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Improving Perceived Safety for Public Health through Sustainable Development

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Abstract

Evaluating the contribution of perceived safety for improving quality of life and community health is crucial. Planners and designers realize the importance of improvement in wellbeing of the society that promotes public health. Public health applications aim to extend healthy and safer environments to cover quality of life to achieve sustainable development. In this study, the effect of fear of crime on the elderly's lifestyle has been investigated for reconsidering age differences in perceived safety and security. To do that, systematic observations and face-to-face survey conducted to analyze public health and safety issues for creating sustainable cities and communities.

Keywords: Public Health; Fear of Crime; Perceived Safety; Quality of Life; Sustainable Development.

1. Introduction

In urban environments people experience feelings of insecurity in different formats that affects them at any stage of their lives. This usually makes it different from actual crime, that can be concentrated on particular areas and fear of crime can have a devastating effect on quality of life. In other words, public insecurities about crime are widely assumed to destroy individual well-being and community connections. Perceived safety in public areas constitutes as much a problem as crime itself and it may differ significantly of members of the society depending on gender, age, disability etc. Fear of crime is getting one of the most serious problems of today's cities and perceptions of crime do not necessarily reflect its realities.

Fear of crime and feelings of insecurity in public areas create a barrier to participation in public life and reduce the livability of the city. The fear of crime and feelings of insecurity keeps people off the public places and activities that limit people to access to opportunities and facilities in their public environment. In other words, it creates a

barrier for participating public life and mostly changes the forms of public spaces. Therefore, it reduces the livability and sustainability of the city.

In this context, the crucial question is how can we deal with the problem of perceptions of crime? Considering the international literature, feelings of insecurity can be reduced by a better design and maintenance of the built environment as well as public and personal safety tools. It is obvious that, level of the fear of crime is unequally distributed considering the varied user profiles and places of cities. It is also believed that fear of crime can be reduced by a better design and maintenance of the built environment as well as public and personal safety tools. It is obvious that, level of the fear of crime is unequally distributed considering the varied user profiles and places of cities. For instance; elder people and people with disabilities are more vulnerable to crime than the others. Therefore, they are more fearful in public spaces and they often limit their activities in order to protect themselves from any types of crime or fear of crime. Additionally, fear of crime also limits people's behavior to access to opportunities and facilities in their public environment. Many crime-based researches suggest that fear of crime often affects people more than the actual risk to their safety. Particularly, perceptions of crime and safety influence elder people to choose how to interact with spaces, places and other people. When people perceive that an environment is unsafe their behavior is likely to modify in a way that reflects these perceptions. For instance, they might use the environment at specific times of the day/night, not using the environment at all. For some specific groups whose fear of crime is higher than others are more vulnerable to crime than others like women or elder people and this situation also reflects to their behaviors. Importantly, such modifications in behavior occur even when perceived fears are not supported by actual crime statistics.

Considering the national literature, most of the researches on crime and health studies focus on the direct health impacts suffered by victims of crime in Turkey. However, fear of crime is the crucial indirect effects of crime and its harms on communities may also have important impacts on wellbeing, particularly for specific groups of people who are more vulnerable to crime or fear of crime, such as; elderly or people with disabilities. In this context, the effects of fear of crime on the elderly's lifestyle and settlement preferences investigated through systematic observations in two different homes for the elderly (nursing homes) and a survey conducted to analyze public health and safety issues in order to find out the reasons of their lifestyle choices and preferences.

2. Improving Perceived Safety in Public Areas

Considering the previous studies, a variety of environmental and social features have been correlated with fear of crime and perceived safety and characteristics that contribute to feelings of insecurity do not always match those that contribute to crime. Varieties of environmental and social features have been correlated with fear of crime and people may have an exaggerated perception of the level of crime in specific areas (Pyle 1980). In addition, fear of crime is influenced by a variety of factors including the actual crime rate, the demographic and psychological profile of the individual, and the physical and social characteristics of the environment (Ito,1993; Deniz&Ozcan, 2014). For some cases, fear of crime is not necessarily related to actual victimization, and crime affects more than its direct victims. Feelings of personal safety may be more closely correlated with individual demographics as well.

Victimization risks are also linked to lifestyle and routine activities. People when they age and feel more vulnerable to crime, they do change their lifestyle and activities that significantly affect their quality of life and thus reduce public health issues. As stated above, public safety and security are essential for sustainable communities including well-designed, attractive and secure environments to live that improve the quality of life. According to Zelinka and Dean (2001), sustainable communities have to meet the diverse needs of existing and future residents. They include safe, well-planned places and should offer equality of opportunities for all to contribute to a high quality of life. Sustainable communities should be fair with a shared community activities, offering a sense of belonging, low levels of crime and fear of crime. In this case, designers can prevent a place being targeted by manipulating opportunities via design and planning details (Clarke, 1999).

Environmentally sensitive design is essential by providing places for people that enable a lifestyle that minimizes negative environmental impact and create safer neighborhoods through well designed and built environment by helping to improve quality of life for each member of the society (Blöbaum&Hunecke,2005). Sustainable communities should also offer a sense of place by user-friendly public spaces with its design and layout that

complement the distinctive local character of the community; buildings and public spaces, which promote health and reduce crime to make people feel safe. It is also important to get well connected with transport services and communication linking people to public facilities and health services that are appropriate to people's needs. Most importantly, these facilities should be fair for everyone now and in the future recognizing individuals' rights. Experiencing fear of crime in public spaces diminishes individuals' quality of life. It is obvious that, in areas where feelings of insecurity is high, all fields of design play a crucial role to reduce opportunities for crime, and also improve safety in urban spaces, from environmental planning to the design of products. In other words, proper design and effective use of the built environment can lead to a decrease in fear of crime, as well as an improvement of the quality of life (McCamley 1999).

As Ekblom states (1997), designers of built environments, homes, products, and services need systematic training or guidance to help them incorporate crime prevention within their remit. Lindheim and Syme (1983) add that many diseases that have seen in the community mostly associated with weak social ties. Besides, Jacobs (1961) observed that, where neighborhoods are configured to maximize informal contact among residents, street crime is reduced and people express greater happiness with their physical surroundings. Berman (1996) and Cervero (1996) also report studies finding that high densities and mixed use increase pedestrian activity and social interactions through the society. Clearly, there are many factors that affect physical activity in communities. In this context, Brownson (2001) emphasizes that high crime and fear of crime are important disincentives, which relate to neighborhood design and he adds that the presence of sidewalks, busy streets, enjoyable scenery promote walking for exercise that are crucial for public health particularly for elder people. The properly designed walkways through a mixed-use and human-scaled urban environment increase pedestrian activity also integrate people into urban life, and enhance the sense of place and community (Kunstler, 1996). Life-style is determined by social environment and social quality and safety depends on the quality of the physical environment (Hollander&Staatsen, 2003).

Jeffery (1990) focuses on criminal psychology and behaviorism and took a critical view of conventional approaches to crime control in urban areas. In this case, Jeffery emphasizes that the physical environment has affected human behaviors and social interactions that are crucial for sustaining urban activities. Merry (1981) argues that, minority groups or people who are more vulnerable to crime such as elderly, restrict their environmental behaviors in order to protect themselves from being a victim of crime and confined themselves to their place of residence. Crowe believes that improving and managing sustainable and safer physical environment by design details and activities helps to create positive behavioral effects, as well. Zelinka and Dean (2001) argue that designers should return to thoughtful, human-centered design and must create interdisciplinary partnerships involving every scale of design professions including urban planners, architects and environmental designers as well as security forces. Because the problems are too complex and planners must depend on others to help implement solutions.

Areas that are feared are not always areas of high crime (Kirk and Nana,1988) and people often have an exaggerated perception of the level of crime in specific areas. People, generally identify highly-risky crime areas as dark and deserted public areas. Perceptions of safety and vulnerability to crime also differ between men and women (Riger and Gordon 1981, Westover 1986) significantly and most importantly, some of the specific groups like elderly and people with disabilities are more fearful (Nasar 1982 and Warr 1984) comparing the other groups in society. While many members of the society may actually experience higher levels of victimization unlike some more fearful groups do not experience higher victimization rates. Perceptions of safety and vulnerability to crime also differ significantly between men and women (Roger and Gordon, 1981; Westover 1985; Loewen, Steel and Suedfeld, 1993). However, many statistics report that women have lower victimization rates for many types of crimes, yet women report a higher level of fear of crime. Considering women's reactions to crime, women are more likely to restrict their public activities. In other words, women's greater fear limits their use and enjoyment of the public environment. Considering women's reactions to crime (Riger and Gordon,1981) has explained that most female respondents felt themselves to be weaker than the average person of their gender. Fear of crime is influenced by a variety of factors including the actual crime rate, the demographic and psychological profile of the individual, and the physical and social characteristics of the environment. Many studies suggest that fear of crime is not necessarily related to actual victimization, and crime affects more than its direct victims. Studies also find that women and the elderly are more fearful (Riger and Gordon, 1981; Nasar, 1982; Warr, 1984). Although they have the

lower rate of victimization as a specific group, the elderly also have a greater fear of crime. The elderly are the least victimized age group because they seem to be more afraid of crime and they isolate themselves from community and public spaces in order to avoid from victimization (Fattah and Sacco,1989). For instance; women usually more fearful in public spaces and they often limit their activities in order to protect themselves from being a victim for any types of crime or anti-social behavior. Thus, women's greater fear limits their use and enjoyment of the public environment. As a specific group, the elderly also have a greater fear of crime, although they have the lower rate of victimization. Similarly, fear of crime may be affected by many factors including changes brought about by experiences. Design and planning decisions of the built environment contribute to fear of crime in public areas and these features can be both physical and social (Herzog and Smith,1988).

Many crime-based researches suggest that perceived safety often affects elder people more than the actual risk to their safety. It is obvious that, perceptions of crime influence how elder people choose to interact with spaces, places and other people. When elder people perceive that an environment is unsafe their behavior may change in a way that reflects these perceptions. Importantly, such modifications in behavior occur even when perceived fears are not supported by actual crime statistics. Fear of crime harms public health at later periods that increase vulnerability and further insecurities about crime. In this case, fear of crime or perceived safety have an influence on public health by reducing physical activities of elder people, which decreases mental and physical health; and reduce social connections and opportunities to participate in social activities that are protective for physical and mental health.

Fear of crime also lead to restrictions in outdoor activities, thus those who fear crime may therefore be less physically active, a lifestyle which increase diseases and poor physical and cognitive functioning. Elder people's weak control over their lives and environment could have a significant impact on their higher fear level; even their rates of victimization are low (Clemente & Kleiman 1976; Eve 1985; Garofalo 1981; Skogan 1986). Weaker groups in society including; women, elderly, minorities, etc. feel more vulnerable to crime in public places whether their victimization risks and rates are high or low. The high vulnerability of the elderly and their low rates of victimization also suggest that there are certain factors, behaviors, and conditions that are protecting the elderly against criminal victimization. In this case, the lifestyle and the routine activity (Cohen & Felson, 1979) models help to explain why the elderly, although they are more vulnerable to crime or anti-social behaviour, how they are less victimized than others. Research suggests that the elderly are less attractive, less accessible, and less exposed targets for criminal victimization than the younger population.

The lifestyle and routine activity suggest that the elderly behave to reduce their chances of victimization. Because the probability of victimization is mostly related to the frequency of social activities and to the amount of time a person spends in public places particularly at night, the elderly avoid using public spaces and transportation, they are less accessible as targets for a variety of offences (Hindelang, Gottfredson & Garofalo, 1978). Because, it creates a barrier to participation in the public life and it also reduces the livability of the city. As a natural response to a high level of fear of crime, people reduce their exposure to risk and to try to minimize their chances of being victimized by holding certain attitudes, taking certain precautions, and by adopting specific avoidance and defensive behaviors. In this context, McKay (2004) introduced a methodology that is called behavioral based design, which is a strategic design approach that looks at the predictable ways in which people interact with a given environment, and factors that interaction into the design when developing the most appropriate physical settings for inducing desired behavior. In order to improve perceived safety in urban areas, there is an urgent need to integrate this concept into the planning and design processes, successfully.

Crime prevention studies must be based on analysis of the national, political and legal conditions of each country, as well as the local situation of each particular area. Therefore, there must be additional results and recommendations while considering the unique nature of each communities, as well as public areas (Deniz and Ozcan, 2010). Perceived safety and fear of crime can be reduced by better design and maintenance of the built environment. There is no doubt that improving quality of life through perceived safety is a crucial factor for sustaining public spaces as well as cities. Therefore, it is crucial for the spatial improvement that in addition to planners and designers, health and environmental experts need to work together to assess successful consequences for improvements.

3. Case Study: Quality of Life Preferences of Elderly through Perceived Safety

Fear of crime and perceived safety in urban areas has been recognized for many years. There are many reasons that have an impact on feelings of insecurity and the aim of this study is to realize how safety and security issues have affected the lifestyle and settlement choices of elder people. In order to clarify the reasons of perceived safety and its effects on the elderly's residential preferences, respondents of a nursing home in İzmir/Turkey, 93 elder people (50 female, 43 male respondents, between the age of 55-80) have been asked questions on fear of crime and how their preferences for residential and social connections affected by gender and safety issues. Through the study, Guzelbahce location has been considered as a case area where many nursing homes located for elder people with its lower crime rates and healthy environment.

Fig. 1. (a) Guzelbahce District/Izmir; (b) Nursing home in Guzelbahce.

Guzelbahce district is mostly selected as a location for nursing homes with its natural and recreational facilities, as well as easy transportation, etc. These types of nursing homes allow elderly to interact with their environment by providing social interactions with group activities and cultural facilities.

Additionally, unlike many public places of Turkey, the built environment of Guzelbahce is mostly designed for elderly and people with disabilities considering the handicaps they are facing in daily life. Considering the physical built environment and design features of the area, they partially separate their zone from the outside in order to increase safety and security. The safety precautions of the area include walls, CCTV camera systems, security at the gate, etc. However, although the nursing home in case area partially surrounded by the physical barriers and walls, it is not completely being separated from the outside in order not to increase the anxiety of the residents. In other words, this particular area also aimed to be surrounded by security precautions at the beginning of design and application process without fully cutting interactions with the near social and public environment.

At the beginning of the survey, respondents were asked whether they think that fear of crime and feelings of insecurity are inevitable features of modern life. In order to analyze the importance of environmental awareness and perceived safety for creating vital and sustainable urban environments, respondents were asked many questions and some of the results derived from the survey are summarized below. Through the survey, elderly were asked how fear of crime and feelings of insecurity affect their decision for living in a nursing home instead of living alone. According to the results, majority of the 50 women respondents (45 women) and the 43 male respondents (28 men) totally agreed that they absolutely prefer living in these kind of social houses in order to feel safer and to have powerful social and environmental interactions with many facilities, while they mostly hesitate to avoid themselves from being a victim for any types of criminal and anti-social act.

Briefly, it is aimed to find out the effects of feelings of insecurity on the elderly's settlement choices to have a safer environment and social interactions. Considering the percentages of the survey results (Figure 2), the majority of both male (65%) and female respondents (90%) of the case area agreed that fear of crime has a significant effect

on their residential preferences. Particularly, female respondents have higher percentages on feelings of insecurity comparing to the male respondents, as well.
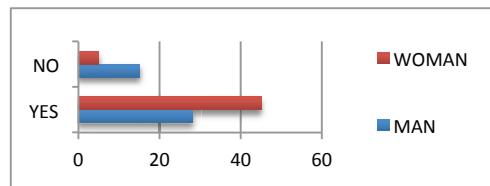

Fig. 2. Results of Fear of Crime Survey for Question 1.

Following question was aimed to realize the impact of perceived safety on elderly outdoors activities and their connections with the outer environment that help to raise physical and mental activation and vitality for elder people. The respondents were asked that how perceived safety and feelings of insecurity prevent their activities in public environment at any time of the day. Majority of the 50 women respondents (47 women) and also most of the 43 male respondents (35 men) emphasized that they mostly limited their activities and hesitate to be connected with the social and environmental facilities to avoid victimization and to feel safer particularly when they are alone. In this case, considering the percentages of the survey results (Figure 3), the majority of both male (81%) and female respondents (94%) have feelings of insecurity that prevent themselves from using public facilities alone, particularly after dark.
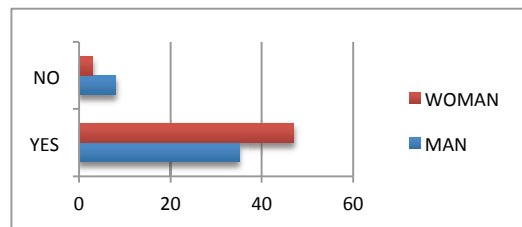

Fig. 3. Results of Fear of Crime Survey for Question 2.

As one of the remarkable solutions of the survey, respondents explained how fear of crime affect their transportation habits and prevent themselves to use public transportation tools which they increase their feelings of insecurity. According to the results, a great deal of the 50 women respondents (46 women) and the 43 male respondents (37 men) agreed that they mostly hesitate to use public transportation because they define these types of areas as dangerous public places. Considering the survey results (Figure 4), the majority of both male (86%) and female respondents (92%) of the case area agreed that fear of crime has a significant effect on their public and transportation choices, as well as residential and social preferences.
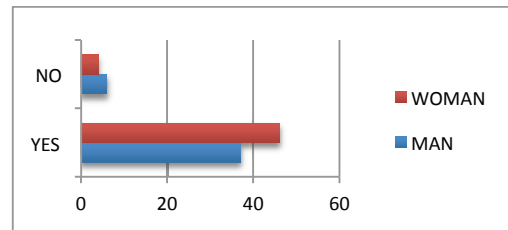
Fig. 4. Results of Fear of Crime Survey for Question 3.

According to the results derived from the face-to-face survey, respondents mostly believe that fear of crime is a daily occurrence of modern life and the main reason for them to choose these kinds of areas for living is mostly protect themselves from possible crime events and anti-social behaviors. They also believe that living with neighbors and surrounding their habitat by certain social and environmental protections make them feel safer. However, they also admit that they do not want to be isolated from public dynamics while taking these precautions. Because being fully isolated from environmental dynamics and public facilities create disadvantages by reducing their quality of life. Summarizing the survey results, the majority of both male and female respondents of the case area agreed that perceived safety is crucial for a healthy relationship with the society and the spatial built environment, not only in their age and status, but also in every stage of individuals' life. Otherwise feelings of insecurity force them to isolate themselves from social and environmental interactions that affect public health issues in a negative way and reduce quality of life.

3. Recommendations and Discussions

Cities include many dynamics that change by time as well as other social, economic and environmental factors. This study highlights a real significance of fear of crime on sustainable well-being and public safety issues that are crucial to improve quality of life for healthy and sustainable communities and cities. Besides, this particular study also helps for a better understanding of community's perspective about perceived risk of crime and levels of fear on social and physical activity habits and motivation to use public facilities or urban environments. Findings also provide data and outcomes for better understanding of the correlations among the environmental safety issues and its importance for healthy and active living for elderly.

It is vital to combine social, physical and spatial aspects for improving quality of life through well-designed and managed built environment. Achieving long-term and sustainable solutions help to evaluate perceived safety and security to acquire better lifestyles and conditions that lead to not only physical but also mental health conditions. As stated, people perceive fear of crime and feelings of insecurity in public areas that is influenced by a variety of factors including actual crime rate, demographic, physical and social characteristics of the environment, etc. In this case, it is crucial that fear of crime and perceived safety influence people how to interact with the city, public places and other people of the society.

Findings of this particular study support that victimization risks are closely linked to lifestyle and routine activities of people, in addition to their personal and psychological profile. Being a member of specific groups such as elderly or people with disabilities increases the anxiety and vulnerability to crime and anti-social behavior, force people to change their lifestyle and activities in order to avoid victimization that significantly reduces their quality of life.
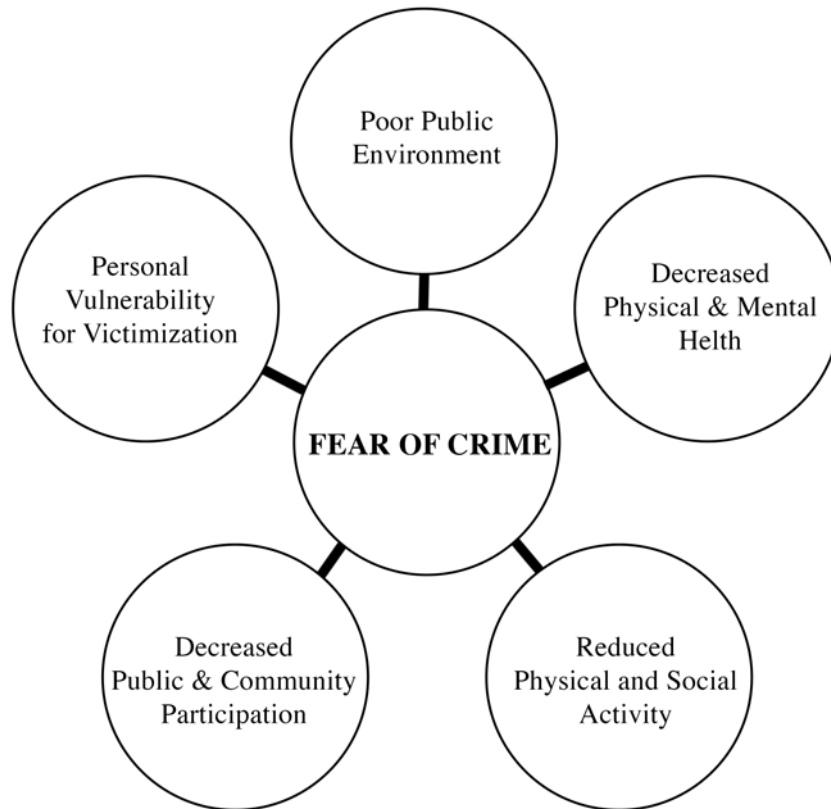
Fig. 5. Interaction Model of Fear of Crime and Public Health

As in Figure 5, there is a certain loop among these dynamics, which also creates two-way interactions when it comes to fear of crime and public health issues. In other words, increasing fear and anxiety in society create avoidance from social and physical facilities and public services that are crucial for improving public safety and sustainable development throughout community.

According to the results derived from the survey and observations, in public environments where interactions among society create a kind of social familiarity is an important factor to decrease fear of crime and encourage society members to join public facilities and interact with their social environment when it is supported by well-designed and managed built environments. This study mainly examined the associations of perceptions of the environment that affect many issues such as; health, fear, and physical activity. It is also examined whether perceived safety was directly associated with social and physical interactions with the environment to improve quality of life. Based on the results derived from the study, perceived safety and feelings of insecurity have been related to fear of using public spaces for any social or physical activities.

Fear of crime directly affects public health and results as avoidance and anxiety as the behavioral aspect of fear of crime. Besides, it also creates side effects by reducing physical activity and social interactions that lead to

decrease mental and physical health of the society and thus reduces opportunities to built social ties and participation for social activities that are crucial for healthy and sustainable communities.

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│ Safety and Security │      │ Improved Physical and│
│                     │      │     Mental Health    │
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            │                   │
            │     QUALITY       │
            │        OF         │
            │       LIFE        │
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┌─────────────────────┐      ┌─────────────────────┐
│ Environmental       │      │ Sustainable Resource │
│ Quality & Social    │      │   & Community        │
│ Equity              │      │   Development        │
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Fig. 6. Components of Quality of Life for Sustainable Development

Questions about the fundamentals of environmental quality and healthy communities are crucial to develop long-term and sustainable solutions through planning and designing interventions. In order to prevent negative effects, high-risk and unhealthy areas should be analyzed by combining data on spatial and environmental features. Some of the harder questions such as; which factors determine environmental quality and are the factors of equal importance to every individual in society need to be answered from the beginning of planning and design studies and applications. These factors are inevitable to reach success and without considering them, solutions will always be short-term and null. Gaining proper knowledge on the components of environmental quality and subsequent effects on health and well-being will help to develop interdisciplinary and successful decisions and applications. In this respect, city planners, designers and policy makers need to see it clearly from the very beginning of planning and designing studies why environmental quality and human well-being are so important for achieving success. In this respect, combining these different aspects (Figure 6) will help to enhance the development of healthy environments with a high quality of life. Consequently, although this study mainly considered the elderly as a focus group, the recommendations are valid for every group of people or minorities throughout the society as part of the whole city

and its dynamics. In addition to the collaboration among planners, environmental experts and policy makers, community participation is crucial in order to succeed for this approach. Looking beyond the boundaries and shaping the urban environment in the light of these principles will help to achieve environmental awareness and sustainable development.

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