance was placed in relation to available public transport was not deemed to be part of the accessibility issue. Accessibility and participation are included in the universal design concept in a very wide sense. Another important point of universal design was that this would be a general condition incorporated in planning and design and hence also cost-effective.

Universally designed products and environments are based on the following seven principles:

- Equitable use: The design is useful and marketable to people with diverse abilities.
- Flexible in use: The design accommodates a wide range of individual preferences and abilities.
- Simple and intuitive: Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level.
- Perceptible information: The design communicates necessary information effectively to the user, regardless of their sensory abilities.
- Tolerance for error: The design reduces hazards and adverse consequences of accidents.
- Low physical effort: The design allows efficient usage with minimum effort.
- Size and space for approach and use: Appropriate space is provided to enable comfortable and effective use for anyone regardless of physical and sensory ability (Barnes 2011; Centre for Universal Design, 2011).

Imrie (2000) notes that the growing emphasis on an inclusive approach to make the internal and external features of the physical and cultural environment accessible to
disabled people has resulted in the elevation of debates about the importance of accessibility and generation of accessibility and universal design (Barnes, 2011).

Accessibility is clearly an important issue for people with disabilities in terms of their participation in social, scientific, professional and economic activities. From this perspective, accessibility should be regarded as one of the basic human rights. All physical and architectural obstacles in the environment should be removed and communication-enabling spaces should be designed to enable people with disabilities. They have the right to participate in all kinds of social, cultural and entertaining activities, and the right to demand those rights. It is neither rational nor economical to design special spaces and buildings solely for people with disabilities. So, the factor of accessibility should be taken into account during the project preparation processes and the required and necessary arrangements should be made (Seyyar, 1999).

The requirement of accessibility to the physical environment is discussed in Article 5 of the standard regulations concerning equal opportunities for people with disabilities as established by the United Nations. The Americans with Disabilities Act (ADA), is a human rights arrangement for disabled urban-dwellers in the U.S.A, and it stipulates accessibility in the physical environment (Polat, 1998). The ADA established a framework of legislation for people with disabilities and it is the most effective legal arrangement. ADA, as a principle, prohibits discrimination against people with disabilities especially in respect of employment, local government and state units, public domains or in commercial locations as well as in access to transportation and telecommunications. The protective orders of the ADA for people with disabilities are collected under four main themes; employment, activity of local government and state units, public transportation and public domains and communication services (Maraz, 2009).

In addition, the European Urban Charter’s principles are collected under the title of disadvantaged and disabled persons in cities. Cities must be designed in such a way that all citizens have access to all places. Policies for the disadvantaged and disabled persons should aim to integrate and not to over-protect them. Co-operation with and between specialized associations representing the disadvantaged or minority groups is essential. It is important to ensure that houses and workplaces are suitably adapted to the requirements of the disadvantaged and disabled. Travel and communications and public transport must be accessible for all people.

**The Situation in Turkey**

The United Nations estimates that approximately 10% of the global population may be considered disabled. Also, in Turkey, according to research conducted by the TUIK (2010) shows that people with disabilities proportion in the overall population is 12.29%. The proportion of people with orthopedic and visual disabilities is 17.2% and the proportion of people having chronic illnesses is 25.6% as well.

In Turkey, the obligation to comply with the accessibility regulations in line with the Turkish Standards Institution (TSE) only was introduced in 1997 with the amendments to the public housing laws. In accordance with ‘Construction Law no. 3194’, the basic approach is that accessibility provisions should be adapted within the present ‘Public Housing Laws’ to provide accessibility rather than enacting separate accessibility legislation or drawing up laws (Atak, 2001). ‘The Law on People with Disabilities no. 5378’ was enacted in 2005, and new arrangements were brought together under this law. With these new arrangements, new implementations on the physical environment and local governments were embraced in addition to new rights for people with disabilities being granted. According to ‘Provisional Article 2’ one of the decisions on the physical environment and local government is the law that, the existing official buildings of public institutions and organizations, all existing roads, pavements, pedestrian crossings, open and green areas, sporting areas and similar social and cultural infrastructure areas, and all kinds of structures built by natural and legal persons serving the public shall be brought to a suitable condition for the accessibility of people with disabilities within seven years after the date of effect of this law. According to ‘Provisional Article 3’, grand metropolitan
municipalities and municipalities are required to take the necessary measures to make sure that the mass transport services in the city, provided or controlled by themselves, shall be brought to a suitable condition for the accessibility of people with disabilities within seven years after the date of effect of this law (Atıcı, 2007).

A questionnaire survey has been implemented by national level for the first time in 2010 by Turkish Statistical Institute. The general aim of the survey is to determine the problems and expectations of disabled people in their daily lives and to make effective policies in the related fields. Sampling size of the research was designed to give types of disability and proportion of disability by estimations of total, urban-rural. According to the results of this survey, 66.9% of the recorded people with disabilities think that the pavements, footpaths and pedestrian crossings are not suitable for the use of people with disabilities. Related to the physical environmental planning in their habitats, 66.3% of the recorded disabled individuals stated the unsuitability of their residences, 59.5% stated the unsuitability of shops, supermarkets, large stores and restaurants, 58.4% stated the unsuitability of public buildings and 55.4% stated the unsuitability of spaces such as post offices and banks (TUIK, 2010).

Briefly, people with disabilities encounter many difficulties while using urban spaces as a result of architectural obstacles in the built environment. So, without assistance they experience constraints on their mobility. People with disabilities are unable to participate in social life without assistance because of the limitations imposed by urban spaces. This problem can be solved with the implementation of accessibility standards during the urban design process. With the application of these physical environment arrangements, people with disabilities will be able to move freely and easily so that they too can participate in a social life. These kinds of arrangements will also contribute to the design of better quality and well-arranged spaces for all users including those who are not disabled.

METHODOLOGY

The Aim of this Study
This study aims to determine the problems people with disabilities encountered in urban spaces and puts forward solutions to these problems. Orthopedically and visually impaired people encounter more obstacles in using urban space when compared with the other disabled people who constituted the study group.

The survey area was designed from a perspective that was elaborated on sample areas in the Ankara Kızılay city center. The goal of the field study is to assess the accessibility of the environments designed for both people with disabilities and for people who are liable to be disabled, by focusing on people with disabilities and their needs and to make determinations on the accessibility of the present built environment, and also to consider suggestions which can be used as input for the design of urban spaces.

Research Hypothesis
The basic needs of orthopedically and visually impaired people should be taken into account to eliminate the conditions, which were brought to light in the study and were revealed to be the result of the arrangements in the urban spaces in which the social life takes place. These spaces constrain the mobility of people with disabilities and limit their freedom of accessibility. Standards of design, which recognize and include people with disabilities, and all other users, should be accepted as a prior criterion and must be taken into account in practice. In the study, it is found that when accessibility standards are not strictly followed and are ruled out of the urban design process, the mobility and self-reliance of disabled people is hindered, thus denying them their basic right to a social life, and it is damaging to their self-confidence.
Method

The method of the study is comprised of two stages that are appropriate for the study group to determine the problems of orthopedically and visually impaired people in urban spaces and to suggest some solutions. In the first stage, approaches towards people with disabilities in the literature were examined and the problems disabled individuals encountered in urban life and spaces of activity were discussed. In the second stage, spatial findings were reported in order to put forward the problems and needs of people with disabilities in urban spaces. To determine the suitability of the survey area for disabled individuals, determinations and evaluations on the streets and avenues of Ankara Kızılay city center (Yüksel and Sakarya Main Street, Karanfil and Konur Street) were carried out. Scientific studies on this issue and national legal legislation were drawn on in this study. The themes of the spatial determinations and evaluations conducted in the survey area are as follows; building entrances, pedestrian roads, side-walks, ramps and pavements.

In the field survey, spatial analysis techniques were used in order to determine the design of urban spaces is usable or not by people with disabilities. The photographs taken of the survey area and the principles and rules on space design for people with disabilities constitute the main materials of the study. To provide easy mobility for people with disabilities in the urban spaces, the rules of TSE should be obeyed. Criteria were established depending on TSE 12576 ‘Design Rules Regarding the Structural Measures for the Disabled and the Elderly in Streets, Roads, Squares and Ways’ (TSE, 1999). These criteria (adapted from Sirel et al, 2012) can be seen in Table 1.

Appropriate groups were formed to determine the appropriateness of the physical possibilities of the field areas to criteria. If the physical element in the field is in accordance with TSE 12576 standards in terms of quality and quantity, it receives 2 points; if it is partially in accordance with the standards it receives 1 point, and if it is not in accordance with the standards it gets 0 points. In the event that the physical element is not in the required condition in the study field, it is described with the symbol of ‘*’.

2: In accordance with the standards,
1: Partially in accordance with the standards,
0: Not in accordance with the standards,
*: There are no determined criteria,
A-TT: Total point if in accordance with the standards,
B-TT: Total point if partially in accordance with the standards,
C-TT: Total point if not in accordance with the standards.

In the second stage of the evaluation, the highest appropriate value that the physical field could receive was calculated by the multiplication of the number of criteria with 2 which is the highest appropriateness point. So, the sum of appropriateness points was divided into 3 to determine the ranges of ‘appropriate’ ‘partially appropriate’ and ‘not appropriate’. Then appropriate to the standards was determined depending on the total value that each physical field received according to the range values. Finally, suggestions for solutions were put forward on the reform of inappropriate arrangements in the researched fields and spaces.
Table 1. Evaluation criteria for field survey (Source: Author).

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>TSE 12576 STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PAVEMENTS (P)</strong></td>
<td></td>
</tr>
<tr>
<td>P.1. Pavement width</td>
<td>Min. 1.50 m</td>
</tr>
<tr>
<td>P.2. Pavement height</td>
<td>Min. 3 cm. Max. 15 cm</td>
</tr>
<tr>
<td>P.3. Transverse slope</td>
<td>Max. 2%</td>
</tr>
<tr>
<td>P.4. Longitudinal slope</td>
<td>Max. 5%</td>
</tr>
<tr>
<td>P.5. Pavement array</td>
<td>Should be designed in a way that visually handicapped people can easily move and there should be no dangerous chamfer</td>
</tr>
<tr>
<td>P.6. Facing joint space for wheelchair</td>
<td>Max. 5 mm</td>
</tr>
<tr>
<td>P.7. Paving material</td>
<td>Non-slip material</td>
</tr>
<tr>
<td>P.8. Guide track width</td>
<td>60 cm larger spaces than 10 m</td>
</tr>
<tr>
<td>P.9. Surface colour of guide track</td>
<td>Contrast of pavement colour</td>
</tr>
<tr>
<td>P.10. Surface texture of guide track</td>
<td>Max. height: 20 mm</td>
</tr>
<tr>
<td>P.11. Branch hanging down from pavement, thorn, ground clearance of label</td>
<td>Min: 220 cm</td>
</tr>
<tr>
<td>P.12. Protective obstacle on the side of curb to prevent car parking on low pavement</td>
<td>Min. height: 70 cm Max. height: 90 cm</td>
</tr>
<tr>
<td>P.13. Forestation</td>
<td>Not suitable for pavement narrower than 200 cm</td>
</tr>
<tr>
<td>P.14. Thorn and plant with spilled fruits</td>
<td>Not used</td>
</tr>
<tr>
<td>P.15. At the bottom of trees on pavement</td>
<td>Road grate or gravel in contrast colour with the environment</td>
</tr>
<tr>
<td>P.16. Difference elevation and texture on the ground after plant diameter ending around trees</td>
<td>Width: 60 cm. Height: 10 cm Text: Sensible surface</td>
</tr>
<tr>
<td>P.17. The traffic lane on which electric, lighting, traffic signs, ornamental plants, pedestrian guard rail are placed</td>
<td>(including curb stone) Min: 75 cm Max: 120 cm</td>
</tr>
<tr>
<td>P.18. The distance between drainage grate rods</td>
<td>Max. 13 mm</td>
</tr>
<tr>
<td><strong>RAMPS (R)</strong></td>
<td></td>
</tr>
<tr>
<td>R.1. With 3 directions slope on pavement sides</td>
<td>Median ramps: 8% – Lateral ramps max 10%</td>
</tr>
<tr>
<td>R.2. Width</td>
<td>One direction sloping ramp max 8%</td>
</tr>
<tr>
<td>R.2. Width</td>
<td>Pavilion side ramp min: 120 cm. On the pavement route min: 190 cm</td>
</tr>
<tr>
<td>R.3. Pavement sides with vegetation</td>
<td>One direction sloping ramp max 8%</td>
</tr>
<tr>
<td>R.4. Ramps on narrow pavements</td>
<td>Vertical to road max 2%, Parallel with the road max 8%</td>
</tr>
<tr>
<td>R.5. Join of ramp carriageway</td>
<td>Concavity with raise should not exist</td>
</tr>
<tr>
<td>R.6. Sensible Surfaces</td>
<td>In contrast colour with the surface material</td>
</tr>
<tr>
<td><strong>PEDESTRIAN ROADS (PR)</strong></td>
<td></td>
</tr>
<tr>
<td>PR.1. Width of bidirectional transition</td>
<td>150 - 200 cm</td>
</tr>
<tr>
<td>PR.2. Width of guide track</td>
<td>60 cm</td>
</tr>
<tr>
<td>PR.3. Colour of guide track for partially visually handicapped people</td>
<td>In contrast colour with environment</td>
</tr>
<tr>
<td>PR.4. In accessible roads</td>
<td>Max. slope 5%</td>
</tr>
<tr>
<td>PR.5. Resting area between the transition of a ramp longer than 10 m and higher than 50 to the second ramp</td>
<td>250 cm</td>
</tr>
<tr>
<td>PR.6. The platform at the beginning and end of ramp longer than 10 m and higher than 50m</td>
<td>150 x 150 cm</td>
</tr>
<tr>
<td>PR.7. Drainage grate</td>
<td>Should be in parallel with pedestrian road and road grate spaces: 1.3 mm</td>
</tr>
<tr>
<td>PR.8. Level differences of road and its surrounding</td>
<td>Should be between the ranges of 6 – 1.3 cm</td>
</tr>
<tr>
<td>PR.9. Ramp surfaces</td>
<td>Solid, stable, non-slip material with little roughness At the beginning and end of ramp 150 cm</td>
</tr>
<tr>
<td>PR.10. Protection curb</td>
<td>Min: 5 cm</td>
</tr>
<tr>
<td>PR.11. If there is elevation difference more than 20 cm</td>
<td>Bilateral handrail</td>
</tr>
<tr>
<td>PR.12. On the ramps wider than 300 cm</td>
<td>Handrail in the middle</td>
</tr>
<tr>
<td><strong>BUILDING ENTRANCES (B)</strong></td>
<td></td>
</tr>
<tr>
<td>B.1. Should be unobstructed starting from the pavement</td>
<td></td>
</tr>
<tr>
<td>B.2. Entrance platform</td>
<td>Width: 120 cm. Length: 150 cm</td>
</tr>
<tr>
<td>B.3. Drainage slope of platforms</td>
<td>2%</td>
</tr>
<tr>
<td>B.4. Guidance on the pavements in building entrances</td>
<td>Continuous guidance with guide tracks</td>
</tr>
<tr>
<td>B.5. The distance between door and ramp in building entrances</td>
<td>120 cm</td>
</tr>
<tr>
<td>B.6. Handrail should exist on sides of ramps</td>
<td></td>
</tr>
<tr>
<td>B.7. Ramp slope</td>
<td>Max 6% is required</td>
</tr>
<tr>
<td>B.8. Paving material</td>
<td>Non-slip material</td>
</tr>
</tbody>
</table>
FINDINGS AND DISCUSSIONS

Yüksel Main Street is one of the busy pedestrian zones which link Atatürk Avenue to Mithat Paşa Avenue. Sakarya Main Street is the pedestrian zone which is between Atatürk Avenue and Ziya Gökalp Avenue. Sakarya Square is one the important meeting places in the center. In this area, there has been as yet no arrangement for pedestrians, however, work has recently commenced on this. Konur Street is in parallel with Karanfil Street and links Meşrutiyet Avenue to Yüksel Main Street. This area is included in the pedestrian zones in which arrangements have been made. Karanfil Street is one of the busiest pedestrian zones in Kızılay and interconnects Ziya Gökalp and Meşrutiyet Avenues. This pedestrian zone was rearranged two years ago in an attempt to make it suitable for pedestrians. Applications for people with disabilities were also included in this arrangement (Figure 1).

Figure 1: Aerial photo of case study area-Ankara Kızılay city center (Source: Google earth, 2013).

Building Entrances

At least one of the entrances of the buildings should have accessible routes and entrances. All main entrances of commercial, administrative public buildings and residence buildings should be unblocked starting from the pavement. A wide entrance platform should be present in front of the building entrance. Building entrance should be made by non-slippery hard material and it should be well lit. In case of the entrances of public and commercial building entrance being with stairs, a ramp with the proper slope should be done for usage of persons with disabilities. Entrance and exists that will be used by persons with disabilities should be defined with proper signs and symbols at the entrances of public and commercial buildings (Ozturk et al, 2012).

The inevitable differences between the levels can be overcome by designing ramps that conform to standards or by placing elevating gears and stair climbing mechanisms, elevators etc. Ramps should be planned in conjunction with the stairs in building entrances. According to TSE standards, entrance doors should be at a width of at least 90 cm. The threshold should not be designed in the entrance doors. Revolving doors should be avoided. If there is a revolving door, a normal door should definitely exist beside it.
The highest total appropriateness value that the existing criteria could receive was determined in the research that was conducted with 8 criteria in the 60 building entrances examined (15 building entrances were evaluated for each street).

The highest total appropriateness value: 15x8x2=240

• Suitable for usage by the disabled: 161-240
• Partially suitable for usage by the disabled: 81-160
• Unsuitable for usage by the disabled: 0-80
• The total appropriateness value of streets in the case area: Yüksel: 52, Sakarya: 33, Karanfil: 41 and Konur: 45.

It was concluded from the research that the building entrances examined were not in accord with the TS–12576 standards (Table 2).
Table 2. The level of appropriateness of building entrances in the survey area (Source: Author).

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Total 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>B.1</td>
<td>1</td>
</tr>
<tr>
<td>B.2</td>
<td>0</td>
</tr>
<tr>
<td>B.3</td>
<td>1</td>
</tr>
<tr>
<td>B.4</td>
<td>*</td>
</tr>
<tr>
<td>B.5</td>
<td>*</td>
</tr>
<tr>
<td>B.6–7</td>
<td>*</td>
</tr>
<tr>
<td>B.8</td>
<td>0</td>
</tr>
</tbody>
</table>

Pedestrian Zones

Pedestrian zones are defined as squares, plazas, streets or street networks reserved solely for pedestrian use (Button et al., 2010, as cited in Blaga, 2013). Pedestrian zones should be designed in such a way that people with disabilities can easily access activity areas without difficulty. In addition, a pedestrian zone is an area which is between the side of a carriage way and the properties of natural or legal persons and the divided part of the platform which is divided from the carriageway with curb stones for pedestrian use and the slopes of both, paving and the width should be suitable for use of people with disabilities (TSE, 1999). To enable people with...
disabilities to walk around freely and easily, in a pedestrian zone, requires width and areas for movement, an unrestricted area below the head level, straight areas and non-slip surfaces, guiding and warning equipment should be provided (Muftuoglu, 2006).

Four main pedestrian roads were examined and evaluated. The highest appropriate values that the existing criteria in the pedestrian roads could achieve were calculated. The highest total appropriateness value that the existing criteria could receive was determined in the research, which was conducted with 12 criteria examined for pedestrian roads.

The highest total appropriateness value: 12x2=24
- Suitable for usage by the disabled: 16-24
- Partially suitable for usage by the disabled: 8-15
- Unsuitable for usage by the disabled: 0-7

While Yüksel (10), Sakarya (13) and Karanfil (11) were partially suitable for usage by the disabled, Konur (4) was unsuitable for usage by the disabled.

According to the evaluation conducted, it was determined that pedestrian roads did not meet the TS 12576 standards (Table 3).

Table 3. The level of appropriateness of pedestrian roads in the survey area (Source: Author).

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>The Level of Appropriateness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 12</td>
<td>I-Yüksel</td>
</tr>
<tr>
<td>PR.1</td>
<td>2</td>
</tr>
<tr>
<td>PR.2</td>
<td>1</td>
</tr>
<tr>
<td>PR.3</td>
<td>2</td>
</tr>
<tr>
<td>PR.4</td>
<td>2</td>
</tr>
<tr>
<td>PR.5</td>
<td>*</td>
</tr>
<tr>
<td>PR.6</td>
<td>*</td>
</tr>
<tr>
<td>PR.7</td>
<td>1</td>
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<td>PR.10</td>
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<td>PR.11-12</td>
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<tr>
<td>A-TT</td>
<td>6</td>
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<tr>
<td>B-TT</td>
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<tr>
<td>C-TT</td>
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</tr>
</tbody>
</table>

The fact that loopholes are placed in the same direction as the direction of movement on pedestrian roads and pavements makes the movement of wheel chairs hard and can cause accidents if the wheels fill the spacing. The wide spaces of road grates should be placed vertically to the direction of movement and these spaces should be less than 13 mm. In addition, in the areas examined, there were no automated teller machines appropriate for the use of people with disabilities (Figure 3).
To offer free, continuous and unobstructed mobility to people with disabilities, the elements found on the surface of pavements that pose an obstacle for the disabled should be removed. Any obstacle on the street or pavement that can be dangerous for people with disabilities should be avoided. For example, road grates, cork plates, parking chains on the road, abnormal paving differences on the surface of the road, hollows, level differences and random rises on the road can pose a great danger for people with disabilities (Figure 4).
So, these details should be given consideration during design and construction. Pedestrian roads should be meticulously designed to help people with diverse disabilities. These roads should provide people with disabilities with secure, free and unobstructed access to the urban spaces. Stairs and ramps should be used together in building exits, pedestrian roads and pavements must enable people with diverse disabilities to move easily in urban spaces. These ramps and stairs should be in accord with certain standards (Stoneham & Thoday, 1996, as cited in Muftuoglu, 2006).
Findings on the Use of Pavements and Ramps

For the evaluation of pavements, 18 criteria in total were used. The criteria in the field received points according to whether or not they met the standards and these points were evaluated by writing on the charts. Total value of pavements was 112 and it can be said that they were partially suitable for usage by the disabled (Table 4).

The highest total appropriateness value: 18x8x2=288
- Suitable for usage by the disabled: 192-288
- Partially suitable for usage by the disabled: 96-191
- Unsuitable for usage by the disabled: 0-95

According to this evaluation, there is no pavement which meets the TS–12576 standards.

| Table 4. The level of appropriateness of pavements in the survey area (Source: Author). |
| CRITERIA | The Level of Appropriateness |
| Total 18 | Atatürk and Ziya Gökalp Avenues | Meşrutiyet and Mithat Paşa Avenues |
|          | Left Pavement | Right Pavement | Left Pavement | Right Pavement |
| P.1      | 2            | 2             | 1             | 1             |
| P.2      | 1            | 0             | 1             | 0             |
| P.3–4    | 2            | 2             | 2             | 2             |
| P.5      | 0            | 2             | 0             | 2             |
| P.6      | 0            | 0             | 0             | 2             |
| P.7      | 2            | 2             | 2             | 2             |
| P.8–9–10 | *            | 1             | *             | 1             |
| P.11     | 2            | 2             | 2             | 2             |
| P.12     | 1            | 1             | 1             | 1             |
| P.13–18  | 2            | 2             | *             | 2             |
| P.14     | 2            | 2             | 2             | 2             |
| P.15–16  | 0            | 0             | *             | 1             |
| P.17     | 1            | 0             | 1             | 1             |
| A-TT     | 12           | 12            | 10            | 14            |
| B-TT     | 3            | 1             | 3             | 2             |
| C-TT     | 0            | 0             | 0             | 0             |

For the evaluation of ramps, 6 criteria in total were used. Total value of ramps was 32 and it can be said that they were partially suitable for usage by the disabled (Table 5).

The highest total appropriateness value: 8x6x2=96
- Suitable for usage by the disabled: 64-96
- Partially suitable for usage by the disabled: 32-63
- Unsuitable for usage by the disabled: 0-31

According to this evaluation, there are no ramps that meet the TS–12576 standards.

In the urban spaces, the slope of the ramps should be between the ranges of 6% and 12% depending on the type of ramp and the conditions of the area, and the width of ramps should not be less than 90 cm. Ramps should be designed with solid and non-slip materials in all the areas on which level differences exist. In addition, an arrangement different from the color/texture of the road should be designed with non-slip materials to warn people with disabilities of the turning points of pedestrian roads, building entrances, stair sides and pedestrian roads (Figures 5 and 6).
Table 5. The level of appropriateness of ramps in the survey area (Source: Author).

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th></th>
<th>The Level of Appropriateness</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 6</td>
<td>Atatürk and Ziya Gökalp Avenues</td>
<td>Meşrutiyet and Milhatpaşa Avenues</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Left Pavement</td>
<td>Right Pavement</td>
<td>Left Pavement</td>
<td>Right Pavement</td>
</tr>
<tr>
<td>R.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>R.2</td>
<td>1</td>
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<td>1</td>
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<tr>
<td>R.3</td>
<td>0</td>
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<td>R.4</td>
<td>0</td>
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<td>R.5</td>
<td>0</td>
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<td>B-TT</td>
<td>1</td>
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<tr>
<td>C-TT</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

There is no elevator in the subway entrances for people with disabilities. Joint spaces on the paving are not suitable for the use of people with wheelchairs in spite of the arrangement of sufficient width.

Disarranged paving and infrastructure elements in the wrong places pose a problem for people with disabilities.

Existence of only stairs without ramps uses makes the area inaccessible for people who use wheelchairs. While placing the infrastructure elements, the arranged width is insufficient.

Figure 5: Sidewalks in the survey area (Source: Personal archive of author, 2013).
It should be considered that the ramps will be used by wheel-chaired and individuals with walking sticks, slope should be comfortable and safe as possible as they can be. Ramps surfaces should be covered with hard, stable, non-slipper and lightly roughed (Ozturk et al, 2012).

The design of all the furnishings in urban spaces should be suitable for the use of people with disabilities. Any kind of signs and symbols in the urban spaces should be legible and should delineate the activity in accordance with international standards. However, there exists no international sign for people with disabilities except for those in the elevators in the subway entrances in the Ankara city center that was chosen as the survey area. This situation hampers disabled people and they are unable to benefit from the facilities in the city center. On the other hand, equipment that are used for communications and should be open to the general public as well as automated teller machines, which are commonly used today, should also meet the criteria for the use of people with disabilities. To achieve this, at least one of the equipment which is suitable for the ergonomics of wheel-chaired, as well as all other disabled people, should be placed in certain areas. In short, these areas should be designed according to the design principles and standards to enable people with disabilities to move freely and to participate in
activities in the urban spaces. In order to achieve a successful design, any arrangement in urban spaces should be designed in such a way that the needs of people with disabilities can easily be met and these areas should also be marked in the best way so as to provide guidance for people with disabilities.

CONCLUSION
The most important point to take into consideration while arranging urban and physical space, is to make provision to ensure that disabled people are not excluded from society, but rather they should share an equal place in society. The idea of excluding people with disabilities from society was left behind within the concept of a modern society. Instead, there was the idea of provision for their integration in society and their participation in it according to their skills and abilities. This reintroduction to society is widely accepted today. So, the aim must be to design areas oriented to people with disabilities. Public areas should be suitably designed for the use of people with disabilities. The effort of highlighting the phenomenon of disability with special spaces designed for the use of the disabled can result in disabled people not using these areas, and so the aimed for result cannot be achieved. That is why design in the arrangement of the physical environment should be integrated and includes no discriminative factor.

It is possible to provide free access to each urban-dweller to all of the urban spaces without great expense and to create an unobstructed environment by means of certain arrangements made in the physical environment. So, while constructing pedestrian zones, the design of spaces conforming to standards should especially be elaborated. Otherwise, sensible surface applications will prove necessary and the subsequent doubling of that expense should also be taken into consideration. Great attention should be paid to the issue and timely and resolute strides should be made in the direction of the application.

Below are the conclusions drawn from the findings obtained and that are discussed in the light of the arguments in the literature:

- Satisfying the needs of human optimally and completely within the framework of the human-oriented design principle in the urban design discipline is regarded as an important design input. The main target is regarded as the elimination of the problems which people with disabilities encounter in urban spaces. A target which includes the provision of accessible environments in terms of livability should not only encompass the buildings but also all living spaces. All the characteristics of the user should be reflected in all spaces to enable disabled users to benefit from all kinds of spaces and to be active in these spaces. Also, all the spaces starting from their places of residence and near their places of residence and all the spaces that are close to the urban spaces should meet these criteria.

- Instead of providing people with disabilities with separate services, all urban spaces should be made usable. The conducting of newly designed arrangements to include people with disabilities, and the old, in urban spaces will help completely eliminate the source of the problem. If the design of indoor and outdoor spaces fails to take people with disabilities into consideration, it will certainly become the basis for future problems.

- The primary issue in the design of disabled people-oriented spaces is an awareness of the problem. Societal acceptance of the fact that people with disabilities are not ‘disabled’ but rather ‘people who can work actively’ is a prerequisite to enable people with disabilities to be free, to be integrated in society and be self-sufficient and socialized. To provide for this integration in a social life, it is a requirement that people with disabilities can independently use all of the urban spaces without encountering any problems.

- Most of the people with disabilities-oriented design principles also include the needs of people who are not disabled, but when they get older, their possibility of movement is limited due to their physical inadequacies. So, these designs not only address people with disabilities, but rather a larger mass of people and many people benefit from these designs.
The most important duty falls to local governments to make urban spaces suitable for the use of people with disabilities. With the aim and ideal of encouraging local government to fulfill its duties, more financial possibilities should be provided to local government. Legislation is required to cover the development of an unobstructed environment. The main gap in the present legislation is the lack of sanction. A provision and supervision mechanism especially envisaged for local government to make suitable arrangements in open urban areas does not exist. It is necessary to immediately solve the problem of the lack of a sanction and supervision mechanism concerning this issue.

The works and studies on designing unobstructed spaces should be made in collaboration with professional disciplines such as urban planning, architecture, landscape architecture, industrial product design, interior decoration and environmental, mechanical, electrical and construction engineering. Related professional chambers, related ministries, local government, public and private sectors should also be involved. In addition, universities, non-governmental organizations, foundations, voluntary agencies and associations should also contribute to the works and projects.

In conclusion, it is natural that people can be congenitally disabled or they can become disabled later. However, it is an unacceptable situation if urban spaces are designed in such a way as to make it impossible for people with disabilities to use them. Related studies on this issue emphasize that people with disabilities are made disabled by the designs. The aim of making the urban spaces suitable for people with disabilities is to provide for their participation in social life, their free movement outside, and their harmonization with urban life, and especially to increase their self-confidence. So, the aim is to balance their physical and mental health, to provide for their participation in social activities and to enable them to continue their lives under the same living conditions as other citizens.

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IMPACTS OF URBAN PASSAGES ON FORMATION OF IRANIAN BAZAARS: Case Study of the Historic Bazaar of Tabriz

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Abstract
Bazaars have long since been of the most influential components of the traditional Iranian cities, having significant impacts on the formation and development of many Iranian cities. This study was motivated by the fact that the subject of bazaar and its mutual relationship with the formation of Iranian civilization has not yet been taken into account well. The study adapted an interpretive-historical research approach that utilized archival research as well as field studies and validated the findings through triangulation of findings with the seminal literature. It chose the historical bazaar of Tabriz as the case of study. Findings proposed that among the important components of the traditional Iranian cities, urban passages and organs have had the highest impacts on the formation and development of bazaars. The study concluded that in the context of Tabriz, traditional urban passages and the bazaar have had significant impacts on the formation of each other. This was a unique and significant study, which discovered new aspects of the important roles of bazaars in formation of Islamic cities and cultures.

Keywords: Historic marketplaces; bazaar; Tabriz; Iranian traditional cities; urban passages.

INTRODUCTION
Much literature has been published about bazaars (the traditional Iranian marketplaces) and their important impact on the formation of Islamic cities, during different historical periods. There are several definitions and theories about bazaars based on the various viewpoints of different scholars. However, only little study has been done on the impacts of the forms of bazaars and the traditional urban passages in Islamic cities. The potential influences of different urban components, e.g. religious-authorities and residential centres on the spatial structures of bazaars have also remained undiscovered.

Bazaar of Tabriz, as the largest covered bazaar of the world, is the first and foremost bazaar in Iran that has been registered in the World Heritage List. As another distinctive characteristic, this bazaar has been formed around two parallel orders. This quality cannot be seen in any other historical markets in Iran. This study therefore investigated the mutual impacts of the main components of Iranian historical cities and the traditional bazaars on each other, focusing on the historical bazaar of Tabriz.
RESEARCH METHODOLOGY
This research was motivated by the question that why historical bazaar of Tabriz has two parallel orders unlike the other bazaars of Iran? For answering this question, the study adapted an interpretive-historical mixed method approach comprising of field observations and archival studies. The field observations investigated the existing evidence about the concept of market in the history of architecture and urbanisation of Iran and the factors that have affected the formation of such markets. The second part, the archival study related to the historical bazaar of Tabriz and investigated the role of this bazaar the evolution of Tabriz as a megacity. In this part, due to the lack of the field resources, the main focus was on the available historical and archival resources. This research therefore reached to its final conclusions through matching the findings of the archival studies with the results of the conducted field studies on the existing situation of different bazaars of Iran.

LITERATURE REVIEW

Bazaar
Many people believe that any place, in which there is a business running, including buying and selling goods, can be called market. From this point of view, there are multiple potential definitions for marketplaces. However, market in Iran does not merely mean a place for bargain. Bazaars have always been recognised as the most important parts of Iranian cities comprising of all economic, political, social, religious and educational spaces. This study therefore reviewed different definitions about bazaars in order to conclude with an inclusive and exclusive unique definition for these places.

From an economical perspective, the term ‘bazaar’ refers to the places in which supply and demand meet each other and end up with an equilibrium, in a direct or indirect way (Biglari, 1956). It is a place for trade, buying and selling goods or is concourse of buyers and sellers (Department of Housing and Urban Development, 2009). However, the concept of bazaar in many Islamic countries, especially Iran, comprises more extensive meanings rather than trading (figure 1). This idea is mainly inspired by the existence of numerous mosques, schools, water reservoirs, aqueducts, shrines, reliance, and various religious centres in Iranian bazaars. In essence, Iranian bazaars have always been considered as the socio-economic and cultural city centres concentrating all the public activities (Falamaki, 2005).

Figure 1: The Historic Bazaar of Tabriz (Source: Authors).
Islam has penetrated in all parts of Islamic countries and had certain ideas and thoughts for each part of the society and Halal economy has been one of the demands always valued by people. Establishment and dominance of an Islamic state in the countries with very widespread commercial rules causes coordination of all the rules and regulations to other sharia laws. The spread of the Islamic empire from Spain to China and existence of the business and economic terms and conditions derived from the religious lows have been the basic reasons for the more commercial prosperity in the ninth to the fourteenth centuries (Habibi, 1999). Therefore, the consequent religious discussion from Islamic point of view to the world has had the highest impact on the Islamic bazaars. In other words, this must not be neglected that some of the demands and needs of businessmen in the Islamic bazaars have been diversified in accordance with the sharia laws.

The fear of the lack of regard for future business forced merchants to compliance with existing legal context. In order to earn life and academic survival, religious scholars also relied on bazaars as economic centres and the administration of religious schools. Therefore, building religious centres were undergone with the help and support from wealthy individuals and merchants. As such, there has always been a very close relationship between merchants and religious scholars. Merchants are often educated at the academies and schools and entered at the religious issues which have had strong relationship with politics and economy. During the Islamic history of Iran, merchants have financially and morally supported religious institutions; they often actively opposed central government that ignored religious values (Kheyrabadi, 1998). Another point which can be noted is the existence of the social capital in the market that played an important role in the bazaar economy (Pourjafar, 2011). It can be seen that the bazaar in the Islamic countries was formed based on the economy, yet it was a public and social place in which all the cultural, social, political and religious activities also took place. Although, these days it seems that other roles of historical bazaars are fading, these places still host many cultural, social and political events in certain cities of Iran.

![Diagram of Historic Bazaar Values and Functions](Source: Authors)
The role of the city centres in the formation of the historical bazaars

The claim that bazaar is not merely an economical place in the Islamic countries, can be inferred from emergence of the various major urban component inside bazaars, e.g. mosque, school, cistern and shrine. Each city has its particular indicators that have influenced on the formation of the city. Bazaar, as the most important and effective part of the Islamic cities, has always been the main indicator for development of Iranian city centres. This fact is more obvious when looking at the evolution of Islamic cities and how they expand from the central core shaped around bazaars and adding major urban components around them.

According to the remaining evidence from the cities of the Sassanid era (205–310), bazaars were developed from a core square to the fortification walls in order to make the significant impact on the physical organisation of the market and spatial planning (Habibi, 1999). Emergence of the religious centres inside the cities also gave a specific direction to the formation and development of bazaars in Islamic cities of Iran. Initially, bazaars were formed outside the city gates and were fairly primitive; however, during the latter development stages, bazaars found a way into the city due to the growing importance of trade and commerce. In other words, starting from the Sassanid era, bazaars became the backbone of the Iranian cities where the subsequent developments were organised around them.

Because of the social classification system, which was dominant in the pre-Islamic Iran, business was ruled by the particular class and level of people. With development of the principles of Islamic jurisprudence and removing barriers of participation of public to business and education, and in accordance with the developed new business and religious rules that were initiated with the emerging Islamic states, the flourishing of business (and subsequently bazaars) in Iranian cities was more evident than before (Department of Housing and Urban Development, 2009). In the meantime, the development of state mosques as important urban elements and their proximity and close relationship with bazaars further expedited formation and development of bazaars in the Islamic Iranian cities.

The role of state mosques and religious centres in development of bazaars

Existence of state mosques inside the city gave a new organisation to the Islamic Iranian cities. In accordance with these new changes, Rabaz (See Figure 3) which was of less importance in the pre-Islamic era became an important element and social classification system was completely abolished (Habibi, 1999). However, the remaining question among scholars has been that what was the role of the proximity of the state mosques and the traditional bazaars in the formation of the architectural structures of both?

Figure 3: Traditional structure of Iranian Cities (Source: Authors).
Continuing interest of the believers for attending at the mosque has not been hidden from the eyes of merchants. That is why they have given particular credit to the pathways reaching to mosques and always have tried to have a special look to these paths from both religious and economic perspectives. Looking at the historical maps of different cities such as Isfahan, Qazvin, Tabriz, Shiraz and Tehran, it is obvious that religious places such as shrines and mosques have had special importance for merchants. Due to the particular of some of the historical mosques in these cities, their open spaces or courtyards always cut the main routs of city roads, so that people had to enter from one entrance and after crossing the courtyard go out from the other door (Soltanzadeh, 2006). In other words, Muslim’s commuter route had a particular value for merchants to use this route for selling their arrivals and provide necessities for their lives. Comprehensive settlement is also in direct contact with the street and the market. Therefore, the first major movement for changing the context and spatial organisation of the cities started based on their political, socio-economic, and cultural situation (Habibi, 1999). As such, mosques have been the origin and purpose for the formation of bazaars and have also targeted formation of the cities. In other words, bazaar as the main streets of the cities could not be formed and developed without attention to the location of mosques. Consequently, mosque is not only a religious place for worship, but also it has been a major factor for development of the economic, cultural and social functions of the societies.

**Government centres**

There has always been a complex relationship between economists and politicians and these groups have always had different tools to put pressure on each other. This has always happened throughout the history that politicians have taken advantage of the power of economists and religious leaders to come to the power. On the other hand, economists have often taken the advantage of politicians for developing the scope of their activities. The relationship between bazaar and government or centres of power has always been full of contradictions also. This is because, security, social and political stability are the necessary ingredients prosperity in economic (Department of Housing and Urban Development, 2009). Taking into account the fact that each place of the city in which the central government is based has had the highest security and been the most crowded part of the city, the development of bazaar has always been close to these places. For instance, the bazaar of Isfahan was constructed just at the corner of the main city square which comprised of two major mosques of the city and the king’s palace as the three other important elements and symbols of power, economy, religion and politics (Shafaghi, 2006) (table 1).

As it can be seen in Table 1, the main elements of the city skeleton, i.e. mosque and the palace was created around a core and the bazaar as a linear element was expanded from both sides of this core (Department of Housing and Urban Development, 2009). It is also obvious in Figure 4 that there is another axis besides the mosque that determines the development and expansion of bazaar. The bazaar of Kerman also has the same situation so that the main elements of its formation are gathered around a square that comprises of the organ of state and the state mosque. Nevertheless, in the case of Kerman, the two main cores of the city, i.e. mosque and organ of state, were built in different historical times after the Safavids era (Department of Housing and Urban Development, 2009). From such pieces of evidence, it could be concluded that government centres in the cities of Iran have been affective factors through the process of the formation of bazaars. As presented in the subsequent sections, this study had particular attention to the evidence regarding the impact of these factors on the development of bazaar of Tabriz.
Residential centres
Bazaars in all cities of Iran have always been a strong centre of attraction for development of residential area. First, mosques as religious centres have often been placed at bazaar, so that the public access routes have been formed as to make easy access to these areas. Second, people ought to go to bazaar for preparing their daily needs and using most of services and city centres such as schools, city’s main squares and some of the religious centres that were developed besides bazaars.

City gates
There is almost no traditional bazaar in Iran that has not been affected by city gates which were constructed on the path of the caravans, travellers and people. This is a common character of the Iranian bazaars that main axis of bazaar was aligned with the path connecting two main city gates, since many caravan and travellers tended to move along with this path. For instance, the order in which the main axis of Zanjan bazaar was formed was between the two gates of Qazvin and Tabriz (Department of Housing and Urban Development, 2009). And there has been same situation for the bazaar of Kerman which was built aligned to the Khorasan’s north-south road pasting through the western side of the city (Department of Housing and Urban Development, 2009). Once the pathway was well-established and became a good source for merchants’ business and income, the owners of the buildings of that vicinity often tried to take the advantage of the potential developments. These developments ultimately led to formation of backbone of bazaars following the aforementioned paths through both public and private participation.
Table 1: Comparative analysis of centres and influencing factors in formation of different Iranian bazaars (Source: Authors).

<table>
<thead>
<tr>
<th>Market title</th>
<th>Arterial input</th>
<th>Period - Formation</th>
<th>Urban symbols</th>
<th>Government centres</th>
<th>Religious centres</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Isfahan market</td>
<td>Located on the Silk road and Spice road – contact between Shiraz and Kerman to Rey and Baghdad</td>
<td>Seljuk period Safavid</td>
<td>Atigh square of Saljuk – Naghsh e Jahan square of Safavi</td>
<td>Administrative centre of the Seljuk government centre of Safavid</td>
<td>Mosque- Abbasi and Sheikh Lotfollah mosque</td>
<td><img src="image1" alt="Map" /></td>
</tr>
<tr>
<td>2 Kerman market</td>
<td>Spice road - Contact between Sistan to Fars and Hormoz to Khorasan</td>
<td>Seljuk period Al-Muzaffar period - Safavid</td>
<td>Atigh square of Saljuk – Naghsh e Jahan square of Safavi</td>
<td>Ghobeh Sabz government complex – organ government complex</td>
<td>Mozafarieh mosque</td>
<td><img src="image2" alt="Map" /></td>
</tr>
<tr>
<td>3 Zanjan market</td>
<td>Located on Silk road Path between Qazvin and Soltanieh to Tabriz and</td>
<td>Safavid and Qajar periods</td>
<td>Divided into two parts Ashagheh</td>
<td>Organ of government and administrative</td>
<td>City mosque and major religious centre</td>
<td><img src="image3" alt="Map" /></td>
</tr>
<tr>
<td>4 Tabriz market</td>
<td>Located on the Silk road – contact between Rey, Isfahan, Ghafghaz and Istanbul</td>
<td>Ilkhani - Turkmen Aghkoyunlular period - Safavid</td>
<td>Saheb Abad square (Hasan king)</td>
<td>Saheb Abad garden – Qajar mantle home</td>
<td>Mozafarieh complex and Kabood mosque – Hssan king and Tahmasb king</td>
<td><img src="image4" alt="Map" /></td>
</tr>
<tr>
<td>5 Tehran market</td>
<td>Located in the communication path between cities in north-east and west of Iran</td>
<td>Safavid and Qajar period</td>
<td>Organ square</td>
<td>Golestan palace</td>
<td>City mosque</td>
<td><img src="image5" alt="Map" /></td>
</tr>
</tbody>
</table>

THE HISTORICAL BAZAAR OF TABRIZ
The historical bazaar of Tabriz has been selected as the case of this study for various reasons. First, this bazaar has a global reputation and is the only bazaar of Iran that has been registered in the World Heritage List. Second, this bazaar has a very particular character that distinguishes it from other bazaars of Iran. This character is that this bazaar has two main parallel axes unlike the other bazaars which have only one axis or two perpendicular axes. This study, investigated the factors contributing to this distinctive character by analysing historical evidence.
History of the market of Tabriz

There is no sufficient historical evidence to ascertain when the bazaar of Tabriz was exactly built. This is because there is neither reliable historical text from pre-Islamic period about construction of this bazaar nor any proper archaeological research has been conducted to investigate this matter. The only evidence belongs to the excavations at the courtyard of the Kabood (The Blue) mosque of Tabriz which revealed a historical site belonging to the early first millennium BC at the depth of 8 meters lower than the current benchmark of Tabriz. After that, the oldest evidence about Tabriz backs to the first and second centuries after the prophet Mohammad’s Hegira. After this time, the existence of Tabriz as a city was discussed in text books also. For instance, the anonymous author of the book named The Limits of the World wrote: “When Aboo Jafar Mansour became the caliph of the Muslims, many of the Yemenis moved from Basreh to Azerbaijan with Yazid Bin Hatam and Ravad Bin Almasna Azodi and stayed in Tabriz” (Anonymous author, 1983). Existence of the state mosque of Tabriz in that time and the Four Minaret tomb further confirm the existence of bazaar in this part of the city in that time. From the fifth century AH onward Tabriz has been known as a large and prosperous city with an active bazaar and travellers and merchants.

Formation of Tabriz market

Formation of the bazaar of Tabriz should be considered as a concurrent process with the development of the city of Tabriz. This is because the history of the formation of bazaar of Tabriz is also as vague as the formation of the city itself. According to the oldest formal record about foundation of this bazaar, it was re-built by Najaf Gholi Khan Dambali after the disastrous earthquake in 1782. Before and after this date, Tabriz was continuously being renovated and reconstructed because of the frequent earthquakes and this fact makes it difficult to accurately identify the evolution process of bazaar of Tabriz as the main core of the city. The oldest earthquake in Tabriz which was formally recorded was during the era of Motevakel Bellah Abbasid Caliph in 858 AD and after that the city was reconstructed by his order. After this earthquake multiple earthquakes were recorded at Tabriz. After each disaster, bazaar was one of the first elements of the city that was quickly reconstructed and found its prosperity and continued its social activity.

Ebne Hoghol (1966) explained the prosperity of the bazaar of Tabriz when he said: “in this city, there are a lot of bazaars in which there is a thriving trade and its silk fabrics are unique in the world”. Although this explicitly described the existence of the thriving bazaars in Tabriz, it does not provide any information about the spatial quality of this place. Tabriz became the capital of Iran in the Patriarch era and during Abaghakhan's time (1282), the bazaar of Tabriz started to boom rapidly since throughout the kingdom of Abaghakhan Tabriz was at a brilliant situation in terms of economy and social life. During this period, Tabriz was under the attention of ambassadors of Egypt, India, European countries, Byzantine Empire, Venice and Genoa (Handicrafts and Tourism Organization, Iranian Cultural Heritage, 2011). Bazaar of Tabriz maintained its importance until the transition of the capital from Tabriz to Qazvin in 1537 and it lost its prosperity in late Safavid (1501-1722) until the outset of Dambali dynasty. Finally, during Ghajar period and after its reconstruction after the earthquake 1782 this bazaar found its booming time again.

The impacts of city gates to Tabriz on the formation of bazaar of Tabriz

Notwithstanding the destructive effects of multiple earthquakes, the availability of historic pictures and maps and the chance to compare them with the current situation can reveal some important facts about the formation of the bazaar of Tabriz. According to the existing documents, there is no enough evidence to show that Tabriz had any city gate before Ghajar era (1796-1926). For the first time, the map drawn by Trezeh and Faboyeh in 1827 identified the location and the quality of the emerging gates of Tabriz (figure 3). According to this important document, by that time, all around the city border was occupied, flattened, and vacated by Abbas Mirza. The most remarkable
gate in this map is the Kohneh Khiavan (Old Street) gate. This gate was the main portal of transportation between Tabriz and Tehran and Isfahan. Baghmishe gate was the other important gates in Tabriz which was located near to the famous bridge named Ghari Korpousi. Due to the proximity of this gate to the building of governance forum and mantle home and the building formerly called Ali Ghapoo, the path to the eastern and north-eastern cities such as Ahar, Ardabil passed through this gate. After passing the Venair Bridge that was located above the Aji Chay River, they entered to the Baghmisheh neighbourhood. Ardabil-Maraghe road along the east-west after traversing Baghmisheh and Sheshgelan neighbourhood, at the east of the central core, and after crossing the Ghari bridge (old woman) arrived to the Baghmisheh gate” (Safa Manesh, 1997). Dochi Ghapsi also had direct connection to the Straw Wholesalers’ square and had the entry and exit route for caravans from Marand-Jolfa and Ghafghaz and travellers exited the city through this gate (figure 5). Gajil gate was located at the site of one of the largest cemeteries and considered as one of the most important city gates which were the rout for caravans to Maragheh and Baghdad in the past.

Urban components and symbols are among the elements that played significant roles in the formation and development of the bazaar of Tabriz. The government centre in Tabriz after the Patriarch period (1256-1335) was located at Sheshgelan neighbourhood for some times. After that, during king of Gharah Ghyonloo’s time (1435-1467), it was relocated to the Saheb Abad garden at the north of the River Square which was built during the time of Sheykh Mohammad Jovini, the minister of Abaghakhan. There is a buried place named old house at the Sheshgelan neighbourhood where emperors prior to Jahan Shah’s time lived there. Jahan Shah brought the government house to this garden which was named Saheb Abad ( Ebne Karbalaei, 2004). At the same time with Jahan Shah, her wife also built a complex named Mozafarieh complex at southeast of Tabriz. The construction of this complex caused the formation of an axis which was the development direction for the bazaar. This axis starts with Mozafarieh complex with centralisation of Kabood (Bule) mosque and ends with Saheb Abad complex with centralisation of government palaces and Saheb Abad square. Latter after the earthquake in 1782, a new axis for development of bazaar appeared after relocating the government centre from north to the east of Tabriz.

Urban components and symbols

Architectural elements of the bazaar of Tabriz

Like the other Iranian traditional bazaars, bazaar of Tabriz includes order (Nizam), inns, timchehs, schools, mosques, shrines, monument, squares, fridges and traditional gyms. Currently, this bazaar has four orders, fourteen corridors, fourteen inns, two caravans, fourteen timchehs, five sub-bazaars, twelve mosques and one square. The point which is very important is the reasons for formation of two main parallel bazaars in this place. In Tabriz market also the most common spatial pattern is the composition of the shops and corridors. This bazaar is a communication network that includes some parallel and intersecting orders. The direction of two main parallel orders is from north to south and the important perpendicular orders to them are: Haram Khaneh rout, shoe makers market and coppersmith market. Shops are spread along the major and minor orders and the located spaces behind them are connected to the inns and timchehs (Tabriz market management plan, 2009). The following sections discuss the reasons of emergence of two parallel orders in this bazaar.
Figure 5: historical arterial input and the formation of bazaar of Tabriz (Source: Archive of Tabriz heritage department--Accessed 2012).

**Old and new orders of the bazaar**

One of the historical pictures from Tabriz is Metraghchi’s miniature (figure 6). In this image, bazaar of Tabriz is shown as a row of arcades. According to the image, the bazaar was formed in accordance to city centres and the city's main pathways to Isfahan and Rey. Mozafarieh complex and Kabood mosque are at the beginning and Saheb Abad square and government complex are at the end and Tabriz mosque is at the middle of the arcades. The image also shows that during that time, the bazaar had one order only. This order is currently known as the Old order. When comparing this image with the map of Treseh and Faboye (1827) which was drawn after the earthquake time, one can see that in that time the old order was not reached to the River square yet. This map also does not comprise of the elements named Aynachilar bazaar and Batchilar Charsuq that connect the old order to the river.

This fact is also reflected in Metraghchi’s miniature in which the drawn arcades do not reach to the River square. However, the end point of the arcades in Metraghchi miniature arrive to the Saheb Abad garden but still not connected to the Saheb Abad square while the new orders now finish at the king Hassan’s school in the north of the River square. According to finding through the recent excavations at the location of King Hassan’s mosque and school, it is obvious that the drawn arcades by Metraghchi belong to the old order which appeared during the Safavid times (1501-1722) and there was no sign of the new order by that time. From the historic documents, it is obvious that the new order was constructed after the earthquake in the year 1782.

**The reasons for formation of two parallel orders in Tabriz market**

The order plays a key role in the formation of the body of bazaars. In fact, the orders often follow the navigation paths of cities, so that after people continue to appear at certain paths, they evolve into bazaars and then only timchehs and inns attach to these orders (the Ministry of Urban and Housing of Iran, 2009). The formation of these navigation paths however has always followed the trade destinations. In the case of Tabriz, the most of these routes was Isfahan –Rey to Istanbul.
and Baghdad highway that started from Khiaban district and ended at the Davachi district. Based on the available historical images, this rout gained a very high degree of importance due to through construction of the Saheb Abad square in the north of the city and Mozafarieh complex in the east within the time of Turkmen Aghkoyunlular (1378-1502).

Figure 6: Airplane image in 1956 from bazaar of Tabriz and its main pathways (Source: National Cartographic of Iran--Accessed 2012).

The Old order of the bazaar of Tabriz was formed alongside this axis (figure 7a); nevertheless, after the earthquake in 1782 Tabriz became a smaller city with the population of less than ten thousand people. According to Zhober (1968), all settlements around Tabriz and most of the buildings were destroyed due to this horrific earthquake (figure 7b). After the earthquake, Najaf Gholi Danbali, who built the last fence of Tabriz, decided to miniaturise the city fence. For achieving this goal, the former government centre and the main square of the city were eliminated and a new government centre was built at Haram Khaneh district (east of the city). The Saheb Abad square lost its importance after formation of the new government centre. In contrast, Baghmisheh gate and Khiaban gate gained much higher degree of importance and the expansion of the city altered towards the east.
Figure 7: Development process of bazaar of Tabriz based on the formation of the old and new order towards government and political centre of the city (Source: Authors).

The new order of bazaar starts from the Baghmisheh gate and transits through the north of Mantle House (the new centre of government) and arrives at the Shoemakers order. This order has been unchanged until the current time. As per discussed, this research posits that the relocation of government centre from the north to the east of the city led to the situation for formation of new order in the parallel of the old order. However, the formation of the new order never caused the low prosperity of the old order. This study believes that this was due to the existence of subsidiary orders and inns such as Tomb order, Serajan bazaar, Hat Sewers’ bazaar and small Matchmaker woman bazaar between these two orders. Table 2 summarises all influencing factors on the formation of bazaar of Tabriz based on the historic documents.

CONCLUSION

The investigation of the formation of bazaars in some cities which formed prior to Islam’s commencement, then converted to Islamic cities has always been a very complicated issue. Bazaars and their components (e.g., commercial, political, social, religious, and educational services’ centres) have been of the main elements of Islamic cities and urban structures. Integration of such a variety of functions and concepts in a single urban structure is an evidence of not only acting as commercial spaces, but also constituting overwhelming public places for hosting and leading social and cultural ceremonies or social relationships. This distinctive character of Islamic ‘marketplaces’ is mainly due to the Muslim believes and sharia laws for economics which encourages social bonds though any possible conduit. Nevertheless, this characteristic of bazaars which was initially triggered by sharia laws and particular needs of merchants formed a very strong interplay and relationship between developments of Islamic cities and bazaars in Iran.
Table 2: The influencing factors on the formation of bazaar of Tabriz (Source: authors)

<table>
<thead>
<tr>
<th>Metraghchi’s Miniature image of Tabriz in Safavid period</th>
<th>Tabriz Bazaar in Ghajar period</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In this miniature, Tabriz Bazaar is shown by a series of arcades and Kabood mosque is at the beginning of these arcades and Saheb Abad government centre is located at the end of axis</td>
<td>• In this picture, the main orders of bazaar match with the axis of motion from Rey and Esfahan to the Istanbul and Ghafghaz</td>
</tr>
<tr>
<td>• This axis matches with the Karvanian’s rout from Rey and Esfahan to Istanbul and Ghafghaz</td>
<td>• Old order has harmony with Metraghchi’s miniature and has connection to the north of the river by creation of the Batchilar Chaharsogh and Aynachilar and Sadeghieh order</td>
</tr>
<tr>
<td>• There is only one set of arcades in this image which matches with the old order of the bazaar</td>
<td>• New order formed at the east of old order based on the transferring government centre from north to the east and it shows the importance of government centres to the formation of bazaar.</td>
</tr>
</tbody>
</table>

Cities’ input patches in the past were one of the most important factors affecting the formation and development of the historic bazaars in Iran. In addition, government, religious and educational symbols and centres that can be seen in the bazaar of Tabriz were other factors that direct Iranian markets development.

The debates over the key roles of bazaars in the post-Islam developments of cities have become one of the most interesting topics. This paper discussed the important role of the state mosques for the development of the bazaar during this period. The conducted investigations sought answer to the overarching question: between mosques and bazaars which urban element has had the main contribution to the developments of the Islamic cities? The results of this study ascertained that although mosques significantly contributed to the development of many Islamic urban structures, including bazaars, bazaar also played big roles in determination of locations of city and state mosques. Nevertheless, this impact was not one way only and at the same time, the formation of bazaars in Islamic cities of Iran was strongly influenced by the position of various urban elements including government centres, urban pathways, and the major national highways. This paper therefore discussed the roles of the important official and religious city centres on the formation of bazaars and highlighted that the city gates played very important roles in the formation of the orders of bazaars. The paper also investigated the distinctive characteristics of bazaar of Tabriz with two parallel orders. This was a unique and significant study which discovered new aspects of the important roles of bazaars in formation of Islamic cities and cultures.
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The map of Daralsaltaneh of Tabriz (1297 AH). Tehran: Sahab Cartography Institute.


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INSTRUCTIONAL STRATEGIES FOR TEACHING CROSS-CULTURAL DESIGN:
A Pedagogical Example Using Nigerian and South African Spatial Forms

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Abstract
This paper discusses instruction on Nigerian and South African spatial forms presented to a
Design studio in a Southwestern US University. The goal was to increase students’ ability to
synthesize design ideas for different cultural settings using design theories, their utilization of
examples from non-Western perspectives as references for discussing design, and their
ability to solve design problems in different cultural settings. The author presents these
instructional strategies as a pedagogical model for design educators.

Keywords: Diversity and design; global design issues; cross-cultural design; non-
Western design; design in cultural settings; instructional strategies

INTRODUCTION
This paper discusses instruction on Nigerian and South African spatial forms presented to a
Design studio in a Southwestern US University. The instruction was developed using one facet of
ACT-R learning theory (Anderson, 1995), anthropological methods (Creswell, 2009; Hall, 1966;
Kingsolver, 1998; O’Reilly, 2005; Silverman, 2005), and Grant’s pedagogical approaches (Grant,
1991). The distinction between declarative and procedural knowledge was used to help students
learn about Nigerian and South African spatial forms and how to apply those forms. Anthropological methods were used to elucidate information about Nigerian and South African
design aesthetics. Grant’s (1991) pedagogical approach of introducing diversity in design
education was embedded in the instruction using three steps: the inclusion, contribution, and
transformational approaches.

LITERATURE REVIEW
A Case for Cross-Cultural Design from Nigeria and South Africa
Previous scholarship about cross-cultural design has included proposing international design
education (Fairbrass & Harris, 1986; Guerin & Mason, 1993; Guerin & Thompson, 2004; Leigh &
Tremblay, 2002), exploring design in a variety of diverse cultural settings (Asojo, 2001; Asojo,
2007; Grant, 1991), and virtual design charrettes and actual physical exchanges in Canada, the
United States, and Mexico (Kucko, Prestwood, & Beacham, 2005). The discussion about
internationalizing interior design education in the US began with the 1986 Interior Design
Educators Council (IDEC) annual meeting. At that meeting, Fairbrass and Harris (1986)
encouraged interior design educators to integrate international activities into their classrooms by
exposing students to other cultures, histories, and lifestyles.

In another study, Guerin and Mason (1993) presented an experiential framework for
internationalizing interior design education that studied characteristics of study-abroad programs.
Similarly, the fall 1994 Futures roundtable in Chicago, Illinois which consisted of 16 participants
representing interior design practice and education met to determine trends in the profession.
The resulting list included areas such as technology, art and culture, education, the environment,
and business. Global cooperation, business values, cultural diversity, and technology were noted
as important areas to be addressed by the interior design profession (Hasell & Scott, 1996).
The accreditation boards for interior design and architectural education have also both
recognized the importance of integrating cultural diversity and global issues in design education.
For example, the 2009 Council for Interior Design Accreditation (CIDA) professional standard 2 requires "entry-level interior designers have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts" (p. 12). Similarly, the 2009 Conditions for accreditation from the National Architectural Accrediting Board (NAAB), Inc. standard 2 A.9 on historical traditions and global culture requires that students have an Understanding of parallel and divergent canons and traditions of architecture, landscape and urban design including examples of indigenous, vernacular, local, regional, national settings from the Eastern, Western, Northern, and South hemispheres in terms of their climatic, ecological, technological, socioeconomic, public health, and cultural factors. (p. 23).

Furthermore, on cultural diversity, the 2009 National Architectural Accrediting Board (NAAB), Inc. standard 2.A.10 recommends students understand "the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity on the societal roles and responsibilities of architects" (p. 22). All the aforementioned authors and accreditation requirements suggest the increasing need to engage design students in the global design discourse. Thus, design educators are constantly being challenged to introduce global issues in design education and are responsible for integrating global design discourse into design curricula. In order to effectively design in today’s world, design students have to understand the cultural, social, economic, and political circumstances of many cultures. While previous authors have discussed and illustrated the significance of integrating global issues, diversity issues in design curricula and designing in diverse cultural settings, none have actually proposed instructional approaches that use non-Western design forms that focus on sub-Saharan African countries.

In the study presented in this paper, I focused on Nigeria and South Africa, two very diverse and populous countries in Africa that offer numerous precedents for design. I chose Nigeria and South Africa because the entire African continent, with its complex history, will be very difficult to cover in one study. A unique commonality is that both countries exhibit Mazrui’s 1986 “triple heritage” with influences deeply rooted in the indigenous, Western, and Islamic cultures. This “triple heritage” is what Elleh (1997) also observed in the architecture of most African cities. African architecture is a product of cross-cultural encounters from indigenous, Western and Islamic cultures. The result is that African cities are different from any other part of the world. Therefore, Africa offers unique precedents for studying cross-cultural design.

Nigeria is the most populous country in Africa with a population of about 140 million. This population is made up of about 250 ethnic groups. Three of them, Hausa, Ibo, and Yoruba are the major groups and constitute more than 40 percent of the country’s population. Virtually all the indigenous populations of Africa are represented in Nigeria, hence the great diversity of her people and culture. It was in Nigeria that the Bantu and Semi Bantu, migrating from South and central Africa, intermingled with the Sudanese. Later, other groups such as Shuwa Arabs, the Tuaregs, and the Fulanis, all of whom are concentrated in the far north, entered northern Nigeria in migratory waves across the Sahara Desert. The earliest occupants of Nigeria settled in the forest belt and in the Niger Delta region (Embassy of the Federal Republic of Nigeria, 2009).

South Africa has a population of about 50 million people. The 2010 midyear population estimates indicates 79.4% are black Africans, 9.2% are White, 8.8% are colored and 2.6% are Indian or Asians. Major ethnic groups include the Zulu, Xhosa, Basotho, Venda, Tsonga, Swazi, Ndebele, Tswana, and Bapedi. The white population originates from many ethnic groups such as the Dutch, Flemish, Portuguese, Norwegian, German, Greek, French, English, Polish, Irish, Italian, Scottish, and Welsh.

**Instructional Strategies for Cross-Cultural Design**

Educators are constantly being challenged to integrate global and diversity issues in design curricula and there is a lack of instructional approaches that focus on sub-Saharan Africa.
Similarly, there is a lack of body of knowledge on cross-cultural design pedagogical approaches. An interdisciplinary approach using a facet of ACT-R learning theory (Anderson, 1995), Grant's pedagogical approaches (Grant, 1991), and anthropological methods informed the development of the instructional strategies presented in this paper. The distinction between declarative and procedural knowledge (Anderson, 1995) was used to help students learn about Nigerian and South African spatial forms and how to apply those forms. Anthropological methods such as phenomenology, comparative methods, life histories, ethnography, photography and proxemics were used to elucidate information about Nigerian and South African design aesthetics. Grant's (1991) pedagogical approach of introducing diversity in design education was embedded in the instruction in three steps: the inclusion approach; the contribution approach; and the transformational approach.

**Anderson’s Act Theory and its Implication for Instruction in Cross-Cultural Design**

ACT-R (Adaptive Control of Thought—Rational) was developed by John R. Anderson at Carnegie Mellon University (Anderson, 1995). The basic premise is that cognitive tasks humans perform consist of a series of separate actions and procedures. One main assumption of ACT-R is that knowledge can be classified as either declarative or procedural (Anderson, 1995). Anderson (1995) noted “declarative knowledge is explicit knowledge which we can report and of which we are consciously aware” (p. 284). Many Cognitivist theorists observed that declarative knowledge takes two forms: episodic memory and semantic memory (Bauer, 2006; S.K. Johnson & Anderson, 2004; Tulving, 1983, 1991, 1993; Ormrod, 2008). Episodic memory is a person’s memory of a personal life experience, while semantic memory is general knowledge about the world. Procedural knowledge, the second type of knowledge, involves knowing how to execute tasks (J.R. Anderson, 1983, 1995; Corno et. al., 2002). Anderson (1995) observed that “procedural knowledge is knowledge of how to do things, and it is often implicit” (p. 234-235).

Several cognitive and educational psychologists consider procedural knowledge, skills related to the performance of cognitive activities (Anderson, 1995; Ormrod, 2008). Anderson (1995) noted “human cognition is always purposeful, directed to achieving goals, and to removing obstacles to those goals” (p. 237). Therefore, a better understanding of procedural knowledge can be gained through problem-solving activities. It is pertinent to note that in the process employed by designers and architects, the goal is directly aimed at problem-solving and achieving goals, which are the client/user requirements for the space being designed. Three essential features of problem-solving activities identified by Anderson (1995) are goal directedness, sub-goal decomposition, and operator application. These three features are relevant to problem-solving in design. Initially, there is a goal by the designer to solve a problem. Next, the designer creates sub-goals for the problem. Finally, the designer puts these sub-goals together and performs tasks to achieve a solution to the design problem.

According to Anderson, procedural knowledge is acquired in three stages of skill development: cognitive, associative, and autonomous (Anderson, 1995). Anderson (1995) observed the first stage, the cognitive stage represents the phase in which “subjects develop a declarative encoding of the skill; that is; they commit to memory a set of facts relevant to the skill” (p. 273). The second stage, the associative stage results out of repeated practice. During this stage a person detects and corrects errors. As a result of which performance becomes smoother and more rapid. This stage fosters practice, thus leading to proceduralization. Eventually, as the procedure becomes more automated through practice, automaticity emerges in the autonomous stage. Anderson’s (1995) ACT-R has some general implications for teaching procedures that are relevant to the present study. They are:

1. Students must develop an accurate and elaborate declarative representation of the desired procedure (actions) and conditions under which it should be used;
2. Teaching can be accomplished using the expository or discovery methods. The expository method is teacher-centered instruction, while the discovery method occurs via discovery;
3. Feedback is an important component, because it fosters proceduralization; and,
4. Continued practice leads to automatization.

In this study, I used Anderson’s ACT-R general implications for teaching procedures to guide students through a cross-cultural design learning process. In the first step, I guided students through the development of accurate and elaborative representation of Nigerian and South African culture and design. Students learned aspects of the culture such as general information (location, population, climate, history, languages, government, culture, food, festivals, clothing and textiles, and technology), design philosophy, design elements, design principles, organizational principles, spatial relationships, spatial transitions, form and space, proportion and scale, horizontal elements, and environmental issues.

This information was developed using the expository method, which involved teacher-centered instruction, using interactive presentation lecture formats. Additionally, exercises where students learned by guided discovery were integrated. An example of a method built into this study where students learned by guided discovery is when they selected a Nigerian or South African ethnic group and developed conceptual ideas based on the traditional and contemporary design from that ethnic group. Students were asked to include the following in their conceptual ideas: location, brief history, philosophy, form and space, spatial organization, and material technology. Students also learned through discovery in the process of designing a restaurant to highlight Nigerian and South African cultures.

Images were used to provide information about the cultures, since design students generally possess high levels of visual literacy, because of their constant utilization of visual and graphic methods in the design process and design problem-solving. This process facilitated learning through discovery. Constant feedback was important to foster proceduralization and with constant practice the process was expected to become automatized and natural. In the study discussed in this paper, the hope was that the state of automatization was accomplished through the final design project, where the students designed a restaurant in an urban setting in Lagos, Nigeria or Johannesburg, South Africa to highlight each country’s culture for tourists. Table 1 illustrates a chart of the steps in which I utilized the general implications of Anderson’s ACT-R for teaching to help students learn about Nigerian and South African designs.

Grant's Pedagogical Approaches and its Implication for Instruction in Cross-Cultural Design

Grant (1991) recommended three pedagogical approaches for introducing diversity in design education: the inclusion, contribution, and transformational approaches. The inclusion approach utilizes examples from non-western perspectives as references for discussing design ideas. The contribution approach selects invisible designers (non-western) and analyses the contributions they have made. Regarding the most comprehensive approach, the transformational approach, Grant (1991) noted:

Attempts to significantly alter student experience and, therefore, learning. It injects perspectives, references, and content through cross-cultural experiences that shape students’ understanding of significant architectural theories while demonstrating alternative creative thinking and decision-making skills. To transform or change the existing singular context and its assumptions, a revised curriculum, cultural emphasis, and learning context are required. (p. 161).

Grant used the inclusion and contribution pedagogical approaches in the development of transformational methods of introducing diversity in design theory through courses that explore design in a variety of cultural settings. In the study presented here, I build upon the existing body of knowledge by developing a pedagogical model of how diverse cross-cultural design perspectives are introduced in studio. Using Grant’s inclusion, contribution, and transformational approaches, design students explored design in Nigeria and South Africa. Grant used the inclusion and contribution pedagogical approaches in the development of transformational methods. He introduced diversity in design theory through courses that explore design in a variety of cultural settings.
Like Grant, the project in this study began by utilizing the inclusion and contribution approaches (Grant, 1991). I guided students through the study of Nigerian and South African design precedents and culture. The hope was that, in the process of designing a restaurant in an urban setting in Lagos, Nigeria or Johannesburg, South Africa to highlight the cultures of the countries, the students would develop a ‘critical and analytical eye’ which will enhance their appreciation of the importance of cross-cultural knowledge within design. The extent to which this occurred would determine the success of the instructional approach. Tables 2 and 3 illustrate a synopsis of design precedents from Nigerian and South African spaces using the inclusion and contribution approaches as references for discussing design ideas presented to the students.

**Anthropological Methods and their Implications for Instruction in Cross-Cultural Design**

Anthropological methodologies include research traditions such as phenomenology, participant observation, comparative method, life histories, genealogies, ethnography, photography, grounded theory and the study of proxemics. In this study, these research traditions were used to elucidate information about Nigerian and South African design aesthetics to participants. Phenomenological research is a qualitative method in which the researcher captures the individual’s experience of a phenomenon as described by the participant (O’Reilly, 2005). It often involves long interviews with about ten people. Participant-observations involve personal observations in which the researcher gains the trust of the community being studied by immersing herself or himself in the culture, so as to learn about significant aspects such as human interaction, human behavior, kinship patterns, aspects of ceremonialism, and spatial layout of the culture. Comparative methods involve the analysis of cultures to learn and explain patterns of similarities and differences.

Life history collection by the researcher is another anthropological field technique. The goal is to capture important information from the subjects. Genealogies help to highlight information about the group’s ancestry. Ethnography is another anthropological field technique, which O’Reilly (2005) defined as:

> **An iterative inductive research, drawing on a family of methods, involving direct and sustained contact with human agents, within the context of daily lives, watching what happens, listening to what is said, asking questions, and producing a richly written account that respects the irreducibility of human experience, that acknowledges the role of theory, as well as the researcher’s own role, and that views humans as part object/part subject.** (p. 3)

Photography involves taking and documenting images from the group being studied. Grounded theory involves the development of theory based on data collected in the field. Creswell (2009) defined grounded theory as "a qualitative strategy in which the researcher derives a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study" (p. 229). It typically involves about twenty to thirty people.

Proxemics, a term coined by Edward T. Hall (1966), deals with human interaction and behavior in space and it is also used to understand how people perceive and use space. In his analysis of space, Hall (1966) delineated the following four distances:

1. Intimate distance, which is the space within 1.5 feet of a person. This correlates to how close people are for embracing or touching;
2. Personal distance, which is from 1.5 to 2.5 feet of a person. This is usually for interaction among friends and family;
3. Social distance, which is from 4 to 7 feet of a person. This is for interaction with acquaintances; and,
4. Public distance, which is from 12 to 25 feet. This is usually for public speeches.
Table 1
Anderson’s ACT-R General Implications for Teaching about Nigerian and South African Design

<table>
<thead>
<tr>
<th>Task</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop accurate and elaborate declarative representation of Nigerian and South African designs</td>
<td>Examples of topics covered to help students develop an accurate and elaborate representation are the following:</td>
</tr>
<tr>
<td></td>
<td>- General information about the Culture: Location, Population, Climate, History, languages, Government, Food, Festivals, Clothing and Textiles, Technology, etc.</td>
</tr>
<tr>
<td></td>
<td>- Design Philosophy: Design theories/ideologies, Religious and Cultural values, natural elements (earth, water, air, fire, sky) and their importance.</td>
</tr>
<tr>
<td></td>
<td>- Design Elements: Line, Form, Shape, Space, Texture, and Color</td>
</tr>
<tr>
<td></td>
<td>- Design Principles: Balance, Rhythm, Emphasis, Proportion, Scale, and Unity/Harmony.</td>
</tr>
<tr>
<td></td>
<td>- Organizational Principles: Centralized, Linear, Radial, Clustered and Grid planning styles.</td>
</tr>
<tr>
<td></td>
<td>- Spatial Transitions: Circulation, Approach, Entrance, Importance of threshold changes, Path, Edges, Nodes, Corridors, Courtyards etc.</td>
</tr>
<tr>
<td></td>
<td>- Articulation of form and space. Cultural Identity and Symbolic meaning, Proportion and scale, Role status and hierarchy in determining proportion and scale of the buildings and spaces.</td>
</tr>
<tr>
<td></td>
<td>- Horizontal elements: Base planes, Depressed planes, Overhead planes</td>
</tr>
<tr>
<td></td>
<td>- Vertical elements: Trees (discuss symbolic meaning), Columns, Arches, Vaults, Minares, Walls, Niche.</td>
</tr>
<tr>
<td></td>
<td>- Properties of enclosures and quality of space - Shape and Form, Proportion and Scale: volume, Light, View, Texture, Pattern, Surface and Color. Sound.</td>
</tr>
<tr>
<td></td>
<td>- Environmental issues: Sustainability and Green Design issues.</td>
</tr>
<tr>
<td></td>
<td>- Case studies: Examples of building types - Religious buildings, Residential buildings, Commercial buildings, Civic buildings, etc.</td>
</tr>
</tbody>
</table>

Expository Methods (Teacher centered instruction) | Using the expository methods involves teacher-centered instruction to help students develop declarative knowledge. The above-mentioned topics will be presented in PowerPoint and interactive presentation lecture format on Nigerian and South African design. Anthropological methods such as ethnographies, proxemics, and genealogies will be used to elucidate information about Nigerian and South African design aesthetics. |

Discovery Methods | The discovery method allows students to learn through discovery. Projects are assigned to enhance discovery. Examples of project types to foster discovery: Task 1: Assign students the task to pick a Nigerian or South African ethnic group and summarize the traditional and contemporary design or space from that culture. Ask students to include the following topics: location, brief history, philosophy, form and space, spatial organization, and material Technology. Task 2: Interior and lighting design of restaurant in Nigeria and South Africa in an urban setting in Lagos, Nigeria or Johannesburg, South Africa to highlight the country’s culture and food for tourists. |

Feedback Component | Feedback is an important component, because it fosters proceduralization. Feedback from the instructor is paramount. Any misconceptions and disequilibrium is corrected with feedback and constant critiques and input from instructor. |

Automatization | Continued practice leads to automatization. |
Table 2
Design precedents from traditional Nigerian and South African spaces using the inclusion and contribution approaches as references for discussing design.

<table>
<thead>
<tr>
<th>Culture</th>
<th>Location</th>
<th>Spatial Organization</th>
<th>Artistic Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hausa-Fulani</td>
<td>Nigeria</td>
<td>Street patterns were radial in Hausa-Fulani cities, which had authoritarian communities. Spaces were sometimes based on rectilinear or curvilinear geometry or a juxtaposition of both. Buildings had dome or flat roofs sometimes on quadrangular or square forms. The center was important in Hausa-Fulani culture. Arches and vaults were predominant.</td>
<td>Wall decoration and painting was very predominant. Resurfacing of walls was an annual ritual. Hausa-Fulani specialized in ironwork, leather, pottery and goldsmithing. Arabic scripts and geometric patterns were sculptured on walls.</td>
</tr>
<tr>
<td>Igbo</td>
<td>Nigeria</td>
<td>Street patterns were based on winding labyrinths in Igbo societies, which had a more diffused authority structure.</td>
<td>Wall decoration and painting was very predominant and women painted the interiors and exteriors of the family Obi.</td>
</tr>
<tr>
<td>Benin</td>
<td>Nigeria</td>
<td>Street patterns based on a modified grid in Benin, which had authoritarian communities. Buildings were based on impluvium style with central courtyard.</td>
<td>Famous for ancient carvings and artistic work made of ivory that adorn many museums in the West.</td>
</tr>
<tr>
<td>Yoruba</td>
<td>Nigeria</td>
<td>Street patterns were radial in Yoruba cities, which had authoritarian communities. Buildings were based on impluvium style with central courtyard.</td>
<td>Woodcarvings, decorative patterns sculpted into walls, verandah and columns. Human mythological and animal symbols were also sculpted on walls. Elaborately carved doors and carvings. Sculptures in life were made out of bronze and terracotta. Famous for aso-oke weaving.</td>
</tr>
<tr>
<td>Zulu</td>
<td>Present day South Africa</td>
<td>Cities or settlements were circular in form. Huts were domical or beehive in form.</td>
<td>Renowned for their basketry and beadwork. Zulu beadwork combined geometric shapes and colors. Zulu baskets were made by men and women and similar to their beadwork, they integrated some geometric patterns and colors.</td>
</tr>
<tr>
<td>Ndebele</td>
<td>Present day South Africa and Zimbabwe</td>
<td>Basic layouts were made up of rectangular walled compounds with a centrally located main house that was divided into the front and back. The courtyard served as an outdoor room. It was used for cooking, washing and socialization.</td>
<td>Renowned for the wall paintings and art by the women. Ndebele paintings were typically bold, brightly colored and predominantly made up of geometric designs with black outlines.</td>
</tr>
<tr>
<td>Basotho</td>
<td>Lesotho</td>
<td>Conical beehive roof with a cylindrical structure made of pliable materials.</td>
<td>Walls of huts were decorated with simple patterns that were hand drawn. Earth tone colors such red, yellow, cream and browns are used. Stone mosaics are also used as decorative elements on the exterior (Aston, 1952). Traditional Basotho straw hats were conical in shape similar to their huts. Men built the huts and women painted and maintained them.</td>
</tr>
</tbody>
</table>
Two other notions of human behavior in space that Hall (1966) defined are sociofugal and sociopetal spaces. Sociofugal spaces are arranged to discourage human interaction, while sociopetal spaces are arranged to encourage human interaction. An example of a sociofugal space is a classroom with rows of chairs facing the instructor, which clearly does not promote socialization among peers. Whereas, a sociopetal arrangement is one in which the spaces might be laid out in teams or groups of tables to promote teaming and interaction. Phenomenology, participant observation, comparative method, life histories, genealogies, ethnography, photography, grounded theory and proxemics from anthropology have numerous applications and implications for cross-cultural design. In a recent study, I used phenomenology to study hairdressing among the Yoruba, a major Nigerian ethnic group. The study highlighted the relationship of natural hairstyles to the built environment and architecture using fractal theory. Traditional settlements used fractals in spatial composition and these fractals are also seen in carvings, architecture, ornamentation, jewelry and hairstyles of the Yoruba.

Fractals are swirling patterns for modeling in biology, geology, and the natural sciences. The five components of fractal geometry are recursion, scaling, self-similarity, infinity, and fractional dimension. Fractals occur in a loop, the output for one step is the input for the next step. Fractals also consist of similar shapes in different scales. Ron Eglash (1999), in his book African Fractals: Modern Computing and Indigenous Design, noted “while fractal geometry can indeed take us into the far reaches of high science, its patterns are surprisingly common in traditional African designs, and some of its basic concepts are fundamental to African knowledge systems” (p. 3). Eglash found the self-similarity of fractals in what is characterized as ‘circles of

<table>
<thead>
<tr>
<th>Culture</th>
<th>Location</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Contemporary</td>
<td>South Africa</td>
<td>Simple two-story, single-family housing planning style is rectilinear.</td>
<td>M'pahilia’s inspiration is from traditional South African architecture’s use of local materials. He uses bags full of sand because of its abundance and the exterior is plastered. In many cases, members of the community gathered together to pack sand bags to be used for construction. This is a community-oriented process reminiscent of traditional societies.</td>
</tr>
<tr>
<td>Contemporary</td>
<td>Nigeria</td>
<td>Round spatial planning, the sanctuary radiates around altar, serving as central focus and reinforcing the concept of community similar to traditional Africa societies. Existence of a gradual transition from outside to vestibule to the sanctuary and altar. Verandah around the sanctuary allows for a relationship with nature and cross ventilation, thus reinforcing simplicity.</td>
<td>Decorative elements, such as woodwork on altar, seats, carved columns recall traditional artistry. Simplicity of Dominican order matched in the use of natural materials (wood and stone) and warm earth tones. Use of brown and green tones. Materials left unfinished for simplicity.</td>
</tr>
<tr>
<td>Nigerian</td>
<td>Nigeria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominican Church</td>
<td>Ibadan,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nigeria designed by Demas Nwoko</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
circles of circular dwellings, rectangular walls enclosing smaller rectangles’ which were the basis of many Nigerian and South African ethnic groups. Fractals are often seen in carvings, architecture, ornamentation, jewelry and hairstyles in both Nigerian and South African cultures. Fractal geometries are present in Ndebele material culture (South Africa) and Hausa, wall paintings (Nigeria), as well as, in Zulu (South Africa) and Yoruba (Nigeria) spatial organizations. Phenomenology can be used to study the phenomena of carving, jewelry making, ornamentation, fabric making, and building construction to understand more about Nigeria and South Africa.

Biographies of notable figures from a culture can help elucidate important aspects from the culture’s past. For example, in this design pedagogy, I highlighted biographies of past leaders and public figures during the pre-colonial, colonial and post-colonial periods to help students better understand the culture. Queen Amina of Zaria (Nigeria), Shaka Zulu (South Africa), Kings of Benin and Ife (Nigeria), and Nelson Mandela are some notable figures that were used to highlight some historical factors in the built environment in both Nigeria and South Africa. Their biographies contributed to learning general information about Nigeria and South Africa and political influences on the patterns of settlement, architecture, and space planning.

Participant-observation is important to highlight aspects such as human behavior and interaction, ceremonialism and spatial layout. I have observed ceremonies in West African environments and some of these can be used to teach the concept of the “triple heritage” by Mazrui (1986) and Elleh (1997) in history and the built environment of Africa to design students. Mazrui (1986) noted that African culture is deeply rooted in the “triple heritage”: the indigenous, Western, and Islamic influences. This heritage is what Elleh (1997) also observed in the architecture of most African cities. These elements combine to form the built environment in African cities and make them different from any cities elsewhere in the world. Elleh (1997) observed “traditional religion, regardless of Islam and Christianity, plays a significant role in the life of the people and affects the building tradition” (p. 299). Participant-observation of spaces, ceremonies, festivals, etc., can be powerful tools to inform design pedagogy and highlight concepts such as the ‘triple heritage’ in Nigeria and South Africa. Life histories and genealogies can capture important information to help design students understand aspects of the group’s ancestry and culture. In a recent exercise, I documented a genealogical chart for a man of Yoruba descent in the US and the chart further reinforced the notion of how ‘triple heritage’ is prevalent among West Africans.

When one observes how spaces are planned in indigenous Nigerian and South African settings using Hall’s (1966) notion of proxemics, an extended family or the King’s palace (in societies with monarchical systems) lived within the confines of compounds. This implies they were within intimate, personal and social distances depending on the activities they engaged in. For example, families were within intimate and personal distances of each other and guests were kept within social distances in large courtyards or at personal distances in festival times. Settlement patterns among the Yoruba, Igbos, Hausa, Benin, and Zulu were often arranged around open spaces such as courtyards or greenery, and human interaction was important, therefore they were sociopetal in form. The fact that both Nigerian and South Africa compounds often were made up of extended family members indicated that constant interaction was important. Thus, the design of spaces was done to promote this interaction, thereby, reinforcing sociopetal forms.

THE STUDY: IMPLEMENTATION OF THE CROSS-CULTURAL INSTRUCTION
The instructional strategies discussed in the preceding section were implemented in a study at a Southwestern University. The goal of the study, which was to develop and test the instruction on Nigerian and South African spatial forms in an Interior Design studio (N=17). The research questions focused on how students respond to the instructional program, their ability to synthesize design ideas for different cultural settings using design theories, their utilization of examples from non-Western perspectives as references for discussing design, and their ability to solve design problems in different cultural settings. The design project, which was the context for
this study, was a six-week interior and lighting design group project of a restaurant in Nigeria or South Africa. The requirement of the project was to design the interior and lighting of a restaurant in an urban setting in Lagos, Nigeria or Johannesburg, South Africa to highlight the country’s culture and food for tourists. The interior space of the restaurant was required to portray energy, kinetic movement, cultural flavor, color and entertainment. The study occurred in five distinct stages. Stage 1 was the development of the instruction that integrated Anderson’s ACT-R theory, Grant’s pedagogical approaches, and anthropological methods. Stage 2 was the design of the study, delivery of instruction, and inception of data collection. Stage 3 involved the evaluation of participants work post instruction. Stage 4 involved interviews of participants. Stage 5 was the analysis and interpretation of the themes and findings in terms of the research questions. The data sources in this study were the pre- and post-test questionnaires, observational data, video recordings, actual design projects (Figures 1 and 2) developed by participants, and interview data. Like Hurtado (2001) and Denison and Chang (2009) after the instruction, my goal was to test how students’ assess their learning, their development of design critical thinking skills after instruction, and their ability to design in Nigerian and South African contexts. The hope was that the extent to which their skills improve will significantly prepare them for solving design problems in different cultural settings, a tool necessary in a diverse and global society.

FINDINGS AND DISCUSSION FROM IMPLEMENTATION OF THE CROSS-CULTURAL INSTRUCTIONAL STRATEGIES

The findings in this study indicated that students’ skills improved significantly after the instruction and the restaurant design project in a Nigerian and South African cultural setting. After the study, students reported richer descriptions of design elements and principles, spatial relationships, spatial organizations, environmental issues, and aspects of culture, religion, history, and government from Nigeria and South Africa. A cultural framework of five theme emerged from the data. They are social dynamics, juxtaposition of traditional and contemporary culture, visual and performance arts, elements and principles of design, and sustainability (Figure 3). Social dynamics and juxtaposition of traditional and contemporary culture were abstract themes, while visual and performance arts; elements and principles of design; and sustainability were concrete themes (Tables 4 and 5). Multiple data sources indicated the instructional design process was successful in helping students’ problem-solve in a cultural setting. There was evidence that participants gained civic benefit after the study, because participants noted that the cross-cultural experience was important, particularly because of the diverse and global societies in which we live. They reported transferring the knowledge gained in this process to other design projects in different cultural settings that they undertook in subsequent courses. There were numerous benefits from developing the instruction from an interdisciplinary perspective, particularly because the design field lacks a diverse body of knowledge on non-Western issues. The instruction was developed using one facet of ACT-R learning theory (Anderson, 1995), anthropological methods (Creswell, 2009; Hall, 1966; Kingsolver, 1998; Silverman, 2005), and Grant’s pedagogical approaches (Grant, 1991).

ACT-R theory’s (Anderson, 1995) general implication for teaching procedural knowledge that was used to organize the instruction into the distinct parts was found to be very systematic and helpful in promoting learning and leading students to higher-level thinking. The distinct parts into which the instruction and study were organized were teacher-centered and discovery-centered information. I used significant amounts of feedback to foster automatization. The results highlight the importance of helping students with the development of declarative knowledge on Nigeria and South Africa and that teacher-centered and discovery methods, and that feedback fosters a state of automatization. Participants reported achieving some level of automatization at the end of the study, since they noted being comfortable problem-solving in a different cultural setting and exhibiting the ability to transfer the knowledge when posed with similar design problems. During the interviews after the study, participants noted applying the knowledge gained in this study while designing in a different cultural setting in another design class.
Figure 1: Student Concept board and Perspectives for Durojaiye Café, Lagos, Nigeria. (Source: Asojo, 2011).

Figure 2: Perspectives for Swaziburg, Johannesburg, South Africa. (Source: Asojo, 2011).
Figure 3: A Cultural Framework illustrating five themes developed from the data: Social Dynamics, Juxtaposition of traditional and contemporary culture; Visual and Performance arts; Elements and Principles of Design; and Sustainability.
(Source: Asojo, 2011).

Table 4
A synopsis derived from different data sources collected during the study illustrating the abstract themes.

<table>
<thead>
<tr>
<th>Group</th>
<th>Culture(s)/Country</th>
<th>Data sources</th>
<th>Abstract Theme 1: Social Dynamics</th>
<th>Abstract Theme 2: Juxtaposition of traditional and contemporary culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Yoruba, Igbo, and Hausa, Nigeria</td>
<td>Observation, Interviews &amp; Posttest short essay question.</td>
<td>The idea of Lagos as a melting pot and a multicultural metropolis led to this group using three cultures, one from Southwest, Southeast, and North. Creating spaces to foster social interaction and reinforcing the importance of community were prominent notions to this group.</td>
<td>The notion of Western and Islamic influences impacting Nigeria architecture along with the indigenous influences. Emphasis placed on influences from Mosque architecture. The idea that contemporary buildings still reflect culture.</td>
</tr>
<tr>
<td>C</td>
<td>Yoruba, Nigeria</td>
<td>Observation &amp; Interviews</td>
<td>Design inspiration derived from the artwork of Jumoh Buraimoh, an iconic Yoruba artist.</td>
<td>An emphasis on developing a contemporary solution based on Yoruba Culture. The idea that government whether democratic or imperial was reflected in city, urban planning and architecture.</td>
</tr>
<tr>
<td>D</td>
<td>Yoruba, Nigeria</td>
<td>Observation, Interviews &amp; Posttest short essay question</td>
<td>Design inspiration derived from the mythology and philosophy of the Yoruba, Odudua, the spiritual leader of the Yoruba as an iconic person.</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Zulu, South Africa</td>
<td>Observation &amp; Interviews</td>
<td>Derived inspiration from Shaka Zulu, a prominent Zulu prince and Zulu philosophical beliefs. Community and social interaction were major design determinants.</td>
<td>The idea of creating a contemporary expression of Zulu design in their design solution.</td>
</tr>
</tbody>
</table>
Grant’s (1991) three-step pedagogical approach of introducing diversity in design education was also found to be very systematic and helpful to promote learning and lead students to higher-level thinking. The process of guiding students through the study of Nigerian and South African design precedents and culture using the inclusion and contribution approaches was successful as indicated by the data sources. The success of the transformational approach was evident in the process of designing a restaurant in urban settings in Nigeria and South Africa to highlight the cultures of the countries. Findings from the study illustrated that students developed a ‘critical and analytical eye’ in their understanding of design theories in cultural settings and an appreciation for the importance of cross-cultural knowledge in design.

Based on the qualitative and quantitative data, the anthropological methods used to elucidate information about Nigerian and South African cultures were successful instructional tools. They provided a model to participants on how to conduct research about non-Western
cultures in design related fields that lack a diverse body of knowledge on non-Western design. Ethnographies, biographies, the comparative method, phenomenology, the study of proxemics, and other methods and concepts from anthropology served as a body of knowledge participants could draw from. Multiple data sources indicated the instructional design process was successful in helping students’ problem-solve in a different cultural setting.

CONCLUSION
Overall, there was good evidence from the study that students gained both disciplinary and civic benefits that will allow them to view the world from multiple perspectives and equip them with skills to be actively engaged in a diverse society. Given that we live in an increasingly diverse and global environment, this study provides educators a model to help them integrate cross-cultural issues in design pedagogy. Findings in the present study illustrate how this process might be a starting point for design educators interested in cross-cultural design pedagogy and may integrate exercises in existing curriculum.

In order for cross-cultural pedagogy to become routinized in design education, processes like the one in this study can be expanded to semester long required courses. Design educators must also welcome the idea of taking an inclusive approach to teaching studio to integrate cultural diversity and global issues into the curriculum. One recommendation is for design programs to introduce global design studio courses, where the emphasis is designing in non-Western settings. I have described one intensive course, but design educators have to go beyond one course to make this approach more routinized in design curriculum. Pedagogical experiences like these will better prepare design students for designing in global settings. In fall 2012, in a fourth year interior design studio, the cultural framework from this study was used by the author’s students to problem-solve for a Native-American community college library design. Future studies will address how educators can transfer this approach to other non-Western cultures.

REFERENCES


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CULTURAL DIVERSITY AND REFORMING SOCIAL BEHAVIOR:
A Participatory Design Approach to Design Pedagogy

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Abstract
This paper presents a participatory design approach as an alternative model for design education. This is to show how implementing collaborative design affects the design process in comparison to the conventional design studio teaching methods and techniques. It also presents a literature review focused on the importance of integrating cultural diversity and social context within the design studio environment implementing the co-design A review of traditional design studio teaching, cultural diversity, and social behavior issues, their effect on design decisions, and their implications on design outcomes is undertaken. The paper investigates two questions: 1. Does current design education achieve the skills, learning, and training necessary for the students to become successful professionals in design practice? 2. How can integrating the participatory design approach within the design studio affect the design output and understanding cultural differences?

Keywords: Cultural diversity; social behavior; participatory design; design pedagogy; design practices.

INTRODUCTION
As a result of complex social change and behavioral issues involved in the contemporary social context and since recently design is considered as an applied behavioral science, the role of the designer needs to be reshaped. This research is a presentation of different views of how design education can offer positive design-learning experience to train and educate designers to fulfill the need to balance between the rapid complex of social change and the human-environment interaction.

According to Salama (1995), design education is one of the fields that require innovative and creative skills and social responsibility that could be applied within two-dimensional and three-dimensional environments. Additionally, the major concern of designers is producing products that relate to human activities; that focus on one hand on balancing the human environment-interaction, socio-cultural behavior and awareness, and on the other hand, on balancing between the students’ faculties of searching, thinking, and other mental activities This should be reflected in the design teaching process in a way that should be focusing more on balancing formal and socio-behavioral aspects and also students capability to conduct a socio-cultural design research.

According to Turgut, Salama, and Kellett (2008), most professional design and planning education programs do not provide enough time to explore and teach all relevant issues related to culture-design relationships. Recent literature indicates that deep understanding of the culture-design relationship is necessary. Thus, an important objective in this context is to overcome problems related to design practices and to present an approach to train new designers and design students to understand their changing role in contemporary society.

The paper presents a participatory approach for design students as a new design teaching mechanism within the design studio. It also aims to integrate new cultural diversity and
social change dimensions into design goals and social responsibilities. This literature review focuses on how integrating the participatory approach into the design learning environment and affects the nature of the design process toward more effective socio-behavioral change. Concomitantly, this paper aims to address noticeable problems in the profession of design, which starts at their roots, forming the very first step as design students in the current design education system. It is essential to face the problems of design studio teaching. These problems can be exemplified like this: on the one hand, the isolation of design students from the real socio-cultural situation, and on the other hand the designers’ ego that isolates the design professionals from interacting with the users during the design process which leads to a lack of understanding of human and cultural aspects, and in turn, to the failure to anticipate users’ needs.

CONVENTIONAL DESIGN PEDAGOGY

Design education, like other branches of education, conveys the values of the profession and society. Since design is created in the field of tension between reason, emotion, and intuition, the design education should be seen as a manifestation of the ability to visualize, coordinate and implement the idea of building or product rooted in the traditions of humanity. Design is an activity that focuses on identifying problems in order to achieve responsive solutions.

At the beginning of the founding schools of design, there was only one form of education: Beaux-Arts education in France, which emerged in response to the system and the needs of the state. With the change of the system of values appeared the only alternative approach to formal education before the First World War: Bauhaus education in Germany, which emerged as a result of technological change resulting from the Industrial Revolution. Although these approaches look different, they are in fact based on the same principles regarding the need for attention to the community and the needs of the user, where they focused on the formal aspects of design and architecture, manufacturing technology with little concern for cultural and social issues and values (Salama, 1999, 2009).

The Beaux-Arts

The Beaux-Arts was founded in France in 1648 by Cardinal Mazarin to educate the most talented students in drawing, painting, sculpture, engraving, architecture and other media. The instructors combined between teaching and professional practice. The evolution of the Beaux-Arts is divided into two periods: first, from founding the Royal Academy of Architecture in 1671 to the mid-nineteenth century. The second was from the mid-nineteenth century to 1968, where the school was reformed to add more technical training aspects into architecture offering two degrees: First is the diploma in architecture and second is the diploma of graduate studies in Architecture (Egbert, 1980).

The Beaux-Arts Educational System

The Beaux-Arts education system is based on three major stages that would lead to be qualification in architecture practice.

First, all students are required to join an “atelier”. The selection of this “atelier” depends on the following:

1. The person whose goal is to achieve “Grand Prix de Rome” would choose an atelier headed by members of the institution in charge of running this competition.
2. A person could have the interest to join an atelier because of its reputation.

The atelier was the main place to practice where all the design exercises are conducted. At the atelier, students get prepared for entering the competition. Second, after choosing the atelier students have to pass several design problems to be enrolled in the school. The first problem is to pass twelve hours of architectural design courses, while the second is to pass eight hours of drawing and decorative design elements. The third problem is to pass a set of examinations in scientific fields; one example is a two hours exercise in descriptive geometry.
After passing these steps with all the included courses and exams, the third stage takes place to prepare students to fulfill the requirements toward the degree (DPLG-Diploma Par le Government). According to Egbert (1980), this stage consists of the following:

1. Six Projects, from five weeks to three months, which include plans and normal presentation and sections and elevations.
2. Six sketch designs, each is a twelve-hour session to complete plan and perspective, presentation for a specific given structure.
3. Six exercises, each one is related to an aspect of architecture such as rendered drawings, planning, urban design issues, and addressing problems associated with landscape architecture.
4. The last exercise is for those who aim to develop futuristic, utopian or visionary ideas. The student should pass a minimum of six of the eighteen exercises to be qualified for the presentation of the final thesis. The thesis consists of oral examinations and the necessary drawings in the manner of working drawings as a complete presentation for a selected building; also specifications and estimated costs are to be submitted.

The Bauhaus

The Bauhaus was established in 1919 by Walter Gropius in Germany. Due to the political situation and change during that period, the Bauhaus was closed several times which was manifested into three stages of the Bauhaus: first was in Weimar from 1919 to 1923, the second was in Dessau from 1925 to 1931, and third was in Berlin in 1932 until Mies announced the closure of the Bauhaus. Ideas from all the advanced art and design movements were explored, combined, and applied to problems of functional design and machine production. Their philosophy was “the complete building is the ultimate aim of all the visual arts.” They believe that every artist should reach proficiency in design. The unity between art craftsman and technology was their main goal. It was the logical consequence of German concern for upgrading design to reflect the new era of industrial society that began in the opening years of the century. Advanced ideas about form, color, and space were introduced and integrated into design vocabulary when Der Blaue Reiter painters Paul Klee and Wassily Kandinsky joined the teaching staff with Johannes Itten who has established the preliminary courses to release student creativity and to teach them the nature of the materials and fundamental principles of design and visual arts. De stijl was introduced by Lyonel Feininger on 1919 (Meggs, 1998).

Notably, The Bauhaus achieved and influenced the art and design movements. It created a modern design movement that was reflected on architecture, product design, and visual communication. Moholy Nagy contributed an important statement about typography. It developed the modern approach to visual education, which contributed to visual theory. By integrating fine and applied art, it also played a significant role in bringing art to a close relationship with life by using design as a tool for social change and cultural revitalization (Meggs, 1998).

The Bauhaus Educational System

The program’s goal was to develop the student’s personality by providing technical skills. The main concept of the Bauhaus is the integration between crafts and art and dealing with them as they are two varieties of the same activities. The teaching program started among a group of artists who were to give instructions about the effective use of color in a shape or form and composition, providing fundamentals of aesthetics in a new machine era using their artistic experiences to formulate a new grammar of design. The major concern was the relationship between production and design (Meggs, 1998).

The Bauhaus in the beginning stage was divided into three phases: a preliminary course, a general course, and architectural training. Lately it has changed to two phases only, which are the preliminary and the architectural training. The preliminary course was added by Lazlo Moholy Nagy. Lasting for three semesters, the course is based on form and composition, and includes practical training and workshops on the use of tools and materials and field visits to factories as a link to industries. The general course includes training workshops, lectures on theories and
training on a model building. The architectural course includes two categories: first is training in metal workshop, wall painting and in theoretical lectures in aesthetics. The second includes instructions on the factory settings and how it affects design. The third includes architectural design studio, interior design, training on model building, and lectures on theories of architecture. The student after passing these all would obtain the Bauhaus Diploma (Witford, 1984 and 1992).

CULTURAL DIVERSITY AND DESIGN PEDAGOGY
Turgut, Salama, and Kellett (2008) argue that the recent years have witnessed dramatic changes in the socio-physical environments of cities suggesting the presence of multiple diversities. This is exemplified by changes in the structure of contemporary societies, the emergence of informal settlements, housing problems, large structure and new building types, and the deterioration of the built heritage, while the complexity of the existing gap between environmental growth and rapid urbanization on one hand and the human behavior in the built environment on the other hand. This increasing gap is conceived as one of the problems that impact the way in which people perceive, read, and comprehend their environment. With these arising problems, demands for new types of knowledge and their application in design pedagogy are clearly on the rise (Turgut, Salama and Kellett, 2008).

Influence of Cultural Diversity on Conceptual Learning Output
With globalization and migration of people, cities become more multicultural. So a need to teach cultural aspects to design students, planning and design has emerged, even though design education have not fully incorporated cultural aspects into pedagogy. Since design is regarded as a problem-solving process based on creativity that fosters the upgrading of visual context and enhances individual behavior toward the physical environment. Uncertainty, uniqueness and conflicts are typical characteristics of the design problem solving process (Abdel-Hadi and Rashed, 2008).

Teaching cultural aspects can be done using a variety of techniques proposed. These include games and simulations – where role playing can be used to bring attention to cultural matters; library saturation – which involves in-depth library research; cultural encounter and experience – reflecting on experiences of encountering and living in another culture; naturalistic field research - going to the field, observing, participating, interviewing, seeking to understand culture physical environment relations; ethnography – abridged or unabridged search for learning the culture; exploring cultural concepts – seeking information on specific cultural concepts, such as world view, traditions, customs, etc. questioning embedded design values – interrogating how values permeate design; design programming – obtaining cultural physical requirements; and design problem solving - by designing for a community. Some of these techniques are more effective than others.

Aleya Abdel-Hadi and Tarek Rashed (2008) have tested the hypothesis that cultural diversity affects the students’ conceptual design output. The methodology used to obtain the result of this hypothesis relied on classification of the outcomes according to similarity, relating them to results obtained from in-depth structured interviews with some open ended questions with the students (80) that dealt with their sociocultural background: the main physical features they recall from their daily route. Data analysis revealed that landscape was experienced and interpreted in many different ways: nature, cultural activities, ideology/symbol, history/myths, location and aesthetics, with an influence of the cultural environment context on the perception interpretation processes (Abdel-Hadi and Rashed, 2008).

REVOLUTIONARY MODELS IN DESIGN PEDAGOGY
In response to the traditional design teaching models and the systematic design process of the late 1960s, design educators have developed and employed several teaching model alternatives as a result of the criticism of the traditional design education that reflects the inappropriateness to meet and fulfill the contemporary needs of society. The different models include the case problem
(experimental) model, the analogical model, the participatory model (community based design learning), the hidden curriculum model, the pattern language model, the concept-test model, the double layered model, the energy conscious model, the exploratory model, the interactional model (Salama, 1995, 2009).

Over the past six decades, designers have been moving closer and more open to approaches that define the design and the products based on the need of the future users of what they design. The advances is unified now in design practices and education, practiced user-centered design from an “expert perspective” in which trained researchers observe and interview users, whose contribution is to perform instructed tasks and to give their opinion about product or design concepts that were generated by others. The user-centered design approach has been primarily a US-driven phenomenon.

Since the 1970s, people have been given more influence and room for initiative in roles where they provide expertise and participate in the informing, ideating, activities in the early design phases. Figure 1 reflects an overview of the current state of the human-centered design landscape. As shown in the area of participatory design, the notions of co-creation and co-design have been growing. Co-design refers to the creativity of designers and people not trained in design working together in the design development process. Figure 2 shows a simple representation of the design process today and the growing emphasis on the front-end stage of the design process.

In search of alternative ways of developing collaborative design skills, Sander and Stappers have explored various forms of board games, because they can establish a frame for experimentation and learning about design collaboration. They also provide the students with a dynamic and creative environment. To achieve that, the exercises had to be carefully selected to be diversified enough and stimulate the creativity of students and the participants. One important aspect to consider in participatory design sessions is the organization of working groups and the choice of the exercises and working material. It is especially important to make sure that all users, regardless of their level of experience feel that their contributions are valued (Sanders & Stappers, 2008).
PARTICIPATORY MODEL IN DESIGN PEDAGOGY

Participatory design is a dynamic process that involves two major factors: first is student awareness of the term “cultural design”, which is a term used to indicate design that conscientiously attempts to make design suitable to the culture of the design perceiver, including helping students gaining the experience in understanding the various cultural components, and the need to incorporate cultural requirements. Second is the user participation during the design process taking place in design progress at early design process stage as an efficient tool of understanding the user needs and preferences (Hasanin, 1997).

In the late nineteenth century, participation has emerged when the development of the United Nation's popular participation programs started presenting the community participation theory as an approach to social development. Its main goal was to create the opportunity to all community members to be involved politically and be part of the development process. The community–based struggles in the 1960s were related to the beginning of the democracy movement in America and the start of the civil rights movement, and the challenges of alternative cultures. The new social movement developed by programs of social reform named “War on Poverty” the Community Action Program supporting the demand of improve the living condition of the poor. Davidoff, advocacy planner has presented on his article 1965 a new planning model. His belief is in expanding choices for all persons, and the recognition of the social responsibility and enabling all group and organizations representing low-income families (Sanoff, 2000).

Since the role of the designer is solving design problems, the design games focus on how users can participate in supporting the designer's decisions within the design process, usually, designers in this process usually faces major challenges in facilitating and linkage between the members of the participant group whose involved with the designer in the design process.

One of the studies presented by Ehn and Sjogren (1991) emphasized PD work as play. They developed the participatory design concept both theoretically and methodologically. They created design games as a tool of 'designing-by-playing'. They involved participants by using games in the process of experiencing future work situations in fun and liberating ways. As Muller, Wildman and White (1994) presented through their research, games were helpful because they provide a familiar, relaxed and relatively egalitarian atmosphere within which the stakeholders combine their diverse backgrounds to develop new solutions and to meet one another's needs (Iveren & Buur, 2002).

Phases of Participatory Design Model

According to Sanoff (1994), consideration could be outright to participatory design as a system that contains various elements that can be represented with two of main types of key factors.

1. **Structural Factors:** Represent a set of considerations that affect the behavior of the people involved in the design process and outputs that will be obtained as a result of the design process those factors include the following major points:
- The nature of the participated group, which could be in small scale with harmonized thoughts and preferences, or it could be bigger scale groups that have multiple contradictory concerns.
- The aim of the participation depends on the nature of the design project, the type of the related problems and the social and cultural settings.
- The level of independency: Where to determine the extent to which participants can rely on available sources of information and tools in the workshops.
- Properties of the participant: participants can vary in terms of gender and educational status culture and socio-economic situation.
- Types and availability of resources of information:

  - Apparently in the previous points emanating from the structural to participatory activities, they represent factors that have a great impact on the behavior of the participants and the final outcome of the participation process.

2. Behavioral Factors: In addition to structural factors, there are many behavioral factors that can be identified in the following points:
- The exchange of ideas and information: Where group members who are involved in the design workshop have different tendencies and trends and therefore do not guarantee the efficiency of exchanging information.
- Participatory process output: Through which to assess what has been achieved the goal of participation, which was specified in the initial preparation stages for participation.
- The type and sequence of interaction: Is there any interaction between participants in reaching for design ideas, and whether there is negative or positive cooperation, and whether those types of interactions between individuals involved changed over time since the beginning of the participatory process to end.
- Incentive and motivation: Where participants can varies on their level of incentive or motivation to be able to generate design ideas as a response to the design problem.
- Participant self-confidence: the believe level of the participant in their own creative ability and to behave accordingly (Hasanin, 1997).

According to Burns (1979) classification of the participatory design process which could be clarified in the following four categories:

1. Awareness: This experience includes discover or rediscover various facts about the situation and context design and the nature of the design problem in general so all individuals who take part in the process have the same language in terms of their experience, interests and same inquiries.
2. Perception: These include the transition from awareness of the situation to understanding in terms of the physical and cultural, social and economic divisions. At this stage subscription process occurs between individuals involved in the understanding of the situation and the objectives and design ideas to be reached and participants' expectations for the final product to the participatory process.
3. Decision Making: This phase focuses on determining the design situation. At this point participants can do put physical ideas on their own, based on their preferences as they can give their views to professionals to use it as resources to create alternatives and final plans.
4. Implementation: Some studies show that a lot of design processes proceed until the third phase which is the decision-making design, while other studies confirm the importance of presence of participants until the end of the implementation process of the design output.
CONCLUSIONS AND DISCUSSION
By reviewing the literature and research comparing and contrasting the ways and methods of education, various conventional and revolutionary methods were reached that in addition to the factors like aesthetic, formalism and technological considerations, designers should take in to their account social and cultural values and needs of the user considerations.

According to Iveren and Buur (2002), traditionally, teaching design based on project-type design exercises focuses on students’ understanding of design theory – not to practice design. This way, students are unable to move beyond the basic enhancement of the methods being introduced to them in the design course. Also, the learning process in this type of exercises lacks the training that reflects the activities necessary for learning-inaction of design capability (Iversen and Buur, 2002). According to Hasanin (1997), the participatory design approach and design through the use of games represents a direct application of the collective creativity that offers users participation techniques within the design process, which also contribute to raising the awareness of the participants that there is a wide range of design alternatives and that there is no so-called best design solution to the problem. Also the individuals involved in the participatory design process they have a sufficient amount of design experience to achieve many of the foundations of the desired design in design ideas posed (Hasanin, 1997).

As Sanders and Stappers (2008) mentioned, the co-creation involvement in the design process will bring change on the way designer think and evaluate which will change how and what designer attempt to design and who designs, concomitantly this will affect the methods and tools used with in the design process and the training and education process as well. Hasanin (1997), has concluded an abstract presentation of the differences between traditional design process and the participatory design model, addressing properties that characterize the style of design has clarified in the following table:

<table>
<thead>
<tr>
<th>Participatory design</th>
<th>Conventional design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Addresses a narrow range or small groups</td>
<td>Addresses wide scope and large groups</td>
</tr>
<tr>
<td>2 Local</td>
<td>National and international</td>
</tr>
<tr>
<td>3 Uses available technology</td>
<td>Uses advanced technology</td>
</tr>
<tr>
<td>4 Humane oriented</td>
<td>Political orientation</td>
</tr>
<tr>
<td>5 Takes into account the needs of the user</td>
<td>Takes into account the needs of the client and designer preferences</td>
</tr>
<tr>
<td>6 Design process and the final product oriented</td>
<td>Product oriented</td>
</tr>
<tr>
<td>7 Focuses on the meanings and cultural values and</td>
<td>Focuses only on the Formal considerations</td>
</tr>
</tbody>
</table>
In conclusion, design is part of human activities that affect the everyday experiences and actions. Antoniades (1992) noted that designers face a challenge to create environments that support and enhance human activities. And cities, buildings and environmental visual components are a result of cultural factors and social and economic development. In this regard, society gets the physical environment in which society wishes for. This requires designers to be responsible towards those factors that support the design of a responsive environment.

In response to the rapid change in the profession, three approaches have been introduced in the last two decades to promote social and ethical responsibility of design. They are programming and evaluating after use, and participation, referring to them as a basis for social and ethical approach to design and therefore it is characterized by three aspects can be summarized as follows (Salama, 1995):

1. Determine the human and social needs in the context of the environment in which they reflected the social and behavioral aspects, geographical, cultural, climatic, political and economic.
2. Assessment of the built environment is then the process of taking decisions and adjustments.
3. Involve people who are affected by the built environment in the decision-making process.

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OLYMPIC STADIUM DESIGN: PAST ACHIEVEMENTS AND FUTURE CHALLENGES

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Abstract
This article aims to show how the cultural potential of the Olympic stadium can offer new possibilities for its space and its use in relation to the city. The approach considers the UNESCO WCH and the Granada Convention criteria for highlighting three specific aspects of its design: innovation through architecture and technologies; influence on the urban environment; role as a cultural space and as part of a cultural territory. The article fosters to better understanding of the cultural heritage significance of emblematic stadiums.

Keywords: Olympic stadium; innovation; cultural space; architecture of the void.

INTRODUCTION
Historically, the evolution of the Olympic Games (OG) has influenced the stadium design. The first Olympic stadium was the stadium of Olympia. The Olympian stadium was born as result of the OG, its objectives and values, and the stadium’s space was culturally significant (Kiuri, 2009; Kiuri & Teller, 2012a; UNESCO, 1989).

After the renaissance of the Olympic Games during the 19th century, stadium architecture changed rapidly during the 20th century. The Olympic Games played an important role in this evolution (Schmidt, 2002). This evolutionary process concerns the stadium design as space, its architecture and its impact on the surroundings. From an architectural point of view, the stadium evolution was primarily driven by construction techniques and materials, but broadened to affect everything connected with performance in sports, standards of play, safety and security, including managing spectator movement and adapting to contemporary means of communication. The stadium’s space thereby became an increasingly technical area during its development in the modern era (Kiuri & Teller, 2012a). From an urban planning point of view, the impact of the Olympic Games on the host city has grown. Since 1960, the number of urban areas, infrastructures and facilities included in the Olympic territory’s perimeter has increased. This recent period has primarily been characterised by stadiums becoming increasingly sophisticated.

The aims of this paper are to address the design evolution of the Olympic stadium and its relationship with the city at large to better define its cultural heritage significance. This article will study the evolution of the Olympic stadiums and the cultural aspects of the stadium space today. This article aims to show how the cultural potential of the Olympic stadium can offer new possibilities for its space and its use in relation to the city. Our method is based on applying the UNESCO World Cultural Heritage architectural criteria to Olympic stadiums. Studying the cultural criteria for Olympic stadiums, our approach also considers the Granada Convention and the importance of the significance of spaces as culturally meaningful territory in accordance with this Declaration (CE, 1985).

The objective is to highlight three specific aspects of stadium design: innovation through architecture and new technologies, influence on the urban environment, role as a cultural space...
and as part of a cultural territory. Different points synthesise the applicability of those three Cultural criteria:

- For the “Innovation through architecture and new technologies” - the human creativity and genius, the advancement of technologies, the outstanding examples (UNESCO, 1972, 2005)
- For the “Influence on the urban environment” - contribution to the urban image, contribution on development of town planning or landscape design (UNESCO, 2005); the dialogue between buildings and spaces (Convention of Granada, CE, 1985)
- For the “Role as a cultural space and as part of a cultural territory” - unique and exceptional testimony to cultural traditions, to specific ideals; outstanding example of culture or human interaction, events of outstanding universal significance; culturally meaningful territory (UNESCO, 2005) (Convention of Granada, CE, 1985)

We present historical paradigms and model examples related to those Cultural criteria. First we will describe the paradigmatic case of the Olympian stadium. The Olympic stadium paradigm is one of the most important lessons regarding the cultural space that is characteristic of the 

\textit{stadion} (Kiuri & Teller, 2012). We will next present the Olympic architectural model discussed at the beginning of the modern era and the historical evolution of the stadium as a building. After that, we will focus on the recent paradigm born in 1960 when the Olympic Games began to impact cities and their planning; the stadium remains the most important architectural work for the Games.

We will further study this paradigm, considering the period 1960-2012, by analysing the stadiums more deeply following the three research points of view that synthesise UNESCO’s and the Granada Convention’s criteria.

In the final part of the paper, we will examine the difficulties and opportunities that arise when we try to consider the Olympic stadium space as part of the surroundings and the cultural territory. We will open the discussion to a new conceptual paradigm and the new challenges for technological innovation. We intend to suggest a possible reinterpretation of the Olympic stadium “as being part of a city” because the Olympic stadium is a cultural space before being a building. There is a design lesson that can be reinterpreted from the historic Olympic architectural paradigm that might benefit us today.

**STATE OF THE ART**

A review of the literature related to Olympic stadium architecture revealed that the existing articles focus (1) on their architectural typologies, (2) on the technological solutions applied to stadiums and (3) on the influence of the Olympic stadiums on the urban environment.

First, Sheard (2001) distinguishes 4 generations of stadiums in the modern era according to the level of comfort and safety that they provide. This classification directly focuses on the stadium design itself. By contrast, several authors focus on the progressive emergence of what could be termed “Olympic urban planning” (Essex & Chalkey, 2003; Liao & Pitts, 2006; Kiuri & Teller, 2012a). If most Olympic activities were initially concentrated within the stadium, new facilities have progressively emerged around the stadium in the subsequent editions of the Games. Kiuri and Teller (2012a) propose a six stages typology, starting from the stadium of Olympia during the Hellenistic period, with the focus on the relationship between the Olympic stadium and the city. As Olympic stadiums became increasing defined as unique “objects” of technical sophistication, they became increasingly isolated from their urban surroundings and they were limited to occasional use (Schmidt, 2002). From the technological point of view, by far the most frequent research topic is the structural system of Olympic stadiums: for example, the structure and construction techniques of the Shanghai Olympic Stadium (Shen et al., 1996), the Athens Olympic Stadium (Biagini et al., 2006), the Beijing 2008 Olympic Games (Liu, 2005) and the Montreal Olympic Stadium (Lazzari et al., 2009) were studied.

Olympic stadiums are continuously evolving to improve sport performance and conditions, as well as improving the comfort and safety of both the athletes and the spectators (Zhang et al., 2007). These requirements will typically impact the viewing angles from the seats to the playing
field, the safety escape routes, the facilities for the athletes and, more generally, the number and nature of the functions hosted in the stadium (Nixdorf, 2008). The multifunctional stadium is a solution that appeared with the Sydney Olympic Stadium and their post event activities (Sheard, 2001). Now, design flexibility is increasingly viewed as a way to address the operational costs of Olympic sites (Martinson, 2009). This need for flexibility has also involved introducing mobile elements (retractable roofs, etc.) in stadia architecture. Sustainable design appears to be one of the next challenges for Olympic architecture, even if some stadiums have already tried to achieve good performance in this area. The Sydney Olympic Stadium in Australia was subjected to a life-cycle assessment with the aim of minimising the overall environmental impact of the development (Myer & Chaffee, 1997).

Regarding the influence of Olympic stadia on the urban environment, stadium architecture for large sporting events leads to buildings that are designed on a scale that is not always in harmony with their immediate environment (Sklair, 2006), cutting the spectator off from both nature and neighbourhood architecture (Kupfer, 1990). In contrast, Yuen (2008) argues that with globalisation, sport development is increasingly being regarded as a part of the city’s cultural and leisure capital to reinforce place promotion and consumption-based economic development. The literature discusses the beneficial effect of hosting a major sporting event of global importance, such as the Olympic Games (Hill, 1996; Cochrane et al., 1996; Vegara, 2005). However, the hosting of mega sports events also generates substantial development costs (Tyrrell and Johnston, 2001), logistical problems and security incidents.

The experience of successful urban landscape transformations such as Barcelona’s Olympics project model (Garcia-Ramon, 2000; Marshall, 2000; Balibrea, 2001) indicates that a double focus on both competitive projects (for example, innovative design projects) and their concentration in one urban area (e.g., a central declined area) may intensify the positive effects in urban economic regeneration and may upgrade the city’s image to an international level (Beriatos and Gospodini, 2004).

This literature review shows that the Olympic stadium has always been a symbol of innovation and that its impact on urban regeneration and new infrastructure development is important. Olympic stadium design can thus help us, through innovations and a renewed vision of the stadium’s relationship with the city, to develop a sustainable society that is respectful of its natural and cultural resources as well as its territory.

THE GAMES AND THE OLYMPIC STADIUM: PARADIGMS AND MODEL

The Antiquity: The paradigm of cultural space

The message left by antiquity concerning the Olympian stadium consists of the permeability between the stadium space and the built environment through the visual composition and dialogical architecture. “Olympia is directly and tangibly associated with the games, an event of universal significance” (UNESCO, 1989). The rhetorician Isocrate highlighted the tradition of creating a place in which to reassemble people at the occasion of the 100th Olympiad (Chamoux, 1977). The design of the stadium, part of the Classical period and the Hellenistic Age, is determined by the willingness to reflect the culture’s values and to be a place for meeting people and for remembering (Kiuri et al., 2009). The Games define the space of the stadium, assigning to it specific characteristics.

In its historical development, the stadium of Olympia became independent relative to the sanctuary for functional reasons and because of its progressive secularisation, but it remained linked to the site of the sanctuary through the dialogical language of architecture: composition, perspectives, built and natural elements, routes and perceptions. Thus, this characteristic of linkage to the sanctuary provides an identity for the stadium space and defines the paradigm of the cultural identity of the stadium space.

While paying homage to its religious origins and responding to the increasing technical demands of sport and the popularity of the Games, the space of the stadium of Olympia dialogues
with its environment, highlighting specific functional (sport) points within the stadium. The space was conceived of for the Olympic event and the sport area is symbolically configured to provide an identity for the entire stadium. The built environment (the Sanctuary) is present in the stadium through the scenographic effect of its monumental silhouette. This effect can be appreciated at a key location, that is, from the starting line of the racecourse (the *dromos* or from the last section of the course before the finish, and it lends distinction to the entire space of the stadium by adding significance (Figure 1). At the same time, the stadium belongs to a real location (Kiuri & Teller, 2012b). The Olympic stadium is tangibly expressing the synthesis between culture and nature.

*Figure 1: The Olympian stadium, Hellenistic period. View from the track start line (Source: Miranda Kiuri, Jacques Teller).*

**The Modern era: a discussion of the Olympic architecture model**

“With the renaissance of the Olympic Games as an international event, Pierre de Coubertin, the founder of the International Olympic Committee (IOC), inflamed the Olympic fire. This triggered massive construction work on an international level and investments for the first time in stadiums” (Schmidt, 2002, p.23). The 1896 Olympic Stadium opened a new chapter in stadium architecture. The discussions of a model and the definition of an ideal stadium for a “cultic crown” accompany this period (van Winkel, 2000).

This period also provides the first description of a modern Olympia (IOC 1910): “Une Olympie moderne”. This document highlights the importance of the cultural dimension. The study summarises the ideal model of Olympic architecture through the following concepts: a dignified complex; reflection of the sport-art binomial; landscape harmony; unique place; a masterpiece inspired by an ideal and “Olympic style” construction for posterity. These buildings must be permanent. It is important to give the architecture of the OG other uses after the event.

Throughout the twentieth century, Olympic stadiums have undergone a remarkable evolution related to technological advances. “Architects had to cope with new requirements of international competitions. New solutions have been developed in respect of functional as well as of constructive aspects” (Schmidt, 2002). In 1908, the first modern multisport stadium already showcased bleachers on top of a metal structure. For the first time, roofs were built on the long side of the tribunes. In Stockholm in 1912, the stadium is an example of Swedish national “romanticism” (Schmidt, 2002). The Olympic Stadium of Paris, for the OG in 1924, is a steel-concrete construction. Bricks have covered the façade in the case of the Olympic Stadium of Amsterdam, 1928.

In 1932, Los Angeles constructed the stadium *Coliseum*. One of the trends at that time was to look for the monumental nature of the stadium. The Berlin Stadium, used for the Olympic Games in 1936, was the first stadium located in a 131 hectare park (Schmidt, 2002). The visible steel-concrete construction of the Wembley Park Stadium in London for the OG in 1948 made the stadium a trendsetter in the field of stadium construction. Its two iconic towers became familiar landmarks on the skyline of northwest London (Velluet, 2012). The architecture and construction of
the Olympic stadium for the Games of the XV Olympiad in Helsinki, 1952, originally built for the OG in 1940, were an example of avant-garde Functionalism. “The whole construction formed a continuous system expressing a beauty of tensions” (Kairamo, 1999, p.9).

The recent period: the urban impact paradigm

Already in 1946 in his book “Manière de penser l’Urbanisme”, Le Corbusier discussed the “unit of leisure” and listed the Games in first place among other “apparatuses of urbanism” (Le Corbusier 1946, p. 73). In 1960, the paradigm of the Olympics as a catalyst of urban development was born. The stadium complex became a part of the urban landscape and a point of reference.

The impact of the Rome OG on the city was considerable. The Olympic constructions pushed the development of the city toward new undeveloped areas. Rome selected an urban plan based on a two centre model: in the north, a characteristic location in the city, between Monte Mario and La Farnesina, and to the south, the EUR centre (Rome’s World Fair), where there was an extensive green space. In addition, between the two areas, an important public road was constructed: the Olympic Road. For the 17th OG, the search for exclusive and unforgettable images imposed new cultural requirements. The accepted Olympic “model” was adapted to the particularities of the city and its urban morphology. And so, the Olympic Games began to play an important role as a catalyst for urban development, fomenting city growth, promoting existing culture.

The representatives for the National Italian Olympic Committee (CONI) together with the representatives from the Ministry of Public Works prepared the concept of the Olympic Games and collaborated with the state telecommunications agencies (OOC 1963). This collaboration is an example of the scale and planned impact of the Olympic Games. The priorities were the selection of municipal and public land, functionality, low costs and, except for the emblematic location of some of the facilities, the use of existing facilities in addition to the use during and after the OG of public facilities. These subjects are currently the foundation of all sustainable approaches. After the Olympics, the CONI issued an important conclusion: “… once the Games were over, the venues that had been prepared for the event today become an ever-increasing attraction to Roman youth which frequent them with great enthusiasm, filled with the memories of the success of the Rome Olympiad” (OCOG 1963, p.54). It is worth highlighting that the Games were created from the outset with Roman culture and history in mind, allowing for the creation of a wider vision for the setting. Undoubtedly, the presence of television and the search for powerful and unusual images for retransmission further extended the influence of the occasion. The 1960 OG definitely expanded the lively dialogue between the Games and the city.

In the ‘60s, technology began to play an important role in architectural design. As security measures for the public, the regulations evolved and stadiums predominated where the spectator “places” were replaced with seats, which then made it necessary to modify the seating capacity of many of the stadiums, definitely creating a new “atmosphere”. In the most recently built Olympic stadiums, the number of seats has begun to decline. In addition to these changes, post-event flexibility was planned to obtain an installation on a scale that is much closer to human; an example is the conception of the Olympic stadium being built in London for the 2012 Olympic Games.

The OG impact on cities defines a new paradigm that will mark the stadium’s evolution. From now on, the Olympic stadium architecture meets the highest technical standards for the practice, the security and the viewing of the sports events. In addition, throughout the years to follow, the stadium will play a special role in the city. The stadium’s space is important as a setting for sporting records and events with a socio-historical or symbolic charge.

THE STUDY OF THE OLYMPIC STADIUMS SINCE 1960

A detailed study of the characteristics of contemporary Olympic stadiums begins in 1960 because the paradigm of the Games as a catalyst for the urban development of a city was born at the 20th Olympic Games in Rome in 1960. We examine the years between 1960-2012 to study the Olympic
stadiums following the three research points of view, which synthesise the applicability of the cultural heritage criteria to Olympic stadiums:

- Innovation through architecture and new technologies,
- Influence on the urban environment,
- Role as a cultural space and part of a cultural territory.

The most recent stadium, London 2012, is included in our list, but it should be noted that the official London Olympic report of the Organising Committee for the Olympic Games is not yet available.

Innovation in the heart of the design and construction process

Olympic stadiums represent not only an example of Olympic and sports history but also an advance from a worldwide architectural perspective. This conclusion was drawn by the work group “Sport and Leisure” from the International Association of Architects in 1972 (IOC 1972). In the tables below (Tables 1, 2 and 3), we present the creative work and/or the advancement of architecture and technology for the Olympic stadiums from 1960 to 2012.

The fourteen last Olympic stadiums are thus examples of conceptual architectural advancement and/or technological innovations in various fields: structure and construction technology (Rome, Munich, Montreal, Seoul, Athens, Beijing); comfort (Mexico, Tokyo); illumination (Tokyo); maintenance (Mexico); safety (Mexico, Beijing); sustainability: energy and water (Sydney); materials rationalisation (Los Angeles, London); use of recycled materials (London); reuse of an existing stadium (Los Angeles); historical façade renovation (Barcelona); multi-functionality of the stadium building (Sydney); flexible design: the roofs (Montreal), the stands (Moscow), and the shape (Atlanta; London); and information technology (Beijing).

Figure 2: Beijing Olympic Stadium construction (2006)
(Source: Miranda Kiuri).
### Table 1. Olympic stadiums innovations in architecture and technology from 1960 to 1976 (Source: Authors).

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Innovations in stadium architecture and technologies</th>
<th>References</th>
</tr>
</thead>
</table>
IOC Archives, Olympic Games 1989                                                                                           |
| 1964 | Los Angeles | - Represents the only stadium to have hosted the Olympic Games twice. In 1932 and 1984; implies the benefit of the non-use of many materials that would have been needed if a new Olympic stadium was built. | Olympic report (OCOG 1985)                                                                                                   |
| 1966 | Seoul    | - Inspired the design elements with modern international progressive and sculptural solutions mixed with Korean traditions.  
- Represented a “true undertaking”; the 80 outer pillars were each different in height, section, and curve.                                                                                                        | Olympic report, p.162, p.159 (OCOG 1988);  
IOC Archives, Olympic Games 1988                                                                                           |
| 1992 | Barcelona | - Provided an example of a remodelled stadium: the stadium, long in disrepair, was reconstructed for the OC, rescuing only its historic façade.                                                                                       | Olympic report p.161, pp. 64-65 (OCOG 1992);  
IOC Archives Olympic Games 1992                                                                                           |
| 1996 | Atlanta  | - Offered flexible design: the concepts of the ephemeral and transformable dominated Olympic architecture.  
- Moved the nonparallel seating section of the stands farther from the Olympic stadium's field of play than the seats on the east and west sides of the stadium.  
- Created a designated location for photographers in this future home plate area. One benefit was that the constant movement of the photographers did not interrupt the spectator lines of sight from the stands. | Olympic report p.117, pp. 110-120 (OCOG 1997);  
IOC Archives Olympic Games 1994;  
Jakubowicz 2007                                                                                                                |

### Table 2. Olympic stadiums innovations in architecture and technology from 1980 to 1996 (Source: Authors).

<table>
<thead>
<tr>
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<th>City</th>
<th>Innovations in stadium architecture and technologies</th>
<th>References</th>
</tr>
</thead>
</table>
IOC Archives, Olympic Games 1989                                                                                           |
| 1984 | Los Angeles | - Represents the only stadium to have hosted the Olympic Games twice. In 1932 and 1984; implies the benefit of the non-use of many materials that would have been needed if a new Olympic stadium was built. | Olympic report (OCOG 1985)                                                                                                   |
| 1986 | Seoul    | - Inspired the design elements with modern international progressive and sculptural solutions mixed with Korean traditions.  
- Represented a “true undertaking”; the 80 outer pillars were each different in height, section, and curve.                                                                                                        | Olympic report, p.162, p.159 (OCOG 1988);  
IOC Archives, Olympic Games 1988                                                                                           |
| 1992 | Barcelona | - Provided an example of a remodelled stadium: the stadium, long in disrepair, was reconstructed for the OC, rescuing only its historic façade.                                                                                       | Olympic report p.161, pp. 64-65 (OCOG 1992);  
IOC Archives Olympic Games 1992                                                                                           |
| 1996 | Atlanta  | - Offered flexible design: the concepts of the ephemeral and transformable dominated Olympic architecture.  
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- Created a designated location for photographers in this future home plate area. One benefit was that the constant movement of the photographers did not interrupt the spectator lines of sight from the stands. | Olympic report p.117, pp. 110-120 (OCOG 1997);  
IOC Archives Olympic Games 1994;  
Jakubowicz 2007                                                                                                                |
Table 3. Olympic stadiums innovations in architecture and technology from 2000 to 2012 (Source: Authors).

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Innovations in stadium architecture and technologies</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- Provided an example of environmental design including a passive ventilation system and a rainwater re-use system (collected from the roof area, it can then be stored and used for watering the pitch).</td>
<td>Myer &amp; Chaffee 1997</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Used 30% less energy and 20% less drinking water than a stadium with similar characteristics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Performed an LCA (life cycle analysis).</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>Athens</td>
<td>Included the cover, which is the biggest roof that has ever been built over an already constructed building. (Two impressive arches, each one 36m in length, with a blush tone and transparent polycarbonate iron coating). Used innovative technology, the additives in the transparent polycarbonates are protection against heat (only light can penetrate it).</td>
<td>Olympic report p.157, pp. 171-175 (OCOG 2004); IOC Archives, Olympic Games 2004.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Offered innovation in information technology.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Improved safety and spectator evacuation: a spectator will not need more than five minutes to find his place during a sporting event held in this stadium. Eight minutes are sufficient to disperse the 91,000 spectators.</td>
<td>Zhang et al. 2007; Cao et al. 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provided state-of-the-art acoustics: Membrane material ETFE (ethylene-tetrafluoroethylene) provided perfect acoustic insulation.</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Beijing</td>
<td>Included a double translucent roof.</td>
<td>Olympic report (OCOG 2011); Official website OG 2008; leans et al. 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Offered innovation in information technology.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Improved safety and spectator evacuation: a spectator will not need more than five minutes to find his place during a sporting event held in this stadium. Eight minutes are sufficient to disperse the 91,000 spectators.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provided state-of-the-art acoustics: Membrane material ETFE (ethylene-tetrafluoroethylene) provided perfect acoustic insulation.</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>London</td>
<td>Provided a good example of material rationalisation: It uses approximately a third of the steel used in the stadium of Beijing.</td>
<td>TUP, 2012; Official website OG 2012; Averley 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Used recycled materials.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Offered a new concept: service areas outside of the stadium shape.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Created a flexible shape, mainly in the vertical axis of the stadium.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Positioned a lower carbon footprint than any stadium that has ever been built for OG.</td>
<td></td>
</tr>
</tbody>
</table>

**Design influence on the urban environment**

In the tables below (Table 4 and 5), we present the important influence of the Olympic stadiums from 1960 to 2012 on their cities. The same references have been used for this second study of the fourteen last Olympic stadiums.

Olympics stadiums (the most important construction for the OG) generate new urban dynamics: new transport infrastructures, the creation or protection of green areas, and the regeneration of deteriorated areas. Eleven of the last fourteen stadium complexes and parks are popular locations for public life and have led to the creation of important public transport infrastructure, which are a factor in development and proof of the public nature of these locations. Seven of these stadiums have generated new urban green areas and three of them (Rome, Mexico and Barcelona) have protected significant existing green areas. Eventually, Olympic stadiums also help to regenerate deteriorated urban areas (Seoul, Sydney, London) and to promote archaeological restoration (Athens).
### Table 4: Olympic stadiums influence on the cities from 1960 to 1980 (Source: Authors).

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Olympic stadium’s influence on the city</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>Rome</td>
<td>The stadium complex has protected the green area of Monte Mario for over 40 years.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- A public transport infrastructure was developed between the 3 Olympic sites.</td>
</tr>
<tr>
<td>1964</td>
<td>Tokyo</td>
<td>The stadium is linked to the Temple, thanks to its clear central axes of composition. There is a clear connection between these spaces that mutually creates a diverse area for public use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The stadium is a bridge between two parks and strengthens the green area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The development of the public transport infrastructure was proposed as a concrete objective for the city that was beyond the requirements of the Games themselves. For this construction project, US$2.7 billion was spent in Tokyo. An example of this project was the construction of 73 new kilometres of metro and the Tokyo-Kyoto-Osaka train. Only 3% of the budget was earmarked for sports facilities.</td>
</tr>
<tr>
<td>1968</td>
<td>Mexico City</td>
<td>The university campus and the Biodiversity Park were developed; both were declared World Cultural Heritage sites in 2007 (UNESCO).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Public transport infrastructures were developed.</td>
</tr>
<tr>
<td>1972</td>
<td>Munich</td>
<td>The 3 square kilometres Olympic Park is the most popular spot for Munich locals. The embankments that modulate the park landscape are, in reality, the buried debris from the Second World War.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The project created green spaces within a 280 hectares park. In the park, approximately 2.2 million of earth were moved for the creation of green spaces. The trees selected serve to design and differentiate routes; lime trees line pedestrian walks; poplars and ash trees line the roads.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- A public transport infrastructure for short distances was developed.</td>
</tr>
<tr>
<td>1976</td>
<td>Montreal</td>
<td>The stadium is not situated in the centre, it is part of a park that has a botanical garden as a tourist attraction. The Olympic Park was developed in an area that was previously designated for sport and leisure on the outskirts of the city.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- As a result, 20 kilometres of metro infrastructure was constructed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The IOC did not accept the urban planning approach that was presented, suitable from the city’s perspective and its growth, because it did not fulfill this Olympic requirement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- As a consequence, the location was changed, and two enormous towers were erected as an Olympic Village, provoking many protests.</td>
</tr>
<tr>
<td>1980</td>
<td>Moscow</td>
<td>The Olympic complex is situated in a privileged part of the city in terms of scenery, nature and in relation to important landmarks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The park is situated in an area of 180 hectares, of which 70% is a green belt area, and contains 30,000 plant species.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The finishing touches were placed on a rationalist plan with different functional areas that began during the 1950s.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The Stadium dominates the composition of the city in relation to other emblematic locations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The transport infrastructure, roads, telecommunications and the promotion of a hotel network were also developed.</td>
</tr>
</tbody>
</table>

### Table 5: Olympic stadiums influence on the cities from 1984 to 2012 (Source: Authors).

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Olympic stadium’s influence on the city</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>Los Angeles</td>
<td>The Olympic stadium has a strong symmetrical composition; it is situated in a park. Furthermore, it was the biggest Olympic stadium ever created.</td>
</tr>
<tr>
<td>1988</td>
<td>Seoul</td>
<td>The stadium regenerated a deteriorated area that was vulnerable to flooding, had poorly constructed homes, shantytowns and environmental problems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The Environmental Beautification Programme, an overarching city programme, was undertaken to promote the development of public transport and infrastructure.</td>
</tr>
<tr>
<td>1992</td>
<td>Barcelona</td>
<td>Situated in a privileged area (the lungs of the city, on a mountain close to the sea), the Olympic stadium is part of an area of natural landscape and is often referred to as “the city’s balcony” or even “The Acropolis of the city”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Public transport infrastructures were developed.</td>
</tr>
<tr>
<td>1996</td>
<td>Atlanta</td>
<td>An 8.5 hectares Olympic Park was created close to the city’s downtown.</td>
</tr>
<tr>
<td>2000</td>
<td>Sydney</td>
<td>The stadium is situated in a park covering 420 hectares.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The aim was to use the facilities as a catalyst for environmental recovery in a deteriorated area: 200,000 trees and 135,000 bushes were planted. These efforts resulted in the creation of a reserve covering 50 hectares.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- New transport infrastructure was created to support the games.</td>
</tr>
<tr>
<td>2004</td>
<td>Athens (Sp. Luis)</td>
<td>The stadium is one of the 16 renovated venues in the city (An archaeological restoration was also undertaken).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The stadium is part of a new urban ensemble.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- A metro system was constructed.</td>
</tr>
<tr>
<td>2008</td>
<td>Beijing</td>
<td>A new urban park was created: the stadium is the main construction of this site.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The metro network more than doubled in size and capacity with the construction of three new lines with a total length of 200 km that provided direct access to the airport.</td>
</tr>
<tr>
<td>2012</td>
<td>London</td>
<td>The Stadium is situated in the Olympic park, a recuperated and transformed urban area; the Park is viewed as a new London destination that is full of economic vitality (Avery, 2012).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- New transport infrastructures were developed.</td>
</tr>
</tbody>
</table>
The role of the stadium as a cultural space and part of a cultural territory

Moreover, modern Olympic stadium spaces have been the scene of important contests and events with socio-historic and symbolic meaning and of events resulting in a long list of sporting records, demonstrating the signs of popularity.

The Olympic stadium of Mexico 1968 is a good example: the principles of modern urbanism and architecture were widely applied in its general conception but were mixed with references to local tradition, especially as related to pre-Hispanic urban architectural ensembles. The Plastic Integration, were incorporated into its design (UNAM, 2005). This stadium had been the location of important sport performances, symbolical social events and human rights protests (Kiuri, 2007).

Today, Olympic stadiums influence not only the groups affiliated with the world of sports but also all citizens. Stadium space, as a place holding living memories, covers a special role that is associated with a special event and ceremonies. They always had an historical role, containing authenticity and uniqueness as a representative example of culture. An Olympic stadium space thus has to be evaluated as a culturally meaningful territory.

The main idea behind the design of the Olympic stadium for Munich in 1972 was to harmonise the space with the surrounding scenery (Figure 3). The historic façade of the Olympic Stadium of Barcelona and its historic doors give us other example of dialogue with the city (Figure 4).

Figure 3: Munich 1972 Olympic Stadium and surroundings (Source: Loïc Hamoir, Liege).

Figure 4: Barcelona Olympic Stadium's urban atmosphere (Source: Miranda Kiuri).
Ten of the stadiums from 1960 to 2012 provided the spectators with a view of natural or symbolic urban elements. This form of dialogue with the environment is endemic to exceptional public landmarks. However, seven of these stadiums have been significantly modified after the Games and thereby lost this visual connection (Kiuri & Teller, 2012). Stadiums become increasingly sophisticated but its space is isolated from the environment.

Historically, the Olympic stadium space was part of a cultural territory, as mentioned earlier. The Olympic stadium architecture could be a good example of the expression of the contemporary culture–nature dualism, when the visitor is visually connected with the outside world while being physically disconnected from it (Owen, 2008). The good integration of emblematic sport facilities with surroundings, can contribute to increase the attractiveness of the city zones (Ahlfeld & Maennig, 2010). However the visual composition of the Olympian stadium is not applied today. Recently, the Olympic stadium has been considered as a building more than as a cultural space and part of a cultural territory.

NEW ARCHITECTURAL PARADIGM AND FUTURE CHALLENGES

How could the Olympic stadium highlight its space design and create significance in the urban context? Our position is that one of the future challenges for Olympic stadium design is to create a typology that integrates the cultural qualities of the historical paradigms and today’s technical requirements to generate a sustainable future because stadium has a long-term impact on the city. A stadium space that is connected with the urban space could permit uses before and after the sporting events. We will explore the position of the 100 m athletic track as an element of the space design and connection with surroundings. It is known, the 100 m athletic track is one of the most attractive area of the stadium space. Analysing the stadium configuration, this part of the track is like the dromos of Antiquity, but this athlete’s route is not integrated as an architectonic element of design (Figure 5). We can observe how the axes of composition seem formalistic from the point of view of the functional role of the 100 m athletic track (the dromos) in the stadium (Figure 6).

The dialogue between the stadium and the city is not fully explored.

If we put the dromos of the stadium in the track of the modern sport arena, the result could be a “sta-ar” (stadium + arena) or “stadar” type of stadium, i.e., the architectural union of the cultural values of the Olympian Stadium with the technical performances of the modern Olympic arena (Figure 7). The visual axes could substitute or complete the geometrical axes in the stadium space.
So it is possible to enrich the stadium space and make it a culturally significant territory thanks to the urban integration of the *dromos* and the presence of significant urban elements that will provide an identity for the stadium space. The consideration of the stadium as a mere building could be avoided and instead new technical solutions could be developed that meet the demands of comfort, security, adaptability, multi-functionality and sustainability as well as the needs of the context and the representation of cultural values.

A new paradigm could be to integrate the first historical paradigm (the visual composition in the stadium); the message of the Modern Stadium Model (the need for a cultural dimension of the stadium); the second paradigm (the urban impact of the stadium and the need of the cultural territory); the technological requirements of the contemporary period, allowing for more comfortable, safe, sustainable, flexible and multifunctional spaces.

Following Aouad and his colleagues, “innovation benefits can best be achieved through the effort to invest in new ideas and convert them into systematic ways” (Aouad et al., 2010). This new paradigm for Olympic stadiums based on a fusion between the historical values and actual needs and between the cultural values and technological performance should give birth to the Olympic stadium of the future, which will meet today’s requirements and tomorrow’s challenges.

The main difficulties to overcome if we want to open the stadium up towards the city (visually and/or physically) involve security, control and the use of the sport space. An optimal number of seats must be provided, and they must be located in the areas that will provide attendees with the best view possible. The mixed use of the main field is problematic for management purposes and for the maintenance of the field and equipment. Climate-related comfort, especially the wind factor, can interact with the stadium’s openness. One must not ignore the risks and costs connected with all forms of innovation. All changes could require multidisciplinary studies, new techniques, and an adaptation of the requirements. However, the issues presented in this article show the interest in considering the possibility of implementing a new paradigm for the Olympic stadium: the “stadar”.

**CONCLUSION**

This paper discussed the Olympic stadium’s architectural design achievements and future challenges. First, a literature review showed that the Olympic stadium is a symbol of innovation and a driver for urban regeneration. Then, applying the Cultural Heritage Criteria from UNESCO and the Granada Convention to Olympic stadiums, three specific aspects of the Olympic stadiums’ design were highlighted: (1) innovation through architecture and new technologies, (2) the influence on the urban environment, (3) its potential role as a cultural space and part of a cultural territory.

This article focussed the stadium cultural significance presenting the historical paradigms and the modern era model of the Olympic stadiums. It analysed in detail the characteristics of the fourteen Olympic stadiums that have been built since 1960. Stadiums are the principal Olympic

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**Figure 7:** The *dromos* and the stadium *(Source: Miranda Kiuri).*
facilities. The stadiums’ architecture meets the highest technical standards for the practice and viewing of the sporting events.

The results show that the Olympic stadium is a technological catalyst that contributes to the conceptual advancement of the history of outstanding sports facilities. The stadium is also an element of significant urban composition. It has an influence on the city, and it can thus be used as an instrument from an urban planning perspective. Olympic stadiums influence not only the groups affiliated with the world of sports but also all citizens.

Stadium space is culturally attractive with historic and symbolic charge but it is not fully integrated in surroundings as part of a culturally significant territory. The principal cause is the requirements for high-quality sports and TV spectacle, the good solutions to security problems all of these are easiest to obtain in a close arena-type stadium. The consequences are that, recently, the Olympic stadium became a formalistic building relatively to its functions. The dialogue between the stadium space and the city is not fully explored. This isolation of the stadium space limits organic approach in creating culturally significant territory.

The dialogue with the environment is endemic to exceptional public landmarks, inherited from antiquity, when the Olympian stadium was conceived in a compatible way with the values of the OG. When they are designed and integrated with their surroundings in an urban concept, the Olympic stadiums can contribute to an increase in the attractiveness of the city zones.

We showed how technology and innovation offered high performance solutions for the sport spectacle itself, for security and for creating iconic “objects”. This technological capacity and the innovative spirit could help in the future in the recuperation of the essence of the stadium space and its inherited characteristics. We argued that it should be possible and profitable to reintroduce the cultural role of the stadium through the design of its space as architecture of the void while reconnecting it to its surroundings. The result will permit an attractive design that harmoniously links cultural values and technological innovations and interacts with the city. Some future challenges in Olympic stadium design could be to overcome the security problems and the functional and cost problems that are related to the creation of this new stadium paradigm.

Technical innovations can be used to generate future solutions for these important socio-cultural spaces with active urban role. The proposed new paradigm is more coherent with the multi-functional needs of today, and it links the stadium to its historical development. The aims of this paper are to address the design evolution of the Olympic stadium and its relationship with the city at large to better define its cultural heritage significance.

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Kiuri, M. 2009. “Juegos Olímpicos y arquitectura” (Olympic Games and architecture) and “Juegos Olímpicos, arquitectura y medio ambiente” (Olympic Games, architecture and environment), In: Olimpismo y Deporte (Olympism and Sport), UCJC (ed.). Vol. 25 & 26, Madrid.


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THE DEVELOPMENT OF AN INTERACTIVE VIRTUAL ENVIRONMENT FOR HISHAM PALACE IN JERICHO, PALESTINE

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Abstract
This study aims to introduce Virtual Reality (VR) techniques as a tool to develop an interactive environment for cultural heritage sites in Palestine; these sites have their own specific problems and challenges, which have significantly affected most of the existing sites and cause their continuous deterioration. The virtual replicas of these sites and landscapes can act as a medium for their preservation, documentation, interpretation and intervention, assisting in education, tourism and an increase in public awareness regarding their significant value. For this purpose, Hisham Palace in Jericho was chosen as a case study. The historical layers of Hisham Palace were studied and visualized using advanced 3D visualization techniques by applying a five-step approach to analyze and model different elements of the palace to assemble them at a later stage. This approach was implemented due to the critical condition of the physical remains and the insufficient literature on the history of the palace. As a result, an initial 3D virtual reality model was obtained, presented and discussed in a 3D immersive environment at the Virtual Reality Lab (VR Lab) at Birzeit University.

Keywords: immersive media; virtual reality; interactive environment; 3D modeling; Hisham Palace; Palestine.

INTRODUCTION
Palestine, located in the heart of the Middle East, has always been one of the major cultural and religious centers for mankind. Over 6000 archaeological localities have been identified in the West Bank and Gaza Strip, and more than 190 major sites have been excavated (Greenberg and Keinan, 2009). These localities have diverse values, contributing to the cultural history of the region from prehistoric times until today. A review of the development of conservation strategies for cultural and natural heritage sites during the British, Jordanian and Israeli periods shows that these authorities did not show any significant consideration for heritage sites and that most or even all of the planning activities ignored the existence of historic as well as distinct and valuable natural
resources (Abdelhamid and Amad, 2005). This oversight caused incalculable losses of important material through illegal trade and direct destruction.

Hassan and Salem (2008) stated five main challenges facing the historical sites in Palestine: 1) The destruction of the sites through deterioration, erosion, heavy vegetation, architectural collapse, as well as damage due to animals and human plundering; 2) Illicit excavations of archaeological sites as a source of income; 3) Urban expansion and building activities that gradually threaten the major sites; 4) The impact of the on-going construction of the separation wall between Palestinian Territories and Israel, bypass roads and new settlements on the historical landscapes and historical sites; and 5) The absence of strategies for the preservation, conservation and protection of historical sites. A recent study by Daoud (2012) added two more challenges: 1) The age of the existing laws, which are very old, primarily depend on the British Mandate legislations and do not protect the entire set of cultural heritage components (this factor also includes the inability of the executive authorities to implement the existing laws regarding the cultural heritage); and 2) The lack of financial resources, of appropriate capacity building, community awareness and of a comprehensive database for all cultural heritage components all over Palestine.

Since 1994, Virtual Reality (VR) has made it possible for anyone with a personal computer to access images of heritage sites that are displayed on the Internet. Recently, technologies such as 3D television, interactive computer games without physical controllers, 3D movies and cinemas and web-based virtual tours have become more available and accessible to the public. VR is no longer viewed as a field for specialists; rather, it has become a mainstream medium and a part of global pop culture. The major applications of this technology are in archaeology, cultural heritage sites, the military, visualization entertainment, manufacturing, augmented reality, education, tourism, employee training and medicine. However, the most familiar applications of virtual reality are in the spatial and architectural fields; in these fields, it is used as a tool for a ‘virtual visit’ of historical sites and for creating a walkthrough environment in architectural projects, i.e., to allow the user to explore a 3D scene in real-time. This improvement provides new tools for heritage site interpretation and presentation and for sustainable tourism (Lettelier, 1999).

In this regard, this study represents the first attempt to introduce VR as a tool for studying cultural heritage sites in Palestine. The primary objective was to conduct a pilot project in the field of cultural heritage, using Hisham Palace in Jericho as a case study. The purpose was to create an interactive 3D digital model for Hisham Palace that could be shown in an immersive environment using the established technical capabilities at the VR Lab at Birzeit University. This palace is a complex that was built in Khirbat al-Mafjar in Jericho under the Islamic Umayyad regime. The coherent unity of the palace site and the scarcity of studies have made it a suitable case study; these aspects will help in interpreting, verifying and presenting its various aspects. Another objective of this case study is to provoke public awareness of cultural heritage and further discussions about the future of the ancient sites and the need to further develop dynamic VR models of such sites. In the case of Hisham Palace, the data available from the site and written resources, despite their scarcity, could form a suitable basis for a general image that can be the subject of further studies and might be used for a comparative analysis with other architectural complexes built during the same time frame and in the same region during the Umayyad period.

A five-phase modeling approach was proposed (Figure 1). The datasets required for the modeling work were obtained through site visits, photos, performing necessary measurements and making use of the available written literature about the palace, with special emphasis on the interpretation work of Hamilton published in his book “Khirbat al-Mafjar: An Arabian Mansion in the Jordan Valley” published in 1959, to build the interactive 3D digital model. This modeling approach was proposed to manage the technical capabilities of the VR Lab in Birzeit University and the scarce sources of information available to the research team.
VR technology is of great importance for Palestine, a country with rich cultural heritage sites and diverse landscapes that demonstrate the accumulation of historical civilizations and a diversity of geographical structure. Virtual replicas of such sites and landscapes can act as a medium for preservation, documentation, interpretation and intervention, allowing for education, tourism and an increase in public awareness regarding the significant value of the local heritage. As Jokilehto (1996) described, cultural heritage issues should be discussed as “a question of education and training, of multidisciplinary collaboration and of communication between the population and the decision making bodies”. For that reason, VR courses have been conducted at the Department of Architectural Engineering at Birzeit University since 2006. The main objective of these courses was to enable the architecture and engineering students to recreate engineering and cultural heritage virtual environments. For the further development of the VR culture, a VR Lab was established at Birzeit University in early 2010. It is the first of its type in the territories and was created as part of cooperation project between Birzeit University and the Norwegian University of Life Sciences; it was funded by the World Bank. In addition to the educational and training activities that take place at the lab, the lab has allowed several pilot projects to be conducted in various fields, including the cultural heritage field.

The VR Lab at Birzeit University was designed as a three walled U-shaped theatre with a capacity of 28 people. The display system is composed of three high-gain displays with a total display area of 10.68 m x 2.63 m (Figure 2a & b). The display structure represents an open cube with three equal projection walls: a central display and two side displays, installed with an angular shift of 135° with respect to the central display. The displays form a fully immersive exocentric virtual environment for the complete set of VR theatre users. The environment represents an egocentric environment with full immersion for the leader, who controls the special interaction equipment from the central seat or from any point in the tracked space of the virtual environment. The image is projected using a front-projection passive stereoscopic configuration, which uses a set of two projectors; one for each eye (Figure 2c). Static polarization filters are used to polarize the left and right eye images from the projectors, and users wear polarized glasses to direct the left/right images into the correct eye (Belleman et al., 2001).
Six DLP projectors are used to project the stereoscopic image on the left, central and right displays from three different positions. The sense of presence in the virtual environment is increased by the use of a high-quality 3D sound system composed of an audio control unit, a subwoofer unit and five speakers. The interaction with the virtual environment is an important attribute that defines the level of immersion, and it is implemented at the VR Lab using an optical tracking system of cameras. The position tracking of the lead user is performed by the installed cameras, which track a pair of stereoscopic glasses on which five optical sensors are installed. The manipulation of the virtual environment is accomplished using a tracked programmable X-Box controller and a wireless...
mouse. The position tracking system uses 15 black-and-white cameras to cover the predefined motion space. These cameras are installed on a circular section in the ceiling of the hall.

The Lab uses Eon Reality and VR4Max technology as its operating systems, and they run on a cluster of three workstations. The use of two operating systems provides more flexibility for handling various types of models and interactions. The primary workstation runs the processes that control the central visualisation display system, the tracking system and the control devices. The left and right slave workstations control the left and right visualisation systems, respectively. The workstations and all of the necessary control devices (keyboards, mice, screens and others) are installed in a special control area behind the theatre that is devoted to the system operator, who operates and maintains the system equipment and programs.

The VR Lab has a set of software packages for the development of VR applications. This software includes different format converters that allow 3D models generated by more than 15 3D design tools to be imported into the VR development environment. Examples of these tools are Maya, Solid-Works and 3D-Max. The software packages also include a library with over one hundred VR applications and their source programs. This library is used as a demo application for learning VR application development. An SDK package is also supplied to develop new VR entities that use programming languages such as JAVA, C++, Visual Basic and others.

VR TECHNIQUES FOR THE PRESERVATION OF CULTURAL HERITAGE SITES

Cultural heritage sites are sensitive spatial fabrics that are constantly in inevitable physical flux and their documentation not only describes the context in which the materials were found but also acts to monitor the remains of past human activities. Haddad and Akasheh (2005) argued that the documentation process, which may be undertaken as an aid in various activities, such as the protection, identification, monitoring, interpretation and registration of stolen historical objects, can benefit tremendously from the various modern techniques that are currently available, especially from virtual reality technologies. Hassan (2002) explains that conventional methods of documentation such as photographs, physical models, text materials and drawings, among others, create an incomplete image of the settings of cultural heritage sites and that 3D-digitalised models provide a virtual copy of the actual settings. These copies make it easier for users to fully observe and understand these settings interactively and dynamically and provide a comprehensive presentation for the historical debates of archaeologists, and these copies are usually presented in a written media and technical illustrations.

The use of VR technologies as part of the process of presenting and documenting cultural heritage sites has become a very successful technique worldwide. These technologies enable cultural heritage sites, which, if they still exist, are often inaccessible to the public, to be recreated extremely accurately so that the recreations can be published in various media. Thus, this visualisation makes it possible to visit a historical place virtually, anytime and from anywhere with freedom of choice in movement and observation. VR provides a full walkthrough experience that shows the complete state of the site and provides a workspace for presenting future development projects in historical places. Additionally, VR provides a testing environment for the study of a wide range of historical and future concepts about that space.

Significant studies have emphasised the added value of using 3D and VR models for communication and learning. One of the earliest studies on this subject was conducted by Pimentel and Teixeria (1995). This study aimed at evaluating the potential of VR for education and emotional satisfaction in a simulation of the real world at the Computer Museum in Boston. Their observations showed that people spontaneously prefer to learn through an interactive experience rather than reading text.

In addition, web-based virtual tour applications constructed by 360° panoramic images have started being used extensively all over the world, including for cultural heritage sites. The effectiveness and usability of these tours were discussed by Bastanlar (2007) and Villaneuva et al. (2004). Example studies of the 3D reconstruction of cultural heritage sites were performed by merging image data with the output of a 3D laser scanner (Guarnieria et al., 2004; Kadobayashi et
al., 2004; Conforti & Pinto, 2004), where a 3D-scanner technology was developed to scan the environment and add colour information to generate the 3D model. However, the necessary equipment is still very expensive, and capturing the 3D data and post-processing is very time-consuming.

In a study at the Ename Archaeological Museum in Belgium, Pujol and Economou (2007) indicated that VR offers the possibility of reconstructing and manipulating elements and historical processes that can no longer be seen. The study further concluded that VR is attractive, motivational and useful for describing content such as objects and processes. A later study by the same authors, Pujol and Economou (2009), undertaken for the Museology Laboratory of the University of the Aegean at the Foundation for the Hellenic World in Athens (Comsos), investigates whether VR is suitable for learning about historical sites and historical cultural heritage settings. This study included a qualitative and quantitative analysis of the gathered data, which confirmed that VR allows for a different type of learning and communication. A recent comparative study using interactive and VR systems in museums for cultural heritage sites by Michael et al. (2010) shows that interactive exhibits, including VR exhibits, have been rated higher than traditional learning methods for communication and learning about cultural heritage sites.

Zara (2004) presents various issues addressing the presentation of cultural heritage objects in a virtual space, arguing that attention is being paid to the visualisation approaches for a wide audience, i.e., techniques targeted to the web. He discussed examples and practical experience from the design and implementation of the EU project Virtual Heart of Central Europe to show that the web-based presentation of three-dimensional scenes requires specific user interfaces.

Virtual environments for cultural heritage sites have been created regionally and internationally for documentation and presentation purposes. Examples of such projects are a real-time simulation model of the Herodian Temple Mount (Figure 3a) and the Rome Reborn project (Figure 3b). The real-time simulation model of the Herodian Temple Mount was developed jointly in 2001 by the Urban Simulation Team at the University of California-Los Angeles (UCLA) and the Israel Antiquities Authority (2012). Although this model consumed two years of hard work, a non-realistic model was created because there are no remains of the temple, leading the model to be built on predictions and historical theories. Rome Reborn was completed by a group of students and professionals under the supervision of University of California-Berkeley in the USA and represents the high end of virtual modelling for a walkthrough experience. Although this product has produced fully detailed virtual spaces, the outcome is still non-realistic. However, a more realistic experience was achieved by montage, which converted the walkthrough experience into a movie (Frischer, 2008).

Figure 3: Illustrations showing the applications of VR modeling in the field of cultural heritage: a) VR model for Herodian temple mount (Source: ust.ucla.edu) and b) VR model for Rome Reborn, (Source: http://www.romereborn.virginia.edu/).
Zara and Slavic (2003) discussed three different approaches to cultural heritage modelling and presentation in the Czech Republic. The first example, Celtic oppidum Závist, represents a simple but efficient utilisation of virtual reality for archaeology. The next project, Virtual Old Prague, is a complex web-based application allowing for dynamic walks through virtual cities. Lastly, the EU project, the Virtual Heart of Central Europe, is an example of several cultural heritage sites that are thematically interconnected into a common virtual environment.

THE CASE OF HISHAM PALACE

The archaeological excavations carried out by Hamilton in the 1930s and 1940s identified the ruins at Khirbat Al-Mafjar as a palatial complex built during the Umayyad period in the first half of the eighth century A.D. The site served as a quarry of cut stones for the people of Jericho before its identification. According to the Palestinian Ministry of Tourism and Antiquities (PMTA, 2008), the complex was attributed to the Caliph Hisham and is thus known as Hisham Palace. Hisham Palace is the most important monument from the Islamic period in the Jericho region (Figure 4).

The palace was a countryside residence built either by the Umayyad caliph *Hisham Ibn Abd Al Malik* or by his nephew *Al Walid Ibn Yazid*. The palace is a complex of buildings and colonnaded courts constructed in a south-north direction within a perimeter wall that was never completed. The complex consists of a palace, a monumental fountain, a mosque and a thermal bath complex. Partial excavations in the area to the north of the complex revealed a series of rooms that were thought to be the living quarters of families in the landowner’s service or a caravanserai. The luxury, complexity and lavishness of the palace are amply demonstrated by the recovery of fragments of poly-chromed frescoes, mosaic floors, marble, stucco walls, reliefs and sculptures that decorated the components of the palatial complex. The palace’s mosaics and stucco ornaments are fine examples of early Islamic art and architecture, but the palace was destroyed by
an earthquake before it was completed in 746 (Figure 5). The accumulated sand and debris resulting from this event helped to preserve the palace’s sophisticated mosaic floors in the great bath hall, assumed to be one of the most important mosaics from that period, as is the case with the Tree of Life (also called the Tree of Human Cruelty), which is found in the guest room. Many of the carved stuccos and statues from the palace are displayed at the Rockefeller Archaeological Museum in Jerusalem.

Figure 5: Hisham Palace Complex in Jericho, Palestine: a) The Palace complex plan prepared by Hamilton in 1959 (Source: ArchNet- www.archnet.com) and b) The ruins of Hisham palace in Jericho city. (Source: Researchers).

The current situation of the palace is very critical in terms of spatiality, historicity and physical condition. The only existing elements are several walls of the ground floor and several columns in the palace and the bath hall; there is nearly nothing left from the monumental fountain. Most of the frescoes, reliefs and sculptures are no longer present. The mosaic floor in the bath hall is still covered with sand for preservation purposes. The famous star in the palace courtyard, which was a window in the pediment of the eastern wall of the upper floor, was rebuilt and placed in the centre of the space after the excavations. The reinforced concrete columns and the truss roofing on the
guest room at the bath complex were added by the Jordanian Department of Antiquities prior to 1967. All of these factors create an evoked and incomplete understanding of the spatial configuration of the palace and distort the historical and architectural characteristics of the most important Umayyad monument in the region. The book “Khirbat al-Mafjar: An Arabian Mansion in the Jordan Valley” written by Hamilton in 1959 presents the original situation of Hisham Palace using written material, detailed illustrations for the artistic features, two-dimensional architectural drawings, photographs, perspectives and isometrics, as envisioned by the writer. In four chapters, the book discusses in detail the spatial configuration of each part of the palace, including the palace, the bath, the forecourt, the pool and pavilion and the mosque. The book has another four chapters that discuss the works of art in the palace, including the carved stone works, the carved plasters, the paintings and the mosaic floor of the bath. While the book is considered to be the most important work written about the palatial complex, its style is very complicated, and it fails to provide a comprehensive appreciation of the spatiality and historicity of the palace.

Many development projects for the palace have been proposed by local and international architects; in particular, projects have been proposed for the bath hall roofing system to reveal the mosaic floors. However, there is a condition of uncertainty regarding the visual impact that these projects may have on the sensitive fabric of the palace. Therefore, VR techniques can be used for the documentation, presentation and experimental investigation of the different historical layers of Hisham Palace.

THE DEVELOPMENT OF A VR-MODEL FOR HISHAM PALACE

The 3D digital model to present the original layout of Hisham Palace was created by adopting the proposed five step approach: data collection and analysis, the use of the digital library, 3D modelling, model assembly and presentation using virtual reality and feedback (Refer to Figure 1).

Data Collection and Analysis

The data collection and analysis step was necessary for implementing the different phases of the model, which uses both primary and secondary data. The primary data were obtained from site visits by taking high-resolution photos and measurements of the different elements and spaces available at the site such as uncovered architectural details and the mosaic floors. The secondary data were obtained from archived sources, mainly the recent digital CAD survey map for the palace site, which is available at the Palestinian Ministry of Tourism and Antiquities; the digital copy of the plan prepared by Robert Hamilton, which is available at the ArchNet website (Islamic Architecture Community; www.ArchNet.org); and the drawings and illustrations available in Hamilton’s book, which were scanned and digitised to be used in the later phases. The individual primary and secondary data required specific methods of processing and analysis.

There were two site visits held on February 15th and May 23rd, 2010, in which 685 high-resolution photos were taken to document every element of the site. The second site visit coincided with the periodical maintenance process for the hidden mosaic floor in the bath hall, which makes them visible and thereby enabled the research team to photograph these authentic elements. All of the photos, including these of the mosaic and of different elements such as column capitals, stone works and motifs were processed using photo rectification or perspective rectification with Adobe Photoshop software to convert high-resolution images of the perspective scenes into 2D texture materials, which could then be used for texturing different elements of the VR model in the later phases. Another digitised function used by the research team to process the photos was the photo-patching process, which stitches photos together for the purpose of obtaining a complete wide view of the structures of the palace, similar to creating a panoramic view using digital processes. The photos taken during the site visits were also used as a reference to determine the dimensions of different elements of the palace, as it was impossible to measure every part of it. Additionally, these photos were used to characterise the internal and external elevations of the different structures at the palatial complex.
The measurements of different elements of the palace were used to check the correctness of the measurements provided by the survey map and the digital plan. These measurements were important in the modelling phase because they were converted into 2D digitised drawings using Autodesk AutoCAD software to provide precise geometrical references and to define proportions and characteristics in the modelling phase.

However, the lack of many details at the site due to the misuse and relocation of several elements of the palace, vandalism throughout history, which drastically changed the authentic character of the palace, and the limited tools available locally for high-quality site scanning made it very difficult for the research team to depend on the current conditions of the site to provide a model for the original layout of Hisham Palace. Therefore, the illustrated materials created by Hamilton were fully studied and analysed for use as a primary source, in addition to the photos processed earlier, for the subsequent phases.

The illustrated materials in Hamilton's books can be divided into three types: black and white images taken when the palace was discovered, architectural drawings and fully-detailed illustrations of several elements of the palace. Each of these types of material was processed using a different approach. The images were compared with those taken through the site visits to allocate any changes since the complex's discovery. The architectural drawings were scanned and digitised using tracing techniques with Autodesk AutoCAD software to be used in the modelling phase, which converts these 2D materials into 3D objects. The fully detailed illustrations of several elements of the Palace were scanned at high resolution and processed using Adobe Photoshop for use as textures in the model (Figure 6).

![Figure 6: Sample of illustration conversion into photo-texture of some details: a) Original illustration by Hamilton of the palace parapet (Source: Hamilton, 1959), b) Processed illustration to be used in 3d modelling (Source: Researchers, August 2011), c) The photo image of the ceramic floor before rectification, d) The photo image after rectification (Source: Researchers, August 2011).](image-url)

The Digital Library
The analysed primary and secondary data were overlapping and complement each other. The existing conditions provided a basic understanding of the spatial configuration of the palace, while
Hamilton's book completed this understanding and provided an integrated conception of the spatiality of the palace through its illustrations. These two primary references allowed the research team to adopt an assembly approach, dividing the entire palatial complex into zones, which needed to be defined and organised within a digital library.

For this purpose, the research team decided to unify the repeated elements such as the columns, column capitals, arcades, watchtowers, domes, niches, windows, vaults, mosaic panels, carved plasters, stone works and statues to obtain a reasonable file size that would be easily navigated at

Figure 7: Samples of the 3D elements available in the Digital Library, (Source: Researchers, 2011).
The VR Lab at Birzeit University. These repeated elements of the palace were modelled and textured using Google Sketch-Up software using processed data from either the site or Hamilton's book; these were then saved in the digital library to be used in the later phases (Figure 7). All of the details were coloured sandstone to match the palace and maintain consistency with the model. The library was of great importance to the research team because it was dynamic and allowed for continuous updating throughout all of the phases of the VR model.

**The 3D Modelling**

These 3D dynamic components of the digital library were used to assemble the different zones of the complex: the palace, the forecourt and the fountain, the bath hall and the mosque with the enclosed garden, in a manner similar to the assembly of Lego construction toys (Figure 8). The library also contained the raw material of each component that was obtained either from the site or Hamilton’s book to be used for any additional required editing throughout the project. The Google Sketch-Up software was used throughout the project, because it is a dynamic and efficient application. Many historical sites have been modelled using this software worldwide and the results have been efficient and realistic. Google Sketch-Up has also been taught at the virtual reality courses at Birzeit University for use in simulating the old town of Birzeit and the Nablus historic centre.


The 3D Modelling

The research team began with the internal court of the palace, as there were two complete facades provided by Hamilton for this component. The other two facades were reconstructed repetitively. The modelling process at this point extended from the inside of the palace to the outside, where a study the Umayyad architectural style in the Levant region led to the modelling of parts that were not discussed in Hamilton’s book and that have been destroyed, such as the watchtowers, the main gateway, the wall of the forecourt and the colonnaded path that connected the palace with the bath.

The research team faced many dilemmas during this phase, as there are no data available for some parts of the Palace, for instance, the back garden of the mosque and the Vault (*Sirdab*), which was the private bath of the caliph in the basement of the palace. These sections were both...
modelled only from the outside for two reasons: there were no data for their interior and the research team was not allowed to enter the Sirdab by the guards of the palace. However, there were some parts that were fully modelled due to the comprehensive data provided by Hamilton, such as the Bath Hall and its gateway and the monumental fountain at the forecourt. These parts have detailed architectural drawings such as plans, sections, elevations and isometric views provided in Hamilton’s book. Moreover, the research team was careful to produce reasonable file sizes throughout the modelling phase using geometry reduction techniques. In this phase, each zone of the palatial complex was modelled, textured and saved in the digital library to be assembled using Hamilton’s architectural drawings to obtain the VR environment of Hisham Palace in its authentic original situation (Figure 9).

![Figure 9: The VR Models of the Four Zones in Hisham Palace: a) The Palace, b) The Bath Hall, c) The Mosque & the enclosed garden, d) The Fountain & the Forecourt and e) 3D initial views for the entire complex, (Source: Researchers, 2012).]

**The Modeling Assembly**
During the model assembly phase, the modelled zones of the palatial complex from the digital library were put together using Google Sketch-Up software guided by the digital copy of the plan prepared by Hamilton. The file however, was very large, and it was very difficult for the research
team to navigate within it. To obtain control over the final appearance of the objects, each object from the digital library was separately optimised and the polygons were reduced. The count of the polygons became 50% of the original (1.8 million polygons rather than 3.6 million). Figure 10 shows an example of a pillar capital with the polygons and faces count before and after the optimisation process. Additionally, at this phase, the textures were converted from JPG and TIFF formats into DDS format for better system-memory performance at the VR Lab. The result of this phase was a virtual environment for the original spatial settings of Hisham Palace as conceived by Hamilton.

![Figure 10](image1.png)

**Figure 10:** Representation of polygon reduction in modelling the different elements in the palace the case of a column capital: a) fully modelled capital and b) reduced model of the capital, (Source: Researchers, August 2011).

To present the VR model of the Palace, Autodesk 3D-Max and VR-4Max software were used to run simulations in real-time and immersive media, as they are supported by the VR Lab at Birzeit University. The model was exported to Autodesk 3D-Max software, where other further optimisations and geometry reductions were conducted. The geometry reduction attributes at this phase depended on the position of elements by eye, as distant parts and elements were rendered using the fewest number of possible polygons. The VR model was then initially tested for presentation using the VR-4Max plug-in; this test was of great importance for locating errors and modelling mistakes while running the simulation. Later, final editing and tuning were performed to obtain a more immersive experience. The user-camera settings, lighting properties, environmental elements and optimisation attributes were optimised at this point for better simulation quality (Figure 11).

![Figure 11](image2.png)

**Figure 11:** Hisham Palace: Rendered shots of the interior court and the forecourt according to Hamilton assumption: a) The interior court of the Palace, b) The fountain and the forecourt and c) Interior shots for the main palace door, (Source: Researchers, August 2012).
The Model Presentation
The VR model of the original spatial settings of Hisham Palace was presented using two movement modes: the fly mode and the walkthrough mode. These two modes enable the end-users to approach the different parts of the palatial complex and roam freely around and above them. Several presentations were conducted with participants from the universities, the public sector and the governmental sector. These presentations provoked discussions connected to the correct interpretation and demonstrated that the method has the potential to be used as a collaborative visual tool for communication among various disciplines: scholars, architects, archaeologists and historians. Starting with the first presentation, feedback was collected from the end users, who discussed some incorrect assumptions in Hamilton’s vision, such as the alignment of palace’s columns and the roof tiling in the interior court of the palace. This feedback also pointed out that the forecourt and the fountain area still need to be studied for a proper configuration of its context; primarily, the access to the servant block assumed to be located at the eastern part of the complex as well as to the main garden of the palace located at the eastern part of the complex. Additionally, some scholars have pointed out that Hamilton’s vision adopted an Orientalist perspective, as he had conceived of Hisham Palace as an Andalusian Umayyad structure, which is very different from the Umayyad structures built in the Levant deserts (Figure 12), such as the Great Umayyad Mosque in Damascus or the Al-Aqsa mosque in Jerusalem, including the use of pitched roofs, their tiling and the form of the pediment in the interior court of the palace.

Furthermore, the discussions were very useful for defining the future steps for the development of the VR model for Hisham Palace. One example is the consideration of further development of a dynamic model that could include different scenarios based on various interpretations among archaeologists and historians. In this regard, the model achieved the primary objectives of this study: the construction of an interactive virtual environment that generates public awareness and provokes serious discussion among different groups.

One final note, while the other examples reported in this study (Herodian Temple Mount and Rome Reborn) focused on the visualization of a final 3D model based on a scenario showing a specific historical layer, our approach was directed towards an investigative process and learning through the development of the immersive, interactive and dynamic VR modeling of the historical data. The presentation of the VR model in a large-screen immersive environment provided the possibility of a live experience of the site and it brings historical details closer to the subject’s minds. The interactive approach provided the ability to navigate anywhere and anytime while presenting the model. In addition, the discussions created among the planners, historians and archaeologists were used as a point of departure for the further development of the dynamic VR model of the palace. The dynamic features mean that different scenarios could be elaborated and shown based on various interpretations, primarily among archaeologists and historians.

CONCLUSIONS
Virtual Reality technology was used in this study as experimental tool to investigate the processes and potential to study, document and communicate information on historically important sites in Palestine. In the absence of strategies and resources addressing historical sites in Palestine, virtual replicas of cultural heritage sites and landscapes could become a medium for preservation, documentation, interpretation and intervention, education, tourism and raising the public awareness regarding the significant value of the local heritage. In this context, this experiment represents a pioneering case in Palestine, and the outcome of this project will hopefully inspire other possible uses of VR for presenting models reflecting the dominant ideologies and cultural heritage.

Despite the amount of available data, it was possible to provide a general vision of Hisham Palace. The work and the methodology used for the creation of an interactive virtual reality environment for the palace proved to be within the technical capabilities of the VR Lab in Birzeit University. Because the VR model of the palace represents only a visual experience of the spatial configuration of the site, the results prove that there is still a need for a team of archaeologists, historians, architects, urban designers and 3D artists to execute the work professionally and efficiently to provide a thorough rendering of the different historical dimensions of this palace and to provide the entire community with a comprehensive understanding of the spatial configuration of the palatial complex. Until these studies are conducted, the palace will be modelled through a prototyping approach, using the elements available in the 3D library. Indeed, the virtual environment presents a potential tool for the further creation of an experimental environment to demonstrate the on-going or future rehabilitation and conservation projects at the palace proposed by local and international institutions, architects and designers.

Lastly, in contested regions, such as Palestine, this method may include a political dimension. The study of the history of these areas should take precedence by means of focusing on studying specific historical layers and reconsidering other layers. However, further research studies are needed to investigate and measure the local community acceptance in terms of using this type of technology and to determine whether this technique could really make a difference in elevating public awareness. This empirical study is planned for the next phase of this project work.

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DUBAI IN A WORLD OF FLOWS

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Abstract
During the last decade, Dubai has experienced dramatic forms of urban transformation in response to the new global order. Since the early 1990s, the city has been investing in the construction of an urban structure that has the capacity of triggering intense flows of capital, people, goods, and information in order to upgrade its world city status. A major portion of real estate investments was directed to the development of a series of projects that primarily aim to attract these flows. I refer to these projects as “places of flows.” I mean by “places of flows,” places that have the capacity of attracting and hosting agglomerations of capital, people, and information flows and facilitate their transmission to the local context. In this paper, I propose an analytical model that categorizes these places into: 1) Places of capital flows; 2) Places of people flows; and 3) Places of information flows. The study aims to emphasize the role of these places in integrating Dubai into the new world order.

Keywords: Dubai; globalization; global flows; urban development.

INTRODUCTION
We live in the era of globalization which features what David Harvey refers to as time-space compression (Harvey, 1990). The revolution in communication and transportation technologies has contributed to the acceleration of the experience of time and the shrinkage of the significance of distances. This has facilitated the integration of economic, cultural, political, and social systems across the globe or what we call “globalization.” The movements of capital, people, information and knowledge currently feature unprecedented rates and magnitudes (see Held & McGrew, 2002). These movements are referred to as global flows. These flows have increased long distance connectedness, economic interdependence and cultural integration. Besides, they caused the restructuring of spaces and urban forms of cities (see Held, 1995; Hannerz, 1996).

Billions of dollars are flowing across the globe every second. In 2010, nearly 940 million international tourist arrivals were recorded around the world generating one trillion dollars of revenues.1 Information, knowledge, and ideas are exchanged with the speed of light. All these dramatic changes in the ways people interact and communicate have significantly impacted trends of urban development. It poses challenges to local identities and cultures. However, it also offers opportunities to developing cities through the unprecedented access to global capital and knowledge.

The intense exposure to global flows has triggered the emergence of new urban landscapes or what Arjun Appadurai refers to as “scapes of flows” (Appadurai, 1990). According to him, five types of scapes emerge in response to globalization. 1) Ethnoscapes which are created by the interaction of diverse cultures and ethnics activated by the revolution in transportation technology. Tourists, immigrants, travelers and refugees moving from one place to another contribute to the production of these landscapes. 2) Mediascapes which are triggered by the expanding role of media as a result of the revolution in information technology. Today, internet and TV channels are major sources of information and knowledge. 3) Finanscapes or the landscapes created by flows of capital that are triggered by currency markets, stock exchanges, and transnational corporations. 4) Technoscapes which reflect the influence of advanced technologies of communication and networking on contemporary life. 5) Ideascapes or the

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1 World Tourism Organization (UNWTO)
ideologies and counter-ideologies that are spreading in unprecedented rates because of the revolution in modes of communication (Appadurai, 1990). Appadurai describes these “scapes” as the critical players that shape social practices in the era of globalization.

The five scapes discussed by Appadurai (1990) are becoming features of “world cities.” They reflect the intensity of flows to an urban context. The emergence of these scapes in top world cities such as New York and London was associated with the production of places that have the capacity of serving global flows. World class business centers, international airports and immigrants enclaves are examples of these places. In this paper I argue that Dubai is actually reversing the process experienced by top world cities. In the case of global cities, certain urban typologies have actually emerged in response to global flows. In other words, these places were shaped by global flows. In the case of a globalizing city such as Dubai, urban change is shaped for global flows. Dubai has actually been investing in creating places that have the capacity of attracting global flows to its local context. In the following section I explain the concept of places of flows and its role in the process of Dubai’s globalization.

PLACES OF FLOWS
Places of flows are urban nodes that attract and host agglomeration of global flows. In order for capital, people and information to move to a city, there must be places that transfer them to the local context. Although global flows, as noted by Castells (1996), are capable of penetrating national and local boundaries, they still need places to host their interaction with the locale (see Castells, 1996). In the era of globalization, certain places can play a significant role in attracting global flows. It is worth noting that the three types of places of flows I discuss in this paper might overlap, or in other words, the same place can host multiple forms of flows.

PLACES OF CAPITAL FLOWS
Places of capital flows are hubs that attract flows of capital to a local context. International banks, stock markets, financial corporations and trading firms are all examples of these places. The revolution in information technology has facilitated transnational trade and communication between sites of production and those of consumption. It allowed the relocation of corporate offices far from manufacturing sites and the development on new urban concentrations or what Saskia Sassen calls “production complexes” (Sassen, 1995). Corporate headquarters, international banks and transnational enterprises preferring to locate close to service firms such as lawyers, accountants, designers and brokers are forming new nodes of agglomeration. Besides, they seek places that can offer an exquisite lifestyle for their top executives and intellectuals.

Business headquarters hosting major multinational corporations became an essential urban typology in any top world city. Cities that are seeking to upgrade their world city status tend to establish these headquarters in spectacular forms in order to attract the attention of multinational corporations. Although capital can be transferred from one place to another through cyber space, there is a continuous need to establish business centers at both poles of these transactions. The flow of capital to a city is triggered by economic activities which are designed and managed by both governments and corporations in the place. Places of capital flows are essential for any city aiming to become a major player in the global economy. The quality and quantity of these places indicate the scale of capital flows to the city and its role in the global economy.

PLACES OF CAPITAL FLOWS IN DUBAI
Since the beginning of the 20th century Dubai has been growing as a business hub. However, it was not until the late 70s that city started to become one of the major trade centers in the region. The opening of Jebel Ali Free Zone in 1979 has jump started urban development in the city. It has triggered massive flows of capital and goods to and from Dubai. The free zone hosts 37% of the city non-oil trade. It was supported by a series of other places of capital flows such as Dubai.
International Financial Center (DIFC) which is described by the government of Dubai as “the newest global financial hub, bridging the geographical and time gaps between the major capital markets of New York and London in the West and Hong Kong in the East.”\(^2\) Around 848 companies were registered at DIFC by the end of 2011. In their mission statement, the DIFC describes itself as “the world’s fastest growing international financial centre. It aims to develop the same stature as New York, London and Hong Kong.”\(^3\) DFIC hosts Dubai International Financial Exchange (DIFX) which was renamed as NASDAQ Dubai. NASDAQ OMX acquired a one-third stake in NASDAQ Dubai in February 2008. The other two-thirds are owned by Borse Dubai the holding company for Dubai Financial Market (DFM). DIFC allows 100% foreign ownership and offers 0% tax rate on income and profits.

![Figure 1&2: (Left) Dubai International Financial Centre, a mega place of capital flows. (Right) Burj Khalifa, the tallest building in the world that attracts millions of tourists to Dubai every year](Source: Author)

Figure 1&2: (Left) Dubai International Financial Centre, a mega place of capital flows. (Right) Burj Khalifa, the tallest building in the world that attracts millions of tourists to Dubai every year (Source: Author).

Tourist hubs are another examples of places of capital flows in Dubai. The city received nearly 10 million tourists in 2010 and is expecting to receive 15 million in 2015. Dubai managed to create an attractive urban environment in order to compete with major tourist destinations in the region such as Egypt, Lebanon, and Turkey. The city has simply relied on contemporary spectacular architecture in order to attract tourism. Places such as Burj Al Arab, the most luxurious hotel in the world; Atlantis The Palm, a $1.5 billion replica of Atlantis Bahamas; and the new Giorgio Armani Hotel, the first of its kind in the world have managed to attract millions of tourists to the city every year. In 1988, the number of hotels in Dubai was estimated by 48 hotel. In 2010, this number reached 382 offering 51,115 rooms.\(^4\)

Tourism in Dubai has generated nearly $4.8 Billion of revenues in 2010. Foreigners constitute 94% of hotel guests which emphasizes their contribution to capital flows to the city. Hotels in Dubai not only bring capital to the city in the form of revenues, but also act as nodes of agglomeration of domestic and foreign investments. Most of the city’s extravagant hotels are partially funded by international corporations such as Kerzner International which invests in Atlantis The Palm, and Donald Trump the developer of the Trump International Hotel and Tower.

Spectacular mega real estate developments are another form of places of capital flows in Dubai. These projects have the capacity of attracting global capital to the city. The new residential and commercial developments in Dubai mainly target foreign consumers. The number

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\(^2\) Government of Dubai official website: http://www.dubai.ae/en.portal?businesses,biz_market,1,&_nfpb=true&_pageLabel=topic

\(^3\) Dubai International Financial Centre official website: http://www.difc.ae/index.html

\(^4\) Dubai Statistics Centre.
of supplied units in the real estate market exceeds the demands of the local population. Besides, the majority of foreign residents in the city cannot afford the luxurious residential units in the market. These projects are mainly sold to regional and international rich elites. For example, and as noted by Mohamed Alabbar, the developer of Burj Khalifa, the project has sold 85% of its units, worth $1.1 billion in two nights.\(^5\) Customers are from all around the world including Russia, Iran, Europe, and the Arab Gulf. Projects as the Palm and World Islands have attracted many of the world rich elites such as the Irish investor John Dolan and celebrities such as David Beckham. The first 4,000 condos and homes sold on Palm Jumeirah went to citizens of the United Arab Emirates and other Persian Gulf countries, 25% went to British customers and rest was purchased by 75 different nationalities.\(^6\)

According to Khaleej Times, a leading newspaper in Dubai, “two out of three of all new freehold properties in the UAE are bought by foreign corporations or individuals who live outside the country.”\(^7\) Mohamed Nimer, CEO of MAG Group Property Development, notes that final home owners currently account for 30% of the market and only 5% of them are UAE nationals.\(^8\) These figures reflect the scale of capital brought to the city by real estate development. The construction sector actually comes second after financial intermediation and insurance in attracting flows of capital. Dubai is currently the largest recipient of foreign investments in the Middle East. DIFC aims to host 20% of the world’s investment funds.\(^9\) The city has benefited of flows of Arab capital from the West post to 9/11. It managed to attract a significant portion of these investments. As noted by Mike Davis (2005):

> “Since 9/11 many Middle Eastern investors, fearing possible lawsuits or sanctions, have pulled up stakes in the West. According to Salman bin Dasmal of Dubai Holdings, the Saudis alone have repatriated one third of their trillion-dollar overseas portfolio. The sheikhs are bringing it back home, and last year the Saudis were believed to have ploughed at least $7 billion into Dubai's sand castles” (Davis, 2005).

Dubai managed to attract these flows of capital by offering huge opportunities and incentives mainly in the real estate sector. The extravagant urban projects in the city absorbed billions of the dollars that were withdrawn from western banks. Dubai offered a safe haven for Arab billionaires who feared the confiscation of their accounts in Western banks. The city currently has construction projects worth hundreds of billions of dollars. As described by Steve Kroft, Dubai is:

> One project, called by some the ‘largest construction site on earth,’ was just desert several years ago. The site employs half a million laborers, working 12 hour shifts on a reported $300 billion worth of projects, building Sheikh Mohammed’s dream of a modern, efficient and tolerant Arab city with fine restaurants, a vibrant nightlife, that is both the playground and business capital of a new Middle East.\(^10\)

Whole sale and retail trade receives 20.5% of direct foreign investments in the city. Free zones facilitate trade between the city and the global domain. For direct trade, imports of Dubai are estimated by $120 billion in 2011. However, nearly 30% of the imports value is re-exported again. The value of trade in free zones such as Jebel Ali reached nearly 101 billion dollars in the same year. Places of capital flows managed to bring huge foreign investments to Dubai. These places encouraged investors to pour billions of dollars in the market. The financial city, free zones, business headquarters and mega projects have all contributed to the huge scale of flows to the city. The production of these places has triggered massive capital flows to the city.

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\(^5\) CBS- 60 minutes: http://www.cbsnews.com/stories/2007/10/12/60minutes/main3361753.shtml
\(^6\) James Calderwood, Residents of Dubai's manmade palm isle enjoy pricey digs, USA Today, 6/23/2007
\(^7\) Foreign buyers dominate freehold market, 27 May 2008.
\(^8\) Foreign buyers dominate freehold market, 27 May 2008.
\(^9\) "Omniyat Holdings Announces the Establishment of Omniyat Investment Management" DIFC Press Centre 30 March
\(^10\) CBS- 60 minutes: http://www.cbsnews.com/stories/2007/10/12/60minutes/main3361753.shtml
PLACES OF PEOPLE FLOWS

As argued by Smith and Timberlake (1995), “the world system is constituted, on one level, by a vast network of locales that are tied together by multitude of direct and indirect exchanges” (Smith & Timberlake, 1995). For global flows of people, these ties include modes of transportation that facilitate people movement and hubs that host them. The revolution in modes of transportation, especially air travel has facilitated the movement of people across the globe. According to the International Air Transport Association, 2.8 billion passengers have traveled by air in 2011.11

Human flows from one place to another require both modes of transportation and nodes of agglomeration. Places such as airports, seaports, highways and train stations facilitate mobility. They contribute to what Donald Janelle (1969) describes as “space-time convergence” or the diminishing time needed to connect two places due to the advances in transportation technologies (Janelle, 1969). Hotels, resort areas, tourist attractions, immigrants and foreign labor enclaves, universities and convention centers are all examples of nodes of agglomeration that attract people and trigger their movement from one place to another. These places are important indicators of the scale of human flows to a city.

Flows of people take different forms such as tourism, business travel, and labor immigration and migration. Although modes of transportation of these different forms flows are similar, the nodes of agglomeration are significantly different. Tourists arrive to their destinations through places as airports, seaports, train and bus stations or border check points. Gareth Shaw and Allan Williams (2004) note that:

*The direct distance between potential points of origin and destination no longer matters. Instead, scapes [modes of mobility] create inequalities in tourist and related flows as they bypass some areas, while connecting others with channels enriched with transport and tourism facilities* (Shaw and Williams, 2004).

Places of tourists’ agglomeration such as hotels, resorts, museums and other attractions are another indicator of the scale of human flows to a city. No doubt that information technology has created what John Urry (2001) calls “virtual and imaginative travel” through internet, radio and TV (Urry, 2001). However, “there is no evidence that virtual and imaginative travel is replacing corporeal travel” (Urry, 2001). Today, tourism is one of the largest sectors of the global economy. Cities that don’t have natural or urban attractions tend to create artificial ones in order to draw part of global tourism. These invented places are becoming commodities that generate wealth for their cities.

Migration is another form of human flows in the era of globalization. In 2010, the number of people living outside their countries of birth was estimated to be 215 million, up from 82 million in 1970.12 Nearly 75% of all international migrants are in 12% of all countries.13 Migrants usually use the same modes of mobility as tourists. However, their nodes of agglomeration are different. Depending on their race, culture and number, some immigrant groups might create enclaves or little communities within the city they live in. Others prefer to assimilate into the local culture. However, there are always places that reflect the presence of immigrants such as religious and cultural centers, and ethnic restaurants and schools.

Places created for or by immigrants feature multiple forms of interaction between the local and the global. They expose local cultures to foreign influences and accordingly create hybrid environments. These places are another indicator of the scale of human flows to a city. Most of the major world cities as London, New York, and Los Angeles have these nodes of agglomeration. As observed by Laguerre (1999), “a global city is any urban environment housing a multiplicity and diversity of transnational niches” (Laguerre, 1999, p. 19). These niches or enclaves as described by Featherstone and Lash (1995) are “global creation of locality”

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(Featherstone & Lash, 1995). Mark Abrahamson describes these enclaves as any named locale that hosts a subculture and features some sort of attachment between its residents (Abrahamson, 1995). They are either constructed little cities within the city such as Chinatowns and Koreatowns in many American cities, or less defined agglomerations that feature some distinct qualities such as Muslims’ neighborhoods in London. The presence of these enclaves triggers more immigrants’ flows to the city. They provide haven for new comers who don’t master the local language nor are familiar with the new lifestyle. In these enclaves immigrants can find “middleman minorities” who can help them settle and find a job (see Cobas, 1987).

Immigrants’ enclaves are important indicator of people flows to a city. They are part of the urban fabric of most of the top world cities. These enclaves might not appear in a well-defined form. They could be in the form of networks of services and places of agglomeration across the urban fabric of the city. These places could be traced by reading the urban text. They produce symbols and signifiers that distinguish them within the local urban structure.

In many cases, places of flows of people are also nodes of global capital agglomeration. In 2010, inward remittance flows are estimated by $325 billion. In the same year, international tourism has generated nearly one trillion dollars. These flows of capital are associated with flows of people who in turn trigger flows of ideas and information. In this sense, some places as immigrants’ urban settings for example, act as nodes of intense agglomeration of multiple types of flows.

PLACES OF PEOPLE FLOWS IN DUBAI

Dubai, as most of the Arab Gulf cities, relies heavily on foreign labor mainly from the Middle and Far East. According to Dubai Statistics Centre, foreigners make nearly 85% of the population of the city. This makes Dubai a major hub of flows of labor in the region. Adding to this, the city is becoming one of the top tourist destinations in the Middle East. The production of a series of places of people flows has contributed significantly to the increasing number of tourists to the city. Dubai has invested billions of dollars in extravagant hotels such as Burj Al Arab which actually jump started iconic architecture in the city. This luxuries hotel is one of a kind. The lowest room rate is nearly $2000. It opened in 2000 as part of the city’s new millennium celebrations. It was followed by a series of luxury hotels run by global chains as Hilton, Intercontinental and Hyatt. In 2008, Atlantis The Palm, a replica of the one in Bahamas, has opened in Dubai. The cost of the opening ceremony is estimated by $20 million. The hotel was built on the man-made island of Palm Jumeirah. The hotel offers under water suites surrounded by tanks of fish and dolphins. The Armani is another extravagant hotel in Burj Khalifa. It is the first of a new chain of Giorgio Armani Hotels. The hotel and 144 residential units in the same tower are exclusively designed by Armani Designers.

Attracting tourists to Dubai mainly relies on the idea of creating spectacles. Hotels, an example of places of people flows in the city, usually have a theme. This makes most of the major hotels in the city destinations rather than places that host tourists coming to the Dubai. People go to the city in order to see Burj Al Arab Hotel. They even pay a fee to enter its reception. Same phenomenon could be observed in Atlantis The Palm which attracts much more visitors than guests.

Dubai invested in constructing one of the largest international airports in the world. In 2011, Dubai International airport served 51 million passengers on 326,341 flights making it the fourth busiest airport in the world in terms of international passengers. The airport current capacity is 62 million passengers. Over 150 airlines operate out of Dubai International Airport.
The airport capacity is expected to reach 90 million in 2018 and will be expanded again to serve 98.5 million passengers in 2020.\textsuperscript{19} Once fully completed, it will be the largest airport in the world with a passengers capacity of 120 million. This huge number of passengers compared to the small population of the city reflects the intense degree of people flows to and from the city. The airport plays a significant role in accelerating the rate of these movements considering the absence of other modes of regional transportation except vehicles.

Figure 3&4: (Left) Ski Dubai, an indoor skiing facility, the first of its kind in the region. (Right) The address Downtown Dubai Hotel, one of the most luxurious hotels in the city. Both projects are examples of places that attract millions of tourists to the city (Source: Author).

Mega shopping malls are another example of places of flows in the city. Dubai has invested intensely in creating mega malls, the largest, not only in the region but the whole world. Dubai Mall a 9,000,000 ft\textsuperscript{2} of shopping retail space that is designed to host 1200 stores is one of the largest malls in the world. It marked the largest mall opening in history with 600 retailers. The mall is located in Burj Khalifa, the tallest building on earth. The mall hosted 37 million visitors in its first year. It includes a 10,000,000 liters aquarium with 33,000 marine animals on display.\textsuperscript{20}

As most of the major developments in Dubai, malls are designed to look spectacular. Ibn Batutta Mall for example, is named after the medieval traveler and explorer Ibn Battuta. The mall has six main sections; each replicates the architecture of the regions visited by Ibn Battuta. The mall has Chinese, Egyptian, Persian, Tunisian, Andalusian and Indian themed courts. The mall is a major destination for both locals and visitors of the city. It is one of the major hubs of people flows in Dubai. The mall was developed by Nakheel Company, one of the largest real estate developers in Dubai and the owner of the famous man-made Palm Islands. Again, this company is partially owned by the ruling family and the government of Dubai. Mercato Mall is another example of themed malls in Dubai. The place replicates Tuscan and Venetian architecture. The developer states with pride that Mercato Mall is the first themed mall in the Middle East.\textsuperscript{21}

All these places managed to attract millions of people to Dubai. The city became a major tourism hub in the Middle East. Besides, it became one of the most appealing locations for transnational corporations and their talented experts and professionals. In less than a decade, Dubai succeeded in transforming itself to become a major global hub for people flows.

\textsuperscript{21} Mercato Mall Official Website: http://mt.mercatotowncentre.com/default.php
PLACES OF INFORMATION AND KNOWLEDGE FLOWS

Unlike people, ideas can flow from one place to another in enormous speed. Through the internet, satellite channels or any other digital form, ideas can penetrate local boundaries and territories. In the context of this study, I am mainly concerned with places that receive these flows and transmit them to the local context. The internet and TV channels are modes of connection between the local and the global. Homes, internet cafes, ICT headquarters, libraries and universities are examples of the hubs or nodes of agglomeration of these flows.

According to Castells, information is the raw material of the new technological paradigm that shape contemporary life (Castells 1996). It could be argued that flows of information, knowledge and ideas have reached places that other forms of flows could not reach. Flows of knowledge and ideas that featured early phases of globalization occurred to a great extent, spontaneously or on individualistic level through new modes as internet and satellite channels. Today, flows of knowledge is more institutionalized and managed by organizations and institutions. The concepts of the knowledge economy and the production and management of knowledge are becoming crucial in discussions on globalization and cities. Knowledge management is defined as “the systematic process of identifying, capturing, and transferring information and knowledge people can use to create, compete, and improve.”

Global flows of knowledge require nodes of agglomeration that transmit them to the locale or what Kris Olds calls “global knowledge-based hubs” (see Olds, 2007). Educational facilities are examples of places that have the capacity of hosting agglomerations of information and knowledge flows. Many of the cities seeking an upgrade of their world city status are focusing on the internationalization of their education to maximize their exposure to global flows of knowledge and information. According to Olds (2007), internationalization of education occurs in four different modes: 1) Cross-border supply such as on-line distance education; 2) Consumption abroad of education services by sending students to study in other countries; 3) Commercial presence in the form of establishing foreign campuses in the city; and 4) Presence of faculty teaching in another country or bringing foreign faculty (Olds 2007). The new emerging transnational educational institutions also include schools, libraries and training centers. Partnership between local and foreign educational institutions is currently a common trend in many globalizing cities. These institutions are becoming places of flows of knowledge and information.

Although contemporary modes of information and knowledge flows such internet, phones and satellite channels offer alternatives to face-to-face communication, they also contribute to the emergence of what Howard Rheingold (2006) describes as the “smart mobs” (Rheingold 2002). He means by smart mobs, groups of people who manage to use communications technology to activate and organize social actions and events in the real world (Rheingold 2002). These flows of information agglomerate in places such as plazas, squares, and streets. They initiate events, protests and political activities. In this sense, public places become a core hub for flows of information and knowledge.

PLACES OF INFORMATION FLOWS IN DUBAI

Since the beginning of its transformation to become a world city, Dubai has focused on constructing the most advanced communication networks in the region. The state of Dubai has invested intensively in ICT infrastructure and offered very attractive incentives to transnational information technology giants to come to the city. In 2000, the city launched Dubai internet city (DIC), a huge information technology hub that was able to bring major world corporations like Microsoft, Cisco Systems, IBM, HP, Dell, Siemens, Sun Microsystems, Computer Associates, PeopleSoft, and Sony Ericsson to Dubai. In its mission statement, there is a clear emphasis on the notion of connecting the local to the global.
“The mission of Dubai Internet City is to create an infrastructure, environment and attitude that will enable Information and Communications Technology (ICT) enterprises to operate locally, regionally and globally, from Dubai, with significant competitive advantage.”

In its early years, DIC offered major global enterprises very attractive deals to open branches in Dubai including subsidized office spaces. Enterprises in DIC pay no taxes since the whole project is a free zone.

Dubai Internet City was followed by a series of information technology hubs such as Dubai Media City (DMC), a place that offers world class services for the media industry. The project is owned by the state and as mentioned in their mission statement “reflects the vision of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai to transform Dubai into a knowledge-based society and economy.” DMC with the newly established Dubai International Media Production Zone and Dubai Studio City tend to attract international media production companies to Dubai. They offer all types of media services and enjoy the same free zone regulations as Dubai Internet City. Many private international and domestic media production enterprises as CNN, Reuters, Showtime Arabia, CNBC Arabiya, and the Pakistani Ary Digital Network broadcast from Dubai Media City.

The determination of the state of Dubai to invest in places of information and knowledge flows not only served its interest in becoming a major media hub, but also contributed to the quality of education in the city. Dubai Knowledge Village launched in 2003, is a huge international educational center with a kilometer long building that is designed to host any knowledge based activities. Dubai International Academic City is another hub of flows of information and knowledge. It focuses on international higher education and is owned by the state.

International education in another form of activities that trigger flows of ideas and information. Dubai hosts many international schools and universities that act as hubs of flows to and from the city. The American School of Dubai, Dubai British School, American University of Dubai, and British University in Dubai are examples of these hubs. These places serve both foreigners and locals who seek foreign education.

Events and conventions are other forms of activities that trigger flows of information and ideas. Dubai has relied heavily on spectacular events in order to promote itself globally. Concerts, fashion shows, expos, and international athletic tournaments introduce to locals new ideals and lifestyles. In 2010, Dubai International Convention and Exhibition Centre drew 1.4 million visitors from over 155 countries with 32,781 exhibiting companies from over 85 countries. Cars, fashion, jewelry, yachts, construction and real estate expos in Dubai attract major international corporations and experts.

CONCLUSION

During the last decade, Dubai managed to transform itself to become an influential player in the new world order. The city relied on constructing a series of places which have the capacity of attracting and hosting agglomerations of global flows of capital, people, and information. These places have triggered enormous flows to Dubai. Billions of dollars moved to the city through places such as Jebel Ali Free Zone, Dubai International Financial Centre and many mega real estate projects such as The Palm and The World artificial Islands. Mega shopping malls such as Dubai Mall and Ibn Battuta Mall, and spectacular places such as Burj Khalifa, Atlantic The Palm and Burj Al Arab managed to attract millions of tourists to Dubai. The city became a major tourism hub in the Middle East that competes with other destinations such as Egypt and Turkey.

For information and knowledge, Dubai has developed a series of places such as Dubai Media City, Dubai Internet City, and the Knowledge Village which have intensified flows of knowledge and information to the city.

23 Dubai Internet City Official Website: http://www.dmc.ae/
24 Dubai Media City Website: http://www.dmc.ae/
By these three types of places of flows, Dubai managed to upgrade its world city status. In ten years, the city was able to transform itself from a peripheral world city to become one of the emerging global cities in the world today. It was all about the production of places of flows which triggered global flows of capital, people, and information to the city.

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FROM PRE-OIL SETTLEMENT TO POST-OIL HUB: THE URBAN TRANSFORMATION OF DOHA

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Abstract
Since oil production commenced in the middle of the 20th century Qatar’s capital Doha witnessed a rapid urbanisation period. Today, new development strategies, which have been implemented to diversify Qatar's economy, have led to a new urban transformation process with the vision to establish Doha as hub within global networks. Economic transformation processes in Qatar have always caused new structures within its society, which in turn affected urban developments. After decades of urbanisation based on the export of oil, the introduction of a hub vision at the end of the 1990s marked a new process that has been re-thinking urbanism in Qatar. Although current developments have attracted worldwide attention, there has been rather little scientific reflection as to how current urbanism in the Gulf should be understood in relation to its past and projected future. Therefore, this paper seeks to investigate the various factors impacting Doha’s urban environment during economic transformation processes. Each economic transformation has had a large impact on the structure of the city’s society as well as its built environment. The current transformation process can still be considered at its beginning. In order to understand the impact of contemporary economic diversification strategies, the city’s past urbanisation stages and their spatial development factors had to be analysed. All in all four distinct phases of urbanism can be distinguished in the case of Doha: The pre-oil settlement, the modernisation period, the oil city and the globalised hub.

Keywords: Doha; urbanisation; oil boom; economic transformation; hub city.

INTRODUCTION
The Gulf region has witnessed a rather rapid modern urbanization during the 2nd half of the 20th century. Before oil was found most settlements were small fishing villages and only a few of them could develop to small cities with more than 10,000 inhabitants during the peak of pearl trade at the end of the 19th century (Scholz, 1999). These larger settlements were the home of major tribes, who resettled from inland oases to the coast in order to benefit from the emerging trade. Although the region was never colonialized as other regions in the Middle East, several protectorates were installed by the British in order to prevent any conflicts between tribes and the British East India Company and its trading routes. These protectorates gained another dimension of importance when oil was found in the beginning of the 20th century. The large-scale production of oil commenced after World War Two leading to the first period of modern urbanization. And after the declaration of national independence in the late 1960s and beginning of 1970s the small Gulf States witnessed exponential urban growth during the oil boom.

After the oil boom new economic strategies were introduced at the end of the 20th century in order to stimulate the transformation of Gulf cities from rentier state structures to international service hubs. Based on a fortunate geopolitical location between Asia, Europe and Africa, many governments recognized a potential to enter regional and global trading networks by investing in extensive and state-of-the-art harbors and airports (Scholz, 1999, p. 82). This general strategy
was accompanied by different types of investments in order to accelerate urban growth. Subsequently, new economic sectors were introduced by joint ventures between public and private sectors, which meant a new era of urban governance in the Gulf. Subsequently, privatization and decentralization have been integrated to stimulate and accelerate investment in order to realize the vision of becoming global centers. Although the wealth of fossil fuels can currently still be considered as the main basis of recent expectations for growth, Gulf cities have entered a fierce competition to transform outdated structures in order to accommodate new post-oil economies (Davidson, 2009, p. 182).

In the following the paper seeks to investigate the urban evolution of Doha by analyzing its four distinct phases of development. Each phase is analyzed according to historic events and circumstances leading to new economic developments and thus a transforming urban structure. In all four cases the analyses focus on urban governance, the socio-economic context as well as the urban images produced by each urbanization phase in order to provide insights into the contexts of the resulting built environment.

THE PRE-OIL SETTLEMENT DOHA
During the 18th century the Al Maadhid tribe and its leading family clan Al Thani moved from central Arabia to settle on the northern coast of Qatar, where they resided in the area around Zubara. As a consequence of tribal conflicts with the Al Khalifa tribe the Al Maadhid tribe under the leadership of Sheikh Mohammed bin Thani resettled on the eastern coast of the Peninsula in 1847, where its clans founded the settlement of Al Bidaa at the location of an old fishing village (Adham, 2008, p. 221). The choice of location was based on the water source Wadi Sail and the fortunate shape of the coastline, which protected the settlement from sea attacks. At the end of the 19th century Ottoman troops built a fort in Al Bidaa, which became the area containing the largest settlements on the eastern coast at this time, in order to restore their interests in the region. After the withdrawal of Turkish troops the British Resident in the Gulf signed a protection treaty in 1916, transforming Qatar into an official British protectorate (Scholz 1999, p. 184). During the first decades of the 20th century Al Bidaa and its eight settlements grew to around 12,000 inhabitants due to the flourishing pearl trade. However, its population rapidly decreased during the 30s, when Qatar’s entire population dropped from 27,000 to less than 16,000 inhabitants because of the collapse of pearl fishing caused by the invention of cultured pearls in Japan (Al Buainain, 1999, p. 149).

The development of Al Bidaa into eight distinct settlements along the shoreline, which together occupied an area of around 1.23 sq. km (Fig. 1) (Hasan, 1994), was caused by the need for access to the sea, land distribution to tribal clans and the location of water sources. Al Bidaa was later renamed Doha, which either refers to a big tree standing at the coast or to the circular shape of the coastline (Al Buainain, 1999, p. 181). Each social group lived segregated in their own areas and the main centers of social interaction were the harbor, market and mosque (Al Buainain, 1999, p. 190). Due to the socio-economic importance of the market and harbor area each neighborhood was directly linked via roads. However, the road network was in general not a result of conscious planning but rather the consequence of the collective building efforts of each family. The ruler’s function concerning the administration of the settlement development was limited to incentives regarding where to build his palace and mosque in addition to a macro-distribution of land regarding markets and new residential districts. Furthermore, within the tribal structure he was seen as the leading sheikh and thus as executor of Islamic law, which also covered building violations. However, most construction concerns were dealt with at lower levels within tribal clans and their majlis and thus it can be stated that Doha’s settlement development was mainly governed by bottom-up rather than top-down decision-making.
Doha’s traditional urban form remained intact until the middle of the 20th century when modern urbanization began. Its vernacular structure and architecture were the result of direct human interaction and participation within the building process. Climate and culture had thus shaped a built environment reflecting not only how its spaces were used from a functional point of view but also how these spaces expressed the inner world of a society that was highly dependent on its natural environment and tribal affiliations. The former was reflected in structural aspects of the local architecture that were adapted to the desert climate while the latter was reflected in
decorative elements such as plant images or geometric patterns on walls and doors indicative of the people’s tribal origins (Jaidah and Bourenane, 2009, p. 23). Both advanced building techniques and the conservation of traditional façade decoration convey the old roots of Doha’s historic built structures. Thus, although the settlement was founded as a small fishing village at the beginning of the 19th century and thus looks back on a rather short history, its urban and architectural forms are thousands of years old (Al Buainain, 1999, p. 186). Inherited knowledge and traditions have built this space by following no planning or centralized regulations. Despite the allocation of land by tribal rulers, land was generally free to use and build on. Thus, organic settlement patterns evolved based on the principle of a cell, in this case the courtyard house, multiplying into clusters to form neighborhoods that connected to the central backbone of the settlement – the market, port and mosque (Fig. 2). Doha’s pre-oil settlement is to a large extent the product of the collective efforts of its inhabitants, their habits and their intuition. Capitalist incentives caused by the pearl trade or the interaction with colonial powers had not yet led to centralized planning and state regulations impacting Doha’s vernacular structure.

MODERN URBANIZATION AS A RESULT OF THE FIRST OIL PRODUCTION

Although oil had already been found by Petroleum Development Qatar Ltd. in Dukhan in the west of the country in 1937, oil production in Qatar began after World War II (Scholz, 1999, p. 188). The first revenues made from oil were mainly invested in the development of infrastructure such as the construction of a regional road connecting the Dukhan field with Doha and the first airport, which was built in the east of the city. Due to the location of the residence of the ruling Al Thani family, Doha became the centre of modern urbanization in Qatar. From the 1950s to 1970 Doha’s population grew from around just 14,000 inhabitants to over 83,000, with foreign immigrants constituting about 67% (Al Buainain, 1999, p. 217). Almost 90% of the working population was non-Qatari in 1970 due to a lack of educated workforce among the indigenous population and the introduction of subsidies, which turned Qatar into a classic welfare state reliant on its fossil resources. Nation-wide only about 25% of around 30,000 Qatars were counted as workforce by a census in 1970 and most were engaged in the newly established public administration in Doha (Al Buainain, 1999, p. 168). The private sector was run by immigrants from South Asia and other Arab countries, who mainly worked in the expanding trade businesses or as employees in the lower service sector.

During the 1950s and 1960s settlement patterns were determined by the development of modern infrastructure such as roads and the supply of fresh water and electricity. The modern administration, which was distributed among various buildings all over the city, was just in its infancy and despite the introduction of the first public housing law in 1964, planning and regulations still had limited impact on the general development (Al Buainain, 1999, p. 192). Yet, a major impact was made on the urban form by imported goods, particularly cars and air conditioning, and the vast immigration. Subsequently, roads were widened in central areas to provide access by car and the old courtyard buildings were replaced by modern building blocks made of cement stones. Furthermore, new housing areas were constructed in a rather uncoordinated manner around the former city boundaries in order to accommodate expatriate labor as well as Qataris moving from other parts of the country to Doha. Subsequently, the city grew in all directions with development mainly concentrated in the west because of the road to Al Dukhan and south-east toward the airport (Fig. 3). Due to the rapidly growing trade of imported goods many informal shopping areas grew along the periphery of the city center and in proximity to the old market area (Scholz, 1999, p. 201).
In this first period of Doha’s urban transformation developments were generally rather uncoordinated. However, incentives such as the reclamation of an area at Doha’s port or the construction of the Al-Corniche Road would become elements that defined later urban developments. Rectangular settlement patterns and modern cement buildings added a fragmented belt around the old center and its harbor, which in turn were gradually replaced by modern urbanization (Fig. 4). Thus, Doha’s traditional urban environment faced its rapid end,
caused by the first investments in modern infrastructure and the increasing purchasing power of its population. Subsequently, cars and air conditioning enabled the emergence of a new urban structure with low built densities, extensive road grids and cement block architecture.

**THE INTRODUCTION OF CENTRAL PLANNING DURING THE OIL BOOM**

While an initial public administration already existed in the 1950s and grew during the 1960s when the first municipality was founded in 1963, it was only after the declaration of Qatar’s independence as a state in 1971 and, perhaps even more significantly, when Sheikh Khalifa Bin Hamad Al Thani took over as ruler in 1972 that an efficient central administration came into being (Zahlan, 1979). This administration included several ministries that dealt with Qatar’s urbanization, the most important of which was the Ministry of Municipal Affairs and Agriculture (MMAA) with its town planning section established in 1974 (Al Buainain, 1999, p. 207). It was later followed by the creation of several ministries that dealt with infrastructural development such as the Ministry of Public Works (MPW). The centralization of governance enabled petrodollars to be efficiently invested in the urbanization process, leading to rapid urban growth during the 1970s and 1980s when oil prices reached new heights.

During this period, many Western consultants were involved in the first phase of urban planning in Doha. In 1974 the British consultant Llewelyn Davis was appointed by the new town planning authority within the Ministry of Municipal Affairs and Agriculture to design the first master plan of Doha for 1990. His plan was based on a ring concept with a clear definition and a functional distribution of land uses regarding each ring. Based on this initial zoning plan and newly introduced land policies a new city center was created consisting of commercial developments, services and multi-storey housing for guest workers. During the 1970s all old Qatari neighborhoods were replaced and the indigenous population moved to new suburban developments such as Al Rayyan, Medinat Khalifa or Al Gharrafa in the northwest of the city. This was made possible by the land policies, which included the free replacement of properties with allocated plots of land measuring 30 × 30 meters and the provision of interest-free loans for the construction of housing or financial compensation, which usually exceeded the market price of real estate at that time (Naqy, 1997).

Subsequently, the 1970s witnessed increasing land speculation within the city center and its surrounding areas. Until 1991 the Planning Department of the MMAA was in charge of subdividing land into parcels while public housing programs were the domain of the Ministry of Labor and Social Affairs as well as the Ministry of Public Works. These superposed responsibilities led to coordination problems, which were further exacerbated by the fact that high-profile projects were usually under the supervision of the Emiri Diwan and thus not part of the general legalization process within ministries (Al Buainain, 1999, p. 203). Despite these debilitating factors the main elements of Doha’s first master plan were implemented and its proposed land reclamation of 630 hectares in the north of the city center, which included the development of a circular Corniche, was completed at the end of the 1970s (Scholz, 1999, p. 202). The main objective of the plan was, however, to establish a modern city center. For this purpose, informal commercial building was no longer possible and traditional buildings were replaced in order to make space for access roads and multi-storey developments.

In 1975 the American planning consultancy William L. Pereira Associates was commissioned to develop in parallel a new master plan for an extension area in the north, known as North District of Doha (NDOD) or West Bay (Adham, 2008, p. 233). The plan included the development of Qatar University and housing for its staff as well as residential districts toward inland. With regard to coastal development at the northern end of the Corniche, it proposed a large hotel development for conferences, a diplomatic and ministries area and a new business district surrounded by a large park (Naqy, 2000, p. 137). While the hotel development and several embassies were completed during the beginning of the 1980s, the commercial centers remained to a large extent unbuilt due to the focus of commercial activities in and around the city center.
While in the transition period during the 1950s and 1960s old traditional structures were gradually replaced by a rather uncoordinated process of modernization, the implementation of a first master plan and the city extension via land reclamation were decisive steps in Doha’s modern urbanization, carried out by a newly established public administration during the 1970s. Subsequently, the population of Doha’s metropolitan area grew from 89,000 inhabitants in 1970 to over 434,000 in 1997. In addition to this rapid growth, land policies and real-estate speculation caused the total urban area to increase exponentially from around just 130 hectares in the middle of the 20th century to over 7,100 hectares in the 1990s (Fig. 5) (Al Buainain, 1999, p. 407). The urban sprawl during the oil boom led to a scattered urban landscape with low densities, caused by the prevalence of suburban typologies and a large percentage of unbuilt land due to speculation (MMAA, 1997). While the two-storey housing areas in the outskirts became the residence of Qataris as well as high-income guest workers, the central areas became the residence of foreign labor. This led to a reduction in investments and subsequently to deterioration in urban qualities in Doha’s center.

Figure 5: The settlement expansion between 1971 and 1988 (Source: Authors).

Doha’s transformation from a vernacular pre-oil settlement to an expanding oil city was sudden and as precipitous as the oil boom that instigated it. The modernization of the city was rapidly and simply executed by importing the expertise and labor necessary. This transition to modernity was reflected in the architecture and urban design of the period, which broke away abruptly from the vernacular to principles imposed by the state. This can be seen best in the replacement of the traditional neighborhoods of the indigenous population, consisting of courtyard houses and winding streets, with modern suburban dwellings that stood on equally sized rectangular plots accessed by an orthogonal grid of roads. The Western consultants who advised this process during the post-war decades applied their Western understanding of modern space to the modernization of Doha, which at that time considered the car to be the main means of transport.
Thus, Doha developed into a car-based city incorporating geometrical grids with various road hierarchies and space for roads and parking sites, which meant the end of high densities (Fig. 6).

Since the introduction of centralized governance and state planning erased the previous practice of self-governed neighborhoods the extent of the local inhabitants’ participation in urban development was reduced. Protests and resistance were, however, mediated by the introduction of welfare-state mechanisms and the subsequent tremendous rise in living standards. Within only three decades the indigenous population found itself in a new kind of city that enabled and promoted consumption on a scale never experienced before. However, while Western consumption industries entered Doha’s urban space, cultural traditions were preserved in some respects, for example, by the practice of erecting large walls around dwellings in order to protect the privacy of families. The biggest impact of Qataris on the urban development though was their emerging habit of investing in land and real estate rather than accumulating wealth in bank accounts or stock markets, which led to a high percentage of over 55% vacant land within the urban area in the mid-1990s (Al Buainain, 1999, p. 407).

THE INTRODUCTION OF A POST-OIL VISION AND ITS IMPACT ON URBAN DEVELOPMENT

The change in Qatar’s ruler-ship in 1995 when Sheikh Hamad Bin Khalifa Al Thani came to the throne opened the door to a new path of economic development for what was a restrictive and conservative country (Scholz, 1999, p. 185). In the following years Qatar has developed to an uprising political centre in the Middle East claiming the role as inter-mediator within relationships between the West and Arab World. Parallel to its growing political engagement various projects were launched to develop the capital city Doha into a global hub. Since the mid-1990s the population has more than tripled, making Qatar one of the fastest growing nations in the world. This rate of population growth is mainly due to the recent construction boom that incited the immigration of hundreds of thousands of guest workers from South Asia (Naqy, 2006). Almost 90% of Qatar’s current population of around 1.7 million lives in Doha and its metropolitan area (Qatar Statistics Authority, 2011, p. 13). While liberalisation mechanisms have been introduced by deregulating the real-estate market in 2004, increasing interest from the private sector in
investing in Qatar was mainly ignited by direct investments of oil and gas revenues, which can be categorized in terms of media, real estate, infrastructure and services, culture and sports as well as education and science.

The founding of Al Jazeera in 1996 changed the world's perception of Qatar due to its role as a news provider from the Middle East. Despite the fact that the initial funds of USD 137 million were provided by the Emir, Al Jazeera has always claimed that it maintains an independent editorial policy (Sakr, 2001, p. 58). This liberalised news network has influenced an understanding of Qatar as a progressive and politically engaged country in the Gulf. Despite the still open question of the extent to which Al Jazeera can be considered independent, it has had a major impact on the development of the media in the Middle East as the voice of the people instead of simply a reflection of political agendas (Rinnawi, 2006, p. 23).

After the successful introduction of a new image of Doha major public real-estate investments have been made by the Qatar Investment Authority and its subsidiary Qatari Diar Real Estate Investment Company, which was founded in 2004 (QIA, 2012). In addition to Qatari Diar's function of founding master developers such as Lusail Real Estate Development Company to carry out projects, it holds 45% of the shares in Barwa, the largest listed real-estate company in Qatar (Barwa, 2011). Further public real-estate investments are made by the Qatar Foundation and its subsidiaries. In order to become a global hub large investments were made to expand the existing airport and harbour as well as to develop new facilities. A new airport development was launched in 2004, with estimated funds of over USD 11 billion, on a reclaimed area of 890 hectares to the east of the existing runways (NDIA, 2012). Parallel to this, Qatar Airways, one of the fastest growing airlines in the world, is directly funded by the state with the aim of turning it into one of the world's leading aviation providers (CAPA, 2011). These investments have made Qatar a serious future competitor as a transit hub for passengers and cargo beyond the Gulf region itself.

In addition, several efforts were made to attract international sport events to Qatar such as the Qatar Tennis Open and the 2006 Asian Games. While large investments in sport events led to the recent successful bid for the 2022 FIFA World Cup, the development of cultural landmark projects has also been important in attracting tourists. The first project in this regard was the redevelopment of the traditional market area, known as Souq Waqif, followed by the Museum of Islamic Art. Since the 1990s Qatar's rulers initiated the development of educational and research facilities in order to build a foundation for a more diversified economy. Thus, in 1995 the Qatar Foundation was introduced as a non-profit organisation to develop a basis for new economies by focusing on three pillars, namely, education, science and community development (OBG, 2009, p. 23). Its first project was Education City, the development of which was launched in the north-west of the city in the late 1990s (Adham, 2008, p. 243). In order to attract high-profile universities various investments were made such as the USD 759 million that was invested in Cornell University in order to open a faculty in Doha (Miles, 2005, p. 21). Science and research are promoted by the subsidiaries of the Qatar Foundation, namely, the Qatar National Research Fund and the Qatar Science and Technology Park.

Recent investment strategies have mainly focused on stimulating urban growth by launching large-scale projects and by creating a new city image. According to a series of face-to-face interviews with ten planners at the Ministry of Municipalities and Urban Planning (MMUP) the most decisive public investments transforming the urban structure of Doha have been within the real-estate sector. The subsequent construction boom has shaped contemporary Doha not only morphologically but also socio-economically due to the businesses and foreign workers that have moved there as a result. While economic visions are being put into place by investment in various strategies and liberalisation policies, urban planning has faced the challenge of guiding the recent construction boom toward the creation of a functioning metropolis. The idea of developing Doha into an international service hub resulted in large-scale developments and a new form of decision-making in physical planning. The last comprehensive master plan, known as the Physical Development Plan (PDP), was prepared during the 1990s. Although it is still used as the
basis for general land-use policies its implementation in 1997 has had a rather limited impact on Doha’s urban development because of the increasing influence of new public authorities and public-private partnerships (Adham, 2008, p. 237). This merge of the public and private sectors was a direct consequence of expanding investments and the liberalisation of markets. The new urban development strategies at the end of the 1990s and the subsequent investment pressure challenged a public administration that was not able to manage urban growth on this scale and of this nature. The limited staff capacity did not permit the urban planning department to coordinate urban developments with the implementation of new plans or the adjustment of existing plans, which led to the decentralization of governance.

Due to the new situation of unprecedented amounts of investment being made in Doha’s urban development, existing zoning plans that were developed on the basis of the PDP have quickly become outdated. Furthermore, zoning plans have lost the status of legally binding documents and have been treated in many cases as technical recommendations rather than development regulations. The most prominent example of this is the construction of high-rise buildings in the Diplomatic District (West Bay) on land, which was previously zoned for developments with low to medium density. In addition to the fact that initial zoning plans have been bypassed in many cases, another phenomenon that decentralised governance was the rise of master planned projects in form of cities within the city (Fig. 7). These projects are usually connected with investment strategies and are thus in most cases joint ventures between the private and public sectors. In general one master developer is founded to coordinate the development and given extensive legal rights to develop and implement master plans for their projects without approval from the ministry and its urban planning departments.

![Figure 7: Map of current mega projects (Source: Authors).](image)

The construction of large-scale projects by joint ventures between the private and public sectors has led to a focus on individual development sites rather than consolidation and cohesion within overall urban areas. Today, around six of these projects have been completed or are still under development, occupying more than 30 square kilometres. Despite their large size most of these projects do not serve adjacent settlement areas with services and infrastructure. This ‘island’ approach to development has led to a general lack of land-use integration, creating long driving distances between residences and services. In addition to an absence of integration of land uses
projects have been built without taking into account their surrounding built environment or future urban areas under construction. The main reason for this lack of integration is the decision-making process itself, wherein the master plans of individual projects are approved without regulations of a central strategic plan regarding overall urban developments. The overall result is a rather fragmented structure of developments leading to a pattern of urban patchworks instead of cohesive and integrated urban areas.

Another aspect of contemporary urbanism in Doha is the lack of a defined urban structure consisting of centers and sub centers. This circumstance is rooted in the fact that Doha’s urban area has been growing exponentially toward the outskirts over the last decades without the guidance of plans for developing sub centers. The establishment of ‘decentralised centralisation’ has been further complicated due to a lack of public transport networks and thus no major junctions that would enable higher densities of residential and commercial use. In addition, the old city centre’s previous function as a centre for commercial and public activities has been increasingly undermined by new shopping mall developments and business districts along the urban periphery. Despite redevelopments of the historic centre, large parts of Doha’s central urban area are occupied by high-density residential districts for low-income groups. In general, it can be observed that the lack of public transport and extensive social segregation between income groups have caused an urban structure of sprawling peripheries served by shopping malls and a high-density mixed-use down town area for low income groups.

Another characteristic of Doha’s contemporary urbanism is the increasing privatisation of many urban areas due to large-scale developments by the private sector. In this regard, the Education City and Pearl developments are prominent examples of gated developments with limited public access. The privatisation of urban space is rooted in the nature of many recent projects to be exclusive entities that set themselves apart from other urban areas in order to attract attention and thus investment. The Katara Cultural Village is another example of a controversial development that has introduced the first ‘public’ beach in Doha, which again is only accessible by entering gates and paying entrance fees (Fig. 8). Public space has become commercialised and thus filtered and limited in its function to invite all social groups to interact. The Souq Waqif, one of the most prestigious developments in Doha, appears to be a public space but is actually managed like an open-air mall (NZZ, 2011). Today, the Corniche can be considered to be the main public space in traditional terms as it constitutes an accessible central area to be used by anyone at any time.

In addition to the fact that the privatisation of urban governance has led to the privatisation of urban areas, the previous urban morphology has been changed by higher building heights. The most prominent example is the Diplomatic District in West Bay, where more than 50 high-rise buildings have been built, of which 18 have a height of over 150 metres. This high-rise agglomeration has changed the morphology of contemporary Doha from a rather simplistic structure of a medium-high urban centre surrounded by low-rise suburbs to vertical developments with a new emphasis on the waterfront (Fig. 9). The high-rise waterfront at West Bay is to a large extent the product of public incentives that provided private investors with the prospective of
ministries and other public or semi-public organisations occupying commercial high-rises as tenants in the future. Along the coast to the north, however, many high-rise and medium-rise developments arose out of speculation in the growing freehold-property market and the potential for selling seafront properties at higher prices.

Another characteristic result of the recent construction boom in Doha is the high contrast between masses of poorly designed projects and exceptional quality in a small number of representative buildings. This concerns both construction and design and has three main causes, namely, a need for a rapid supply in order to accommodate the fast rate of growth, a lack of restrictions and deficient standards within the construction industry itself. One phenomenon is therefore catalogue designed residential and commercial typologies, mainly introduced by South-Asian and Chinese contractors, made of cement pre-fabricated elements, assembled in a few weeks by poorly educated construction workers with limited supervision. A generic appearance and the need for a high level of maintenance due to low-quality finishing and utilities are two main resulting characteristics. A further problem is the common practice of choosing one major contractor and architectural consultant for the entire development, which can lead to monotonous and repetitive designs (Fig. 10). Today, the contrast between the mass production of buildings and the state-of-the-art design of individual landmarks has become a reflection of a segregated and fragmented urban development that is undergoing a continuous struggle to integrate quality within quantities.

CONCLUSION
The urban evolution of Doha can be summarised in the four previously analysed phases. While its urban environment was first a product of the direct interaction of residents and their surroundings, the introduction of modern infrastructure followed by the establishment of central planning fundamentally led to a new type of city. At the beginning modern developments existed in parallel with traditional settlements and the urban structure was incoherent and scattered without following any central plan. Subsequently, the 1970s led to a new urban era, not only because of the development of the Corniche, which is still considered to be the signature image of modern Doha, but particularly due to the establishment of central planning. In the following
decades Doha’s urbanism was regulated by land-use plans and a clear system of land distribution using equally sized plots. The new urban form followed the Western idea at that time of a car-based city and urban sprawl, which was exacerbated by speculative interests, was the foreseeable consequence.

During the 1990s a new urban transformation period began when Doha was no longer seen by decision-makers as limited to its role as the administrative capital of an oil-wealthy nation and began to be regarded as a hub that could provide an opportunity to enter global networks. This new urban vision has led to the introduction of several investment strategies and the liberalisation of urban governance. Consequently, large-scale projects based on case-by-case decision making and speculative interests began to reshape Doha’s urban morphology. While the introduction of new typologies and urban designs diversified certain areas and created a new city image, the overall result of this period can be best described as fragmented clustering with increasing infrastructural deficits. Thus, urban governance is currently facing the major challenge of implementing development strategies based on a holistic vision that integrates social, economic and environmental aspects in order to guide urban growth. This vision, known as Qatar National Vision, was introduced in 2009 and implemented in the form of the Qatar National Development Strategy in 2011. Thus, Doha is making a new evolutionary step in its development, defining its future between continued event urbanism and enhanced urban consolidation.

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THE PRODUCTION OF URBAN QUALITIES IN THE EMERGING CITY OF DOHA: Urban Space Diversity as a Case for Investigating the ‘Lived Space’

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Abstract
Centred on investigating urban space diversity this paper introduces a framework that enables the examination of urban qualities in emerging cities in the Gulf. The rapidly growing city of Doha is selected as a case study due to its rising importance in the region. Lefebvre’s perceived-conceived-lived triad is outlined to illustrate how it can be utilized to identify factors that impact the production of urban environments. Notably, little attention has been paid to several growth aspects including the understanding of urban space diversity and the resulting inhabitants’ spatial experience, their attitudes toward evolving urbanized spaces. Utilizing an attitude survey, the paper explores urban spaces in the city of Doha as experienced by different groups. An investigation of a number of key urban spaces is undertaken through the identification of key urban nodes. Spaces are examined from the perspective of the city’s inhabitants using 490 responses to the survey. The results delineate that urban spaces lack key conditions amenable to creating urban diversity. Nevertheless, they corroborate the notion that urban spaces are perceived and experienced differently by different groups based on their gender, age, and cultural background. The paper concludes with suggestions toward a more inclusive approach to the understanding the production of urban qualities and the design of the city’s urban spaces.

Keywords: Doha; urban qualities; urban space diversity; emerging city.

INTRODUCTION
Modern urbanisation in the Gulf began in the middle of the 20th century and was instigated by the oil production. The first settlements were built under the rulers’ attempt to share the new oil wealth with the population of the newly born Gulf States and to initiate industrial development. The large-scale immigration of expatriate workers enabled the construction of modern infrastructure and the establishment of the first oil and gas related industries. Due to their geopolitical location cities along the Gulf understood their role as trading hubs and invested in large harbours and airports (Scholz, 1999, p. 82). Because of their limited oil resources the Kingdom of Bahrain and the Emirate of Dubai were the first to explore alternative economic sectors such as banking and trading (Sassen, 1997, p. 44). After major investments in harbours and an international airport during the 1970s, Dubai experienced a high growth rate of companies when it introduced its first free trade zone in Jebel Ali in 1985 (Schmid, 2009, p. 63). At the end of the millennium Dubai was again first to liberalise its local real-estate market, accompanied by major diversification strategies to attract knowledge economies including finance and high-tech sectors (Pacione, 2005, p. 260).

The initial success of Dubai’s development model for establishing a regional hub by liberalising local markets during the 1990s had a huge impact on the entire region. It introduced a fast track process to diversify Gulf economies and enter global networks. One of Dubai’s current competitors is Qatar and its capital Doha, the rulers of which were keen to diversify economy and services by building on a limited but key number of elements in contrast to Dubai’s less
discriminating approach. While Dubai has pursued development in almost all its economic sectors in parallel, Doha is currently focusing on specialising in its main sectors only and developing its future economic role in the global network gradually. In this respect, exclusivity defines its economic development strategy rather than undefined expansion (Adham, 2008, p.248).

Although Doha’s real-estate market has never been as liberalised as in Dubai and freehold developments have remained restricted to certain areas, real estate projects have become the predominant factor in the recent economic diversification process. One of the most prominent examples is the 400-hectare reclaimed island known as ‘The Pearl’, which offers freehold properties on leasing contracts of 99 years (Colliers International, 2008, p. 1). While residential developments have been located mainly in the north of the city, the new West Bay District at the Corniche has become the centre of commercial developments with its high-rise towers (Figure 1). The evolving skyline expresses an attempt of decision makers to establish the image of Doha as an emerging international service hub. Over the past few years, more and more real estate projects were launched in various scales and at differing locations with an obvious tendency towards the waterfront along the northern shoreline.

Current extensive development of the city Doha is characterized by a fast track urbanization process, resulting in the creation of new urban nodes that are used by different groups for different purposes. While this unprecedented urban growth of the city continues to be a subject of discussion, little attention has been paid to other growth aspects, including the understanding of the resulting inhabitants’ spatial experience, their attitudes toward emerging urbanized spaces, and whether these emerging spaces are diverse enough to accommodate the multicultural society the city enjoys.

Figure 1. The global skyline of the West Bay in the city of Doha (Source: Authors).

In this paper, a framework is introduced referring to the French philosopher Henri Lefebvre’s work on space production in cities. This framework attempts to integrate the necessary aspects and factors shaping urban environments including the role of inhabitants. The impact of inhabitants in diversifying urban environments is often ignored in contemporary urban discussions and in particular in the case of emerging cities, such as Doha. The paper investigates this aspect by analysing eight key spaces that were selected based on parameters that include density, commercial activity, and public accessibility. Spaces are examined from the perspective of Doha’s inhabitants using an attitude survey. Results of implementing the survey tools corroborate the assumption that urban spaces are experienced differently by different groups based on their gender, age, and cultural backgrounds. In essence, this suggests a more inclusive approach to the design of the city’s urban spaces.
A FRAMEWORK FOR INVESTIGATING THE PRODUCTION OF URBAN ENVIRONMENTS

Henri Lefebvre’s theory of space production can be utilized as basis for a framework that combines analyses of factors that impact urban development. Lefebvre expressed his idea of the production of space using a triad consisting of conceived, perceived and lived space. Firstly, he defined ‘conceived space’ as the space conceptualised by scientists, planners, social engineers, etc., also known as ‘representations of space’. These representations are abstract as they are rooted in the principles, beliefs and visions held by such practitioners, decision makers and others who are in a position to impose their personal notion of ‘order’ on the concrete world and so create a practical impact on space within social and political practice (Lefebvre, 1991, p. 41).

‘Perceived space’ is the space of ‘spatial practice’, which Lefebvre defined as the space where movement and interaction take place, where networks develop and materialise. Thus, it includes both daily routines on an individual level and urban realities such as the networks that link places designated for work, leisure and ‘private’ life (Lefebvre, 1991, p. 38). Lastly, ‘lived space’ is comprehended as the unconscious, non-verbal direct relation between humans and space. Also known as ‘representational space’, it is directly lived through associated images and symbols (Lefebvre, 1991, p. 39).

Based on Lefebvre’s ideas, the production of urban space can be analysed by investigating each factor in this process using the perceived-conceived-lived triad. Thus, all the factors that affect the nature and structure of the urban fabric in the production of space in emerging cities such as Doha can be sought for and examined with a special focus on understanding the role of inhabitants and their impact (Figure 2).

In most urban studies the influence of lived space on the production of urban space has been neglected due to the difficulty of measuring its role scientifically. Lived space is assumed to be the subjective personal relationship between inhabitants and the urban environment. Such a relationship affects their active involvement in urban spaces. It is expressed in images, symbols and associations and has a major impact on the coherence and continuity of a society and thus on urban development. While in cities with long urban histories lived space is often neglected as a major factor in spatial development due to the implicitness of its existence, in the case of emerging cities a lack of lived space is expressed in the form of an intense struggle for identity.
and a relatively low degree of influence by inhabitants on development decisions. One consequence of this vacuum in cities that are built from scratch is branding with certain images in order to attract investment. The image of a city is influenced by conscious planning. Yet, it is also affected by spatial practice as well as the image of a city held by its inhabitants has an impact on planning. Analysing lived space thus uncovers how inhabitants relate to the city and its images.

Lived space is produced by the individual identification of inhabitants with space and expressed by their use and behaviour in space. In this respect, the reasons for a close intimacy between inhabitants and urban environments are best described in images – the image of liveability, the image of success and the image of cultural values. The image of liveability is enhanced if an urban environment creates the impression of being a healthy and comfortable place. In turn, the image of success is increased if the surrounding developments suggest perspectives for individual growth and prosperity. The third image of cultural values is mainly expressed by the aesthetics of the built environment, which can cause inhabitants to identify with their space if it coheres with their idealised and familiar values. These three images cooperatively create the identification of a society with its surroundings, which is the basis for developing urban qualities. These urban qualities are strongest if all the members of an urban society are part of this identification process. Urban qualities needed for sustainable urban structures are thus produced by a coalescing society identifying with its surrounding environment.

THE PRODUCTION OF URBAN SPACE DIVERSITY

The quality of urban space diversity is a result of all factors within the production of urban environments. One of its main preconditions is the active participation of a society based on an emerging identification with the surrounding physical and non-physical conditions. Investigating the existing lived space in cities is thus essential in order to understand the potentials to develop urban space diversity. Urban space diversity is one of the most important urban qualities, since it is needed to attract economic growth, to establish balance between social groups and to contribute to ecological developments. Thus, the production of urban space diversity is a complex interaction of decision-making, spatial practice of users and the identification process of inhabitants.

A successful urban space is primarily the timeless space, where activities run throughout the days and years without losing their boost and action. Lang argues that, “the more multi-purpose the public realms… many more actors are involved. The more open and diverse a society, the more intricate and involved is the debates over ends and means and the more diverse the opinions about the results achieved (Lang, 2005, p.22).” In essence, in order to create a vital urban space, diversity would be a determining factor. Diversity involves mixed activities and various environments for a wide range of users. Traditional cities or urban spaces have witnessed several layers of activities and add-ons through time, which built up the liveliness and variedness of experiences as important parameters of diversity (Salama and Ghraib, 2012).

In recent rhetoric, diversity denotes, in generic terms, a mosaic of people who bring a variety of ethnic and cultural backgrounds, styles, perspectives, values and beliefs as assets to the groups and organizations with which they interact. However, in urban discourse diversity has been addressed as having multiple meanings that include mixing building types, mixing physical forms, and mixing people of different social classes, racial and ethnic backgrounds. While the concept has been discussed heavily in the urban literature (Fainstein, 2004; Gummer, 1995; Jacobs, 1961; Jacobs and Appleyard, 1987; Jones et al, 2007; Lovatt and O’Connor 1995; Talen, 2006; Tiesdell et al, 1996), this overview places emphasis on those writings that delineate the multi-dimensional aspect of urban space diversity.

Jacobs (1961) asserts that public places should rely on a mixture of uses that need an enormous diversity of ingredients, stretching from the daily functions, enterprises, markets, and entertaining magnets. In order to generate diversity within the built environment, Jacobs introduced a number of essential conditions. First, the public places or even a series of interconnected urban spaces should offer multi-functions to ensure that user groups are present
and benefit from several choices. Second, the physical setting of the public place should be designed to serve walking users, allowing diversity of views and perceptions. The physical architectural context is also an important condition that should offer diversity of styles and sizes in order to engage different tastes and economic enterprises. Finally, there should be a high density of people with different backgrounds, cultures, as well as different social strata. This later condition primarily serves the concept of ‘see and be seen’ by allowing people to socialize and interact.

While local distinctiveness and the physical or tangible dimension of an urban space will eventually construct a unique ‘sense of place,’ there are other dimensions that contribute to diversity. The social and emotional perception is as valuable as it ensures that users and visitors will invest their efforts, time, and emotions; it is important to satisfy their needs, freedom, and most important the sense of ‘individuality within collectiveness’. The increase of satisfaction with and attachment to urban space will increase the presence of people to turn spaces into places, making them vibrant, and living organisms within the city while creating a sense of civic responsibility. Lovatt and O’Connor (1995, p.128) state, “… however superficial and spatially circumscribed … the emphasis on play, strolling and idle socializing could have wider effects.” In essence, backgrounds of social groups are an important aspect without which urban space would not have the quality of diversity.

Social and physical dimensions are complementary and contribute together toward the achievement of diversity. The size and surrounding enclosures need to be distinguished appropriately; buildings should be distributed in an adequate manner to correspond the different activities. Jacobs and Appleyard (1987, p.106) argue that, “buildings should be arranged in such a way as to define and even enclose public space, rather than sit in space.” Good urban design is to create places, enhancing the public place via people-friendly vision to serve the physical and the social composition (Tiesdell et al, 1996).

Diversity essentially creates a wide variety of uses to generate vital places. Gummer (1995) pointed out that, “Mixed-use development should increasingly become the norm rather than the exception… We will be expecting developers to think imaginatively in future as to how proposals can incorporate mixed land uses, to produce lively and successful developments over both the short and long term, and provide a positive contribution to the quality of our towns and cities.” The objective is to make places generated under economic foundation; this requires adequate distribution of uses in the urban space while achieving a responsive integration with the existing functions. Diversity in terms of mixed use and mixed communities (social, tenure) also extends to the temporal use of space, – both built and open: e.g., markets, parks/squares, festivals, public art/animation, through the evening economy, ‘leisure shopping’ and ‘mixed-use streets’ (Jones et al., 2007).

The preceding overview suggests that urban space diversity involves a number of dimensions toward the creation of vital urban places while offering functional and behavioral opportunities for different socio-economic groups. It implicates three major dimensions. The first is physical tangible dimension that pertains to the qualities of the material context. The second is investigating lived space and thus the social and emotional intangible dimension that pertains to the way in which the material dimension impacts users of different cultural and socio-economic backgrounds. The third is a dimension that concerns itself with types of activities and the nature of use. Investigating the three dimensions would result in a comprehensive insight into the understanding of urban space diversity.

**METHODOLOGY FOR INVESTIGATING URBAN SPACE DIVERSITY IN THE CITY OF DOHA**

The methodology adopted is multi layered and involves two procedural investigations. The first is an analytical description of eight key spaces within the city that are believed to represent different urban and spatial qualities catered to different groups (Figures 3 & 4). The second procedure establishes and implements an attitude survey questionnaire, which aims at exploring ways in which the identified key urban spaces are perceived and experienced. Using the metaphor of ‘city
centre’ and ‘city peripheries’ two major questions were conceived: a) how does the city’s population perceive the identified key spaces as centre(s) or peripheries, and b) how are centre(s) and peripheries experienced based on the population’s gender, age, and cultural background? The term ‘centre’ is introduced as an urban node that is visited most by the inhabitants, while the term ‘periphery’ is introduced as an urban area that is rarely visited by the inhabitants (Salama, 2011).

The two questions were translated into a questionnaire that involves a) basic information about the participants including education, age, cultural background, and status in the city, b) whether participants believe that the city has one or multiple centres or peripheries and whether they are able to name those spaces representing centres or peripheries, c) their reactions to images that may represent the centre and those that represent the city, d) identifying places that are visited most, how often they are visited, with whom, for what purpose, and the frequency of visits, e) issues that pertain to accessibility to space, parking availability, and other visual and environmental preferences queries. As shown in Figures (4) and (5), the spaces identified reflect different spatial qualities: 1) Aspire/Villagio Mall, 2) Al-Sadd Commercial Strip, 3) Musheireb Intersection, 4) Ramada Junction, 5) Water Front a: Near Sheraton Hotel, 6) Water Front b: Near Main Restaurant, 7) Water Front c: Near Museum of Islamic Art, and 8) Souq Waqif (traditional marketplace).

Figure 3: Eight key urban nodes selected to explore centre(s) and peripheries in the city of Doha as perceived by a sample of its inhabitants (Source: Authors).
DISCUSSION OF MAJOR FINDINGS

The descriptive typological analysis of the eight spaces reveals that each space enjoys specific spatial typology with relative similarities and differences across the eight spaces. It indicates that the profile of users of each space varies according to the nature and type of activities introduced. The analysis delineates that there are different degrees of accessibility, traffic congestion associating the spaces, and availability of parking.

490 valid responses to the questionnaire were received out of 560. They were analysed at the level of the overall sample utilizing a frequency procedure. However, by performing a cross tabulation procedure relationships between age, gender, cultural background as dependent variables and the key spaces representing centre(s) or peripheries as independent variables, were elucidated.
Respondents represent the spectrum of population in the city. This is evident in their overall profile, where 260 males and 230 females representing 53% and 47% of the total number of responses respectively. It is also apparent that age groups are well represented where 12% represent age group (15-20), 47% represent age group (20-30), 21% represent age group (30-45), and 18% represent age group (45-60). Considering that the population of the city is young, the over-60 age group also reflects the actual population of the city and represents only 2% of the total number of respondents. For the purpose of categorizing different cultural backgrounds, cultural groups were generically classified as Africans, Americans, Arabs, Asians, Europeans, and Qataris. Representation of these groups reflects the figures currently estimated for the city’s population. They include 37% Qataris, 28% Arabs, 14% Asians, 11% Africans, 5% Europeans, and 5% Americans. However, it should be noted that the percent of Qataris in relation to the overall population of the city does not exceed 20%.

**Diversity in Perceiving the Key Urban Nodes**

Across the total responses Souq Waqif appears to be the most important urban space representing the centre of Doha since it has received 57% of the responses that identify it as a centre, while only 8% identify it as a periphery. Nevertheless, it has received 39% of the responses as the most visited place. In essence, this can be attributed to the historical significance of the Souq and the diversity of activities including arts and crafts galleries and ethnic restaurants. The Aspire/Villagio comes as the second most important space that represents the centre of the city since it is identified by 39% of the respondents as a centre and by 61% as most visited. While the space addresses middle and high-income groups, the large scale of the mall and the magnitude of diverse shops together with the nearby sport facilities appear to be determining factors in making the space attractive and favoured by the majority of these groups.

While Al-Sadd urban space is identified by 39% of the respondents as a centre, only 16% identify it as most visited and as representing the city since it caters to specific segments of society and the lower income population. The two water front spaces near Sheraton hotel and near the restaurant seem to be favoured by a considerable portion of the respondents since they were identified as centres by 37% and 31% respectively and as most visited spaces by 22% and 29% respectively. The fact that these two water front spaces involve sufficient recreational space along the 7 kilometre water front promenade, with either green space, pedestrian walkways, or support services make them relatively attractive while witnessing a strong presence of diverse groups. The water front space near the museum does not seem to be favoured by the majority of respondents since it is identified by 22% of the responses as a centre and by 16% as most visited (Table 1). This can be attributed to the difficulty in accessing the space while lacking amenities or support services unlike the other two water front spaces.

<table>
<thead>
<tr>
<th>Key Spaces</th>
<th>Identified as Centre</th>
<th>Identified as Periphery</th>
<th>Identified representing the city</th>
<th>Identified as most visited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspire/Villagio Mall</td>
<td>39%</td>
<td>16%</td>
<td>31%</td>
<td>61%</td>
</tr>
<tr>
<td>Al-Sadd Commercial Strip</td>
<td>39%</td>
<td>18%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Musheireb Intersection</td>
<td>33%</td>
<td>39%</td>
<td>22%</td>
<td>10%</td>
</tr>
<tr>
<td>Ramada Junction</td>
<td>25%</td>
<td>31%</td>
<td>18%</td>
<td>25%</td>
</tr>
<tr>
<td>WF a/ Sheraton Hotel</td>
<td>37%</td>
<td>10%</td>
<td>20%</td>
<td>22%</td>
</tr>
<tr>
<td>WF b/ Restaurant</td>
<td>31%</td>
<td>14%</td>
<td>16%</td>
<td>29%</td>
</tr>
<tr>
<td>WF c/ Museum of Islamic Art</td>
<td>22%</td>
<td>20%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Souq Waqif</td>
<td>57%</td>
<td>8%</td>
<td>49%</td>
<td>39%</td>
</tr>
</tbody>
</table>

The preceding discussion and the participants’ reactions suggest that Souq Waqif and Aspire/Villagio urban spaces appear to be perceived by many of the respondents as spaces
representing the city of Doha. Souq Waqif is identified by 49% of the respondents as a space that represents the city and its culture, while Aspire/Villagio is identified as a space that represents the city by 31% of the respondents. This is due to the unique qualities that each space enjoys whether physical or social or activity related. No major differences were found in all other spaces in terms of representing the city. This can be attributed to the absence of distinctive and unique qualities that make such spaces as significant within the overall city.

**Diversity in Visiting Patterns**

Urban spaces identified as most visited by the respondents seem to be having frequent visiting patterns. Approximately 70% of the respondents visit the space identified either once a week or several times a week. While 25% of the respondents visit the space once a month, only 8% mentioned that they visit it few times a year. Times of visits to spaces that are most visited seem to correspond to the work styles of the respondents and the hours of work in the city. 82% mentioned that that they visit the space either in the evenings or late afternoons. On the other hand, only 11% mentioned they visit the space in the mornings or middays (Table 2).

As shown in Table (2), the most visited spaces appear to be visited by groups rather than individuals. 74% of the respondents mentioned that they visit the space with family members (43%) or with family and friends (31%). On the other hand, only 16% mentioned that they visit the space on their own. It should be noted that a wide spectrum of activities take place in the most visited spaces where 24% of the respondents mentioned that they visit the spaces for a combination of reasons including walking and shopping, relaxing and sitting, dining, and playing. However, over 50% of the respondents mentioned that they either visit for exclusively walking and shopping (30%) or for exclusively relaxing and sitting (21%). On the other hand, only 16% mentioned that they visit the space for the purpose of dining and 3% for the purpose of playing and outdoor exercising.

<table>
<thead>
<tr>
<th>Nature of Use</th>
<th>Most Visited Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Visits</td>
<td>Several times/week</td>
</tr>
<tr>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Times of Visits</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>42%</td>
</tr>
<tr>
<td>Profile of Users</td>
<td>Family &amp; Friends</td>
</tr>
<tr>
<td></td>
<td>31%</td>
</tr>
<tr>
<td>Activity Patterns</td>
<td>Walking/Shopping</td>
</tr>
<tr>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

The results suggest that the most visited spaces enjoy a number of qualities that while they are frequently visited, they do not seem to offer enough diversity of uses (Figures 5, 6, & 7). Since Aspire/Villagio is the most visited urban space across the total respondents (61%) it is evident that the dominant activity of the space is walking and shopping despite having nearby sport facilities. The dominant activity of Souq Waqif as the second most visited space (39%) appears to be dining due to the wide variety of ethnic restaurants and cafes. The dominant activities of the waterfront space b/near restaurant (29%) are a combination of playing and outdoor exercising, and relaxing and sitting. This can be attributed to the strong presence of a pedestrian spine that penetrates the open tiled space and also due to the availability of walking areas. While the space enjoys the presence of a restaurant and an outdoor café, dining does not seem to be a reason for visiting, especially that the restaurant caters to high and middle-income groups.
Gender, cultural background, and age group differences in reacting to central and peripheral urban spaces

Preliminary findings on the gender, cultural background, and age group are analysed and discerned. Across the respondents, major differences between males and females are found. For example, while 35% of males believe that the city has one centre, only 8% of the females believe the same. There appears to be an agreement between males and females on perceiving peripheries, where 64% of males and 69% of females believe that the city has several peripheries. No major differences are found in the reactions to the spaces that represent the centre. Clearly, similarities are found in male (19%) and female (22%) respondents in perceiving Aspire/Villagio as a centre and in perceiving Souq Waqif as a centre. 38% of male respondents and 35% of female respondents believe that Souq Waqif represents the centre. Differences are found in the responses to the spaces that represent peripheries. While 35% of female respondents identify Ramada Junction as a periphery, only 10% of male respondents identify it as a periphery (Figure 8). Strikingly, while 10% of male respondents identify each of the waterfront spaces near Sheraton hotel and near restaurant is identified as a periphery, none of the female respondents identify them as peripheral spaces (Figure 10). This is due to the openness, scenery views, and the green and tiled areas available in these spaces while offering multiple opportunities for activities including walking, jogging, biking, sitting and enjoying the scenic view of Doha’s Skyline, and photographing.

Dramatic differences across the responses of different age groups are evident. Souq Waqif, as perceived as a centre of the city, has received 65% of the responses of the age group (20-30), while it has received 100% of the responses of the age groups (30-45), (40-60), and over 60. On the other hand, the Musheireb public space, as perceived as a periphery, has received 83% of the responses of the age group (15-20), only 26% of the responses of the age group (20-30), and 33% for each of the groups, (30-45) and (45-60). Notably, the two spaces are geographically in the same vicinity.

Across the respondents from different backgrounds differences exist. While 73% of Arabs, 75% of Qataris, and 85% of Asians believe that the city has more than one centre, less than 40% of each of those of American and European background believes the same. Strikingly, despite these differences in perceiving centres, similarities in perceiving peripheries are found, where 54% of Arabs, 50% of Americans, and 50% of Europeans believe that the city has several peripheries.

The majority of Qataris identifies Souq Waqif as a centre since it has received 69% of the responses received from participants of Qatari background. This can be attributed to the historical significance of the Souq while establishing association with the past in a rapidly growing city. All the respondents of American background and the majority of respondents from Asian (67%) and African (60%) backgrounds identify Aspire/Villagio urban space as a centre. This can be attributed to the dominance of the mall culture in areas representing these backgrounds while at the same time due to the availability of sport facilities. On the other hand, respondents from Arab
and Asian backgrounds identify Al Sadd Commercial Strip and Ramada Junction as centres. This reflects the tendency to favour dense urban areas, which are similar to the physical environment they are coming from. Despite their geographical location, the majority of respondents from European and American backgrounds identify Waterfront spaces as centres. This is due to tendency to favour open spaces and the association with natural settings rather than with dense urban fabric (Table 3).

![Figure 8: Ramada Junction. (Source: Authors).]

![Figure 9: Waterfront Space a-near Sheraton Hotel. (Source: Authors).]

### Table 3: Cultural background differences in reacting to central and peripheral urban spaces (Source: Salama and Gharib, 2012).

<table>
<thead>
<tr>
<th>Key Spaces</th>
<th>Cultural Background</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qatari</td>
</tr>
<tr>
<td>Aspire/Villagio Mall</td>
<td>31%</td>
</tr>
<tr>
<td>Al-Sadd Commercial Strip</td>
<td>31%</td>
</tr>
<tr>
<td>Musheireb Intersection</td>
<td>38%</td>
</tr>
<tr>
<td>Ramada Junction</td>
<td>25%</td>
</tr>
<tr>
<td>WF a/ Sheraton Hotel</td>
<td>44%</td>
</tr>
<tr>
<td>WF b/ Restaurant</td>
<td>31%</td>
</tr>
<tr>
<td>WF c/ Museum of Islamic Art</td>
<td>19%</td>
</tr>
<tr>
<td>Souq Waqif</td>
<td>69%</td>
</tr>
</tbody>
</table>

### CONCLUSION

Urban spaces mean different things to different communities within the city of Doha and thus are used differently. The juxtaposition of the results with the understanding of urban space diversity delineates the fact that urban spaces within the city of Doha lack one or more of the three important conditions that contribute to the achievement of diversity. The results reflect the dynamic nature of urban spaces identified as centres, invigorating the assumption that urban spaces in the centre are not necessarily standing as unique entities. Results, however, indicate that urban spaces on the peripheries are emerging to compete with those in the centre. The understanding of what constitutes centres and peripheries in the minds of the city’s inhabitants contributes to the understanding of their spatial experience and their attitudes toward what is perceived as centre, or as periphery or as emerging centre. The perceptual and the spatial experience of inhabitants reflect the needs and wants of different groups according to their gender, age, and cultural background that in the context of Doha varies dramatically.

Referring to the introduced framework based on Henri Lefebvre’s work on space production it can be argued that Doha's urban environment is primarily a result of investment and
deregulation strategies to establish a global hub and subsequent real estate speculations. This has led to fragmented patchwork patterns and an evident lack of integration with important elements missing from its public open spaces. The missing participation of inhabitants in producing urban spaces in Doha is reflected in low urban space diversity in most cases. Inhabitants are left to use prefabricated structures for consumption and production with limited means to appropriate these structures according to their needs and desired form. Analyses of contemporary urbanism in Doha need to address this reality by integrating the response of inhabitants to spaces by interviewing and observing them. This work can be seen as a first step in this research direction and introduces a study within a larger framework in order to integrate this important perspective.

While future development plans of the city may seem to address specific groups and cater to specific age groups or cultural backgrounds, a more responsive approach to the design of urban spaces needs to be in place. Urban design as a discipline and a profession focuses on creating built environments that promote opportunities and experiences for all city inhabitants. Therefore, it is crucial that most of the urban space actions and activities are accepted and enjoyed by the majority of the city’s population. The urban development process of the city needs to consider the development of spaces based on the perception and understanding of different groups. This needs to be adopted as one of the key factors in developing successful inclusive urban spaces that involve a wide spectrum of urban and spatial qualities relevant to the diversity characterizing the city of Doha.

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SCALES OF FLOWS: QATAR AND THE URBAN LEGACIES OF MEGA EVENTS

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Abstract
In 2022, Qatar will become the first Middle Eastern and Arab country to host such an important Mega-Event as the FIFA World Cup. Global cultural and sporting Mega Events have driven the urban transformation of cities such as Barcelona, London, Rio, Beijing, Shanghai, and Lisbon and the spectacle and economic boosterism encourages cities to compete on the World Stage for these events. The best practices of successful bids and their enduring legacies create a knowledge and policy flow of Mega Event strategies for global branding and sustainable Urban, Social, and Economic Development at the local and regional scales. This paper discusses the urban legacies that will result from Qatar hosting the World Cup and other Mega Events, and questions how an emerging global host city like Doha will benefit on the long and short term.

Keywords: Mega-events; city branding; urban legacies; urban policy; flows.

INTRODUCTION
Qatar. Creating new Legacies for a Post-Carbon Economy
In the Post-soviet restructuring of the 1990s, Qatar emerged on the global stage due to a number of interconnected international, regional and local changes in the political and economic spheres – the Gulf Wars, the change of Emir in Qatar in 1995, 9/11 in New York, the occupation of Iraq, recent oil and gas price increases and the emergence of Dubai as a commercial and entertainment hub in the Gulf Region (Adham, 2008). This has led to a rapidly developing urban realm and the rise of a new form of capitalism – cultural capitalism – that is, creating new spaces for entertainment, culture, tourism and sports.

Qatar has the third largest Natural Liquid Gas reserves in the world, with the hydrocarbon sector contributing on an average over half of the country’s GDP, which is the currently the highest worldwide at $95’000 per capita. Nevertheless, its leaders are wisely seeking to diversify its economy and to lay the foundations for the transition to a post-carbon and knowledge society and to develop infrastructures to serve its economic, financial and educational goals. Culture, Education and Sports are seen as three sectors of the post-carbon economy, and it is believed that hosting the FIFA World Cup (and possibly the Olympics if Qatar wins its bid for 2024) as well as major continental and regional sports events will help diversify Qatar’s economy (www.Doha2020.com). Both the public and private sector in Qatar are working to re-orient the economy and to develop additional educational, cultural and touristic venues to this end and Qatar is becoming a leader in the Middle East in building a knowledge-based economy, centered on technological innovation and connectivity, investing in its human resources, with great emphasis on education. This vision is embodied by Education City, a pioneering education initiative of Qatar Foundation that houses branch-campuses of eight international universities, including Cornell Medical School, HEC Paris and Georgetown’s School of Foreign Services (www.Doha2020.com). It is not only an educational hub, but is also becoming an “architectural hotspot” with buildings by world renowned architects including Rem Koolhaas, Arata Isozaki and Riccardo Legoretta.

Furthermore, Doha is enhancing its global brand city image through the construction of a number of museums by world star architects including Herzog and De Meuron, Jean Nouvel and the recently constructed Museum of Islamic Arts by I.M.Pei. This singular strategy that the government has taken to distance itself from Dubai’s mode of development is now being echoed by Abu Dhabi which is constructing four major museums by star architects on Saadiyat Island.
(Adham, 2008). Qatar is also investing in Communication Technology and its main telecommunication's carrier, Qtel, is fast becoming a global brand. It is expected that by 2022 an optical fiber network will be in place to ensure that the World Cup will have its own Wide Area Network (WAN) to connect all venues in Qatar.

Figure 1: National Museum of Qatar. 3D Model. Project by Jean Nouvel (Source: Artefactory, © Ateliers Jean Nouvel).

HE Sheikh Saoud bin Abdulrahman Al Thani, Secretary of the Qatar Olympic Committee recently stated that the Olympic Games would enhance Qatar’s economy in a major way and support the process of diversifying it as laid out in the 2030 National Vision (Qatar News Agency 2012). “Sports tourism has great potential and Qatar has had tremendous success over the last two decades staging top international events which have helped bring in tourists.” The international events include the Arab Games 2006 and 2012, as well as the Pan Arab Games in 2011. While Qatar did not make the final candidate selection for the 2020 Olympics (where it was competing with Istanbul, Tokyo, Madrid and Baku) it is aiming for the 2024 Olympic bid. Reacting to Doha’s failure to make it as a candidate city, Noora Al Mannai, CEO of Doha 2020 Olympic Committee stated that the Doha Committee was looking forward to the 2024 Olympic Race. "The good news is that our National Vision and master plan guarantees an urban fabric that places sport at its heart; therefore Doha will be ready to host the Games at some point and many of the projects for the legacy plans for 2020 will go on; we will digest the findings of the IOC report and look forward to the 2024 race" (www.Doha2020.com).

Aside from the economic incentives, there is also a stimulus to launch a drive that will educate people about the important role of sports in their individual and social lives. In 2011, the Emir issued a decree marking the second Tuesday of February (starting 2012) a National Sports Day in the State of Qatar. The aim of National Sports Day is to create awareness about sports and its health benefits in the State of Qatar and it will usher in an era where sports activities are emphasized, especially for the young and for women. But is not just increased sport facilities and practices that will be the legacies of these future Mega Events. Qatar and Doha will be transformed with new urban infrastructures to serve and accommodate the events, propelling the country to become one of the biggest construction sites in dollars per square meter in the coming years, with an estimated spending of USD 160 billion on development projects. The mega-projects include a new public transportation system and improved roads, sports stadiums and infrastructures, residential buildings and entertainment venues, as well as a Sporting and Olympic Museum.
Deutsche Bank indicated that Qatar’s extra spending on World Cup-related infrastructure will lift capital expenditures by 23% annually for a decade, as well as increase private sector borrowing and add to population growth. It is estimated that Qatar will spend the equivalent of 24% of its GDP on World Cup infrastructure, which largely surpasses South Africa’s spending of 1% of GDP for the 2010 event, Brazil’s 0.9% of GDP for 2014, and Russia’s 3% of GDP for 2018. As such, it is noted that the impact on the country’s economy will be far more important than for other hosts of the World Cup. It added that Qatar has been spending heavily on infrastructure for several years, as average capital spending has been equivalent to 33% of total expenditures and to 31% of GDP on average since 2004 and it is expected that Qatar will spend $30bn on additional infrastructure to host the World Cup (Deutsche Bank 2012).

A US$ 4 billion stadium building program will see the construction of nine new eco-friendly, cutting-edge football stadiums and the expansion of three existing stadiums. Additionally, Qatar will build over 80,000 new hotel rooms by 2022. This comes as the country’s answer to FIFA’s requirement that the host country should have 60,000-room capacity. Doha has said it will provide 80,000 to 90,000 by 2022. A US$ 20 billion road improvements and expansion program will include the US$ 687 million Lusail Expressway, Doha Expressway, Dukhan Freeway, and the Doha Bay Crossing. Another US$ 25 billion rail network will cover the construction of a metropolitan railway in Doha, a high-speed rail link between New Doha International airport, Doha city center and across the proposed Qatar-Bahrain causeway into Bahrain, in addition to a freight line that will link up with the wider GCC rail network. The US$ 4 Billion Qatar-Bahrain Causeway with its 45km long fixed link between Qatar and Bahrain was put on hold in June. As an important component of the World Cup Bid in FIFA’s evaluation report, the scheme will now be given renewed impetus. “Building towards the World Cup will inject a new dynamism into the drive by Qatar, and the region, to diversify its economy away from its dependence on oil and gas,” says MEED construction analyst Andrew Roscoe. “Almost US$ 60 billion-worth of projects that were planned will now definitely happen as a result of this success, giving a decade-long boost to the state’s projects industry that had reached a peak” (www.projectqatar.com).

The importance of the legacy of the FIFA World Cup for Doha - that is, what it will contribute in terms of to the development of Qatar and Doha – requires that the Master Plan for the 2022 Games be aligned with, and complement the long term Qatar 2030 Vision, which includes the four pillars of Economic Development, Human Development, Environmental Sustainability, Social Development (Grichting 2012). To achieve this, the Supreme Committee has been established as a delivery authority to integrate different initiatives and bring together the multiple stakeholders – and it took its inspiration from the Barcelona 1992 Olympics which provided a much admired model of how to achieve a Mega-Event and how to leverage the games as a catalyst for positive urban transformations. The Supreme Committee has recognized the importance of the long-term sustainability impacts of Mega-sport Events on the urban, social and ecological infrastructure (energy, transport, public space, etc.). "How a government body (national, regional, or municipal) plans for the legacy of supporting infra-structure can have a ripple effect on the development of a region for decades to come." (Price et al. 2011).

SPORTING EVENTS AS CATALYSTS OF SUSTAINABLE URBAN DEVELOPMENT

International sporting events transform communities and cities into world stages — but what happens when the games have ended and the crowds have gone home? Will the site fade to disuse and dilapidation, or be forever lifted by the investments to new levels of increased economic, environmental and social quality? (www.aecom.com). The theme of Mega Events as drivers of urban transformation is a contemporary one, and cities such as Barcelona, London, Rio, Beijing, Shanghai, and Lisbon have been transformed through hosting international sporting and cultural events. "The activities needed for the preparation and hosting of the Olympic Games—as the biggest sporting event- are in a scale able to act as a catalyst for urban redevelopment, enabling changes which might normally take several decades to complete." (Preuss, 2004). While the subject of Mega Sporting events as drivers of urban transformations is an emerging theme in policy, planning and urban design, it is not a new one. Historically, World Fairs are other transient
events that also lay down roadmaps for how and where urban development takes place and can help leverage improvements and permanent amenities. As Seattle prepares to celebrate the 50th anniversary of the Seattle World’s Fair in 1962 – the Century 21 Exposition is remembered as a great space-age fair of the New Frontier-era that popularized monorail and disseminated the idea of revolving restaurants to the world. An excellent reminder that expos can be powerful agents of urban transformation, Century 21 left a permanent legacy of infrastructure and attitude that continues to shape Seattle to this day (Preuss, 2004).

Today, sustainability has become the keyword to all the Mega-Events, and the concept of legacy is closely aligned with the notion of sustainability. While in earlier events, environmental and social issues were previously ignored; they have become central to realizing holistic sustainable development (Doudouras & James, 2012). The London 2012 and Rio 2016 Olympic Games both have developed Master Plans with visions beyond the event – with parks, neighborhoods and urban infrastructures that will continue to be built after the games. The Barcelona model was a unique case that leveraged the Olympic Games of 1992 to continue an ongoing process of urban regeneration and development of new public spaces in a city faced with social and economic problems following the deindustrialization of the economy.

Ultimately today the purpose of the games goes beyond the sport and the spectacle. It is important that the event maximizes positive evolutions and sustainable developments while minimizing adverse environmental impacts. “Mega-sports events are widely recognized as having environmental impacts and frequently form part of the environmental strategy of a country or a destination region within a country. Most of the organizing committees are particularly sensitive and committed to protecting and improving the environment while staging the event” (Berger, 2011).

THE FLOW OF LEGACIES--FROM BARCELONA TO BEIJING:
SCALES OF FLOWS: FROM SMALL TO LARGE

Barcelona as the Mega-Event Legacy Model
How do the best practices of these Mega Events flow on the global stage of aspiring world cities? What are the different scales of urban interventions related to these Mega-Events? And in what way do they become catalysts or boosters of urban regeneration and urban development? If Paris was the capital of modernity and Los Angeles of post-modernity, Bilbao and Barcelona in Spain have become meccas for urban regeneration and economic boosterism through cultural icons and mega-sporting events. The Bilbao effect and the Barcelona Model are being diffused internationally through what may be called urban policy tourism. The popularity of the Bilbao and Barcelona models, which have become exemplars of universal global best practices, suggests a process of global urban policy convergence and there has been recent interest to study the transfer and the international ‘motion’ of urban policies. Although both models are internationally known for a set of elements, the messages mutate and shift as they circulate through the policy circuits (Gonzalez, 2011). The planning of the Barcelona Olympic Games of 1992, which has inspired Doha’s Master Planning for the FIFA 2022 and the 2024 Olympic bid has become a global model for Sports Mega-Event planning, much as the Bilbao Guggenheim became the iconic museum that launched the Bilbao Effect, that is the theme of culture and museums as drivers of Urban Regeneration. The strategies of Mega-Events as drivers of Urban Renewal and Regeneration became popular once the organizers of the Barcelona 1992 Olympics provided a much admired model of how to achieve a Mega-Event in a period of political and economic crisis. The Barcelona Model has been examined from different perspectives by economists, geographers and town planners as it is recognized that the transformation of Barcelona over the last 20 years is linked, to a large extent, to the 1992 Olympic Games.

The rebirth of the city with the implementation of strategic urban projects linked to the 1992 Olympic Games worked as a leverage to urban renewal and recovery, and was part of a bid to re-launch the city in the context of economic and political crisis experienced from mid-1970s to mid-1980s – due to economic globalization and deindustrialization, formal and informal urban
growth, increasing urban speculation, and peripheral expansion. The process of regenerating Barcelona began in the 1980s with specific interventions in public areas to produce high quality urban spaces and was followed with the implementation of strategic urban projects linked to the hosting of the 1992 Olympic Games. In this way, Barcelona successfully achieved structural improvements that have resulted in its becoming a becoming a model city of public spaces and venues. Richard Rogers, who’s office designed the Master Plan for the London 2012 Olympics – included a forward by the former Mayor of Barcelona in his book “Towards an urban Renaissance” where he underscored the importance of improving and creating public spaces to solve social and economic problems. A specific character of the Barcelona Model was that there was an approach from the small scale to the large scale, from quality to quantity, where the effectiveness of small-scale projects of urban reform were proposed as an alternative to the abstraction of conventional planning and large Master Plans, as a means of overcoming the limitations of planning through architecture. Through this plan, more than 150 projects in parks, squares and amenities during the 1980s. “It is critical to understand that improving public spaces is relevant to solving social and economic problems…The trick in Barcelona was quality first, quantity afterwards. From small scale to large scale.” (Urban Task Force, 1999).

The Barcelona Olympic Master Plan built on the specific interventions in public areas, undertaken from the beginning of the 80s, which included infrastructure improvements that would contribute to the modernization of the road network, the “Opening of the City to the Sea” – the waterfront regeneration scheme and the General Metropolitan Plan which included a framework for actions of recuperation of public spaces and facilities, including reclaiming Land for green areas and amenities and proposals for changing road layouts. It was through this plan that land reserves – critical for 1992 Olympic operations - were obtained and public spaces of the historic city, squares and streets, were recovered.

The candidature for the Olympic Games was put forward in 1981 as a strategy to attract public and private investment and a vehicle capable of generating consensus and action in a depressed economy. The strategy had similar qualitative criteria as the strategy for smaller public spaces while incorporating objectives corresponding to the new scale of the Olympic Urban Development interventions. The project contained three main strategies, which included the location of the Olympic areas in strategic sites – edges and peripheries; applying the method of urban projects used to implement the public space projects; and ensuring the future use of the buildings and infrastructures after games.

London 2012: A new Model for Mega-Event Legacies?
The London 2012 Olympic Games is the most contemporary case. Based on an ambitious vision – to use the Olympic Games and Paralympic Games to make a real change in London, across the UK and globally – the 200-hectare rehabilitation Olympic site in East London is one of the biggest current regeneration project in the EU. (London 2012 Sustainability Plan). It is located in the most diverse and deprived communities in the country, at the western edge of the Thames Gateway and it is expected that the Games will operate as a catalyst for the re-development of the Lower Lea Valley – with new public infrastructure, employment opportunities, housing, educational and recreational facilities and the development of sport. (IOC International Olympic Committee Report, 2012).

The environmental centerpiece of London’s proposal is the 246-hectare Olympic Park that will accommodate ten sport venues, the Olympic Village, media centers and new parkland built around the Lea Valley waterways, creating a vast new urban parkland, with wetland and waterways restoration, natural corridors, environmental solutions to resources, water, waste and energy management, and sustainable building development. The selection of this site was based on sustainability considerations: the area’s accessibility by public transport and the potential for regeneration that the 2012 Games could unlock. (IOC International Olympic Committee Report, 2012). New green areas will be created after the Games as part of its integration into a greatly expanded Lower Lea Valley Park, and while a number of venues will be retained, the parkland will be extended, and thousands of new homes will be built.

Sport Concepts and Richard Rogers Architects developed a “dynamic and comprehensive master plan” for the lower Lea valley, with a combination of overlapping medium to high density zones of living, working, leisure and shopping, and public transport oriented urban design. Three master plans were required: one governing games-time needs; one for the immediate transformation after the games; and one for the longer-term development of the land in the 20 or so years beyond the games.

The Sustainability Plan focused on five key themes: Climate Change, Waste, Biodiversity, Inclusion, and Healthy Living. These strategies are in line with the principal objectives of the International Olympic Committee, which are to “encourage and support a responsible concern for environmental issues, to promote sustainable development in sport, and require that the Olympic Games are held accordingly; promote a positive legacy from the Olympic Games for the Host Cities and Host Countries.” London's transport strategy for the Olympic Games was a key element of the successful bid to host the 2012 Games, with more than 100 walking and cycling schemes on eight routes across London linking the Olympic Park (Transport plan for London, 2012). A number of rail stations have undergone sustainability improvements and the Docklands Light Railway (DLR) – along with London Underground, rail services, buses and walking and cycling routes – will be the main transport options for spectators attending the Games.
What will the major legacies of the 2012 Olympic Games be in London? After the Games the Olympic Park will be transformed into one of the largest urban parks created in Europe for more than 150 years. The canals and waterways of the River Lea will be cleaned and widened; natural floodplains will be restored with Wetland habitat for wildlife; sports facilities will be available for sports clubs and the local community; the Olympic Village will be converted into homes, and additional housing will be built in the Olympic Park site and along the riverside with shops, restaurants and cafes. Not to forget the multiple pedestrian and networks and the new or improved transport infrastructures - new metro lines, new and renovated stations, water networks, and improved and new bicycle lanes. Economically, thousands of new jobs are expected to be created in the Park alone, as well as training opportunities for local people. (People’s Daily Online).

EVALUATING THE LEGACIES OF MEGA-EVENTS

While the promises are convincing, how do we measure the long-term effects of Mega Events and over how much time? The evaluation of the sustainability impacts of any mega-sport event is a complex task which involves more than quantifying the potential revenue and expenditure.” (Douras & James, 2004). 20 years after, the Barcelona Olympics of 1992 have become a model as there has been sufficient time to evaluate and assess the positive and lasting impacts. Likewise, the legacies of the 2012 London Olympics will be measured over a long period and time will tell if the Games will assist the UK in overcoming the present economic crisis as well as acting as a catalyst for the re-development of the Lower Lea Valley, a 200-hectare rehabilitation and regeneration project in East London, providing long-term benefits for the residents including employment, housing, educational and recreational opportunities and the development of sport. International Olympic Committee (IOC) Report (2010). The regeneration of so-called “blighted areas” is not always welcome by the inhabitants especially if they induce a process of gentrification, and it is important that these legacy projects be developed with the involvement of the concerned communities and stakeholders. Gentrification and eviction are often a negative side-effect of the economic and urban boosterism. An in-depth study on Mega Events, Olympic Games and Housing Rights was conducted by COHRE – the Center on Housing Rights and Evictions - which conducted critical research on the key impacts and the number of persons evicted as well as proposing multi-stakeholder guidelines on Mega-Events and the Protection and Promotion of Housing Rights and recommendations for ‘Olympic’ opportunities and ‘mega’ possibilities for protecting and promoting housing rights. These recommendations include giving power to whoever is going to be affected by the games as well as guarantees that if you are going to tear down 100 units, you will build even more affordable or social housing (COHRE Center on Housing Rights and Evictions, 2007).

An innovation in the London 2012 Olympics is the Olympic Games Impact Study Pre Games Report that was published in June 2010. This study is a result of the International Olympic Committee’s (IOC) desire to develop an objective and scientific study of the impact of each edition of the Games and to create a database of information common to all Olympic Games on the effects and legacy of each Game. In this way, the ICO fulfills two primary objectives of the Olympic Charter; - to promote sustainable development in sport and environmentally responsible games and to promote a positive legacy from the Olympic Games for the Host Cities and Host Countries.

The pre-games report was carried out by local Universities (University of East London) and experts with an aim to adjusting and improving the ongoing project and procedure for the London 2012 games. This report will be followed by a post-Games report in 2015 and was preceded by an Initial Situation Report in 2008 with a progress report submitted to the IOC in early 2013 prior to the dissolution of LOCOG (London Olympic Games Organizing Committee). The report uses a series of indicators classified in the three realms of Social, Economic and Environmental. The idea of this type of analysis was first introduced into the official Games planning requirements for the Vancouver 2010 Winter Olympic Games, and London is the first.
Summer Games Host City to be mandated to carry out the study (Olympic Games Impact Study – London 2012 Pre-Games Report).

The London Legacy Plan included determining the after-use of facilities at an early stage, building temporary structures where no long-term legacy could be assured and developing the vision for regeneration, at the same time as preparing the plans for the 2012 Games themselves – the first time a Host City has done this.¹ Time will tell if despite the difficult economic climate, the games will also become a model, like Barcelona. In terms of assessing the sustainability of the legacy, the Commission for a Sustainable London 2012 states that it “expects legacy to embody the principles of sustainability and demonstrate exemplary practice” (London 2012 Sustainability Plan). This is defined as: A better standard of living for Londoners in the host boroughs; Quality, affordable housing; An increase in the skills base of people; A culturally diverse society that engages in work, community and in cultural institutions; People adapting healthier ways of living through sport and lifestyle choices; Long term career prospects for Londoners and UK residents; Disabled people able to readily access services, jobs, homes and community activities; Sites ready for future sustainable, low impact development; Residents adopting good environmental practices such as recycling and waste reduction; Minimal impact on climate change; Public spaces and facilities that are accessible, well used and maintained.

MASTER PLANNING MEGA EVENTS

The Rio 2016 Olympics Master Planning

"Legacy planning is important in the early process, as well as in the implementation. It will determine the difference of whether enduring value is derived from the investment in hosting a major international sporting event or whether it will have no lasting impact to the area after the games have ended," states Peter Flint, director of AECOM's Sports group. (www.aecom.com). AECOM is leading a broad consortium formulating the Legacy Communities Scheme, which delivers the potential embodied in the master plan by guiding the transition to post-games development through detailed strategies addressing social infrastructure, housing, employment, leisure and culture, town planning, transportation, water, waste, strategic sustainability, infrastructure, energy and climate change. The Scheme envisions and end state of 2030 and represents an unprecedented scale and complexity. A major sports venue involves many stakeholders besides the venue owner/operator and cities, governments, universities, sport franchises and teams are increasingly adopting a more comprehensive approach to the development of sporting facilities and major events.

The Rio Olympics are further afield and projected for 2016. The Rio 2016 Olympic Park Urban Master plan will be coordinated by the Municipal Olympic Company, in partnership with the Brazil's Architects Institute (IAB). (www.rio2016.com). Also developed by AECOM's Sports Group, the proposal outlines how the Olympic Park area will be used, the public spaces, squares and parks as well as the location of the permanent and temporary venues and the future real estate developments to be built at the site. There are three Master Plans, one for the Games, one for the transition and a final one that shows the plan of the legacies after the Olympics.
These Physical and Community Legacy Plans as well as the Pre-Games Reports are important instruments and strategies that could also be applied by the Qatar FIFA Supreme Committee to assure that the promises of Sustainable Legacies are planned, implemented and evaluated. To this end, Qatar has developed a Sports Venues Master Plan which is being implemented within the Qatar 2030 Vision, and is also developing an Olympics Master Plan for the 2024 bid.

ARCHITECTURAL LEGACIES: ICONIC BUILDINGS AND WHITE ELEPHANTS

"Architecture isn't an Olympic sport just yet, but it certainly has a lot to do with a successful Olympic bid". (Sudjic, 2005). A successful Olympics is not only measured by the medals, spectacles and firework displays or receipts from media and advertising, but above all by what it leaves behind in the form of urban infrastructures, landscapes and architectures. Britain's first Pritzker Prizewinning female architect Zaha Hadid was selected through a competition to design the Olympic Aquatic Center for the London 2012 Olympics. Resembling a manta ray with undulating wings, Hadid’s design fulfilled its functions as an iconic and seductive building for the Olympic bid, and also functions as a structure that can be transformed into a regular municipal pool once the Games are over. 40 years after it was built, Kenzo Tange’s Olympic pool for the Tokyo Games is still a landmark; Frei Otto's stadium in Munich has been preserved from demolition by public outcry. In Beijing, the Olympic park has a 100,000-seat stadium, designed in the form of a giant bird's nest by Herzog and de Meuron, and it has become an international icon and symbol of the Beijing Games.
Besides the iconic buildings by star architects, there are also white elephants and failures. For Barcelona and Sydney, staging the Olympics propelled each city to the World Class stage while for Montreal and Athens, the Olympic legacy is mostly seen in the form of debt. For the upcoming London Olympics 2012 and the Rio 2016 Olympics, the legacy issues are at the center of the planning for the games. In the case of London, the bid contained the promise that London would be the “first sustainable Games”, from an environmental, socio-cultural and economic point of view and included the following strategies to avoid White Elephants: to use venues already existing in the UK where possible; to only make permanent structures that will have a long-term use after the Games; to build temporary structures for everything else. The Games were also clearly used as a catalyst for change, for the regeneration of and improvement of quality of life in East London and to encourage more healthy and sustainable lifestyles across the whole of the UK. (London 2012 Eco-Olympics). Learning from Barcelona’s experiences, Ken Livingstone, Mayor of London at the time of the bid, backed the games for the catalytic effect that they would have to help kick start London’s eastward expansion and to accommodate the 800,000 Londoners expected over the next two decades. Qatar is playing a role in the London Olympic Legacy. The Olympic Village next to the Olympic Park in East London has been sold to the Qatari ruling family’s property company, Qatari Diar, in partnership with the UK property developer Delancey Estates for £557m. After the 2012 Olympic Games, the village will be converted into a new neighborhood with housing, schools, shops, bars, clinics and parks. (www.guardian.com 2012).

QATAR: MEGA-EVENT PLANNING AND LEGACIES

Sports and Cultural Tourism in Qatar
A sporting Mega Event has a Dual Function: it is a substitute for the Nation and it puts the city on the World Map. The Games are as much about the “City as Spectacle” as they are about Sport, theatricalizing urban sites, generating media events, creating urban centers as sites of cultural consumption. It is also about Sports Tourism and attracting visitors to a country and region, and offering them not only sports, but other cultural experiences.

Having taken the center stage of the gas and oil producing countries over the last 50 years, Qatar is building itself as a nation and Doha is profiling itself as a global city. This implies creating a number of cultural institutions, which house and exhibit both the traditional local and regional nomadic and sedentary cultures, as well as the greater Arabic and Muslim cultures. Visiting museums is not very much a part of the Qatari’s cultures, who make up only 20% of the population, and it is clear that the museums are largely targeting visitors and tourists, and are an important complement for the hosting of any major events, sporting or otherwise. There are significant efforts being made to promote the museums amongst Qataris, just as there is a move to engage them in Sports. All these strategies are seen to be part of the Four Pillars of the Qatar National Vision, but they do require some gentle modifications of cultural habits and practices – especially concerning the practice of sports for female practitioners and competitors.
Sheikh Tamim bin Hamad, president of the Qatar Olympic Committee (QOC) presented Qatar’s bid to the General Assembly of the Association of National Olympic Committees (ANOC) as a bid on behalf of the entire Middle East and North Africa region, and not just as an individual effort of Qatar, but one of a region whose population will reach 700mn people by 2020”. (www.insidethegames.biz, 2012). The Doha 2020 Olympic Bid website also promotes regional attractions to potential visitors of the Games – from the Pyramids of Egypt to the Temples of Persepolis in Iran. “There are many things to do in and around Qatar before, during and after any sporting event. The Louvre and Guggenheim in Abu Dhabi – set to open in 2013 -The Pyramids, the ruins of Babylon, Petra and even Persepolis are less than three hours flight away (www.Doha2020.com, 2012).

Aside from promoting regional cultural and touristic sites, the Qatar Olympic Committee also wants to utilize the 2020 Games to create new sporting and commercial opportunities for the Olympic Movement, and to develop sporting programs and venues that benefit an entire region. (Gulf Times, 2012). Qatar’s National Vision 2030 positions sports as part of its world class ambition for nurturing talent, not just in the development of future Olympians, but also with unprecedented opportunities for empowering women. This vision demonstrates a nation committed to earning its place as a truly global sports hub.” (www.Doha2020.com, 2012).

Re-orienting the economy towards this expanding income source, the Qatar Tourism Master Plan establishes Doha as a high-quality destination for cultural tourism which includes beach and lifestyle resorts, cultural facilities (museums) business events (exhibition halls) and sports infrastructures. The Sports Master Plan includes the development of Sport Facility and Infrastructure plans, Sport Development plans and an Olympic Games Exploratory Study. Rem Koolhaas, amongst others, has been invited with OMA to work on the Sports Master Plan, Qatar Airways, Katara, Al Jazeera, COP18, FIFA2022. Branding as a Legacy

Qatar is categorized as a small state, alongside other small nations like Luxembourg, Switzerland, Panama, Monaco, Kuwait, Bahrain and Dubai. All these small states have explored unique niches that benefit the region or the world, in order to gain economic advantage and global recognition as in the case of Switzerland with its banking system and political neutrality.(Peterson, 2006). Branding for political entities is relatively new and may be seen as an extension of cultural branding, and where states do not have easily identifiable brands, it is necessary to invent them. Qatar’s branding strategy has raised its profile and international awareness by hosting major conferences and enhancing its involvement with international organizations. The Gold certified green Qatar National Convention Center has been recently completed to host such major international events in Qatar, the next to date being the COP18/CMP8 UN Conference on Climate change that will be held in November 2012, attracting 15000 delegates from 195 nations.

Qatar Airways, Katara, Al Jazeera, COP18, FIFA2022. Branding as a Legacy

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Figure 7: Advertising the Museum of Islamic Arts, Doha, on a London Taxi
(Source: www.taxiadvertizing.com).
Qatar Airways, along with Al Jazeera, an Arabic satellite television network owned by the state of Qatar, have helped to place Qatar on the Global Map. While many people did not know the location of Qatar, many tourists transit through Doha with Qatar Airways on their way to other destination. A veritable hub between East and West, the new Doha International Airport is being built to accommodate passengers. On its completion in 2016, it will accommodate 50 million passengers and 2 million tons of Cargo. Qatar Airways, with flights to over 100 destinations across the Middle East, Africa, Asia, Europe, North America, South America and Australia, advertises itself as a Five Star airline and was voted best airline of the year in 2011.

Katara Hospitality is a Qatar based deluxe international hospitality company which was recently rebranded from its previous designation as the Qatar National Hotels Company to a new corporate identity. The new brand – the ancient Greek name for the Qatari Peninsula – is more relevant for the company’s strategic expansion in the global market. Aside from its Qatar based projects – the Lusail Marina and Merweb-hotel City Center Doha it has 24 hotels in 8 international destinations, having recently acquired the Royal Savoy in Lausanne, the Gallia Hotel in Milan, the Peninsula in Paris and the Burgenstock Resort in Lucerne, Switzerland. The iconic Lusail Development in Doha – the Lusail Marina Towers – take the shape of the symbolic crossed swords and is advertised as being ideally located for travelling football fans of FIFA 2022, becoming a perfect getaway for Middle East leisure travelers once the games are over. (SITES, 2012).

Sports is considered another important aspect of Qatar’s branded image, and winning the FIFA World Cup bid for 2022 was a culmination of many years of investment in branding Qatar as sports destination and regional hub. Qatar’s next ambition is to host the Summer Olympic Games, and after losing its bid in 2012 for the 2020 Games, the nation will compete once again, this time for the 2024 Games. Qatar is building on a legacy of international sporting events – the Asian Games in 2001 and 2006 – as well as annually hosted competitions such as the Moto Gran Prix, ATP Tennis tournaments, gymnastics, volleyball, basketball, handball, football, Master’s golf, Grand Prix Fencing, powerboat racing and yachting.

**Figure 8: Rendering of Lusail Iconic Development in the Shape of Crossed Swords**
(Source: www.KataraHospitality.com).

**Doha Master Planning for Mega Events**
What future urban transformations will result from hosting the FIFA 2022 World Cup in Qatar? How does this sporting event become a catalyst for urban development and urban renewal or restructuring? How can it remediate negative urban evolutions and participate in constructing a better future? What landmark structures, new public landscapes and new centralities will be created? What social improvements will occur? Will there be any negative outcomes?

To host the FIFA World Cup and to develop the Olympic bid, Qatar has developed a Sports Venues Master Plan which is being implemented within the Qatar 2030 Vision. The plan includes but is not limited to the development of Sport Facility and Infrastructure plans, Sport
Development plans and an Olympic Games Exploratory Study. (www.DesignSports.org, 2012). It builds on the legacy of a number of sporting events held in Doha over the years, the first major event being the Asian Games in 2001 which saw around US 3 billion dollars in infrastructure development, and was followed by the 2006 Asian Games. This was Doha's first regional mega-event that began to put the city on the sporting tourism map and a new sports city of 130 hectares emerged in response to Doha's new sporting aspirations which included Khalifa International Stadium, Aspire Sports Dome, Hamad Aquatic Center / Orthopedic Sports Medicine Hospital, the Energy Center and Aspire Park. The most iconic feature of the Sports City is the 300-meter Aspire Tower, currently the highest building in Doha, which received the Olympic flame at its summit. Today it is a major landmark in Doha and contains a high-class hotel with a revolving restaurant at its summit. The Sports City also provided an important new public space in Doha, the Aspire Park, and a series of Public Realm improvements such as the cycling paths, footpaths, street-lighting and urban furniture around the Aspire area. (Adham, 2012). The Asian Games of 2006 hosted by Doha was a very successful and important event and the spectacular opening and closing ceremonies were used as a flagship spectacle to promote the new brand image of Qatar globally. In addition to the world class spectacle designed by the creators of the Sydney Olympics opening ceremonies, many people today still remember the opening ceremony and the breath taking ascent of the Heir apparent on his horse to light the torch on a very slippery ramp.

![Figure 8: The Torch Tower at Aspire Zone](Source: Flikr. Photo by AbdulRahman Alkulaifi).

The Sports Master Plan that Qatar is preparing for its Olympic bid for the 2020 Games ensures no 'white elephants', with a totally sustainable approach for the environment, for the venues, for the local communities and for sports in the region. (Gulf Times, 2012). The sporting venues for the Olympic Games will be integrated throughout the city in a way that is only possible for a metropolis that is still growing. In the making for several years prior to the bid application, the Qatar Sports Venue Master Plan had already planned and budgeted for 91% of the venues needed for the Games, 35% of which are already completed. At the center of the venue plan is an Olympic Village, which will house a minimum of 16,800 beds, the Main Athlete Training Site, the Media Village with 2,400 rooms, and the Main Media Centre. In the Master Plan, the Olympic Village design will serve as a model for mixed-use developments throughout the Middle East – after the Games, the Village will fulfill its use as a legacy women’s sport development center, as well as desirable market-ready residences. Doha's Olympic Venue Plan ensures that all venues are within an area measuring 15km by 30km of each other. The plan includes 10 celebration sites.
around the city to ensure a festive season for non-competing athletes and spectators. Games venues will be further developed to provide regional training facilities for both women and men.

Figure 10: Map of the new Doha Metro with the connections to the Stadiums for the FIFA 2022 World Cup (Source: www.Skyscrapercity.com).

The Transport Master Plan is an important element of the Sports Master Plan for the Olympics as well as the FIFA 2022 World Cup. Well before 2022, Qatar will have completed a system of roads, metro, light rail transport, people movers and bus routes linking venues in a safe and efficient network. The first stage of a fully integrated and fully accessible metro network is already commissioned. The railway – which will connect the Doha Olympic Park with the new Doha International Airport - includes connections to light rail transit system and people-mover system.

**PHYSICAL LEGACIES**

*Infrastructural Legacies*

As a FIFA Sporting Host Nation, Qatar’s Legacy Aims include organizing the First Carbon Neutral FIFA World Cup, which will contribute globally as a model of sustainable Mega-Events, and will locally leave improved transport, energy and recycling infrastructures. Modular Stadium will be dismantled and can be recycled and reconstructed anywhere in the world. As the first Middle East FIFA World Cup it aspires to contribute to the Social and Cultural Development of the region.

At the city level and in the long term, the transport strategy and concept for the games will leave behind a first class public transport system for the city, connected with the regional high speed rail as well as new sea transport and taxis. Doha Metro in Qatar’s capital city will be one of the most advanced rail transit systems in the world when it becomes operational in 2016. The emirate originally planned the metro in 2007, in a bid to host the 2016 Summer Olympic Games in Doha. Doha Metro is part of the larger railway network. The wide network design consists of five modern and flexible railway systems integrated across the Persian Gulf. They include the development of passenger and freight rail transport systems, along with fast rail links to the international airport based on the GCC feasibility study. (www.railway-technology.com, 2012). It is hoped that the Doha Master Plan and the National Master Plan will accompany this new transit system with a strategy of transit-oriented development, offering housing, work opportunities and leisure with easy reach of the transport nodes.

With the ambition to become a carbon-neutral Mega-Event, the FIFA 2022 will produce new energy and recycling infrastructures for Qatar. An Environmental Working Group was established early on to identify study and analyze the environmental impact and develop the Green Qatar 2022 plan, which is consistent with government legislation, the national vision and international standards for environmental management. The environmental protection plan foresees the generation of excess renewable energy sources which would contribute to a carbon-neutral event and be used to offset all unavoidable emissions. Given Qatar’s climate, the
activities would firstly concentrate on water and waste management and, secondly, on minimizing carbon emissions through specific energy, transportation and procurement activities.

**Architectural Legacies**

A number of innovations will demonstrate the fundamental role of technology in Qatar's bid and the resources the country is committing to realizing an environmentally sustainable and commitment to social development. The solar powered stadium will keep temperatures around 27 degrees on the playing fields, with solar thermal collectors and photovoltaic panels on the facades and roofs. The solar energy will be used to cool water which will be blown through the stadiums as cooling and photovoltaic panels will export electricity to Qatar's national grid when games are not taking place. Engineers and researchers at Qatar University are working on a remote controlled cloud that will provide ample shade for the entire stadium. Along with donating the stadiums, Qatar plans to make the cooling technologies developed available to other countries in hot climates, so that they too can host major sporting events.

![Figure 9: The New Stadium for the FIFA World Cup at the Doha Corniche](Source: www.footbal-marketing.com. Getty images).

The Qatar 2022 Bid revealed details of the Fan Zones that will provide spectator areas where visitors will be able to enjoy an exhibition featuring the history of the World Cup, showcasing the previous editions of the tournament with 10 minutes clips from each final as well as information and archived pictures on each competition and details on the winners and runners up. Nasser Al Kather - Qatar 2022 Bid Communication Director describes the Fan Zones as an effort to engage the local community and provide a unifying outlet during the World Cup. They will contain two main exhibitions and other informative, interactive features for children and adults alike. The Fan Zones will focus especially on youngsters, with various games set up from virtual soccer with PlayStations to football tables, from ‘precise shot’ to ‘hard shot’ competitions where prizes will be given out each day to the winners. It is not clear where these fan zones will be located, or what they will become after the Games.
Social and Political Legacies
The Qatar bid for the FIFA World Cup is a singular context with regard to other similar events, as it is being held in a country that is ruled by an Emir and his family. While it is working towards democratic development, there is little freedom of press and the FIFA committee and the Olympic Committee are both led by members of the ruling family. Qatar has the highest ratio of migrants to citizens in the world, with only 225,000 citizens in a population of 1.7 million. More than 1.2 million migrant workers—mostly from India, Pakistan, Sri Lanka, the Philippines, Nepal, and Bangladesh—live and work in Qatar. The largest sector, construction, employs 506,000 migrants. A recent report by Human Rights Watch has indicated that country has some of the most restrictive sponsorship laws in the Persian Gulf region, leaving migrant workers vulnerable to exploitation and abuse. Forced labor and human trafficking remain serious problems and labor laws are frequently violated, with the workers living in unacceptable conditions, without their families and spouses. Local media have estimated that the construction of the projects for the FIFA World Cup would require recruitment of hundreds of thousands of new workers from abroad. Will the FIFA International committee intervene to ensure that the construction for the World Cup infrastructures be carried out in humane and acceptable conditions, and that Human Rights will be respected?

On the level of sports education, the Qatar Football Association (QFA) is already undertaking various education and community programs through the Qatar Olympic Sport and Environment Council that will continue to promote sports activities and education, especially for youth and women. The outreach program will involve all stakeholders in planning and enable businesses to communicate their role in forward-looking and sustainability-oriented enterprises.

A Price to pay?
With such a high number of venues and a totally new transportation infrastructure to construct, Qatar is faced with many challenges related to the planning and timelines for such an important international event. With just 10 years until Qatar hosts football’s FIFA World Cup in 2022, Doha is focusing its attention on building the infrastructure required to host the event. In recent months, major state-backed construction projects, from regeneration schemes to science parks, have been cancelled or put on hold as the tiny Gulf state prioritizes projects essential to hosting the competition. Plans to redevelop the Doha Corniche and surrounding area in Doha and proposals to build an Aerospace research and tourist facility in Al-Khor have been shelved in recent weeks. The Doha Grand Park project in the center of the capital city, an urban regeneration project developing a park similar in design to New York’s Central Park and London’s Hyde Park, scheduled to contain food and beverage outlets, a museum and other attractions has also been shelved. Building $20bn-worth of road schemes, a multibillion-dollar metro network and $4bn-
worth of sporting facilities is set to provide planning and logistical challenges. Doha has realized that to complete everything within the set time frame, it has to focus on essential projects and leave others until later. (www.meed.com, 2012).

CONCLUSIONS

Urban design and re-weaving the public and social realm

What will be the global impact of the FIFA World Cup on Qatar and how will the small state face up to the many challenges that such an event may generate? What kind of spaces will be created for the new “cosmopolitan citizen” as a spatial response to this twining of cultural entertainment and tourist and sport industries will be created as legacies for Doha and Qatar? Qatar is currently the nation with the highest Carbon Footprint in the world. Qatar’s available capital can be wisely invested in research and development projects that will improve the urban environment and the quality of life, and reduce the environmental footprint of the country. Doha is a city that is currently organized around private transport, with urban highways crossing the city and intersecting with multiple lane roundabouts, serving islands of inhabitation like gated communities and mega-shopping malls. This creates a fragmentation of the urban realm, and results in little or no spaces for soft mobility – pedestrian, cycling, etc.

The FIFA World Cup is acting as a catalyst for the implementation of a public transport infrastructure, and good urban design will be able to remediate many of the negative effects of unplanned or badly planned developments. Particular attention should be placed around the transit nodes so that they be used as opportunities to encourage many modes of public or pedestrian transport, at the same time creating new public spaces that can help to create a new public realm and to connect soft mobility networks, reweaving the disparate fragments of the city. There is also an opportunity to introduce not only more mixed-use developments, especially around and along the transit nodes and routes, but also to introduce more “mixed-income” or “mixed-culture” developments, to begin to create a truly cosmopolitan and just city. The conditions and quality of life of the immigrant workers could be improved and they can increasingly become more integrated in public life and the public realm. The global branding of the emerging metropolis through its hospitality, airline, media network and Mega-Events, as well the “Qatariization” of the public realm through the establishment and construction of Qatari cultural spaces and museums could be accompanied by a real social and cosmopolitan integration of all the populations inhabiting the city of Doha. This would contribute to achieving the four pillars of the Qatar National Vision for a Sustainable Future, which include Social, Economic, Environmental and Educational development.

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THE (MASTER) PLANS OF ATHENS AND THE CHALLENGES OF ITS RE-PLANNING IN THE CONTEXT OF CRISIS

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Abstract

In the current economic crisis, cities face significant problems and planners strive for solutions. Athens, especially its Centre, faces immense problems both because of the crisis and of a series of local problems that to a great extend are related to its planning historical background. The planning of the Athens area has a long and troublesome tradition and has resulted in a very dense and problematic city with uncontrollable, partly unauthorized, sub-urbanization and severe social problems in the Centre. The traditional way planning took place, i.e. physical planning, has been proven to be inadequate to face the rapidly accumulating problems. This crisis has become a trigger for deeper consideration of the social problems of the city as especially (and spatially) expressed in the Centre. The paper goes through the various historical stages and milestones of the planning of the city progressively focusing on the current problematic, to finally raise the question on the path that the planning of the city should follow in the context of today’s challenges.

Keywords: Athens; spatial physical planning; regulatory master plans; economic crisis; city center.

INTRODUCTION

The current economic crisis affects the cities, as these are the loci of the majority of the population and of economic activity worldwide. According to Burkhalter and Castells (2009), “the urban dimension of the crisis is not peripheral but central to the model of social and economic organization” (Burkhalter and Castells, 2009: 1). The economic crisis is transformed into a spatial crisis through channels such as the real estate market, housing foreclosures and financial debacle of urban areas other mechanisms (Cohen, 2011).

The spatial side of the crisis acquires localized dimensions, such as those related to local economies and is differently expressed in different parts (cities) of the world (Cohen, 2011). The several kinds of impacts include unemployment, business mortality, closure of important large companies, local housing markets fall-out (Rivas, 2010), urban poverty, financial crises of local governments (Cohen, 2011).

According to Rivas, Cities have no formal plans to respond to the crisis, but they do set political priorities and defensive measures including assistance to the unemployed, social housing policies, supporting SMEs and the local consumer markets (Rivas, 2010). Yet, Cohen argues that some cities (such as Rotterdam and Newcastle) have developed plans or programs intended specifically to face the crisis and, generally, plans include measures targeting human capital, training, and urban innovation. In parallel, he questions the power local governments have to combat the crisis in comparison to other more powerful forces and actors, but insists that measures should be pursued actively and responsibly (Cohen, 2011).

Burkhalter and Castells (2009), arguing that the crisis reveals a shift of life style, especially related to the way people choose to live and communicate, propose a “rescue plan” based on new transportation and land use policies as well as soft measures especially related to public space. Among the measures they propose are three tier roads, and change of building...
regulations and land use permissions related to urban design at the level of neighborhood (Burkhalter and Castells, 2009).

Marcuse (2010), in doubt of the capacity of planning to combat the crisis, argues for a series of mitigation measures focusing on the protection of the most vulnerable parts of the population and on the intervention of planners through their connection and influence upon the decision making centers rather than through their plans as such. He maintains that “while planners are neither significantly responsible for the present economic crisis nor have the power to affect it significantly, they do have some influence on it, and more than they are now exercising” [p.9] (Marcuse, 2010).

Under such a problematic is that the crisis of Athens, especially of the Centre is discussed. The international economic crisis has hit Greece and Athens most. The city is affected by the immense national economic problems (budget deficits and fiscal crisis) accentuated by the Greek particularities (lack of transparency, corruption, tax evasion, etc.). If local, spatial and social, parameters are added such as high density in the Centre and urban sprawl to a large extent based on unauthorized construction, or high concentration of poor immigrants in the Centre, all resulting in impoverishment, social exclusion, endangered social cohesion, decline of economic activity, redundancies, closures, etc., the situation becomes precarious and the impact on the built environment severe.

From the point of view of planning, the efforts to plan the city in the spatial context of its wider area have been going on for many years, yet today are more necessary than ever. The question is what sort of planning is mostly required under today’s circumstances and to what extent can it have a positive impact on the city. In order to answer such questions, one would have to see as part of today’s problematic the historical background both of planning and the discussions on it, and of the several contradicting forces related to it.

Thus, this paper goes through the history of the master planning of the city identifying several periods by and large on the basis of drafted or tacit plans a) from the establishment of the city as the capital of Greece (1834) until 1985 when the first somehow comprehensive master plan was adopted, b) the next period from 1985 to to the Olympic Games (2004), c) from the Olympic Games to the current crisis (2010), d) in the context of crisis the new Regulatory Master Plan of Athens-Attiki 2021, and finally e) amidst the crisis the staging of a series of proposals for intervention to the city center.

A BRIEF OVERVIEW OF THE MILESTONES OF THE ATHENS (MASTER) PLANS UNTIL 1985
Since Greece’s independence (1830), numerous attempts have been made to draft and implement spatial plans for the city and the wider area of Athens. Yet, plans were only partially implemented with delays and usually after various degrees of confrontation.

The first plan was carried out by St. Kleanthes and E. Schaubert as early as 1833 (fig.1). Due to reactions raised by land owners, and to economic hardship it was not possible to implement this plan. Instead an amendment elaborated in 1834 by Leo von Klenze was realized (fig.2) (Biris K., 1966, ed 1999: 26-39 Travlos, 1993). Since then, there have been numerous attempts to make plans for the city though mostly targeting specific sites such as opening of roads and planning of squares. Biris K. (1966) and Philippidis (1984) mention dozens of plans and proposals in the first half of the 20th century. The population of the city increased by 245,000 (+52%) in 1922, after the influx of about 1.2 million refugees in the country and a population exchange with Turkey that followed the defeat of the Greek army by Turkey in Minor Asia. Despite the obvious pressing needs and the numerous plans proposed during the course of the first half of the 20th century, the lack of funds and occasionally the resistance of private interests have resulted only into a series of limited changes in the city (cf. Sarigiannis, 2012). As stated in Skayannis and Kanarelis (2012) for the first half of the 20th century, there was a little and late efficacy of interventions, while some sort of competition between the Ministry of Communications (the Town Planning Office being subject to it) and the Municipality of Athens. WW2 found the city
already amidst a series of problems such as the giving up of various public spaces and with no major city plan under implementation.

Skayannis and Kanarelis (2012) argue that the period immediately after WW2 was a period rehabilitation and of reconstruction of the heavily damaged building stock. Yet, it was also a lost opportunity for the planning and redesign of Athens. In this context, several grand ideas were proposed the most significant being those of K.Biris (fig. 3) and K.Doxiadis (fig.4). The first included the construction of a new city (Megaris) at the west of Athens, and the second introduced the concept of Ecumenopolis proposing the broadening of the city and the creation of a continuum with the neighbouring cities of Halkis and Corinth. Yet, none of these was implemented. Instead, a timid town planning practice and the choice of cheap and quick solutions immediately after the war became dominant and no important interventions in public space or the creation of new spaces such as squares were achieved. Still, the main concern, as the private car was taking the lead, was the opening and widening of roads.

These adverse developments of the urbanization of the capital, once again demanded new planning efforts. In this context, the Doxiadis Office in 1972 was entrusted with the Town
Planning of Athens, which resulted in the ‘Athens 2000’ Master Plan, by the Ministry for Urbanism Housing and Environment, a final agreement plan reconciling 5 different proposals, including those of the team of Ministry of Public Works which divided Athens into nine large districts. This plan, according to Sarigiannis, proved rather inapplicable as it was of the “old style of regulation of land uses on a series of maps” and was not facing the required legal complications (Sarigiannis, 2000; 2012). As it was never realized, it would be reasonable to argue that throughout 1960-80 there was still no comprehensive planning. This among other things, in combination with the post war rampant urbanisation (graph 1) resulted into a new generation of unauthorised buildings (housing) that accentuated the need of planning Athens. Yet, as Philippidis argues, showcase projects in public spaces made their appearance instead, such as pedestrian zones and public playgrounds (Philippidis, 1984: 330)\(^1\).

The scenery in terms of regulatory master planning changed with the first (to be legislated) regulatory master plan of Athens (1985), a serious attempt for change with which the next part of this paper deals.

FROM THE 1985 REGULATORY MASTER PLAN TO THE OLYMPIC GAMES

The latest regulatory master plan of the city was carried out in 1985 (Law 1515, 1985) when A. Tritsis was the minister of Planning Housing and Environment (the later YPEXODE) of the PASOK\(^2\) government. With the same Law, the Organization for the Regulatory (Master) Plan and the Environmental Protection of Athens/Attiki (ORSA) was founded and was assigned the responsibility to monitor the implementation of the plan and to advice for all planning issues related to its area of competence. That regulatory master plan reflected an optimism regarding Greece’s accession to the European Union, but with yet unclear the benefits that this might entail. Among its basic targets, in a period succeeding the rampant urbanization of the post war era, were the reduction of the population in Athens and the general restructuring of the economy in favor of the peripheral regions of the country, which were still considerably lagging behind. As a result of this plan, the expansion of the city was gradually intercepted but the pressures persisted and no provision for organized expansion was foreseen. Consequently, arbitrary and unauthorized building in the outskirts never stopped. In this sense, the provisions of that plan

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\(^1\) For the same period, see also Sarigiannis, 2000.
were still conservative, not saying much about the future major restructuring of the city. It is worth noting that this plan faced a major contradiction, as also did much of the succeeding legislation of the governments thereafter. The contradiction is between planning and implementation. The chances for the latter are frequently constrained by lack of funds, and often revealing the inadequacy of the state machinery to deal with the realization of complex plans. This does not only apply for the plans per se but also for the various political decisions and announcements.

Figure 5: The 1985 Regulatory (Mastr)Plan of Athens-Attiki
(Source: Sarigiannis, 2012).

It is indicative that though the metro of Athens was on the agenda, the PASOK government changed the agenda announcing the construction of a tram, instead, as they were unsure whether financing would be available for the metro. Possibly for the same reasons, the 1985 regulatory master plan did not include detailed provisions for forthcoming projects such as roads and trains. The physical planning of that period was more or less not comprehensive and to a certain extent arbitrary.

In addition, this master plan similarly to the previous ones subdued economic planning under the umbrella of physical planning. This reflected the temporal balance of a long lasting antagonism between two different approaches to spatial planning, one coming from the socio-economic sphere and having a very general spatial dimension, and the other coming from the traditional town planning stream having a more physical-technical dimension. This antagonism also reflected the one between two ministries (Planning and Economy) as well as the lack of political will to give a solution.

In the following years, thanks to the EEC/EU, the first financial possibilities were realized by the Integrated Mediterranean Programs and later, and most importantly, by the four consecutive Community Support (and National Strategic Reference) Frameworks (CSF). In the new context, the traditional 5-year economic development plans (general policy statements and lists incoherent not sufficiently interlinked projects), were gradually replaced by programs, divided into axes, measures, actions, etc., within time schedules and restrictions, budget lines regulated by financing guidelines, regulations (Skayannis, 1994). Contrary to the previous 5-year economic development plans they had specific spatial references, thus coming closer to physical planning. The question of planning adaptation was also one of paradigm shift in planning, to a merged planning exercise whereby ‘economists’ and ‘architects’ would have to collaborate. This however, was not followed by an equally drastic change in the comprehension of modus operandi by the

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administration. So the ministry of Planning and the ministry of Economics remained separate and competing with each other, producing a chaotic situation regarding the priorities and the philosophy.

In addition to the above, two major developments characterized the eighties and the early nineties: on the one hand, the Greek construction capital that had been very active in the Arab countries of North Africa and the Middle East due to a variety of reasons (see Koutsoyannis, 1984) was “returning” and seeking for investment opportunities within the country and in the Balkans that were just undergoing the first stages of their transformation from centrally planned to free economies. On the other hand, the prospect of the 2004 Olympic Games and the construction projects foreseen in the CSFs provided such an opportunity.

Thus, a series of expectations for new projects started. However, these were planned and materialized, due to the special circumstances, over and above existing planning (in the sense of the master plan of the city). Special laws, such as Law 2730/1999 “Planning, Integrated Development and Materialization of the Olympic Works and other provisions”, were passed in order to accelerate and legitimize pre-decided projects which did not exist in the master plan of the city.

This “official” by-passing of the law (of the existing regulatory master plan) was coupled by the traditional common practice of arbitrary/unauthorized construction of housing (by and large of building on own property without permission, more rarely on public property, and very commonly by provocatively violating planning regulations). It has to be mentioned that it was not merely the lower income classes that sought refuge to such a practice due to the higher expenses of legal construction, but the upper classes as well including- allegedly - high rank politicians, even ministers.

This top-down and bottom-up by-passing and overlooking of pre-existing planning legislation was left to survive due to the fact that construction had been one of the major locomotives of the Greek economy, able to speed up or slow down the pace of the economy (Skayannis, 1990). This was coupled by a planning governance that on the one hand would collect the opinions of formal stakeholders but on the other would disregard the opinions of ordinary citizens and their organizations, in essence a political choice of non-participatory planning of any sort that obviously faced the problem of applicability.

In this sense, the major planning achievements of the Olympic Games in Athens (parts of the “Olympic” program, or triggered, or accelerated by it) were the construction of a series of transport projects (Athens International Airport, Ring Road of Athens, two new Athens metro lines, the tram lines, improvement of some parts of the road network), the construction of athletic installations including the Olympic Village and the press center, and other minor projects. Most of these were not included in the existing master planning of the city or of the wider area and were decided and imposed top-down over and above any different opinions of the residents. In certain cases, some court decisions accepted the cases against the state, such as the case of the peripheral road of mount Hymettus (part of the Athens Ring Road) that was raised by the American College in Athens, and the state had to modify the plans. In other cases the local communities managed to negotiate for free spaces with the contractors thus increasing the prestige of certain mayors. Yet, at the field of environmental concerns, this sort of fast track planning did not leave much space for effective public consultation. Skayannis and Kaparos (2010) note that though there is a legal provision for inspection of the environmental assessment studies for the big projects, the time provided is limited, the volume of the studies very big, and the knowledge required very specialized. Therefore the objective conditions are not that favorable for raising objections from the part of interested parties let alone the chance for a substantial debate that ends up being carried out through the media and frequently becomes a caricature.

FROM THE OLYMPIC GAMES TO THE CURRENT CRISIS

During the post-Olympic Games period (2004-2010) Athens did not take full advantage of the Olympic projects and what is more of the Olympic experience. The new government of the New
Democracy party\(^4\) (as of March 2007) seemed in the beginning insecure to proceed with public works, let alone planning. Yet at a later stage it seemed to catch up with the Olympic momentum and to start the procurement of new mega transport projects, once more not in alignment with the up to then master planning of the city. There was a point when re-planning the strategy for Athens was becoming an inescapable requirement.

In this conjuncture, in April 2009 a new regulatory master plan prepared under the supervision of ORSA was presented by the minister of YPEXODE G. Souflias (2009) (fig. 6). According to this plan, the main goals were a) sustainable spatial development from the environmental and cultural point of view, b) balanced economic development, competitiveness and strengthening of the international role of Athens, and c) Improvement of the quality of life in a cohesive and friendly city.

![Figure 6: The 2009 Regulato ry (Master) Plan of Attiki-Athens](Source: http://www.organismosathinas.gr).

As in most master plans, such general goals are widely accepted but the “devil is hidden in the details”. The plan was accused of, while advocating for the concept of compact city, it was incorporating into the city an area of more than 200 mill sq. m. Even the ministry of Agriculture thought that this plan was not environmentally sound (Hadjigeorgiou, 2009). As new elections appeared in the horizon, the law draft was never produced for vote in the parliament\(^5\). In October 2009 new elections were held and the New Democracy government was replaced by PASOK.

In-between, a basic change was the slow continuation of some of the post-Olympic projects (e.g. the extension of the metro lines). This situation eventually accentuated. As the economic crisis approached, projects were gradually abandoned (Thessaloniki submerged tunnel) or held back (Athens metro extensions). During this period, the city and especially the center started to undergo an unprecedented crisis, as the main economic crisis deteriorated. Post 2010, this crisis has brought about changes in the social structure of the center with multifaceted consequences.

According to Economou, Skayannis, Deffner, et al (2012), the problems of the center of Athens have their origin in the early ’90s or earlier (e.g. lack of comprehensive city planning, high-density building, green space deficit, old building stock, low quality of public spaces, lack of the necessary urban infrastructure, urban sprawl and suburbanization). Other problems are more recent (e.g. increasing criminality, drug trade and prostitution, illicit trade, closed shops, abandoned buildings, increase in the number of homeless on the streets and impoverishment of a significant number of the population). The latter have been caused either by heavy migrant inflows in the city of Athens or/and by the effects of the current financial crisis on urban population. The immigrants problem has developed to a major concern, as has got out of proportion by all standards. This influx is a combination of two factors, namely the economic and


\(^5\) Regulatory (Master) Plans of Cities in Greece pass as Laws in the Parliament.
political migration reasons and the fact that due to European legislation, immigrants are not allowed to be transferred to other European countries and are stuck in Greece. Low, unpaid and mostly black labor deprive the state from potential resources and result into low social welfare possibilities and danger for public health conditions. These problems pose manifold risks, primarily to public health and safety but also to entrepreneurship and property and to the quality of life as well.

As a consequence, over the last years, the inner city of Athens (the historic and commercial center) has been changing in a rapid and hostile way, suffering from an increasing decline. Rising crime and lawlessness have reached “crisis proportions” in downtown areas, while the concentration of legal and illegal immigrants in some neighborhoods has led to concern about the creation of ghettos in the heart of the city. At the same time, the economic crisis has led hundreds of stores to close down, to the increase of unemployment, and to the breakdown of social services and the degradation of the quality-of-life standards in many traditional middle-class districts (Economou, Skayannis, Deffner, et al, 2012), as well as allegedly to serious land speculation activity in view of a possible future gentrification process. This situation has triggered the activation of groups of the extreme right, something that has increased the fragility of the social tissue.

Given the above, there is a question whether the problems of the city –in crisis- would be reasonable to be faced with tools from the sphere of physical planning, especially of the urban design scale, or from those of socio-economic development planning. This problematic and contradiction was unavoidably transferred to the next plan for Athens that was to be elaborated quite soon.

THE NEW REGULATORY MASTER PLAN OF ATHENS-ATTIKI 2021 (RPA-2021)
The new government (from October 2009 onwards), as all governments do, changed the Minister appointed members of the executive committee of ORSA. The new committee set out to prepare a new regulatory master plan that was completed in 2011.

While maintaining the same goals as the previous plan though highly emphasizing the concept of the compact city, the new plan included different, some new, specialized goals which were: the promotion of the image of Athens as a Mediterranean capital with emphasis on civilization, policies for social cohesion, reconstruction of the production structure, restriction of unauthorized building, strengthening and redistribution of development resources, establishment of green belts and ecological corridors, urban regeneration with recycling of land and housing stock, vivification of centrality, strengthening of sustainable mobility, valorization of the sea front, and improvement of the system of spatial planning and governance (ORSA /YPEKA, 2011).

Some of these goals, certainly reflecting the new realities of the crisis, were less conventional than those of previous plans, while the procedure for the preparation of the RPA 2021 plan included extensive consultation with various social actors and stakeholders. However it did not include an effective system of public consultation with individual citizens. Despite the fact that all such proposals at some stage have to be publicized in the internet and that there is a provision for the general public to electronically submit their opinions, this never happened with this plan, as the ministry proved indecisive to proceed with it due to contradicting pressures from the various stakeholders.

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6 Out of the seven members of the executive committee of ORSA, four are appointed by the Government and three by the local authorities (municipalities, etc.).
The plan faced three sets of contrapositions. The first was by several planners, the second by the municipalities involved, and the third by various stakeholders.

Regarding the first set of differing opinions these were mainly related to the size of the document in relation with the detail that a regulatory plan should go into, given that the planning system in Greece foresees strategic city plans that go into more detailed planning and are guided by the regulatory master plans. In this sense, a detailed regulatory master plan becomes mandatory and pre-empts the subordinate planning levels (which is not supposed to do) at a level that would have required extensive spatial analysis and more detailed proposals, as well as extensive time consuming new legislation. Consequently, a second domain of concern for the planners were several fairly detailed proposals such as the pedestrianization of central city corridors, or the question of how the plan dealt with the extension of the city in relation with a new Law on unauthorized building (Law 4014/2011), as well as the conception of gentrification apparent in the proposals of the plan for the rehabilitation of the city center. Besides, an additional concern was that the plan would require a series of requirements for a series of Presidential Decrees and other legislative actions in order to be implementable, something that would take a lot of time by Greek administrational standards.

The second set of differing opinions came from the local authorities. According to their views (e.g. municipalities of Athens and of Piraeus) the plan went into much detail in issues that they wanted to have the discretion of planning themselves, or they had already differently planned, using as tools the subordinate planning levels and other by-Law regulations.

Finally, the third set of counterarguments originated from the various stakeholders. For example, the association of Industries argued that RPA 2021, posing restrictions, did not leave enough room for the private entrepreneurs to move as freely as they should in the city, in terms of foreseen land uses. A more serious issue however was raised regarding those urban motorways that were not proposed in RPA 2021. As opposed to the previous plan that proposed a set of urban motorways (with the obvious intention to vivify the construction sector)\(^7\), RPA 2021 kept only one of those proposals (a north-south short motorway linking the Athens to Thessaloniki motorway with the Athens to Corinth motorway, bypassing Athens from the west) and opted for more sustainable transport solutions.

Under these pressures, RPA 2021 was not forwarded by the ministry for approval in the parliament with the additional argument that because of the then forthcoming May 2012 elections it should be the new government the one to decide for its future. Given these circumstances, the president of ORSA and the rest of the state appointed members (i.e. 3 out of 7) of the executive committee of ORSA resigned on March 13, 2012\(^8\). One of the arguments for their resignation was

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\(^7\) [http://www.dealnews.gr/epixeiriseis/item/43236](http://www.dealnews.gr/epixeiriseis/item/43236) (accessible 04/04/2012).

\(^8\) One member had previously resigned for different reasons and the 3 remaining members are representatives of the local authorities and had no reason to resign.
the delay of the ministry regarding the procedures for the RPA 2021 and the fragmentary interventions often of outmost importance, made by the ministry disregarding the provisions of the regulatory plans. The most important of those interventions, according to the letter of the resigned ORSA members was the ministerial proposals for the area of the old airport.

NEW CITY CENTRE INTERVENTION PROPOSALS
Though RPA 2021 is an important tool for the planning of Athens (in principle the most important), other tools are also being employed and a series of actors are carrying out plans and submit proposals for the city. These proposals are not on the spatial scale of RPA 2021 and generally belong to two different trends, reflecting the two different planning traditions mentioned so far: the spatial physical planning, and the socio-economic developmental tradition. Further on, these proposals reflect the interests or the specializations of the various actors and differ in the degree of social, economic or spatial elements they include, and in the corresponding rationale. Yet all of them share the opinion that the Athens center is undergoing an unprecedented crisis (as referred to above).

The most important of the proposals publicized are the following:

- The Ministry’s of environment energy and climate change (YPEKA) which is forwarding proposals for the pedestrianization of a major corridor in the center of the city (Panepistimiou avenue), the refurbishment of certain squares, a regeneration scheme for a set of blocks (Gerani area), and other interventions. These plans have been criticized by planners on the more holistic/comprehensive side of not tackling the problems in depth and of not being able to provide real solutions.

- The program (set of measures) of the ex vice-president of the government Th.Pangalos. This program mainly focuses on the establishment of law and order in the city center assuming that a healthier environment for economic activity will prevail as a result. This plan though including several interesting proposals has been criticized of being too much pre-occupied with the ‘law and order’ dimension while a more developmental approach could yield even better results.

- The proposals of various actors and stakeholders reflecting economic interests. For example the Athens - Attiki Hotel Association has made proposals for a set of regulations that would revitalize the center, as their business faces severe problems. These plans, though realistic and productive, in the sense that they are concrete, have obviously the weak side of partiality and should be integrated into a more comprehensive approach.

- Plans of committees for special areas, such as for the area of Goudi, or of Elaionas which foresees: i) the construction of a new stadium for the Panathinaikos football team, of shopping centres, and of other facilities and ii) the simultaneous demolition of their old stadium and the creation of a park in its place. However, the most important plan is the one for the exploitation of the area of the old airport of Hellinikon (8,500,000 sq. meters). In fact there have been several plans and proposals for this area. During the last period (2011), the PASOK government that established Hellinikon SA asked them to launch an international tender for the exploitation of the area. The terms foresee an area of green, and cultural and entrepreneurial activity. The perennial debate about this area has mainly concentrated on the percentage of green area and the kinds of land uses. A point of debate has been whether funds made available from the valorisation of the area could be channelled to other parts of the city so that severe problems could be faced and interventions made possible.

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9 YPEKA is the new name of YPEXODE after the 2010 elections.
10 See for instance the press release of the 42nd General assembly of AHA (November 30, 2011) where the dramatic dimensions of the problem are exposed.
• Proposals of private investors for certain parts of the city that frequently require changing of land uses coming in conflict with existing planning regulations. These are divided into the ones that require point changes and to those that require greater interventions and a set of changes. In both cases such interventions have to come to terms with the fact of the necessity for the revision of the strategic city plan of Athens. Such plans have been criticized that are leading to an uncontrolled gentrification process which will make lower social strata worse off, while favouring those who have exploited the situation sometimes at the verge of legality.

• Proposals (or objections to proposals) from various local, neighbourhood etc. communities of the city, and from political or municipal parties. These are normally focussing on partial issues of the related interested parties. In this sense they easily fall into the trap of 'city beautiful' or naïve romanticism and fail to face the overall complexity of the city.

• Proposals from the city planning department of the municipality of Athens ordered by the municipal council, or the mayor, regarding special areas for which interventions are sought, or redesign is required. While such plans are more comprehensive (contrary to other plans), they face the problem that the municipality of Athens faces, i.e. lack of full competence for their implementation, as this municipality has far less rights for the area of Athens than the government ministries.

As becomes evident, the proposals for the city vary and several planners have raised the objection that the proposals are partial and many are more of an urban design nature rather than of a planning one (esp. those of the ministry YPEKA !!!), at a time when the city needs deep structural interventions. Undoubtedly, several of these proposals are worth serious consideration. They reflect genuine interest from several parties or entrepreneurial pursuits, but have an obvious common denominator: they are not comprehensive. Thus, except of a part of the RPA-2021, and even more recently of an initiative of the mayor of Athens (Economou, Skayannis, Deffner, et al, 2012) no new provisions for comprehensive planning have been made.

In parallel, several of the plans are formally discussed (for approval, dismissal, or for amendments) at the district level under a procedure that is foreseen by the law. However, the question is how such plans are carried out with essential participation of the community they concern, and the general plans (for the entire city) with a considerable and meaningful public debate with all stakeholders concerned and individual citizens. In such a debate, the planners are not supposed to have finalised their opinion and try to sell the plan but are expected to be receptive of the valuable knowledge articulated in the consultations.

Instead of this, public debate has acquired two faces: a) interested parties are invited to express their opinion about an intervention or a plan. Frequently, this becomes a formality. There is never enough time to study a proposal or a plan, and the interested parties often have no expertise or the resources to deal with it (Skayannis and Kaparos, 2010). b) In other cases of a more localized nature, local communities do have and express an opinion, which up to a certain extend is taken into account. Most of the times these opinions concern local demands, and frequently these demands are related to electioneering purposes and aims of local politicians (Skayannis and Kaparos, 2010). c) Frequently, special entrepreneurial interests are expressed and exercise pressures for measures and regulations, yet these are not harmoniously linking to the more general approach of a plan.

Yet in all cases planning is by and large top down. In this top-down context, planners usually ask the opinions of stakeholders during the planning process and selectively utilize it, but in most cases one could reasonably argue that there is no substantial collaborative or participatory planning.
CONCLUSION

In the unprecedented absence of funds and of political will, the situation for the moment seems precarious and the future uncertain. The course that planning has taken in Athens, has revealed a series of problems and contradictions:

a) The contradiction between the traditional 5-year socio-economic development plans succeeded by the various Community Support (and National Strategic Reference) Frameworks [NSRF] and the spatial physical plans coming from the tradition of ‘urbanism’.
b) the contradiction between the comprehensive planning approach and what one would probably name the urban design architectural approach. This is related to the understanding of the nature of the problems of the city and what is the appropriate methodology to face them in relation with the possible tools. Planners think that architects are naïve when trying to solve major structural problems with merely physical interventions sometimes at the micro scale, while architects argue that the form of space leads to behaviours and uses that make a difference and lead to change.
c) the contradiction between the planning approach in general and the project oriented interventions ad hoc planning (similar to the previous era). This is a double facet phenomenon. First, big projects have been proposed contrary to the draft of the regulatory master plan. Second, top down interventions for change of land uses regarding specific buildings, and for change of land uses and planning regulations for specific areas (e.g. switching from manufacturing to services land uses).

Most of these contradictions are not ‘methodologically’ resolved, in the sense that besides from what falls under specific law provisions (for which cases law gaps are sought in order to justify interventions stemming from political pressure), other things are dealt with on a more or less ad hoc basis. Yet a common denominator is the lack of an organised public debate leaving space for both stakeholders and citizens to express their opinion. The ‘Open Government’ internet based consultation system established in 2010, is by all means an immense progress towards this direction, yet insufficient as deadlines are short and several issues are not discussed since only drafts of Laws reach the system. In any case it, functionally, serves more as a tool for gathering different opinions rather than as a discussion platform. The limited public debate hence transparency, leads to the challenge whether planning is needed at all.

In the context of contemporary neo-liberal economies, as economic planning is not considered to be needed in the economy per se, the necessity of spatial planning is contested. Indeed, economy, society and planning are interlinked.

New production modes based on tertiarisation and flexibility with a parallel switch to smaller enterprise scales make firms more footloose. As argued in Skayannis 1998, “Central authorities, cannot plan the way they did before, as the economic space has become fluid. In addition, under the new wave of neo-liberalism that has been sweeping Europe since the mid-eighties the values of planning have been put under question as planning was accused of limiting the scope and frontiers of entrepreneurs. In this sense, indicative or non-planning practices have prevailed” (p.3). Faludi has argued that in the disjointed - incrementalist mode, the programmes considered by any one planning agency are limited to a few which deliberately do not exhaust the available action space, and ... action space is itself ill-defined. The disjointed - incrementalist mode of planning represents an atomistic image of society (A.Faludi, 1973: 155-6).

Is this part of what we are facing in contemporary Athens? And if this were the case, then what would it take to secure that planning is there to regulate the built environment so that public interest and the weaker parts of society are secure? Do citizens have a say for developments regarding their own city, or should this be left to the pressures of contradictory economic interests? To what extend could the good old recipe of democracy (nowadays enriched with transparency) be helpful to achieve better planning results?
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WAKFS IN KAVALA, GREECE: A Legal, Political and Architectural Heritage Issue

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Abstract
The present paper examines wakfs in Greece, and focuses on a case study in the city of Kavala. The case of the wakfs in Kavala is analyzed as an issue of planning legislation, as a matter of architectural heritage, and as an implementation of urban renewal. Wakfs in Kavala consist of historic buildings of unique architectural value that legally differ from the rest in Greece, being officially property of the State of Egypt. For a number of years their status seemed to be an impediment for their integration to the development of the city. Consequently, they were going through a process of physical decay. The present article analyses recent initiatives for a viable legal solution to the previous deadlock, and describes a subsequent process of restoration. Kavala wakfs right now are among the most impressive samples of the architectural heritage of the city, being also integrated in the urban processes with uses combining tourism, cultural activities, and recreation. Finally, an overall assessment is attempted regarding their role as a landmark in Kavala.

Keywords: wakf; Kavala; planning legislation; architectural heritage; Imaret.

INTRODUCTION – HISTORICAL FRAMEWORK
A Wakf is the granting or dedication of property in trust for a pious purpose, that is, to some object that tends to the good of mankind, as to support a mosque or caravansary, to provide for support of one's family, kin, or neighbors, to benefit some particular person or persons and afterward the poor, etc.; also, the trust so created, or the property in trust. The official document defining its function (“vakfiye”) is drafted in the presence of a “cadi” (Turkish judge), and it prescribes the objectives of the wakf, its financial sources, and the ways of utilization, preservation and increase of its revenue (Inalcik, 1978). Until the beginning of the 20th century, wakfs were also established in favour of Christian monasteries and churches, and they were named “ecclesiastic wakfs”. These wakfs consisted of real estate owned by the Greek Orthodox Church and managed by parishes and church organizations according to Law 2508/1920 of the Greek State.

Wakfs can be distinguished in two categories: a. the ones which by nature fulfill the noble and charitable scope for which they were established, such as buildings used for schools, mosques, hospitals etc. and b. the profitable endowments, whose income was used to support the equivalent charitable foundations. This latter category, in turn, can be distinguished in three other sub categories: 1. Real estate, which was, seized for a certain period to the charitable organizations for which wakfs were established, to be given on lease, 2. Land parcels on which specific land uses were vested for an annual amount of money, given to the charitable organization, and 3. Wakf land property, conveyed by lease to users.

Historically, in Ottoman Empire wakfs could be established either by the Sultan or by private individuals. According to the Koran prescripts, they were established as a means of the upper social classes to support the poor. In parallel, though, noblemen also secured their interests, their properties and the unimpeded transfer of their properties to their descendants.
through wakfs. This was achieved because wakfs, in order to ensure their viability and cover their operation expenses, were endowed with property in public land and/or revenues from public land, in addition to parts of private property of the individual who established them. The State, on the other hand, was encouraging this system, since through this, big part of the expenses for public works was covered, and at the same time, high incomes accruing to the state administrators could be checked (Stefaniou, 1987:203-265). Wakfs were administered by a special ministry in Istanbul, named Evkaf Nazareti.

Wakfs contributed significantly in the economic prosperity of a city, since, by means of their official function, they participated in the construction of vital urban infrastructure, created new jobs, provided low interest loans and affordable settlements to business of various types, assisted in improving conditions of public health and safety, and absorbed part of the local production, assisting, thus, in the redistribution of wealth in local societies. For many cities, wakfs also constituted an important factor for urban renewal and development. In short, they were a crucial factor for the quality of life in a city and for the improvement of its competitiveness (Lycourinos, 2005), depending on their scale and activities.

**Structural and Functional Elements: Külliyes, Imarets**

The most important way, in which wakfs supported urban life through urban renewal, was the planned construction of külliyes carried out within the framework of the wakf system. The külliye was a complex of institutions consisting of kitchens distributing food to the poor (imaret), a mosque, schools of learning (medrese), a hospital, a library and a traveler's hostel, mostly situated at the center of the city (Acun, 2002). The core area of the center was also the commercial zone consisting of bedesten, caravanserai and shops where all kinds of trade and transactions were carried out. These buildings belonged to wakfs and provided the larger part of the urban commercial facilities. Thus, the wakf system was directly related to urban economic activity (Acun, 2002, reference to “The role of wakfs in the development of cities” in Hayashi, “Turkey”, 211-213). The construction of külliye represented the measures taken by the Ottoman state to protect and promote the development of cities, since the buildings described above, were frequently established with the desire to renovate the urban environment. Indeed, the economic and commercial growth of such cities as Istanbul, Edirne, Bursa and Konya was planned around the külliyes (Celik, 1986). Urban expansion was also carried out in a centralized fashion through the building of külliyes, which were also considered as landmarks of Ottoman architecture. Following the conquest of the Balkans, mosques and other buildings in the külliye complex were built in each city to give them an Ottoman character.

Ottoman imarets or public kitchens were established as property of wakfs. They are usually described as one of a complex of buildings centered on a mosque and including other institutions like schools, the founder's tomb, a caravanserai, or a bath. They were built throughout the empire, mostly in towns, in higher numbers in Anatolia and the Balkans than in the Arab provinces. The majority was built before 1600, and some continued to function for decades and even centuries (Singer, 2010). All imarets prepared meals to distribute at no charge to a mixed clientele of mosque employees, medrese teachers and students, sufis, government officials on the move, travelers of other types, and local indigents. In some places, non-Muslims received food as well, a fact mentioned in both Muslim Ottoman sources and in the accounts of non-Muslims. Although food was distributed to different types of people, there were regulations which defined who ate, what they ate, how many portions they ate, and in what order.

Imarets were not invented by the Ottomans but developed under them as highly structured groups of buildings. Nonetheless, imarets indicate an appreciation of Muslim religious teachings about charity found in the Koran. They were icons of charitable donations as well as imperial power. Each institution was named after the founder; these places could not maintain the connection between those who provided charity and those who received it, as established in private homes. The imarets and the imperial household created connections to the Ottoman
dynasty as a whole and the legitimacy of the empire. The public kitchen illustrated how the Ottoman Empire was able to provide benefits for different sectors of people within the empire.

Whether appreciated for their practical benefits or as reflections of the value placed by Muslims on charitable endeavors, the endowments may also have played a role in attracting people to convert to Islam (Singer, 2009). Lowry counted 149 imarets altogether in the Ottoman Balkans, mostly dating from the first 200 years of Ottoman rule. According to contemporary national boundaries, they were distributed in: Greece 65, Bulgaria 42, Albania 9, countries of the former Yugoslavia 29, Romania 2, and Hungary 2. Alongside the imarets, there were over 250 zaviyes in northern and central Greece, such that institutions offering food and shelter, even if modest, must have been ubiquitous in the early Ottoman period (Lowry, 2008: 16–64, 70–74, 79, 93).

By the late nineteenth century, however, the administrative reform initiatives of Tanzimat, begun under Sultan Mahmud II (1808-1839) and continued by his successors, had altered the nature and institutions of Ottoman administration, including those providing social and welfare services. Modern government offices were created to undertake the functions once provided through the private endowments. Moreover, notions of entitlement and cultural practices were changing. All these changes affected the public kitchens as well (Singer, 2009).

WAKFS IN GREECE – INSTITUTIONS, LAWS, POLICIES

After the independence of Greece, wakfs in areas of Greek administration were devolved to the Greek government according to London Protocol of 4/16 June 1830. The ones in territories in a transition stage from Ottoman to Greek administration, and being in reversion by Ottoman citizens, could be sold by them with no restrictions. According to article 12 of the Greek – Turkish Treaty of Athens 1913, all wakfs in “new territories” which were annexed to Greece after the Balkan wars of 1912-1913, would continue being managed by the Turkish communities of Northern Greece. This status quo is still standing, it mainly concerns wakfs of Turkish minority in Western Thrace, and the equivalent wakfs are called “Muslim wakfs” in distinction to the “exchangeable wakfs”, which were characterized as such by the Lausanne Treaty of 1923 (concerning the exchange of Greek and Turkish populations) and included all the rest of wakfs in Greece.

“Muslim” Wakfs

This category consists of wakfs in Western Thrace and in particular in the prefectures of Xanthi and Komotini. Any kind of control of these foundations was granted to the Western Thracian Minority first by the 1913 Athens Treaty (Eleftheriadis, 1913), and later by the 1923 Lausanne Treaty. It enabled their administration by the Muslim population living in Thrace, which would be overseen by the Muftis (Bahcheli, 1987). Before the Greek junta came to power in 1967, the directors of the wakfs were elected by the community. The junta, however, altered this practice by taking over the power to nominate the directors. More recently, according to legislation passed in 1980 (Law 1091) and in 1991 (Presidential Decree 1) (Chousein, 2005: 91-93), the administration of the wakf is carried out by a board of five administrators, members of the Minority but having to be appointed by the Governor of the Region. The Governor of the Region is also empowered to approve the wakf budget. So, the ongoing dispute between the administration of the Region and the Minority is whether the wakf administrators should be appointed or elected. The new legislation also provides that the schools of the Muslim community will receive funding not from the wakf as was hitherto the case, but from the Greek Ministry of Education. This is also a matter of dispute between the administration and the Minority, with the Minority claiming that in this way the wakfs are stripped from their traditional role of social, cultural, and educational character, while the administration argues that it is a constitutional provision that all public schools in the country should be financed by the Ministry of Education, which is also responsible for their curricula.
**Exchangeable” Wakfs**

Wakfs in the rest of Greece –with the exception of Muslim wakfs in Western Thrace described above- were characterized as “exchangeable”, which were to be managed by the National Bank of Greece. With Law 1909/39, which assigned the Greek State as the “exclusive heir” of National Bank in all its rights and obligations, exchangeable wakfs were transferred to the state, becoming, thus, public property. Property of this type, consisting of real estate of all kinds, is ruled by special legislation and is under the pertinence of the Directorate of Exchangeable Muslim Estates in the Ministry of Finance, which was later renamed as Directorate of Exchangeable Properties (Doris, 1980).

Official registration of exchangeable wakfs started at 1916 by the Directorate of Urban Regeneration and under the auspices of the Ministry of Transport. Nevertheless, since then and until early ‘80s, a remarkable number of wakf establishments (külliyes etc.) were either destroyed, or given various uses different than the original ones (and often inappropriate to their religious, cultural, and educational character -a notable example being the Hamzar Bei Tzami or Alkazar in Salonika which until the beginning of the 80s was operating as a porno movie theatre), or abandoned in decay, or even converted to Christian churches (Myrilla, 2010). As Stefanidou (1987) states, this was not accidental, since the new Greek State, in its quest for national identity, turned against its Ottoman inheritance seeking to eliminate all symbols of Ottoman occupation. Thus, religious and educational establishments, such as wakfs, were the most prominent targets, many of them being of remarkable architectural and cultural value. This was further worsened during the military junta which ruled Greece from 1967 to 1974, but ceased after its collapse. Since early ‘80s, wakf establishments such as külliyes (more than 400 all over Greece) are protected as part of cultural heritage, restored, and given uses of mainly cultural nature (museums, art galleries etc.).

**WAKFS IN KAVALA, GREECE**

Kavala is the second largest city in northern Greece, and the principal seaport of Eastern Macedonia. It is situated on the bay of Kavala, across from the island of Thasos. Its population size (80,000 people) classifies it as a middle sized city. Kavala is the major tourist center in North Eastern Greece, a transportation node where seaways, air transport, the Egnatia international motorway, and rail transport meet.

Kavala was part of the Ottoman Empire from 1387 to 1912 and it was known by its current name from the end of the 15th century, being an important station on the Via Egnatia. Kavala was the birthplace, in 1769, of the founder of the last Egyptian dynasty, Muhammad Ali. He lived in the city for many years and his home is now a museum, standing at the top of a hill in the quarter of Panagia, close to the church of the same name. In 1799 Muhammad Ali was sent to Egypt by the Ottoman Sultan to drive out Napoleon's forces. He would go on to be known as the "founder of modern Egypt," establishing a dynasty that would rule Egypt and Sudan from 1805 to 1952. Muhammad Ali was a great benefactor to the city, founding the Kavala wakf and endowing it with the “Imaret” building complex. Imaret was constructed from 1817 to 1821, and it was a remarkable example of Islamic architecture which functioned as a shelter for poor people, as a religious school and as a boarding school. At the same time the city was enjoying great economic prosperity as a major centre for tobacco cultivation, elaboration, and exportation, throughout the whole of south-eastern Europe.

**Historical Reference**

The Kavala wakf was established on 26th of June 1813 and according to the establishing document, it was devoted to the city of Kavala. With the same document it was prescribed that the management of the wakf would remain to Muhammad Ali and to his descendants. In fact, the authority of protecting the wakfs stems from the status of the wakf manager, since managers are responsible for the preservation, technical interventions, leasing of the wakf real estate as well as the legal representation of it, whenever and wherever needed. During the first period of its
operation, the Kavala wakf was managed by relatives and friends of Muhammad Ali, represented by some employees. Within the framework of their pertinence, the managers of the wakf also bought some land parcels in Kavala and in the island of Thasos, in the name of the wakf and with funds coming from the wakf property. The purchased lands became also wakfs (part of the original) of a special category ("tahsistat") for which only the rights of use and trusteeship ("hakk-ı tasarruf") belonged to the wakf and not the property of the land parcels, which remained public property. As Tsegelidou (1988:134-151) states, this was based on article 4 of the Ottoman Code of Land Property, according to which, this type of wakfs constitute the category of “undue” wakfs, which in turn are divided to three further subcategories, mainly according to the division of rights between the wakfs and the State.

The first expression of interest for the wakf from the part of the Egyptian administration was recorded around the middle of 19th century, after the establishment of the Central Directorate of Wakfs in Egypt (1851). In 1854, a special envoy (mudir) was sent from Egypt to serve as Commander of the island of Thasos, and manager of the Kavala wakf (Stefanidou, 1987:203-265). From then on, commanders were appointed, guided, and controlled by the Central Directorate of Wakfs. The directorate was issuing its decisions and/or guidelines with special firmans, and whenever there was need, they would also send a special envoy to provide solutions to more complex situations. Officially, managers of the wakf were the successive kings of Egypt, until 1952, when the latest one, king Farouk, was deposed by Gamal Abdel Nasser. The new regime appropriated the property of the Kavala wakf by appointing the Egyptian Minister of Wakfs as manager.

The Legal Issue
The legal status of wakfs—which, in their majority, were either Ottoman or belonging to Christian monasteries and churches (as described above)—was determined by the Athens Treaty of 1913, and the Lausanne Treaty of 1923. The Kavala wakf had a more complex legal status, mainly due to the transition of its “ownership” from Ottoman to Egyptian administration, as it will be described below.

The Kavala wakf, as mentioned above, acquired by purchase certain real estate in the city of Kavala and in the island of Thasos, which was characterized as public land. The ownership ("rekabe") of the purchased property remained public, while the beneficial interest (reversion, "tasarruf") was part of the wakf property (Tsegelidou, 1988:134-151). Since public land, at that period belonged to the Ottoman State, with the establishment of the Greek State in these territories at 1913, the property of public land was transferred to the Greek Administration. Nevertheless, the property rights of the Greek Administration had no valid status in cases of already acquired property rights on land, officially registered in a land cadastre (tapu), and this is where Egyptian claims for property rights on land property of the Kavala wakf were based.

Egypt, which was a province of the Ottoman Empire, declared its independence at 1866, retaining, though, a typical rather than essential subjection to the Ottoman rule. Due to this, it had neither legal status on the international level, nor a diplomatic representation of its own, being accommodated by the Ottoman Embassies and Consulates, when needed. Thus, when the Treaty of Athens was signed in 1913, Egypt was considered as subordinate to the Ottoman Empire, and as such, subject to the provisions of the treaty (Tsegelidou, 1988:134-151). Nevertheless, on March 15th, 1922 the Commander of Egypt Fouad I declared the full independence of Egypt and proclaimed himself as the first king of Egypt. Consequently, the Kavala wakf became Egyptian property, and as such, it was exempted from the lists and regulations concerning properties and property rights mentioned in the Lausanne Treaty of 1923.

Disagreement for the legitimacy of the above process was expressed by certain legal experts. According to them, the Kavala wakf belonged to the “undue” oblations whose property consisted of public land, of which, in turn, the property rights belonged to the State, and the beneficial interests, to the wakf (Tsegelidou, 1988:134-151). The “State” mentioned above was initially the Ottoman State which was succeeded by the Greek State, and thus, the real estate of
the specific wakf should have been included in the exchangeable immobile property (Tsouderos, 1927). The beneficial interests of the Egyptians, on the other hand, were integral to the operation of the wakf, and they would vanish if the wakf ceased existing as a legal entity. Furthermore, according to a document with protocol no 363/71, of January 30th, 1957, related to the Egyptian wakfs, the Muslim community of Kavala at the 1923 exchange of populations had declared the Kavala wakf as exchangeable, because the revenues of the wakf were devoted to the Muslim community there.

Despite the above, the consideration of the Kavala wakf as Egyptian property was greatly due to political pressure to the Greek government, from the -flourishing then- Greek community in Egypt, which considered it as an opportunity for exchange for privileges that they could gain from the Egyptian administration. From then on, the Egyptian State considering the wakf as property of the king of Egypt, seized the wakf property after the deposition of king Faruk I (1952), and assigned its management to the Egyptian Ministry of Wakfs (see par. 2.1). This legal status is kept until today.

Record of the Kavala Wakf Property
According to the Record of Wakf Properties in Kavala and in Thasos, which was co-signed by Greece and Egypt in Athens (August 1st, 1984), the record of properties is as shown below:

1. Mohamed Ali’s house, in Panagia quarter in Kavala: area 2079 sq. m., property of Egypt.
2. The centre of social services Imaret, also in Panagia quarter, Theodorou Poulidou Street: area 4167 sq. m., property of Egypt.
3. A land parcel with an old house in it, in Panagia square, Ioustinianou Street: area 400 sq. m., property of Egypt.
4. Part of the garden in Mohamed Ali’s house (see 1): area 655 sq. m., property of Greece.
5. The Mausoleum of Mohamed Ali’s father in Kavala, Venizelou Street: area 920 sq. m., property of Greece.

MONUMENT IN FOCUS: IMARET OF KAVALA
History of Imaret
The Imaret of Muhammad Ali has been studied by a number of scholars (Toledano, 2003:423-431; Stefanidou, 1987:203-265; Bruni, 2003; Kiel, 1996:145-158; Haluk, 1976:65-69) since it appeared to be the latest new imaret established in the empire. It was built between 1817 and 1821, as part of an impressive mosque – “medrese” complex. It is one of the last built in this particular period and the only one which survived almost intact (Fig. 1). It is located in Panagia peninsula of Kavala, in a location with view of the whole Kavala bay. Its location in a comparatively small –for that period- town, as part of a complex that contained a “medrese”, suggests that it may have resembled earlier endowments, planned to serve a varied clientele, including a community of scholars. Muhammad Ali’s imaret may also have been intended to fill a void created by the lapsed functioning of the nearby imaret founded by Grand Vizier “Makbul” İbrahim Pasha (died 1536) as part of his complex, some 300 meters north of the new one (Singer, 2010).

Egyptians showed a vivid interest in Kavala which lasted for almost a century. It is characteristic that with their initiative, city plans and hydro network were planned for Panagia quarter at the beginning of the 20th century which was not, though, implemented (Lykourinos, 2005). The Kavala wakf officially stopped operating in June 1924. The Egyptian presence in Kavala, though, did not cease. Egyptians went on buying real estate in the area, with money coming from the wakf property, many of which, were later sold again by the Ministry of Wakfs of Egypt to private buyers. It is characteristic that 18 related transactions of houses and stores were recorded during the period 1965-1976. Since 1922, the Imaret spaces were used to house refugees. In 1931, in order for the adjacent street to be widened, a part of Imaret was...
demolished. In 1967, when the military junta seized power in Greece, the residents (mostly refugees) of Imaret were ordered to leave and the monument was sealed.

For almost thirty years Imaret remained completely deserted. Then, after an unofficial settlement of property issues, a part of it operated as bar and restaurant while other parts were used as warehouses. In most parts, though, the decay was severe. Part of its roof fell down, some patios were destroyed, and many walls were ruined. The process of complete disaster seemed irreversible. At the same time, several efforts of the Municipality of Kavala to reach to an agreement with the Egyptian government for the restoration of Imaret were fruitless, due to legal and mostly financial problems. There was speculation that the main reason for the failure of the negotiations was that the proposals of the municipality always aimed at the transfer of property rights of Imaret from the Egyptian government to the Greek State or to the Municipality of Kavala, something that the Egyptians were unwilling to accept. In 2001, though, there was a full reverse of the decay process. After significant efforts, a local entrepreneur managed to arrange for a 50 years lease of Imaret. Consequently, the complex was restored and converted into a luxurious and elegant hotel, which maintains something of the ambience of its era (Municipality of Kavala, 2009).

**Structural and Functional Elements**

The Imaret complex included a public kitchen, two Islamic schools ("medrese"), an elementary school ("megteb") a private mosque and administrative offices (Stefanidou, 1987). In its area of 4167 sq. m, it contained tens of dormitories, a "meskit" (mosque without a minaret) where teaching was taking place, kitchens, storage facilities, Turkish baths and secret patios. The cost of Imaret reached 15000 English pounds, a mythical amount for that period. It was a great and
strong intervention in the urban fabric of Kavala, probably the most significant in the 19th century (Fig. 2).

Figure 2: Imaret at mid 1950s
(Source: Municipal Museum of Kavala).

Muhammad Ali’s kulliye was constructed during the transition period, when the traditional religious system of education started being questioned, and Muslim society was divided between the East, representing traditions, and the West, representing modernity. Thus, the construction of such a great institution of religious nature vivified the religious feelings of the local society and strengthened its conservative reflexes. Despite the generally beneficial presence of the Egyptians in Kavala, the activities of the students (“softa”) of the religious schools, very often had controversial effects on the local society. The number of these people was occasionally higher than 600, which made them a social group remarkable in size and very influential for the local politics. Their diverse origins from all over the Ottoman Empire, the long period of their studies (often reaching the decade), their devotion to religious tradition, and their antithesis to every modernization in social developments consolidated their conservatism. Thus, in periods of tensions between ethnic and religious groups in Kavala (often due to tensions between Greece and Turkey), softas were at the forefront of the conflicts (Lykourinos, 2005).

The operation of the two mendreses lasted until July 1902, and it was interrupted due to administrative changes in Kavala and in Thasos. Provision of food went on until 1923.

Architectural Elements
The Imaret complex was better perceived at its totality integrated in the structure of the old city, when seen from a distance. It followed the traditional introvert internal spatial arrangement and was adapted to the physical environment. Since different parts of it were constructed in different periods, there were variations in the architectural and structural style between these parts. Nevertheless, the geometric and axial arrangement of “kulliye” was clearly distinguishable from the irregular structure of the rest of the city. The monumental pattern once more emphasized the prominent element of the Ottoman city, its introversion (Stefanidou, 1991; Celik, 1986:27). The
dominant elements in its architectural style were the successive curves, the arched gates, numerous chimneys, and more than 100 lead domes, visible from most parts of the city (Fig. 3).

Kulliye consisted of four parts positioned in a row, and each part was organized around four patios. Starting from the north side, the first structure was Imaret with the mekteb in its northeast corner. Then, there was the one of mendreses with the main dershane in its southeast corner, and next was the second mendrese with the second dershane in its northeast corner and the “wet” spaces in its south side. At the south end, there were the offices of the administration of the wakf. Each one of the four parts had a relative autonomy in its organization and all spaces were focusing on the patios, which were the characteristic element of all constructions hosting collective ways of living. To the contrary, the structural and operational characteristics of all four parts were in a parallel deployment, without any of them standing out of the rest. A comparatively higher emphasis was given in highlighting the units of dershane and mekteb, which, in any case, were internal elements, integrated in the separate parts. Special attention was given to the domes above the main entrances and the points where corners were formed, at the top of which, alems were crested, made of marble or bronze. According to Unsal (1959) “alem” means flag but also signifies the symbols at the top of big domes of mosques or minarets, such as crescents, stars etc., made of bronze or gold. All domes were covered by sheets of lead, overlapping at their sides for better insulation, and forming groins very characteristic for Ottoman architecture. The variety of structural elements, the different types and sizes of domes and chimneys constituted a rather unruly whole, quite provocative in attracting the attention of the viewer.

The walls of Imaret were of 0,90 – 1,00 m. width, made of roughly carved stones and scattered bricks, with no specific order. This manner of construction was kept until the points where arcs and domes started being formed. From then on, construction was made exclusively by bricks, in a way quite typical for ottoman architecture, that is, without wooden frames. The distinguishing element between the initial, main construction and the later built additions (such as the second dershane) is interesting, since the first one was characterized by a very solid and
compact construction, while the second was much lighter, with a strong resemblance to the houses of traditional architectural style of this area and era.

In general, the Imaret complex was distinguished for its simplicity in its structural geometric elements, and in the decoration of external and internal facets. The most exciting architectural elements were the internal patios and the continuous succession of closed, semi-hypaethral, and open air spaces, with the equivalent gradual shadings. Despite the above, the autonomy of each one of the internal spaces with the few windows usually fenced by iron bars is not distracted, serving, thus, its original objective, the religious internal concentration.

Figure 4: Imaret in Panagia
(Source: Photographic archive of Th. Papadopoulos).

Imaret Today - Restoration and Current Operation

As mentioned in par. 3.2 above, Imaret was abandoned from 1967 to early 1990s. The decay process was reversed due to the efforts of Anna Misirian, a local entrepreneur who managed to arrange for a 50 years lease of Imaret from the Egyptian government. The negotiations with the Egyptians lasted some seven years and the lease was signed in 2001.

In 2004, after a 22-month restoration, Imaret reemerged as the first boutique hotel in Greece to be housed in a historic building (Fig. 4). The cost of restoration reached to 7 million Euros and the restoration managed to revive the initial image of the monument, from the colors in
the walls to the fabric of the armchairs. The 30 luxuriously appointed rooms resemble Byzantine chapels, with Egyptian chandeliers, and antique kilims on the stone floors. The main dershane was converted to a library and the old cistern of the primary school, to an internal pool (Fig. 5, 6, 7). The hotel is further equipped by an external pool decorated with mosaic design, a Turkish bath, fireplaces, and a restaurant with view to the golf of Kavala.

Besides its operation as a hotel, Imaret has also significant contribution to the cultural life of the city, being the host of an N.G.O. named I.M.A.R.E.T. (Institute of Mohamed Ali for the Research of the Eastern Tradition). Among the general objectives of I.M.A.R.E.T. are the cultural cooperation between Greece and Egypt, and more specifically, between Kavala and Alexandria. Its objectives also include the research on manuscripts of the library of Alexandria, related to the Egyptian presence in Kavala and the operation of Imaret, and the organization of conferences, exhibitions, concerts, etc., initiated by the Cairo Opera Symphony Orchestra at 2006.

CONCLUSIONS

Wakfs were a significant means for the implementation of social policy in the Ottoman Empire and they were very important for their hosting urban communities. The undisputed positive role of wakfs in the development of Ottoman cities is supported by historical documentation, and has been continued in contemporary cities, either of the Muslim world, or in non Muslim cities of an Ottoman past.

The significant contribution of wakfs in the economic prosperity of the hosting cities was shown in various studies (Nefissa, 2001; Yahya, 2008; Karababa, 2012). By means of their official function, they participate in the construction of vital urban infrastructure, create new jobs, provide low interest loans and affordable settlements to business of various types, assist in improving conditions of public health and safety, and provide social services. For many cities, wakfs also constituted an important factor for urban renewal and development. Their main elements, külliyes, and the commercial buildings which supported them, contributed to the revival of city centres as well as to dynamic expansions of cities. Furthermore, wakfs granted to hosting cities and communities a specific urban physiognomy, desired by their founders. This was notable in most Balkan cities, where, after their conquest, wakfs were established and külliye complexes were built to give them an Ottoman character. In general, wakfs constituted an important positive factor for both the architecture and the social and economic life of their hosting cities, and they became their most prominent branding element.

In contemporary Greece, the various ways in which wakfs were handled, were greatly influenced by their dynamic social and economic characteristics, but even more, by the image which they transpired on a symbolic level, in interaction with the predominant political climate of
the equivalent historic periods. The Greek State after the Ottoman occupation was in quest for national identity. Thus, it turned against its Ottoman inheritance and mainly against its most prominent symbols, these being usually wakf monuments. This went on for most of the 20th century, in a political reaction influenced by the polemic climate of this period (wars, and later the Cyprus issue and the military junta), and taking various forms, related to the different category of wakfs (“exchangeable”, Muslim, or Egyptian—as is the unique case of the Kavala wakf).

The last part of the 20th century was characterized by Internationalization and Europeanization of policies in Greece, and the improvement in the relationships between Greece and Turkey. This was also reflected on the way that wakfs were managed. New approaches included their recognition as part of cultural inheritance and subsequent restoration and protection, or a process of rationalization and consultation in the case of management of Muslim wakfs of Western Thrace. The Egyptian wakf in Kavala was also affected positively, through the flexibility of the concurrent to the new conditions private initiatives which managed to achieve the restoration of Imaret and its current use as a boutique hotel.

The Kavala wakfs are focused upon, since they are related to the complex system of land property, supported by legal and administrative structures -the historic evolution of which is very interesting- and being subject to external affairs and the relations between Greece and Egypt.

It is worth noting that since mid ’80s the efforts of the Municipality of Kavala to reach to an agreement with the Egyptian government for the restoration of Imaret were fruitless. On the other hand, it was only the private sector who managed to arrange for some uses in the Imaret, either at early 90’s, or in 2001—the latter being much more organized and ambitious. A quick conclusion could be that this constituted another proof that in Greece, the private sector was more efficient in negotiating than the public sector. Nevertheless, one should look deeper in the way that the Imaret issue was handled by the Greek and Egyptian administrations during all these years. In periods of nationalism, such as the years of military junta in Greece, Imaret was intentionally left in decay—since, due to its “foreign/non Greek” property status, it could not be demolished. At that time, efforts for having it restored were not supported by the Greek Ministry of External Affairs while at the same time, the Egyptian government was unwilling to spend money for any restoration work in a monument for which Egyptian property rights were not guaranteed by the local hosts. The deadlock was tided over with the initiative of the Greek entrepreneur who started negotiations with the Egyptians at 2001, and seven years later she managed to sign a 50 years’ lease of Imaret.
Figure 8: View from the port: Imaret and the old city
(Source: www.imaret.com).

The restoration of Imaret is considered as one of the finest examples of its kind (Fig. 8). It has been awarded twice with European awards, and most significantly, it became part of the contemporary movement concerning the recognition of the significance of cultural heritage. There is a norm of ideas and principles, based on the above movement, which introduces the global dimension of the cultural heritage and underlines the obligation of humanity to preserve it (Stefanou et al., 1995). At the same time, codes of ethics are developed which affect the attitude of social and scientific organizations, as well as the attitude of the public towards historic places and monuments as Imaret (Konsola, 1995). This spirit has been fully adopted in Imaret, which also presents a rich cultural activity with international dimensions, extending cultural cooperation between Greece and Egypt.

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Historic Documents


Document of 6th of May 1978: Concerning circular to Mayors, Presidents of Communes, and Public Attorneys for the prohibitions of legal acts on real estate of every type belonging to Muslim population or Muslim legal entities (wakfs) characterized as “changeable” in border regions defined by various decrees.


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SOCIAL JUSTICE FOR DISABLED PEOPLE

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Abstract
This paper aims to question the living conditions of disabled people in the 21st century from the framework of social justice. The concept of “social justice” has a long history, influenced by the works of numerous writers including Rawls (1971), Miller (1999), Reeves (2005), Fainstein (2009), Marcuse (2009) and Harvey (1992, 2009) and by the recent debates on inequality, diversity, segregation, exclusion, and discrimination. The debates on segregation, exclusion and discrimination are generally focused on inequalities in terms of economic, ethnic and gender dimensions; however, in these debates, there is very little reference to unequal opportunities of disabled people. On the other hand, the diversity issue is generally discussed with respect to ethnic and cultural elements, again with very little concern for the rights of disabled people. In many developing countries, including Turkey, a legal framework for addressing disability issues has started to be put in place. Awareness among governments and society of the needs and rights of people with disabilities is growing. In the last decade in Turkey, the difficulties faced by disabled people have started to be taken into consideration seriously. Before that, the only information about the disabled population could be obtained from General Population Census in Turkey. In 2002 “Turkey Disability Survey” was carried out collectively by the State Institute of Statistics and the Presidency of Administration on Disabled People. In this survey, it has been targeted to estimate the number of disabled people and comprehend their socio-economic characteristics, their problems in social life, expectations, types and causes of disability, regional differences and also the proportion of population having chronic illnesses. After this survey, many projects have started to be realized in order to propose strategies for eliminating discrimination in Turkey. In this paper, we will try to evaluate these sources of information so as to analyze the conditions of disabled people in Turkey with reference to the situation in other developed and developing countries. This evaluation will be made from the framework of social justice and with respect to particular rights, such as accessibility to necessary services at different scales, accessibility to job opportunities and integration into the work force as well as their participation in decision making mechanisms of local and central governments together with or within NGO’s.

Keywords: Disability; social justice; accessibility; discrimination.

INTRODUCTION: DIVERSITY, DIFFERENCE AND EQUALITY
This paper aims to question the living conditions of disabled people in the 21st century from the framework of social justice, with respect to the present situation in Turkey. The concept of “social justice” has a long history, influenced by the works of numerous writers and by recent debates on inequality, diversity, segregation, exclusion, and discrimination. When the vast literature on these issues in the fields of psychology, sociology, politics and economics are analyzed, it is seen that the debates on segregation, exclusion and discrimination are generally focused on inequalities in terms of economic, ethnic and gender dimensions, with very little reference to unequal opportunities of disabled people. On the other hand, the diversity issue is generally discussed with respect to ethnic and cultural elements, again with very little concern for the rights of disabled people. In the last decades, there is a growing interest in all these fields for expanding and refining the perspective of dealing with inequality and diversity, including all the groups who
are faced with excessive discrimination due to their special disadvantageous conditions in accessing societal resources in fulfilling their needs.

In order to perceive the reasons of such “exclusion” of disabled people even from the conceptualizations in different fields of research, various discussion points have been put forward. For example the findings of research in the field of contemporary psychology show that most people categorize or distinguish individuals basically by using ethnicity and sex rather than age or disability. It is argued that age and disability reminds difficulty and even death which people try not to remember or think about (Myers, 2001). In addition, in standard sociological texts (Giddens, 2001), generally the topics of gender, race and sexuality are explored without any concern on disability. There is also huge literature on urban transformation and regeneration in the field of geography and planning but the inclusion of children, aged and disabled people is rarely taken into consideration. Dealing with these topics seems as if it is the responsibility of some other fields of study, separate from these general discussions on societal issues.

Despite these negative aspects in approaching disability, there is a growing concern for distinguishing the concepts of difference and diversity, which are usually conflated and used in place of each other. Some writers argue that the concept of difference requires a reference point, which usually refers to what is accepted to be “normal” by the powerful dominant groups in society. Therefore, this “ideology of superiority” and power relationships leads the societies to be structured around the demands of the powerful groups and the subordinate groups perceive these demands and following measures as natural and inevitable. As a result, the minority groups which are assumed to be different and exceptional are expected to get adapted to the physical and social environment organized by the majority of the society. On the other hand, the concept of diversity does not have a reference point and it requires the inclusion of an equality perspective. In this frame of thought, “real equality” means ensuring that people with special needs and demands have equal opportunity of fulfilling them (Reeves, 2003, 2005). For this reason, it is claimed that there must be a complete shift in existing power relationships as well as ideological and social perceptions related to disability so as to create a favorable atmosphere in valuing diversity and including disabled people in the daily routines of life. In this respect, equality and diversity are expected to be complementary issues in providing people “equal capabilities” to attain “real equality of opportunities”. As Sen (1992: 1) states,

“The assessment of the claims of equality has to come to terms with the existence of pervasive human diversity. The powerful rhetoric of ‘equality of man’ often tends to deflect attention from these differences. Even though such rhetoric (e.g. ‘all man are born equal’) is typically taken to be part and parcel of egalitarianism, the effect of ignoring the interpersonal variations can, in fact, be deeply in egalitarian, in hiding the fact that equal consideration for all may demand very unequal treatment in favor of the disadvantaged.” (Sen, 1992: 1)

Therefore, according to Sen (1992), the capability to achieve can be defined as the ability to prevent bad living conditions that all people would try to refrain from, such as hunger, bad health, ignorance, and poor shelter conditions. In this respect, poverty is defined as being devoid of such capability of achievement. In this context, for disabled people, in addition to equal rights, particular support mechanisms, which take into account the special needs of those people, become crucial in order to enable them to get integrated into societal life as equal citizens. Another problem in the field of politics is the displacement of the concept of difference with the concept of equality (Philips, 1999). It is argued that it is easier to claim for equality in political rights rather than equality in economic conditions in liberal democracies and this creates an opportunity to distract attention from growing inequalities in the era of neoliberal globalization.

Another challenge to inadequate approaches to disability comes from writers who criticize the general implementation of welfare policies after 1950s. It is argued that in western industrial societies, an image of “normal” life course rests on non-disabled, white, heterosexual, male adult has been highly predominant in defining the boundaries of legitimate welfare claims depending on taking part in the labor force. In comparison to this culturally constructed ideal, the lives of...
children, elders and disabled people have been devalued. It is known that throughout the history modernity and capitalism, mothers, children, elder people and disabled people of all ages have been exempted from labor force and considered to be impotent and dependent. For example, adult disabled people are not seen to be normal individuals who can work and raise children, which are the basic indicators of being an adult (Priestley, 2000). On the other hand, these assumptions started to be questioned after 1970s parallel to the globalization of production in crisis conditions, use of new technologies, an increase in different types of service employment, leading to an increase in female employment, an increase in unemployment levels and the introduction of a variety of new employment processes, which includes part-time work and homeworking. These restructuring efforts in especially western societies also tend to challenge the idealized non-disabled male employment, resulting in a search for diverse measures so as to recover the profitability and the efficiency of the system.

Although these developments in the world economy creates opportunities in questioning the dominant assumptions, there has also been a dense debate on increasing poverty throughout the world parallel to industrial and financial globalization. Within the scope of primary distribution relations in this era, there is an effort in decreasing the wage levels, leading to increasing poverty and inequality in income distribution. It is observed that inequality in income distribution is usually measured in general categories without distinguishing the excessive exclusion and discrimination tendencies towards the most disadvantaged segments of population, including disabled people. On the other hand, the secondary distribution relations refers to the nature and quality of basic public services, such as education, health, social security and the extent of accessibility to such services. As can be expected, the problems with disabled people become more apparent in the secondary distribution relations and, in turn, also affect the primary distribution relations in the inability to get integrated into the workforce and to have an access to income. In the era of neoliberal globalization, it is also known that there is a retreat from welfare policies. Contrary to welfare state policies of full employment and poverty eradication, today social policies are being put forward to prevent social risks and the concept of “risk management” has been widely used. It is believed that especially in serious unemployment conditions and crisis periods when people are pessimistic about their children’s or their own destiny, the ongoing system itself is put into danger. Therefore, in this neoliberal globalization era, instead of redistribution policies of the welfare state, risk management methods are being used by giving financial or basic material aids for urgent basic needs (Yalman, 2007). This situation creates obstacles for the adoption of social policies on the basis of human rights.

The misconception on difference and diversity, which leads to some false expectations of equality, is also reflected in the laws and regulations against discrimination in different countries. Providing “equal citizenship rights” in the face of laws (formal equality) is assumed to bring about equal opportunities for everybody without considering that “equal rights” does not mean to be “equal capabilities” for achieving the desired improvements in living conditions. Formal equality approach rests on the assumption that all people are equal and contents with maintaining the present state unless apparent discrimination is made against various people or groups. According to this understanding of equality, discrimination is accepted to be an exception and structural inequalities are ignored. The measure of equality is accepted to be the equal protection of laws and regulations; therefore, the responsibility of preventing or eliminating inequalities among people and groups is not considered or only some special temporary measures are “allowed”. Therefore, in this approach people or groups are forced to fit into the structures and rules that are established according to the characteristics of dominant groups (Gül and Karan, 2011a). This approach appears to be the basic philosophy behind almost all international human rights documents and the law system of individual countries. In fact, even the debates on poverty is focused basically on providing “equal citizenship rights” in the face of laws without considering that “equal rights” does not mean to be “equal capabilities” for achieving the desired improvements in living conditions (Sen, 1992).

On the other hand, this understanding of equality is criticized by many writers and making “positive discrimination” by means of various institutional measures is considered to be crucial in
providing people with equal opportunities. Therefore, from the framework of material equality, “equality” does not mean “sameness”; it is claimed that in order to achieve equality, differences among people and groups should positively be taken into consideration without assuming that they are “equal” and “same” (Buğra, 2007). This approach to equality brings about two kinds of obligations for the state; the first one is negative obligation, which is related to refraining from discrimination. The other one is positive obligation and it gives the state the responsibility of taking temporary or permanent measures to improve the conditions of the disadvantaged and to prevent inequality by removing the effects of discrimination made in the past. This approach is usually identified with “positive discrimination” measures (Gül and Karan, 2011b).

In this context inclusion becomes a key word against discrimination and the vicious circle of increasing inequality among different disadvantaged people and groups, including the people with disabilities. The term “disabling city” is used to denote the urban settings that restrict, ignore and exclude people with disabilities from regular participation in social, cultural, economic and recreational activities. For Young (1990), the ideal of city life represents an urban population and environment that regard social differentiation of groups positively without leading to any kind of exclusion. In this environment, individual and group differences should be accepted as a natural reality and, in turn, a diversity of activities and uses of public spaces should be supported. To promote social justice in the city, this politics of diversity "lays down institutional and ideological means for recognizing and affirming diverse social groups by giving political representation to these groups, and celebrating their distinctive characteristics" (Young 1990: 240). Therefore, as noted above, the philosophy of inclusion should have a high regard for diversity, rather than sameness.

Ignatieff (1986:28) offers a similar vision on inclusion that would be realized by accepting diversity. He argues that in our urban societies of strangers, people should "feel common belonging and mutual responsibility to each other" based on human difference. As social beings, “our obligations to each other are always based on difference” and “it is difference which defines responsibilities and obligations in specific times and places”. Therefore, “inclusive city” is the one “where difference has a home thus enabling the development of a sense of common belonging” (Ignatieff, 1986: 131). And in order to achieve these ideals, an inclusive city should be accessible, multi-functional, equal, partial and universal. Jones and Payne (1997: 134) also share the same views and claim that the cities should be physical spaces for people with disabilities. Therefore accessibility is the crucial factor in enabling interaction; in this respect, urban environments should be organized so as to prevent discrimination against disabled people related to lack of mobility and access to infrastructure and services.

In this paper, we will first try to explain the mutual interactions among disability, poverty and exclusion from societal life, leading to a vicious circle that is hard to break unless substantial interventions are made. Then we will put forward major models adopted in different countries to solve the problems faced by disabled people and evaluate whether they are capable of providing adequate solutions. Then the developments in the laws and regulations will be evaluated within a historical perspective, including the ones that have been put into force in Turkey. Since the UN Charter of 1945 and the Universal Declaration of Human Rights (UDHR) of 1948, there has been a considerable effort in combating discrimination. On the other hand, the inclusion of specifically the rights of the disabled in the laws has been a more recent phenomenon; in fact, the (American) Rehabilitation Act of 1973 was the first civil rights law guaranteeing equal opportunity for people with disabilities. After 1970s, many laws have been passed to eliminate discrimination against people with disabilities; however, it is observed that there are still many problems with respect to inadequate implementation practices, especially in developing countries, including Turkey. In the final part of the paper, the data from different sources of information in Turkey will be analyzed so as to shed light on the conditions of disabled people with reference to the situation in other developed and developing countries. This evaluation will be made from the framework of social justice and with respect to particular rights, such as accessibility to necessary services at different scales, participation in the work force and accessibility to job opportunities as
well as their participation in decision making mechanisms of local and central governments together with or within NGO’s.

VICIOUS CIRCLE IN THE MUTUAL INTERACTIONS AMONG DISABILITY, POVERTY AND EXCLUSION FROM SOCIETAL LIFE

According to the International Classification of Functioning, Disability and Health (ICF) developed by WHO, “disability is an umbrella term for impairments, activity limitations and participation restrictions” (WHO, 2001: 213). According to this classification, “impairments” are defined as problems in body function or structure, such as a significant deviation or loss, related to diseases, health disorders, injuries, and other health related conditions. “Activity” is the execution of a task or an action by an individual and “activity limitations” are difficulties an individual may face in executing his/her activities. “Participation” is defined as involvement in a life situation and “participation restrictions” defined as problems an individual may experience in getting involved in different life situations. “Environmental factors” constitute the physical, social and attitudinal environment in which people live and conduct their lives; and “personal factors” are the particular background of an individual’s life and living, including gender, race, and age (WHO, 2001: 213).

According to World Disability Union (WDU) (2011) “persons with disabilities” are identified as persons who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society in equal terms with other people. “Disability” also includes many ways in which people with perceived impairments are excluded from full participation in society due to social, economic, legal, political and environmental barriers (WDU, 2011: 36). As can be seen from these definitions, various barriers to the accessibility of disabled people are considered to be responsible for exclusion from full participation in different societal activities.

According to Venter et al (2002), the majority of people with disabilities experience difficulties in mobility because of significant barriers. Three types of barriers can be identified: these are social barriers, psychological barriers, and structural barriers to mobility. The mobility of disabled people differs depending on the type of disability as well as their financial and family resources. When the type of disability is concerned, it is observed that people with hearing disabilities appear to be the most mobile; on the other hand people with vision impairments generally use specific modes to travel between familiar places. It is easier for people with walking difficulties to access smaller vehicles; however, wheelchair users are almost completely excluded from most of the public transportation means and sometimes they are even incapable of being a part of street environment related to inappropriate infrastructure.

As for social barriers, research findings show that there is a lack of disability awareness in society, which is reflected in not giving assistance to disabled people in public transportation means or in the streets. In addition, the unsympathetic attitudes of the staff or other people create problems. These problems are not only related to communication problems but also lack of empathy and the blasé attitude of especially urban dwellers, as Simmel (...) pointed out. In addition, the high cost of accessing and maintaining the mobility devices, such as canes, wheelchairs and crutches as well as the cost of public or private transportation appears to the most important barriers to accessibility. In many countries the transportation means available for disabled people are frequently limited and more expensive. Therefore, the financial resources and family support for disabled people becomes important in increasing mobility. We can also talk about psychological factors in decreasing mobility; disabled people often express their fears related to personal security in public spaces. Especially women are afraid of being cheated or being disturbed by men. In addition, low self-esteem prevents them from getting into interaction with other people in various settings even if they have the opportunity (Venter, et. al, 2002).

When we consider the structural barriers to accessibility, it is seen inadequate information systems, vehicle designs inappropriate for disabled people, such as narrow door openings, narrow aisles and seat spacing, inadequate infrastructure in train stations or bus stops as well as inadequate pedestrian roads appear to be the major problems. For example road works left open without any warning or protection, vehicles parked on pedestrian roads, kiosks and other
structures blocking the ways or inappropriate ranks are some examples of structural barriers in streets (Venter, et. al, 2002). On the other hand, the entrance of the buildings and the interior designs ‘disable’ people to have an access to education and health services or any kind of cultural or entertainment facilities.

Therefore, it can be asserted that measures taken to get rid of those social, psychological and structural barriers in accessibility will certainly make it easier to access education services, employment opportunities and social services, which, in turn, help to decrease poverty. The problems in transportation are more easily solved but it is harder to improve the conditions of buildings and the environmental conditions. Although numerous laws and regulations are put into force for the purpose of improving the structural conditions for the disabled in different countries, serious problems are still being faced at the implementation stage. Especially without the ability to travel, people with disabilities cannot benefit from improvements in the health care, education or socio-economic services adequately. Therefore improvement in transportation is accepted to be one of the most important factors in enabling the realization of the strategies to fight poverty and social exclusion (Mitra, et. al, 2011).
The Close Relationship Between Disability and Poverty

When the share of disabled people in different country groups are analyzed, it is observed that especially in developing countries, poor socio-economic conditions seem to be responsible for high levels of disability. According to United Nations figures, poor nutrition, dangerous working and living conditions (including road accidents), limited access to vaccination programmes and to health and maternity care, poor hygiene, bad sanitation, inadequate information about the causes of impairments, war and conflict, and natural disasters all increase the chances of becoming disabled (Venter, et. al, 2002:4). According to the United Nations estimates, between 6% and 10% of people in developing countries are disabled. In addition, World Bank estimates show that one in five people are disabled in the world’s poorest countries (DFID, 2000). For example as the working conditions in the mines and civil war has increased the number of disabled in Mozambique, the struggle for emancipation has left a mark on especially the black people of South Africa. The problem of adequate transportation in using the health care services becomes especially important for people with HIV/AIDS and other diseases in Africa and it is observed that the insufficiencies in this respect leads to early mortality or disability. In addition, the statistics show that the proportion of disabled people among the poorest segments of population is higher. For example in South Africa, the proportion of the disabled in the poorest segments is more than double the proportion at other income levels mostly due to inadequate access to medical care and protection (Venter, et.al, 2002).

On the other hand, sociologists and economists emphasize the close relationship between access to education and employment, which seems to define an individual’s socio-economic status or class in society. It is claimed that not being able to have an access to paid work leads to poverty and, in turn, exclusion from society. Statistics show that disabled people without paid employment are the most vulnerable in this respect; for example, in Canada, 70% of disabled women of working age are unemployed, although the national average is around 9% (Chouinard, 1999:150, cited in Reeves, 2005). The situation is worse in countries where social welfare systems are less developed and protective and the people with disabilities tend to be extremely poor. For example in India, 50% of the disabled people have never been to school; only 5% have had proper education. On the other hand, the share of disabled employees in the biggest companies is only 0,4% and only 5% of the disabled people have an access to particular
therapies and devices to ease their mobility. In Mozambique the same relationship is observed between disability and lack of access to education and employment opportunities. 95% of Mozambicans with disabilities are illiterate, as compared to 60% in the overall population (Venter, et. al, 2002).

These figures clearly reflect that poverty among people with disabilities increases because of their lack of access to education, health care and employment opportunities. Therefore we can talk about a vicious circle in the relationship between disability and poverty: disability appears to be the cause and the consequence of poverty. Disability usually leads to lower standards of living and poverty, which negatively impacts education and employment opportunities and earnings as well as the ability to afford increased expenditures related to disability. On the other hand, poverty may increase the risk of disability related to poor health. Poverty may also increase the possibility that a health condition may result in disability due to lack financial resources for proper treatment. Moreover, limited financial resources in the community or society also have a negative impact on the investments that must be made to improve the physical environment for the disabled. Therefore, as noted above, in developing countries, where social welfare systems are less developed and protective, extreme poverty among people with disabilities is more apparent. If there is an attitude of isolating and excluding people with disabilities from mainstream society, people with disabilities who cannot get proper education are unable to find employment, leading to severe poverty conditions (Venter, et. al, 2002; Mitra, et. al, 2011). These conditions make it difficult for an individual with a disability to get integrated in the community in those countries. That's why it is harder to meet disabled people in the streets and public spaces of developing countries when compared to the situation in more developed countries. The manuscript file should be as complete as possible. This means that the images, figures, tables, endnotes and bibliography will have to be placed within the script file as the author wishes them to appear in the final published article.

Different Approaches to Disability: Medical Model and Social Model

We can talk about two approaches to disability, namely the medical model and the social model. In the medical model, disability is defined to be caused by a disease, an injury or other health conditions and it is considered intrinsic to the individual. Under this model, addressing disability requires medical treatment and rehabilitation and an individual with any impairment is considered disabled, regardless of whether the person experiences limitations in his or her life activities due to this impairment or various structural barriers in the environment. In this model, it is believed that this impairment reduces the individual's quality of life and leads to disadvantages for the individual. Parallel to this understanding, curing or at least managing illness or disability by trained healthcare providers gain importance because disability is seen to be a kind of "illness" or a "personal anomaly". Therefore, this model concentrates on the adaptation of the disabled people themselves to the environment by changing their own behavior. The medical model also rests on the idea that a "just society" invests resources in health care and related services in order to cure disabilities medically to allow disabled persons a more "normal" life. Therefore the medical profession's responsibility is considered to have central importance (T.C. CUMHURBAŞKANLIĞI Devlet Denetleme Kurulu, 2009).

As can be expected, the social policies of the welfare state of the 1950s tended to favor the medical model as the social responsibility of the state and the laws were generally shaped in accordance with this point of view. This was coupled with the dictates of modernism, which is generally based on absolute/ universal truths and normative dualities, such as "normal" vs "abnormal" or "right" vs. "wrong". Therefore, in this model, it is accepted that providing separate institutions and facilities for disabled people, such as such as nursing homes, separate workshops, and special education schools would be more beneficial for the disabled in fulfilling their special needs (Waddington 1994, cited in Heyer, 2007). It also gave the opportunity of minimizing the efforts and decreasing the costs of solving the problems faced by disabled people.

On the other hand, the social model of disability analysis draws attention to the importance of the physical and structural conditions in the built environment, attitudes of citizens,
and the actions of policy makers in considering the difficulties disabled people face in living, working, playing, studying and getting integrated into the city in general. In fact, disability started to be seen as a social construct, rather than an individual “abnormality” and people with disabilities is considered as a minority group, similar to other minority groups based on race and ethnicity (Heyer, 2007). Because disability is not an easily identifiable feature such as gender, ethnicity or age, but a complex, dynamic interaction between a person’s health condition and the physical and social environment, it is very difficult to measure. The measures of disability have changed over time as the conceptual approach towards disability has changed. In time, the definition of disability has changed from an exclusively medical phenomenon measured by impairments toward a concept that consists of the interaction between an individual’s health condition and her/his environment. Therefore, the efforts to improve the living conditions of people with disabilities have started to be focused on measures that prevent activity limitations and participation restrictions rather than sole medical treatment (Mitra, et. al, 2011:5).

In this model, it is believed that functional insufficiency or impairment does not automatically lead to disability and disability is seen as the result of complex conditions created mainly by the social and physical environment of the individual. Therefore, the solution of these problems requires social practice by giving the responsibility to the whole society to make necessary improvements in the environment to make disabled people realize full participation in all areas of societal life (Seyyar, 2009, ICF, 2004: 21). This model explains the disadvantageous position of disabled people as “a product of negative attitudes and systemic discrimination that result in system-wide barriers to information, communication, and the physical environment”. In this respect, the social model concentrates on making social and physical environments accessible, reforming social institutions and trying to remove the stereotypes in the minds of people so as to include people with disabilities in society in equal terms (Heyer, 2007).

The approach behind this model appears to be the civil rights/ human rights movements of the 1960s. According to the UK organization, Union of the Physically Impaired Against Segregation (UPIAS) (1975), “…it is the society which disables physically impaired people. Disability is something imposed on top of our impairments by the way we are unnecessarily isolated and excluded from full participation in society.” In 1983, the disabled academician Oliver used the term “social model of disability” in reference to these developments in the conceptual framework. Oliver focused on the idea of a social model rather than the medical model by taking into consideration the distinction made between impairment and disability by UPIAS. In time, the “social model” was developed by academicians and activists in the UK, USA and other countries, and it has been extended to include all disabled people, including those who have learning difficulties/ disabilities, the mentally handicapped or people with emotional, mental health or behavioral problems. In this model, “oppositional consciousness” has become an important strategy for fighting with the stigma related to living with a disability. This requires a complete shift in the dominant assumption that disability is “tragic” and sometimes “not worth living”. In this frame of thought, disabled people are encouraged to consider their disability positively and feel pride in it rather than denying it (Mansbridge and Morris, 2001, cited in Heyer, 2007).

LEGAL DEVELOPMENTS AGAINST DISCRIMINATION AND IN THE RIGHTS OF PEOPLE WITH DISABILITIES

The first changes in the laws and regulations about the rights of disabled people are seen in the framework of human rights and discrimination in general. The first legal developments were UN Charter of 1945 and the Universal Declaration of Human Rights (UDHR) of 1948. The United Nations Organization was founded basically to fight with discrimination throughout the world. Before 1945, minority treaties were the only means of prohibiting discrimination. After the adoption of the UN Charter in 1945, a non-discrimination clause entered the international law. UN Charter was expected to establish an effective system for the protection of human rights and this was claimed to be the major mission of UN. The Charter clearly states that the UN aims to “develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples” and “promote and encourage respect for human rights and
fundamental freedoms for all without distinction as to race, sex, language or religion." The Charter also imposed some vague obligations to "promote universal respect for, and the observance of, human rights" and to take "joint and separate action in co-operation with the Organization" to achieve this purpose.

The Universal Declaration of Human Rights (UDHR) of 1948 elaborates on the UN Charter's equal rights principles within thirty articles. The following four articles reflect the general principles of the Declaration clearly:

Article 1: All human beings are born free and equal in dignity and rights.

Article 2: Everyone is entitled to all the rights and freedoms set forth in the Universal Declaration without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Article 4: No one shall be held in slavery or servitude.

Article 7: All are equal before the law and are entitled without any discrimination to equal protection of the law.

The movements directly concerning the rights of people with disabilities began in the USA in 1960's. The (American) Rehabilitation Act in 1973 was the first civil rights law guaranteeing "equal opportunity" for people with disabilities. Primary regulations were generally based on the principle of "formal equality" and also constituted the basis of the medical model which was dependent on the provision of basically health services. On the other hand, the regulations according to the principles of "material equality" which is also expressed in "social model approach" were reflected in The World Plan of Action (WPA) in 1982, in The Revised European Social Charter (RESC) in 1996, and United Nations Convention on the Rights of Persons with Disabilities (CRPD) in 2006. Nevertheless, the progressive changes in laws cannot be observed in real life practices especially in underdeveloped countries.

Legal Developments Against Discrimination

After the development of the framework against discrimination by UN, we can also talk about two international covenants, namely The International Covenant on Civil and Political Rights (ICCPR) and The International Covenant on Economic, Social, and Cultural Rights (ICESCR) in 1966. Turkey approved ICCPR in 2003, and additional protocol in 2006 but was chary of Article 27 about ethnic, religious and linguistic minorities. Turkey also approved ICESCR in 2003, but didn’t sign and approve the additional protocol. She was also chary of Article 13, paragraph 3 and 4, which was about education. The scope of choices in education according to parental preferences on beliefs and religion was restricted with state schools. Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1979 was again a specific convention on the right of women. Turkey signed CEDAW in 1985 and approved additional protocol in 2002.

Parallel to these international developments in the legal system, there were also developments in this respect especially in the USA and Europe. The European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR) in 1950 was followed by The European Social Charter (ESC) in 1961 by the Council of Europe. Turkey signed the ECHR in 1950 and approved in 1954. They both included non-discrimination clauses emphasizing the promotion of human rights. This Charter was revised in 1996 and accepted to be the basic legal framework for human rights. The Convention on the Elimination of All Forms of Racial Discrimination (CERD) was accepted by EU in 1965. CERD is one of the first major conventions, which elaborated on the non-discrimination principles of the Universal Declaration of Human Rights. Turkey signed CERD in 1972 and approved two declarations and one chary. In the USA, the American Convention on Human Rights (ACHR) was adopted in 1969. The purpose of the ACHR is "to consolidate in this hemisphere, within the framework of democratic institutions, a system of personal liberty and social justice based on respect for the essential rights of man." (http://en.wikipedia.org/wiki/disability_rights_movement)
Legal Developments in the Rights of People with Disabilities

United Kingdom is commonly considered to have initiated the social model of disability by the Union of the Physically Impaired against Segregation (UPIAS) during the 1970s. In the United States, disability studies became more apparent after the passage of the Americans with Disabilities Act (ADA) in 1990, which is considered to be the first comprehensive antidiscrimination law for people with disabilities in the world. With this law, there was an aradical shift in approaching disability, which started to be seen as a social construct rather than an individual deficit; this perspective shift was reflected the adoption of a social model in approaching disability (Heyer, 2007).

When we go through development of the legal framework in favor of disabled people, it is observed that this consciousness started with the Disability Rights Movement in USA in the 1960s. This movement aimed to secure equal opportunities and equal rights for people with disabilities and it was basically influenced by the African-American civil rights and women’s rights movements. The specific goals and demands of the movement are accessibility and safety in transportation, improvements in architecture and physical environment, equal opportunities in independent living, employment, education, housing, prevention of abuse, neglect and violations of patients' rights. Effective civil rights legislation was also put forward to secure these opportunities and rights. For the first time, a cross-disability focus was adopted and people with different kinds of disabilities (physical and mental disabilities as well as visual and hearing impairments) and different needs and demands came together to fight for a common purpose.

After this movement, the (American) Rehabilitation Act was put into force in 1973. This was the first civil rights law guaranteeing equal opportunity for people with disabilities. American Coalition of Citizens with Disabilities in 1977 was another important turning point in fighting for the rights of disabled people. There was a nationwide sit-in in 1977 and led to the release of various regulations related to improvements in public transport. This was followed by Americans Disabled for Accessible Public Transit (ADAPT) in 1978. In this movement, city’s transit system was protested because it was completely inaccessible for especially the physically disabled people in Denver. These civil disobedience demonstrations that lasted for a year and finally the Denver Transit Authority bought buses equipped with wheelchair lifts. In 1983, ADAPT organized another civil disobedience campaign also in Denver that lasted seven years together with the Americans with Disabilities Act (ADA). As can be followed, there was a prevalent public opinion on the rights of disabled, which was reflected in civil disobedience demonstrations in the USA.

World Program of Action (WPA) adopted by the General Assembly in December 1982 was a major outcome of the International Year of Disabled Persons. The WPA was a global strategy to encourage disability prevention, rehabilitation and equalization of opportunities, which would lead to full participation of persons with disabilities in social life and national development. Human rights perspective was prevalent in WPA and it was accepted that people with disabilities should be treated within the context of normal community services without isolating them.

The 1990 Americans with Disabilities Act (ADA) constituted the most comprehensive and encompassing civil rights protection for disabled people in work places and public places. The ADA defines disability discrimination from the framework of civil rights and identifies people with disabilities as a protected minority. In fact, this act represented the radical shift in the perception about disability by claiming that exclusion of people with disabilities from the public sphere was not the result of personal shortcomings or defects but a direct result of inaccessible social environments (Heyer, 2007). Therefore, this act brought many obligations for public institutions and private establishments. For example, employers with more than 15 employees were obliged to make “reasonable accommodations” for workers with disabilities and not to discriminate against qualified workers because of their disabilities. In addition, public places such as restaurants, stores and public buildings should not discriminate against people with disabilities and by making “reasonable modifications” to enable access for disabled people. The act also enforced adequate access in public transportation, communication, and in other areas of public life.
In the United Kingdom, after extensive activism of disabled people over several decades, the Disability Discrimination Act (DDA) was passed in 1995. As a result, it became unlawful in the United Kingdom to discriminate against people with disabilities in relation to employment, the provision of goods and services, education and transport. One of the most important legal developments in Europe came with the Revised European Social Charter (RESC) in 1996, which was put forward by revising The European Social Charter of 1961. All EU member states that are also members of the Council of Europe have ratified the European Social Charter. According to Article 30 of the Charter, all citizens have the right to be protected against poverty and social exclusion. The Revised European Social Charter (RESC) includes articles concerning fundamental rights in the field of social policy (health, social security, welfare) and specifically in the fields of employment and industrial relations (the rights to work, just conditions of work, fair remuneration and the rights to organize and bargain collectively as well as minimum income support and life-long education support for improving skills). In addition, the charter enforced various measures to prevent gender inequality and to resolve the problems concerning ethnic minorities and migrant workers as well as measures for people with special needs, such as the disabled and fulfillment of housing needs and improvements in low quality housing. This was the first international treaty recognizing the right to strike. States that ratify the Charter had to accept at least five of the seven core articles of the Charter, such as the rights to work, organize, bargain collectively, social security, social and medical assistance, rights of the family to social, legal and medical protection and the protection of migrant workers. Turkey approved European Social Charter in 1989. While approving RESC, Turkey was chary of Article 5 (right of organization), Article 6 (right of labor agreement), Article 2, paragraph 4 (minimum annual leave) and Article 4, paragraph 1 (wage and adequate level of living).

The final convention that will be mentioned here is The Convention on the Rights of Persons with Disabilities (CRPD) in 2006. The CRPD was the first treaty of the United Nations which comprehensively addresses every aspect of discrimination related to disability, such as education, employment, self-determination and privacy. In Article 1, the definition of disability was made; according to this definition, people with disabilities are “those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.” It is stated that “everyone is likely to experience disability at some point during his/ her lifetime because of illness, accident, or aging.”

In Article 2, discrimination is also defined as “any distinction, exclusion or restriction on the basis of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with other, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field.” In the same Article, the countries that have signed the convention are obliged to make “reasonable accommodations” and take regulative measures (“reasonable improvements”) in order to enable equal utilization of human rights and basic freedom opportunities on the behalf of disabled people. The responsibilities of the countries having approved CRPD are defined in Article 4; according to this, the governments are responsible for not allowing discrimination, for providing equality, providing accessibility, enabling integration into political and social life, preventing exploitation, violence and abuse, proving education, health and rehabilitation services and providing social protection. Turkey signed CRPD in 2007 and approved in 2009. Turkey has also signed the protocol concerning individual complaint; however hasn't approved it yet.

Legal Developments in the Rights of People with Disability in Turkey
Various institutional regulations have been made in favor of people with disabilities in Turkey starting from the Ottoman era. It is known that there have been serious attempts in providing facilities for rehabilitation and medical treatment so as to integrate the disabled people into society. For example, during the Ottoman era, various health units (“bimarhanes”) were constructed adjacent to mosques to provide nursing homes as well as medical treatment and rehabilitation facilities for disabled people (Gül, 2006: 276-7). Being located at central locations of
urban areas, these facilities could be better utilized by disabled people. In addition, the foundations ("vakıf") in those years served the function of protecting people with disabilities (CDDK, 2009: 5-6). In early 20th century, various institutions ("Himaye-i Etfal Cemiyeti") were established to protect and give medical treatment to poor, sick children as well as orphans. This institution had relationships with similar institutions in other countries. After the closure of this institution in 1923, a similar public institution, Child Protection Agency, was founded in Ankara for orphans or children with no parental protection. The agency had opened 25 branches in different cities of Turkey until 1945. This agency managed to get organized in 67 provinces and 450 districts in the form of daycare centers, nursery schools, medical centers, and soup kitchens until 1976 (CDDK, 2009: 6). Although this agency was not established for disabled people, it is important because it had the function of serving sick and unprotected children.

Although there were some attempts to improve the living conditions of disabled people, it is observed that they were mostly directed to providing education facilities in separate institutions or curing and rehabilitating them in public health care centers. We can certainly claim that the current situation in Turkey is far from being adequate in enabling the inclusion of disabled people in society in equal terms. It is hard to understand the indifference to the problems of disabled people in a society that showed such public sensitivity for all living creatures, reflected in the protection of injured storks in winter or construction of bird houses within public buildings. In 1950s, the foundation of a civil society organization for people with sight impairments (Altı Nokta Körler Derneği) and another one for disabled people in general (Türkiye Sakatlar Derneği) started to make the problem visible in society (Yılmaz, 2012). The efforts to improve the conditions of disabled people have gained pace after 1980s as can be observed in other countries. The rights of disabled people entered in the Constitution of 1982 as "equal citizenship rights" and prohibition of discrimination against disabled people. Until 1996, there wasn’t a specific law for disabled people and the prohibitions were vaguely defined. The issues related to these people took place in international laws and the national laws on social services and supports, health, education, employment and local governments. The first comprehensive effort with respect to disabled people was the enactment of the law no. 4216 in 1996, which enforced the government to establish Administration for Disabled People and make changes in various laws on the behalf of disabled people. In 1997, an article was added to the Zoning and Construction Law (Law no. 3194) and it became compulsory to make improvements in urban, social and technical infrastructures as well as buildings according to the standards set by the Turkish Institute of Standards.

In addition, in the seventh Five Year Development Plan (1996-2000), it is aimed to give the necessary training support to families for the care of aged and disabled people (CDDK, 2009:57). In the eighth Five Year Development Plan (2001-2005), more comprehensive measures took place, such as coordination between families and related institutions, establishment of an institution to give the necessary social services and supports to the risk groups, including children, aged and disabled people as well as poor people and the ones in need of special attention. In addition, in the plan, it is aimed to improve urban transportation services by considering the special needs of disabled people. In the ninth Five Year Development Plan (2006-2010), the necessity of improving the social and physical environmental conditions to increase the integration of disabled people in economic and social life.

We have to note that in Turkey, a new period have started for disabled people by the enactment of the Law 5378 on Disabled People and Some Changes Made in Certain Laws and Decree-Laws in 2005. The shift to "social model" in approaching disabled people was reflected the law. Article 13 forbids discrimination in choosing a profession, having an access to vocational education and training. Article 14 forbids discrimination in employment and Article 15 forbids discrimination in education. This law forbids discrimination but does not define what is meant by discrimination clearly. However, it enforces the government to make "reasonable accommodations" and take regulative measures ("reasonable modifications"), especially in enabling access to education and employment opportunities by considering the special needs of individuals. For this reason, some special measures are put forward in the law, such as giving
higher minimum wage, giving education support to families with disabled children without considering whether they have social security or not, permitting disabled people to make modifications in their houses and making tax exemptions in various activities.

In the law, a special emphasis has been made on accessibility, which is defined as having an access from one place to another or to knowledge to fulfill various needs without any obstacles. Therefore, Article 3, which is related to modifications in public transportation, enforces the Greater Municipalities and other district municipalities to modify public transportation facilities on the behalf of disabled people. According to the law, Turkey must make “improvements on the behalf of disabled people in all public buildings, all vehicle and pedestrian roads, pedestrian crossings, open green areas, sports areas, and other social and cultural areas in seven years after this law is put into force”. The dead line for improvements is the year 2012; but due to the inability of making the necessary modifications, the dead line has been recently extended until 2015. There are still serious problems in accessibility. Other than this law, by approving CRPD in 2009, Turkey is now responsible for making the necessary improvements, which are cited in this law. In addition, according to the change made in the Constitution in 2010, it is accepted that the measures taken to establish equality for women, aged and disabled people as well as widows and orphans would not constitute a violation of the principle of equality. However, this change does not directly enable “positive discrimination”.

We can state that until the Law on Disabled People was enacted in 2005, the approach towards disability was basically dependent on the medical model, which considers disability as a problem intrinsic to the individual as a kind of “illness” or a “personal anomaly”, which should be cured or rehabilitated. Therefore, until that date, the laws and related institutions were basically shaped according to the requirements of this perception. However, in the social model, social environment of the individual is considered to be responsible for creating disability; as a result, the central and local governments are obliged to make reasonable accommodations and modifications in order to improve the conditions of disabled people without isolating them in separate institutions and spaces.

CONDITIONS OF DISABLED PEOPLE IN TURKEY

In this part of the paper, the conditions of disabled people in Turkey will be analyzed by using the available database. Until recently, there has been scarce information about disabled people; however, the efforts to collect detailed information about the current conditions of disabled people have increased in recent years. Information about disabled population has been taken from General Population Census of 1985 and 2000 in Turkey. Yet, it has been observed that information in population censuses is insufficient due to the limited information obtained. To overcome those limitations, the first “Turkey Disability Survey” (SIS, 2002) was carried out in December 2002 by The State Institute of Statistics together with the Administration for Disabled People. In this survey, it has been targeted to measure the number of disabled people, share of disabled people, their socio-economic characteristics, their problems in social life and expectations as well as the types of disability (including chronic illnesses), causes of disability and regional differences. The other source of information has been obtained from “2002 Turkey Disability Survey - Secondary Analysis Report” (Tufan and Arun, 2006), which was supported by the Scientific and Technical Research Council of Turkey. This secondary analysis was an evaluation of 2002 Survey and gives information about the services given to people with disabilities, the extent of using these services, and their socio-economic conditions, including education, labor force status, social protection, and income.

The most recent information on disabled people has been obtained from a report prepared by the Turkish Republic Presidential Auditing Board in 2009. The report was prepared in order to audit all the activities based on increasing the awareness on the conditions of disabled people, their families and in society in general and to identify the measures to continue with these activities in efficiently. (CDDK, 2009: http://www.tccb.gov.tr/ddk/ddk30.pdf)
The Findings of the Surveys on Disabled People

According to the results of the first “Turkey Disability Survey” (SIS, 2002), there were 8.4 million disabled people in Turkey, with a ratio of 12.3% within the total population in 2002. Among the disabled people, 79.2% had chronic illnesses, 10.2% was physically impaired, 3.9% was mentally impaired, 3.1% had language and speech problems, and 3% was hearing and 0.5% visually impaired.

The findings show that disabled people in more developed regions in the western part of the country mostly live in rural areas; however, in the less developed regions in the eastern part of the country, they generally live in urban areas (Table 2 and Figure 3). In more developed regions, especially rural areas close to urban centers offer better living conditions compared to crowded and large urban areas. The extended family structure still prevalent in rural areas and closer social relationships reduce the hardships the families face in assisting the disabled people. Therefore, it is observed that rural areas around big urban centers are preferred more by families with disabled members. On the other hand, in less developed regions, only urban areas can provide the necessary services, such as health and schooling facilities. Therefore people prefer living in urban areas in those regions, where traditional relationships still exist. This type of mutual help is harder to find in the crowded urban areas of more developed regions.

Table 1. Urban and Rural Distribution of Disabled People by Regions in Turkey (Source: Authors).

<table>
<thead>
<tr>
<th>Population by Regions</th>
<th>General Population</th>
<th>Disabled Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban %</td>
<td>Rural %</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Marmara</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td>Aegean</td>
<td>58</td>
<td>42</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Central Anatolia</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Black Sea</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>East Anatolia</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>South East Anatolia</td>
<td>58</td>
<td>42</td>
</tr>
</tbody>
</table>

Figure 3: Urban and Rural Distribution of Disabled People by Regions in Turkey (Source: SIS, 2002).
Age and Gender Distribution of People with Disabilities in Turkey

Figure 5 indicates that the ratio of people with disabilities is low in childhood, while the ratio gets higher in adulthood. This is compatible with the findings that the highest share of disability is related to chronic illnesses. The recent population censuses show that there is a continuous decrease in the number of births. This also points to a threat of increasing hardships related to the increasing share of people over the age of 65, which is expected to reach three times the current population in 2050 (III. Özürlüler Şurası: 42). Therefore, it is most probable that Turkey will also have to cope with the problem of disability based on chronic illnesses and ageing more in the future, similar to case encountered in Europe (CDDK, 2009:202)

Another finding is that the share of disabled in male population (59%) is higher than that in female population (%41). When we analyze the distribution of disability types by gender, it is seen that especially in mental and speech impairments, the ratio is higher in male population (Table 3).

Table 2. Distribution of Disability Types by Gender (Source: Tufan and Arun, 2006).

<table>
<thead>
<tr>
<th>Types of Disabilities</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Physical</td>
<td>58.7</td>
<td>503553</td>
</tr>
<tr>
<td>Visual</td>
<td>57.8</td>
<td>236304</td>
</tr>
<tr>
<td>Hearing</td>
<td>54.6</td>
<td>138534</td>
</tr>
<tr>
<td>Speech</td>
<td>62.7</td>
<td>164939</td>
</tr>
<tr>
<td>Mental</td>
<td>60.1</td>
<td>199027</td>
</tr>
</tbody>
</table>

Accessibility to Basic Services: Education

According to Article 42 of the Constitution of 1982, “nobody can be left devoid of the right to education” and the state is responsible for giving eight-year compulsory primary education to children both for both sexes. In the same article, it is stated that the state supports the people with limited financial means by giving scholarships to successful students or use other support mechanisms. It is also the obligation of the state to take measures for the individuals who require special education or training facilities. For these individuals, Decree-law no 573 on Special Education was enacted in 1997.
According to Article 15 of the Law on Disabled People, the disabled people cannot be devoid of the right to education and disabled children, young people and adults are provided with equal opportunities of education by considering their special needs in integrated environments, where they get education together with other people. Separate schools for heavy mentally handicapped persons are accepted to be reasonable, but it is not proper for all disabled groups. In terms of human dignity and equality, separating people who have visual, physical and hearing impairments from normal life and keeping them together with those with physical is not acceptable. This application is also accepted to be discriminatory according to the United Nations Convention on Disability; the method “inclusive education” in mainstream schools is recommended for disabled students (CDDK, 2009: 185). However it should be noted that if the conditions in mainstream schools (access to schools, provision of special training tools and materials, specially trained teachers and attitude of non-disabled students and their families) are not improved, it is not possible to mention about inclusive education in mainstream schools (Şenyurt, et.al. 2010: 31).

In Turkey, there are three types of special educational institutions; namely special schools for people with mental, hearing, sight, physical and autistic impairments; private special schools; and special Education and Rehabilitation Centers (CDDK, 2009: 85). According to the data in web site of the Ministry of Education, there are only 36.599 disabled students in public schools although it is known that the number of disabled people at the education age are much more than a hundred thousand (Şenyurt, et.al. 2010: 32). As can be expected, these inadequacies are reflected in the figures showing the education levels of the disabled. The education levels in 2002 Disability Survey show that accessibility to the education services seems to be very poor for the total population, but the conditions for people with disabilities are even worse. Figure 8 shows that approximately 36% of people with disabilities are illiterate, about 15% of them are literate but not completed school, and about 33% of them have primary education.

The right to have education is one of the basic human rights; however, and as the figures reflect, people with disabilities couldn’t not have adequate access to education services in Turkey. The disadvantageous situation of disabled people depends on inadequate transportation services as well the lack of adequate modifications in buildings and the environmental conditions. Despite the obligations based on the laws, it is known that the Ministry of Education does not fulfill the task of free transportation to school and provision of lunch for students with disabilities. In addition, there are no pre-schooling facilities for children, 0-6 years of age and no schools for autistic children (CDDK, 2009: 185). In addition, necessary modifications to remove the barriers for Higher Education students could not be completed.

Figure 5: Education levels in total population and in the population with disabilities (Source: Authors).
Accessibility to Basic Services: Health and Social Security

In Turkey, accessibility to health services cheaply depends on having social security; it is known that about half of the national population do not have any social protection and the situation of disabled people is worse. Figure 9 shows the share of people with social security in total population and in the disabled population by regions in Turkey. People with disabilities with no social security have the lowest chance of accessing health services. Especially in the East and South East Region, more than 80% of the people with disabilities don’t have any social security; this ratio is between 40% and 60% in Mediterranean, Aegean and Black Sea Regions. For the total population the figures are almost the same, in the East and South East Regions around 70% of the population don’t have any social security, this ratio is between 30% and 50% for other regions. Therefore, the share of disabled people who have dependent social security is also very low. Based on these figures, we can say that people with disabilities couldn’t secure adequate accessibility to health services. But if we compare the accessibilities of education and health, we could say that health services are more accessible. It indicates that in Turkey, medical model is used more effectively than the social model.

According to the Constitution, “right to health” is a right that cannot be postponed. On equal terms with other individuals, people with disabilities have to benefit from the health services; even in some special cases there is a need to give priority to people with disabilities. Circular No. 2006/113 of Ministry of Health is in that direction. In order to establish the “Right to Health”, social security system should also be accessible by everyone. According to the Monitoring Report on Disability Discrimination in Turkey, there are serious physical accessibility problems in big university hospitals in Istanbul especially for the ones with orthopedic disabilities in getting transferred to backboards, hospital beds and imaging devices. It was identified that untrained caregivers didn’t know how to carry patients; therefore the necessary professional services could not be given to the patients. In the same report, it is claimed that ignoring the special needs of persons with disabilities, which are identified in 2010-2014 Strategic Plan of the Ministry of Health, points to a clear discrimination of people with disabilities (Şenyurt, et.al. 2010: 39).

Implementing measures to minimize some of the negative effects of disability is possible. When an effective treatment is absent or sensory tools and equipments cannot be utilized to overcome the effects of a disorder (seeing/hearing impairments), training and rehabilitation of disabled people becomes important in dealing with difficulties caused by impairments. In this kind of situation, training and rehabilitation is very important not only for disabled people but also for their families, friends and managers at work. Unfortunately in Turkey, there is a tendency to give more importance to curative treatments rather than preventive and remedial measures. Diagnosis and the measures in question naturally have a high cost; however, trying to escape from these costs leads to higher costs in care, treatment, and provision of devices. In addition, inability to
access education and employment opportunities bring about additional social, economic and psychological costs (CDDK, 2009: 201).

Employment of the Disabled

According to the law, the share of disabled people employed in public institutions must be 3%; this share is accepted to be 4% in workplaces connected to public institutions (with 50 or more employees) and 3% in workplaces in the private sector (CDDK 2009:216-217). For the system of quota and quota-punishment to be successful, public institutions must fulfill their liabilities and should act as a role model for the private sector. In Turkey both public and private sectors are rather reluctant to hire disabled individuals. This attitude towards disabled individuals may have some legitimate reasons. The most important one is the inadequate vocational education. The other significant difficulties of employing disabled individuals are improper working conditions and insufficient communication between vocational training establishments and employers (CDDK, 2009: 187-188).

According to the data of the year 2008, the level of disability for the 75% of disabled individuals employed in workplaces is around 40%. It is seen that 31% of those employees finished primary school, 43% finished secondary school and 25% of them graduated from university. There is no data about their professions and employment cadres (www.dpb.gov.tr). In order to increase the participation of disabled into labor force, it argued that vocational rehabilitation centers should be opened in cooperation with the Ministry of Education and Turkish Labor Institution. In addition, models such as selective placement, supported employment and protected workplace should be developed and implemented. The participatory and coordinated work of Ministry of Education, Presidency of State Personnel, Turkish Labor Institution, employers, local governments and civil society organizations is crucial in successful implementations.

Accessibility to People with Disabilities

Practices on this issue are generally limited to the needs of individuals with physical/ orthopedic disabilities and other disabled groups are ignored. The other important condition of accessibility is "information". Information includes some writings, symbols, auditory /visual warnings in essential spots enable access to the destination in a short, safe and comfortable way, both as pedestrians and as travelers in a vehicle. Access to information is an important problem for all disabled groups. However, especially mentally handicapped and then the other three groups, with speech, visual and hearing impairments face more difficulties in accessing information compared to physically impaired people. The use of appropriate technology seems to be the most effective way in eliminating this problem.

Article 15 of Law no. 5378 is about developing a sign language; however, it hasn’t been implemented yet. The Ministry of Education still retains the curriculum banning the use of sign language. Turkish Language Institution (Türk Dil Kurumu) has just generated the Turkish sign language alphabet; but the main problem in this respect is enabling the practical use of this language and forming an expert staff to give training. Experts claim that it would take at least ten years to use the sign language with the current method. There are still no regulations suitable for the special needs of individuals with hearing problems and the access to some auxiliary sources and materials is almost impossible it is almost impossible (Şenyurt, et.al. 2010: 32).

Telephone is usually the most suitable tool to access information for disabled individuals. Mobile phone, on the other hand, facilitates their access to information; therefore there must be more economical tariff for the people with speech and hearing impairments. As noted above, a very significant law was put into force for disabled individuals in 2005, but in practice, especially the state of physical conditions is far from the level dictated by those legal regulations. The reason for this is the institutions' and establishments' reluctance in fulfilling their responsibilities. In order to eliminate the deficiencies in terms of accessibility, related institutions should complete their tasks given by the law. Otherwise, sanction should be applied (CDDK, 2009: 192). Moreover, instead of separate parks, bus stops, or meeting places for disabled people, public
places should be arranged considering the access and utilization by disabled individuals. Another problem in adequate access is related to the right to voting in general elections; therefore, it is important that measures are taken to enable disabled people to access voting areas (CDDK, 2009: 194).

CONCLUSION: “OUR EXAM ON DIVERSITY”
People who are not disabled or not a relative and friend of disabled people have a low perception and empathy about disabled people and this perception is usually limited to the moment of encounter with those people. They only recognize the difficulty experienced by the disabled person at that moment but do not realize the enormous problems they experience in daily life, starting from their homes. These problems may be related to the conditions in their living spaces, such as bathrooms, kitchens or the design of steps, elevators, ramps, signs in their buildings. Even if they manage to make the necessary modifications in those private spaces to ease their lives, the difficulties start to be experienced as they step into the street due to inappropriate pedestrian roads, crossings, public open spaces, public buildings and transportation means. Because of these difficulties, disabled people are continuously faced with discrimination and exclusion from school, work, and public places as well as from social relationships in daily life (CDDK, 2009: 4).

As a result of this deprivation, disabled people are faced with multidimensional poverty, which proceeds in a vicious circle as can be exemplified in different cases throughout the world. In countries where social security systems and institutional set-up are less developed and protective, the conditions of disabled people are worse, reflected in higher poverty levels. This poverty is magnified due to higher spending on health care. On the other hand, the statistics also show that the share of disabled people is usually higher in developing countries although the visibility of disabled people is higher in the streets and public spaces in developed countries. Therefore, it can be argued that the higher number of disabled people in the streets, directly reflects the governments’ concern for the disability issue and the sincere efforts to prevent discrimination and exclusion against those people. Today, the quality, scope and kind of services for disadvantaged groups, including people with disabilities are accepted to be the indicators of the development level of countries (CDDK, 2009:3-4).

In Turkey, there are discriminatory practices against people with disabilities particularly in education, employment, and access to goods and services in many areas. Individuals with disabilities are deprived of participating freely and fully in the activities of normal daily life. In our country, the social and spatial living environment is designed and organized without considering disabled people; as a result, people with disabilities become vulnerable, dependent and lead a prisoner’s life in a very restricted environment (CDDK, 2009). In addition, the attitude of non-disabled people towards the people with disabilities is usually marked with pity, rather than empathy. A survey conducted in Turkey by the Platform of Preventing and Fighting with Discrimination against Disabled People reflects people’s perception and attitude towards disabled people very apparently. According the findings of this survey, 67,5% of the people do not support separate housing areas for disabled people because they think they should not be separated from society. On the other hand, 70% of them do not want a physically impaired neighbor. These contradictory opinions show that people make discrimination against disabled people usually without recognizing it. It is argued that people are worried that mentally impaired people may hurt them or make a lot of noise. They also want to refrain from additional costs of necessary modifications for disabled people within buildings (Radikal, 03.07.2012).

Another finding of the survey is that 80,4% of the people think disabled people should work from home. Akbulut, the coordinator of the Platform, claims that work is not only income but also a social relationship. Therefore, despite the advantages of working from home for some disabled people, limiting the employment of disabled people to their houses may create discrimination and lead to the isolation of these people from society. The survey also reflects the opinions of disabled people themselves; it is seen that 60,1% of the disabled people support working from home, reflecting their reflexive attitude of isolating themselves from society. Other
striking finding is the high proportion of disabled people who do not work (70%); moreover, it is seen that majority of those people live with their families and 46.3% spend their holidays at home, mostly watching television. Their basic complaints related to mobility are the lack of information systems at bus stops or metro stations and difficulties in getting on these transportation means (Radikal, 03.07.2012).

Although we cannot claim there is social justice for disabled people in Turkey, the awareness on this phenomenon has started to increase in recent years, parallel to the changes in international and national laws and successful practices in more developed countries. It is argued that the countries that successfully integrate the disabled people within society in the fields of education, employment, care and social life have been able to minimize the amount of public costs (CDDK, 2009:3-4). In our country, especially after 2005, the radical mental transition from “aid-based” to the “rights-based” approach in social policies appears to be reflected in the legislation. Significant progress has been achieved about the disability rights and significant improvements have been made in the services and aids provided by the State. This is reflected in the increase in budget share of the necessary investments for disabled people, although it is still far from being sufficient (CDDK, 2009:5).

By signing The Convention on the Rights of Persons with Disabilities (CRPD) in 2006 and by the enactment of the Law 5378 on Disabled People and Some Changes Made in Certain Laws and Decree-Laws in 2005, Turkey has made a substantial progress in terms of the legal background supporting the necessary accommodations and modifications on the behalf of people with disabilities. The shift to a “social model” in approaching disabled people must be seen as a positive step in integrating these people in all fields of social life by appraising diversity among people. Although the law no. 5378 gave the state the responsibility of accomplishing all these modifications in the social and physical environments until the end of 2012, very little progress could be made due to inadequate awareness on the problems of disabled people and lack of coordination among various public and private actors, such as special schools, rehabilitation centers, NGO’s, and educational technology producers as well as the Administration for Disabled People, Ministries of National Education, Health, and Labor and Social Security.

With the extension of the deadline of these modifications by three years, it is hoped that this period is used fruitfully to increase the awareness on disability among people and various institutions so as to built “accessible public environments” for the full participation of people with disabilities in social life. It must be noted that disability increases with age and we have to remember that indifference to diverse needs of people at all ages as well as the special needs of disadvantaged segments of population is doomed to turn back on all of us as a boomerang. The way we deal with disability may be “read as an important component of our exam on diversity, which has put a mark on our recent history in Turkey.” (Yılmaz, 2012)

REFERENCES


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GLOBAL IMAGE HEGEMONY: ISTANBUL’S GATED COMMUNITIES AS THE NEW MARKETING ICONS

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Abstract
In this paper we investigated how marketing strategies of the developing consumer society has affected housing production in Istanbul as a corollary development of globalization in Turkey. We aim to analyze marketing strategies as active agents that shape the design of emerging gated communities in Istanbul through advertising media based on the theme of ‘an ideal life style,’ in the form of TV commercials, newspaper ads, publicity brochures etc. We focus on the representation and dissemination of this elusive ‘ideal’ to the public via the advertising campaigns of these housing settlements. Therefore the cases studied in the paper concentrates on the Turkish architectural scene after 1990, when consumer culture’s most significant impacts on architectural products are observed. Marketing of a new type of suburbanization in Turkey is concomitant with the rise of a new middle class having a high purchasing power and these housing projects are marketed via life style characteristics ‘desired’ by this class.

Keywords: Marketing; social segregation; gated communities; ideal life style; housing; Istanbul.

INTRODUCTION
Housing production in Turkey is dominated by marketing strategies and advertising jargon more than any time in the past. Offering innumerable versions of the ‘ideal house’ to the upper middle class clientele, it is marketing strategies that prefigure architectural production rather than references to clichés like the ‘Traditional Turkish House,’ which were prevalent in the 1980s. Advertising through mass media is the most common and effective way of marketing these settlements. In housing commercials, the major strategy is to make customers believe that it is not only an ideal home that one buys, but it is distinction and privileged status (Keyder, 2006).

There has been a remarkable growth of gated communities in metropolises around the world. Gated communities emerged in Istanbul by the early 1990s and since, their numbers have continued to increase. According to Genis, “embedded in the political economy and cultural imaginary of neo-liberal American urbanism of recent decades gated communities are becoming global commodities and cultural icons eagerly consumed by urban elites worldwide.”(Genis, 2007) Gating, the physical form of which has a long history, can be dated back to the walled city used for military defence and was not directly utilized for social exclusion. As a concept ‘gated community’ itself, involves a complex tension- as ‘community’ presupposes shared lifestyles of social interaction, yet as a gated space it is based on exclusion.

In the last 30 years, the understanding of lifestyle has gradually shifted from the procurement of privileged social status (Weber,1946) to that of increasing demand for cultural capital (Bourdieu,1984;Yetkin,2004).Turkish print media illustrates a vast array of design products which encourages readers to purchase, use and display in their homes in order for them to express
good taste, appropriate style, high status and success. Advertising is the major fuel of conspicuous consumption (Veblen, 1994) in which commodities are sign values in conveying social meaning and forming status hierarchies based on social distinctions (Bourdieu, 1984). Thus home-related designs and products are more than objects; they signify a general social end.

What dominates these commercials and brochures is the vague representation of a type of housing as indispensable to a new life style associated with a ‘new Turkey.’ Such assertions of a ‘new life style’ are externalized under striking slogans ‘unique’ to each development. This ‘new life style’ is almost always represented by total security and isolation against urban violence, chaos, and lack of hygiene; characteristic of a metropolis in global disarray.

The analyses in this paper are mainly inspired by Pierre Bourdieu’s work regarding class, lifestyle and taste. The case studies are physically and socially segregated urban settlements that target privileged high-income groups. They were selected in order to investigate how publicity products shape and define consumer choices, through a clever formulation of project names, mottoes and slogans that accompany the housing projects’ imagery. The primary sources for the analyses are the projects’ representational tools for marketing, which are original project catalogs, brochures, films, computer animations. We aim to understand how the design and marketing of a number of gated communities in Istanbul are affected within the context of global urban transformations—decentralization, dissolution between locality and architecture, spatial segregation, social change and its direct reflections on Turkey.

THE RISE AND DEVELOPMENT OF GATED COMMUNITIES AND THEIR MARKETING IN TURKEY

During the post-1980s early globalization, the ‘new elites’ of Istanbul began searching for residences away from the ‘gecekondu’s and the city centre, and looked for ‘secure,’ ‘adequate,’ and ‘culturally clean’ places. Praying on this desire, high-end housing settlements in the form of gated villa groups or tower blocks called ‘residences’ (a transliteration that gained popularity due to the word’s ‘foreignness’) were constructed in the centre and the periphery. What marked this effort was an enormous marketing expense and organized marketing practices within which we question the architect’s role as part of the overall dynamics of consumption.

In the 1990s, developers secured large stretches of valuable real estate at relative proximity to Istanbul eyeing the city’s fast growth and aiming maximum return they opted for luxury housing within gated communities. At a convenient spatial and social distance to the city the forests that surround Istanbul emerged as a perfect location for these communities. From the very beginning of the construction effort, distance from the city was advertised as the guarantee for the new communities’ safe and exclusive nature.

Housing cooperatives, TOKİ (Mass Housing Administration), municipal organizations supported by TOKİ (such as Istanbul’s Kiptaş), private developers, and Emlak Bank can be listed as the five main developers for gated communities in Turkey. (Özüekren, 1996). Usually TOKİ, Emlak Bank and municipal organizations hire contractors after they bring in capital and land. There is generally no clear distinction between the private companies’ roles as developer, investor or constructor.

Istanbul’s new gated communities and their marketing bring forward intertwined global and local issues that center around privacy, security and exclusive life styles. Parrellaging global patterns, the growing upper classes want to spatially remove themselves from an overwhelming metropolis, and be simultaneously distinguished by means of material possessions. The new projects promise salvation from the fears of the masses and the streets, and an escape from the pollution, density, political tension and noise of Istanbul. Conceived for the well-travelled and globalized elite of Istanbul, these projects are localized versions of global models.

Developers market different ‘community’ lives for different budgets. Therefore most of the middle and lower middle classes flee to ‘site’s (pronounced like the French word cité) where they can enjoy these lives in a ‘clean’ environment. Figure 1 presents the range of regions they prefer to live in Istanbul. According to the study ‘Spatial Segregation’s Process’ (Perouse, 2003), by the end
of 2003s, approximately 400 gated communities were established in Istanbul and approximately 60-70 thousand people lived in these communities. Perouse adds that people who live in gated communities, are usually renowned from media, sport and finance sectors or wealthy executives of international firms (Perouse, 2003). This new trend in housing developed in the last 10 years on both sides of the Bosphorus in the peripheries of the central business district. For instance the construction of the TEM (Transit European Motorway) and the consequent development of the metro system which now reaches its neighbouring region Halkalı, increased development pressures on Bahçeşehir. Development began in Bahçeşehir in the 1990s, and at the time the development was conceived there was a total of 16,000 residential units on 4,700,000 m² of land (Ergin, M. 2008). The number of gated communities in the city was estimated to be around 650 at the end of 2005 and construction of more than 150 new gated developments started in the same year (Danış & Pérouse, 2005). There is no reliable source on the population housed in gated communities, but the demand is so high that the units are sold even before construction. These residential areas display considerable variation in terms of location, size, design and the amenities they offer. Despite their differences they are all compound units offering a favourable infrastructure and a variety of private services for a socially and economically homogeneous clientele, mixing the characteristics of the prestige and lifestyle communities found in the US. (Blakely & Snyder, 1997). A typological classification of high-end gated communities in Istanbul can be outlined as shown in Table 1.

In contrast to Blakely and Snyder’s categorization (lifestyle, prestige and security zone communities) most gated communities in Istanbul show a mixture of the three types. Resulting from the socio-economic and cultural background, security always seems to be the basis for such developments. However, with the growth of upper classes, prestige and lifestyle become more and more important, and expressed in marketing media.

Table 1. Typological classification of gated communities in Istanbul (Source: Authors).

<table>
<thead>
<tr>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-rise condominium (vertical gated communities)</td>
<td>Located in the city centre, particularly in prestigious areas; high-technology security; private management, smart building, consumption and service facilities.</td>
</tr>
<tr>
<td>Exclusive villa</td>
<td>Located along the Marmara coastline, Bosphorus and forest areas; small in size and highly exclusive in price; high-technology security coupled with small number of private security personnel; top-notch communication, sport and service facilities, limited social services; private management.</td>
</tr>
<tr>
<td>Gated town (Horizontal gated communities)</td>
<td>Located at the fringes of the city on rural land and near the lakes and forests; large in size with a variety of housing types; high-technology security and large private security personnel; infrastructure and sport facilities; large variety of social services; private government.</td>
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</table>

We should add that today Turkish development firms are founded and operate like the ones in Europe and the United States. The government encourages the real estate sector and works closely with international banks, mortgage institutions, architecture firms. The utilization of transnational expertise and capital is not limited to large developers. Istanbul Metropolitan City Administration works with architects of global renown, such as Zaha Hadid, and global capital like Sheikh Maktoum of Dubai as well. The increase in marketing expense is directly linked to the increase in real estate investment by private firms, the sizes of which are now unprecedented in
scale. These firms find a good marketing strategy indispensable for housing sales, and the representation of a distinct way of life through architectural media has proven the most effective.

As a result, housing provision takes up a new scale and nature where the role of developers is not simply to build houses as empty shells to be filled, but spaces already filled with lifestyles. Aestheticization accompanies this privatization, and provides the symbolic imagery that renders these places appropriate for upper-class consumption. Both in the construction and representation of these new gated communities, discourses of community, autonomy and livability are reorganized by market forces and packed as commodities for Istanbul’s elite consumption. These strategies are found essential in translating this global urban form into local tastes and the socio-cultural sensibilities of Istanbul’s elites.

![Figure 1: Gated Communities of Istanbul in the post-1990s by Region](Image)

**THE CASE STUDY**

The gated communities selected in the paper are located on the most preferred locations for new housing in Istanbul such as; Bağcılar, Beylikdüzü-Büyükçekmece, Göktürk- Kemerburgaz, Halkali-Esenyurt, Kilyos-Zekeriyaköy and Silivri on the European side, and Ataşehir, Ümraniye-Çekmeköy, Samandıra-Omerli, Kurtköy-Tepeören, Beykoz and Rıva-Şile on the Asian Side. These locations offer advantages such as proximity to main highways (access to TEM, E5, Atatürk Airport, railroads), and to office complexes of nearby large companies. The unit prices of the selected projects, range between USD 730/sqm–USD 2067/sqm. Case identification was based on the advertising frequency of the project, their high popularity rate, the value of the project, the distinction that the project seems to offer, and construction dates (years 2000-2005).

During the case study period we analysed the marketing media and interviewed the marketing branches of eight construction firms that produced the settlements. The interview consisted of both multiple choice and open-ended questions. A questionnaire was prepared in order to analyze the underlying motives/desires of the new urban way of life constructed by the marketing agencies that designed the media. It addressed the type of marketing strategies, the types of media used in their marketing processes, the key issues that factor into the development of their advertising messages, the importance of marketing research, the cost of the marketing process, how they see the status of their company within the housing sector and the characteristics of the housing development. We also analysed print media, such as publicity brochures, community bulletins, collections of advertisements published in various papers and magazines, and in some cases research reports prepared by the management.

After the data was analyzed, a number of repeating key themes emerged. These were ‘Fear’, ‘Nostalgia’, ‘Nature’, ‘Originality, Technology and Simplicity of Design’, ‘Belonging’, and ‘Gender’ which are explained below:

- **‘Are You Safe?’ The Marketing of ‘Fear’**: Fear is sine qua non to the marketing process. In overt textual references and pictures, advertisements employ specific subtexts that address fears, anxieties, concerns and demands specific to security of living in Istanbul.
• ‘State of the Art,’ The Marketing of ‘Originality, Technology and Simplicity of Design’: Marketing media point to the assumption that new technologies make life simpler and reduce the amount of time allocated to house chores. An emphasis on information technology and imported luxury appliances for which new configurations of domestic space are needed dominate the ads.

• ‘So Close Yet So Far’: The Marketing of Isolation from the City and Closeness to Nature’: A frequently repeated message is ‘So close yet so far,’ meaning that these settlements can in fact provide all that a city can for comfort and yet they are far away from its turmoil. This signifies an alternative city life which proposes an exclusive environment in the countryside keeping the wicked conditions of the city center at arm’s length (Figure 2).

Figure 2: A picturesque photomontage of Sinpaş Marenegro Houses with a commanding the view of the – forest and the lake (Source: From the website of Sinpaş Marenegro, www.sinpasgyo.com, April, 2008).

• ‘The Good Old Days: The Marketing of ‘Nostalgia’: Another dominant marketing strategy is the use of so-called ‘traditional’ or ‘authentic’ elements of architectural culture. Marketing preys on the idea that nostalgia for a given period or periods is quite attractive for the new buyers (Figure 3).

Figure 3: Sinpaş Bosphorus City rendering that aims to recreate the Bosphorus. (Source: Sinpaş Bosphorus City, www.sinpasgyo.com, May, 2008).

• ‘Where are you from? I’m from Kemer Country’: The Marketing of ‘Belonging and Distinguished Neighbors:’ Another strategy is the creation of a desire for an illusion of belonging. Marketing delineates an ideal community and a kind of identity, both celebrated with the settlement itself. By doing so, the consumer can be easily convinced of his/her privileged position and social status, as she or he becomes a part of this very special environment (Figure 4).
Figure 4: ‘They became neighbors in Selenium Twins’ Headline in ad emphasizing a community of elite neighbours like ex-prime ministers Tansu Çiller, Mesut Yılmaz, tycoon Rahmi Koç, and the presentation of ex-president Bill Clinton a flat free of charge as part of the firms’ marketing strategy (Source: From the website of Aşçıoğlu, www.ascioglu.com.tr, 2009).

• **Marketing of ‘Gender’**: The meaning of home is generally perceived as gender-specific and as such, constructed differently for women and men in advertising media. While women are mostly portrayed as liberated from house chores and enjoying themselves, man are usually involved in masculine activities such as playing golf or the like (Figure 5).

Figure 5: Sinpaş Avangarden ads depict a feminine view of life to Avangarden Project (Source: From the website of Sinpaş Avangarden Project, www.sinpasgyo.com, 2007).

**THE ‘MARKETING OF A NEW LIFE’**

In Istanbul, representations of ‘a distinct life’ are packaged and sold by marketers, and consumed by those who appropriate these signs as ‘symbolic capital’ that bestow upon their owners ‘a reputation for competence and an image of respectability and honour.’(Bourdieu,1984). Such representations draw on a limited repertoire of ideas, depicting idealized residential landscapes which reflect and reinforce exclusivist middle-class housing aspirations. What mainly characterizes
such distinction is, of course, the social and spatial separation from the rest of the society. Developers create a sense of ‘admiration’ by associating their housing developments with the extravagant lifestyles of the elite via the advertisement industry’s seductive renderings. However the so-called ‘distinct life’ in gated communities is usually marketed via recurrent themes, rhetoric and symbols that are hardly beyond clichés. Often seen in these housing advertisements is the spatial ‘imagineering’ of foreign (usually ‘Western’) suburban lifestyles, or Istanbul’s jet set living in ‘Western’ mansions, and even sometimes the elites themselves supposedly live in the advertised communities (Figure 6).

It is important to acknowledge that print media is only one of a number of media through which home-related popular taste is conveyed. Since the late 1990s, for example, home and gardening television programmes have proliferated and have been an important source of ideas about house and garden design, services and products which remain to be researched. In Istanbul, at least, magazines and other print media have played an important role for a very long time, and other media (television and the internet in the present) are supplements to printed media. It is apparent that the lifestyles portrayed in these media have arisen within a global framework and the products and ideas highlighted in Istanbul could be discussed with reference to many different places with comparative ease.

Figure 6: ‘What’s Obama got to do with Ottomans?’: An ad from Sinpaş GYO that takes its provocative edge from the unprecedented election of a black American president, claiming that the provided housing development is as unprecedented as this election.

According to Mark Gottdiener, while millions of people shifted to a high consumption lifestyle, the advertising industry followed by shifting into high gear as the general purveyor of consumer fantasies and themes. In order to cover some of the channels through which marketing concepts entered the profession of architecture in Turkey, we have to map out the role of advertisements in the post-1990 period. In comparison to the pre-1990s the number of printed media focusing on architecture increased highly in number. This media presence reflects the marketing activity of development firms and the architectural firms’ interest in more publicity via diverse channels like the internet and television. We can also note the growing use of consultancy firms by architects and development firms for marketing policy and public relations. It would not be an aberration to say that the marketing of architecture has almost equalled the marketing of other consumer products.
As production lost its privileged status in culture, and consumption became the means through which individuals define their self-images, marketing rose to become the primary agent that defined identity formation. Advertisers take a hegemonic role in the representational process of ‘home’ (Figure 7). Baudrillard suggests that we purchase objects because we are swayed by the sense that advertisers are taking an interest in us, that they exude some warmth and that this personalizes the objects for sale. Gottdiener confirms Baudrillard, and adds that ‘advertising has heightened the extent to which commodities of all types are fetishised and made to symbolise attributes that are craved.’ (Gottdiener, 2000). Products are fetishised because they are bought in the belief that they can enhance the purchasers’ abilities for success, notoriety, uniqueness, identity or a sense of self, privileged social status, and personal power. (Corrigan, 1997).

There is no end to the prolific creativity of marketing. Marketing firms keep on inventing new strategies to create spectacles during the launch of new developments. They invite celebrities for concerts (Figure 8) and give them free apartments, give free SUVs to homebuyers and aim to demonstrate that these celebrities do share the lifestyle that you buy with your home.

THE ‘MARKETING OF SOCIAL SEGREGATION’?

The increasing concentration of gated communities inside or in the peripheries of urban centers is not a new phenomenon. Scholars in the fields of sociology, urban planning, and architecture as well as developers themselves have discussed the spatial characteristics, architectural similarities, and social divisions they create in several metropolises of the world. However, the relationship of marketing to these housing developments have remained largely untouched. Particularly aiming to fill this void, we analyzed the relations between marketing media and housing production;
especially focusing on how high-end housing has been marketed in 8 case studies constructed or to be constructed after the year 2000 in Istanbul. The study showed that marketing activities of construction firms have a built-in social categorization. Going back to Bourdieu and Baudrillard; we should remember that even the ‘images and signs’ of products may play a crucial role in the social judgement of individuals (Bourdieu, 1984).

In Turkey migration from rural to urban areas has been the main driving force behind rapid urban growth. One of the fundamental results of this transformation as it has taken place elsewhere has been social segregation and its complicated reflections on urban space. The 1980s has been a crucial turning point in the urbanization practices and process of the country. (Bilgin, 1998). The change in Istanbul's economic and urban structure has led to growing socioeconomic inequalities and concentration of wealth among high-income groups (Aksoy, 1996). This new wealth and increasing socioeconomic polarisation are among the main reasons that account for the emergence of gated communities in Istanbul (Aksoy & Robins, 1994; Aksoy, 1996). These sharp inequalities, however, do not automatically translate into a particular urban form or residential segregation. They are mediated through certain actors, institutions and processes, as well as discourses. Therefore changes in the housing habits of social groups do not only reflect a transformation in social status and cultural values, but demonstrate the results of how the real estate sector is manipulated by means of state intervention and private actors. (Harvey, 1985; Knox, 1993; Zukin, 1991).

Urban residential communities have been affected by two ongoing and interwoven trends: first, a more self-conscious, clearly defined segmenting of spatial communities in the form of gentrified and gated communities; and second, a greater use of life-style and what might be called consumer identity as the basis for the formation of a community. In both cases, capital plays the major role. Households are defined by what they buy in order to create their lifestyles; specialized spaces have then been constructed to serve these new consumer groupings.

Housing choices in Turkey today are deeply embedded in the larger socio-cultural and spatial reconfiguration of Turkish society. The new urban middle class developed specific ideas about their living environment and life-style. They aspire to have green space, better air quality and spaciousness among other physical characteristics, but also privacy and exclusivity in their new places of residence. Studies show that residential compounds have become the basis for identity and lifestyle formation, crucial in the process of social differentiation, which in turn underline and reinforce growing disparities in Turkish society. Over and above the outcome of economic restructuring and political decision making, residential differentiation in Turkey today is a social practice that marks urbanite social status and supports their new identities.

Marketing has become a major player in the construction of consumer society. The marketing activities of the construction firms of these proposed environments mobilize a repertoire of symbols, values and rhetoric of the good life. Besides, marketing styles pre-empt both the ‘house’s architectural features and its position in the city. Most of the time, if not found valuable enough to be incorporated into the marketing process, project architects are not even mentioned. What is more emphasized is the building complex which supports the carefully chosen marketing slogan, in addition to being socially homogenous and serving an elite reserve of customers granting a certain social status. Hygiene, comfort and technology stand in the forefront with services that range from recreational areas to supermarket, fitness halls, swimming pools, coiffeur, dry cleaning, hi-speed internet and cafés to reinforce this image.

What this study aims to contribute to the burgeoning literature on gated communities by examining the territorial effects and cultural politics of exclusion in contemporary Istanbul is the implicit role of marketing in this process. We argue that the territoriality of gated communities is not only maintained through the construction of physical barriers, but also operates at a more subtle and ideological level through the mobilization of a repertoire of symbols, values and rhetoric of the good life. Social segregation and its territorial consequences are embedded into the marketing process at the very start of housing development. Reinforced by this process Istanbul's gated
communities, serve as important repositories of group symbols, social practices and the vehicle through which privileged groups mark their territory via practices of exclusion.

Another significant issue is the role of actors that shape and strengthen residential demand across the country during Turkey’s recent economic growth and rising consumer affluence. The role of TOKİ is quite controversial in this process. As a major player in the housing market and in encouraging the development of high-end housing projects TOKİ, inadvertently or not, reinforces social barriers by diverting surplus value created by high-end housing to low income housing disregarding mixed-income options altogether.

In the planning process of gated communities in Istanbul, generally samples of gated communities from the United States receive attention for both their architectural contents and administrative styles. These high-end housing settlements are given semi-Turkish, semi-English, Latin, or Italian names. 8 of the 8 firms preferred to base their designs on American precedents and 6 of them preferred names like, ‘Mashattan, Pelican Hill, Uphill Court, Trend, Plus, Minimal, Trump Towers, Novus Residence, Bosphorus City, Lagun, Marenegro, Avangarden, Selenium Twins, etc. (Figure 9).

Figure 9: Mashattan, Istanbul vs Manhattan, New York

8 of the 8 firms have released prestige and lifestyle as their primary concern in the marketing of their development projects. Therefore the outcomes of the case study, clearly illustrate that compared to the so-called chaos of the inner city, a more socially and economically homogeneous community in a safe and sterile suburban environment is the main driving force of marketing campaigns.

Home appliance brand selections play a major role in marketing. For instance, Selenium Twins are sold with imported white goods and construction material (Villeroy Boch ceramics, Gaggenau, Grohe etc). When companies target a lower grade customer profile they prefer national brands in contrast to imported goods. Such preferences also reinforce stereotypes such as the unreliability of national products and the elite’s preference for higher quality available within a global selection.

Big scale construction firms prefer professional public relations and marketing agencies to collaborate with their own departments. This preference is conditioned by the amount of investment involved and the expected returns of the firm. Smaller firms use their own departments.

8 of the 8 firms have constantly expanding client databases- which they activate in order to inform prospective buyers about their campaigns. This database usually includes a number of celebrities which are invited or paid to be actively involved in marketing.
Instead of phone marketing via cellular or home phones, especially big-scaled firms prefer magazines of high circulation numbers, daily newspapers and real estate inserts. 8 of the 8 firms mentioned the same newspaper in their preferences of marketing.

Interestingly, the owner of the construction firm occupies the top of the hierarchy in developing the marketing slogan. The idea usually takes shape by the active involvement of the owner. The marketing theme almost always revolves around the generation of a distinguished ‘lifestyle’.

Almost in all of these campaigns production relations are either abstracted or totally erased where the disconnection of the resident from his/her ‘real’ daily surroundings come to fore. For instance, it is almost always young couples with one or two children that are depicted, while aging and its related problems are absent (Figure 10).

![Figure 10: Images of ‘happy, ideal family with single child’ from Eston](Source: www.eston.com.tr, 2007).

Many firms prefer to market their projects in English, which implies that a clientele of global tastes and abilities are targeted. Having a good command of English distinguishes the customer from the very moment that he/she is introduced these ads. The feeling of distinction is maintained via access to not only a foreign language, but to one of global currency.

**CONCLUSION**

Unanimously, the marketing campaigns aim to create the illusion of easy reach to cultural and social capital. In trying to enhance their social status middle and high-income groups incline to accumulate and consume luxury goods. In so doing, they strive to collect, borrowing Pierre Bourdieu's phrase, ‘symbolic capital’ which functions via the codes and symbols of social distinction (Harvey, 1987/1994; Chaney, 1996; Bourdieu, 1984). The presence of the desired symbolic capital in marketing media guarantees its availability via the production of the built environment. Marketing has enormous impact on people whose worlds are more and more dominated by visual and textual media circulated by diverse forms of information gadgetry. Not only does it address a need, it creates the feeling of a need. The association of symbolic values with social status gives the advertisement industry the power to create different desires in the individual consumer. The production of desire is the dynamo of consumer culture. Individuals search for difference in the consumption object as the advertisement industry responds to the desire of diversification through creating collective identity samples, a vicious circle (Figure 11).
Finally, what about architecture? According to the interviews conducted with the marketing agencies and departments of the selected firms, there is an enormous difference between the marketing budget and the architectural design budget and the fundamental conclusion is that marketing stands far above in the hierarchy in comparison to architecture.

In terms of their consumption patterns, as David Chaney mentions, the selected projects are the perfect physical forms for citizens of mass consumerism. (Chaney, 1996). Living in villas, investing into decoration and luxury cars, a high level of spending in recreational and leisure activities are major upper middle class preferences for a life-style of distinction, as this is how they display their economic, cultural and social capital according to Pierre Bourdieu. Therefore marketing is the first level that this display starts. Marketing is display before possession, or the illusion that the desired display will be possible after marketing achieves its objectives.

This study can open a niche for future studies about the relationship between architectural offices and marketing firms. In order to understand the relationship that exists between these two important actors researchers can explore how the architectural design process is affected in due course. The analysis of marketing media in this context provides an interesting glimpse at the process by which similar architectural imagery are localized. Despite the claim for originality,
imagery that circulates in other markets might easily make a stop in your neighbourhood in the name of high-flying lifestyles, sometimes shamelessly copied and remarke ted (Figure 12). What is of value for the marketer is the quick translation of the image into currency, as ‘originality’ is a simple, powerful but ephemeral catalyst in marketing. In this dazzling speed of global image circulation, originality expires the fastest, while the upper middle classes consume one ‘distinct’ lifestyle after another.

Figure 12: The picture on the left is-The Jewels from Dubai Marina, RMJM Group. The picture on the right is Royal Towers by Dumankaya depicting a life in Dragos, Istanbul (Source:From the website of Arkitera Forum, www.arkitera.com, 2009).

Marketing does not only create the pretence of a full representation of the architecture (housing units, landscaping, comfort etc.), simultaneously reflecting the classificatory process that lurks behind. The a priori classification of the possible body of clients is integral to the formulation of the built environment. It consequently affects the architectural design of the high-end housing settlements. Therefore we argue that social segregation is built into marketing, which is seemingly an indirect component and result of the economics of this process. In other words social segregation does not only emerge from the walls, gates or fences of these communities, and is not something that is post-facto and physical. The walls are already built in the beginning of the marketing process.

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MANAGING THE IMAGE OF CITIES IN THE “GLOBAL VILLAGE”
City Branding As An Opportunity Against Globalization

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Abstract
In this article the strong effect of forming a corporate identity in city branding is studied. It is emphasized that by strong identity and image acquisition cities distinguish by their unique branding elements rather than global city imposition that is carried out by globalization pressure. According to the opinions that perceive globalization as an absolute fact, cities like Istanbul have to articulate to this new system. In this way of thinking, it is inevitable to suffer in McLuhan’s “global village”. However creating strategies for powerful image and branding of a city can be a leading factor against global city imposition. Keeping up with the same method of creating a “corporate” identity, the image of the cities has to be managed by the symmetric communication with all the actors. By this way globalization can be used as an opportunity instead of threat.

Keywords: globalization; corporate identity; communication strategies; city branding.

INTRODUCTION
Because of rapidly developing communication and transportation technologies globalization has an impression that the world is getting smaller and everyone will benefit from all sorts of contemporary opportunities any time they want. The effects of the development of communication technologies have been depicted as reuniting humanity within the “global village” theory of McLuhan. He also has stated that because of electronic media the whole world will be contracted into one united consciousness. McLuhan also asserts that electronic communication devices will spread culture in a way that the whole World will become a “global village” (assimilated in Figure 1) (Rigel et al, 2005).

Figure 1: Picture of İstanbul referring the “Global Village” theory
(Source: http://www.manzara.gen.tr/istanbul-resimleri/altin-boynuz-70282.html).
The positive association of this concept comes from its use in English as global (spheric)-isation, which is related to “integration” process. Le Nouveau Petit Robert uses globalization in the same meaning as “universalization”. Universalization is defined as a doctrine “aiming to build united politics for humans” or “that embraces all humanity without considering the differences between humans” (Gürel, 1999). From a similar perspective, universalization can be perceived as increasing the possibility of benefitting from resources however, it is at the same time accepted as a result of a system in which conditions that enable unlimited use of resources.

However, in this study, globalization is not discussed as a concept that emerged due to the developments in communication and technology, but as a historical process that occurred because of economic and political developments. The proposed economic policies of neo-liberalism arising as the solution of the economic crisis in 1970’s, the economic borders that exist between nation-states would be lifted, countries’ markets would be opened to multinational companies and they would benefit from the natural sources without any limitations. At this point it is possible to assert that globalization is a new type of imperialism. Globalization is not a result of technical development; global capital and multinational companies help the development of technology to serve their needs and to increase their profit. And in this new process the cities that provide necessary services to the global capital gain an extra importance.

Articulating to this global system has many disadvantages for the cities like loosing their unique identities, cultural heritage and like being uniformed. Becoming multinational corporations’ advertised city she has to be structured and decorated by their needs. To help to run the global economy the cities specializes mostly on strategic services.

Metropolitans that became global during the globalization process encompass certain elements of the world’s economy along with economical elements of a nation station. Thus, big cities now have to start to compete with each other in order to become a global city or to be transformed into a global city. Unfortunately as a result of such competition, social polarization and divergence have occurred in global cities and the urban populations had to suffer certain social consequences (Dinçer, 1999).

Below in this paper it is discussed that forming a strong brand image for a city established from corporate identity upper scale is recommended as a solution as an opportunity against global city imposition.

FACTORS THAT SHAPED TODAY’S WORLD

We need to clarify the factors that had an impact on the process, in other words define the main components that shaped today’s environment. Examining from this perspective, the incredible developments in technology and the almost indefinite number of communication methods that arose as a result of such technological developments are revealed as the main factors that shaped today’s world. According to this approach, fast improvements and developments in technology and communication constitute the core of globalization. Such developments naturally are reflected in all facades of life and economics, politics, social sciences and culture are all individually or commonly affected by such a change.

Until the transoceanic voyages commenced in the 15th Century and especially until the “Modernism” ideology emerged during the “Enlightenment Period”, which favored human mind and logic, the earth was defined according to the parts that have been discovered and was represented by the Western Europe. Europe was the financial and spiritual center of the world. In the 16th century, which is deemed as the starting point of one of the most important concepts of our age, “globalization” according to many social scientists, the world has been divided into two by “the individual” and the “other one” concepts and priority was again given to the Western Europe due to technological and scientific developments and the way such developments were expressed. Because the world did not tolerate any diversity, civilizations that have existed for thousands of years mainly in Asia and South America and also Africa regions were founded and vanished from history almost at the same time. The world had to become uniform otherwise it would collapse. The objective was to establish industrial capitalism based on production, which aimed only at
increasing profits and creating consumer societies based on this type of capitalism (Rigel et al, 2005).

The first objective of the industrialization concepts, which emerged in the 17th century is to gain profit, raw materials and the most comprehensive mass of consumers that can be reached. It is inevitable for the technological innovations that emerged as a result of such a vision to have the same aims and targets (Rigel et al, 2005).

When the 20th century history is examined, it is evident that the for the World Leader position, which United Kingdom had abandoned between 1914-1945, USSR was the main determining force for the struggle between Germany and USA. The 1929 Economic Crisis, which occurred in between the two World Wars, could only overcome by the 2nd World War. After the war, the periphery countries all encountered and experienced independence movements. As a result of the Great Depression and the effect of USSR, after the 2nd World War, Keynesian Welfare State concept materialized in Western capitalist countries. This period continued until the economic crisis of 1970's. With the neo-liberal policies that were put into effect to resolve this crisis, the deregulation process has started. Restrictions were imposed on social benefits earned by the working class as a result of the Keynesian Welfare State approach in the Western World (Yaylagül, 2010).

According to Manisalı (2000), we can summarize the effects of economic politics suggested by neo-liberalism as below:

a) The existing economical borders between nation states will disappear, local markets will be exposed to the entry of large corporations and companies functioning based on international capital will be able to benefit from natural resources in the world, without any limitation whatsoever.

b) Capital and technology, without facing any restrictions and limitations, will be utilized to increase the profits of capitalist within all markets of the World according to the requests and needs of those who are in possession of such capital and technology.

c) The industrial, financial, banking, technology and cultural politics to be implemented in the World will be determined by the prevailing Western multinational corporations. Multinational companies have started manufacturing the fundamental parts of their products at different locations in the World. These emerging multinational corporations are now dominating the world economy. Markets, production, capital and communication have now been globalized. Films, television shows, news agencies or fashion industry have all started producing and manufacturing common image, symbol and thought systems for the whole world (Yaylagül, 2010).

It is evident that these technological advances are mostly effective and conclusive in economics and all the economical instruments in the world are rapidly uniting and developing with an increasing speed to form the global village. Therefore, in doctrines that try to explain globalization based on economic integration, the universal integration of free movement of capital and production relations is the most important aspect.

Since the technological infrastructures necessitated by contemporary communication systems require a high amount of capital and extensive financial power, communication technologies are firstly owned and utilized by the states and secondly by financial investors. This is the main reason why Althusser refers to mass communication devices as “the ideological state apparatuses”. It is not a coincidence that the owners of technological advances are also the same people who are dominating the World. And the most important advances in technology appeared in the last quarter of the 20th century (Rigel, 2005).

CITY BRANDING IN A GLOBALIZED WORLD

McLuhan’s “Global Village”, where by the communication technologies similar senses and perceptions shared by everyone, where the time and spatial notions are lost now became the “Global City”. The global cities which are in a competition and connected by satellites to each other, where ideology vanished due to post-industrialism are based on service sector activities now.
have a more important mission than the nation-states. The world became united with the modern satellite communication and the developments in the capitalist production methods. Global city became an advertised city of the multinational corporations.

Today, the “global village” is dominated by these multinational companies, which are also dominating the world. These powerful corporations have an important effect on the lives of people around the world and at the same time they are capable of shaping thought structures, consumption habits and even politics in the world (Rigel, 2005). According to the first model of “world cities” created by Friedman, these cities will function as the decision headquarters for the global economy dominated by the top institutions of multinational corporations. However according to Sassen, global cities will specialize more on strategic services that help to run the World’s economy instead of being decision headquarters of multinational corporations. The main characteristic of global metropolitans is that they accommodate financial institutions that carry out and inspect the flow of funds, banks and insurance companies, communication-telecommunication, computer and data services, media, market research and advertising companies aimed at global markets (Öncü and Weyland, 2010).

According to global systems theory Knox et al., states that the global cities are the centers of transnational corporate headquarters, business services, international finance telecommunications and information processing, the bulk of current work focuses on the urban impress of economic globalization (Yeoh, 1999). Any field that benefits and develops from this interaction will first need a more comprehensive activity area and by trying to exceed such limitations, the classical spatial boundaries disappear. While spaces are expending and borders are disappearing, the time concept rapidly diminishes and possibility to reach and interfere with much wider locations within a shorter time arises.

As a result an interesting paradox appears. While the influence area of technology widens, the world relatively becomes smaller and this paradox is resulting in the appearance of the “global village” where the competition is fierce within the ever-diminishing world. In today’s world, competition does not only take place in between products or companies, but also exists between countries and cities. Therefore, cities that want to benefit from such competition should determine the characteristics that might help them to become “brands” and try to search for ways that will help the branding process. Branding does not only concern companies and products, but has a much wider effect area. Besides products and corporations, cities and even humans can become their own brands (Özdemir and Karaca, 2009). Ashworth and Voogd (1994) attribute the theoretical emergence of place marketing to three developments as the development of marketing in non-profit organizations, of social marketing and of image marketing (Kavaratzis, 2004).

According to Kotler et al., “the international branding endeavors” of cities mainly depend on economic reasons. In fact, trying to attract fixed capital investments and the capital in circulation (in areas such as transportation, tourism, cultural activities, etc.) through establishing international identities for cities has already become a major universal economical progress strategy. There is no fixed formula that will enable development of national and urban economies by reaching welfare and prosperity. However, required actions need to be taken in a systematic manner. The formula for such a development includes an evaluation mechanism that will ensure that the nation or the city in questions selects the most successful way to reach economic development or revival process amongst all the other ways alongside analyzing the starting conditions, main advantages and strong and weak points of such a nation or a city (Özdemir and Karaca, 2009).

According to İlgüner and Asplund (2011), the marketing success of a city or a location depends on 5 major elements:

a) First element is the exclusiveness and superiority of such a location.

b) Second, the success depends on locality and variety and also the conflict between two trends; adaptability and standardization.

c) Third aspect is regions and locations to become responsible from their own marketing and branding efforts. Settlement units should be free and capable of forming the required strategies to survive in a competitive market.
d) Fourth element is the integration of information technologies into the marketing plans.

e) Fifth aspect is the management of communication process.

The ruthless pressure applied by the global economy regarding interconnected products and services is making it inevitable for cities to assure high standards and perfection. Setting up a strategic branding plan for cities consists of four main elements; cultural heritage, natural resources and environment, unique output and inherent skills. Every city can develop a strategy by using at least one of these elements (İlgüner and Asplund, 2011).

Branding appears to be one of the developments bringing marketing theory and practice closer to the nature and characteristics of places (Kavaratzis, 2004).

Hanna and Rowley listed the conditions that have necessitated branding for cities as below:

a) The increasing and expending power of international media
b) Decrease in the cost of international travel
c) Increase in the spending power of consumers
d) Increase in the similarity between services offered by cities
e) Increase in interest shown to different cultures

In order for a city to become an important brand, she has to have one distinctive quality. The city brand also includes the silhouette of the city, the experience of the inhabitants and their beliefs and behaviors (Özdemir and Karaca, 2009).

From that point of view, İstanbul has lots of distinctive qualities to become an important brand. But instead of using these qualities to make the city a brand city it is forced to be a global city (as shown in Figures 2,3,4) by the transnational companies and unfortunately loses it's uniqueness. Being a global city İstanbul may gain temporary advantages but in a long term she will be loosing irreplaceable values.

Figure 2: Change of the Historical/Natural Silhouette of The Bosphorus in İstanbul by Global City Imposition (Source: http://efsaneperi.blogspot.com/2010/04/en-guzel-istanbul-fotograflari.html).

Figure 3: Change of the Historical/Natural Silhouette of The Bosphorus in İstanbul by Global City Imposition (Source: http://www.manzara.gen.tr/istanbul-resimleri/page/10).
According to Kavaratzis (2004), through perceptions and images the city’s image is formed not the city itself. Image is the result of various, different and often conflicting messages sent by the city and is formed in mind of each individual receiver of these messages separately. At this point we can claim that the solution lies in forming a corporate image as explained below. Here “corporate” identity is used as forming a strong image with the nation’s or city’s distinctive qualities that forms her image. However, what is of concern here is establishing strategic communication approach on a national level.

**Communication Factor**

According to Erdoğan (2011), national communication encompasses all sorts of communication that takes place within a nation. All such contact and communication is related to the political-economic unit called the nation since all such activities are carried out in order to perform the needs of people. A nation state refers to an organized social structure. This structure is shaped by relations both within itself and also relations to other outer structures. This social structure also shapes a certain political structure. The entity named as the nation constantly materially and cognitively reproduces itself. This reproduction takes place at three levels; reproduction of the material and cognitive structures through communication within corporate structures at the economical level, reproduction of the political systems through current political structures and reproduction of the cultural structures and system through the current cultural production. The reproduction manner and the political structure that is formed based on this reproduction will differ between nomadic societies and agrarian societies or societies living by the attainments from their invasions. Therefore, economical organization within societies explains how a society reproduces itself. Within this organization, human beings produce material products or services that are required for certain needs within the daily work flow and also shape the consciousness structure that legitimize such organization, work flow and the material life that is being produced. Such production manner and the relations within this structure only are possible through strong communication.

Here lies the key role of strong communication; the two way concept which emphasizes communication exchange, reciprocity and mutual understanding. An expanded two-way concept includes organizational adjustment, adding counseling management and taking corrective action (Cutlip, Center and Broom, 2000)

As Graham (2002) describes; everything a city consists of, everything that takes place in the city and is done by the city, communicates messages about the city’s image. The image is communicated through three distinct types of communication as primary, secondary, tertiary. Primary communication relates to the communicative effects of a city’s actions when communication is not the main action. Secondary communication is the formal intentional communication that most commonly takes place through indoor-outdoor advertising, public relations, graphic design etc. And tertiary communication is the type of communication, which is not controllable, composed by the media and the competitors (Kavaratzis, 2004).
According Baudrillard, “infrastructure” no longer defines development any more; today “superstructure” forms the basis of development. This model that exterminated the universal model approach enables each country to form its own model and enables everyone’s attempts to form a unique model, as long as it is not an imperialist model. According to Baudrillard who defined superstructure as the infrastructure, instead of economical infrastructures, superstructures are more unique and powerful in terms of values. Since they can avoid the universal economy, it becomes possible for countries with a strong cultural structure and background to get away from universal pressures by forming an unique model (Rigel et al, 2005).

**RELATION BETWEEN CORPORATE IDENTITY, IMAGE MAKING AND CORPORATE IMAGE IN CITY BRANDING AS AN OPPORTUNITY AGAINST GLOBALIZATION**

Okay (2003, 17-19) explains that, first examples of corporate identity can be found in crests and army uniforms of nobility, kings and cities. The reason behind this is the need for individuals to express themselves as a whole and with a common identity after individuals became socialized and started living together as communities. Such signs and marks aimed at keeping the bearers and holders together and to form a spiritual unity and ensure that such individuals reached their targets as a whole. The main objective was to prove loyalty to the identities, ideologies and reign such individuals belonged to. With production, trade and finally industrialization, corporations also needed to define themselves, have an identity and integrate.

Throughout history, new loyalties and senses of belonging were created, borders were drawn, ideas were developed and new work methods have been formed by the use of certain rituals, symbols and various visual expressions. During colonialism, certain nations formed national identities in order to establish some sort of a unity within the countries they had invaded. Formation of a national identity can be encountered in all newly founded states, when the rules were changing or when the invaded state accepted the colonial state. All such symbols, traditions, rituals...
and myths created are the product of trying to prove a common identity and to create a certain unity and loyalty. Not only nations but cities can also have identities on their own. A good example can be Florence. The rulers and governors of Florence have hired artists, architects and writers and requested from them to paint a picture of Florence for it to be different/separated from Malta. This is an early example of identity formation works and can be deemed as an attempt to express the differences between cities (Okay, 2003, 17-19).

According to Roman Antonoff, no state, religion, army, political party or sports club would be able to be founded or have survived without a corporate identity. With developments and progress of trade, manufacture and industry, the concept of identity has also changed. It is possible to divide this revolution into periods as the traditional period (the period that lasted until the end of the First World War), branding technique period (in between the two World Wars), Design Period after the 2nd World War (which includes the period in which companies started international activities after 1950’s) and the Strategic Period (that is between the end of 1970’s until now). The corporate identity consisting of a corporate ideology, corporate design, corporate communication and corporate behavior reflects who the corporation is, what it does and how does it. Another important element that has an effect on corporate identity is the corporate culture. Corporate culture has an incomparable effect on the corporate identity (Okay, 2003, 19-39).

Balmer (2002) suggests that the elements that constitute a corporate identity are:
-Strategy (management vision, corporate strategy, product/services as well as corporate performance, corporate brand covenant, corporate ownership)
-Structure (relationships between parent company and subsidiaries, relations with alliance or franchise partners)
-Communication (total corporate communication, which encompasses primary, secondary and tertiary communication)
-Culture (the soft and subjective elements consisting of the mix of sub-cultures present within, but not always emanating from the organization) (Kavaratzis, 2004).

According to Olins, everything a corporation does is an expression of the corporate identity. Offices, factories and showroom buildings or other premises, all materials and methods that manifest the objectives and aims of a corporation from advertisements to manuals and to communication channels employed and the quality of such materials and methods should also express and manifest the corporate identity. The corporate design that materializes all of these methods is an aspect of the identity concept. According to Gregory and Wiechmann, common aim and objective of all corporations is to be distinctive and memorable. Within the extreme amount of advertising occurring as a result of the competitive business world today, at least half the competition is shaped based on this objective. When examined from an approach that has been accepted as effecting our perceptions and opinions about people from the times of Aristo until today, defined by ethos, which defines the charisma, physique and outfit of a person, pathos, which explains the behavior of people and logos which defines a logical framework, the relation between the corporate image and the image in people’s heads, in other words, the symbols that define the corporation and the corporate image will become clearer (Peltekoğlu, 2007).

The state that is formed as a result of corporate identity activities forms the “image” of the corporation, company or organization. Especially today corporate image is the reason why certain corporations are preferred however; such an image cannot be founded before a corporate identity is formed (Okay, 2003).

Peltekoğlu (2007), states that sometimes the concept of identity and image are interchangeable used and new meaningful content is added to such concepts. However, this is a terminological mistake and both these terms have different meanings. According to Crissy “image is the cumulative stimulating effect a corporation, shop, brand or product has on a person or on a group”. Since values, experiences, backgrounds and needs of everyone are different, the same image does not get formed in everyone’s heads. Such differences also cause differences in interactive human processes such as perception, thinking and feeling (Dörtok, 2004). Johanssen’
defines image as “the total of all attitudes, information, experience, wishes, feelings, etc. that are related to a certain visual sight”. In terms of a spiritual ‘pre-programing’, images help various sorts of information and promotion materials that form the image forming factors of a corporation to be conducted and communicated (Okay, 2003).

Peltekoğlu (2007) explains that, identity can be defined in general as how a corporation is perceived as physically and image can be defined as how a corporation is perceived mentally. There is an inevitable interaction between these two concepts because one of them is how the corporation defines and expresses itself and the other one is how the corporation is perceived in the minds of people. According to Jefkins, the image of a corporation depends on the situation and the conditions the individuals interact with the corporation whereas a corporate identity will remain the same for everyone. Main objective of corporate identity studies and works is to form a good, positive image in people’s minds. The corporate culture that incorporates all rules adopted by the corporation and the corporate strategy will define the character and the identity of the corporation as a way of defining itself. This identity will become visible through the corporate communication strategy, corporate behavior and visual identity signs and will shape the picture. In other words, will shape the image people have about that corporation in their minds. Obviously, the corporate behavior and communication strategies will shape the corporate image by affecting the mental picture and visual signs will also have an impact on the image as the element that materializes and visualizes such identity.

As Rainisto states “place brands resemble corporate umbrella brands and can benefit the value of a place’s image”. Althought it is still very few occasions to reference the relevance of corporate branding to city marketing Balmer and Gray (2003) states that corporate level brands can also be applied to countries, regions and cities (Kavaratzis, 2004).

Balmer and Gray (2003) summarizes common characteristics of corporate branding and city marketing which supports the suggestion that understanding city brands is provided by corporate brands and their management as; both corporate brands and city brands have multidisciplinary roots (Ashworth and Woog, 1990), both address multiple groups of stakeholders (Kotler et al, 1999; Ashworth, 2001), both have a high level of intangibility and complexity, both need to take into account social responsibility (Ave, 1994), and for Dematteis (1994) both deal with multiple identities (Karavatzis, 2004).

According to Regenthal, corporate image is the effect of the corporate identity on the employees, target groups and the public and encompasses four major elements: idea about the corporation, the publicity, prestige and the comparability of the corporation with its competitors. Like Nagai also mentions, it is necessary to create a successful corporate image instead of creating detailed ad campaigns and new images for each product (Okay, 2003).

This opinion completely corresponds to the concept of managing city branding through corporate image that is being explained in this study. Just like companies that have to compete and establish strategies in order to survive against the economic powers held by multinational companies as a result of the globalization process, countries also need to identify and define specific and unique strategies for themselves. Therefore, this study aims to adopt the methods utilized for establishing corporate identities while forming national identities. Just like Baudrillard’s assumption of superstructures becoming the infrastructures, this study underlines that forming of a national corporate identity on an upper scale will positively affect the images of cities on the lower scale. The identity that is formed as a result of studies to establish an integrated corporate identity such as corporate ideologies, corporate design, corporate behavior and corporate communication also reveals the corporate image. The application of such a process at a national and urban level will help to shape the ‘corporate city image’ concept.

According to Pelsmecker, the importance of corporate identity is emphasized since the solution, which will be tailored for different target audiences in order to resolve integration problems that have occurred due to globalization amongst other reasons, lies again in identity and branding studies that will ensure consistent and steady communication structures. At this point communication should be managed by a two-way symmetrical model. This model utilizes research
and dialog in order to manage conflict, improve mutual understanding and set up good relations with the public and according to this model, both the organization and the public can be persuaded however, both sides might have to change their attitude (Grunig, 2005).

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THE IMPACTS OF PRESTIGE PROJECTS ON THE SKYLINE OF ISTANBUL

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Abstract
The concept of prestige projects for cities is related to governments’ politics and visions. Under the effects of globalization, central and local authorities have constructed competitive cities. But these cities also have important historical qualities hence these processes have to be made by a holistic planning vision and conservation strategy. For instance, if a city waterfront skyline has a strong image; new constructions should be designed in harmony with the local topography and urban pattern. This paper is based on mathematical and computer based approaches for evaluating aesthetic qualities of city skylines. Therefore a case study on high rise buildings in the main prestige CBD of Istanbul is done. GIS models of Maslak-Zincirlikuyu axis is made and its past, present and future skylines are extracted by database querying and visual analysis. The skylines derived are finally measured by entropy analyses based on formal aesthetic characteristics.

Keywords: GIS models; urban skylines; aesthetic quality; entropy; prestige projects.

INTRODUCTION
City skylines are admitted as rates for visual identity. They reflect cities' spatial transformation especially in terms of three dimensional features. “Especially in last decades, high speed and continuous flow in global extent, has altered the program of urban development and architectural output. With the integration of political, economical and cultural information network, present environment and cities can be defined by a chaotic and multi-layered structure” (Görgülü and Koca, 2009). Thus this process has complicated the preservation of historical features of city skylines.

In such competitive circumstances for gaining a world city vision, local governments today handle cities with prestige projects. Along with this approach, prestige projects have also become initiator factors for spatial transformation of Istanbul. “When urban transformation is implied in Istanbul, prestige projects that will constitute the sterile spaces of ‘global city vision’ come in mind” (Kahraman, 2006). However, interests shown by local governors in prestige projects have triggered high-rise building and dense urbanization in Istanbul since 1980’s. Most of them have been built in a disorganized and unplanned manner, interfering with the most significant visual identity of Istanbul, Bosporus skyline. Therefore, the aim of this paper is to review the skyline transformation process by mathematical models and discuss the impacts of prestige projects on Istanbul’s waterfront skyline.

THE CONCEPT OF PRESTIGE PROJECTS IN ISTANBUL
Prestige projects mean high quality investments for the images of cities. These projects are constructed by new technologies. These high rise and high tech building groups usually show the economic power of the country together with political authority. Therefore, central and local authorities always have a desire to reconstruct world cities like Istanbul.
“The commodification of space has led to a close relationship between space production and the cyclical nature of the markets, resulting in cycles of urban development” (Madanipour, 1996). The urban transformation process in Istanbul is related to construction of prestige projects. “Istanbul is shaped by new and convertor global city image and prestige projects” (Kahraman, 2006). In terms of these kinds of transformations Istanbul have some similarities to London. “In response to the global restructuring of industry in 1970s and 1980s, elected governments of economically depressed cities have increasingly adopted growth-orientated local economic development policies. A key component of pro-growth local economic development strategies, adopted by UK city governments and central government agencies has been investment in, and promotion of, high-profile prestige property developments and civic booster activities” (Loftman and Nevin, 1996). In terms of these kinds of transformations, Istanbul has some similarities to other globalizing world cities like London.

APPROACHES OF ISTANBUL MUNICIPALITIES FOR PRESTIGE PROJECTS

Municipalities are decision-making units for planning urban districts and areas. Therefore, they are main actors in the development process of the city or district. However, planning process in municipalities is also related to political expectations. In planning process, urban planners have different roles and tasks. This is both a technical, political and social process. “Places are formed through the development of buildings and other structures. Since buildings involve highly complex and valuable arrangements of materials, services and spaces, it is not surprising that their form is heavily influenced by relationships of ownership and control as well as political processes and cultural practices” (Roberts and Lloyd-Jones 2001). “Governments, both central and local, should take on a more central role in cities to lead development initiatives and ensure that basic needs are met” (Mutizwa-Mangiza 2009). On the other hand, local governments are highly focused on big investment projects such as “prestige projects” for their political publicity rather than finding suitable conditions for low and middle income classes. For Istanbul, enlivening the vision towards prestige projects can be detected from the chronological timeline of political visions as follows;

“In traditional Turkish architecture, several written and non written rules were existent for regularizing the skyline of the city. For example in the generation of district, mosque was to be visible and ezan was to be audible. And mansion house was to be situated at the corner and other houses were to be built a little behind and lower than the mansion house” (Konuk, 2008). “The historical skyline reflected that Istanbul was the centre of a military based empire and religion played a big role and mosques’ and palaces were its images. Therefore, the skyline of the city reflected the social and economical structure of the city” (Öke, 1991). In preliminary planning projects, there was no demand for restricting building heights. “The planning insights, which were adopted quite late, were perceived as making good advantage of zoning rights. However in Europe, planning meant to use zoning rights while standing back and coordinating publicity first” (Konuk, 2008). “The zoning improvements which have transformed Istanbul city and its skyline within time, in some occasions these transformations ended up with more destructive results than natural disasters” (Çavuşoğlu, 2009). Between major zoning operations can be cited as Prost’s (1936-1937), Menderes’s (1956–1960), and Dalan’s (1984–1989).

With the new millennium, Istanbul has entered a new era where global impacts in architecture are accepted without any consideration for the existing urban pattern. After 2000, prestige projects triggered by the concept of urban transformation have transformed the city’s form and skyline significantly. Today besides the desire for development, there is also a political force for the city to be destructed and rebuilt almost completely due to the probable forthcoming earthquake. Hence a strategy is essential for preserving the city’s unique values.

After 1980’s, speculative estate markets appeared in cities, which participated in the dynamics of global economic system. In this period, capital being invested in the commercial estate market generated new building types such as business and shopping centers, plazas and luxury hotels. In top level global cities such as London and New York, besides the national real estate market even an international estate market has initiated. After 1980’s, similar tendencies
were seen in Istanbul where capital began to reproduce itself via investments on business and shopping centers etc.

In 1980’s, developments in Istanbul were mainly private sector based shopping centers and office buildings besides the few, which were government and metropol driven. The major actors of these projects were the owners of big capital and multi-national companies acting in different sectors of economy. “Similar to other financial centers and world cities, a highly speculative estate market has become a major component of Istanbul” (Özdemir, 2000). “Land as a buyable and sellable asset, has become the most precious speculation object which determined the city’s spatial span” (Keyder, 2009).

After 2003, urban land profit raised and along with national and international capital local and central authorities grew interests in those profits. Continuously huge urban and redevelopment projects came in order and foreign architects and planners developed projects for Istanbul. “Development slowed down a bit but still continued with new aspects of indigence” (Çavuşoğlu, 2006). Time would display whether Istanbul Metropolitan Planning Department could succeed in creating policies for determining the future of the city. “Whilst global policies were being practiced within national borders, Istanbul's redevelopment had been handled as a ‘grandiose project' and a political tool' and used as a ‘public relations strategy’ to reach the masses” (Akpınar, 2008).

“When neo-liberal globalism is the criterion, Istanbul has revealed a success graphic. The city, is a business platform for elites working in multinational companies and is a big store for cosmopolitan consumers who wish to carry on a global life style. Recently built high rise office blocks, luxurious gated communities and dozens of shopping centers which offer special shopping experiences are available” (Keyder, 2009). “The new criterion for the transforming city is money” (Tütengil, 2001). After 1980’s, which are called as the breaking point, the multi-dimensional socio-spatial transformations, diversities and inequalities were reflected on the urban context. Land use changed, rant factors emerged, disparity arose in income distribution, delays appeared in service sectors and spatial distribution occurred between social income groups which were the pieces that make up urban dissociation’s image. These overlooked pieces were the breakdowns that lead the city to ‘profitopolis’. Along with similar views that base the tendency of high-rise building on expediency theories, there are also contrary views which relate global skyline with the dynamics of modernization. The common ground for all the planning practices explained above is the priority of Bosporus skyline preservation.

“Bosphorus was developed in Ottoman era and Bosporus civilization was formed” (Ağat, 1963). “Bosphorus was edited as a theater stage where the two banks of Istanbul could watch the other. It became a magnificent water boulevard, which was the new space for ceremonies of sultans and festivals” (Artan, 1989). “Bosphorus has carried on its urban image and its identity of ‘magnificent Water Boulevard’ during the few decades after The Republic of Turkey was proclaimed. But 1950’s has witnessed the beginning of an urban development process which destroyed this cultural landscape” (Yenen et al., 1993). The dynamics created by economic development strategies in the beginning of 1950’s have started the mass immigration from rural to urban area and triggered a rapid urbanization in Turkey. During this period, land and building rates increased rapidly and nearly all public crowds started out racing for a share from the speculative urban land market. "Bosphorus, as a special place has got its share from speculative building explosion. Specifically the economic strategies of 1980’s and afterwards together with public interventions in accordance with these ideologies played a central role rising the speculative tendencies in Bosporus” (Enlil et.al, 2001).

AESTHETIC QUALITIES OF CITY SKYLINES
An urban skyline represents a memorable reference value of the city by reflecting its specific identity, general characteristics and aesthetic qualities. “Aesthetic appreciation of urban environment is primarily visual and kinesthetic” (Carmona et. al., 2003). Thus in studies of urban design and aesthetics, aesthetic evaluation is handled either objectively or subjectively. Using
objective methods in the fields of architecture and planning for aesthetic evaluation is a quite new concept. Among various objective methodologies, the use of mathematical and computer based methods have an outstanding importance (Bostancı and Ocakçı, 2009). In the aesthetic evaluation of the city these mathematical methods involve approaches which are related with the formation of urban form in different scales. During the last four decades in studies of design and aesthetics, objective methods have gained increasing importance since they are able to present much more precise and innovative approaches in the evaluation of characteristics of cities.

Different Characteristics of Istanbul Skyline

Istanbul is a complex city with intersections of multi-cultures, diversities, monumental structures, green landscapes and waterfront relations. It has a unique panorama owing to its location on both Asian and European continents. Due to its waterfront relations, historical background and aesthetic dimensions, the skylines of Istanbul has remarkable urban patterns. These various characteristics of skylines can be observed from different locations of the city and some of these skyline types can be seen in Figure 1 and 2.

Figure 1: The Main Symbolic Historical Skyline of Istanbul (The Historical Peninsula) (Source: Authors).

Figure 2: The Global City Skyline with High Rise Buildings (Beşiktaş-Maslak) (Source: Authors).

METHODOLOGY

In this paper, two distinct mathematical methods; GIS and entropy are coordinated to validate the measurability of skyline and its temporal transformation. Initially, a GIS model is composed to visualize the skyline transformation of Istanbul from 1980’s to present and near future. Temporal skylines are extracted from the model by GIS analyses. These linear skyline representations are then coded manually according to several formal aesthetic qualities: contour, mass, vertical,
horizontal and hierarchy values. The entropy values of these five distinct aesthetic criteria are finally compared to discuss the effects of high rise prestige projects on skyline.

Adapting entropy method to GIS in Aesthetic Evaluation of City Skylines
While urban environment is being formed in the duality of randomness and design, aesthetic qualities of the spatial form are composed. Nasar defined that, there are two types of variables in urban design: formal and symbolic (Nasar, 1994). “According to this approach, the concepts that compose the aesthetic qualities of cities can be separated into two groups as being formal and symbolic. While defining the formal aesthetic qualities of cities, evaluations on the concepts of diversity, harmony and clarity can be made. On the other hand, the concepts of meaning and function, spatial experience and belonging, which are closely related with urban life, are prominent among symbolic aesthetic qualities” (Bostancı and Ocakçı, 2009; Bostancı, 2008).

Cities are complex structures and so are their skylines. Skylines embody all the formal and symbolic codes of the cities which are integral to their aesthetic evaluation. In a city skyline formal and symbolic codes are concealed in building layers and topography. From the definitions and relations between city skylines and aesthetics Table 1 can be formed as below.

Layers comprising the formal characteristics of skyline, which are building and topography, are modeled mathematically via GIS. Skylines belonging to different periods are visualized by GIS analysis. The linear outputs of skyline analyses are then interpreted using entropy method, which is based on the formal aesthetic qualities of skylines. Hence, a new methodology for the objective evaluation of the skyline transformation is introduced. Despite the fact that skylines are mostly recalled by people according to their symbolic aesthetic qualities, these subjective judgments have been accepted from entropy calculations at this stage. In future research, they may also be included through statistical results of surveys on the attractiveness, satisfaction and preference levels etc. of skylines. So that entropy methodology restricted with the formal characteristics of skylines here may also be affirmed their symbolic aesthetic qualities in future.

GIS Methodology for Skyline Analysis
Designers use several mapping techniques to understand and represent the relations between city levels. Visualizing and querying information in relation with space reveals invisible interrelations within the built environment. Geographic Information Systems (GIS) mainly used by geographers, own a similar rationale of mapping. GIS software’s enable the following:
• view spatial data,
• create layered maps,
• perform basic spatial analysis,
• manipulate shapefiles and geodatabases,
• edit and analyze 2D and 3D data,
• share spatial information.

Thus, in time GIS software have become important mapping tools for architects and urban designers. Besides hosting 3D city simulations, some geodesic virtual globes like ArcGlobe (www.esri.com) also have advanced 3D analysis tools. In the paper ‘skyline tool’ is used to automatically derive the skyline of chosen building(s) from selected viewpoint(s) over the topography. The extracted lines are then assessed via entropy method.

**Entropy Methodology for Skyline Analysis**

Urban skyline composes a visual frame that can be coded with entropy approach. In order to carry out measurements in this frame, generally skyline photographs and schemas derived from photographs or 3D models (as in the paper) are used (Bostancı, 2008) The visual codes in images are obtained and their entropy values are calculated.

In the application of entropy to aesthetic evaluation in urban design, entropy is used as an aesthetic evaluation methodology and a measurement unit for urban skylines. Therefore, entropy is used for finding aesthetic value of urban skylines. The concept of aesthetic information measurement, which is based on the combinational properties of elements in a given environmental universe, is used. The idea here is to measure the amount of information relative to the probability distribution of elements – types which have appeared on a given universe, such as the elevation of a building. This is done by measuring the amount of information conveyed in a facade scanning process on the basis of transitional probability distribution (Bostancı, 2008; Bostancı and Ocakçı, 2011). In the measurements among several formal aesthetic evaluation criteria; contour effect, mass effect, horizontal effect, vertical effect and hierarchy can be analyzed. Evaluation tables in respect with the visual coding quantities are prepared and the operation shown at equation below is applied.

\[ H = - \sum_{i=1}^{n} p_i \log_2 (p_i + \varepsilon) \]

In equation, while n represents the number of cases, \( \varepsilon \) value is a very small value preventing the logarithmic expression to approach infinity. In the context of the formula, the use of logarithm and probability based quantitative approach is seen. The \( H \) in the equation is the entropy value and has a quantitative expression on “bit” basis. \( p_i \) is the quantity of the probable cases and in this research the probable cases are the visual code quantities of the formal aesthetic evaluation criteria.

**CASE STUDY: MASLAK-ZİNCİRLİKUYU AXE AS A SYMBOLIC SKYLINE OF GLOBAL ISTANBUL**

After 1980’s under the effects of globalization Büyükdere Avenue: Zincirlikuyu-Maslak axis which has rapidly become a Central Business District (CBD) in Istanbul (Figure 3). In this paper temporal transformations due to high rise office blocks and shopping centers in this CBD, which is known as Levent district, are analyzed over past, current and future skylines (Girginkaya, 2011; Güney et al, 2012).
Analyzing Maslak-Zincirlikuyu Skyline with GIS Model

The skyline development in Istanbul is represented below by three dimensional modeling and visualization functions of ArcGIS Desktop 10 (Figure 4 and 5). In Figure 5, the skylines are created geometrically with the advanced visual analysis tools of ArcGIS 3D Analyst extension. In this skyline analysis, formal characteristics such as smoothness, which gives the number of times a skyline is broken, affects view quality of the cityscape.

Skyline analysis carries important potentials in terms of evaluation of urban aesthetics. By visualizing and testing proposed urban design guidelines over the cityscape, their impacts can be examined. Threats to the city’s historical skyline, such as visual dominancy of high-rises can be obstructed. Also landmarks symbolizing the modern side of the city, such as the two Bosporus Bridges or 256 meter high Sapphire Building can be displayed more effectively. Even the visual impact of future projects such as, the third bridge can be considered.
Figure 5: Temporal Skyline Analysis of Levent District Viewed From Sarayburnu
(a) Skyline in 1999, (b) Skyline in 2008, (c) Overlapping Past-Current and Near Future Skylines
(Source: Authors).

In Figure 5, the dimension of temporality has been incorporated into the 3D geo-visualization of skylines. The orange line displays the current skyline, the grey line illustrates the former skyline and the red line indicates the evolving skyline of CBD in Istanbul viewed from a selected viewpoint. The geometrical lines obtained by this skyline analysis include the metrics of spatiotemporal changes.

Analyzing Maslak-Levent Skyline with Entropy Method
Entropy method makes it possible to measure aesthetic qualities of urban skylines through a variety of concepts. These concepts are defined as formal aesthetic evaluation criteria. For skyline evaluation, while each criterion represents a probability value according to its appearance frequency, the observation frequency of these criteria composes the entropy value (Bostanci, 2008). Below are Figure 6-7-8 and 9 showing entropy analyses for the evaluation of CBD skyline transformation from 1999 to near future. Schematic skyline of Levent viewed from Sarayburnu is coded according to its formal characteristics and entropy values of five different criteria; contour, mass, verticality, horizontality and hierarchy are measured. The numerical results of entropy analyses are revealed in Table 1-2. The analyses can be varied in future.
Figure 6: Contour Effect in Transforming Skylines of Levent Viewed From Sarayburnu (a) Skyline in 1999, (b) Skyline in 2008, (c) Skyline in Near Future (Source: Authors).

Figure 7: Mass Effect in Transforming Skylines of Levent Viewed From Sarayburnu (a) Skyline in 1999, (b) Skyline in 2008, (c) Skyline in Near Future (Source: Authors).
Figure 8: Vertical Effect in Transforming Skylines of Levent Viewed From Sarayburnu (a) Skyline in 1999, (b) Skyline in 2008, (c) Skyline in Near Future (Source: Authors).

Figure 9: Hierarchy in Transforming Skylines of Levent Viewed From Sarayburnu (a) Skyline in 1999, (b) Skyline in 2008, (c) Skyline in Near Future (Source: Authors).
Table 2. Typical Aesthetic Analysis by Entropy Method,
(On Levent Skyline Viewed from Sarayburnu in 1999) (Source: Authors).

<table>
<thead>
<tr>
<th>Entropy Criteria</th>
<th>Visual Codes</th>
<th>Entropy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contour Effect</td>
<td>55</td>
<td>0.437612574</td>
</tr>
<tr>
<td>Mass Effect</td>
<td>14</td>
<td>0.414014238</td>
</tr>
<tr>
<td>Vertical Effect</td>
<td>9</td>
<td>0.326683525</td>
</tr>
<tr>
<td>Horizontal Effect</td>
<td>5</td>
<td>0.228562944</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>8</td>
<td>0.306942999</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>91</strong></td>
<td><strong>1.71581628</strong></td>
</tr>
<tr>
<td><strong>1.716 bit</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Change of Aesthetic Values within Years (Source: Authors).

<table>
<thead>
<tr>
<th>Entropy Criteria</th>
<th>1999 Skyline</th>
<th>2008 Skyline</th>
<th>Future Skyline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contour Effect</td>
<td>0.44</td>
<td>0.45</td>
<td>0.47</td>
</tr>
<tr>
<td>Mass Effect</td>
<td>0.41</td>
<td>0.41</td>
<td>0.48</td>
</tr>
<tr>
<td>Vertical Effect</td>
<td>0.33</td>
<td>0.37</td>
<td>0.35</td>
</tr>
<tr>
<td>Horizontal Effect</td>
<td>0.23</td>
<td>0.21</td>
<td>0.15</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>0.31</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>1.72</strong></td>
<td><strong>1.74</strong></td>
<td><strong>1.75</strong></td>
</tr>
</tbody>
</table>

Table 2, shows the entropy values obtained by visual coding, done manually, over a typical skyline. Table 3, gives entropy value distributions for formal aesthetic criteria of each skyline belonging to 1999, 2008 and near future respectively.

In Table 3, the most dominant characteristic appears to be the contour and mass effects while hierarchy effect decreases in such a low extent. Since the total sum of entropy value is consistent, horizontal and vertical effects decrease despite the increase in the number of buildings within time. Spatial perception of a person varies due to several contrast effects; such as horizontal-vertical, space-mass, foreground and background etc. While these contrast effects are eligible enough, space becomes identifiable and memorable. Although the aim of planning approaches is to keep visual impacts in the city, constant high rise building have ended up in complex contours and heavy masses which have blurred vertical and horizontal effects together with mass hierarchy. This reveals that the attitude of continual rising in cities will lead to visual chaotic skylines.
In order to make further interpretations, the number of skylines whose entropy values are measured and the number of formal aesthetic values used in entropy measurements here should be varied. Also, different urban scenarios such as those having similar characteristics and those having totally distinct characteristics should be modeled and analyzed by GIS in order to find optimum entropy value ranges for the aesthetic evaluation of skyline transformations. To conclude, the paper has been limited with a single case yet, since the objective has been to achieve a methodology for the objective aesthetic assessment of skyline transformation.

CONCLUSION
Urban design has a wide range of research content interrelated with various disciplines. Within this content, especially when the formal characteristics of the urban environment are examined, computer and mathematic based models contribute to the discipline as innovative approaches. From the case study, it can be understood that GIS is a useful tool for understanding the topological relations for urban skylines. Aesthetic evaluation of the skylines can be advanced by implementing different methods to GIS such as the information theory based entropy method explained above.

The studies about urban entropy have so far indicated that those urban skylines and their aesthetic values, which are measurable and comparable via entropy method, shall also contribute on the detection of visual problems appearing in urban environment. Among the important inputs of these researches are the implementation of the measurability of aesthetics in a certain rate and the determination of quantitative aesthetic values concerning urban form. “Furthermore, interpretations on the aesthetic qualities of skylines can be made with the entropy value ranges found for urban skylines. With this method, the aesthetic qualities of urban skylines are made comparable. Therefore, the entropy method has been put forward as an applicable innovational approach in the matter of aesthetic evaluation in urban design” (Bostancı and Ocakçı, 2011).

In the paper, together with GIS entropy method has been put forward as an innovative approach in the matter of aesthetic evaluation in urban design. The methodology is original in coordination of two different mathematical models for aesthetic assessment of skylines. The approach can be improved for the solution of different urban problems. Several aesthetic assessments can be done on distinct skylines varying due to their viewpoints, details, scales, close and distant views etc. The scale of skylines may vary from close views that exhibit details such as roofs, windows, doors, materials and front projections to street fronts scale, to remote urban skyline scales represent scales where a wider panorama of the city is visible. Over the general fabric of the region, specific areas can be approached in a variety of scales and their close affiliations can be examined in details.

The numerical outputs of the entropy method may be used as inputs for designing more aesthetic skylines. Due to globalizing trends all over the world, the symbolic skylines of cities are threatened by high rise buildings which are mostly welcomed with no questioning over the local pattern, such as in Istanbul. In the need of more systematic design and planning tools for preserving historical skylines and developing global world cities, skylines and their formal and symbolic aesthetic values can be used as criteria for detecting urban transformation.

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URBAN REHABILITATION: REINVENTING A PRODUCTIVE LANDSCAPE
Istanbul, Golden Horn Case Study

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Abstract
The international workshop “Golden Horn Urban Rehabilitation, Reinventing a Productive Landscape” was hosted at Istanbul Kültür University (IKU), Turkey, during the dates of the 4th to 11th July 2011. It counted with the bilateral collaboration of Istanbul Kültür University (IKU), Yıldız Technical University (YTU), Instituto Superior Manuel Teixeira Gomes (ISMAT), in Portugal and Studiomeb. The case study was located in the estuary area of Golden Horn, in Istanbul, and it was centred in the neighbourhoods of Balat, Fener and Hasköy, which are in an advanced process of urban and architectonic degradation. The paper presents our educative research methodology inside the program GreenEngines, developed during three years of continuous collaboration, and shows the results of our international research cooperation in this specific case study. Our pedagogic research method uses the principles of landscape urbanism, landscape planning, and environmental planning. Our research aim, specifically for this workshop was to educate students on the professional responsibility to create new sustainable planning alternatives for urban rehabilitation in deteriorated urban areas, and specifically, in the case study of Golden Horn in Istanbul. Our research questions were centred in how to preserve and protect the multicultural and multifunctional character of Golden Horn, evaluating its built and socio-cultural heritage, together with how to regenerate the physical urban tissue, reinventing a new productive landscape. Our research statement considered that to achieve a sustainable urban rehabilitation, it was necessary that the planning proposals should adapt to the cultural landscape and the local environment, creating a multifunctional character with different actors involved in the same urban context.

Keywords: Sustainable planning; urban rehabilitation; productive landscapes; urban agriculture; architectural heritage; cultural landscape; multifunctional space; water fronts; World Heritage Sites.

INTRODUCTION
The research program GreenEngines, developed by the office Studiomeb (architecture, planning and landscape), was created in 2009, inside a collaborative network between Universities, practitioners and local governments. Since 2009, the program GreenEngines has counted with the permanent support and cooperation of Istanbul Kültür University and Yıldız Technical
University. GreenEngines is a platform for action research in the field of sustainable landscape planning and sustainable food planning design. It aims to explore the potentialities of productive landscapes to generate a sustainable territory that is respectful to the existing local environment and its multifunctional character, community involvement, heritage and cultural identity. GreenEngines develops as a pedagogic tool in the education of multidisciplinary teams, involving students of architecture, geography, landscape architecture, design, urban planning and environmental studies among others. Through education, students can understand the complexity involved in strategic landscape planning for the preservation, creation or re-invention of productive landscapes, with the objective to reach a sustainable equilibrium between economy, society, culture, the environment, and food production.

We state that a productive landscape is any natural, rural, coastal or urban environment used and exploited for agricultural, industrial, business or touristic activities. In the case of the rural territory, the shift, in recent years, towards the ecological technologies (solar, wind, power plants), together with the production of industrial agriculture for bio-fuels, bio-mass, and economies of scale, has transformed many rural landscapes into technological and productive ecological deserts, expelling society from their environment, and destroying the equilibrium of their cultural landscape. In the case of the urban context, urban conurbations are also productive landscapes that aim to attract business, industry and tourism. Cities suffer processes of development that are temporal and discontinuous based on intermittent economical global interests, provoking processes of decay inside the urban tissue. A process of economical growth, and urban development, implies the de-urbanization of other areas of the city, or even the degradation of complete urban regions, the particularly those ones based on local economy. Cities with a high rate of unemployment and few work opportunities start suffering processes of forced shrinkage due to migration and population loss. The moving of industries offshore, due to differences in wage costs, affects cities in developed countries. Only cities that are the home to the players of globalization enjoy the privilege of having stable growth and urban development (Müller, 2006: 122-152). To avoid inequality, poverty and migration, a sustainable urban territory is needed. Sustainability, based on a local economy is necessary for the economic survival of cities, mainly those ones that run outside the global network. Our research is guided by the following main question: which new planning strategies and transformative processes could guide changes and improve self-sustained productive local geographies?

We state that any productive landscape entitled to be called sustainable should accomplish the following: First, it belongs to a cultural construction, which adapts to the cultural landscape and the local environment, with a clear strategy of preservation and maintenance of the cultural values and the identity of the territory, including the revitalization of the palimpsest of traditions, heritage (built and natural) and collective memory. Second, the landscape is multifunctional with different actors involved in the same space (energy and food production, industry, tourism, education, leisure, culture, nature, health, housing, commerce). Third, it takes into account social participation, involving the self-maintenance and self-organization of the space. It encourages individuals to interact with their close environment through participatory processes and a close physical experience. Fourth, it values the phenomenological qualities of the space. The territory is acknowledged by sensory experiences within the parameters of space and time. It is experienced by emotions, memories, and mental bonds. The phenomenal richness of the landscape is present in the social imaginary, the collective memory, the desires, the sensorial and the poetic experience of the inhabitants. Fifth, it considers new models of mobility thinking in alternatives to the car, and betting for intermodal ways of transportation (pedestrian, bike, bus, train).
INTERNATIONAL COOPERATION AND THREE CASE STUDIES

Since 2009, GreenEngines has developed research on three different case studies, in three different countries. It uses the format of an international summer workshop, which always takes place in the country where the case study is chosen and with a close collaboration with educators, and researchers of the host University, expertise in different fields (geographers, designers, artists, art historians, town planners, architects, landscape architects) and local governments. The first summer workshop took place in the Faculty of Architecture of Barcelona, University Polytechnic of Catalonia, on July 2009, with the topic “Barcelona Tres Turons Park, a case study”. Studiomeb coordinated the event and it counted with the relevant collaboration of Istanbul Kültür University, and Yildiz Technical University, and the participation of Delft Technical University (The Netherlands), University Autonomous of Barcelona (Spain), Polytechnic University of Barcelona (Spain), Elisava School of Design Barcelona (Spain), Consultancy and Engineering DHV, Department of Environment and Transportation, Eindhoven (The Netherlands), and the Department of Urban Planning from Barcelona City Council. The case study was chosen to test the implementation of a self-sustainable urban agro-ecosystem for the area of “Tres Turons” in Barcelona. The objective of the workshop was to elaborate a strategic plan considering the main catalyst processes for the creation of a self-sustained green space for the city, with a community self-organized productive landscape, where urban agriculture integrates inside a location with a heterogeneous character, embracing different historical sites (Moya Pellitero, Türkyılmaz, Canbay Türkyılmaz, Eliziario, 2009: 911)

The second international summer workshop took place in Covilhã, Portugal, on July 2010, with the topic “Covilhã, landscape of change. A prototype for a new integrated rural-urban growth model”. It was developed with the collaboration of the University of Beira Interior (UBI, Portugal), Department of Civil Engineering and Architecture, and the close collaboration and participation of Istanbul Kültür University, Yildiz Technical University. Invited guests participated with us from University of Beira Interior, the Wool manufacturing Museum of Covilhã, the Association of Rural Development of Serra da Estrela, and Brighton University (England). Our aim, in the second edition of GreenEngines, was to discover how to regenerate a peri-urban territory, with a rural character, achieving a new rural-urban model of sustainable development, creating a multifunctional landscape with the development of new housing areas and facilities, together with the integration of knowledge and education, culture and heritage, industry, infrastructure, the natural and the rural environment. GreenEngines, in its third edition, chose the theme “Golden Horn Urban Rehabilitation, Reinventing a Productive Landscape”. The international workshop was hosted at the Faculty of Architecture of Istanbul Kültür University (IKU), and it was organized by Studiomeb, Istanbul Kültür University, Instituto Superior Manuel Teixeira Gomes (ISMAT, Grupo Lusófona, Portugal), and Yildiz Technical University (YTU). We counted with experts and invited guests from ISMAT, IKU, YTU and Sabanci University. The workshop took place during eight days work, from Monday 4th of July to Monday 11th, 2011. From Tuesday to Sunday, the groups took their decisions as a team on a specific strategic rehabilitation plan for the area, developing tactics and actions for their strategic proposal. On 11th of July 2011, each group presented their work to jury of expertises at IKU.
The themes of our workshops are all interconnected under the umbrella of the same main question: which new planning strategies and transformative processes could guide changes and improve self-sustained productive local geographies? In Barcelona case study, we studied the potentiality of “urban parks” to become spaces of opportunity in consolidated urban areas, in order to generate processes of community involvement, in which urban agriculture can be the catalyst of a new urban culture that activates a sustainable urban conscience. In Covilhã, we studied how a small city, surrounded by a rich agricultural territory, can benefit from the synergies produced in the interchange of activities between the rural and the urban environment. In our third case study, in Istanbul, we were searching to discover solutions in the urban rehabilitation of an obsolete productive industrial landscape in a consolidated urban area with a rich architectural heritage.

**Educative Methodology**

In the teaching of strategic landscape planning we apply a work methodology that integrates the practice of Landscape Urbanism (processes over time, scenario thinking, new operative techniques, and the social imaginary) and Landscape Planning (scenario-based analysis), with sustainable food planning systems. We establish a methodology of work, taking into consideration disciplines such us landscape urbanism, landscape planning, and environmental planning. Landscape urbanism is a hybrid practice that emerged in North America and Europe in the late 90's as a new design discipline to respond to the conditions of sprawl under the phenomena of post-industrialization of the urban territories. That is when landscape emerged as a model for contemporary urbanism, especially in the context of complex natural and urban environments. The reference theoretical work of Charles Waldheim (2006), James Corner (2006) or Dean Almy (2007) is relevant in our work. Landscape planning also helps us to rethink the variables for a dynamic sustainable territory, in which economic growth supports social progress and respects the environment. Our theoretical and practical backgorund in this discipline is the work headed by Prof. Carl Steinitz, in the department of Landscape Architecture and Planning at Harvard University, which has provided, since the 1990’s, a modelling strategy for planning assessment. The model, of an analysis scenario-based study for alternative futures, considers which are the actors and issues responsive to policy and planning decisions. In the work ‘Alternative futures for changing landscapes’ (2003), propose an approach that follows the typical
decision-making processes and choices that shape the future of a region (Steinitz, Arias, Shearer, 2003).

Our work methodology integrates the four themes involved in the practice of Landscape Urbanism (Corner, 2006: 28-33). First, it considers urban processes over time, second anticipates strategic scenarios and operational logics through a wide range of scales, third reconsiders representational and operative techniques, and fourth takes into account the phenomenal richness of physical life (social imaginary, collective memory, desires, the tactile and the poetic). The planning of a sustainable strategy contemplates the research by design at different scales. In each scale level (large, medium, and detail), it is possible to discover different phenomena, processes and relationships affecting the planning and design solution. We give priority to scenario thinking, actors involved, and processes over time, which relate with changes and re-adaptation reflecting a particular view of society and the groups that compose it. In our work it is included social analysis specific to each case-study. Any planning strategy should consider ecology and community. It is the social involvement with the close environment and the understanding of potential self-organized processes of the community that can generate designed interventions that trigger processes of change evolving over time (Moya Pellitero, Türkyılmaz, Canbay Türkyılmaz, Eliziario, 2010: 56). In this respect, we take into consideration principles of environmental planning, being aware that any alteration of the nature of the landscape, no matter how small, has deep implications for the ecological processes of the immediate area and the larger region. It also involves the respect for the heritage, the cultural identity and the historic context. The international workshops are always divided into five stages: analysis, strategy, tactics, actions, and evaluation. All these stages move from the large scale of the territory, to the medium scale of the neighbourhood, up to the detail scale of the design of the public space.

ISTANBUL, GOLDEN HORN, A CASE STUDY

Although the effect of globalization began to be felt since 1980’s, the idea that it is necessary to provide a new urban identity for the city of Istanbul, in relation with the new global dynamics, gained importance at the beginning of the 21st century. Industry retreated from the water fronts, and it left behind a passive social environment, with buildings that were no longer used and empty areas. Therefore, using these areas and creating new business opportunities are in Istanbul’s agenda today. Reforming the relation between the inhabitants and the waterfront through public domain is one of the most important objectives planned to be implemented. Golden Horn has a great potential in order to become a new sustainable productive landscape that can give solutions for the needs of people in Istanbul.

The Golden Horn, estuary on the European side of Istanbul, has a relevant historical past. It was a natural harbour during the Byzantine and Ottoman Empire, as well as a trade centre of the Mediterranean and the Near East throughout the 10th and 11th centuries. Along the centuries it gained an Islamic identity, with the construction of religious centres, public buildings and mosques. In the 18th century the waterfronts became a famous residential and recreational area for the city. Old Galata Bridge, built in 1836, connected, for the first time, both shores. Also steamships started being used as public transportation. With the foundation of the Republic in 1923, Istanbul was a city of recessing economy and population. Higher income groups were emigrating to new housing areas in the periphery. In 1937, the Master Plan of the European side of Istanbul, by the French urban planner Henry Prost, aimed to modernize the city and to sustain the economic development. As a consequence, the Golden Horn was transformed into an industrial zone. The increase number of factories and commercial areas in the 1950’s had a serious impact on the physical relation between the city and the water, and on the environmental quality and socio-cultural structure of the Golden Horn and its surroundings. The housing areas lost their prestige and became worker neighbourhoods. On the other hand, slums appeared as a result of the immigration from rural areas. The Golden Horn, which used to be one of the main
recreation areas of the city, became an unrecognizable industrial productive landscape, with a damaged relation between the city and the waterfront. In the 1980s, during the administration of Bedrettin Dalan, Mayor of Istanbul, an urban renewal effort was initiated to solve the main problems of rapid urbanization in the metropolis, such as traffic congestion, noxious factories and air pollution, lack of services, amenities, open and green spaces. As a result, the Golden Horn experienced a process of "greening". However, urban renewal was concentrated on a major cleansing effort and the beautification of the estuary rather than dealing with its environmental ecology or historic character. Buildings were demolished, residents displaced, and the estuary banks were replaced with parks. The cleaning-up of Golden Horn meant the demolitions of factories, illegal slaughterhouses, and historical buildings, without taking into account the cultural and historical character and identity of the buildings, the economical survival and the life of its inhabitants. The basic question is how to preserve and protect the multicultural and multifunctional character of Golden Horn, evaluating its built and socio-cultural heritage. The actual state of deterioration of its architectural heritage, the lack of public facilities, transportation, services, and local economic activities have transformed Golden Horn into an unsustainable area in its socio-economic structure. In order to propose a strategy for urban regeneration of Golden Horn, it is also necessary to reinvent a new productive landscape.

Figure 2: Golden Horn, view of the Waterfront of Hasköy and its arsenal, shipyard and warehouses (Photo: Emrah Türkyılmaz).

GreenEngines, in its third edition, “Golden Horn Urban Rehabilitation, Reinventing a Productive Landscape”, aims to develop a new sustainable planning alternative for urban rehabilitation. It reconsider those spaces that once were industrial, inserted in the urban tissue of the city, generating an economical, social, cultural and architectonic synergy. Once these industrial areas, and therefore productive landscapes, are abandoned and dismantled, urban voids become wastelands or in the case of Golden Horn in Istanbul, green areas and urban parks that do not take into consideration the rich socio-cultural structure surrounding them. Therefore, to achieve a sustainable strategy of urban regeneration of an obsolete urban area, in a process of decay, it is necessary to integrate heritage and culture, energy and food production, industry, tourism and
education, leisure, nature and open spaces, housing, commerce and new means of transportation. Regarding local food production, parks and green urban networks can integrate food gardens as an ecological lung and source for local food production, self-organized activities and ecological education. Despite the fact that urban agriculture will never be self-sufficient to sustain the food needs of a city, and its ecological footprint, it allows social interaction within the local environment helping to educate new generations, introducing new sustainable habits.

**Three Different Realities: Balat, Fener and Hasköy**

The study area is located between Haliç Bridge (Golden Horn Bridge) and Unkapanı Bridge. It includes the Northern and Southern shores of the estuary of Beyoğlu and Fatih district, which at the present do not have a common planning and development strategy. The case study area is located in the area that corresponds with the ferry stops of Fener and Hasköy, and the former ferry stop of Balat.

Balat, today belongs to Fatih’s district, in the southern shore of Golden Horn, with once grand but now narrow impoverished streets. It is believed that the name Balat is probably derived from Greek word palation (palace). It was formerly a centre of Istanbul’s Jewish population. Following the earthquake of 1894 and a series of fires that affected not only the neighbourhood but the entire city of Istanbul, the social structure of Balat underwent significant changes: The wealthiest section of the inhabitants left the district and moved to Galata. Emigration continued and one fourth of the population of Balat left for Israel after its establishment. After this period, the Jewish population was reduced to a minority, and a new wave of immigrants arrived from the towns of the Northern Anatolian region, especially from Kastamonu. After the 1960s, Balat suffered a transformation of the urban structure due to the heavy influx of newcomers, especially a further group of working class people who were attracted by job prospects of the industry and the rather low rent. Not only Sephardi Jews, but also Greeks and Muslims lived together in Balat for years. Although Jewish and Greeks still live there, their population is quite few compared with Muslim population. All neighbourhoods are listed by UNESCO as a World Heritage Sites. Ahrida and Yanbol Synagogues, Ferruh Kethüda Mosque, Balatkapı Taksiarhes Church are some examples of Balat’s architectural heritage. After the beginning of negotiation between Turkey and EU,
unfortunately some houses in Balat were sold to EU citizens mostly from England and Germany. As a consequence, the price of houses increased suddenly and the local people began to leave their neighbourhood.

Fener is situated near Balat. Its name is derived from the Greek word “phanar", fanari. The Ecumenical Patriarchate is located here. It was formerly one of the major centres of Istanbul’s Greek population, known as Phanariotes. The settlement structure changed in the 19th century. Prominent Greek families of Fener left the neighbourhood and moved to villages along the Bosphorus, such as Tarabya, Kuruçeşme and Arnavutköy. Until the 1960s, Fener preserved its identity as a Greek neighbourhood. At the end of the 19th century, the population structure started to change radically with the first wave of inhabitants immigrating to the bourgeois neighbourhoods of Istanbul (the Prince’s Islands, Kadıköy and Şişli). In the 1960s, a second emigration wave occurred, when the Greeks left Istanbul in large numbers. The deterioration of the characteristic waterfront as a result of industrialization had an impact on Fener as well. Following the 1960s, new inhabitants arriving from the Black Sea region started to settle in the area in large numbers. Today, mostly low-income families are living in here. Bulgarian Iron (St. Stephan) Church, Church of St. Mary of the Mongols and Fener Greek Orthodox College are among Fener's architectural heritage.

Today, Fener and Balat are squeezed between city walls dating from the Byzantine period and hills surrounding the region in the other directions. Both quarters are not attractive because of the low visibility seen from the transit road and a lack of parking facilities. Fener and Balat are designed according to a unique road plan where a continuing array of streets intersect one another at perpendicular angles. The urban structure of the district is rather peculiar and can be traced to the division of plots following the fires that damaged the districts. The architectural uniqueness of the districts can be traced from the religious buildings and the facades projecting a harmonious view because of the bow windows. The height of buildings in the district varies between one and four storeys. Over half of the buildings date to the pre-1930 period and give the area its characteristic atmosphere. Following these buildings in the order of importance, are those built between 1930 and 1950, which continue this architectural characteristic but at the same time reflect the interesting features of the time period.
Hasköy, is a neighbourhood on the northern side of the Golden Horn in Beyoğlu district. The word Hasköy means "imperial village". In the late 15th century, Sephardi Jews also settled in this quarter. The neighbourhood at one time also had many Armenian and Greek residents. Hasköy was a trading center for ages with dockyards and warehouses. The first Armenian theater company in Istanbul was opened there in 1858. Today, Taşkızak Dockyard is located in Hasköy and many local people work here. Although it is an important place for Istanbul’s history, dwellers of Istanbul know very little about this neighbourhood. Aynalıkavak Palace, Rahmi M. Koç Museum, Istanbul Naval Hospital are among some of the important architectural heritage of Hasköy. There are cemeteries in Hasköy that belongs to Muslims, Jewish, Greeks and Armenians.

While Hasköy and Fener have their own ferry pier connecting both shores, in Balat the former ferry pier is removed. Each opposite shore has similarities but also different characteristics. Although the southern shore is more residential compared with the northern shore, it is hardly possible to differentiate what is residential and what industrial. Especially in Hasköy there is mix-usage in many buildings. In Fener and Balat, we see many unique examples of residential architecture, however, only few of them are in good condition. One of the most common characteristics of each opposite shore is a high population density. The low-education and low-income level of the inhabitants have bad side-effects on the social participation and social commitment in the preservation and maintenance of the quarters.

**Research Objectives for Golden Horn**

It was expected from the participants in the third edition of the workshop in Istanbul to find appropriate solutions to the following problems: Transportation (inadequate vehicle network, reorganization of ferry lines, insufficient pedestrian ways), Green public spaces and new uses (insufficient and new usage of green areas, disconnection between city and waterfronts), Cultural identity (insufficient usage of local resources, failure of social recognition, deterioration), Bottom-up synergies (social insecurity, deficiency in social participation and social commitment, Illegal settlements). Through the analysis the participants could evaluate the qualities, potentials and problems of the site cultural built patterns, urban and architectonic identity, built heritage, housing typologies, transportation and road systems, food systems, diversity of green areas and public spaces, industry and commerce, leisure and tourism, multicultural synergies, diversification of the use of the space, public participation, self-organized activities, boundaries, conflict zones, wastelands, sacred spaces, historical settings, established community habits and traditions). In this phase, participants were guided by experts with a visit to the site and parallel lectures about Istanbul context and the specific case study.

The different groups were asked to draw a urban planning, and landscape planning strategy, which could identify different approaches in the time implementation of an urban rehabilitation project for the area of Balat, Fener and Hasköy. The main goal was the reinvention of a productive landscape considering the multicultural and multifunctional character of Golden Horn, and taking into account its built and socio-cultural heritage. The students worked in the creation of scenarios and actors involved mapping processes of change, re-adaptation and preservation. Based on the strategy, different proposed tactics were studied. The working groups answered the following question: How do we reinvent a space that already has its own synergies, cultural patterns and multi cultural social identity? How do we integrate different programs to achieve a multifunctional space? How do we bring together food, leisure, tourism, housing and industry?

Based on the tactics, different design actions are developed. It involves the small scale design decisions and it answers the question WHAT? What type of urban landscape we will have as a result? What type of street-life, housing areas and neighbourhood facility programs we will
achieve? What type of parks, green areas and public spaces do we need? The evaluation will help to draw the conclusions about the results and value their strengths and weaknesses.

**Workshop Outcomes**

**Sense of water in public spaces: planning a sustainable future for tourism, heritage and environment:** Group 1, M. Albano (Technical University Lisbon), D. Karadeniz (Yıldız Technical University) and E. Özkılıç and B. Özirişen (Istanbul Kültür University), consider that the water of the estuary has a leisure and cultural character that may help to connect physically and psychologically both shores, and also to improve the social integration between the different cultural groups and the citizens of Istanbul. They develop a rehabilitation plan based on four strategic decisions. First, they consider the rehabilitation of the old bridge for pedestrians, along with platforms on the water for cultural activities, sports and recreation. Second, Fener and Balat are neighbourhoods located in a hill, with steep streets downwards the estuary. The selection of specific axial main arteries to guide the rain water downwards the park at the waterfront is relevant. These platforms contain sculptures and follies, which give identity to the park and the water can be used for irrigation. The park contains also kiosks, to be used as libraries or bookstores, in order to encourage the dissemination of culture and self-development and attract visitors and residents to Golden Horn.

Figure 5: Strategic plan of rehabilitation for the case study on Golden Horn under the theme “Sense of Water in Public Spaces” © Albano, Karadeniz, Öz続き and Özirişen.

Third, they give a new use to some of the historical residential buildings in Balat and Fener. The rehabilitation of existing housing blocks as touristic apartments has a positive effect in making street and public space life more dynamic. Their last and fourth strategy is to rethink a new use for the arsenal and the shipyards in Hasköy. They propose a new program of an open museum and a public park that can be visited by the citizens of Istanbul and tourists.

**Green dynamic, rethinking the dynamics of the sea:** Group 2, M. Reis (Instituto Superior Manuel Teixeira Gomes), E. Firinciogullari (Yıldız Technical University) and S. Killič, A. Boztepe
(Istanbul Kültür University), make a comprehensive SWOT analysis on the case study area. According to their analysis, they outline the most important strategic points of both shores of the estuary establishing strong visual connections towards the water. Using these strategic points, they propose a dynamic circuit for the area. On this dynamic circuit, they create follies inspired in “Parc de la Villette” to encourage cultural activities. To connect both shores, they suggest two new pedestrian bridges and around them new public spaces are defined. They restructure all the road system to improve the traffic connection inside the districts. To preserve the identity of the area, they propose new industrial and commercial areas. In the habitable areas they create new green spaces using the urban voids, which include community parks and urban agriculture. What is important in their strategic proposal is the dynamic connectivity of the space, in which pedestrians, bicycles and cars are segregated, and when they meet together, there is always a priority for the pedestrian. The pedestrian bridges also contain greenery, and spaces for commercial exchange such as street markets. The objective is to allow the neighbours to move freely between the neighbourhoods, in an enclosed circuit.

Figure 6: Strategic plan of rehabilitation, dynamic connectivity of pedestrians, green areas and road traffic. Visualization of examples of pedestrian bridges and follies at night © M. Reis, E. Firinciogullari S. Killič, A. Boztepe.

**Green network, continuous productive urban landscape:** Group 3, C. Cardoso (Technical University Lisbon), A. Çaynak (Yildiz Technical University) and H. Savli (Istanbul Kültür University), develop in their strategic planning the concept of continuity of productive landscapes. The analysis help them to understand the multicultural nature of this urban area in which different social and cultural groups do not cohabit, instead they live isolated. They also observe that there is a lack of pedestrian accessibility and pedestrian continuity. One of the aims
of their rehabilitation plan is to create a sense of social belonging and proximity among the community.

Figure 7: Strategy to create a network system of open green spaces. It is created four multifunctional green spaces, spaces for public use, educative spaces, spaces of exchange and productive spaces (food gardens) © C. Cardoso (TUL), A. Çaynak (YTU) and H. Savli (IKU).

Their first strategy is to promote the mixture of uses and programs and the requalification of the public space. It is important the rehabilitation of housing areas, with the participation of the same community and providing identity by means of a new market and a new bridge. The bridge is a space of exchange of the communities for street commerce. It is also important the rehabilitation of the old arsenal, as a big market place for the whole city, creating a new centrality. The second strategy is to create a network system of open green spaces. They also suggest new walking paths and a touristic route, giving priority to the pedestrians. All the different green areas are interconnected. They characterize four categories of green spaces which include food gardens (residential, educational, religious, and urban parks). These green spaces create a network that stimulates the social participation and a sense of belonging.

Figure 8: Strategic plan with the location of the green network and food gardens © C. Cardoso (TUL), A. Çaynak (YTU) and H. Savli (IKU).
Fragile, improving physical and social networks: Group 4, A. Soler (Politechnic University of Catalonia), M. Süleyman, O. Özbudak, E. Meva Tokmak (Istanbul Kültür University), analyze the negative and positive aspects of the case study area. Among the most important issues that they stress is the disconnection of these neighbourhoods of Golden Horn from the rest of the city. It is difficult to find landmarks or meeting points except from the skyline of the arsenal and the shipyard in Hasköy. Another important topic that they detect is that women in these areas do not move far away from their homes. They come from families in the Black Sea, with few resources, poor education and strict traditional rules.

Their first strategy is to improve the road system, by changing the section of the existing avenue, in order to make disappear the limit of the traffic road. By hiding the cars, it is possible to have views of the waterfront and bring closer the water to the neighbourhoods. Their second strategy is to connect both sides of the Golden Horn, by a new bridge, in front of the arsenal, and a new public transportation system by tram, with stops in Balat, Fener and Hasköy. A third strategy is to improve the social life of women living in these neighbourhoods. With new public spaces and public facilities it is possible to improve the quality of life of the women collective.

Figure 9: Women in Balat, Fener and Hasköy move close distances and they are dependent on their home duties © GreenEngines.

They create a social and cultural centre for women in Balat, well linked by the new tram, and in front of the new pedestrian bridge. This new social building has a semi-public courtyard where social relations with the community take place. The building offers workspaces for women where they can socialize. Their last strategy is to create a landmark by means of giving new functions to the old arsenal area. It contains a program of restaurants, exhibitions, concerts, workshops, a library, and a space for cultural activities. It would be a meeting point of the local people and the inhabitants of Istanbul. In this way, the new program adapts to the scale of the neighbourhood and the scale of the city.
CONCLUSIONS

Any strategic plan for a sustainable urban rehabilitation that aims to activate an economic productive urban landscape should take into account the society and the community needs. In our case, all the strategic plans proposed by the students show a sensibility, and a deep analysis, of the heterogeneous and multicultural character of the communities living in the area. They also present a concern for the critical poor and isolated conditions of the inhabitants. All the proposals aim to strengthen, through strategic urban tactics, a sense of belonging and social cohesion. In this sense, the waterfront and the green spaces are the two main elements of cohesion for all the proposals. All of them see as a priority the reconstruction of the rehabilitation of a pedestrian bridge that links both shores. In two of the proposals a new bridge is built connecting Fener with the Arsenal area. All the proposals give priority to the pedestrians versus the car, trying to solve networks of connectivity by foot, and the construction of a public tram line. Identity is one of the themes that are repeated along the strategic proposals, which has two scales, the scale of the neighbourhood, and the scale of the city. For the local scale, there is a concern for the women and the need of public space for social interaction; together with a special care for the connection of public buildings and playgrounds with green spaces for education and urban agriculture. In all the strategic proposals, there is an urge to rethink different ways to restore and rehabilitate the traditional housing areas, in a state of decay. All the groups decide that the best way to do it is by microsurgery and processes of community self-organization. The area of study needs a new identity also at the macro scale of the city of Istanbul, therefore, the arsenal and the shipyard is transformed into an important cultural centre. In a megacity like Istanbul, a neighbourhood is an island that if it is not attractive, if it does not offer a public space and public services for the city, it extinguishes and decays relentlessly, creating a ghetto or a void in the city. In our case we opted to create a new area of centrality, with its multicultural richness and a rich program for educational, entertainment, nature and the attractiveness of community self-organized ecologic food gardens.

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CURRENT TRENDS IN DEVELOPING URBAN TOURISM

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Abstract
The synergy of architecture and other disciplines in studies of developing tourism is significant in terms of continuity of past and future. Now architects and urban designers are working in collaboration with social sciences disciplines in the field of urban tourism. Some examples of cultural, artistic and social activities can be listed as: re-transformation of port districts, opening of new museums, new additions to the fabric of the historic city, theme parks, coastal regulations, re-use of historic structures, innovative approaches to accommodation services, production of the metropolitan centers, architectural competitions organized by central and local governments, prestige landscapes, innovative, technological and ecological approaches in architecture, festivals, design and fashion weeks, guided tours, city walks, local meetings, lectures, courses in art education, concerts, sport events, fairs, the cultural capitals. The paper analyses these works companion to tourism in detail and in a holistic sense, questions these studies in urban, economic, cultural and social movement axes. This inquiry aims to discuss current projects being carried out in Istanbul which is an important city in the world, also to offer a wide range of tips for conducting a collaborative, multi-dimensional perspective studies carried out in the field of tourism.

Keywords: Urban tourism; urban planning and design; interdisciplinary collaboration; urban regeneration.

INTRODUCTION
The period that began with the globalization affects urban development in terms of economic, political and cultural levels and has led to new structures built. The individualization of society living in urban areas, increasing the tendency towards a mixed society needs more social mobility and entertainment and cultural activities. These factors result in new transformations in urban areas. In this context, while distinctive features in tourism sector are being eliminated by the dedifferentiation of urban spaces, the concept of “travel to see different places” has begun to lose its meaning. Now, with the slogan of “being different”, the cities are working to produce various formulas to make them privileged. On the one hand new urban designs and innovative projects are for creating investment and shooting centers, on the other hand the projected new images seem to be as the new tourism objects reveal differences in the cities.

Tourism besides being an important market, especially the process and the factors of recreation of the cities for social and cultural contribution to the environment should be evaluated wisely. While advanced countries are planning their future, on the other hand they enhance the quality of the cities and realize diversifies. Works of composing new identities to the cities, allowing the participation of citizens helps to strengthen the sense of belonging.

Firstly, tourism development after 1980’s is discussed shortly. Then sampled works mentioned briefly above and done towards the development of tourism are examined in more detail. In addition to this urban, economic, cultural and social movement forms of axes and the conducting ways of these studies will be questioned in a holistic sense.
DEVELOPMENT OF TOURISM SECTOR IN TURKEY AFTER 1980

The period of quantitative growth in tourism is on the year 1983 and post because the transition to Neo-liberal system and deeds set out in this direction happens in the same period. Especially with Tourism Incentive Law No. 2634 came into force in 1892, the government followed a policy of encouraging the private sector to grow. In addition, related to Mediterranean and Aegean investments, the private sector opened many hotels; bed capacities have been increased rapidly in this liberal-dominated economy period. Beside these regions in which 3s: sea-sand-sun concept is featured and mass tourism is dominated, in İstanbul, being one of the most important cities of global capital, it is seen to be organized different sizes (congress tourism, shopping tourism, health tourism) in tourism sector. Due to numerical data of "number of tourists" and "costs of income", it is seen to have a significant quantitative progress. However, depending on rapid and uncontrolled growth of tourism sector, it is possible to mention of problems. The most important causes can be summarized as the destruction of coastal areas as a result of insensitive approaches to cultural and natural values of the physical environment, unplanned and uncontrolled building production.

In addition, the data of “Overnight Stays” and "Tourist Expenditure Per Capita" are the important indicators for the sector. Despite a steady increase in the number of foreign tourists who came to İstanbul, average length of stay of foreign visitors has fallen. "It is while in 1993 was 4 nights, it is 2.4 nights in 2004 and reduced to 2.3 in 2009 as the half of number 16 years before. On the other hand, the average length of stay of foreign tourists in facilities operating certificates in Turkey is 4.2 nights in 2009" (Enil et al, 2011:44). Such numerical data about the average length of stay show İstanbul is preferred as short-term visits. “It can be accepted as a transition point for the tourists who go to different regions and continue their destinations by staying 1-2 nights." (Enil et al, 2011:45).

If we observe the capacity of the sector and the amount of spending per person, in terms of tourism revenues, consequently it is possible to talk over the following data. “According to this, Turkey's total tourism revenue in 2009 is approximately 21.250 million dollars and the amount of average expenditure per person is $ 664." (Enil et al, 2011:91). Briefly dealt with above numeric data of inadequate "Overnight Stays" and "Average Per Capita Expenditure" amounts constitutes two main topics focused in order to be developed in our country. The mainstay of this paper is about to save significant progress in tourism sector in terms of both number of short visits & overnight stays and the diversification of tourism activities depending on increase of "Urban Tourism Activities."

This paper aims to consider examples of "Urban Tourism Activities" on an international scale and bring about the clues of how these activities are being carried out.

WORLDWIDE URBAN TOURISM ACTIVITIES AND THEIR EFFECTS TO TOURISM SECTOR

While generating differences in the morphological sense with the formal and functional arrangements in line with new trends of urban tourism research agenda, the sociological and cultural context consists of a large work area. A research investigating rapid changes of tourism trends from twelve major tourism journals shows Tourist/Visitor Studies, Marketing and Special Events showed the greatest growth during the 11-year period (Ballantyne et al, 2009:150).

The synergy of architecture and other disciplines in studies of developing tourism are of great importance in terms of continuity of past and future. Now architects and urban designers have been working in collaboration with social sciences disciplines in the field of urban tourism. Some examples of cultural, artistic and social activities can be listed as:

Urban renewal projects
  - transformation of port districts and coastal regulations
  - opening new museums
the new additions to the fabric of the historic city
theme parks
re-use of historic buildings
architectural competitions organized by central and local governments
prestigious landscapes
producing metropolitan centers

Innovative Approaches
innovative approaches to accommodation services (hotels with different concepts)
innovative, technological and ecological approaches in architecture

Cultural Organizations
festivals
design and fashion weeks, fairs
guided tours, city walks
local meetings, lectures
courses in art education
concerts
the cultural capitals

Sport Events
Olympics
world cups
tournaments
local races

URBAN RENEWAL PROJECTS

Re-transformation Of Port Districts
"Euro-Mediterranean Project" conducted in Marseille-France is one of the projects carried out for re-transformation of port districts (Fig.1). This project within the framework of the Barcelona protocol located in "Development Area" accepted by the European Union is one of the the most important renovation work conducted in urban scale to make a shot to center in France. This project being broad and comprehensive, began in 1996 and organized by a public agency (EPA- Establishment Public d’aménagement) will be completed in 2012 (Akbulut & Ekşi Akbulut, 2006:42).

Figure 1: Regions where studies are being carried out in Marseille
The project partners are central and local governments, as well as local and regional chambers of commerce, Regional Trade and Industry Chamber, the Mediterranean Region Chambers of Commerce, economic and financial centers and institutes located (http://www.euromediterranee.fr/who-are-we/public-partners.html?L=1 ). While trying to ease the center accessibility by means of projects being carried out in different regions (Train Station and the surrounding area of this region completely renewed and offices, hotels, shopping malls and housing construction is planned in conjunction with a new attraction), on the other hand there are ongoing efforts to increase the qualifications of buildings around the harbor. By the green areas, squares, car parks and new structures with high standards of comprehensive restructuring such as school buildings etc. it is being tried to increase the attractiveness of the center.

Figure 2: Place Victor Hugo and the Saint-Charles TGV Station Terminal (Source: http://www.euromediterranee.fr/fileadmin/downloads/32pagesanglais.pdf).

Within the scope of the work, which includes the organization of Marseilles port district, public and private arrangements adapted to international standards are expected. Particularly, the area surrounding the castle of Saint-Jean is a new challenge with the embodiment of the inner harbor and the creation of cultural activities: (The Mediterranean and the European Museum of Civilization (MUCEM), Sea Center). Furthermore, the other goals can be listed as (Akbulut & Ekşi Akbulut, 2006:46);

- to strengthen the attractiveness of the environment by means of aquarium, shopping areas, food and beverage activities,
- to transform hangars and terraces into commercial galleries for transit passengers or tourists in the harbor in Joliette region and in front of dockyard,
- to form a new neighborhood full of with residential and green areas in the North of Arenc region.
- to transform silo structure into performance center.
Euro-Mediterranean Project not only targets tourism but also it is a good example of multi-dimensional projects in a holistic approach (Fig.3). On the one hand, it is aimed to strengthen the economic development with this project, while the life quality of neighborhood is being tried to healed and upgrade the city’s urban and architectural quality by public and private projects on the other.

**Opening New Museums**

The Guggenheim-Bilbao Museum is one of the major focal points of the redevelopment program and architectural movement in Bilbao (Fig.4). This attraction depends on not only art performances and quality of exhibitions but also the prestige building designed by Frank Gehry. After the museum opened its doors to the public on 16 October 1997, total number of Spanish and foreign incoming travelers began to increase. According to a survey of Tourist Accommodating Establishments made by EUROSTAT, 2.5-fold increase is observed in the number of Incoming travelers to the Basque Country from January 1995 to August 1998 (Plaza, 1999:599).

Guggenheim Museum in Bilbao, which is designed by Frank O. Gehry in 1997, is a very good example of how to change the image of a city. Also it has a great contribution to create the concept of "Bilbao effect" in the architectural theory. The "Bilbao effect" concept within the framework of urban scale (cultural life: art, theater and social life: night life, eating, drinking) can be regarded as conceptual meaning of fast metamorphism (Akbulut & Ekiş Akbulut, 2008).
A comprehensive policy of urban renewal is effective before the realization of the museum. Planning with different aspects of the city allows tourists affected by Guggenheim to find an environment with adequate infrastructure.

Since the opening of the museum, the number of visitors and overnight stays related to visits has continued to increase. The annual data titled “Number of Visitors to Guggenheim Museum Bilbao” from 1997 to 2006 shows striking increase in 1998 & 1999, after 2000 the museum had a slight loss of attractiveness, but in 2006 it accomplished to gain attractiveness. Consequently, total number of visitors has 3.3-fold increase in 10-year period. Also, due to the survey of INE (Instituto Nacional de Estadistica) titled 4-fold increase is observed in “Overnight Stays of Foreign Visitors in the Biscay Province” (Plaza, 1999:599).

**The New Additions to the Fabric of the Historic City**

London Eye is the world’s largest cantilevered observation wheel (Fig. 6). It was conceived and designed by Marks Barfield Architects and was launched in 2000.

“Since opening in 2000, an average of 3.75 million visitors have experienced London’s favorite attraction each year, proving it more popular than renowned historical landmarks such as St Paul’s Cathedral (2 million per year) and even some of the internationally celebrated seven wonders of the world. The London Eye receives more visitors annually than the Taj Mahal (2.4
million per year), Stonehenge (850,000 per year) and even the Great Pyramids of Giza (3 million per year).” http://www.londoneye.com/NewsAndEvents/News/30million/Default.aspx).

**Theme Parks**
The best example for the theme parks is Disneyland, which is located 35 minutes from Paris.

![Figure 7: A view from Disneyland Paris](http://www.tripadvisor.com.tr/Tourism-g226865-Marne_la_Vallee_Seine_et_Marne_Ile_de_France-Vacations.html).

“With 15.6 million visits in 2011, Disneyland Paris is the most visited tourist destination in Europe and as the top tour operator in France in terms of number of clients (Fig.7). It is stated that; 49% of the guests were from France, 13% from the UK, 12% from Benelux (Belgium, Netherlands, and Luxembourg), 9% from Spain, 4% from Italy, 2% from Germany and 11% from the rest of the world in 2011” (http://corporate.disneylandparis.com/about-our-company/the-narrative-of-numbers/index.xhtml).

**Architectural Competitions Organized by Central and Local Governments**
The program known as “Grands Projets” by French President François Mitterrand, aimed to gain architectural works for Paris between the years 1981-1998 in order to highlight the role of Paris in economy, art and politics. This program includes Louvre Pyramid, Musee d'Orsay, Parc de la Villette, Arab World Institute, Opéra Bastille, Grande Arche de La Défense, Ministry of Finance and the Bibliothèque Nationale de France, the Musee d'Orsay, La Defense Arch, and La Villette. Built with a budget of 15.7 billion Frank, its contribution to number and profile of visitors of France & Paris is inevitable.

**Re-use of Historic Buildings**
Re-use of historic buildings with a new function is one fairly common approach. Musée d’Orsay in Paris and the Tate Modern (Fig.8) in London, are the most successful examples of this issue. Tate Modern is a modern art gallery in London and it is based in the former Bankside Power Station was built in two phases between 1947 and 1963. The building was converted by architects Herzog & de Meuron into an art gallery.
“More than 40 million people have visited Tate Modern since its opening in May 2000. It is one of the UK’s top three tourist attractions and generates an estimated £100 million in economic benefits to London annually” (http://www.tate.org.uk/about/who-we-are/history-of-tate).

**Prestigious Landscapes**

One of the best examples of the prestigious landscapes is Parc de la Villette in Paris (Fig.9). Parc de la Villette built from 1984 to 1987, was selected over 470 international competitors, and designed by Bernard Tschumi. With Tschumi’s words, it proposes a social and cultural park with activities that include workshops, gymnasium and bath facilities, playgrounds, exhibitions, concerts, science experiments, games and competitions, in addition to the Museum of Science and Technology and the City of Music on the site. During the summer, the broad playing fields become an open-air movie theater for 3,000 spectators at night. The park currently accommodates around eight million visitors for a year (http://www.tschumi.com/projects/3/#).

Figure 9 Bernard Tschumi, Parc de la Villette
**Producing Metropolitan Centers**

The agricultural society changed into first industrial and then information-based by the economic development process began with globalization. This transformations cause rural population decline and an increase in the population living in cities. “The Global City Index, first released in 2008 and again in 2010, is unique in that it measures global engagement of cities across five dimensions: business activity, human capital, information exchange, cultural experience and political experience (Table 1). Macro forces continue to have impact on the global influence of cities. Political power is rotating back from West to East. While New York, London, Paris and Tokyo still rank among today’s top cities, it appears that Beijing and Shanghai may become significant rivals in the next 10 to 20 years.” (Global Cities Index and Emerging Cities Outlook, 2012:2).

**Table 1.** Ranking of 10 cities in Global Cities Index (Source: Global Cities Index and Emerging Cities Outlook, 2012:3).

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Values calculated on a 0 to 10 scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York</td>
</tr>
<tr>
<td>2</td>
<td>London</td>
</tr>
<tr>
<td>3</td>
<td>Paris</td>
</tr>
<tr>
<td>4</td>
<td>Tokyo</td>
</tr>
<tr>
<td>5</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>6</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>7</td>
<td>Chicago</td>
</tr>
<tr>
<td>8</td>
<td>Seoul</td>
</tr>
<tr>
<td>9</td>
<td>Brisbane</td>
</tr>
<tr>
<td>10</td>
<td>Washington, D.C.</td>
</tr>
</tbody>
</table>


It is an inevitable reality that metropolitan centers caused by globalization have turned into centers of attraction in terms of tourism (Fig.10).

**INNOVATIVE APPROACHES**

Berlin, having a promotion as a metropolitan center of Europe, has been to a great extent based on innovative architecture and urban design combined with large-scale interventions. “Especially after the demolition of the wall in 1989, the nomination of Berlin as the capital of Germany was followed by a large number of international urban design competitions concerning the redevelopment of Berlin’s declining areas close to the wall: Potzdamerplatz, Leipzigerplatz, Friedrichstrasse and Alexanderplatz (Kapitzki, 1996). Design innovations were used as the main
driving force for the transformation of declining areas into new prestigious entrepreneurial centers” (Gospodini, 2002:63).

**Cultural Organizations**

- **Film Festivals:** Cannes Film Festival and The Venice Film Festival are the oldest international film festivals in the world. These organizations ensure contribution of film industry to cities’ tourism by means of festivals. “Cannes population consists of about 70,000 inhabitants. Cannes tourism which is announced in 2002, the economic impact was 83,847 Fr on the Cannes Area. Over 900 screenings at the Palais, over 30,000 professionals, and over 200,000 persons came to Cannes for the Film Festival in 2001.” (Hyun, 2002:21) (Table 2).

  An international film festival is one of the most representative events of cultural event and tourism. “Cannes and Venice Film Festivals show the value and potentiality of the film market and how much these cities can benefit from tourism during film festivals” (Hyun, 2002:23).

**Table 2.** Cannes Market and Media Statistics (Source: Hyun, 2002:21-22).

<table>
<thead>
<tr>
<th>Year</th>
<th>Companies</th>
<th>Participants</th>
<th>No. of participating countries</th>
<th>Films shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>976</td>
<td>1008</td>
<td>36</td>
<td>423</td>
</tr>
<tr>
<td>1996</td>
<td>1016</td>
<td>1420</td>
<td>35</td>
<td>443</td>
</tr>
<tr>
<td>1997</td>
<td>1143</td>
<td>4066</td>
<td>37</td>
<td>481</td>
</tr>
<tr>
<td>1998</td>
<td>1564</td>
<td>4066</td>
<td>40</td>
<td>520</td>
</tr>
<tr>
<td>1999</td>
<td>1865</td>
<td>6065</td>
<td>38</td>
<td>511</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td>44</td>
<td>620</td>
</tr>
</tbody>
</table>

- **Fairs, Design and Fashion Weeks:** Fairs, design and fashion weeks are major organizations in terms of tourism revenues. Paris is one of the leading cities in this regard. The major cities for number of exhibitors and the visitors can be listed as Canton, Las Vegas, Shanghai, Paris, Frankfurt, Tokyo, Moscow, Hong Kong, Dusseldorf, Munich, Beijing, Nuremberg, Hanover, New York, Orlando, and Milan, Berlin (Table 3).

**Table 3.** Exhibitors and visits to International Trade Shows in World Cities 2010 (Source: [http://asp.zone-secure.net/v2/index.jsp?id=1203/1515/14072&lng=fr](http://asp.zone-secure.net/v2/index.jsp?id=1203/1515/14072&lng=fr)).
“384 trade shows (207 professional, 177 open to the public) were organized in 15 exhibition main centers of Paris in 2009. These trade shows hired a gross exhibition surface area amounting to 5.3 million m² (pavilions only), hosted 87,000 exhibiting companies and 9.2 million visitors. 384 trade shows which took place at the exhibition centers in the Paris region taking part in the study generated a total spending on the part of participants (exhibiting companies or visitors) evaluated at 3.17 billion euros in 2009” (Table 4).


- **European capitals of culture**: “Each year, cities chosen as European Capitals of Culture provide living proof of the richness and diversity of European cultures. Started in 1985, the initiative has become one of the most prestigious and high-profile cultural events in Europe. Studies have shown that the European Capital of Culture event has an impact to regenerate cities, raise their international profile and enhance their image in the eyes of their own inhabitants, give new vitality to their cultural life raise their international profile, boost tourism and enhance their image in the eyes of their own inhabitants.”(http://ec.europa.eu/culture/our-programmes-and-actions/doc413_en.htm).

In case of managing the process wisely, it is important for increasing the number of visitors and tourism revenues. In 2010, Essen for the Ruhr (Germany), Pécs (Hungary) and Istanbul (Turkey), in 2011 Turku (Finland) and Tallinn (Estonia), in 2012 Guimarães (Portugal) and Maribor (Slovenia), in 2013 Marseille (France) and Kosice (Slovakia), in 2014 Umeå (Sweden) and Riga (Latvia) are the European Capitals of Culture.

- **Sport Events**: Barcelona Olympic Games held in 1992, is one of the best examples of sports organizations contributing tourism. Number of hotel beds, is a significant indicator of a city’s tourism potential. “In 1990, Barcelona had a total of 118 hotels, between them providing 10.265 rooms and a total of 18.569 beds. Two years later, by late 1992, the number of hotels had risen to 148, with 13,352 rooms and a total of 25.055 beds. These figures represent a rise of 35% in the number of hotel beds available. Room occupation rates in the same period had risen from 71% to 84%.”(Duran, 2002:6) (Table 5).
Table 5. Between the years of 1990-2002 the number of hotels, number of rooms, and the occupancy rate statistics for Barcelona (Source: Duran, 2002:6).

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hotels</td>
<td>118</td>
<td>148</td>
<td>167</td>
<td>203</td>
<td>223</td>
</tr>
<tr>
<td>Rooms</td>
<td>10,265</td>
<td>13,352</td>
<td>16,561</td>
<td>18,141</td>
<td>19,628</td>
</tr>
<tr>
<td>Beds</td>
<td>18,569</td>
<td>25,055</td>
<td>31,338</td>
<td>34,303</td>
<td>36,901</td>
</tr>
</tbody>
</table>

* * *

There are positive effects of large-scale sporting organizations like Olympic Games to different fields’ companion to tourism. After the Barcelona Olympics, statistics showed a constantly increase in the number of hotel rooms and beds. Also Olympics had a significant impact in professional work and the cruiser's tourism sector too (Table 6 & 7).

Table 6. Between 1990-2001 the number of meetings and delegates for Barcelona (Source: Duran, 2002:9).

<table>
<thead>
<tr>
<th>Number of meetings and delegates</th>
<th>1990</th>
<th>1992</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings</td>
<td>373</td>
<td>310</td>
<td>1,380</td>
<td>1,345</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delegates</td>
<td>105,424</td>
<td>108,464</td>
<td>269,508</td>
<td>255,433</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7. Between 1990-2001 the number of cruiser and passengers for Barcelona (Source: Duran, 2002:11).

<table>
<thead>
<tr>
<th>Number of cruiser and passengers</th>
<th>1990</th>
<th>1992</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ships</td>
<td>207</td>
<td>220</td>
<td>495</td>
<td>544</td>
</tr>
<tr>
<td>Number of passengers</td>
<td>115,137</td>
<td>132,807</td>
<td>572,571</td>
<td>654,806</td>
</tr>
</tbody>
</table>

CONCLUSION
Samples mentioned above which intended to differentiate and feature the cities are the most important problematic of conducting and planning ways of projects. The success of all projects carried out on an urban scale (in terms of the economic, social, tourism sector) is necessary for multi-dimensional perspective, “cooperation” and conducting “clearly” but unfortunately, some of the projects being submitted to the public are fully unknown by the executors of the central government until the last moment in Turkey. The details are set out and developed only by the team carrying out the project. Informing, sharing, adopting the scopes, objectives, partners and strategies of the projects to developed "Urban Tourism Activities" (brought to the agenda of the country at different scales) are of great importance in achieving the goal. The necessity of
modern and democratic governance needs to inform citizens before and after projects, to share knowledge.

By all means, each project has a professional process of production. However, the topics of deciding which projects to invest, subjects to be saved, would be the prior project have to be discussed with the related experts and variety of social platforms (all residents, civil society organizations, neighborhood organizations, associations, universities) in order to contribute to the process. As in every field studies, the practices for the development of the tourism industry, carried out on an urban scale shouldn’t be top-down and in a local scale, on the contrary the outcomes have to receive by broad participation and holistic studies. Development of the tourism sector shouldn’t be separated from overall development of the country or region. Also interaction and the interleaved bonds between the sectors should not be ignored. On the one hand important contributions are made to the urban fabric and urban life with the success of the projects on the other hand, these contributions are considered as a tourism object and the input of financial investments in the city are ensured through tourism incomes.

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LEARNING AND ENVIRONMENTAL DESIGN:
Softer Learning Spaces

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Abstract
Learning is a central part of everyone’s life that is often associated with school and classrooms. Today’s classroom looks and functions like the classroom of an earlier century. Desks lined up in neat rows, facing the teacher and a board or screen is the general condition in many educational institutions. Most of us have sat through classes in plain, hard rooms. Although they did not look very pleasant, we all coped with them. If they could be designed slightly more tolerable, would they help in the betterment of education and learning in any measurable way? This paper aims at describing an attempt to design an alternative classroom. Based on several years of experience, it is observed that there is a demand among students for softer, warmer and more intimate instructional spaces. Students of “People and Environment” Course were asked to select a suitable space to redesign as a “Soft Classroom” within Bahçeşehir University Besiktas Campus premises. This case study presented a potential research project to better understand, how student engagement can be increased by changing learning spaces.

Keywords: Learning; environment; faculty; soft classroom.

INTRODUCTION
The new millennium is apparently a new phase regarding the development of all aspects of architecture and the built environment that stages learning activities. Learning is a central part of everyone’s life which is often associated with school and classrooms. Classroom of today looks and functions very similar to the classroom of an earlier century. Desks lined up in rows, facing the board or a screen. This is the model born of the industrial age. Can it still meet the educational challenges of this millennium? Students are changing as the technologies change. So should the learning spaces that best fit their needs.

Formal higher education is a process that brings together the students, educators and sets of structured educational resources. This is a purposeful activity where education is the central act and the students and the educators are the main actors. Educational resources serve as mediating artifacts between the two. The daily pulse of a college or university is largely dictated by the classroom schedule. Many educators, however, increasingly argue that such classrooms are largely ineffective as learning environments and they should not continue to be built (Schank, 1997). But, what should take their place? In considering the future of the learning space, this paper is an attempt to discuss (1) a few of the reasons why traditional classrooms are inadequate and need to change, (2) some ideas that break with these traditions, and (3) suggesting areas for future learning spaces that are pioneering than imitative.

Students spend thousands of hours in classrooms and therefore classrooms are automatically are among the most important physical structures in the academic arena. Although much has been written about classroom environments in the sense of organizational structure or social environment, much less has been written about the physical environment of the classroom (Douglas & Gifford, 2001). The traditional classroom can be transformed through an appreciation of differing approaches to teaching and learning, application of effective physical design and adoption of instructional technology. From a student-centered perspective, learning is an active, participatory, experiential and cooperative process whereby student and teacher co-create the learning experience (Neill & Etheridge, 2008). While recent marketing education research
recognizes the value of student-centered learning (Hernandez, 2002; Laverie, 2006) and providing a range of learning experiences (Karns, 2006), our understanding of the role of physical space in enabling teaching and learning is limited. As the paradigm in education shifts from teacher to student and from passive to active learning, there is renewed interest in the effect of space on learning behaviors and instruction (Betoret & Artiga, 2004). The traditional classroom with its fixed arrangement constrains teaching and learning to one-way, linear flows. To address this connection between space and learning, one of the earlier attempts was initiated by Robert Sommer & Helge Olsen. They redesigned a plain 30 seat college classroom at the Davis Campus of the University of California. With a very small budget they changed it into a soft classroom with semicircular, cushion-covered bench seating, adjustable lighting, a small carpet and some mobiles. Compared to traditional classrooms of similar size, student participation increased markedly in the soft classroom (Gifford, 1997).

Learning is a central part of everyone’s life. It occurs everywhere even when people do not think of themselves as learning. We can learn while walking on the beach or when we talk over events of the day. Learning is usually associated with school although much learning occurs before we reach school age. Learning occurs in places where the designated purpose of setting is not education and in places where learning is incidental not to the primary purpose of the setting.

Learning is a function of both the biology and the ecology of the individual. Learning produces development and the classroom is a critical and costly component of this ecology. Vast amounts of money is spent on educating individuals of all ages. Environmental psychologists believe that educational settings can and should make education both more efficient and more enjoyable. The physical setting may not make or break education on its own but it can interact with non-environmental factors either to promote or to hinder learning process (Gifford, 1997). The general framework of the introduction is presented in Figure 1.

![Figure 1: A framework for conceptualizing person-environment relations in learning settings (Source: Author).](image-url)

About three decades ago, Edgar Dale described what he called the “experience cone” which orders different modes of learning according to their power (Figure 2). Retention is worst with the
modes at the top of this cone and best with those at the bottom. More recently, authentic learning has been a topic in the teacher-preparation debate, with future teachers being urged to use student-centered, constructivist, depth versus breadth approaches in their classes, yet finding themselves being taught by traditional teaching approaches. “Don’t do as I do, but do as I say” turns out to be a particularly ineffective model for long-term behavior (Long & Ehrmann, 2005).

![Figure 2. The “Experience Cone” (Source: Adapted from Edgar Dale, Audiovisual Methods in Teaching, 3rd. ed. New York. Dryden Press, 1969).](image)

A modern pioneer in educational environmental psychology, Carol Weinstein (1981) has summarized four assumptions made by environmental psychologists who study learning and the physical environment.

1. Although the setting usually does not teach directly, it can either facilitate or hinder learning, both directly and symbolically. Loud noise for example, may directly interfere with the transmission of information from teacher to learner. In addition, a drab, untidy classroom may symbolize to learners that the school and teacher care little about their progress.

2. The effects of the physical setting on learning are not universal but are moderated by the social and instructional context. For example, open plan schools work poorly when educators merely import their teaching methods from traditional schools with separate classrooms but often work better when teaching methods suited to open space are used.

3. There is no single best learning setting. The best physical settings are those congruent with the type of material being learned, the goals of the class and the characteristics of the learners.

4. Learning is maximized when the physical setting is considered as carefully as are other aspects of the learning situation, such as the curriculum, the teachers’ verbal ability and other teaching aids. Unfortunately, most educational programs still pay little attention to the physical setting.

The path from design research to environmental action is full of obstacles. Introducing a new physical form requires people to change established patterns of behavior. Even within a Faculty of Design, it is easier to plan a settlement on the moon than to change a single classroom. Early evidence suggests that inexpensive changes to make classrooms more pleasant have tangible benefits for education.

The task of environmental psychologists who study learning is to identify conditions under which physical and nonphysical elements of the setting combine to result in improved learning.
Where does academic learning really take place? This paper focuses on the rooms where instructors and students interact. The paper is concerned with the role of the physical environment in learning, including factors as architecture, furniture arrangement, lighting and room design.

**METHODOLOGY**

During the delivery of “People and Environment Course” to Level III in 2011-2012 Fall Term, Interior Design students of Faculty of Architecture and Design at Bahçeşehir University were asked “What kind of classroom designs might be better at supporting learning in the university?”. Four ideas proposed by the students can be summarized as useful in imagining their impressions of an ideal classroom:

1. “Learning by doing” matters.
2. “Context” matters.
4. “Location of learning” matters.

Classrooms should support the activities of effective learning. What should such spaces look like? Do any such space yet exist? Once students arrive in the classroom, the faculty member can help students deal with difficult ideas and nuances and then can prepare and motivate students for the next round of work. What kind of classroom space is most effective and efficient for this? Ideally, such learning spaces should support several key activities.

1. Students need to be able to hear what the faculty member and other students say and see what other people show, even if objects are small.
2. Students need to be able to replay this material, perhaps instantly.
3. Students need to be able to try something someone suggests, then and there.
4. Students need to be able to work for short times in small groups, observing and critiquing one another's work.
5. Students need to be able to respond to questions, from their peers as well as from the instructor.
6. The lecturer needs to be able to display student response patterns and use them to provoke further discussion.

After all the above information was driven from class discussions, “People and Environment” course students were given a Final Assignment of “Re designing a Classroom of their choice into a Soft Classroom” in the premises of Bahçeşehir University Beşiktaş Campus. All classrooms on Bahçeşehir University Campus have chairs in straight rows facing towards the board whereas smaller classrooms have portable chairs. Based on several years of experience of teaching People and Environment Course and lecturing on an alternative classroom design, it was observed that a strong demand among students impended for a softer, warmer and more intimate instructional space. The author's previous studies revealed that little classroom participation actually took place during the courses. Even in a small seminar, student comments occupied an average of 10 minutes out of an hour. The rest of the time was taken up by the lecturer. In larger classes, the student initiated discussion proved to be even less, about 3.5 minutes, much of it being about administrative matters. When a class had a large amount of participation such as “People and Environment” course 2011-2012 Fall Term (87 students), this meant discussion between the instructor and individual students. There was considerable whispering among those in adjacent seats, but there was little or no attempt to initiate a discussion between the students. The straight row arrangement conveyed the message that only the instructor was capable of responding to students' inquiry.

Classroom A 205 (Figure 3) in the A Block of Bahçeşehir Campus was chosen as a case study by a group of 7 students. The definition of as is condition of the Classroom A 205 by the students was:
The classroom number 205 in the A Block is 62 sqm. It consists of seating for approximately 40 students. The individual seats for students are in grey and maroon. The flooring is wood-like linoleum. There is the speaker's corner in the classroom and the screen serves for the projector. The windows are at the rear. The walls are all white with no notice boards but clothes hanging equipment. Illumination is provided by means of a suspended ceiling with square shaped fluorescent lighting fixtures installed in it.

The definition of the Soft Classroom Design proposal (Figure 4) of the students was:
The main consideration of the design proposal is to make it more dynamic and flexible. While trying to establish this, the consideration of transforming the class to a warmer environment for the students is kept as the main goal. Turning the corners curvilinear is the starting point. As for the aspect of dynamism, all the classroom walls being used for poster hangings by magnets. The class is divided into two areas, first being designed for 2D learning. The instructor can use the board and 2D projector at the same time. The second area is the 3D learning area.

This place is formed by a canvas system. It opens and makes space for 3D. When the system is open, it provides space for walking around the projector and when closed hallstand function area appears. The new chair is designed so as to be easy moving with the reels under its legs. With these reels the chair can easily move between two areas while the user is seated. For a more specialized chair design and making it more appealing for the students a shelf is created just above the reels for the students to keep their belongings. What is more, when the lights are down students can use the LED light fixture installed in the chairs writing table to take down notes. As for the colors used all over the classroom, the new surrounding walls are ice blue while seats are in peach. The floor, which used to be white, is now beige linoleum. White is a traditional color but it undermines the purpose of the classroom.

White reflects the light and may cause glare. The walls are in ice blue to provide a sense of water and sea to give the students a feeling of relaxation. According to research, peach and rose are used in schools because they are preferred over bolder colors. Bold colors may create distraction. As for the soft classroom lighting, one attractive option is the installation of fluorescent cove lighting around the perimeter of the room. This makes the room look much brighter. The strip lighting itself is not expensive but it requires detailing that affects the construction budget. Perception of an all round high level of illumination, rather than lighting that focuses on seating, can be a psychological plus for students. Flexibility is always important in standard classroom lighting design. Some areas of the classroom still opt for a multilevel switching system as a simple and cost-effective solution. Multilevel switching that works with three series of lamps to create low, medium and high levels of illumination is designed. The cost for fluorescent dimming systems that provide the integration of daylight and artificial lighting is more affordable.

Students, like faculty, prefer to control their environment. The ability to rearrange seats and adjust the lighting makes it possible for the same place to be used in many ways, by different groups.

CONCLUSIONS
This article focuses on the classrooms where students and teachers interact, because they are not so easy to create, renovate and maintain and the daily schedule of academic activities are shaped by them. The students’ ability to imagine a new classroom is shaped by changes in their own beliefs about learning spaces. We live in a fast and continuously changing world, so university, faculty, staff and students should keep on asking the following questions about learning spaces:

- What are we as a course and as an academic community doing with our current spaces?
- How can we utilize these spaces for more effective teaching and learning?
- How can we improve our learning spaces so that we can organize our teaching and learning better?

What can be recommended by the end of this paper might be an advise such as:
• Education should move its focus from formal to emphasizing learning in both formal and non-formal settings
• University level education should no more be seen as listening, reading and taking down notes but as seeing learning as being situated in action, collaboration, coaching and reflection
• Students and faculty should not be seen as the users of learning spaces designed by specialists that cannot be changed after completion, but people whose impressions of better teaching and learning shapes pioneering new learning spaces.

As a final statement it can be said that, this research had little impact on the faculty administration, as scarcity of space is one of the main problems all over the campus. But, there is always hope for better teaching and learning spaces. Good learning space design can support an institution’s mission of enabling student learning and convergence of space can lead to exciting new models of campus interaction.

Figure 3: Current design of Classroom A 205 (Source: Author).

Figure 4: Students' Soft Classroom Design Proposal (Source: Author).
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RE-EXPLORING LATE OTTOMAN BUILDINGS IN TODAY’S ISTANBUL

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Abstract
The late-Ottoman early-Republic period had delineated a unique, heterogeneous stage in the course of Istanbul’s transformation into a modern city. Istanbul at the turn of the 19th century, exhibited a setting under influence of political, ideological, historical, cultural and social factors. The active, long settlement history, imperial heritage, urban texture, cosmopolitan social structure, metropolitan growth, westernization, nationalism, demands of contemporary city life, the modern integrating with the existent local were among them. In this study, architecture of the late-Ottoman Istanbul will be explored through selected buildings that reflected the architectural/urban development of their time, held significance in terms of function, form/style, technology and urban features, represented leading architects’ work, specific trends, and marked strategic locations. Consecutive part of the study will cover a re-exploration of these buildings in their current condition, after a century has passed since they were constructed. Such a comparison, besides providing a record of urban transformation in Istanbul, discloses different faces of the encounter with globalization, and points to contemporary local and global architectural problems of the metropolis in general.

Keywords: Late-Ottoman architecture; Istanbul; modernity; urban transformation; historical significance.

INTRODUCTION
The late-Ottoman early Republican period had delineated a unique, heterogeneous stage in the course of Istanbul's transformation into a modern city. The city at the turn of the 19th century exhibited a setting shaped under influence of various factors related to political, ideological, historical, cultural and social issues. The active and long settlement history and the imperial heritage the city housed, the urban texture, cosmopolitan social structure, metropolitan growth, westernization, nationalism, demands of the contemporary city life, the modern codes getting integrated with the existent local were among them.

The city had absorbed and reflected a heritage of multiple identities, cultural traces, urban and architectural features coming from the long history of settlements in the region. The dissolving power of the Ottoman Empire in the 19th century, growing dominance of the European capital in economy, demand for reforms and a new regime were all parts of the setting. Almost throughout its whole history, Istanbul has housed citizens of different origins - a population composed of Turks, Greeks, Jews, Armenians, Europeans, Levantines, Persians and Arabs-keeping the city culturally and economically related to the outer world, mostly to the European culture, and therefore reserved a potential for variety and continuous change in means of socio-cultural life and physical environment (Tanyeli, 2004, p. 13). Groups of different ethnicity, religion, nationality forming the population did not display regular correspondence with the social structure in means of distribution of wealth and social status however these groups commonly preferred to settle in certain districts of the city. Istanbul has always been a harbor city within a trade network, having ties with other continents and cities. The urban development in Istanbul, reforms and efforts implemented in this area, resulted in population growth (between 1840-1900), new distribution patterns and physical growth of the city. Influence of westernization in social life and physical environment that had emerged in the 18th century became more distinct. Reforms of
1839 and 1908 had been important moves and the 19th century is accepted to define a border (Celik, 1998, p.28). Besides westernization, Turkish nationalism was a current issue. The wars and loss of land, the weakening political status of the empire evoked rising of nationalism, and nostalgia for the glorious past.

In this context, building the contemporary architecture in Istanbul had gone through various routes and styles. There had been conscious, canonical approaches as well as more spontaneous developments. Starting from the late 19th century, architecture produced, covered a wide range of styles including revivalist, eclectic, oriental, Seldjuk, Ottoman-Turkish features, vernacular and classical references, and a rational, functional architecture rooted in western modernism. It included works of numerous architects with varying backgrounds and tendencies, however their work may be considered on the common basis of search for a modern / contemporary and contextual architecture in harmony with the demands of the period.

Western influence, reforms, and Islamic ideals were all experienced together in the late 19th century Ottoman world. Foreigners and minority groups of the community held dominant roles in economical and cultural activities including architecture. Architecture was mostly produced by foreign professionals invited to the country, and locals of different origins, some of whom were not architects but master builders. In the schools of architecture, mostly foreign tutors taught. 19th century was not the first time traces of European styles and eclectic mixes were seen in the architecture of Ottoman Istanbul, they went back as far as the 17th and 18th centuries. In this period besides traditional architecture they were also seen in buildings holding new functions as the output of social and economical life, as the requirements of a modernizing society. New functions and new technologies were brought together with the western styles (Celik, 1998, p.101). Architecture of districts shaped in this period, displayed new materials and technologies together with features of revivalist, eclectic, oriental, and Art Nouveau styles. Specific buildings constructed between 1890-1910 by certain architects reflected a common attitude in architecture. These architects among whom Jasmund, Cuna & Ritter, Vallauri, and D’Aronco are reckoned, shared common features in their lives and practice. They had European origins and were trained in Europe, therefore they were used to the design traditions of Beaux Arts and neo-classicist and eclectic understanding in architecture. In their designs for Istanbul, they combined these with the local, architectural motifs, integrating Ottoman / Islamic references and formed an eclectic, oriental style. They had made interpretations of the local and traditional cultural context in their own way and the common theme in their work had been ‘concern for local identity’.

Meanwhile, a nationalistic approach, a form of ‘Ottoman Revivalism’ often called the ‘First National Style’, exposed itself in the work of especially two leading architects; Kemaleddin and Vedat Tek (Bozdogan, 2002, p.31). Kemalettin, during his education, had been a student of Jasmund and Vedat Tek was trained in the Beaux Arts school of Paris. They had numerous followers. Between 1910s and 1930s, the style created buildings combining traditional Ottoman-Turkish architectural features with principles of classicism particularly in facade compositions. The preceding period of pluralism in architecture, hybrid, eclectic compositions of western styles had caused discomfort and fear of corruption and therefore ‘a national contemporary architecture’ became the new aim. It was a period that included the foundation years of a new nation-state out of a disintegrating Empire, war and struggle years.

Republican Turkey was established in 1923 and Ankara became the new capital the following year. To emphasize the continuity of the nation and evoke the power and the glory of the past was important. In such a context, the style had born. Forms and elements from the Ottoman and Seldjuk heritage were researched and combined with the classical orders and contemporary techniques. The First National Style had its applications in almost all cities of Republican Turkey. With official support, the style was collectively used in public administrative and service buildings and also in some of the residential buildings. The intention was “to reflect nationalistic senses” through ‘classical Ottoman’ elements (Aslanoglu, 2001, p. 31). Although often criticized for the contrary, the style is considered to have caused modernizing influence on Turkish architecture (Yavuz, 2009, p.15). Later in the Republican period, it was abandoned in
favor of a western-oriented ‘modern’ architecture. A rational, functional architecture open to international modernism superseded the former, in parallel to the newly established culture policies.

In both approaches; in the architecture of ‘the First National Style’ and the preceding architecture of 1890s produced by the foreign architects, architectural and decorative elements derived from the repertoire of the past, had been utilized. Besides housing, in public buildings with modern functions, contemporary techniques and materials were used together with implications and reinterpretations of the past styles. Certain architects’ work and specific districts in the city had been prominent in means of revealing these architectural approaches and the contemporary public life modes of late-Ottoman Istanbul.

THE LATE-OTTOMAN ISTANBUL BUILDINGS
In this study, selected buildings constructed within a duration of thirty years (1890s-1920s) in Istanbul, that reflected the architectural and urban developments of their period, will be explored within two time frames: the first one belongs to when they were originally built, and the second belongs today. These buildings, namely Sirkeci (1890) and Haydarpasa (1909) train stations, Casa Botter (1900), Cite de Pera (1876), Cercle d’Orient (1884), Majik Cinema, Public Debts Building (1897), Ottoman Bank Headquarter (1892), 4th Vakif Han (1911-26), Central Post Office (1909), Liman Han (1912), when they were built, held significance in terms of function, form/style, construction technology and urban features, represented leading architects’ work and specific architectural approaches, and marked strategic locations in the city. Among them, Sirkeci and Haydarpasa train stations, Casa Botter, Cite de Pera, Cercle d’Orient, Majik Cinema, Public Debts Building, Ottoman Bank Headquarter, had been designed by foreign architects as an output of the ‘late-Ottoman’ Istanbul life, while the 4th Vakif Han, Central Post Office, Liman Han are considered as examples for architecture of the Turkish nationalistic approach efficient in early decades of the 20th century.

Today, almost a century had passed since these buildings were constructed and they have gone through a series of changes. A re-exploration of these buildings in their latest condition, as expressed by their physical change, functional use, status within latest physical and social context and projects in progress concerning their future, seems essential. Each building subject to this study, will be investigated within its original setting and with its recent properties. Exploration of the building’s first phase will be based on related sources by architectural historians, while for the second phase, visual observations and media arguments will be used.

Sirkeci and Haydarpasa Train Stations
The two main train stations of the Ottoman capital were built in 1890 and 1909, following the construction of railway routes that connected the city to Europe and Anatolia. Sirkeci and Haydarpasa terminals are located on the European and Asian sides of the Bosphorus, both near the shore. Sirkeci stood at the intersection of other transportation routes, provided easy access to tram and boat spots, while Haydarpasa stood on a small peninsula with a ferry terminal in front of it, a Vedat Tek design, built in 1917-18.

Sirkeci Station on the European side, a steel construction building housing modern installation systems e.g. gas lighting and heating, was originally opened as ‘the terminus of the Orient Express’. Its architecture reflected the duality of the local and western values that had by that time been a characteristic of Istanbul. The designer was August Jasmund, a German architect. Through his design, he had combined the Beaux-Arts design principles and a new version of “local” Islamic tradition, that actually included a mixture of elements from different sources, Islamic, Mughal, Andalucian, Gothic, Ottoman (Celik, 1998, p.116). These decorative elements had symbolized the style of “the Orient” as a whole to the designer. On the longitudinal facades, elements -high arches of varying shapes, rose windows, gothic lines, eight cornered stars, walls composed of bricks and stone- covered an image dictionary from Ottoman, Arab, Indian to Far East motifs, North African origins. Despite of the Orientalism, the building reflects
the classical design principles like order, symmetry, axially, and clarity. The roof element marking the entrance, creating a central, dominant, gathering effect along with the linearity of the railway building, is a lead covered monumental vault that stands for a dome, re-creating the image of a mosque together with the identical towers on the sides. Jasmund probably had two aims: creating an appropriate symbol for the final destination of the Orient Express and conforming to the classical Ottoman image of the city. The result was a contribution to the architectural pluralism of Istanbul. (Celik, 1998, p.116)

Haydarpasa Terminal on the Asian side, was built as a gift from the German Empire, as a part of the economical and military collaboration with the Ottoman Empire (Figure 1). A spectacular, imposing neoclassical style and an eclectic mixture of styles and motifs had been used by the German designers Cuna and Ritter. The building as a whole resembled a massive castle. The main facade overlooking the sea, is divided horizontally into three sections. The gables and corner towers with conical roofs are clear impressions of 19th century western architecture.

Through their architecture, these buildings conveyed messages about the image of the city: Sirkeci, on the European side, would welcome the travelers coming from Europe, introducing an “eastern” atmosphere, while Haydarpasa on the Asian side, would reflect and show the European face of the city to the travelers coming from Asia (Celik, 1998, p.83). These two buildings were efficient transportation buildings significant in urban scale, besides being historic, cultural landmarks.

Recently, due to decisions taken by the municipal council and the government, they are subject to change. At the end of 2009, a development project for a land of about one million sqm. including Haydarpasa and surroundings had been approved; a ‘world trade center’ project for Istanbul. The tender date would be 2010 and the complex would include hotel, office, congress, residence, marina and retail facilities, with the terminal marked as an area of tourism, culture and accommodation.

Before action was taken on progress of the project, which still continues to evoke opposition, on November 28, 2010 Haydarpasa was severely damaged by a fire, and stopped functioning as a railroad station. The fire destroyed the roof and most of the upper levels of the building, that were repaired temporarily to protect the interior from winter conditions. In November 2011, another stage of the project had been approved (Ocak, 2012).
Sirkeci Station since November 2011 awaits an extensive 2-3 year lasting restoration project following the presentation to the Cultural and Natural Heritage Preservation Board for approval. Beginning from February 2011, train tours are being decreased gradually (Sirkeci Station awaits new restoration project, 2011).

**Casa Botter**

By the 19th century, there had been a remarkable contrast between the two sides of ‘the Golden Horn’ of Istanbul. Pera and Galata regions had become important centers of modern life. Pera housed the embassy buildings and most of the European, Levantine population of the city. Life was cosmopolitan and westernized there. The district had developed into a center of social, cultural activity, entertainment and retail functions. Rows of richly ornamented facades in neoclassical and Art Nouveau styles first appeared on ‘Grande Rue de Pera’, the cultural and commercial axis of Pera. Art Nouveau, as a new western style, was reflected especially on surface decorations, window details and iron railings of Pera buildings. Istanbul concurrent with the European cities became one of the major centers of Art Nouveau.

The most important and the oldest known Art Nouveau building of Istanbul is located on ‘Grande Rue de Pera’, today Istiklal Avenue of Beyoğlu. Casa Botter (1900) is a distinguished work of the Italian architect Raimondo D’Aronco (Figure 2). It had been built as a large family house, a workshop and retail space at low level, for Jean Botter, the Dutch chief tailor of the palace. It stood for a new multifunctional residential type. A fashion house was built in the fashion style of the period (Batur, 1994, p.313). The design of the seven storey building, with its narrow front facade, interior courtyard, elliptical stair hall, curved stairs and landings, was distinctive. With its medallions, fluorite plantlike motifs, mascarades, plasters, turrets, tendrils on balcony railings, its facade brought novelty to the facades of Pera. Arrangement of the facade reflects both classical and Art Nouveau understanding; neo-baroque forms are combined with floral motifs of the Vienna Sezession.

The building for a while in 1960s, had housed bank offices when all its Art Nouveau interior decoration was lost. The upper floors were deserted long before the retail space on the ground level. It served as a music instrument shop until the beginning of 2000s. It is known that the building is owned by a large corporation and 2009 dated news is that, following renovation, it would be converted into a hotel (Tas, 2009). No action had been taken for years until October 2012 when it was observed that the building had been closed to access due to renovation works.
Cite de Pera

Cite de Pera (1876) located on ‘Grande Rue de Pera’ / Istiklal Avenue, had been designed as a combination of shopping arcade, apartments, and offices by the Greek Ottoman architect Cieanthe Zannos. The owner was banker Hristaki Zografos. The multifunctional complex with its arcade had set an Istanbulian example for the common building type of the 19th century European cities. In this period, numerous shopping arcades creating alternative circulation routes, had emerged in the Pera region.

The L-shaped internal street of Cite de Pera, integrated into the multi-story complex, connects the main avenue to secondary streets –Nevizade and Sahne streets- and ends with a vaulted glazéd roof with a dome at the junction of the two wings. The internal four-story facades of the arcade are decorated with pilasters, friezes, French windows and balconies. The ground floor housed a mezzanine with arched windows. Second Empire style is recognized on the building’s main facade, defined by the projecting gables, bay-windows, curved corners and balconies (Celik, 1998, p.109).

At the end of 1970s, the building had collapsed out of neglect and was rebuilt in 1988. Following the restoration, the passage that used to house shops of various kinds together with pubs and winehouses, was reopened as a galleria of uniform pubs and restaurants. Today it survives with the same function. The shop interiors and facades have lost some of their original architectural features. The gallery opening at roof level is covered with a simple, unembellished skylight. The upper floors that used to serve as residence and office space still preserve the same functions they are not impressive places for wealthy users anymore. Inspite of the changes, Cite de Pera today, preserves its main spatial structure, integration with its surroundings, circulation routes, its significance and activeness as a public space.

Cercle d’Orient

Cercle d’Orient (1884) by Alexandre Vallauri, is a large building of masonry that used to house a new function when it was constructed; a social club whose members were Levantines and minorities. Shops were located at the ground level above which a low level of rooms used from inside the passage and two upper floors housing the club rooms, took place. The building’s wide front facade of 45 meter length, is composed of a central part emphasizing a passage entrance and five units on both sides, while the Yesilcam Street facade is divided into three units. The facades are arranged symmetrically and treated with eclectic decoration. The building is known to have survived two fires, the second in 1970s had destroyed the upper floors partially. (Can, 1994, p. 409)

Vallauri’s building since 1930s, shares the same block with Melek and Isketinj apartments, and two movie theaters, Ipek (Opera between 1924-32, Ipek between 1932-55, later Ruya) and Emek. The upper floors of Cercle d’Origin building had been deserted for a long time, while the low levels including the arcade, housed retail, office and movie theater spaces. Among all of the related buildings, Vallauri’s Cercle d’Orient is listed as a historically significant ‘group I’ building and the others are considered as included in the secondary group. Emek Cinema –named ‘Melek’ when constructed in 1924- with its hall for 875, baroque and rococo ornamentations, is listed in DOCOMOMO (Documentation and Conservation of Buildings, Sites and Neighborhoods of the Modern Movement) as an element of historical heritage due to its cultural, industrial, technological significance.

In spite of all the preservation regulations, the whole building block was proclaimed to become subject to ‘development’ in 2006. Then in 2009, a preliminary project had been approved by the authorities in charge. The proposal included a shopping mall construction on the spot, with additional top and basement floors and moving the Emek Cinema to a high level in this complex. This project was met with public opposition, especially regarding the demolition and displacement of the historic cinema space. Chamber of Architects brought the matter before court in 2010 (Emek Sinemasi davasiyla ilgili belgeler, 2012). In September 2009, Emek, and in May 2010,
Ruya movie theaters were closed down. Only five of the shops including Inci Patisserie on Istiklal Avenue still functions. Today Cercle d’Orient complex as a whole, awaits its destiny, there are unpredictable aspects regarding its future. It seems Vallauri’s building will be restored in order to serve as a large component of the planned complex.

**Majik Cinema**

Located on Siraselviler Avenue, in Beyoğlu, the Majik building had been designed as an early purpose-built movie theater by Giulio Mongeri and constructed in 1910s. Previously, films used to be shown either in private mansions or public places like beer houses, accompanied by other shows. Majik had been a special hall for 2 000 spectators, with its elaborate interior design, private lodges, orchestra pit, and installations. It was distinctive on Siraselviler by its wide entrance facade, the only part of the building that had survived unchanged until 2012. Majik in 1930s, had functioned as a movie theater under different names, and then in 70s and 80s housed the state theater until 3-4 years earlier.

Recently a property company applied for planning permission to build a multi-storey hotel and office block on the site occupied by the cinema, a music hall space no longer in use and the car park behind it. Plans for the new development were approved. It has been proclaimed that the planned high-density complex includes the cinema function. Today the building is under construction.

**Public Debts Building / Duyun-u Umumiye**

Public Debts Building / Duyun-u Umumiye (1899) in Eminonu region, by Alexandre Vallauri, was originally built as the headquarters of the European institution, formed to follow debts and to control economical resources of the bankrupt Ottoman government (Figure 3). The building having functioned as a control center of the foreign capital is not only important with its architecture but also with its political and historical weight (Celik, 1998, p.116).

It stands as a linear, massive edifice with its monumental entrance, spacious front and back yards. Vallauri’s approach was creating a kind of neo-Ottoman style for this extensive building. He had used a combination of classicism and motifs taken from local architecture. Wide eaves, bay windows, timber grills, window details are from residential Turkish architecture. Material use, high doors and window patterns repeat themes of the monumental Ottoman architecture. Corridors lit by skylights, glass blocks in the floor and the fanlights of the high doors reflect use of contemporary materials in his architecture. Vallauri had also designed a central dome with glazed
coffers over the interior marble staircase, that contributed to the magnificence of the interior, however it is not seen from outside. The building is considered as one of the buildings that define the passage to the nationalistic style (Batur, 1994, p.112).

During the early-Republican period in 1932, upon Mustafa Kemal Ataturk’s demand, Istanbul High school had moved into the Public Debts Building. Today the building still houses the school. In 1984 an additional dormitory building, and in 1996 a new building for the newly opened primary school had been constructed within the complex borders. The building is preserved in good condition, except for today’s problems of approach and access to a populated school located in a busy environment with heavy vehicle and pedestrian traffic.

**Imperial Ottoman Bank Headquarters**

Imperial Ottoman Bank Headquarters (1892), at the commercial center Bankalar Avenue in Karakoy, is another office building designed by Vallauri. It used to house the most powerful bank of the period. It was supposed to be the first modern bank building in the district, and with its magnitude and architectural style, one of the most spectacular looking buildings in the city in 1890s. It is considered that duality of east and west was reflected on its architecture through style features. The facade looking towards Beyoğlu is neoclassical - a highly ornate neo-Renaissance facade- and the facade overlooking the old city on Halic side, recalls Orientalism.

The building today is owned by Garanti Bank. Its renovation has recently been completed and since 2011 it houses SALT, a cultural institution funded by the bank. Exhibition and conference halls, offices, library and archives for public use, take place in the building.

**4th Vakif Han**

The most distinguished one of a series of office buildings by Kemalettin, is the 4th Vakif Han (1911-26), a large, seven-storey office block located in the business district Sirkeci. The building had been constructed in steel skeleton system and the facades were covered with cut-stone. Shops had been designed at the ground and mezzanine levels, and offices, at the top floors. The facade with its coloured tiles, variety of windows -different form and arrangement for each floor- the ordering and proportioning lines and articulation, demonstrates the style's principles. Towers are emphasized at the corners, that end with domes at the top (Yavuz, 2009, p.91). Corner domes besides finalizing the roof and marking the corners, accentuated the offices and they were being used as additional office space.

The building, following a period of neglect, had been restored between 2005-2009 and it is being used as a luxury hotel today. The shops at low levels still serve as retail space. The building’s exterior and facades are preserved in accordance with the original except for the roof, while the interior was changed and adapted according to the needs of the hotel.

**Central Post Office Building**

The Central Post Office Building (1909), a major work of Vedat Tek, is a massive building, its architecture featured with Ottoman architectural elements such as pointed arches, tiles, overhanging eaves mostly as decoration, together with western motifs like mouldings, plasters, Corinthian capitals, in a classical symmetrical facade composition. A 15m high glazed central court introduces light to the interior. On both sides of the raised, arced main entrance, protruding, domed parts of the building serve as identical entrances to administrative spaces. Today the building still serves as the main post office building of Istanbul and houses a museum of history of post, telegraph and telephone services.

**Liman Han/Mesadet Han**

Liman Han / Mesadet Han (1912 ) by Vedat Tek, is a five storey office building with reinforced concrete structure, located in Eminonu region (Figure 4). A row of shops with a mezzanine floor took place at the ground level, while office space associated with sea transportation used to be located in the upper floors. The main facade on Yalikosku Avenue bears style characteristics of
the nationalistic architecture period. The arched entrance with ornamented, tiled columns on both sides is not placed symmetrically however it is emphasized above with the cylindrical protrusion of the façade. Plasters on the sides, end as modest turrets at the roof level. Tiles in blue tones as a distinctive element in façade ornamentation continue above and between the windows. Windows at each level reveal differences in terms of form, size and ornamentation. Narrow eaves at the shops’ ceiling level and the roof level follow the wide main façade. The spacious entrance is defined by a stair hall in marble, lined with colored tiles on the walls, and a cast iron, ornamented elevator case.

Figure 4: Liman Han / Mesadet Han (Source: Irem Maro Kiriş Archive).

Liman Han office floors had gone through certain adaptations and been used as office space for various purposes until the beginning of 2000s. According to 2006 dated news, Liman Han and neighboring two buildings Gunes Han and Nuh I Han would be united in a new complex of hotel and congress center. The building was evacuated completely in 2007 due to its insecure conditions. The building has declined three degrees in the sea–north–direction that reveals risks of serious structural damage and collapsing. (Liman Han projesi için CED raporu yayınlandi, 2012)

DISCUSSION
The data above reveal the buildings subject to this study, in terms of their physical and functional change, their status within physical and social context and relevant projects in progress—or speculative projects- concerning their future (Table 1). Their original features when constructed and their current properties are compared in order to interpret the ongoing urban transformation they represent.

Haydarpasa train station, Casa Botter, Cercle d’Orient and Liman Han, in their recent and current conditions, are abandoned public buildings—Casa Botter used to house both public and private functions originally. They seem to have been left to deteriorate due to time and neglect. Liman Han today is threatened by demolition due to neglect and structural damage. Haydarpasa Station following the fire of 2010, is in a similar state. Sirkeci station building functions partially today, its future is related with Haydarpasa and the whole railway system of the city. It seems that Sirkeci and Haydarpasa are not planned to function as train stations anymore. As can be followed
in the media, future plans for all these buildings involve commercial functions and large, extended complexes. Projects concerning their future are not reliable and clear in terms of duration and function.

Majik Cinema, following a period of 3-4 year neglect is under construction today, in scope of a similar project. Today, Cercle d’Orient and Majik in Beyoglu region, both are involved in projects in which distinguished cinema halls of historic, architectural and cultural significance, are lost. The new proposals include chain cinema halls as minor parts of large hotel and mall complexes.

Pera/Beyoglu buildings Casa Botter, Cercle d’Orient, Cite de Pera reserve their physical context without much change as far as the main axis Istiklal Avenue, connected streets and the building blocks of rowhouse order are considered. Regarding the social change in the area, they have lost their property of representing an elite and elegant life mode of the late-Ottoman Istanbul. Pedestrianization of the Istiklal axis has increased public interaction. The region today is still a cosmopolitan and busy center of Istanbul with its characteristic functions of entertainment and shopping. Restaurants and cafes, residences, offices, embassies, schools and religious buildings are still part of the physical environment; numerous buildings being renovated are part of today’s Beyoglu scenes.

Among all buildings studied, the Ottoman Bank Headquarters and the Public Debts buildings stand as the only examples that are preserved in good condition and prestigious status in terms of physical and social context, while housing new functions. It has been remarkable to have buildings of commercial function being converted into culture facilities, an arts center and a school.

4th Vakif Han, the office building with retail units, following a period of neglect, had been converted into a hotel. Additional facilities at roof level and alterations made inside had caused inconvenience.

While Cite de Pera reserves similar retail and restaurant spaces with its earlier properties and functions, Central Post Office is the only building that survives with its original function and physical properties after a century has passed.

CONCLUSION
These buildings had been constructed as representatives of “contemporary” Istanbul, as faces of encounter with the modern during the late 19th, early 20th century. Almost a century has passed since they had been built. Re-exploring them today, in their current condition, as expressed by physical and functional change, status within physical and social context and projects in progress concerning their future, reveal that they all are considered as buildings of historic, architectural and cultural significance and protected by regulations, however about 50% of the buildings are in abandoned state. They are not being used today; they have not been used for a considerable while. Mostly they have undergone changes due to time and neglect; they have been kept in inappropriate conditions, without conservation, restoration and proper maintenance.

The study reveals that after a century has passed, very few of the buildings with different functions –mostly public functions- constructed in late-Ottoman Istanbul, were able to keep their original functions, and their architectural and physical properties. Some functioning buildings have survived the century in good state.

In the last decade, there is a tendency to transform buildings of historic significance in central locations and utilize them as a part of large building complexes of especially commercial and retail use. Among the studied buildings, the buildings that seem deserted are declared to be under engagement of similar projects. Their value seems to be related with their prestigious, central locations. While most of the extended capacity of the site, as proposed in these projects, is used for commercial purposes, there is scarce potential for cultural facilities. Projects in progress concerning Cercle d’Orient and Majik, with the loss of original cinema halls of the region, seem to involve probable damaging alterations and imply an impact on the local, cultural and architectural character of Beyoglu.
It is possible to consider the Istanbul case represented by the above examples within and as part of the global scene, and the new development projects based on long-term neglected historical buildings/sites, as a consequence and alternative expression of rant-oriented architecture driven by local and global agencies of the 21st century.

### Table 1. The Features of the Studied Buildings (Source: Author).

<table>
<thead>
<tr>
<th>Name of Building</th>
<th>Architect</th>
<th>Compl. in</th>
<th>Location</th>
<th>Original Function</th>
<th>Current Status</th>
<th>Physical Change</th>
<th>Project for future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sirkeci Train Station</td>
<td>August Jachmund</td>
<td>1890</td>
<td>Sirkeci/ (Eminonu*) Fatih</td>
<td>Train Station</td>
<td>Partially functions</td>
<td>-</td>
<td>Restoration Project in progress</td>
</tr>
<tr>
<td>Haydarpaça Train Station</td>
<td>Otto Ritter &amp; Helmut Cuna</td>
<td>1909</td>
<td>Haydarpaça/ Kadikoy</td>
<td>Train Station</td>
<td>Abandoned</td>
<td>Damaged by fire</td>
<td>Project in progress for hotel</td>
</tr>
<tr>
<td>Casa Botter</td>
<td>Raimondo D'Aronco</td>
<td>1900</td>
<td>Istiklal Avenue/ Beyoglu</td>
<td>Retail and Residence Building</td>
<td>Abandoned/ under construction lately (Oct 2012)</td>
<td>Damaged due to time</td>
<td>Unknown function (Hotel)</td>
</tr>
<tr>
<td>Cite de Pera</td>
<td>Cleanthe Zannos</td>
<td>1876</td>
<td>Istiklal Avenue/ Beyoglu</td>
<td>Retail and Residence Building</td>
<td>Retail and Restaurants</td>
<td>Damaged by fire and restored</td>
<td>-</td>
</tr>
<tr>
<td>Cercle d'Orient</td>
<td>Alexandre Vallauri</td>
<td>1884</td>
<td>Istiklal Avenue/ Beyoglu</td>
<td>Retail and Club Building</td>
<td>Abandoned</td>
<td>Damaged due to time</td>
<td>Development including surroundings</td>
</tr>
<tr>
<td>Majik Cinema</td>
<td>Giulio Mongeri</td>
<td>1910</td>
<td>Beyoglu</td>
<td>Entertainment</td>
<td>Abandoned / under construction</td>
<td>Damaged due to time</td>
<td>Hotel, Office, Cinema Complex</td>
</tr>
<tr>
<td>Public Debts Building</td>
<td>Alexandre Vallauri</td>
<td>1899</td>
<td>Cagaloglu/ (Eminonu) Fatih</td>
<td>Building for Public Debts</td>
<td>Building for Public Debts</td>
<td>Culture/ Education</td>
<td>-</td>
</tr>
<tr>
<td>Imperial Ottoman</td>
<td>Alexandre Vallauri</td>
<td>1892</td>
<td>Karakoy/ Beyoglu</td>
<td>Bank Headquarter</td>
<td>Exhibition and Conference Center</td>
<td>Restorated</td>
<td>-</td>
</tr>
<tr>
<td>4.Vakif Han</td>
<td>Mimar Kemalettin</td>
<td>1926</td>
<td>Sirkeci/ (Eminonu) Fatih</td>
<td>Office Building</td>
<td>Office Building</td>
<td>Hotel</td>
<td>Restorated</td>
</tr>
<tr>
<td>Istanbul Central Post Office</td>
<td>Vedat Tek</td>
<td>1909</td>
<td>Sirkeci/ (Eminonu) Fatih</td>
<td>Post Office</td>
<td>Post Office / Post Museum</td>
<td>Restorated</td>
<td>-</td>
</tr>
<tr>
<td>Liman Han</td>
<td>Vedat Tek</td>
<td>1912</td>
<td>Sirkeci/ (Eminonu) Fatih</td>
<td>Office and Retail Building</td>
<td>Abandoned</td>
<td>Damaged due to time</td>
<td>Hotel</td>
</tr>
</tbody>
</table>

*In March 2008 Eminönü Municipality was bound to Fatih Municipality*

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HOW SUSTAINABLE ARE INDUSTRIAL BUILDINGS?
A Study In Golden Horn District

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Abstract
After the industrial revolution, as in all areas, cities and buildings are also faced with a rapidly changing renewal. The changing within social structure by immigration and population growth, with bad living conditions and environmental degradation, urban fabric begins to tear and the concept of sustainability become a necessity in all sectors such as construction, architecture and urbanism. Therefore subject of “re-evaluation and transformation” of industrial buildings which come up with their specific properties especially in old / historical urban areas should be analyzed in terms of physical and social sustainability. In this context, the causes and effects on the change and transformation of three industrial buildings which have been chosen from Golden Horn district—which has potentials about getting back the old value of its own with lots of new project- with sustainability criterion will be analyzed. In the light of sustainability criteria formed by combining the findings from this evaluation and findings from comprehensive literature research, the aim of the study is to examine how sustainable is the conversion of old industrial buildings located in the Golden Horn.

Keywords: Sustainability; sustainability criteria; industrial buildings; re-use; Golden Horn.

INTRODUCTION
With change and transformation, industrial buildings that are located in industrial areas face some regeneration actions. In regard of these actions, whether these buildings considered within sustainability concept constitutes the main problem of this study. It is aimed to inspect the selected buildings that have certain characteristics in the phase of re-evaluation and transformation with the context of economical, social and ecological attributes of sustainability. It is also aimed that complete evaluation of selected buildings in the context of sustainability.

In this study that evaluates how much sustainable are regenerated industrial buildings in the end of regeneration period; Golden Horn is chosen as one of the old, lost its functions and having high regeneration potential areas of country. Three completed projects selected in order to evaluate end results. Another reason that all three buildings are selected from Golden Horn area is that the ability to observe if any different approaches made during regeneration despite the fact that they are all located at the same area.

Comprehensive literature study has been made about sustainability before the evaluation of how much these selected buildings are sustainable after regeneration work. With this literature study, it is aimed to reveal what are the social, economic and ecologic indicators of sustainability. After the literature study that helped to specify certain criterion about sustainability, a case study has been conducted on Santral Istanbul, Rahmi Koç Museum, Kadir Has University.

The reason of using a case study in the content of this study is; case study method based on inspecting one individual, group, example or incident deeply in order to understand basic principles under cause and effect relationships. Case study is an appropriate strategy to answer research inquiries such as ‘how’ and ‘why’ (Robson, 1993; Yin, 1998). In general, case study is a
method that preferred when questions 'why' and 'how' emerged and also the researcher have very little control over events (Yin, 2002).

With the help of case study, literature knowledge that is discussed during this study will be questioned in the context of example buildings, thus sustainability concept in industrial buildings will be presented.

THE CHANGES AND TRANSFORMATIONS OF INDUSTRIAL BUILDINGS
Building with its environment gains more importance and becomes a big part of a whole (Kuban, 2007). Before the industrial revolution, architectures and cities were developed only in the framework of the needs, then they were faced with a quick regeneration and after the Second World War, changes became more visible. Therefore, in certain buildings, loss of function because of technological backwardness, economical wears, finally, functional changes had happened. These situations also caused undamaged urban fabrics, negative living conditions, regional wears and architectural decrepit.

Industrial buildings among these buildings were developed by the Industrial Revolution but industrial buildings began to get older and dysfunctional because of these beloved mentioned reasons in the last century -especially after the Second World War:-

- Resource shortages/ need for displacement;
- Technological backwardness;
- Physical attrition, wear and tear (they faced negative effects of production process such as high temperature, harmful gases, extreme pollution throughout the years); Hence, these abundant and vacant industrial areas with their structures became the problems of the urban life, which needed urgent solutions.

Because of these reasons; turning these re-functioned sediment buildings and their entourage more viable and livable must be the most important objective. Preserve social fabric, integration of old buildings and areas to new regions are required and urban life must be sustained in old/new areas (Baytin (Polatoglu), 2003). In the name of sustainability, researches on these buildings solely could be realized by “Social, Physical and Economic Recovery”.

When these areas were built, they were the facilities with technological and physical equipment satisfying needs of the age, in the course of time; these areas were abandoned because of the functional changes or dysfunction and industrial heritage was imperiled.

However, industrial areas and buildings with their mechanical equipment associated with the structures in which they are included are the important indicators of the socio-economic past of a country. Generally, only these buildings which are designed to satisfy functional objectives are transformed because of their symbolic existence and their representativeness (Cengizkan, 2006).

SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT
Projects include many different phases from exploration through design, construction, operation and decommissioning. Project activities are result in a very wide range of direct and indirect environmental, social and economic impacts (Keeble et. al, 2003). Because of this reason, a project is sustainable when the project improves in all three sustainable development dimensions, i.e. environmental respect, social integration and social economy, maintaining cost, time, quality and performance, at an acceptable range (Fernández-Sánchez and Rodriguez-López, 2010).

Sustainability is a worldview that fulfills economic, environmental and social needs without harming living conditions of posterity. In the context of sustainability, sustainable construction differentiates itself from traditional construction by adding cost, quality and time objectives along with minimizing resource consumption, minimizing environmental degradation and creating healthy built-up environment (Kibert, 1994).

Kibert’s definition can be considered as the inception of sustainable construction. It identifies the central objectives of sustainable construction, which provides a high building
performance for the occupiers. However, it does not establish its relationship with social and economic environment (Zhou and Lowe, 2003).

Hill and Bowen (1997) divided Kibert’s principles in four ‘pillars’: social, economic, biophysical and technical.

- Social sustainability highlights improvements in the quality of human life, and human living environment, which include culture, health, education, and intergenerational equity.
- Economic sustainability includes the use of full-cost accounting methods and real-cost pricing to set prices and tariffs for goods and services and achieve more efficient use of resource.
- Biological sustainability includes the motion that sustainable construction needs to protect the natural environment rather than pollute, encourages the use renewable resource and reduce the use of water, energy, materials and land in each stage of a project.
- Technical sustainability requires high performance, durability, quality and mixed use of a building.

In the concept of sustainability; the economic, social and environmental aspects, which are inextricably linked, remain the three fundamental pillars that must always be appropriately addressed (Ekundayo et. al., 2011). Getting these primary aspects of sustainability –economic, environmental and social– in relation to the architectural works; four key questions relating to economic, social, environmental and natural resources use can lead us:

- Economic: Will the project generate prosperity and enhance the affected economies?
- Social: Will the project be implemented in a socially responsible manner and benefit the affected communities in a fair and equitable way?
- Environmental quality: Will the project cause long-term damage to the environment?
- Use of natural resources: Will the project protect and enhance natural capital? (Keeble et. al., 2003).

By the turn of the 20th century, due to fast industrialization and rapid urbanization, the natural and the built environment have been facing several environmental, economic and social problems. These problems are mostly environmental oriented in the developed countries, whereas they are more concerned with economic and social issues in the developing ones. To overcome these current problems and to ensure future progress in the improvement of economic, social and environmental conditions in human settlements, the concept of “sustainable development” has emerged as a challenge to realize economic and social development, and environmental protection, which are interdependent and mutually reinforcing components of sustainable development- the framework for our efforts (Hoşkara and Sey, 2008).

In this respect, dealing with the concept of sustainable development “economical, social and environmental” values should be added to the research of sustainability and architecture relationship. To achieve sustainable development; sustainable construction which can be defined as a holistic process aimed to promote economic justice and human dignity while building settlements and re-achieve and maintain harmony between the natural and built environment (CIB and UNEP-IETC, 2002) appears to be an important criterion. In the global perspective sustainable construction -that can be defined as a socio-economic environmental approach- at the same time has national, regional and local visions (CRISP, 2004).

Old / historical urban areas are considered the most important documents because of transmitting the social lives, economic, technological conditions and cultures of societies to future generations. Due to this property they become one of the most important components that make up the social environment. Especially when old urban areas are examined, it is monitored that industrial buildings stand out due to some reasons peculiar; therefore, the "re-evaluation and transformation" works with the concept of sustainability is thought to provide important contributions for architecture.

In this context, there is going to be a discussion about three basic sustainability dimensions; the social, environmental and economical impacts on the industrial buildings which are affected by transformation and conservation in Golden Horn.
Sustainability Criteria
In this study three industrial buildings are going to be examined with the primary sustainability criteria (economical, social and environmental) because the information about technical criteria such as conflict, quality, management, application, etc. (İşik, et. al., 2012) are not accessible by the researchers. Thus the relation to architectural work and technical sustainability is not going to be presented by the study. Before discussing the social, environmental and economical impacts on the three chosen industrial buildings; determined sustainable indicator depending on the comprehensive literature survey shown in Table 1.

Table 1. Sustainable indicators (Source: İşik, et. al., 2012).

<table>
<thead>
<tr>
<th>ECONOMICAL INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cost</td>
</tr>
<tr>
<td>• Time</td>
</tr>
<tr>
<td>• Technical Requirements</td>
</tr>
<tr>
<td>• Bureaucracy</td>
</tr>
<tr>
<td>• Types of contracts</td>
</tr>
<tr>
<td>• Strategical Decisions</td>
</tr>
<tr>
<td>• Bidding competition</td>
</tr>
<tr>
<td>• Management of Financial Risk</td>
</tr>
<tr>
<td>• Economic flows (related to the life cycle)</td>
</tr>
<tr>
<td>• Innovation</td>
</tr>
<tr>
<td>• Economic performance</td>
</tr>
<tr>
<td>• Potential financial benefits</td>
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<tr>
<td>• Trading opportunities</td>
</tr>
<tr>
<td>• Employment</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ENVIRONMENTAL INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Soil</td>
</tr>
<tr>
<td>• Water</td>
</tr>
<tr>
<td>• Atmosphere / Air</td>
</tr>
<tr>
<td>• Biodiversity Landscape</td>
</tr>
<tr>
<td>• Land use</td>
</tr>
<tr>
<td>• Resources</td>
</tr>
<tr>
<td>• Waste</td>
</tr>
<tr>
<td>• Energy</td>
</tr>
<tr>
<td>• Transport</td>
</tr>
<tr>
<td>• Effects on Neighbors</td>
</tr>
<tr>
<td>• Material Use Indoor environmental quality</td>
</tr>
<tr>
<td>• Project Environmental Management</td>
</tr>
<tr>
<td>• Legal</td>
</tr>
<tr>
<td>• Health and comfort</td>
</tr>
<tr>
<td>• Conservation of old building stock and physical assets (Physical Sustainability)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCIAL INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Culture</td>
</tr>
<tr>
<td>• Historic Environment</td>
</tr>
<tr>
<td>• Cultural Heritage</td>
</tr>
<tr>
<td>• Built Heritage</td>
</tr>
<tr>
<td>• Built environment</td>
</tr>
<tr>
<td>• Protection to landscape and historical sites and culture</td>
</tr>
<tr>
<td>• Public Accessibility</td>
</tr>
<tr>
<td>• Participation of all Actors</td>
</tr>
<tr>
<td>• Security</td>
</tr>
<tr>
<td>• Social Integration</td>
</tr>
<tr>
<td>• Responsibility</td>
</tr>
<tr>
<td>• Social Infrastructure</td>
</tr>
<tr>
<td>• Local demographics - Local education - Local health &amp; safety &amp; security - Local development - Provision of ancillary amenities to local economic activities - Pressure on public transport services - Access to regulatory and public services</td>
</tr>
<tr>
<td>• Communication and Management</td>
</tr>
<tr>
<td>• Product features</td>
</tr>
<tr>
<td>• Quality of Building as a Place to Live and Work - Building Related Effects on Health and Safety of Users - Access to Services Needed by Users of a Building - User Satisfaction - Land Use and Its Influence on the Public - Project Function - Organizational Objectives</td>
</tr>
<tr>
<td>• Satisfaction</td>
</tr>
</tbody>
</table>
CASE STUDIES IN GOLDEN HORN DISTRICT
Being the center of Istanbul with the prime location for centuries, Golden Horn whose industrial and historical heritage’s of great importance, has started to fall from grace and become old since the beginning of 20th century until its re-discovery in recent years. For this reason, the region with potentially quite accumulation has taken place in the process of urban transformation with many projects. In this section, three large scale industrial buildings which are effected by transformation and conservation in Golden Horn are analyzed by using three basic sustainability dimensions; the social, environmental and economical impacts.

Silahtarağa Power Plant --- Santral İstanbul (2007), İstanbul
It’s the project of Silahtarağa Power Plant, that is a typical modern industrial setting formed in the beginning of the 20th century, be transformed into a museum, recreational and educational center as Santral İstanbul (http://www.arkiv.com.tr/p6191-santralistanbul-cagdas-sanat-muzesi.html Accessed 09 June 2012).

The environmental analysis of the building can be summarized as:

• **Location:** Established at the end of the Golden Horn, at the mouth of Kağıthane and Alibeyköy rivers.

• **Old function:** The land spread over in total 118 000 square meters with machine rooms where the turbine generator sets, boiler rooms, warehouses, administrative buildings, workers’ housing, and large areas of coal. They have changed functionally because of being unable to meet the functional needs with the increase of population, technological backwardness and physical wears (http://www.santralistanbul.org/pages/index/silahtaraga-elektrik-santrali/tr Accessed 09 June 2012)

• **New function:** The plant provided electricity to Istanbul from 1914 until 1952 and put an end to the electricity production in 1983. Today, the complex whose project was completed and opened in 2007, hosts university educational units, a contemporary art museum, energy museum, food and beverage and entertainment venues, recreation areas (http://www.santralistanbul.org/pages/index/silahtaraga-elektrik-santrali/tr Accessed 09 June 2012)

• **Buildings:** Internal spatial arrangements of old buildings regulated mostly preserving their original state. There are existing protected machinery spaces, turbine generating sets, control room and a new energy playground in the Energy Museum. As a result of conversion of workshop and storage buildings of the former power plants, Tamirane and Otto Santral, Krek Theatre / performance space (as dining, refreshment and entertainment venues) has emerged (http://www.santralistanbul.org/pages/index/silahtaraga-elektrik-santrali/tr Accessed 09 June 2012). A new structure Main Gallery, a 5-storey building skeleton that composed of reinforced concrete surrounded by a porous metal shell, (with ground floor) is a contemporary art museum. Educational units of Bilgi University are also new buildings.

• **Layout:** Complex is positive in terms of the overall settlement layout and routing. Because of its point on the Golden Horn, the complex can be easily detected from the environment from different scales and functions structures.

• **Transportation:** Takım AKM – Santralstå service bus, private transportation (parking) and public transport (sea + road) are available. In addition, the project has contributed to the strengthening of the regional transportation network.

The social analysis of the building can be summarized as:

• Silahtarağa Power Plant is the Ottoman Empire's first urban-scale power plant.

• The Energy Museum which came about with the conversion of the power plant's original turbine rooms and meticulous preservation of its contents is Turkey's first industrial archaeology museum (http://www.santralistanbul.org/pages/index/silahtaraga-elektrik-santrali/tr Accessed 09 June 2012).
• The Main Gallery building is a contemporary art museum of contemporary art exhibitions and cultural activities, got the prize of “International Architecture Awards 2010” (http://www.santralistanbul.org/pages/index/silahtaraga-elektrik-santrali/tr Accessed 09 June 2012).
• The campus is an urban center of attraction due to being a training center and a cultural platform for the public.
• It’s an important part of “Golden Horn Cultural Valley” project. But the project is disconnected with other project points from place to place (transportation, events, etc...).

The economical analysis of the building can be summarized as:
• It couldn’t meet the needs of the building due to increases of maintenance costs attended economic damage in the late '70s. For this reason, the economic life of the finished production was stopped in 1983.
• Today, due to hosting many cultural and artistic activities, it is connected to its own structure and institutions as well as contributes to economic rather.

Cibali Tobacco Factory --- Kadir Has University (2002), İstanbul
It was established that changes in the industrial structure of the region socially and economically, today the "Golden Horn Cultural Valley" project turned into a university campus by installing educational function as Kadir Has University.

The environmental analysis of the building can be summarized as:
• Location: Located on the coast of the Golden Horn (Cibali side), next to the Unkapanı bridge.
• Old function: Cibali Tobacco Factory was established in 1884, tobacco processing and cigarette production. Factory operated by the French until 1925, with the establishment of the Republic, state enterprise has passed. The building lost its original function in 1995 and remained empty until 1997 (Alper M., 2004). Because of entering service in private enterprise cigarette factories with their advanced production technology it has undergone a functional change.
• New function: When restoration work lasted in 1998 until 2002 by Kadir Has Foundation, the building re-opened as a form of a higher education institution as Kadir Has University. Under the Faculty of Fine Arts building, there are also remains of a bath with a parking lot, the 16th century Byzantine cistern which were included in the protection.
• Buildings: 35 000 m² area, preserving its original form a connected by courtyards and passageways. It has been transformed into a courtyard net spaces (Alper. 2004).
• Layout: The complex can be easily detected from the environment from different scales and functions structures.
• Transportation: Transportation can be done by a private car or by public transport (road and maritime transport). There isn’t enough car park because of the building layout. So drivers has to leave cars on paths between in the neighborhoods surrounding the building.

The social analysis of the building can be summarized as:
• Close to the time it was built around, it was an important structure that changes the socio-economic characteristics.
• Today, the technology of the factory transfers the task in the other factories. Large-scale structures in the center of the city's main transport axes (Unkapanı Bridge - The Golden Horn coast road) is located on the conversion of an important and valuable because it has become necessary to remain within the region.
• The Project got an award of European Union Prize for Cultural Heritage / Europa Nostra Awards (Oral, 2006).
• Because of being an university campus, students' increasing dormitory and the regional housing needs have little effect for residential areas.
• Closer integration with the environment is weak due to inward-looking layout.
• The Project is an educational part of “Golden Horn Cultural Valley” a very important project in urban scale. But with the other project points is still disconnected.

The economical analysis of the building can be summarized as:
• University campus, job opportunities created by itself, outside the inner circle could not be economically significant effect.
• There has been an increasing on using the port sides.

**Lengerhane Building and Hasköy Shipyard --- Rahmi Koç Museum (1994 and 2001), İstanbul**

Lengerhane Building and Hasköy Shipyard near the Golden Horn was purchased by the Rahmi M. Koç Museum and Cultural Foundation and was converted to a first industrial museum which is shown in Figure 3 (http://www.vsendergi.com/200808/03/01.asp  Accessed 09 June 2012).

The environmental analysis of the building can be summarized as:
• **Location:** Near the Golden Horn on the side of shipyards, nearby the Golden Horn Bridge (E5).
• **Old & New Function:** In 1991, Foundation purchased the Lengerhane Building which was constructed during the Ahmet III as a shipyard and then it was used as an ethyl alcohol storage for Monopoly-Cibali Tobacco Factory. After the 2,5 years of restoration, the Museum is opened in 1994. Also, Ottoman Maritime Company (Şirket-I Hayriye)'s smallest dockyard Hasköy which was put into service in 1861, was purchased in 1996, it was renewed in 2001 and was incorporated to the museum (http://www.vsendergi.com/200808/03/01.asp  Accessed 09 June 2012).
• **Buildings & Layout:** Museum includes original Lengerhane structure and additional underground exhibition places, shipyard, café-restaurants and open exhibition-activity places.
• **Transportation:** Transportation can be done by a private car or by public transport (road and maritime transport). Museum has a car park.

The social analysis of the building can be summarized as:
• Two important buildings that lost their functions are crucial as being the first Turkish industrial museum.
• Like other transformation projects, it remains as a punctual visiting center, has not a network with other centers of attractions in the region.
• Open exhibition places, café and restaurants are contributed to the city-coast relationship.
• It has a weak direct social-cultural interaction with its location.
• It has positive effects as a cultural center of attraction for public by enriching the city.

The economical analysis of the building can be summarized as:
• After the abundance of these important industrial buildings to their fate, these were purchased by the Rahmi M. Koç Museum and Cultural Foundation, transformed and operated by this foundation.

**EVALUATION OF SELECTED INDUSTRIAL BUILDINGS UTILIZING THE SUSTAINABILITY CRITERIA**

The results of change and transformation activities within industrial buildings that are located in Golden Horn area can be summarized:

**Silahtrağa Power Plant --- Santral İstanbul (2007), İstanbul**

In the context of building and urban area integration; the relationship of open-area and access, the relationship of old building stocks and physical assets, creating environmental perception, the
contributions of building to the urban and immediate surroundings and also being an urban image are the positive impacts of this change and transformation activities.

Also in the context of building and local area integration; transforming building as a campus and educational center had provide some contributions such as local education and development. Also with providing a stronger transportation network, public accessibility had increased. Santral İstanbul building as a public cultural platform creates a center of attraction and increases social integration.

Conservation of old building stocks placed special emphasis on that physical sustainability had been implemented in the process of restoration.

**Cibali Tobacco Factory --- Kadir Has University**

In the context of building and urban area integration; the relationship of open-area and access, the relationship of old building stocks and physical assets, creating environmental perception, the contributions of building to the urban and immediate surroundings and also being an urban image are the positive impacts of this change and transformation activities.

Also in the context of building and local area integration; from a factory building to an university, building gets another identity. Using building as an education building; necessitates using housing zones potentials more efficiently and that provides some ancillary amenities to local economic activities. This transformation also increased the usage of Golden Horn ferry quays and also creates an urban benefit. But having a weak integration with the immediate surroundings makes social integration lower. It is accessible with public and private transportation so public accessibility is very high.

**Lengerhane Building and Hasköy Shipyard --- Rahmi Koç Museum**

In the context of building and urban area integration; the relationship of open-area and access, the relationship of old building stocks and physical assets, creating environmental perception, the contributions of building to the urban and immediate surroundings and also being an urban image are the positive impacts of this change and transformation activities.

It is accessible with public and private transportation so public accessibility is very high. Unlike the other urban transformation projects in Golden Horn, this building has a characteristic of being disconnected from the other transformation areas. It also has a weak social and cultural interactive relation with the place it has positioned. This situation also creates weak integration.

In this context, Table 2 focuses on evaluation of selected industrial buildings with the sustainability criteria that were outlined in Table 1.

**Table 2. Evaluation of selected industrial buildings with the sustainability criteria (Source: Authors).**

<table>
<thead>
<tr>
<th>Silahtarağa Power Plant</th>
<th>Cibali Tobacco Factory</th>
<th>Lengerhane Building and Hasköy Shipyard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santral İstanbul</td>
<td>Kadir Has University</td>
<td>Rahmi Koç Museum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economical Aspects</th>
<th>Silahtarağa Power Plant</th>
<th>Cibali Tobacco Factory</th>
<th>Lengerhane Building and Hasköy Shipyard</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Potential financial benefits (+)</td>
<td>* Potential financial benefits (+)</td>
<td>* Potential financial benefits (+)</td>
<td></td>
</tr>
<tr>
<td>* Trading opportunities (+)</td>
<td>* Employment (+)</td>
<td>* Trading opportunities (+)</td>
<td></td>
</tr>
<tr>
<td>* Innovation (+)</td>
<td>* Innovation (+)</td>
<td>* Innovation (+)</td>
<td></td>
</tr>
<tr>
<td>* Economic performance (+)</td>
<td>* Economic performance (+)</td>
<td>* Economic performance (+)</td>
<td></td>
</tr>
<tr>
<td>* Employment (+)</td>
<td>* Time (+)</td>
<td>* Employment (+)</td>
<td></td>
</tr>
<tr>
<td>* Time (+)</td>
<td>* Strategic Decisions (+)</td>
<td>* Time (+)</td>
<td></td>
</tr>
</tbody>
</table>
### Environmental Aspects

<table>
<thead>
<tr>
<th>* Landscape / Landuse (+)</th>
<th>* Conservation of old building stock and physical assets (Physical Sustainability) (+)</th>
<th>* New buildings / addition (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Conservation of indoor Furnishing (+)</td>
<td>* Material Use (+)</td>
<td>* Effects on Neighbors (+)</td>
</tr>
<tr>
<td>* Project Environmental Management (+)</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>* Landscape / Landuse (+)</th>
<th>* Conservation of old building stock and physical assets (Physical Sustainability) (+)</th>
<th>* New buildings / additions (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Conservation of indoor Furnishing (+)</td>
<td>* Material Use (+)</td>
<td>Effects on Neighbors (o)</td>
</tr>
<tr>
<td>* Project Environmental Management (+)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Social Aspects

<table>
<thead>
<tr>
<th>* Public Accessibility (+)</th>
<th>* Social Integration (-)</th>
<th>* Public Utility (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Responsibility (+)</td>
<td>* Historic Environment: Cultural Heritage (+)</td>
<td>Built Heritage (+)</td>
</tr>
<tr>
<td></td>
<td>Built Environment (+)</td>
<td>Protection to landscape and historical sites and culture (+)</td>
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<tr>
<td></td>
<td>Protection of historical building (+)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Social Infrastructure: Local education (o)</td>
<td>Local development (+)</td>
<td>Local demographics (o)</td>
</tr>
<tr>
<td></td>
<td>Local health &amp; safety &amp; security (+)</td>
<td>Provision of ancillary amenities to local economic activities (+)</td>
</tr>
<tr>
<td></td>
<td>Pressure on public transport services (+)</td>
<td>Access to regulatory and public services (+)</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Communication and Management (+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Product features: Land Use’s Influence on the Public (+)</td>
<td>Project Function (+)</td>
<td>Organizational Objectives (+)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>* Public Accessibility (+)</th>
<th>* Social Integration (-)</th>
<th>* Public Utility (+)</th>
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<td>* Responsibility (+)</td>
<td>* Historic Environment: Cultural Heritage (+)</td>
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<td>* Communication and Management (+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Product features: Land Use’s Influence on the Public (+)</td>
<td>Project Function (+)</td>
<td>Organizational Objectives (+)</td>
</tr>
</tbody>
</table>

### User manual for this table:

(+) is used for positive effects, (-) is used for negative effects, (o) is used for ineffective/neuter effects

### CONCLUSION

In this study, in terms of sustainability criteria the changes and developments of the large-scale industrial buildings / areas located in the Golden Horn - which is an important area in the city - have been examined. Positive aspects of sustainability provided by the conversion of industrial buildings can be discussed under three main headings:

**Environmental benefits:**
- Having a unique architectural language,
- Because of being durable, it is easier to protect and support these cultural buildings than the other structures.

**Social benefits:**
- Public utility,
• Create awareness of social and historical values,
• The property of being documents of technological development,
• Aesthetic features.

Economical benefits:
• As being cultural properties they create an existing building stock,
• Provide economic vitality,
• As being potential centers, they provide contribution to tourism (Kıraç, 2001).

As a result of inspections that have done; it is thought that all three buildings transformed into new and correct functional forms. These three buildings that are examined in the study - beside maintaining physical existence- they became living places in terms of social and economic aspects and became attraction points in the city in accordance with their new functions.

Therefore, all three examples that have examined under this study (generally) provides economic, social and physical sustainability criteria which are presented in Table 1 as main criteria of sustainability -even if these buildings can’t comprise all the entries under main topics.

In Turkey, projects about transforming of industrial building are generally handled as structural transformation projects or urban design projects (Oral, 2006). Instead of this kind of approaches to provide sustainability it has to be planned in accordance with a common vision with a holistic approach. Also, it is thought that all these kind of projects need to be planned considering past, accepting today and thinking the future.

Industrial buildings -with even only their assets- allow the urban places they are located to contribute social and physical revitalizations. But generating a design and planning strategy between these potentials areas and the other parts of the city is much more important.

As a result, to ensure the sustainability of industrial buildings, it is necessary to create relationships with the surrounding areas and similar projects, increase work and production facilities within the place they are located, develop these industrial buildings as social and cultural centers and regenerate this areas with recreation areas and tourism facilities, also solutions shouldn’t be unaware of each other for this kind of valuable areas of the city.

With the acceptance of changes and transformations as a sustainable action, implementation of these recommendations during mentioned processes; to provide much more economic, social and environmental benefits in the three basic steps of sustainability is more likely.

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