A STUDY ON SOCIAL SUSTAINABILITY IN URBAN GREEN SPACES: THE CASE OF İNCİRALTI CITY FOREST

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İZMİR

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ABSTRACT

A STUDY ON SOCIAL SUSTAINABILITY IN URBAN GREEN SPACES: THE CASE OF İNCİRALTI CITY FOREST

The future is one of the fundamental concerns of humanity. In these days, where the main purpose is to ensure the continuity of life, the concept of sustainability comes to the fore in order to ensure this continuity. Although the concept of sustainability has equal dimensions as "economic, environmental and social", sustainability in society is generally highlighted with its environmental and economic dimensions. The social dimension of sustainability has attracted attention due to the increasing social problems in society.

This thesis aims to determine the role of urban green spaces in achieving social sustainability. Urban green spaces, which are the most easily accessible public spaces, have been selected to research social sustainability because the reflections of social problems in society can easily be seen in these spaces. Within the scope of this thesis, firstly, a literature review was made to understand the position of social sustainability in the concept of sustainability. After exploring different social sustainability approaches, a framework consisting of social sustainability dimensions was determined to ensure the assessment of social sustainability. Then, the development process of urban green spaces as public spaces was investigated, and the relationship between urban green spaces and key social sustainability dimensions were examined. After the theoretical framework, İnciraltı City Forest was studied as a case study. In the case study, the social sustainability dimensions in the area were evaluated with a questionnaire study. This thesis shows that urban green spaces support key dimensions such as sense of belonging, equality and human rights which are necessary for achieving social sustainability.

Keywords: Sustainability, Social Sustainability, Public Space, Urban Green Spaces.

ÖZET

KENTSEL YEŞİL ALANLARDA SOSYAL SÜRDÜRÜLEBİLİRLİK ÜZERİNE BİR İNCELEME: İNCİRALTI KENT ORMANI

Gelecek, insanlığın temel endişelerinden biridir. Yaşamın devamlılığını hedeflediğimiz bu çağda, sürdürülebilirlik kavramı bu devamlılığı sağlamak adına ön plana çıkmaktadır. Sürdürülebilirlik kavramı ekonomik, çevresel ve sosyal olarak eşit boyutlara sahip olsa da, toplumda sürdürülebilirlik genellikle çevresel ve ekonomik boyutlarıyla vurgulanmaktadır. Sürdürülebilirliğin sosyal boyutu, toplumdaki artan sosyal problemler nedeniyle dikkat çekmiştir.

Bu tez, sosyal sürdürülebilirliğin sağlanmasında kentsel yeşil alanların rolünü belirlemeyi amaçlamaktadır. Sosyal sürdürülebilirliği araştırmak için en kolay ulaşılabilir kamusal alan olan kentsel yeşil alanlar seçilmiştir, çünkü sosyal sorunların toplumdaki yansımaları bu alanlarda kolayca görülebilir. Bu tez kapsamında öncelikle sosyal sürdürülebilirliğin sürdürülebilirlik kavramındaki yerini anlamak için bir literatür taraması yapılmıştır. Farklı sosyal sürdürülebilirlik yaklaşımları araştırıldıktan sonra, sosyal sürdürülebilirliğin değerlendirmesini sağlamak için sosyal sürdürülebilirlik boyutlarından oluşan bir çerçeve belirlenmiştir. Daha sonra, kentsel yeşil alanların kamusal alan olarak gelişim süreci araştırılmış ve kentsel yeşil alanlar ile temel sosyal sürdürülebilirlik boyutları arasındaki ilişkiye odaklanılmıştır. Teorik çerçeveden sonra, İnciraltı Kent Ormanı bir vaka çalışması olarak incelenmiştir. Bu çalışmada, bölgedeki sosyal sürdürülebilirlik boyutları bir anket ile değerlendirilmiştir. Bu tez, kentsel yeşil alanlarda sosyal sürdürülebilirliğin başarılabilmesi için gerekli olan aidiyet hissi, eşitlik, insan hakları gibi boyutları sağladığını göstermektedir.

Anahtar Kelimeler: Sürdürülebilirlik, Sosyal Sürdürülebilirlik, Kamusal Alan, Kentsel Yeşil Alanlar.

To my family

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LIST OF ABBREVIATIONS

DfID	: Departement for International Development
ENDA	: Environnement et Développement du Tiers-Monde
IISD	: International Institute for Sustainable Development
IUCN	: International Union for the Conservation of Nature
UNESCO	: United Nations Educational, Scientific and Cultural Organisation
WACOSS	: Western Australian Council of Social Service
WCED	: World Commission on Environment and Development
UCTEA	: The Union of Chambers of Turkish Engineers and Architects

CHAPTER 1

INTRODUCTION

1.1. Aim of the Study

This thesis aims to determine the role of urban green spaces in achieving social sustainability. Sustainability is primarily concerned with maintaining the living conditions of present generations and providing better conditions for future generations. Economic and environmental factors were prominent in the sustainability discussions, while the social aspect of sustainability had remained in the background. The motivation of this thesis is to increase the importance given to social sustainability in order to achieve sustainability goals.

Social sustainability is an interdisciplinary concept that attracts the attention of various fields such as urban design, architecture, sociology, economy, management and health. There is no clear definition of social sustainability in the literature. Various definitions and discussions about this concept make it challenging to evaluate social sustainability. Evaluating social sustainability and identifying the dimensions that affect social sustainability is an essential step in achieving social sustainability. Therefore, this study provides a framework for evaluating social sustainability, especially in urban green spaces, in terms of urban life. Accessibility, security, social cohesion, quality of life, sense of belonging, equity, human rights and participation, and poverty are the dimensions discussed within this framework. These dimensions were selected specifically to analyze the case study.

In the literature, social sustainability studies in architecture, urban and regional planning focus on topics such as urban regeneration projects, urban rehabilitation, heritage conservation, housing development, sustainable urbanisation and household diversity. This thesis focuses on the relationship between urban green spaces and social sustainability that is mostly lacking in the existing literature. The reason why urban green spaces are selected to investigate social sustainability is that these areas are one of the most easily accessible public spaces. Urban green spaces facilitate citizens to meet and connect with each other in addition to their ecological features. They enable people to

express themselves both individually and as a community, and they strengthen communication between the community and individuals. In brief, they create a suitable environment for social networks that social sustainability needs.

In this study, the relationship between urban green spaces and social sustainability dimensions was examined. While determining social sustainability dimensions, their applicability in urban green spaces was an essential criterion. The questionnaire which was created with the help of these dimensions has served to develop a scale for the inquiry. In order to concretize theoretical researches, this scale has been applied to a local area. For this study, İnciraltı City Forest, located in the İnciraltı region, one of the important recreation areas of İzmir since the 1940s, has been identified as the case study area.

1.2. Research Questions of the Study

This study focuses on the social dimension of sustainability while also emphasizing the social benefits of urban green spaces. Urban green spaces call attention to their ecological characteristics such as improving air quality, creating microclimates and preserving biodiversity. On the other hand, they have a further meaning for this thesis. Urban green spaces are unique places for citizens in terms of social life and social relations. Therefore, they have been an excellent option to investigate social sustainability. The main questions that this thesis focuses on are:

- What is the role of urban green spaces in achieving social sustainability?
- How can a conceptual framework be developed to evaluate social sustainability?
- How can social sustainability be evaluated through urban green spaces?

In addition to the main questions that the thesis focuses on the questions that guide the case study are as follows:

- Which social sustainability dimensions are provided in İnciraltı City Forest?
- What is the impact of demographic factors and user habits on social sustainability in this specific area?
- What is the relationship between environmental factors and social sustainability in this case study?

1.3. Framework of the Study

This study proposes a framework for evaluating social sustainability in urban green spaces. Developing a framework for social sustainability is necessary to understand the methods for evaluating social sustainability. Therefore, as a first step, methods of measuring social sustainability should be determined (Berkeley Group and UK-GBC 2012, 3). In order to measure social sustainability, it is necessary to know what social sustainability is. In the literature review of the study, the definitions of social sustainability in various fields are examined, and the dimensions that form social sustainability are emphasized.

Early studies on the concept of social sustainability belong to Yiftachel and Hedgcock. Yiftachel and Hedgcock, who worked in the field of urban planning, evaluated social sustainability in three basic dimensions: equality, urbanity and community (Yiftachel and Hedgcock 1993, 140). In subsequent studies, the dimensions of social sustainability have been gradually expanded. Chan and Lee, who worked in the field of urban transformation and housing development, evaluated social sustainability under the dimensions of "social infrastructure, availability of business opportunities, accessibility, cityscape design, protection of local characteristics, and meeting psychological needs" (Chan and Lee 2008, 246–47). Colantonio and Dixon, who worked in the field of urban regeneration, proposed a system consisting of ten dimensions to score the practical aspects of social sustainability. This scoring system consists of ten themes: "housing and environmental health, education and skills, employment, health and safety, demographic change, social mixing and cohesion, identity and sense of place/culture, empowerment, participation and access, social capital and wellbeing."(Colantonio and Dixon 2011, 273).The following years, the Berkeley group had to develop a framework consisting of three leading dimensions and 13 indicators to assess social sustainability in residential zones. The first dimension, infrastructure and social facilities include six indicators: "community space, transport links, distinctive character, local integration, street layout and adaptable space." The second dimension, voice and influence, consists of two indicators as "willingness to act and ability to influence". The third dimension, social and cultural life, consists of five indicators: "community facilities, feelings of safety, well-being, links with neighbours and local identity" (Berkeley Group and UK-GBC 2012, 2).

After examining the frameworks developed in the literature, a framework consisting of eight case-specific dimensions was proposed for this study. In determining dimensions, related concepts were tried to be grouped. Accessibility, security, social cohesion, quality of life, sense of belonging, equity, human rights and participation, and poverty are the key dimensions determined within this framework. Moreover, this study focuses on the relationship between key dimensions of social sustainability and urban green spaces. In order to investigate this relationship, definitions and classifications of urban green areas were examined. Urban green spaces are defined as public spaces containing vegetation that are organised for activities of citizens like leisure or entertainment (Keleş 1980, 127). Publicity of these spaces is an essential factor for social sustainability. They create a suitable environment for social relations.

Accessibility is an essential theme for urban green spaces. The value of urban green spaces depends on their desirability. For these spaces to be preferable, they should be easily accessible, especially for children, the elderly and vulnerable groups (Tabassum and Sharmin 2013, 49). Security is another theme that affects people's relationships with urban green spaces. Security is related to human interaction. However, some problems, such as fear of crime or lack of perceived safety reduce the use of urban green spaces and damage interactions between people (Hong et al., 2018, p. 39). Urban green spaces provide a suitable environment for cohesion theme. They create contacts between individuals and help to sustain these contacts.

Thus, social ties are strengthened, and social exclusion is prevented (Kaźmierczak and James 2007, 356). Another theme, quality of life, is closely related to well-being. Urban green spaces take an active role in ensuring this well-being. They contribute to well-being by preserving physical health with the help of their natural opportunities and psychological health with the help of their recreational opportunities. (Haq 2011, 603). The sense of belonging is a combination of a sense of place, social identity and a sense of community. Urban green spaces are also an essential component of the sense of belonging. They can reflect the complexity of local culture and heritage (Cowan and Hill 2005, 63).

Equity, one of the most emphasized themes in the social sustainability debate, is also critical for urban green spaces. Like all public spaces, urban green spaces aim to ensure that all visitors benefit equally from their opportunities. In order to eliminate inequalities in urban green spaces, the distribution of these areas should be made equitable, and they should be designed more culturally sensitive. (Gibson, Loukaitou-

Sideris, and Mukhija 2019, 389). The theme of human rights and participation emphasizes the democratic aspect of urban green spaces. They create an environment in which all individuals in society can express themselves and provide opportunities for the socialization of vulnerable groups. (Rabare, Okech, and Onyango 2009, 26). The theme of poverty is related to opportunities created by urban green spaces against urban poverty. Urban poor have difficulty in accessing open space facilities. Urban green spaces are the most easily accessible open public spaces, especially for this group (Gibson, Loukaitou-Sideris, and Mukhija 2019, 385).

The case study of this thesis focuses on "a city forest" typology that explores the relationship between urban green spaces and social sustainability themes. The characteristics of city forest typology were researched in the literature review of the study. City forests can be defined as public and active green spaces serving at the urban level. These spaces are valuable as public places and strengthen social relations. Therefore, they are suitable areas to explore key dimensions that needed to achieve sustainability.

1.4. Limitations of the Study

This study on social sustainability includes some limitations and assumptions. Firstly, this study limits social sustainability with a framework which consists of accessibility, security, social cohesion, quality of life, sense of belonging, equity, human rights and participation, and poverty. Also, this study includes some assumptions. “A city forest” was selected among urban green space typologies for this study. In the case study, the comments and the assessments of urban green spaces are based on this acceptance.

Another limitation was the comprehensibility and adequacy of the questions in the questionnaire form. In the questionnaire form prepared for this thesis, there is a section which evaluates the quality of life in urban green areas. In this section, psychological factors such as relaxation and stress relief were overlooked. Also, the questions about environmental factors such as landscape design and building elements were insufficient in the section which evaluate safety in urban green areas.

The sample size and participant diversity were also a limiting factor. The questionnaire was conducted with only 71 participants. Most of the participants were not frequent visitors of İnciraltı City Forest. Therefore, the assessment of participants about the case area may be conjectural.

1.5. Structure of the Study

This thesis consists of five chapters. Chapter 1 is the introduction part of the thesis. This chapter contains the aim, framework, limitations and organization of the thesis. Chapter 2 focuses on various definitions and categorizations of social sustainability in the existing sustainability literature. In addition to the literature review, a framework for evaluating social sustainability is provided. Chapter 3 focuses on the relationship between social sustainability and urban green spaces. In this section, after definition, classification, and history of urban green spaces, relationships between urban green spaces and social sustainability dimensions are examined. Chapter 4 includes a case study. In the case study of this thesis, the role of urban green spaces in ensuring social sustainability is investigated through the example of İnciraltı City Forest. Also, the research methodology is explained in this chapter. Finally, the case study developed with the help of questionnaires conducted in İnciraltı City Forest is evaluated and finalized in Chapter 5.

CHAPTER 2

SOCIAL SUSTAINABILITY

The concept of sustainability incorporates different arguments and discussions. The concept of sustainability has started as a kind of tool to emphasize the environmental damage caused by some economic activities and later became a more complex and multidimensional field with the addition of social elements. According to the sustainability definition of the Brundtland report, published in 1987 and widely accepted, sustainability has three main dimensions: "environmental, economic, and social" (Boström 2012, 3). The relationship between sustainability dimensions has been of interest to many researchers. Partridge, research director at the Institute of Sustainable Futures at the University of Technology Sydney, argues that until recently, the sustainability debate was limited to the environment and the social aspects of sustainability were relatively neglected. She emphasizes the importance of social sciences contributing to a discussion previously dominated by natural sciences. On the other hand, this lack of social aspects in the concept of sustainability provides an opportunity to shape the concept of social sustainability for social and political theorists (Partridge 2005, 1).

Currently, concerns related to environmental and economic sustainability have increased efforts to understand the social aspects of sustainability. Therefore, the number of people trying to integrate their social concerns into sustainability studies theoretically and practically is increasing day by day. The necessity of social participation in environmental efforts shows that social sustainability is the cornerstone of sustainability. The number of undergraduate and postgraduate studies on social sustainability has increased as a result of the expansion of public, governmental, and managerial interests in social sustainability. In this process, the relationship between society and environment has been evaluated in some fields such as economy, sociology, public administration, and business. Then, the social aspects have begun to be useful in traditional environmental disciplines such as engineering, applied sciences, and agriculture (Dillard, Dujon, and King 2009, 1).

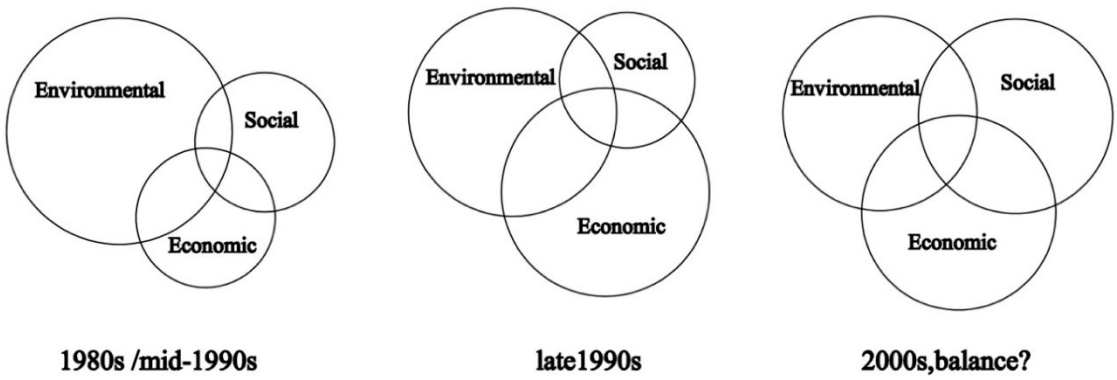


Figure 1. The different dimensions of sustainable development and their relative importance (Source: Colantonio 2007, 4)

In this context, the environmental, economic, and social components of sustainability are closely interrelated and equally important. In this chapter, firstly the evolution and the definition of sustainability will be discussed. Then, the three pillars model, an approach that gives equal importance to the three environmental, economic, and social components of sustainability, will be examined. Finally, the definition of social sustainability and its dimensions will be discussed.

2.1. The Evolution of the Concept of Sustainability in History

Sustainability is a concept that has been debated since the 1960s until today. With the publication of the Brundtland report in 1987, the number of sustainability studies in the literature increased rapidly (Boström 2012, 3). According to The International Institute for Sustainable Development (IISD), Rachel Carson's Silent Spring book, which was published in 1962, was a milestone in understanding the links between environment, economy, and social well-being. Also, this book has been a guide for the following research. In 1968, the Intergovernmental Conference for Rational Use and Conservation of the Biosphere (UNESCO) brought up the concept of ecological sustainability (The International Institute for Sustainable Development 2012, 1). The first Earth Day, proclaimed in 1970, aimed to educate the public about the impact of industrial society on the environment. This event, which started as a national call for environmental education targeting university campuses, has reached large audiences and has taken steps to protect the environment in the United States (Edwards 2005, 14).

In 1972, Environnement et Développement du Tiers-Monde (ENDA) was established in Senegal as an international NGO to strengthen local communities, eliminate poverty, and promote southern research (The International Institute for Sustainable Development 2012, 2)**.** The Stockholm conference that was held in the same year was an essential step towards sustainability. This conference initiated an attempt to establish positive links between environmental concerns and economic issues. At the end of this conference, many conservation boards, such as the United Nations Environment Program (UNEP) were established (Edwards 2005, 15).

By the 1980s, there was a global awareness about sustainability debates. In 1980, the World Conservation Strategy report published by the International Union for the Conservation of Nature (IUCN) cited "poverty, population pressure, social inequality, and trade regimes" as barriers to sustainable development (McKenzie 2004, 2)**.** In the 1980s, the social dimension of sustainability took part in sustainability discussions.

The concept of sustainable development became popular with the Brundtland Report, also known as Our Common Future, published in 1987 by the World Commission on Environment and Development. With this report, the concept of sustainable development was used by both public and private organizations to guide the search for environmental reform as well as to facilitate communication between actors in different social areas (Boström 2012, 3)**.**

In 1992, the UN Conference on Environment and Development (UNCED) created an action plan in Rio de Janeiro called as Agenda 21. While the Rio Declaration defined the rights and responsibilities of nations to achieve human development and prosperity, Agenda 21 provided a design to advance towards social, economic and environmental sustainability. Furthermore, the concepts like human welfare, equality, democratic participation, the rule of law and democratic governance in Agenda 21 referred to the importance of social sustainability (Magis and Shinn 2009, 26). The formalization of the concept of sustainability, which began in the 1992 Agenda 21, was completed in 2002 at the World Summit on Sustainable Development. The three pillars of sustainability that were accepted as social, environmental and economic were symbolized by the World Summit on Sustainable Development in 2002 with the concepts of "people, planet and prosperity" (Moldan, Janoušková, and Hák 2012, 4).

In 2005, the Kyoto Protocol was signed to prevent air pollution and to stop global warming. The terms of the protocol were valid until 2012. Fifty years after the publication of Silent Spring, in 2012, Rio +20 was held to secure an agreement on the global

community and greening world economies (The International Institute for Sustainable Development 2012, 9,12). Throughout this process, it was accepted that the environmental, economic, and social components of sustainability are closely interrelated, and all are of equal importance. Providing a livable future for future generations is as important as creating a sustainable society for today.

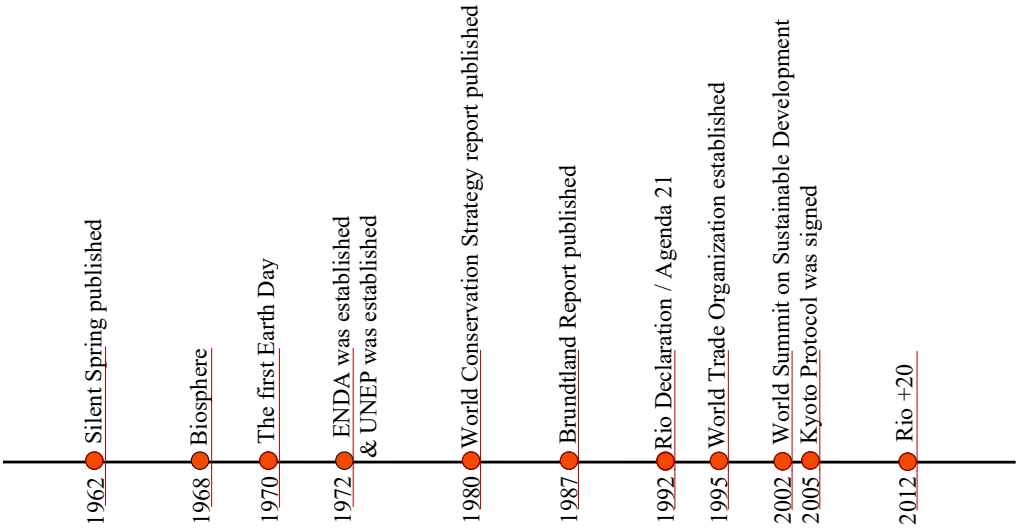


Figure 2. Timeline of important events in the process of formation of the sustainability concept

2.2. Definition of the Concept of Sustainability

Sustainability is defined as “the ability to continue a certain level for a while” as lexical meaning (Dictionary.cambridge.org, 2019). The noun "sustainability" and the adjective "sustainable" are often used interchangeably. Sustainability or sustainable development is one of the fastest-growing intellectual concept of the last century (Appleton 2006, 4). Since the 1960s, many different disciplines have worked on sustainability, and each discipline has addressed the concept of sustainability within its context. The definition of the concept of sustainability and sustainable development is shaped in the Brundtland Report: *“Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs."* (WCED 1987, 8). This definition has been widely accepted and used in the literature in this way. In this report, the concept of needs and the idea of limitations are mentioned as two key concepts of sustainability. The concept of needs means to give

priority to the basic needs of the people living in poverty. Also, the idea of limitations means a connection between the environment's ability and fulfilment of present and future needs (WCED 1987, 43).

Sustainability has taken place in different contexts over time. Concepts such as “sustainable development”, “sustainable societies”, “sustainable communities”, “ecological sustainability”, “sustainable growth” and “strategic sustainability” emphasize the different characteristics of sustainability. The origin of the concept of sustainability is based on the studies of ecologists and biologists about defining the rate of renewable resources extraction and dealing with the pollution problem without threatening the underlying integrity of ecosystems. Then, the concept of sustainability was used in the field of economics to understand the relationship between natural capital and the economy. More recently, this concept has been used in business and management literature and engineering (Vos 2007, 335).

Gladwin and his colleagues tried to compile alternative definitions of sustainability. According to this compilation, Hawken, Viederman and Costanza et al. have different perspectives and discourses on sustainability. Costanza and colleagues emphasize ecology in their definition of sustainability. Sustainability is related to dynamic human systems. This dynamic is based on an ecological system where human life can continue indefinitely, where people and cultures can develop. In order to preserve the diversity, complexity and function of the ecological life support system the effects of human activities must remain within limits (Costanza, Daly, & Bartholomew, 1991, p. 8) On the other hand, Hawken emphasizes the economic aspect of sustainability. He defines sustainability as an economic situation in which people and trade meet environmental demands. It is essential to maintain the capacity of the environment to provide for future generations when meeting demands. Hawken expresses his thoughts on this subject as follows: *"leave the world better than you found it, take no more than you need, try not to harm life or the environment, and make amends if you do"* (Hawken, 1993, p.139) According to Viederman, sustainability is a participatory process that creates a social vision which is respectful to natural, human, human-created, social, cultural and scientific resources. Sustainability aims to ensure the economic security of the present generations, to realize democracy and public participation in the control of societies and to preserve the integrity of the ecological systems on which life and production are based (Viederman, 1994, p. 5). Despite all these different uses, the primary sustainability approach is familiar: the assessment of environmental issues within economic and social

issues. Ecological problems should not be ignored for social development and economic growth (Gladwin et al. 1995, 877).

Unlike all these approaches, Tekeli, a social scientist and urban planner, defines sustainability as a moral principle that emerges within the environmental movement, is widely accepted and tries to redefine the content within the political process. He claims that today's and future's needs are relative. It is not clear which technology and social organization will meet the needs of the future. However, sustainability is a human-centred moral principle. People will be able to continue their development without compromising their priorities when they are more conscious of environmental hazards and use appropriate technologies. Sustainability does not involve abandoning development (Tekeli 2001, 732).

Although there are different approaches to sustainability, all these approaches target to a better living quality, healthy environments, developed societies for all people now and in the future. In order to achieve these goals, sustainability should be considered not only as part of any discipline but also as a whole.

2.3. Three Pillars of Sustainability

The relationship between the three dimensions of sustainability is represented in different ways. The approach that reduces sustainability into social, environmental and economic categories, ‘three dimensions of sustainability’ is called the three-pillar model in the literature. This three-pillar model does not have a single starting point. It has gradually emerged from social and ecological criticisms at first in academic literature. Firstly, the model of “concentric circles” visualized. In this model, the environmental area had taken under economic and social areas (Figure 3).

Another model known as “interlocking circles” represented economic, social and environmental sustainability equally (Figure 4). The representation of three equal-size columns developed at the end of the 1990s emphasizes that economic, social and environmental concerns are interdependent and are inseparable elements of sustainable development (Figure 5). (Purvis, Mao, and Robinson 2019, 681–82; McKenzie 2004, 3–6). The classification of impacts into three categories facilitates analysis of sustainability.In order to avoid any conflict, sustainable development should bring these three pillars together in a balanced way. (Giddings, Hopwood, and O’Brien 2002, 189)

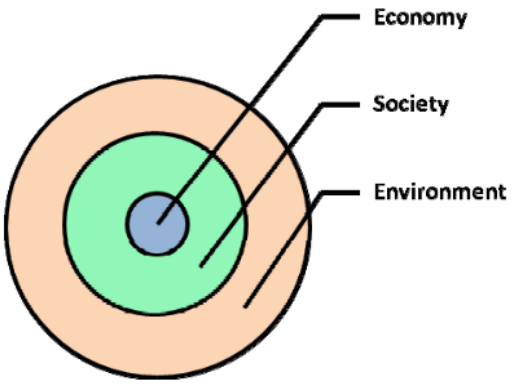


Figure 3. Concentric Circles

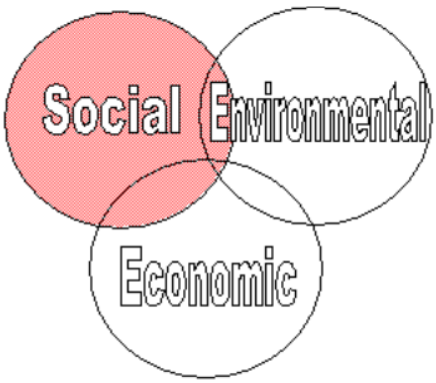


Figure 4. Interlocking Circles

(Source: Barron and Gauntlett 2002, 3)

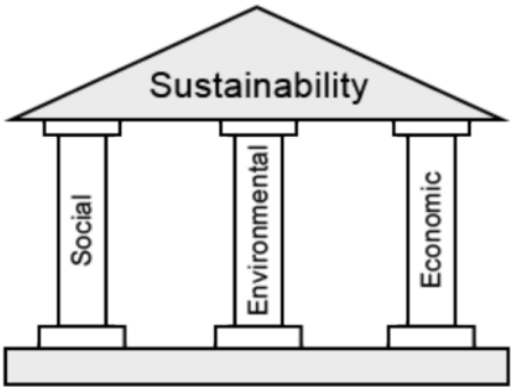


Figure 5. Literal Pillar (Source: Mak and Peacock 2011, 3)

According to Littig and Griessler, the three-pillar model, which aims to achieve ecological, economic and social goals on an equal basis, is an internationally accepted model within the sustainability debate. Given that society is thought to be related to sustainability, and ecologically stable and healthy environment is not enough to meet people's needs, at the same time, social and cultural needs should be met equally. Economic, social and cultural conditions are equally valuable resources which must be preserved for future generations (Littig and Griessler 2006, 3). Similarly, Dillard and colleagues argue that sustainability has three main interdependent goals; living environmentally sustainable in the long term, living economically sustainable, maintaining living standards in the long term (Dillard, Dujon, and King 2009, 2). Moldan

and colleagues claim that the idea of sustainability focuses on human needs. These essential needs of people, such as survival, safety, love, and esteem, need to be met without being selfish. Human life is not independent of the natural and social events, and this dependence is a necessity for human life to be healthy, productive and compatible with nature. It is possible to talk about a balance between healthy, productive and naturally compatible life like the three pillars of sustainability (Moldan, Janoušková, and Hák 2012, 4–5).

Environmental sustainability, one of the three pillars of sustainability, came to the fore with rapid population growth. The rapid increase in population, production and consumption caused threats in the global ecological system. These threats to the ecological system can cause the extinction of human species in the long run. When people thought they were controlling nature, they realized that they lost control. Also, they needed an approach to secure their existence in the long term, rather than a short-term approach to solve these threats. The concept of environmental sustainability and the environmental movement that developed after the 1970s should also be considered in this approach. (Tekeli 2001, 731–32). Environmental sustainability is a sustainability dimension that includes corporate sustainability, economic sustainability and social sustainability. In order to ensure environmental sustainability, life-supporting natural resources must be productive. Also, this productivity, such as food and water supply, flood protection, waste management, should be maintained and increased for future generations to use (Departement for International Development (DfID) 1999, 136).

According to Goodland, environmental sustainability has emerged mainly due to social concerns in line with people's needs. Environmental sustainability aims to improve human welfare. The foundation of environmental sustainability is based on protecting human life. Human life is also dependent on life support services such as food, shelter, breathing air, and waste assimilation. These life support systems need to be healthy, so their environmental service capacities must be maintained. The environment is a fundamental factor that limits the development of humanity. In order to achieve the objectives of social sustainability, maintenance of life support systems, and ensuring environmental sustainability are a prerequisite (Goodland 2003, 6–7).

Similarly, Enyedi emphasizes the relationship between environmental sustainability and social sustainability. He argues that environmental sustainability cannot be achieved without social conditions. In the metropolitan cities since the second half of the 1980s, the growth of urban centres has led to the intermingling of social and

environmental conflicts. Today, if we want to solve a problem such as environmental pollution, we must first reduce urban poverty. In order to improve urban infrastructure, education and health services, equal rights should be given to poor and other disadvantaged social groups. Successful social policies are necessary for environmental policies to be effective (Gyorgy Enyedi 2002, 142).

Another pillar of sustainability is economic sustainability. The economy dominates the environment and society in today's world. Large global corporations influence governments and decision-making powers. Generally, governments are worried about economic growth because economic growth is seen as a way to achieve sustainable development. The perspectives of sustainable development focused on the development of economic sustainability and described it as economic growth, like a standard Neo-liberal economic term. Usually, when they refer to the economy, they mean the capitalist economy, which is based on the production and exchange of goods and services. Actions that serve people outside this market economy, such as helping friends, neighbourhoods, and social relations, are not seen as equally important. Capitalism's orientation is not only to increase the production of goods but also to commodify human needs like entertainment, knowledge, and nature. The terms natural and social capital and the provision of services were introduced to define human relations (Giddings, Hopwood, and O'Brien 2002, 190–91).

According to the definition of the Department for International Development, economic sustainability is related to the ability to maintain a certain level of income and expenditure over time. It is closely related to the budgets and expenditures of individuals, households, projects, programs, government departments and countries. For economic sustainability, a certain level of expenditure must be maintained, and an income supporting these expenditures must be sustainable. If the livelihoods of the poor are provided, and a minimum level of economic prosperity is achieved and maintained, economic sustainability is ensured (Departement for International Development (DfID) 1999, 136).

According to Castells, economic sustainability is about producing wealth and resources in information-age cities that are entirely capitalist now and soon. Also, economic sustainability creates wealthiness with increased productivity and competitiveness in the market economy. Moreover, economic sustainability is based on two essential features; connectivity and to have a stock. Connectivity means being on the

network. Moreover, having stock is related to human resources, which can create added value in the information economy. (Castells 2007, 119).

Social sustainability, another pillar of sustainability, has been examined from different perspectives in the literature. Focusing on the definition of the concept of sustainability is an important point to understand the dimensions of sustainability which are determined for the evaluation criteria.

In its general definition, social sustainability is based on a particular set of social relationships and institutions that can be sustained or adapted over time (Departement for International Development (DfID) 1999, 142).

In social sustainability, many definitions are based on harmony in society. Enyendi defines social sustainability as a kind of progress that requires the harmonic development of the local community. Social sustainability enhances the integration of groups of diverse cultural backgrounds, provides a peaceful environment and improves the living conditions of all citizen groups. Also, social sustainability aims at achieving social equality. The government's responsibility is both to achieve a good position in global economic competition and to improve disadvantaged social outcomes. Capital and the successful segment of society do not prefer to be in a city where poverty increases, and environment and human security deteriorates. The social sustainability of cities depends on national sectoral policies as well as on urban policies that respond to local problems (Gyorgy Enyedi 2002, 142). Similarly, according to Polese and Stren, social sustainability promotes social integration by improving the quality of life for all segments of society. Moreover, it provides favourable conditions of the harmonious coexistence of culturally and socially different groups (Polèse and Stren 2000, 15–16).

Another common term in the definitions of social sustainability is the concept of equality. Sachs bases the definition of social sustainability on equality and democracy and continues that all people have “equal access to political, civil, economic, social, and cultural human rights” (Sachs 1999). According to Bramley and colleague’s social sustainability derived from two concepts: “equitable access” and “sustainability of communities”. Social equity is associated with providing basic needs such as public transport, business opportunities and affordable housing. Sustainability of the community is related to social concepts like the sense of place, social interaction and safety (Bramley et al. 2009, 2126). On the other hand, Partridge argues that the difference between social justice and social sustainability is the future focus within the sustainability perspective. Sustainability concerns both the present and the future. Social sustainability requires the

maintenance of justice for future generations (Partridge 2005, 8). Barron and Gauntlett argue that there are three critical elements in the definition of social sustainability. The first element is the importance of the present and future health and viability of societies based on the concept of "intergenerational equality". The second element emphasizes not only the connections between people but also the importance of structures, processes and systems. The last element reveals the importance of both formal and informal dimensions (Barron and Gauntlett 2002, 3–4). Litting and Griessler claim that social sustainability can be achieved when work and institutional arrangements within the community meet the demands of a large human community. The long-term protection of the reproductive ability of nature, as well as the fulfilment of the normative requirements of social justice, human dignity and participation, are crucial for social sustainability (Littig & Griessler, 2006, p. 11).

Also, "quality of life" and "the essential needs" are familiar concepts in the definitions of social sustainability. According to Biart quoted in Colantonio , the goal of social sustainability is to identify "the minimum social requirements for long-term development" (Colantonio 2007, 6). According to Holden, social sustainability is emerging as a new focal point for urban sustainable development policy due to urban problems such as lack of access to quality public services, problems of non-compliance and lack of investment in critical infrastructure. These problems should not be neglected in the context of strategic sustainability initiatives of cities. Social sustainability should be recognized not only by development policies but also by policy departments in terms of political planning. Thus, social services, opportunities and provisions can be reshaped in terms of social sustainability (Holden 2012, 530). Colantonio and Dixon argue that social sustainability is related to the lifestyles of individuals, communities and societies with each other. People should consider the physical boundaries of their place and the entire planet as a whole while they try to achieve the goals of their development models. (Colantonio and Dixon 2011, 24).

Dempsey defines social sustainability as a combination of both "physical" and "non-physical factors". Therefore social sustainability is related to both social and community infrastructure (Table 1) (Dempsey et al. 2011, 290–91). Community infrastructure refers to the physical infrastructure needed for a community. On the other hand, social infrastructure is related to non-physical factors and aims to provide community services that increase the capacity of citizens and community groups to work with governments. (Shirazi and Keivani 2017, 7; Martinez 2015, 15–16).

Table 1. Physical and Non-physical factors of social sustainability

(Source: Dempsey et al. 2011, 291)

Non-physical Factors	Predominantly Physical Factors
Education and training	Urbanity
Social justice: inter- and intra- generational	Attractive public realm
Participation and local democracy	Decent housing
Health, quality of life and well-being	Local environmental quality and amenity
Social inclusion (and eradication of social exclusion	Accessibility (e.g. to local services and facilities/ employment/ green space)
Social capital	Sustainable urban design
Community	Neighbourhood
Safety	Walkable neighbourhood: pedestrian-friendly
Mixed tenure	
Fair distribution of income	
Social order	
Social cohesion	
Community cohesion (i.e. cohesion between and among different groups)	
Social networks	
Social interaction	
Sense of community and belonging	
Employment	
Residential stability (vs turnover)	
Active community organizations	
Cultural traditions	

2.4. Theories on Social Sustainability

In the literature, many researchers have classified social sustainability dimensions according to their research interests. In this section, firstly, the factors that affect the concept of social sustainability are discussed, then different social sustainability theories are examined to determinate a conceptual framework for evaluating social sustainability. A conceptual framework helps to identify priorities in the selection of evaluation criteria and serve as a control template for reviewing existing priorities. (Hardi and Zdan 1997, 10).

According to Weingaertner and Moberg, “there is no single blueprint definition to social sustainability, and the definitions that exist are often derived according to discipline-specific criteria or study perspectives, rather than being general” (Weingaertner and Moberg 2014, 2). Therefore, in Table 2, different classifications resulting from different perspectives on social sustainability are summarized chronologically.

Table 2. Table of literature review showing dimensions of social sustainability

	Social Sustainability Dimensions
Yiftachel & Hedgcock (1993)	equity, urbanity, community
Omann & Spangenberg (2002)	equal opportunities, social resources, participation, basic needs, cultural diversity, the security of subsistence, basic supply
WACOSS (2003)	equality, quality of life, diversity, interconnectedness, democracy
Mckenzie (2004)	equity of access to key services, participation, awareness of social sustainability, a sense of community
Partridge (2005)	equality, quality of life, inclusion, access, future orientation, participation
Littig & Griessler (2006)	social justice, quality of life, social cohesion
Castells (2007)	multiple identities, social exclusion, cooperation, social mobilization, sustainable governments
Chan & Lee (2008)	accessibility, townscape design, psychological needs, business opportunities, social infrastructure, local characteristic
Cuthill (2009)	social justice, social capital, engaged governance, social infrastructure
Magis and Shinn (2009)	equity, well-being, democratic civil society, democratic government
Glasson & Wood (2009)	social networks, social inclusion, sense of place, social stability, security
Bramley et al. (2009)	social equality, the sustainability of the community
Vavik & Keitsch (2010)	access, participation, diversity
Colantonio and Dixon (2011)	Demographic change, social mixing and cohesion, identity, sense of place, empowerment, participation, access, health and safety, social capital, well-being, happiness and quality of life
Boström (2012)	social recognition, participation
Woodcraft (2013)	Amenities, social and cultural life, voice and influence, change in neighbourhoods

Yiftachel, professor of political and legal geography, urban studies and urban planning, and Hedgcock, professor of urban and regional planning, argue that the social component of urban sustainability has three main dimensions: “equity, urbanity and community”. They discuss these three dimensions in the context of the development of planning thought (Yiftachel and Hedgcock 1993, 140).

Omann, an ecological economist and environmental system scientist, and Spangenberg, biologist, ecologist and economist, examined the social sustainability dimensions discussed according to sustainability approaches in Germany. The approaches of Jörissen and colleagues define four dimensions of sustainability: “basic supply, independent security of subsistence, equal opportunities and social resources”. Basic supply means the provision of minimum basic needs to all members of society, such as settlement, food, clothing and health. Independent security of subsistence can be defined as the assurance of livelihood security for all members of society during voluntary

activities. With equal opportunities, all members of society should have “equal access to education, employment and information”. Social integrity, tolerance, solidarity, integration ability, social welfare are the main subjects of social resources. On the other hand, according to Empacher and Wehling's approach, “basic needs, social resources, equal opportunities, participation process and cultural diversity are the main dimensions of social sustainability”. These dimensions include objective as well as subjective indicators (Omann and Spangenberg 2002, 6–7).

Western Australian Council of Social Service (WACOSS), works to develop a detailed and in-depth understanding of the social dimension of sustainability. The social sustainability model developed by WACOSS provides a useful and detailed assessment. WACOSS's definition of social sustainability includes five dimensions; “equality, diversity, interconnectedness, quality of life and democracy” (Western Australian Council of Social Service Inc 2003, 26).

The sustainability of communities is a comprehensive framework in terms of content. Concepts such as social cohesion, security, well-being and quality of life can be discussed within this framework. McKenzie recommends that a range of approaches should be identified because it is problematic to reach a single definition of social sustainability. Sustainability is often presented as a condition that can be measured by a set of dimensions. McKenzie proposes to explore their potentials by suggesting other possibilities instead of criticizing such frameworks. For him, social sustainability is a condition that improves the quality of life in communities and is a process that enables them to achieve this (McKenzie 2004, 12).

Partridge emphasizes the need for a literature review to reveal common themes related to dimensions of social sustainability, rather than attempting to propose a single definition of social sustainability or to produce a ‘checklist’. She argues that these dimensions should be “quality of life, equality, inclusion, access, future orientation and participatory processes” (Partridge 2005, 9–11).

Littig, a sociologist working on environmental sociology, social sustainability and practice theories, and Griessler, a sociologist working on political sociology, citizen participation, technology and innovation, propose three essential dimensions to assess social sustainability. The first dimension is meeting needs and quality of life. They examined “individual income, poverty, income distribution, unemployment, education and further education, housing conditions, health, safety, housing and environment” under this dimension. The second dimension concerns the claim of social justice in the

discourse of sustainability. A narrow concept of social justice only shows justice about the distribution of economic goods, but from a broad perspective, it means equal opportunities for quality of life and participation in society. This dimension deals with issues such as “equal opportunities in education, gender equality and immigrants”. The third dimension is related to social cohesion. Integration to social networks, voluntary participation in activities, solidarity and tolerant attitudes can be evaluated under this dimension. In addition to proposing the dimensions of social sustainability derived from sociological theory, it is necessary to involve them in policymaking and ensure that they have an impact. In order to achieve this, it is necessary to establish a strong relationship between the dimensions of social sustainability and national and international sustainability strategies. (Littig and Griessler 2006, 14–15).

Castells, sociologist and theorist are working on the urban sociology, information society, communication and globalization, claims that a socially sustainable city has five sub-dimensions. The first dimension is the ability to recognize “multiple identities” that will increasingly characterize and connect our cities. Second, to “avoid social exclusion”. Social exclusion is embedded in the logic of the system, even if it is not a necessity in the new network in society. Thus, active policies are necessary to prevent social exclusion. The third dimension is the ability to “harmonize cooperation and competition in society”. The fourth dimension is the necessity of “social mobilization policy against structural violence”. Consideration should be given not only to the crime but also to interpersonal aggression. The city where the problem of violence is not solved is not sustainable. The fifth dimension of social sustainability is sustainable governments. While sustainability does not make local and regional governments stronger, it provides decentralization of power and resources. This decentralization will produce two results: more exceptional controllability and greater flexibility in the relationship between government, economy and society (Castells 2007, 119).

Chan, architect consultant on urban studies, urban community planning, urban transformation, and Lee, a real estate professional, argue that social sustainability should create a harmonious living environment, reduce social inequality and improve the quality of life in general. They define six dimensions that can affect social sustainability; “social infrastructure, availability of business opportunities, accessibility, townscape design, protection of local characteristics, meeting psychological needs” (Chan and Lee 2008, 246–47).

Cuthill, a consultant specializing in social sustainability especially social planning, infrastructure and engaged governance, emphasizes the importance of the four dimensions of social sustainability. The first dimension is the “social capital” that provides a theoretical starting point for social sustainability. The second dimension is the “social infrastructure” that provides an operational perspective. The third dimension is the concept of “social justice” that provides an ethical obligation of equality. The last dimension is the concept of “engaged governance” that provides a methodology for working together (Cuthill 2009, 366).

Magis and Shinn discourse four social sustainability principles defined in the Rio Declaration: “human well-being, equity, democratic civil society and democratic government”. Human well-being is the right to a healthy and productive life in harmony with nature; equality is about poverty eradication and reducing inequalities in living standards in the world. In a democratic civil society, citizens' participation in environmental issues is ensured by the government. The democratic government also has to enact environmental laws to protect victims of environmental damage (Magis and Shinn 2009, 30).

In the Lisbon Declaration (Council of Europe, 2000), the basic dimensions of social sustainability were defined as “education, employment policy (creating more and better jobs), modernizing social protection and promoting equality to prevent poverty and social exclusion”. On the other hand, Glasson and Wood argue that concepts such as “social networks, social inclusion, sense of place, social stability and security” are useful for social sustainability (Glasson and Wood 2009, 283–84).

Bramley and colleagues argue that social sustainability is composed of two main dimensions: “social equality and sustainability of the community”. They refer to issues such as access to health and local services, recreation opportunities, open space, public transport, business opportunities, and affordable housing in social equality dimension. On the other hand, the concept of sustainability of society is related to neighbourhood relations, social interaction, security, perceived quality of the local environment, satisfaction, stability and participation (Bramley et al. 2009, 2126).

On the other hand, Vavik and Keitsch examine social sustainability in terms of sustainable development. They recognize the fundamental value of socially sustainable development as “diversity” and emphasize that each person has an essential concern in this diversity. Social sustainability should emphasize access and participation as well as diversity to promote development (Vavik and Keitsch 2010, 298).

According to Colantonio and Dixon, social sustainability is based on action in key thematic areas that cover the social realm of individuals and societies. Social sustainability combines traditional social policies and principles, such as diversity and health, with emerging issues such as needs, social capital, economics, environment, well-being, and quality of life. (Colantonio and Dixon 2011, 24). Colantonio and Dixon focused on measuring social sustainability. He has combined sustainability dimensions under two headings, "traditional and emerging" (Table 3). Colantonio argues that new sustainability dimensions focus on measuring emerging themes rather than improving the assessment of traditional concepts such as equality and justice. He identifies the fundamental differences between traditional and emerging themes and tries to put forward some features for emerging themes. The challenges of emerging themes need to be identified in order to assess progress towards social sustainability. Colantonio argues that studies should address the issue of soft social contexts that are more valuable to larger communities rather than to meet basic needs. Combining different impact and assessment techniques is also a fundamental requirement. When analyzing social sustainability themes, traditional themes such as equality, poverty reduction and livelihood should be complemented by less measurable concepts such as identity, sense of location and the benefits of social networks.

In recent years, governments and policymakers have also begun to argue about the role of soft concepts in sustainability discourse. Although governments have been interested in happiness since the Enlightenment, they have only recently begun to measure and systematically explain this concept. The main concern of the social sciences has always been to understand the favourable conditions for human happiness (Colantonio and Dixon 2011, 24–25).

Table 3. Traditional and emerging social sustainability themes

(Source: Colantonio and Dixon 2011, 25)

Traditional	Emerging
Basic needs, including housing and environmental health	Demographic change (ageing, migration and mobility)
Education and skills	Social mixing and cohesion
Employment	Identity, sense of place and culture
Equity	Empowerment, participation and access
Human rights and gender	Health and Safety
Poverty	Social capital
Social justice	Well-being, happiness and quality of life

Similarly, Boström emphasized “participation”, which is one of the sustainability dimensions. According to him, the opinions of the participants and the framework formed by the leaders for the issues discussed by the participants affect the evaluation of the sustainability approaches. In order to ensure social sustainability, it is necessary to attach importance to “social recognition” as well as participation. Social recognition is necessary for the motivation and trust of the participants as well as for the individual stakeholders to play an active role in sustainability projects (Boström 2012, 12).

Woodcraft is based on the definition developed by the Berkeley group in her social sustainability approach. According to this definition, social sustainability concerns the quality of life of people now and in the future. It defines the degree to which a neighbourhood promotes individual and collective wellbeing. “Amenities and infrastructure, social and cultural life, voice and influence” are the three dimensions of social sustainability. While the amenities and infrastructure are related to the design and delivery of services for a developing community, social and cultural life shows how people live their development. On the other hand, voice and influence are related to the potential of individuals to shape their future. Woodcraft suggests the “change in the neighbourhood” as a fourth dimension. In order to make a practical assessment of social sustainability at the local level, it is necessary to understand the impact of new developments on the demographic profile of the neighbourhood (Woodcraft 2013, 35).

In this section, examining the different classifications in the social sustainability literature provided us with a basis for the conceptual framework to be established in the next section.

2.5. The Key Dimensions of Social Sustainability

When examining social sustainability, it is necessary to use qualitative and quantitative methods together instead of examining traditional approaches with only statistical methods. While determining the key dimension of social sustainability, the frameworks and concepts in practically applied studies were taken as models. One of these models is the framework in which the Berkeley Group was developed to assess social sustainability for housing development. This framework had 13 concepts under three different dimensions (Figure 6). Social sustainability has been evaluated in six residential areas in the UK using this framework during 2011-2013 (Dixon and Woodcraft

2013, 475–77). Another model is a scoring system in which Colantonio and Dixon were developed to assess social sustainability for urban regeneration project (Figure 7). This system contains ten dimensions. In this system, each dimension in an urban regeneration example is scored from 1 to 5 points. Colantonio and Dixon selected five cities from Europe to examine their approaches to social sustainability and urban renewal; Cardiff, Rotterdam, Turin, Sant Adriá de Besós and Leipzig (Colantonio and Dixon 2011, 10,220)

Figure 6. The Framework of the Berkeley Group
(Source: Berkeley Group and UK-GBC 2012)

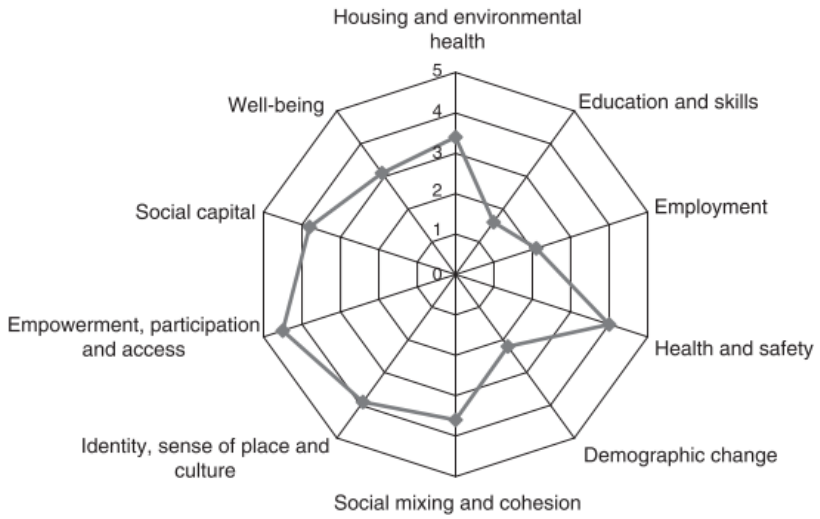


Figure 7. The scoring system for urban regeneration project assessment.
(Source: Colantonio and Dixon 2011, 237)

In this chapter, concepts such as accessibility, security, social cohesion, quality of life, sense of belonging, equity, human rights and poverty are examined as key dimensions of social sustainability. In developing a framework for evaluating social sustainability, the concepts used in concerning each other in the literature are tried to be gathered under the same dimension (Figure 8).

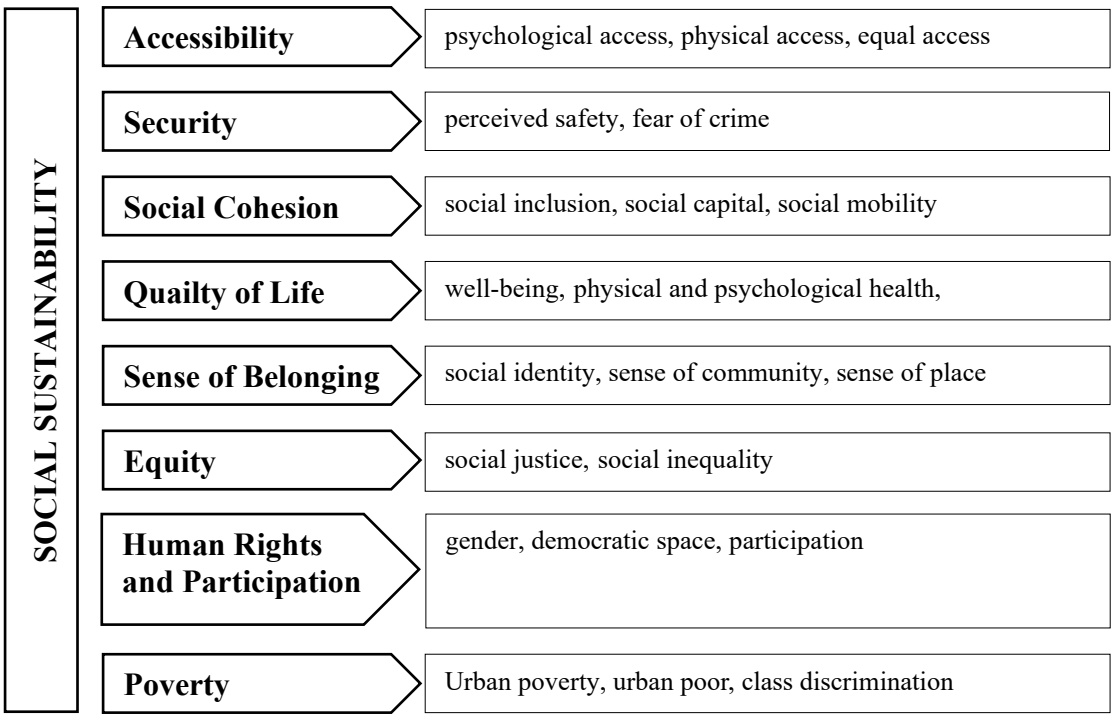


Figure 8. The Key Dimensions of Social Sustainability

2.5.1. Accessibility

Accessibility is an essential dimension in improving social sustainability. People prefer to travel less to live, work and participate in entertainment and cultural events and want to live in areas with employment opportunities and facilities for family members in their immediate surroundings. Freedom of movement from one place to another is a fundamental human right that must be protected, but on the other hand, all people should have convenient and easy access to specific places in their daily lives, regardless of their age and physical condition (Chan and Lee 2008, 246). Liu and Zhu define accessibility as the ease of accessing activities from one location to another with a travel model. The location of potential activity areas for individuals, the performance of transportation systems in connecting spaces, the transportation system preferences of individuals and the characteristics, quality and suitability of the activities to be reached are essential factors that determine accessibility (Liu and Zhu 2004, 105–6).

The physical accessibility is an essential factor for the design of sustainable cities. Therefore, designers should increase the chances of citizens accessing and using public spaces easily and safely. In the design process, both the conditions of disabilities, the elderly, children and temporary situations such as a broken limb, pregnancy, fatigue should be taken into consideration (Greco and Giacometti 2013, 1).

Another factor as essential as physical accessibility is psychological accessibility. Partridge emphasizes the importance of "equal access to all aspects of life, from housing and living conditions, services and facilities to opportunities for participation in social, cultural and political structures and processes". Increasing accessibility will help to ensure social sustainability by preventing social exclusion (Partridge 2005, 10).

2.5.2. Security

Security is a requirement for every neighbourhood. Some researchers argue that urban design can have an impact on crime prevention and that places designed according to specific layout plans are safer places to live. The fact that people cannot control the open spaces in their environment is seen as one of the reasons of security weaknesses such as theft, vandalism. If one place is defined as private or semi-private, people act to protect it, but the public place is often seen as the responsibility of someone else.

Therefore, it is more difficult to ensure security in the public sphere (Corbett and Corbett 1999, 143–44).

Security is closely related to other aspects of social sustainability. The distance from crime and discomfort increases social interactions with other people and participation in community activities. The sense of security enhances mutual trust between people and contributes to the sense of community and sense of place. The sense of security is also primarily related to the built environment. Natural oversight enhances perceived comfort and safety when people interact with each other. The poor state of the built environment is claimed to have detrimental psychological effects on people's sense of security (Dempsey et al. 2011, 297).

2.5.3. Social Cohesion

Social cohesion is a fundamental requirement for building a sustainable society. The goal of a cohesive society is to ensure the well-being of all citizens and prevent exclusion and marginalization (OECD 2016, 51) The "Perspectives on Global Development" report, prepared by the Organization for Economic Development and Cooperation, examines social cohesion under three different headings as social inclusion, social capital and social mobility (OECD 2016, 53).

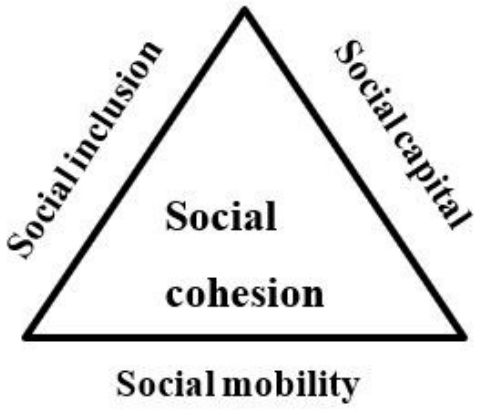


Figure 9. The components of social cohesion (Source: OECD 2016, 17)

Social inclusion addresses some problems such as poverty, inequality and polarization caused by social exclusion (OECD 2016, 53). Although social exclusion is associated with low income and poverty, it also addresses the broader causes and consequences of poverty. The British Government has defined social exclusion as: "a shorthand term for what can happen when there is a combination of problems, such as unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown". This definition is flexible, and other features of exclusion may be added (Social Exclusion Unit 2001, 10).

While social exclusion is a situation that can happen to everyone, some people are at higher risk. Low income, family conflict, being in care, school problems, being from an ethnic minority, living in the ghetto, age and disability are the effects that increase exclusion. Older people are at risk of poverty because they are exposed to discrimination in employment. Also, the lack of mobility may prevent older people from participating in social activities, leading to low morale, depression and loneliness (Social Exclusion Unit 2001, 11–13)**.** Social exclusion levels are seen as one of the barriers to achieving social sustainability. A social exclusion means the exclusion of people from the benefits and opportunities of participation both physically and socially, such as unequal access to transport, jobs or public services. Social sustainability strategies are an essential part of overcoming social exclusion. Therefore, social sustainability approaches should focus on how to better integrate disadvantaged communities into economic, social and political life (Partridge 2005, 10)**.**

Social capital is a concept related to group membership and interpersonal trust (OECD 2016, 55). Many literature studies emphasize "the role of social capital" in social sustainability. The concept of social capital encompasses the mutual expectation, responsibility and trust and norms of social behaviour that are prevalent in each region or community. Social capital level also affects the harmony and mutual understanding in the community. While social capital is generally considered a prerequisite for community participation, it also promotes self-confidence, collective action and collective decision-making within a community (Colantonio and Dixon 2011, 29). According to Bramley and Power, for a socially sustainable society, individuals in the community need to work together and interact with each other. Social networks provide a joint issue between social capital, social harmony and social exclusion. These concepts emphasize the importance of being involved in society as well as having equal access to social benefits (Bramley and Power 2009, 32).

Social mobility is related to people's ability to change their positions in society. Creating equal opportunities between individuals increases social mobility. In order to create equal opportunities, equal income distribution can be created with the help of promoting education and facilitating entrepreneurship Education create an opportunity to find not only well-paid jobs but also safer, better organized and more productive jobs. Thus, social mobility can increase especially in groups such as immigrants who have difficulty in adapting to society (OECD 2016, 117,226).

2.5.4. Quality of Life

Quality of life is a subjective concept that is difficult to define, on the other hand, it provides an opportunity to focus primarily on the qualitative dimension of social sustainability to improve the quality of individual's life. This concept should focus on improving the lives of disadvantaged groups rather than justifying unsustainable consumption in the quality of life approach of wealthy and privileged groups. Although quality of life is a crucial principle, it cannot be isolated from the principle of equality (Partridge 2005, 9)**.**

Bramley and colleagues define well-being as an essential dimension of social sustainability. The urban environment is also an important component affecting well-being. They argue that factors such as social interaction, security, local environmental quality and access to services affect welfare both directly and indirectly. Negative consequences on these factors also affect mental illness to a greater extent (Bramley et al. 2009, 2127)**.**

According to Listen and colleagues, the importance of the concept of well-being increased with the inclusion of well-being and sustainable development in the political agenda. In 2008, Joseph Stiglitz and Amartya Sen prepared a report on the development of new criteria for prosperity and sustainability with the invitation of former French president Nicolas Sarkozy. It was the beginning of a new quest to enable politicians to determine their courses. With these developments, the economic growth view, measured by the values of the gross domestic product, began to be criticized. With these developments, the economic growth view, measured by the values of the gross domestic product, began to be criticized. International organizations such as Organisation for Economic Co-operation and Development have focused on what the concept of welfare

refers to and the factors that determine welfare and sustainability. The projects they developed aim to find better indicators to measure well-being and sustainability. The long-term sustainability of our well-being is more uncertain than ever. The 2008 economic crisis has raised concerns about this uncertainty. In addition to this economic crisis, we can talk about an ecological crisis like climate change and the social crisis that takes place both within society and between countries. The United Nations Post-2015 Agenda is an example of an effort for a more sustainable world and includes a list of policy objectives aimed at making the world more sustainable by 2030. The main challenge in achieving these goals is to create a world in which all people have an acceptable quality of life, well-being is more evenly distributed, and the interests of future generations are considered (Lintsen et al. 2018, 5–6).

2.5.5. Sense of Belonging

The sense of belonging is interlocked with concepts such as a sense of place, sense of community and social identity. Sense of place is regarded as a dimension of social sustainability because ensuring sustainability depends on people enjoying their neighbourhood. If a place is neglected or there is a high level of vandalism, it will affect people's sense of attachment to this neglected place (Nash and Christie 2003, 56). Talen defines the sense of community as a "combination of social interaction, sense of belonging and place attachment". Since the perceived quality of the place can affect emotions, the feeling of the place is closely related to the built environment (Talen 1999).

Community identity and a sense of belonging, tolerance to people from different cultures and beliefs, collaborative and supportive behaviours in the neighbourhoods, opportunities for social and cultural activities, a sense of security and the opportunity to socially participating are crucial elements supporting social sustainability. The identity of a place is closely linked to the history of a place, local events and celebrations, and the stories people tell about that place and is formed over time. Based on the research of New Earswick, a new community developed by Joseph Rowntree in 1904, Michael Young identified three components for a sense of community: "length of residence, a place with a character of its own and people who share a common history". Strong local relations provide benefits in a community such as belonging and connecting to a neighbourhood, local news and information, informal childcare, key exchange neighbours, advice on local

jobs (Woodcraft et al. 2011, 32).

Forrest and Kearns argue that the neighbourhood is an essential source of social identity because the neighbourhood can be considered as an extension of the house for social purposes and is therefore critical for identity. The relationship between people and places is perhaps more important at the end of the 20th century than at the beginning (Forrest and Kearns 2001, 2130). Similarly, Dempsey and colleagues argue that the urban form is essential for the identity and belonging of the individual. Residents share the built environment and sense of belonging and together they create a private community that separates one place from any place (Dempsey et al. 2011, 296).

2.5.6. Equity

The concepts of equity and social justice are among the emphasized concepts in social sustainability studies. Although there is much debate about the definition of social equality, in general, it can be defined as a distribution policy that naturally balances the advantageous and disadvantaged conditions in a society. The importance of social equality stems from this balance. A gap between the advantageous and the disadvantageous can have negative effects on sustainability (Burton, Williams, and Mike 2005, 201).

Equity is the most frequently mentioned requirement for social sustainability. Social inequality leads to social division, conflict and instability, thus prevents social sustainability. Equality should be the fundamental guiding principle for any approach to social sustainability. According to McManus quoted in Partridge, the definition of sustainability must include a component of social justice because intragenerational and intergenerational equality prevents unnecessary consumption by a wealthy minority. Focusing on social justice does not mean that sustainability approves existing social conditions. For example, in cases where natural capital stocks were previously lost for specific groups, social sustainability had been addressed through a retrospective social justice component (Partridge 2005, 10).

Cuthill bases the social dimension of sustainability on two pillars. Firstly, he mentions that environmental problems are equally social problems. Secondly, he continues that people should not serve economic interests; on the contrary, the economy should serve people's interests. This economic approach is about equal distribution of

resources. The concepts of social justice and equality, social infrastructure, social capital and related governance also strengthen the relationship between these two basics. Each of these concepts contributes to social sustainability. (Cuthill 2009, 370).

2.5.7. Human Rights and Participation

Social needs are often defined by concepts such as equality, human rights and ethics. In the studies on sustainable communities in urban literature physical environmental quality comes to the forefront instead of social needs; on the other hand, the policy literature focuses on human rights, equality, participation and public services in sustainable societies (Smith 2010, 200). It should be noted that the rights of urban dwellers are an essential part of urban life.

Sustainability of societies is closely related to the creation of local democracies. Public knowledge and public participation are essential for a strong democracy (György Enyedi 2004, 32). This participation can be both formal and informal. Formal participation are opportunities organized by decision-makers, such as public meetings of local government agencies or local referendums (György Enyedi 2004, 15–16). On the other hand, informal public participation is voluntary and complimentary. Informal public participation should not be against legal regulations. Although informal participation does not have the power to make decisions, it can be persuasive for local authorities (György Enyedi 2004, 38). The essential point in participation is the integration of different social groups. Especially, excluded social groups may need help to express their problems. Therefore, public participation is important for city administration and public services (György Enyedi 2004, 20).

In order to ensure the sustainability of societies, society must protect itself. Attempts to strengthen local people can be interpreted as ethical, democratic and therefore socially sustainable. However, displacement in existing communities, adverse health effects, breakage of social networks, and loss of affordable housing adversely affect this situation. Social sustainability requires social networking, placement and commitment to ethics and human rights (Smith 2010, 200).

Social networks in society are shaped according to some needs related to gender. Gandelsonas focus on the question of women's individual needs, social networking concepts and governance questions to explore some of the gendered aspects of social

sustainability. Social capital not only empowers women but also contributes to social sustainability at the community level. How social capital is formed and how it is protected and replicated is a fundamental issue of governance. Examining the gendered aspects of social sustainability is necessary for increasing gender equality in the concept of social sustainability. Shifting the focus from women to the concept of gender equality allows a reassessment of the structure of society and all relationships between women and men. A fundamental restructuring of society is necessary for women to have equal rights with men in all spheres of life. Women's empowerment and social benefit are essential for social sustainability (Gandelsonas 2010, 83,97).

2.5.8. Poverty

Poverty is defined as being unable to meet minimum living conditions. Poverty is a global problem. However, reflections of poverty can be observed at only the local level. Poverty is a concept that includes deprivations in areas such as education, health and quality of life. Also, discrimination, marginalization and social exclusion are related to poverty (Açıkgöz and Yusufoğlu 2012, 80–81). Lack of basic needs such as food, shelter, clothing is related to absolute poverty. On the other hand, relative poverty focuses on minimum well-being standards rather than minimum living conditions. Relative poverty reflects differences in income and consumption in society. In summary, not only the homeless but also people below the general consumption level of society are in the category of the poor (Açıkgöz and Yusufoğlu 2012, 84).

Unemployment is a problem in almost all countries of the world. However, unemployment affects poverty in underdeveloped and developing countries (Açıkgöz and Yusufoğlu 2012, 91). Employment is an important factor for society. When individuals lose their jobs, they feel more unhappy than others with the same income level. In this case, the individual's loss of income is not effective, but the individual's self-identity is effective. The high unemployment rate is also closely related to the high rate of divorce, suicide and alcoholism. Also, employment is one of the essential dimensions of social sustainability. It provides the areas for work, social contact and interaction necessary to develop a sense of social well-being of individuals. The increase in the employment rate leads to a decrease in poverty, social exclusion and psychological problems (Stiglitz 2002, 1; Chan and Lee 2008, 246). Employment supports social sustainability conditions as it

provides an essential source of income. At the same time, the right to social security, participation and social contacts in the workplace are essential for ensuring social sustainability as well as for individual welfare (Omann and Spangenberg 2002, 6).

CHAPTER 3

THE RELATIONSHIP BETWEEN "URBAN GREEN SPACES" AND SOCIAL SUSTAINABILITY

Urban green spaces are valuable areas for cities that contribute to social sustainability. These spaces provide social benefits as well as ecological benefits for the city. According to the standard definition of ecologists, economists, social scientists and planners, urban green spaces such as urban parks, city forests and green bands, are public and private open spaces in urban areas covered by vegetation (Haq 2011, 601). Urban green spaces reflect all political, economic and social changes because these changes shape urban green spaces. Today, with the combination of ecological and social problems, the new goal of cities has been to be ecologically balanced and socially sustainable. Urban green spaces can also help achieve this goal. Urban green spaces help us to give answers to social problems as well as expressing ideas about nature (Cranz and Boland 2004, 102).

Urban green spaces are public spaces that produce social value rather than economic (Timisi 2012, 22). They are one of the most easily accessible public spaces. According to Madanipour, a professor of the urban design working on the social and psychological significance of the public space and processes that shape it, these spaces are areas where social encounters can be experienced and create a sense of community by increasing social interaction (Madanipour 2003, 122). One of the most critical issues related to urban green spaces in ensuring social sustainability is the social values of these spaces (Öztürk Kurtaslan 2017, 744). Ensuring social sustainability depends on both diversity and participation. Urban green spaces contribute to ensuring diversity and participation by creating a pluralistic environment as public spaces. People contribute to their structure and community in every social environment they come together (D. Ferhan, Armağan, and Melikoğlu 2012, 3). Urban green spaces are democratic spaces that bring different cultures together. In these areas, different cultures can express themselves individually (Thompson 2002, 60).

In a socially sustainable society, urban green spaces have a mission to improve dimensions of social sustainability like promoting social cohesion and raising wellbeing. In this chapter, firstly the definitions, classifications and evolution of urban green spaces

will be examined in order to establish a mutual relation between urban green spaces and social sustainability. Besides, how social and economic events affect urban green spaces and the process of using green spaces as public spaces in Europe and America will be discussed. Then the effects of similar changes on urban green areas in Turkey will be examined. Finally, the effectiveness of social sustainability dimensions in urban green areas will be evaluated.

3.1. The Definitions and Classifications of Urban Green Spaces

Keleş defines urban green spaces as public areas such as promenades and tree-lined roads organized by city administrations for citizens to rest and walk, and for the children to play. According to Keleş, urban green spaces prevent cities from becoming a concrete jungle (Keleş 1980, 127). Urban green spaces are also defined as an integrated area of natural, semi-natural or artificial green spaces that provide multi-dimensional benefits to city citizens (Zhou and Rana 2012, 174). In the Turkey Zoning and Construction Law No. 23804, urban green spaces are defined as the combination of playgrounds, children's gardens, recreation, walking, picnic, entertainment and coastal areas reserved for the benefit of the society (Önder and Polat 2012, 74).

There are various urban green space typologies such as neighbourhood parks, playgrounds, sports fields, city forests and cemeteries. In the literature, urban green spaces are classified from different approaches. The most used classifications are made by function, by the organisation, by usage rights and by service area (Figure 10).

The classifications of urban green spaces

by function	by organisation	by usage rights	by service area
• active green spaces • passive green spaces	• dispersed green spaces • green belt system	• public green spaces • semi-public green spaces • private green spaces	• residential-level green spaces • neighbourhood-level green spaces • distric- level green spaces • urban-level green spaces

Figure 10. The classifications of urban green spaces

(Source: Kap, 2006, p. 37 & Bilgili, 2008, p. 55)

Urban green spaces can be classified in two groups as active green spaces and passive green spaces according to their functions. Active green spaces are rich in natural vegetation and are used for recreation purposes. Areas such as parks, playgrounds, botanical gardens, groves are examples of active green areas. On the other hand, passive green spaces are not used for recreation purposes. For example, cemeteries, military green spaces, nurseries, traffic islands, refuges and ecologically protected areas are passive green spaces (Kap 2006, 37).

According to the organisation, urban green spaces can be classified into two groups: dispersed green spaces and green belt system. The dispersed green spaces are used to describe the green areas in the city, which are irregular regions of various sizes. On the other hand, the green belt system is an organic fabric that unites and integrates various parts of the city (Gül and Küçük 2001, 30).

According to usage rights, urban green spaces can be classified into three groups as public green spaces, semi-public green spaces and private green spaces. Public green spaces are open to everyone in the community such as urban and neighbourhood parks, urban forests and woodlands, cemeteries, botanical gardens, zoos, fairgrounds and exhibition areas, road-boulevards and refuges, sports fields. Semi-public green spaces such as military spaces, green spaces of public institutions and organizations, and factory gardens are areas that are used by particular users under certain conditions. Private green spaces are areas that can only be used by their owners, such as residential gardens or green spaces of housing estates (Bilgili 2008, 55)

According to the service areas, urban green spaces can be classified into four groups: residential level-green spaces, neighbourhood level-green spaces, district level-green spaces and urban level-green spaces. Residential level green spaces are the smallest units of urban green areas, such as front, side and back gardens of houses. Neighbourhood level green spaces cover an area of a maximum of 15 hectares. This level contains approximately 6 to 400 houses and can accommodate 30 to 5000 inhabitants. The urban green spaces at this level consist of children's gardens, sports and playgrounds and public housing gardens. District level green spaces cover an area of minimum of 15 hectares. This level contains at least 15.000 inhabitants. The capacity of district-level green spaces consists of approximately three neighbourhood level green spaces. Parks, sports fields, playgrounds and school gardens are examples of district-level green spaces. Urban level green spaces cover an area of minimum of 135 hectares. This level contains at least 45.000 inhabitants, and their capacity consists of three district-level green spaces. Urban parks,

sports complexes, recreational areas, botanical gardens, fair and exhibition areas, pedestrian paths, urban forests, woodlands, green belts and cemeteries are examples of urban level green spaces (Gül and Küçük 2001, 32).

3.2. The Evolution of Urban Green Space as Public Spaces

Urban green spaces are an inseparable part of urban life. The origin of urban green spaces is based on the expropriation of hunting areas (Öztürk Kurtaslan 2017, 744). Although the park and garden culture date to ancient times, the use of parks is a modern activity. In the past, urban green spaces were used by a specific group of community, such as dynasties, bourgeois and aristocrats. Also, the functions of urban green spaces were slightly different. However, in the modern age, both the users and functions of urban green spaces changed (Demir 2006, 70).

Urban green spaces have a long history in industrial cities in America and Europe. In the 19th century, the rapidly developing industry began to affect the physical and social health of the city dwellers. This situation increased the importance given to urban green spaces and accelerated park movements. Until the end of the 19th century, parks in Europe were not open to public use; they were the promenade of aristocrats and bourgeois. In major European cities, especially in London and Paris, the parks were fenced and guarded by guards. These parks were designed according to the aesthetic understanding of society's elites. Similarly, American urban parks were also designed with the model of European urban parks. It was especially difficult for the working class to enter the parks. This approach began to change in the 19th century (Gunes 2019, 6). The industrial revolution affected both the lives of city-dwellers and the physical structure of the cities in this period. With the social reform movements that began in the 19th century, the parks were built for public use to enhance the physical and moral well-being of the working classes, reduce social unrest, bring nature back to cities, and create social hygiene psychology (Yuen 1996, 955).

The intense urbanization that started in the 19th century continued in the 20th century and had caused people to lose their relations with nature. Thus, urban green spaces became a critical component of all regional and local infrastructure plan. At the beginning of the 21st century, there was a trend towards increasing the natural areas in Europe. Firstly, designers created landscapes representing rural areas, like Central Park in New

York. Later, ecological functions were adapted to the park design. Then, some functions, such as environmental education have been added to urban green spaces (Loures, Santos, and Panagopoulos 2007, 171–72). With the information age in the 21st century, lifestyles and needs of people have changed. The speed of life has increased the importance of the use of time. Urban green spaces have also become flexible and variable in terms of the program. The abandoned old industrial areas within the city began to be brought into the city within the framework of today's landscape design approach. Instead of being designed individually, the parks began to spread to the cities in a way to form a system with each other (Erbaş Gürler and Özer 2013, 77).

3.2.1 The Evolution of urban green space in Europe and America

Urban green spaces have been designed and used in different forms and typologies with changing social goals. All forms of urban green space were developed to address the social problems of its time (Cranz and Boland 2004, 102). People have used green spaces such as parks and gardens since their transition to settled life. The first known garden examples in history were in Mesopotamia, Egypt, Iran, Ancient Greek and Ancient Roman civilizations. The style of the Islamic Garden, seen in Spain, Iran and India, also inspired architecture and many garden arts. However, these gardens, which were used for resting, hunting, agricultural activities and religious functions, generally belonged to individuals. These areas were not used as public spaces (Gunes 2019, 6).

The public use of European parks is based on the opening of Hyde Park (Figure 11) for public use by Charles I in 1637. Hyde Park was initially designed as a hunting ground for the royal. Then, many parks in Europe were opened to public use. Regent’s Park was initially designed as a royal hunting park and later opened to the public. Englischer Garten in Munich was a military garden. This park, one of the largest urban green spaces in the world, was opened to public use in 1789. Also, in France, the Tuileries Park between the Louvre Museum and Concorde Square was built as a palace garden. Tuileries Park, one of the most critical public parks in Paris, was redesigned and opened to the public by Le Notre in the 17th century. Bois de Boulogne, designed as a hunting park for Napoleon, was converted into a public park in 1852 (Aytaç and Kuşuluoğlu 2015, 16–17).

Figure 11. Hyde Park, The Row About 1855-1870 (Source: Kite 2000, 217)

In the 19th century, urban green spaces played a different role. Madanipour argues that the expansion of the industrial revolution in the 19th century caused changes in people's lives. These changings created new social and spatial relationships. The process of suburbanization, a characteristic of the modern age, revealed a distinction between home and work. This distinction also reshaped the distinction between public and private spaces (Madanipour 2003, 76). When citizens living in industrialized cities adapted to new conditions, they began to use urban green spaces as public spaces where they could relate to nature (Ekinci and Sağlam 2016, 611). In this period, the importance is given to urban green areas increased, and park movements began.

The idea of designing outdoor spaces for the use of people inspired the park movement in the 19th century. Urban green spaces and public parks movements aimed to improve the quality of life in cities. The park planning movement began in the UK. Public parks in the UK aimed at creating healthy environments, increasing land values and beautifying the city. During this period, public urban parks such as Victoria Park (Figure 12) were created. Also, Birkenhead Park, the first public park built with public revenues, was designed in this period. The transition of urban green areas from private to public service has started. (Uludağ 1998, 48–52).

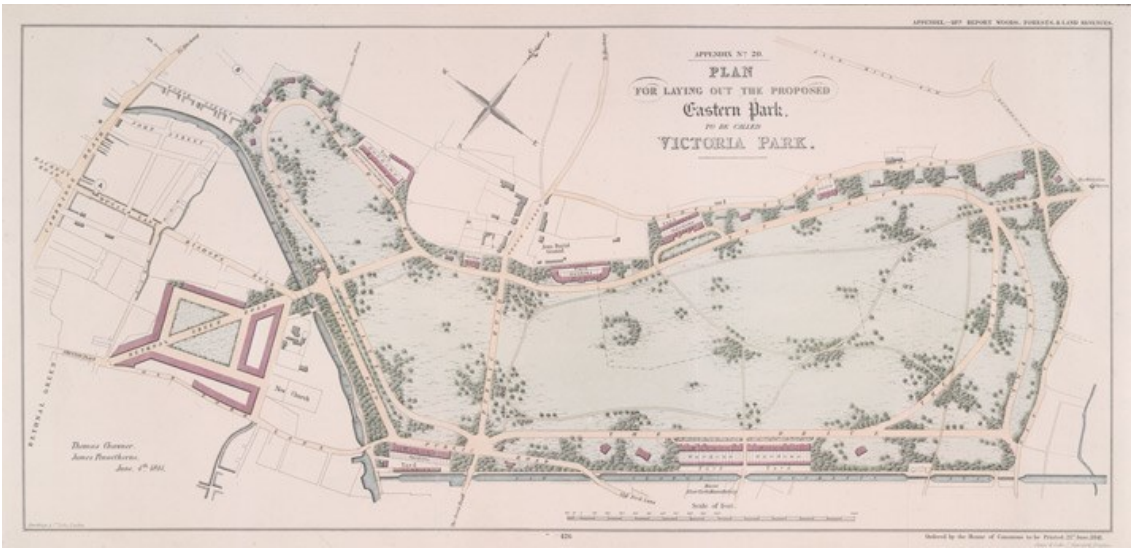


Figure 12. The 1841 plan for Victoria Park
(Source: municipaldreams.wordpress.com)

After the Industrial Revolution, polluted and congested cities had emerged. In the early 20th century, the movement of the garden city developed against this crowd and pollution. This movement was an urban planning concept that brought together the characteristics of both urban and rural environments (Bullard 2018, 2). The social message of Ebenezer Howard, the founder of the garden city movement, shaped the discourse of this movement. Howard believed in the spirit of individual reform and claimed that urban and rural patterns had to be integrated to create new social relationships in both urban and rural life. Also, he argued that an ideal social life supported by urban green spaces would enrich the socio-cultural aspect of society (Uludağ 1998, 55–56).

After the I. and II. World Wars, caused by the competition of raw materials and colonialism, affected and damaged many cities in Europe. During this period, some areas like urban parks were used as evacuation areas. After the war, the demolished cities were re-established, and the industrial areas within the city were moved out of the city. Thus, the design of old industrial areas as urban green spaces was discussed, and in the second half of the 20th century, the old industrial areas were designed as urban parks (Aytaç and Kuşuluoğlu 2015, 18–19).

The events and developments in Europe had an impact on America as well. The industrial revolution affected urban design movements not only in Europe but also in America. The most effective of these movements in America was the ‘city beautiful movement’. This movement aimed to strengthen urban areas and increased social

problems and proposed an urban plan that combined a local centre, urban green spaces and broad boulevards. (Blumberg and Yalzadeh 2019).

Galen Cranz, a theorist working on urban parks and sustainability, and Michael Boland, an architect with a master's degree in landscape architecture and in city and regional planning, divide the urban green space designs that begin with this process into four chronological sections in America; Pleasure Ground, Reform Park, Recreation Facility and Open Space System. Pleasure Ground (1850-1900) were usually located on the edge of the city (Figure 13,14). American landscape architect Frederick Law Olmsted designed many of these parks in a pastoral style with curved circulation, natural trees and water elements. Mental relaxation and sports activities were the basic requirements for these parks. However, the working class could not use these green spaces because they were far from where they lived (Cranz and Boland 2004, 102–3).

Figure 13. Central Park, the first Pleasure Ground in the United States
(Source: Cranz and Boland 2004)

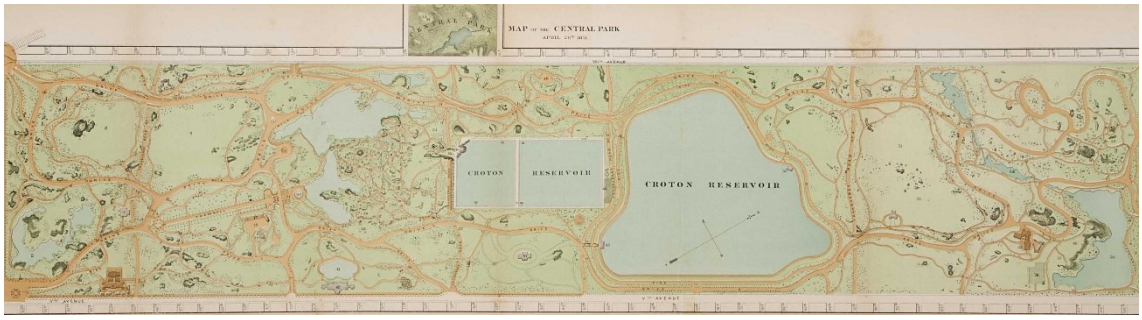


Figure 14. Map of the Central Park, Frederick Law Olmsted, 1862
(Source: Heckscher 2008, 43)

Between 1900 and 1930, the typology of the Reform Park (Figure 15) became widespread. Reform parks were close to working-class residential areas, with physical exercise areas and children's playgrounds. They had a mission to reduce class conflict, strengthen the family unit and educate citizens. Between 1930 and 1965, Recreation Facilities (Figure 16) were effective in park typology. Parks were a state service that did not have to be justified. Parking arrangements were made in suburbs and urban areas that do not yet have a park or playground. Recreation activities such as picnics, dance, tennis, table tennis, basketball, folklore, golf and bowling leagues were organized for the workers. (Cranz 1980, 79-81,90).

In 1965, reactions began to develop against the Recreation Facility approach. In the typology that emerged in this period, urban green areas were seen as an Open Space System (Figure 17). The park was designed as part of popular culture. The prevailing view in this period was that all open spaces such as streets, squares, parks and playgrounds, were valuable, and they would be more valuable if they were interconnected. In this process, a more artistic and participatory sensitivity developed (Cranz 1980, 93)

Figure 15. Jones Beach State Park play area

(Source: The New York Public Library Digital Collections)

Figure 16. Manhattan Seward Park, 1905
(Source: The New York Public Library Digital Collections)

Figure 17. Bryant park (Source: The New York Public Library Digital Collections)

After defining these four sections, Cranz and Boland argue that the concept of Sustainable Park emerged in the late 1990s. Sustainable Parks are areas that use various strategies to reduce the need for resources and increase self-sufficiency. These parks also manage to increase their ecological health in the face of funding cuts and changing entertainment demands and help solve urban problems outside the park boundaries (Cranz and Boland 2004, 106–12).

3.2.2. The Evolution of Urban Green Space in Turkey

In Turkey, the public use of urban green space began with the process of implementation of modern urban planning in the late Ottoman period. In the Ottoman Empire, there were recreation areas called “mesira”, which were slightly different from European park culture. For example, Kağıthane Creek in Istanbul was used as a recreation area (Demir 2006, 70). In the 18th century and later, during the period known as the Westernization Period of the Ottoman Empire, French and English garden designs influenced the Turkish garden tradition and the tradition of urban open spaces in Istanbul (Erbaş Gürler 2009, 612). Inspired by French gardens, the Sadabad Garden (Figure 18) was one of the most important public spaces of the Ottoman period. This garden was the first place where women could be seen in the social life of traditional Ottoman society; however, the use of the park was limited to a specific segment of society. For this reason, there was not exactly a public use (Ekinci and Sağlam 2016, 612).

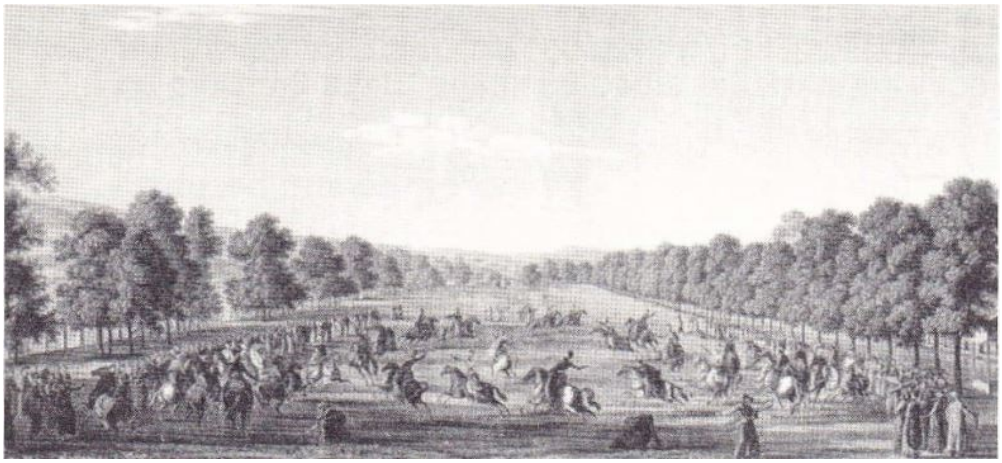


Figure 18. Sa’dabat (Source Erbaş Gürler 2009)

After the industrial revolution and enlightenment in Europe, a project of modernity was developed, and cities had transformations. This transformations in the urban areas of Europe also affected the Ottoman cities. There were both administrative and economic changes in the Ottoman cities. Business centres in cities have been reorganized and the city population has increased, and cities have expanded to new regions (Atanur 2015, 247). At the beginning of the 20th century, a series of urban parks were organized in Istanbul in a modern sense. Gülhane Park, one of the first public green spaces in this period, was reorganized for public use (Demir 2006, 70).

After the proclamation of the Republic, the cities were redesigned by western modernist planners and architects according to urban plans. Public spaces were an essential part of this design process. In this period, most of the newly created urban areas were urban parks. (Atanur 2015, 247). The modernity project of young Turkish Republic, a form of social life and organization that is tried to be created with the example of Europe, (Tekeli 1995, 51) aimed to accelerate the development and renewal of the country. The modernity project accelerated the migration of people living in the villages to the city. Migration to the city had led to an increase in housing needs in the city. The ratio of green areas decreased significantly in cities where urbanization increased. People's longing for nature increased with the separation of people from nature. This situation led to the need for urban green spaces, which are also described as spaces for breathing in cities (Ocak and Perçin 2014, 12).

All urban parks built during this period were designed to represent and maintain the ideology of the young Turkish Republic (Ekinci and Sağlam 2016, 612). The parks such as Ankara Gençlik Parkı (Youth Park), İzmir Kültürpark and Bursa Kültürpark are examples of urban parks that are applied in this early republican tradition.

Ankara Geçlik Parkı (Yought Park) was the first urban park of the Republic Period planned for recreation and public use (Oguz 2000, 165). When Ankara became the capital, it was aimed to establish a physical and socially modern way of life that would lead the society in the city. The newly created western image should be an example to other cities. New public spaces functioned as carriers of modernization in everyday life. Therefore, as in the cities of Western countries, large and modern green spaces were created within the city by German planner Herman Jansen (Demir 2006, 71–72). Jansen completed the project in 1935; however, in 1936, there was a sudden change in project implementation. Because of some aesthetic concerns and economic reasons, the Leveau's project was approved in place of Jansen's project. Although there was no remarkable difference between these two projects, the project of French architect Theo Leveau, who worked under the ministry of public works, was preferred during this period. (Özkır 2007, 67).

Gençlik Parkı is a recreation area built on the marsh area of İncesu Valley. Building the park into this area caused the transformation of the unhealthy and marsh area of the city into a large and beautiful public park. (Uludağ 1998, 136). The location of the park to the train station was an important design element. The train station connected Ankara to other cities as well as other European countries. Gençlik Parkı greeted people who were descending at the train station and directed them to the old city centre. Thus,

while the park represented the Republican ideals, it also linked traditional and modern values (Uludağ 1998, 131–36).

Gençlik Parkı was designed not only as a place for contact with the landscape but also for social activities (Demir 2006, 73). One of the most attractive features of the park was the artificial lake inside. In this lake, the artificial islands were created, and one of the islands was arranged as a beach. Ankara, known for its steppe, had become a place where water sports such as swimming, rowing and sailing were performed (Uludağ 1998, 189). There was an opera house in the south of the park and a stadium and hippodrome in the northwest of the park. There were also a casino, restaurants, nature gardens and open-air theatre designed for cultural and social events (Uludağ 1998, 31).

The most popular of these recreational areas was the Ada Gazinosu, also known as the Göl Gazinosu. Ada Gazinosu was a place where Western-style musical entertainments were organized. After the 1950s, it became a place where both western and Turkish style musical entertainments. At the end of the 1980s, this casino was closed by the governor (Demir 2006, 74)

Figure 19. Gençlik Parkı (Youth Park) in the 1950s
(Source: Presidency of The Republic of Turkey DOC Archive)

İzmir Kültürpark, another example, was designed as an urban space to represent the modernization ideals of the early Republican era. In 1936, The Izmir International Fairground and Kültürpark were opened to the place created by the 1922 fire. Fire areas were reorganized following the 1925 Danger-Prost plan. The local government developed

the new project, which combined cultural and exhibition functions, with inspiration from Soviet models. Artificial lakes, tennis courts, shooting range, amusement park, zoo, island and lake casinos were the sports and entertainment areas of the modern family of the Republic period. The İzmir International Fair and Kültürpark were designed as an educational area for the modern urban individual with its exhibitions, culture and entertainment spaces as well as a green space for creating healthy generations with its sports function spaces (Kayın 2016).

Figure 20. İzmir Kültürpark

(Source: APİKAM, İzmir Fuarı | Harabeler Üzerinde Cumhuriyet Abidesi, 2016)

Bursa Kültürpark is another example of urban green spaces built during the republic period. It is one of the first designed urban green spaces in Bursa (Özkır 2007, 88–89). After the proclamation of the Republic, the state had stepped into action for the modernization of everyday life. Therefore, Ankara and other provinces began to be built in recreation and educational purposes. Bursa Kültürpark was built during this period. The design of Bursa Kültürpark, which opened on 6 July 1955, was influenced by Ankara Gençlik Park and İzmir Kültürpark. With the opening of the industrial zone in Bursa in 1964, the urban population increased. Concepts such as weekend, leisure and holiday had entered the lives of the people living in the city. Kulturpark was an easily accessible and reasonable area for the city residents to spend their leisure time. (Atanur 2015, 251–52).

Figure 21. Bursa Kültürpark
(Source: Bursa Valiliği, Türkiye Cumhuriyeti'nin Seksenbeşinci Yılında Bursa, 2008)

3.3. The Importance of Urban Green Spaces in Achieving Social Sustainability

Urban green spaces represent a reflection of the social situation in society. Urban green spaces add vitality to cities both ecologically and socially. These spaces provide an attractive environment for residents, decrease social problems and social gap in the community. Therefore, urban green spaces are strategically crucial for social sustainability (Zhou and Rana 2012, 174). Urban green spaces provide appropriate conditions for issues such as community feeling, belonging, social unification and prosperity that are important for social sustainability. They have been places of change of social experiences by supporting constructive tensions between culture and nature. These areas are not only places of entertainment for the community, but also places that create new relationships to maintain a new lifestyle (Uludağ 1998, 44).

In order to understand the role of urban green spaces on social sustainability, it is necessary to comprehend the concept of social sustainability. In the previous chapter, the social sustainability approaches in the literature were examined and the dimensions that would help to evaluate social sustainability were determined. In this section, the relationship between urban green spaces and predetermined social sustainability dimensions (accessibility, security, social cohesion, quality of life, sense of belonging, equity, human rights and participation, and poverty) will be examined in order to see the role of urban green spaces on social sustainability.

3.3.1. The Importance of Accessibility in Urban Green Spaces

Accessibility, which is one of the main components of social sustainability, provides opportunities for especially disadvantaged people to access, enter and entertain in open or closed spaces (Greco and Giacometti 2013, 1). Accessibility is an essential factor for urban green spaces. Urban green spaces provide urban residents with the opportunity to escape the chaos of the built environment. They enable active or passive possibilities for interaction with nature. These urban green spaces should be easily accessible, especially for children and older adults. Accessibility is the essential variable to consider since the success of urban green spaces depends on people choosing them. (Tabassum and Sharmin 2013, 49).

Natural England, a public agency responsible for the conservation and development of the natural environment in the UK, proposes some standards to improve the accessibility of green spaces used by citizens. They are accessible natural greenspace standards (Pengelly Consulting 2010, 6). Natural England defines accessible green space as free places that can be used without time constraints (Pengelly Consulting 2010, 8) Their definition of green space is broader than the traditional definition of natural areas. In 1996, Natural England proposed accessible natural greenspace standards that set size and distance criteria to help identify accessible green spaces (Pengelly Consulting 2010, 21).

Accessible natural greenspace standard was developed to find the minimum distance people would go to reach a natural environment. This standard claims that people should have accessible natural green spaces where they live. People should be accessing a green area of at least 2 hectares at 300 meters from their homes. If this distance is 2 kilometres, the size of the green area should be 20 hectares; if the distance is 5 kilometres, the size should be 100 hectares; if the distance is more than 10 kilometres, the size should be at least 500 hectares. Also, there should be at least one hectare of Local Nature Reserve per thousand people (Pengelly Consulting 2010, 12)

Table 4. Service area of accessible natural greenspaces

Area	Distance
at least 2 hectares	300 meters
at least 20 hectares	2 kilometres
at least 100 hectares	5 kilometres
at least 500 hectares	10 kilometres

Although the accessibility of urban green spaces is closely related to their location, psychological access is an important factor as well as physical access. Physical influences such as long travel distances, high travel fees, lack of public transport and non-pedestrian-friendly streets reduce access to urban green spaces. Also, some psychological influences such as the location of urban green spaces, lack of staff, inappropriate parking programming, services that do not match the preferences of certain groups, and ethnic inequalities impede access to the park (Gibson, Loukaitou-Sideris, and Mukhija 2019, 388–89).

Accessible natural greenspace standard pays attention to improving access, naturalness and connectivity. The factors that affect accessibility are not only distance and reaching. People should know where their green spaces are and feel comfortable using them. Improving accessibility depends on planning green spaces for all potential users, regardless of age, talent or cultural background. In order to improve connectivity, activity opportunities should be created, and participation should be encouraged (Pengelly Consulting 2010, 12). Urban green spaces that promote social sustainability should be areas where physical and psychological access is easy.

3.3.2. The Importance of Security in Urban Green Spaces

Security and safety are essential factors affecting the use of urban green spaces. A socially sustainable community is based on strong social ties. Individuals coming together in society depend on feeling safe. Throughout history, people have come together in urban green spaces for various purposes. Urban green spaces are used as public open spaces where people can interact with each other (Ekinci and Sağlam 2016, 611).

The safety is related to people being with and interacting with other people (Hong et al. 2018, 39). Safety is both an emotion and perception. Perceived safety may differ

according to age, gender, society, time, situation, location, socio-economic and cultural characteristics. Safety perception is also expressed with concepts such as fear, risk, threat and danger (Çelik 2018, 60). Urban green spaces are considered to be dangerous and unsafe places that are common crime and lead to avoidance behaviour (Çelik 2018, 68)

Although the perception of safety is generally associated with fear of crime, it should be examined from a broader perspective. Doğrusoy and Zengel examined the perceived safety of urban parks taking account of three categories as environmental factors, perceptual factors and demographic factors (Türkseven Doğrusoy and Zengel 2017, 64). Issues such as environmental design, landscape design, maintenance and lighting are essential environmental factors affecting perceived safety.

Project for Public Spaces (PPS), a non-profit organization composed of architects and urban planners, had explored the importance of environmental design in creating safe urban parks. They claim that the design of a park has a direct impact on perceived safety. Urban parks that contain physical features such as poor lighting, confusing layout, physical and aural isolation, poor visibility, difficulty in accessing help, hiding areas, poor maintenance, vandalism and the presence of undesirable are perceived as unsafe by users (PPS 2008). Lighting is a factor closely associated with perceived safety. Lighting should be directed to reach potential hiding areas and should be positioned to coordinate with direction signs. The lighting of walkways, gathering points and building entrances clarify the layout of the park and increases night-time use. Also, the layout is an essential factor for perceived safety. A clear layout improves the intelligibility of the park and makes it easier for users to find their way. Easy access, clear directions and well-defined boundaries make users feel comfortable and safe.

Another factor that affects perceived safety is isolation. Users feel safe in areas where they can be seen and heard by other users. Reducing the number of isolated places where the crime cannot be seen or heard will increase the sense of security. Similarly, visibility is an essential factor in increasing the sense of safety. The perception of security increases if people can see their surroundings and others are visible. Therefore, design elements such as shrubberies, fences, storage sheds and park walls are essential in terms of visual permeability and perceived safety. In addition to these design elements, park personnel and public telephones increase the sense of safety as it will facilitate access to help in emergencies.

Issues such as crowded, wayfinding anxiety, user satisfaction and familiarity are perceptual factors that affect perceived safety (Türkseven Doğrusoy and Zengel 2017,

66). User satisfaction is one of the factors that increase perceived safety. Increasing the variety of usage and creating different activities that may be of interest to users also increase the sense of security (PPS, 2008). Another variable that affects perceived safety is familiarity. Familiarity is not only a visual situation but also an individual situation that depends on users' past and experience. Especially in public places, users feel safer where they are familiar (Traunmueller 2016, 76). Perceived safety is inversely proportional to the wayfinding anxiety. When users feel safe, their anxiety about finding their way is reduced (Lawton and Kallai 2002, 398).

The demographic factors which most frequently associated with perceived safety are age and gender. Women are more concerned about personal safety than men when using public spaces. These concerns of women affect their use of public spaces. They avoid the isolated areas of the parks for safety reasons, and they are afraid of visiting the park after dark (PPS, 2008). Another group that feels as insecure as women in urban parks is elderly people. The elderly people are a vulnerable group against crime. This fear of crime in urban parks makes older people feel more insecure than young people (Deniz 2016, 634). Also, other factors such as income, education, and marital status can affect perceived safety in parks (Türkseven Doğrusoy and Zengel 2017, 67).

3.3.3. The Importance of Social Cohesion in Urban Green Spaces

The interactions between people form the basis of social cohesion (Jennings and Bamkole 2019, 1). One of the places that encourage interactions between people is urban green spaces. Urban green spaces enhance community cohesion and contribute to the inclusion of individuals in society. The quality of urban green spaces helps to support community development and social cohesion. Social interaction in open spaces offers the opportunity to be together with other people in a relaxing way. Being among others provides positive experiences, offers alternatives to being alone, and provides opportunities to strengthen social ties to friends or non-families. At the same time, urban green spaces ensure that the contacts remain at a modest level and that the contacts already established are maintained. The strengthening of social ties leads to the reduction of social exclusions (Kaźmierczak and James 2007, 356–59). Strengthening social ties in society is one of the necessary conditions for ensuring social sustainability.

Urban green spaces allow the same easy access for everyone in a city. These areas are suitable places for multicultural encounters and the potential for higher social participation. Furthermore, marginalized minorities of society, such as immigrants and unemployed youth, can meet each other in urban green spaces and build intercultural social capital. In recent years, international gardens have been used in Germany and the USA to connect foreigners with urban green. When designing urban green spaces, it is necessary to consider the multicultural structure in the age of globalization and migration (Seeland, Dübendorfer, and Hansmann 2009, 10–11). The opportunities and design features of urban green spaces can affect social cohesion. Features such as active recreation facilities, easy pedestrian access, shady rest areas and functional playgrounds can support social interactions in urban green spaces (Jennings and Bamkole 2019, 2)

Social capital also strengthens social cohesion in urban green spaces. Social capital ensures the sustainability of the society by establishing connections between different groups in heterogeneous communities. Public spaces, such as urban green spaces, play an important role in the construction of these social connections. These public spaces both create opportunities for social connections and minimize social distances between minorities. Designing appropriate urban green spaces can strengthen social cohesion by facilitating the connections that form social capital (Ijla 2012, 48). Urban parks are areas that provide the city's vitality. They are suitable areas to balance the intensity and social isolation of urban life. The desire of people to live in cities determines the future of cities and the sustainability of society (Ijla 2012, 50).

3.3.4. Importance of Quality of Life in Urban Green Spaces

Quality of life and well-being are related to the assessment of individuals about their situation. Urban green areas have a large part in improving the quality of life. Coles and Caserio examine the quality of life in urban green spaces under criteria such as “promoting high-quality living conditions”, “daily recreational needs” and “life strategies”. Urban green spaces should contribute to the improvement of living conditions by strengthening social interaction between visitors. They should meet the daily recreation needs of citizens. People should be able to choose the time to visit these areas without any restrictions. Also, urban green spaces should support the living conditions of visitors. They should ensure that visitors enjoy these areas by providing opportunities and

options (Coles and Caserio 2001, 15).

Urban green spaces affect well-being as well as the quality of life. Wellbeing is not only related to physical health but also situations such as mental and emotional health, optimism, social relations and financial issues (Ungvarsky 2019, 2). When social sustainability is defined as providing the wellbeing of present and future generations (Castillo et al. 2007, 43) urban green spaces are essential areas to ensure and maintain this wellbeing because these spaces have physical as well as emotional and mental benefits on quality of life.

Urban green spaces provide relaxation and emotional warmth. The natural environment in these spaces also reduces the level of stress. According to a study in Helsinki in Finland, among the patients in the hospital, patients whose rooms were facing the park needed fewer painkillers and recovered faster than other patients. Improvements in air quality due to vegetation are essential for physical health as well as the relationship between people and nature, which is vital for general mental health. This example is a clear indication that urban green spaces can increase "the physical and psychological well-being of urban citizens" (Haq 2011, 603–4). Green spaces provide health effects such as lower blood pressure and longer life span while contributing to mental welfare such as decreased stress and increased concentration. Physical activity in green areas helps reduce chronic health problems such as obesity or cardiovascular disease. Research has shown that increasing physical activities such as regular walking strengthens the relationship between green areas and health outcomes. Besides, watching natural landscapes in urban green spaces facilitates stress healing and provides a restorative effect on mental health, especially for urban residents and working people (Nath, Zhe Han, and Lechner 2018, 34,38).

3.3.5. The Importance of Sense of Belonging in Urban Green Spaces

Urban green spaces reflecting the complexity of local culture and heritage, form an essential component of identity and sense of place. Forests, trees, fences, wetlands provide various ecological benefits and help create a unique sense of place. The success of these spaces is related to their ability to reflect the identity and culture of society (Cowan and Hill 2005, 63).

Urban green spaces create a general sense of community by pulling people out of the city, thus reducing people's sense of loneliness. These areas also promote personal welfare and social capital formation by increasing social interaction (Nath, Zhe Han, and Lechner 2018, 35). The community feeling is linked to factors such as membership, influence, integration and shared emotional connections. Membership can be defined as feeling like part of the group. The importance that one member attaches to other group members creates the influence. If the resources provided by the group can meet the needs of the members, this creates integration. The sense of history shared within the group creates shared emotional connections over time. Also, urban green spaces facilitate social integration and social bonding (Gomez et al. 2015, 389–90). These areas are the most suitable areas for promoting social health, strengthening social interaction between neighbours and thus ensure social sustainability.

3.3.6. The Importance of Equity in Urban Green Spaces

Providing equal opportunities to all members of society, especially the poor and vulnerable, is also crucial for social sustainability (McKenzie 2004, 36). Urban green spaces provide physical and mental benefits for visitors. The purpose of urban green spaces is to ensure that all visitors benefit equally from all opportunities in these spaces. However, differences in the use of urban green spaces may occur between different social groups. The income gap between people can affect the use of urban green spaces. The injustices in the use of urban green spaces result from the spatial distribution and quality of these areas. For example, people with low socioeconomic levels are more challenging to access green spaces outside the city (Gibson, Loukaitou-Sideris, and Mukhija 2019, 385). Challenges are not only physical but also personal, social and structural. Unequal psychological access to urban green spaces among different social groups increases inequality in their use. The harmony between users affects the use of urban green spaces. In order to eliminate the injustices in use, the distribution of the parks should be made more equitable, the parks should be designed more culturally sensitive, the poor communities should have better access to the parks and the use of local knowledge in the design of the park and the participation of the public should be ensured (Gibson, Loukaitou-Sideris, and Mukhija 2019, 389).

When evaluating the equality of urban green spaces, both accessibility and user population should be taken into consideration. When the accessibility of the park is mentioned, the concept of spatial equality that evaluates the opportunities and distances of the users is understood. On the other hand, social equity dwells on equal public services for all urban residents and focuses on meeting the needs of groups such as low-income people, the elderly, children and ethnic minorities (Tan, Tang, and Wu 2019, 2) and considering that equity in the distribution and use of resources is the basis of social sustainability (Baffoe and Mutisya 2015, 244). For that reason, urban green spaces can be used as a solution for different groups to access resources equally.

3.3.7. The Importance of Human Rights and Participation in Urban Green Spaces

Urban green spaces provide opportunities for less fortunate people in the community to participate in social activities and enable vulnerable groups to socialize (Rabare, Okech, and Onyango 2009, 26). They are the most suitable areas for leisure activities. However, leisure activities vary according to cultural interpretations of gender. Women's leisure time is considered part of family tasks such as childcare and housework. Women often spend time with children or family members in their leisure times, while men mostly engage in free activities such as sports and hiking with friends. Especially in the case of migrant women, factors such as housework, language barriers and lack of transportation reduce the availability of leisure activities (Ho et al. 2005, 287). Gender roles in society cause discrimination between private and public, such as home and workplace. Some places in society are associated with certain genders. Streets, pubs, and parks are seen as men's spaces; therefore, it is difficult for women to be involved in these places. Nevertheless, urban green areas are mostly used by women. Even if urban green spaces are accepted as public spaces, for women, they are also private spaces where they can establish intimacy and take care of their children. Generally, women use these areas to be able to do activities outside the house. Women who come to the park during working hours are women with young children. They prefer these areas to provide fresh air and play opportunities for their children. Visiting urban green spaces helps to avoid the stress of the routine of household chores and childcare. Thus, these green spaces provide psychological relief for women. (Timisi 2012, 35). Creating a democratic space in which

individuals can express themselves freely is a fundamental requirement for a socially sustainable society.

3.3.8. The Importance of Poverty in Urban Green Spaces

There is a strong relationship between the emergence of urban green spaces and poverty. In the 19th century, there was a significant disparity in health conditions between the rich and poor. Urban green spaces were seen as a solution for the crowded cities, housing problems and working conditions of urban poor. Laws such as clean water and wastewater standards tried to improve deficient areas. Urban green spaces were designed to offer people of all classes a clean environment during industrialization (Cohen et al. 2012, 2317) . The availability of parks in poor communities is particularly valuable because of many people in these communities challenging to access to open spaces (Gibson, Loukaitou-Sideris, and Mukhija 2019, 385).

The studies in Southern California have shown that inequalities in park distribution, park quality and park safety cause disadvantages for low-income people and ethnic minorities (Rigolon, Browning, and Jennings 2018, 157). Low-income people have trouble in paying high fees in recreation areas which away from their neighbourhoods. Access to these places is especially difficult for children and teenagers. Therefore, low-income people need urban green spaces and public parks more than wealthy people (Rigolon, Browning, and Jennings 2018, 159). Low-income people are the largest group that uses public space. Especially urban parks provide a safe area for children to play (Poon 2017).

Neighbourhoods, where low-income people live in, are high-density areas built on limited spaces. People living in these neighbourhoods need open green spaces to meet their needs, such as interacting with nature and getting fresh air. Open green spaces, and urban parks are essential to overcome severe urban conditions and to make city life more liveable (Bakar, Malek, and Mansor 2016, 300–301)

CHAPTER 4

THE CASE OF İNCİRALTI CITY FOREST

In the previous chapter of the study, the relationship between urban green spaces and social sustainability was examined. In this chapter, it is aimed to determine the role of urban green spaces in social sustainability through the case of İnciraltı City Forest. In these days, where open green areas are gradually decreasing, İnciraltı City Forest is one of the largest urban green spaces in the metropolitan area of İzmir. It has many potentials in terms of location. It is close to the city centre and is accessible with public transportation. Also, İnciraltı City Forest creates a suitable environment for the different socio-cultural groups as well as creating space for recreational activities in the city. For these reasons, İnciralti City Forest was chosen as the study area.

In this section, after examining the historical background and the controversial scenarios about İnciraltı, the location and physical characteristics of the study area will be examined. Then, the questionnaire results, which was applied as standard form to 71 people, will be evaluated to determine the dimensions of social sustainability in the İnciraltı City Forest. Also, demographic structures, leisure time activities, and opinions and demands of the users about the study area will try to be determined.

4.1. Historical Background of İnciraltı

İnciraltı district is located on the western development axis of Izmir. It is one of the unique areas where green spaces and natural features have been preserved. However, there have been various attempts and speculations in this district in order to get unearned income (Türkyılmaz 2009, 275). Especially in the late 20th century, with problematic development plan implementation, İnciraltı entered into a process of change and began to experience an identity crisis between rural and urban (Kayın 2007, 29). In order to understand these changes, the historical background of İnciraltı should be examined.

In the 1940s coastal rehabilitation works were carried out, and many eucalyptus trees were planted in İnciraltı for drying the swamp areas. The coastline of İnciralti, where

picnics and jumping competitions were organized, was used as the beach area of the city. The beach was also easily accessible by public transport. In addition to ferry services, it was possible to access the area by bus or minibuses departing from Üçkuyular. İnciraltı had a recreative memory associated with the beach and the sea (Kayın 2012, 40–41). However, in the 1970s İnciraltı lost its characteristic with the pollution of the sea. Then, greenhouse cultivation developed in the 1980s with the use of hot groundwater in the region (Yüksel 2013, 45). In the 1980s, Inciraltı was in an essential position with greenhouses and orchards for urban agriculture.

The fact that İnciraltı was declared a tourism area in 1989 caused many changes. As a result of this decision, the demands for construction increased gradually, and new tourism plans had led up to the construction of a privileged skyscraper, hotel and shopping centre was prepared (Kayın 2007, 29). The construction of the Özdilek shopping centre, built in the 1990s, has caused ecological damage to the environment. Also, in the same years, the İzmir-Çeşme highway had damaged the orchards and green areas in the region. (Yüksel 2013, 45). During this period, there have been efforts to protect the ecological life in the İnciraltı district. In 1999, the İnciraltı district was registered as the 1st Degree Natural Protected Area by İzmir Cultural and Natural Heritage Preservation Board No.1 under the law no 8050. In 2002, the area was grated as 1st, 2nd and 3rd Degree Natural Protected Area under the law no 10168 (Egercioglu and Ercoşkun 2015, 13–14). Since the 2000s, although conservation laws, the development plans caused deterioration of the protected natural quality environment because of the destruction of agricultural areas and the traffic density brought by the highway decision (Yüksel 2013, 45).

Moreover, the projects related Expo nomination of İzmir had greatly affected the fate of İnciraltı. İzmir İnciraltı Tourism Centre Environmental Plan, which was prepared within the scope of Expo 2015 candidacy application, was approved by the Ministry of Culture and Tourism in 2007 (Egercioglu and Ercoşkun 2015, 12). In this plan, the coastline was planned as an Expo area, and other areas were reserved for hotels, shopping centres and residences. UCTEA (Union of Chambers of Turkish Engineers and Architects) cancelled the plan because the plan ignored the ecological nature of this area and would accelerate the adhesion of the region (Penpecioglu 2013, 101). However, İnciraltı's candidacy for Expo continued despite all objections, and ‘Law About İzmir Expo Area’ was passed in 2012 for the Expo Fair Organization in 2020. According to this law, the area which planned as an ample urban green space in İnciraltı was determined as the Expo area (*İzmir Expo Alanı Hakkında Kanun* 2012) (Figure 22).

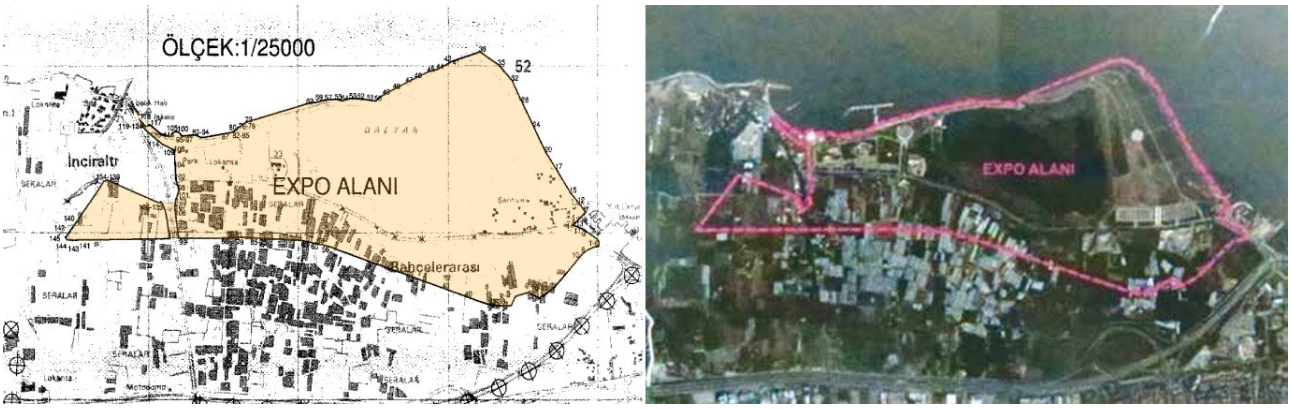


Figure 22. (Left): İzmir Expo Area, published in the Official Gazette No. 28324 (Right): İzmir Expo Area (Source: Egercioglu & Ercoşkun, 2015)

The Expo 2020 plans also were widely criticized like the previous Expo 2015 plans. Ferdan Çiftçi, UCTEA İzmir Provincial Coordination board spokesperson, claimed that İnciraltı is not suitable for Expo 2020 organization. He reminded that the area connected to the wetlands, and orchards and field crops had cultivated in this area. Also, he reported that they opposed the construction of the Expo in İnciraltı, because İnciraltı is the only green texture of the city due to ecological conditions and the realization of the Expo organization is not for the public interest (Biçer 2011). Similarly, Aziz Kocaoglu, the mayor of İzmir Metropolitan Municipality, had criticized the Ministry of Environment and Urbanization, which is trying to build Expo projects on the İnciraltı Lagoon and the City Forest (Gürkan Yılmaz 2013). Many organizations and institutions in Izmir, especially the chamber of architects and city planners, objected to the plans for Expo 2020. Evaluating the objections of Izmir Metropolitan Municipality, İzmir 5th administrative tribunal stopped the execution of the plans with the loss of the Expo 2020 application (Gürkan Yılmaz 2015).

Another controversial project about this district is the Izmir Gulf Transition Project (Figure 23). Izmir Gulf Transition Project is a tube crossing project that will connect the Istanbul highway to the Çeşme. This tube passage is planned to be located between Gediz Delta and İnciraltı natural protected area (TMMOB İzmir İl Koordinasyon Kurulu, EGEÇEP, and Doğaderneği 2017, 17). Izmir Gulf Transition Project raises concerns that it will cause losses in public areas such as urban green spaces in İnciraltı (Egercioglu and Ercoşkun 2015, 14). Also, this project can cause considerable damage to

the Gediz Delta, a vital ecological area with many bird species (TMMOB İzmir İl Koordinasyon Kurulu, EGEÇEP, and Doğaderneği 2017, 13).

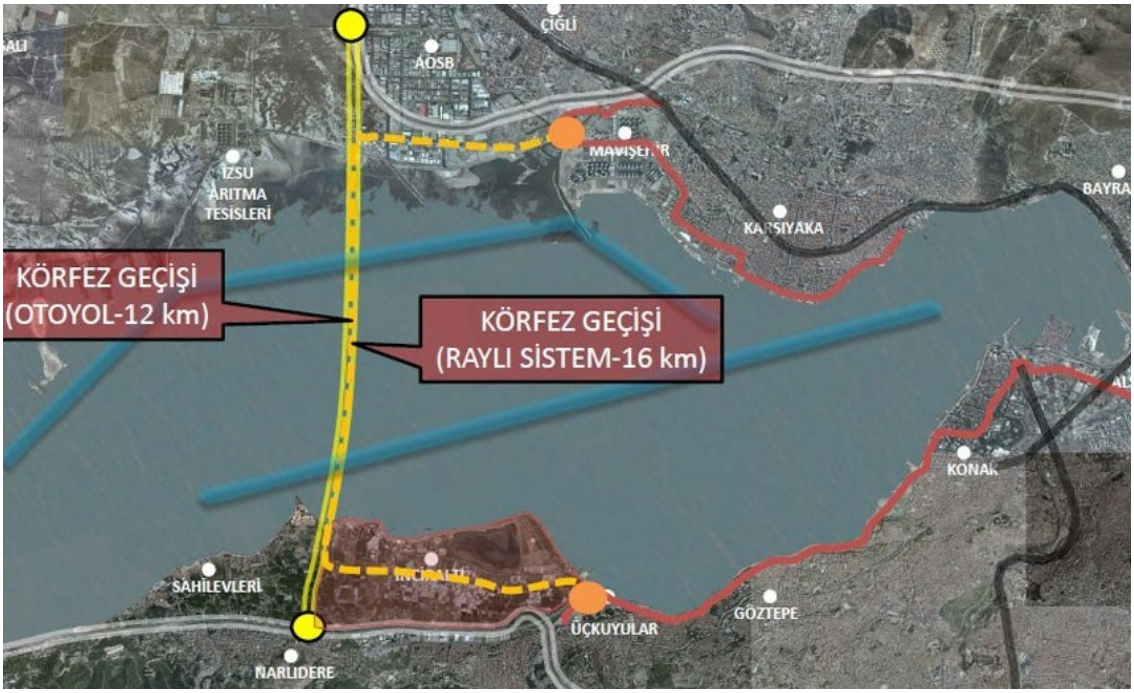


Figure 23. Izmir Gulf Transition Project
(Source: https://www.evrensel.net/haber/332186/)

After the approval of the environmental impact assessment report of the İzmir Gulf Transition Project, three non-governmental organizations and 85 citizens opened a case for the cancellation of the project. The expert committee appointed by the İzmir administrative tribunal determined that the project could harm the natural life in the gulf. For this reason, in 2018, a decision was taken to stop the execution of the Izmir Gulf Transition Project (TMMOB İzmir İl Koordinasyon Kurulu, EGEÇEP, and Doğaderneği 2018). İnciraltı City Forest is an essential green space that struggles to exist even though it is at the heart of these plans and speculations.

4.2. Location and Physical Characteristic of İnciraltı City Forest

İnciraltı City forest is located between Üçkuyular Pier and Cape Yenikale and it is 3.5 times larger than Kültürpark ("O Ağacın Altında" 2018). İnciraltı City Forest is separated from agricultural and residential areas by Haydar Aliyev Boulevard in the south. To the east of the area is the Çakalburnu lagoon, which is used by many bird species such as Flamingo, Alcyone, Cormorant and Pelican as a feeding and breeding area (TMMOB İzmir İl Koordinasyon Kurulu 2016, 16). (Figure 24)

Figure 24. Location of İnciraltı City Forest

In fact, a part of the İnciraltı City Forest is located on the filled land (Figure 25). The Çakalburnu Lagoon had been used as a rubble waste area since 1987. İzmir Metropolitan Municipality officially declared this area as a filling area in 1994 (*Cumhuriyet Gazetesi* 1995).

This filled land, which was built under the name of Coastal and Lagoon Arrangement Plan, attracted the reaction of many environmental activist groups (*Cumhuriyet Gazetesi* 1996b). Ahmet Okyay and Noyan Özkan, lawyers of the Environmental Movement, filed a criminal complaint to the Izmir Public Prosecution Office on the grounds that the filling activities in this area were destroying the ecological life in the Çakalburnu Lagoon. The lawyers claimed that the work in the area was

unsupervised and destroyed the natural wealth of the lagoon. Therefore, they demanded that the filling activities be stopped (*Cumhuriyet Gazetesi* 1996a).

Figure 25. The formation process of İnciraltı City Forest

Despite all the criminal complaints and reactions, this area was used as a rubble waste area until 1999. The region was rehabilitated by the Izmir Metropolitan Municipality in 2004 and turned into a lush green space and became the İnciralti City Forest. İnciralti City Forest was opened in 2006 after the completion of walking and cycling routes, and afforestation works, coastal arrangements, square and meeting areas ("Kent Ormanı'na Muhteşem Açılış" 2006).

In this area of approximately 200 hectares, there are more than 20 thousand trees, mainly maple, willow, mulberry, acacia and spindle, and more than 16 thousand shrubs and ground cover plants such as oleander, blackberry, abelia and sea spindle The area

also includes hiking trails, bike paths, squares and picnic areas for recreational use ("O Ağacın Altında" 2018). Also, İnciraltı Disability Service Centre, which is located in the area, provides services such as literacy training, sports lessons and dance and music courses that will contribute to the rehabilitation of the disabled ("Engelli Hizmet Merkezleri" 2019).

Figure 26. The map of İnciraltı City Forest

4.3. Methodology of the Study

The method of this thesis is based on mixed methods research. Firstly, a literature review was done, and a framework for evaluating social sustainability was established. Then, the case study is conducted at İnciraltı City Forest, which is one of the largest urban green spaces in İzmir. In the single case study research, as in this thesis, one case is selected to exemplify an issue (Creswell 2007, 76).

Mixed methods are research studies that facilitate gathering information about community development in a particular environment (Merriam and Tisdell 2015, 44). Creswell defines mixed studies as a method that uses qualitative data like open-ended questions as well as quantitative data like closed-ended questions to understand research problems in the social, behavioural, and health sciences research. (Creswell, 2015, p. 2).

In this case study, a questionnaire form was used to collect data as well as observations (Appendix A). Survey research, which is frequently used in social sciences, provides a positivist approach. The survey research is based on the assumption that social reality consists of objective facts. This method uses statistics in the data to test existing relationships in social reality. It is often more useful to ask questions about many things in a single questionnaire because it is possible to measure many variables with a single questionnaire (Neuman 2013, 192). Also, with a quantitative survey, it is possible to investigate both standard demographic inquiries and attitudes of people, interests and participation in community issues. In this way, we can discover statistically significant relationships between factors such as gender or economic situation and social issues (Merriam and Tisdell 2015, 44).

The questionnaire form in this thesis consists of four parts. In the first part, socio-demographic questions were asked about the age, gender and income group of the participants. The second part of the questionnaire consists of closed-ended questions. This part consists of eight sections. Each section is associated with a social sustainability dimension within the framework established to evaluate social sustainability.

Closed-ended questions are usually following a specific format. They provide convenience in analysis; therefore, they are preferred in quantitative research (Dawson 2002, 31). The closed-ended questions in the second part of the questionnaire were formed according to the five-point Likert scale. Using a scale serves to express the ratio, sequence, or range of a variable as a numeric value. The scales both facilitate conceptualization and produce quantitative measures to test hypotheses (Neuman 2013,

155). Likert scale is one of the most widely used scales in survey research. It was developed in 1930 by Rensis Likert to measure the degree of attitudes of people. Likert scale questions may include different categories. They are often asked to determine if participants agree or disagree with statements. The categories can be increased with choices like strongly agree or very strongly agree. On a Likert scale, more than eight or nine choices are meaningless and confusing. Also, the choices must have a balance (Neuman 2013, 155–56).

In the survey research in this thesis, the choices were arranged from "strongly disagree" to "strongly agree". Then, these choices were combined with an index score from one to five. Scales and indexes are used to increase reliability and validity. Index scores serve to determine a quantitative measure of individual opinions and thoughts. Numbers assigned to response categories are optional, but the use of zero does not give a measurement level. Since the answers on the Likert scale indicate a ranking, the assigned indexes should also be ordered (Neuman 2013, 157–58).

The third part of the questionnaire consists of open-ended questions. In this part, the participants answered which activities in the area they have shown an interest, which characteristic of the area they found positive or negative, and their expectations about this area. Open-ended questions are an essential part of qualitative research. In open-ended questions, participants write their answers in the blank line. In these questions, opinions are more important than numbers. They do not have standard answers; therefore, data analysis is not comprehensible (Dawson 2002, 31). On the other hand, there are many advantages to using open-ended questions. The answers to open-ended questions are varied and more detailed. The self-expression of the participants can be creative. The answers are not result-oriented, and the process can be evaluated (Neuman 2013, 205).

In the last section of the questionnaire, there is a map of İnciraltı Urban Forest. In this section, participants highlighted the most frequently visited area on the map. When evaluating the questionnaire result, firstly, the data obtained from the questionnaire were entered into an Excel sheet, and a table was created. SPSS software was used to evaluate the data with Excel. In this study, Cronbach alpha reliability analysis, which is suitable for use in Likert type scales, was performed. The scale of the study can be defined as reliably by reason of 0.78 alpha coefficient.

Descriptive analysis and linear regression analysis were conducted by using SPSS. The descriptive analysis describes a specific detail of a situation, relation or social event.

The survey, field research, content analysis and historical comparison are the main data collection techniques used in a descriptive approach (Neuman 2013, 31).

Descriptive analysis is a way to define and summarize the data obtained from the survey. One of the simplest methods of descriptive analysis is frequency. Therefore, in order to define the socio-demographic structure and usage habits of the participants, the data in the Excel sheet were transferred to the SPSS and frequency distribution tables were created. Then, these frequency distributions are visualized as pie charts. The frequency distribution provides information about the proportions and percentages of the categorical data. In a frequency distribution, each variable has its number of observations as well as a percentage (Agresti and Finlay 1998, 31–32). A nominal scale is used when measuring the frequency distribution data. The participant selects one of a series of specific answers for a question. Categories of the questions should include everyone in the sample and participants should only fall into one category. Since the questions were about age, gender and marital status, participants could not be compared. (Dawson 2002, 125).

After the frequency distribution showing the socio-demographic structure, the mean value of the responses was examined to determine the general tendencies of opinions of the participants about social sustainability. The mean value is defined as an arithmetic average of a variable (Neuman 2013, 8). In order to find the mean, the scores of the responses of a variable are divided by the total number of responses (Agresti and Finlay 1998, 39). In this survey, the responses are between one and five, and the arithmetic mean of the responses is three. The headings where the mean of the responses was three or more were found to be supportive of social sustainability by the participants. While evaluating according to the mean, the distance of data from the central tendency is an essential issue. Standard deviation is based on deviations from a centre measure, such as averages of data (Agresti and Finlay 1998, 47).

Standard deviation gives us information about whether people agree with each other. For example, in a case where the social sustainability score of the survey is three, there are different options. As a first option, all participants may give 3 points to social sustainability. In this case, the standard deviation will be zero because everyone agrees with each other. Another option is when half of the participants give 5 points to social sustainability, while another half gives 1 point. In such a case, even if the mean value is 3, the standard deviation value will be very high.

After the descriptive analysis that defines the opinions of participants about social sustainability dimensions, a linear regression analysis was conducted to determine the relationship between socio-demographic characteristics or usage habits of the participants and social sustainability dimensions. For quantitative variables, it produces a mathematical formula that explains how the conditional distribution of y changes concerning the value of x (Agresti and Finlay 1998, 256). In a linear regression table, statistical significance, represented with B, is also an essential term. Statistical significance allows measuring whether the relationship between variables is a result of real relationships or random (Neuman 2013, 8).

In the third part of the questionnaire, the participants answered open-ended questions. The content analysis was used to evaluate the answers in this part. The content analysis is the preferred method for measuring answers about open-ended questions in quantitative research. In the content analysis, the researcher encodes the numbers or words in the text according to their contents and creates a list of categories. Another method of content analysis is to search for data from an existing category list (Dawson 2002, 118).

4.4. The Results of the Case Study in İnciraltı City Forest within the Social Sustainability Dimensions

In the results of the case study, the questionnaires conducted with 71 randomly selected people in İnciraltı City Forest will be evaluated. The questionnaires were completed on five different days between March and July. They were conducted between 14.00-18.00 on Saturdays and Sundays. The results will be interpreted by combining them with observations. The questionnaire form consists of four different sections. The first section includes questions about the socio-demographic profile, such as age, gender, education level, income level, visit frequency and visiting hours. The second part of the questionnaire form includes questions to assess the role of green spaces based on the determined key social sustainability themes. The questions in the second part were prepared on a 5-point Likert type scale. The answers were arranged from negative to positive between strongly disagree and strongly agree. In the third part of the survey, there are open-ended and multi-choice questions. In the third part, the preferred activities of the participants in the area were learned. Also, the opinions and requests of the participants

about the case area were investigated. In the last part of the questionnaire form, the participants marked the most visited area on the map. The responses of questionnaires were evaluated with the methods stated in the methodology of the study.

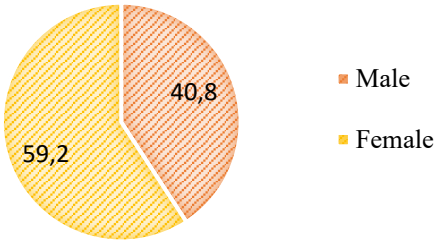
4.4.1. Socio-Demographic Profile of the Sample Group

When evaluating the questionnaire results, first of all, frequency analysis was performed to examine the socio-demographic profile of the İnciraltı City Forest's users. After determining the gender, age, education level, the income level of the participants; the frequency of using the area and visiting hours were evaluated.

During the case study, efforts were made to ensure that the gender distribution was equal or approximate. 59.2% of the respondents were female and 40% were male (Table 5). The majority of the questionnaire participants were women. Women prefer to use urban green spaces because they can have a more comfortable time with their children. Also, these spaces provide opportunities for housewives to socialize with other women.

Table 5. Gender

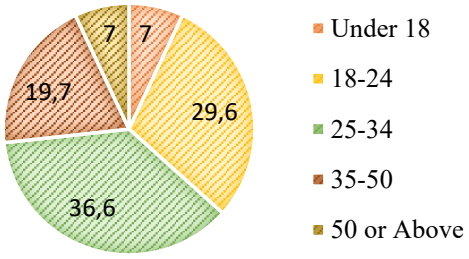
	Frequency	Percent
Male	29	40,8
Female	42	59,2
Total	71	100,0



The participants were predominantly in the 25-34 age range (36.6%). This is followed by the 18-24 age group (29.6%), the 35-50 age group (19.7%), under the age of 18 (7%) and over 50 years (7%) (Table 6).

Table 6. Age Groups

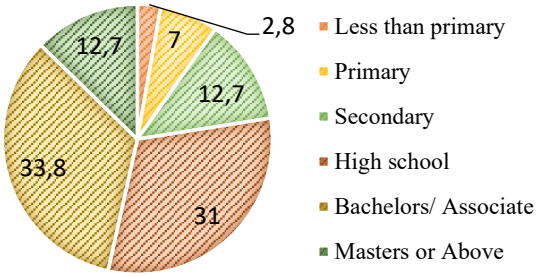
	Frequency	Percent
Under 18	5	7,0
18-24	21	29,6
25-34	26	36,6
35-50	14	19,7
50 or Above	5	7,0
Total	71	100,0



When the educational level of the participants is examined, only 2.8% is below the primary education level (Table 7).

Table 7. Educational Level

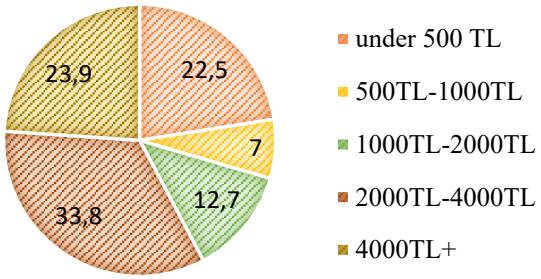
	Frequency	Percent
Less than primary education	2	2,8
Primary education	5	7,0
Secondary education	9	12,7
High school	22	31,0
Bachelors/ Associate	24	33,8
Masters or Above	9	12,7
Total	71	100,0



When the income group of the participants is examined, it is seen that the majority (33.8%) is in the 2000-4000 TL (Table 8). This place is accessible by public transport, and activities types are suitable for all income groups. These factors can be attractive for the middle and lower economic group.

Table 8. Income Level

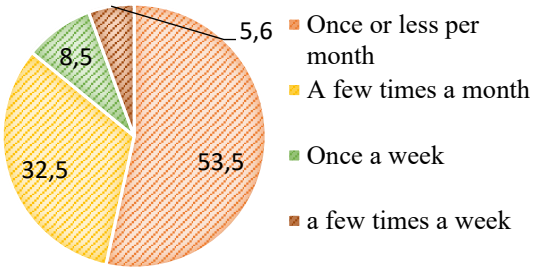
	Frequency	Percent
Less than 500 TL	16	22,5
500TL-1000TL	5	7,0
1000TL-2000TL	9	12,7
2000TL-4000TL	24	33,8
4000TL or Above	17	23,9
Total	71	100,0



When the frequency of the visit of the participants was examined, it is seen that 53.5% of them visited once a month or less, 32.4% of them visited a few times a month, 14.1% of them visited once or more a week (Table 9). When the responses are evaluated, it is seen that the area is not a preferred place to visit every day. Although the field is close to the city and is centrally located, it is not easy to reach the area directly by public transport.

Table 9. Frequency of the Visit

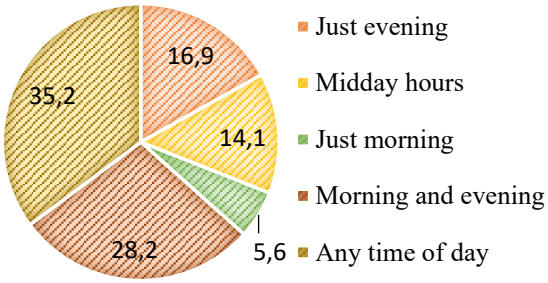
	Frequency	Percent
Once or less per month	38	53,5
A few times a month	23	32,4
Once a week	6	8,5
A few times a week	4	5,6
Total	71	100,0



When the hours of the visits were examined, it was seen that 35.2% of the participants visited the place at any time of day. 28.2% of them prefer visited in the morning and evening, 16.9% of them prefer visited just in the evening, 14.1% of them prefer visited midday hours and 5.6% of them prefer visited just morning (Table 10).

Table 10. Visiting Hours

	Frequency	Percent
Just evening	12	16,9
Midday hours	10	14,1
Just morning	4	5,6
Morning and evening	20	28,2
Any time of day	25	35,2
Total	71	100,0



4.4.2. Analysis Related to Social Sustainability Dimension

The second part of the questionnaire contains questions about the dimensions of social sustainability. The questions were created under eight headings; each of them corresponds to a dimension of social sustainability. Firstly, responses were evaluated from negative to positive on scale 1-5, and the mean value was 3. Then, descriptive analysis was performed to evaluate the responses. Descriptive analysis is important to have an idea about the distribution of responses. Two terms should be considered when evaluating the descriptive analysis table: mean value and standard deviation. While the mean value is essential to find the central tendency of the answers, the standard deviation provides information about the spread of the answers.

Firstly, a descriptive analysis was performed when evaluating the questionnaire results (Table 11). According to the questionnaire results, the standard deviation is usually close to 1. It can be concluded that the participants agree approximately with each other.

Furthermore, the total average is 3.05. In brief, a great majority of participants consider that İnciraltı City Forest as an average socially sustainable space. The most potent dimension supporting social sustainability in the case area is human rights and gender (mean 3.47). This support is followed by the equity dimension with the mean value of 3.46; the sense of belonging dimension with the mean value of 3.31; human rights and participation dimension the mean value of 3.47; the poverty dimension with the mean value of 3.51.

Table 11. Descriptive analysis of social sustainability dimensions

	Mean	SD	SD/Mean
Accessibility	2,63	0.97	0,37
Security	2,80	1,04	0,37
Social Cohesion	2,85	1,00	0,35
Quality of life	2,37	1,03	0,43
Sense of belonging	3,31	1,03	0,31
Equity	3,46	0,98	0,28
Human rights and participation	3,47	0,97	0,28
Poverty	3,51	1,18	0,34
TOTAL	3,05	1,11	0,36

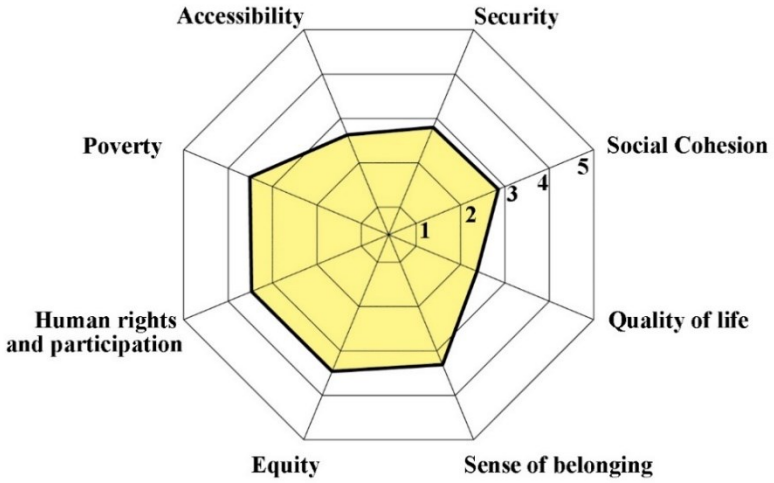


Figure 27. The scores of social sustainability dimensions

(Source: the scoring of Colantonio & Dixon (2011, p. 237) is taken as a model)

After descriptive analysis, a linear regression analysis was performed in SPSS program in order to put the relationship between a social sustainability dimension which is a dependent variable and multiple independent variables like gender, age groups, an

education level (Appendix B). When interpreting the table of regression coefficients, two terms are also essential for us: significance (Sig.) and unstandardized beta value (B).

Sig. less than 0,05 indicates a significant relationship between variables. In this section, when interpreting the table breakdowns, the relationships in which the sig value is higher than 0,05 are also taken into consideration in order not to overlook some related situations. Therefore, the relationships up to 0,2 sig value were also interpreted.

Firstly, a total social sustainability variable was obtained by summing social sustainability dimensions. Then, linear regression analysis was used to determine whether gender, age groups, educational level, income level, frequency of visit and visiting hours had a significant effect on total social sustainability (Table 12).

Table 12. Regression coefficients (Total)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,956	,375		7,889	,000
Gender	-,182	,133	-,176	-1,366	,177
Frequency of the visit	-,119	,078	-,201	-1,527	,132
a. Dependent Variable: TOTAL					

4.4.2.1. Accessibility

After a total assessment, the accessibility of the İnciraltı City Forest was evaluated according to questionnaire results and observations. “Accessible natural green space standards” is one of the most popular criteria for service areas of urban parks According to these standards, people should have a green area of 100 hectares accessible within five kilometres from their homes. İnciraltı City Forest, which is an area of 62 hectares, should also serve as an accessible green space around five kilometres.

More than half of the participants live at least a 15-minute drive away from the İnciraltı City Forest. It can be concluded that the İnciraltı City Forest service not only to its neighbourhood but also other districts of İzmir. However, 35% of the visitors come to the area with a private car due to the lack of direct public transportation. Although İnciraltı City Forest is very close to Üçkuyular Pier, only 2% of visitors prefer ferry (Figure 28).

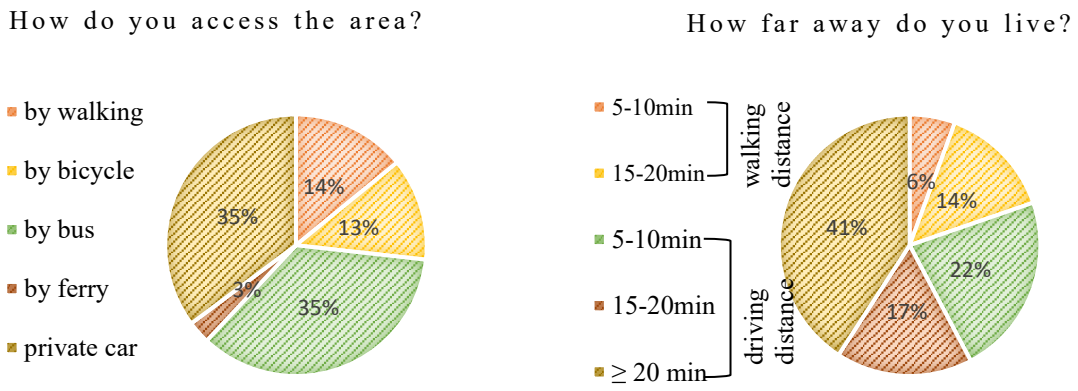


Figure 28. The answers about the accessibility in İnciraltı City Forest

Even if the location of İnciraltı City Forest is appropriate, the lack of public transportation and long travel distances affect the accessibility negatively. Another issue that affects accessibility in the area is the design problems. Notably, the lack of direction signs decreases the accessibility of the area (Table 13).

Table 13. The answers about the accessibility in İnciraltı City Forest

	Mean	SD	SD/Mean
I think the direction signs in this field are enough	2,62	0,95	0,36
I think disabled access is adequate and appropriate	2,65	1,02	0,38

When the effect of demographic factors and usage habits on accessibility dimension is examined (Table 14), it is seen that accessibility increases with income level. Since high-income people visit the area with a private car, they do not see any problem with the accessibility of the area. Similarly, Erkip states that socio-economic features such as car ownership can have an impact on parking use. Car ownership can increase mobility and the possibility of using other facilities (Erkip 1997, 356). On the other hand, an accessible area should offer equal opportunities to all citizens regardless of income.

Table 14. Regression coefficients (Accessibility)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,984	,632		4,726	,000
Income Level	,113	,087	,210	1,302	,198
Frequency of the visit	-,168	,124	-,181	-1,353	,181
a. Dependent Variable: Accessibility					

4.4.2.2. Security

In this section, the security and safety perception of the study area will be evaluated in consideration of questionnaire results and observations. This area has been considered unsafe by participants. Some environmental factors affect the perception of security. Visitors stated that the lack of street lighting in the İnciraltı city forest is one of these environmental factors that reduce the sense of safety (Table 15). Lack of lighting can significantly reduce nighttime use of urban green spaces. The dark areas can be a potential hiding place for criminals (Çelik 2018, 67). Therefore, dark and stumpy areas can be scary for visitors. In terms of security, lighting has two essential purposes; creating a psychological deterrence against the crime and enabling the visitor to perceive the environment well. The most desired change in design is to increase lighting to ensure safety. Well-lit areas can reduce the fear of being victims. If visitors can easily see the environment thanks to sufficient lighting, they feel safe in this familiar environment. Lighting colours influence perceived safety as well as the adequacy of lighting. Colours such as orange, white, pink and green give people confidence (Çelik 2018, 80–81).

In addition to environmental factors, some perceptual factors also affect safety perception. Positive interactions with others can create a sense of safety. According to the questionnaire result, even if participants feel insecure in the area, they say they feel safe among other users (Table 15). Crime cannot be noticed in isolated areas; therefore, the sense of safety decreases in these areas. People feel safer when they can be seen and heard by others. Providing informal surveillance with appropriate designs and reducing the sense of isolation contributes to the increase in the sense of security (PPS 2008).

Table 15. The answers about the security in İnciraltı City Forest

	Mean	SD	SD/Mean
I feel safe in this field.	2,97	1,07	0,36
I feel safe among other visitors in this field.	3,10	0,94	0,30
I think street lighting is enough.	2,34	0,94	0,40

When the effect of demographic factors and usage habits on safety and security dimension is examined, the increase in income level and frequency of the visit have a role in decreasing the perception of safety and security (Table 16).

Table 16. Regression coefficients (Security)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,622	,607		4,317	,000
Income Level	-,118	,084	-,223	-1,413	,163
Frequency of the visit	-,206	,119	-,225	-1,726	,089
a. Dependent Variable: Security					

4.4.2.3. Social Cohesion

In this section, the social cohesion dimension will be evaluated in consideration of questionnaire results and observations. The participants considered the area as weak in terms of social cohesion. According to Peters and her colleagues, urban parks as suitable spaces for social interaction can facilitate social cohesion. Various recreational activities can promote social interactions (Peters, Elands, and Buijs 2010, 94). In the İnciraltı City Forest, lack of diversity of activities can be one of the reasons for the weakness of social cohesion (Table 17). Urban parks can contribute to social cohesion between different social groups when used without conflicts between members of both local and immigrant groups (Peters, Elands, and Buijs 2010, 93).

Table 17. The answers about the social cohesion in İnciraltı City Forest

	Mean	SD	SD/Mean
I think the variety of activities is enough	2,25	0,75	0,33
I think the field is suitable for both individual and group activities	2,85	1,02	0,36
No regional groupings, no conflict between people	3,45	0,84	0,24

When the effect of demographic factors and usage habits on social cohesion dimension is examined, the increase in the age group has a positive effect on social cohesion. In other words, the rate of social connections among young people is higher than the elderly. On the other hand, as the income group increases, the rate of social cohesion decreases (Table 18).

Table 18. Regression coefficients (Social Cohesion)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,149	,537		4,000	,000
Age Groups	,173	,100	,263	1,732	,088
Income Level	-,100	,074	-,218	-1,344	,184
a. Dependent Variable: Social Cohesion					

4.4.2.4. Quality of Life

In this section, the quality of life dimension will be evaluated in consideration of the results of the questionnaire and observations. The quality of life dimension was considered unsatisfactory by the participants. The green spaces create opportunities for mental relaxation and restorative experience (Chiesura 2004, 135). Therefore, they should be in good physical and aesthetic quality. However, according to the questionnaire results, the physical and aesthetic quality of the case area is evaluated as unsatisfactory (Table 19).

Another reason that citizens visit parks is to spend time and entertain outside the perceptual borders created by the city (Chiesura 2004, 136). Factors such as the variety of activities and the adequacy of the activity areas can affect the preferability of the urban

green spaces. In this study, the visitors stated that the İnciraltı City Forest is insufficient in terms of activities (Table 19).

Table 19. The answers about the quality of life in İnciraltı City Forest

	Mean	SD	SD/Mean
I think the recreation activities are enough	2,54	0,91	0,36
I think the physical and aesthetic quality of this field is enough	2,62	1,05	0,40
I think the art products and sculptures in this field are enough	2,28	0,96	0,42
I think the places of entertainment (café-bar) in this field are enough	1,92	1,01	0,53
I think children's playgrounds are enough and functional	2,49	1,07	0,43

When the relationship between quality of life and demographic data is examined, the gender factor draws attention. While women find the quality of life in the area low, men evaluate the quality of life as higher (Table 20).

Table 20. Regression coefficients (Quality of Life)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	2,170	,506		4,291	,000
Gender	-,497	,170	-,366	-2,931	,005
a. Dependent Variable: Quality of Life					

4.4.2.5. Sense of Belonging

In this section, the sense of belonging dimension will be evaluated in consideration of questionnaire results and observations. The sense of belonging is a factor that can develop and manage people's relationships with others (Hagerty et al. 1996, 236). Strong relationships between individuals can strengthen their sense of belonging. According to questionnaire results, visitors have good relations with other people. Furthermore, they stated that they felt a sense of belonging to İnciraltı City Forest. Also, they would like to revisit the İnciraltı City Forest (Table 21).

Table 21. The answers about the sense of belonging in İnciraltı City Forest

	Mean	SD	SD/Mean
I feel I belong here.	3,13	1,11	0,35
I have good relations with other people in the field	3,13	1,00	0,32
I would like to revisit this field.	3,66	0,88	0,24

When the relationship between socio-demographic characteristics and sense of belonging is examined, it can be said that the sense of belonging is higher in the young participant group (Table 22).

Table 22. Regression coefficients (Sense of belonging)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	4,107	,630		6,516	,000
Age Groups	-,208	,117	-,268	-1,776	,080
a. Dependent Variable: Sense of belonging					

4.4.2.6. Equity

In this section, the equity dimension will be evaluated in consideration of questionnaire results and observations. It can be concluded from responses that there is equality in use. Participants believe that there is especially socio-economic equity in the case area (Table 23). Also, the equal distribution of public services is an essential issue for the viability and quality of urban life. Especially some services like street lights, parks and recreational facilities increase the well-being of the citizens (Erkip 1997, 353).

Table 23. The answers about the equity in İnciraltı City Forest

	Mean	SD	SD/Mean
I think this field is suitable for all socio-economic groups.	3,56	0,98	0,28
I think everyone has an equal opportunity to realise their action.	3,52	0,95	0,27
The distribution of public services is equitable.	3,31	1,01	0,30

When the relationship between socio-demographic characteristics and equity was examined, it was seen that equity increases linearly with the level of education. However,

increasing frequency of visits decreases the opinion that İnciraltı City Forest provides an equitable environment for visitors (Table 24).

Table 24. Regression coefficients (Equity)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	3,707	,648		5,723	,000
Educational Level	,129	,097	,187	1,338	,186
Frequency of the visit	-,206	,127	-,211	-1,615	,111
a. Dependent Variable: Equity					

4.4.2.7. Human Rights and Participation

In this section, human rights and participation dimension will be evaluated in consideration of questionnaire results and observations. It can be concluded from responses that there is freedom of expression and there is no discrimination between religion, language, race and gender in the case area (Table 25). The provision of fundamental rights and freedoms is a prerequisite of a democratic environment. Democracy creates an environment where different cultures become homogeneous. Thompson describes urban parks as *"places where democracy is worked out on the ground"* (Thompson 2002, 60).

Table 25. The answers about human rights and participation in İnciraltı City Forest

	Mean	SD	SD/Mean
I think there is freedom of expression and movement in this field.	3,45	0,97	0,28
I think there is equality in ethnicity, language, religion, and belief	3,48	0,98	0,28
I think there is gender equality in the field.	3,48	0,97	0,28

When the relationship between socio-demographic characteristics and human right and participation dimension is examined, the increase in the frequency of visits decreases the idea that the İnciraltı City Forest is a democratic area (Table 26).

Table 26. Regression coefficients (Human Rights and Participation)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	3,931	,695		5,657	,000
Frequency of the visit	-,214	,137	-,212	-1,564	,123
a. Dependent Variable: Human Rights and Participation					

4.4.2.8. Poverty

In this section, the poverty dimension will be evaluated in consideration of questionnaire results and observations. Generally, some privileged groups, such as wealthy people benefit from the quality and safe parks in cities. On the other hand, low-income people need public parks and recreation facilities more than rich people. It is difficult for low-income people to use private recreation facilities or remote urban parks (Rigolon, Browning, and Jennings 2018, 159).

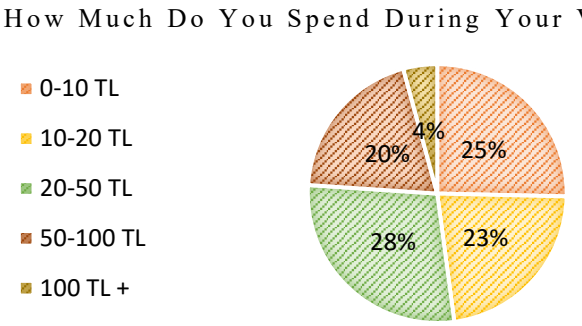


Figure 29. The amount of money spent

Table 27. The answers about the poverty dimension in İnciraltı City Forest

	Mean	SD	SD/Mean
I have a job / regular income.	3,32	1,35	0,41
The services offered in this filed are in line with my income level.	3,69	0,96	0,26

When the relationship between socio-demographic characteristics and poverty dimension is examined, increase in age and income groups strength the idea that the services provided in the İnciraltı City Forest are suitable for all income level of the visitors (Table 28).

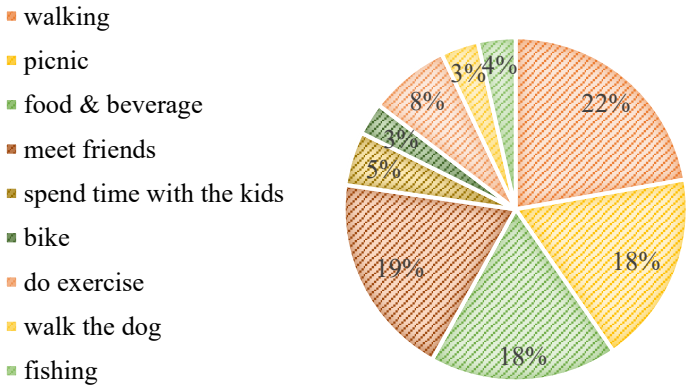
Table 28. Regression coefficients (Poverty)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	1,264	,562		2,251	,001
Age Groups	,238	,104	,230	2,283	,026
Income Level	,426	,077	,593	5,498	,000
a. Dependent Variable: Poverty					

4.4.3. Opinions and Requests About the İnciraltı City Forest

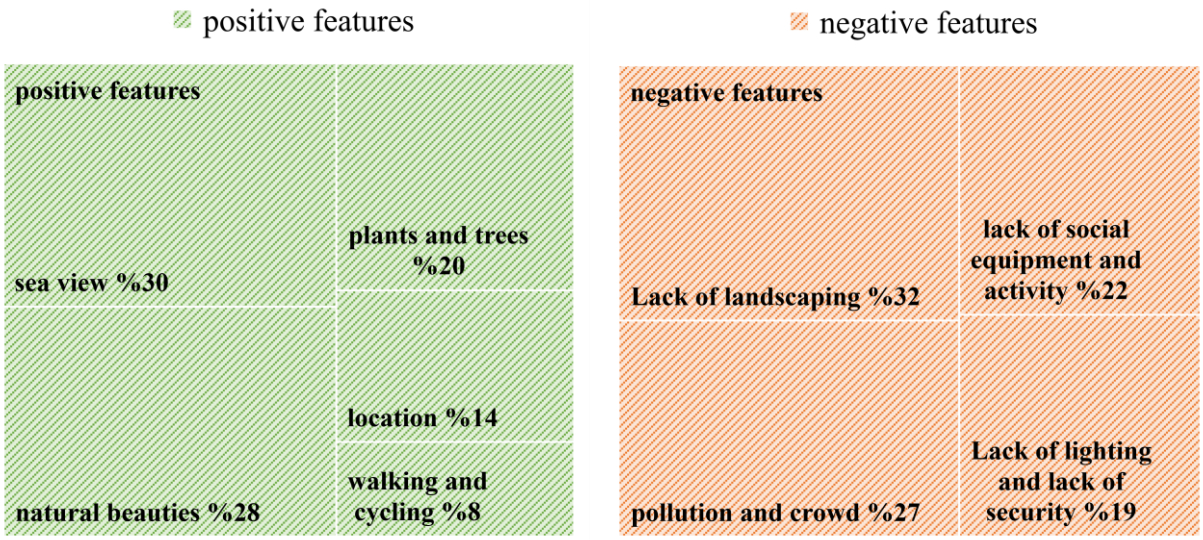
In this section, opinions and request about the study area will be discussed according to the open-ended comment questions in the questionnaire. The content analysis was performed to evaluate the responses. First, the purpose of the participants' use of the case area is questioned. The participants stated that they used the area mostly for walking (%22). Other highly preferred activities are meeting friends (%19), picnic (%18), food &beverage (%18) and doing exercise (%8). Since there is no equipment suitable for different exercises and sports, visitors preferred exercises such as walking, running and bicycling (Table 29). Men mostly preferred fishing (%4) as an activity. Since there are no different activities for families with children, they preferred activities such as making barbecue. Visitors prefer group activities where they can socialize as well as individual activities such as walking or cycling. Group activities can strengthen the social cohesion and sense of belonging themes by increasing social ties between visitors. Thus, İnciraltı City Forest as an urban green space can contribute to social sustainability.

Table 29. Data regarding activities in İnciraltı City Forest



Afterwards, the participants stated the positive features in the case area. The most positive features of the case area were its relationship with the sea (%30), its natural characteristics (%28), its plant diversity (%20), its location (%14) and its opportunities for walking and cycling (%8). According to the results of the questionnaire study, the negative features of the case area were the lack of landscaping (%32), pollution and crowd (%27), the lack of security and lightning (%19), and the lack of social equipment and activity (%22) (Table 30).

Table 30. User comments for İnciraltı City Forest



When we associate visitors' opinions and requests about İnciraltı City Forest with social sustainability themes, we can realize that themes of security, quality of life, social inclusion and accessibility stand out. The scenery, vegetation and natural beauty of İnciraltı City Forest affect the quality of life theme positively, while pollution and crowd negatively affect the quality of life. Positive opinions about the location can contribute to the accessibility themes. On the other hand, social cohesion and quality of life can be affected by lack of social equipment and activity. The concerns of visitors about street lighting can be attributed to the inadequate security theme. Pollution and the crowd also can negatively affect security.

4.4.4 The Mapping Preferred Regions of İnciraltı City Forest

In this section, it is aimed to determine the points that users visit in the study area based on the markings on the map in the last part of the questionnaire form. All of the survey participants did not complete this section, 46 participants had marked. Firstly, users' markings were grouped. According to this grouping, the zone that is used most frequently is Zone A with a rate of 39%. Zone B follows Zone A with 37% and Zone C with 24% (Figure 30).

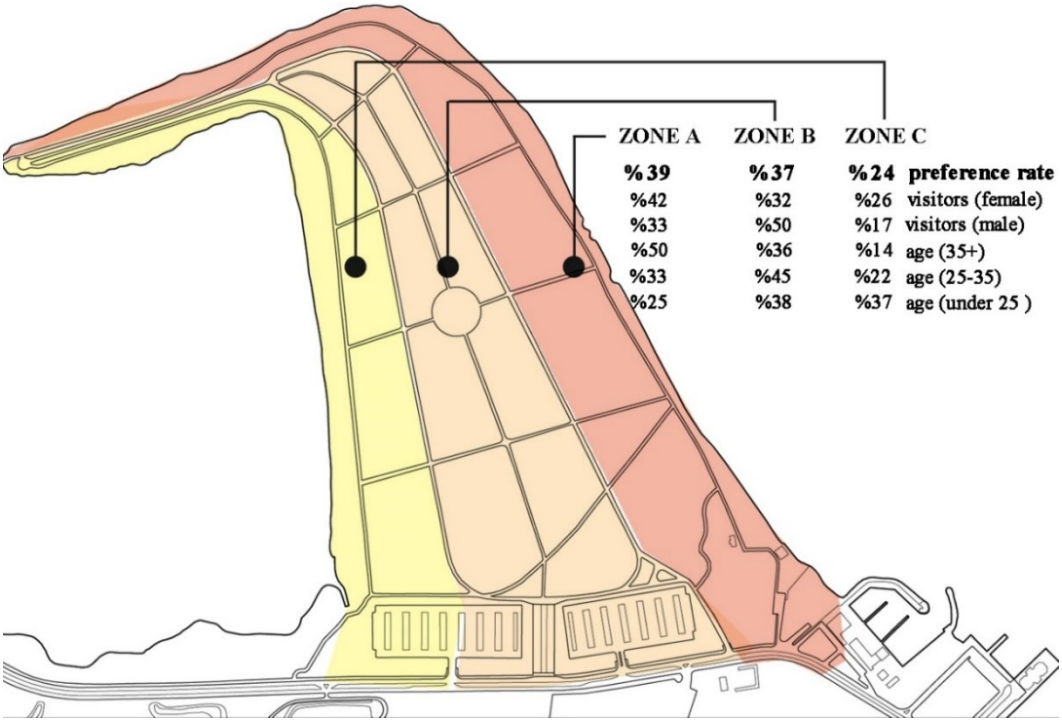


Figure 30. Preferred visiting zones

Many factors can affect the use of areas like the design and possibilities of the area. The design has a significant impact on economic, environmental and social processes. A good design can promote activities; on the other hand, a bad design can prevent the use of the area (Porta and Renne 2005). When considering the preferences of the visitors, it is thought that the design of the area may be effective in their preferences. When the A, B and C Zones are compared with each other, there is no urban furniture like park tables and benches in the Zone C, and no arrangement has been made on the coastline for the visitors. It is a natural zone located in Çakalburnu lagoon. On the other hand, Zone B is a more designed area than Zone C. There is a toilet for visitors and some urban furniture such as benches and picnic tables in Zone B. Also, there is more street

lighting than Zone C. When compared to other zones; zone A offers many options for visitors. It has a barbecue and picnic areas, a playground for children and social service centre for the disabled (Figure 31).

Moreover, the availability of equipment such as a children's playground in Zone A may have positively affected the preferences of women with children (%42). Some features such as the availability of park benches and picnic tables, the proximity to the entrance and the disabled center cafeteria, and the presence of direction signs may have affected this zone being preferred by families and people over 35 years old (%50).

Figure 31. The differences in design and possibilities between zone A, B and C.

CHAPTER 5

CONCLUSION

In this thesis, it is aimed to perform a study on social sustainability in urban green space. Citizens from all socio-economic groups and ethnicities use urban green spaces in their leisure time. City forests, which are more inclusive than other urban green spaces, were preferred for this study. In accordance with this purpose, a case study is conducted in İnciraltı City Forest, İzmir. When the findings of the study and information obtained in the thesis are evaluated, it was concluded that urban green spaces support some of the primary themes necessary for ensuring social sustainability. The development of some themes such as the sense of belonging, human rights and participation depends on the social ties that develop with social interactions. Urban green spaces are essential in creating suitable environments for social interactions. Also, they are public spaces that serve all citizens without any discrimination. They support equity and poverty themes as they create equal opportunities for all visitors.

In the case study conducted in İnciraltı City Forest, the conclusive assessments have been reached as the followings:

- In the case area, accessibility is negatively affected by factors like lack of direction signs and inappropriate designs for the disabled.
- Even if the case area is considered unsafe, relationships with other visitors change the security perception of these spaces. The participants stated that they feel safe among other users in the case area. People feel safer in areas where they have good relationships.
- Although there is no regional polarization in the case area, the lack of activities to strengthen social relations among visitors reduces social cohesion.
- The satisfaction of users from their visits depends on meeting their daily recreation and entertainment needs. When these needs are met, the living conditions of the visitors may improve, and the quality of life may increase.

- Establishing good relationships with people helps to create a sense of belonging by creating the urge to visit again. Participants also stated that they had good relations with others in the case area, and they wanted to revisit the area.
- Another dimension that positively affects visitors' preference is equity. Equal distribution of resources and equal opportunities for visitors can increase the attractiveness of the case area.
- Providing freedom of expression and equity in ethnicity, language, religion and belief in the case area increase preferability. The democratic spaces provide the basis for stronger social networks and offer the opportunity to participate in society for all individuals.
- The case area provides services for visitors from all socio-economic levels. Such areas serving different groups can strengthen social interaction.

Furthermore, in assessing social sustainability, the observed relationships with socio-demographic factors are as follows:

- Income level is also an important factor for social cohesion. Visitors in the low economic group have been observed to have better relationships with others and are more open to social cohesion.
- Gender has been another influential factor in the social sustainability assessment. Men state that urban green spaces have better opportunities to improve quality of life and well-being than women. Also, men mention that urban green spaces more equitable in terms of income distribution.
- Another factor associated with social sustainability is the age groups. Compared to older people, young people have a stronger sense of belonging. On the other hand, older adults state that there is no grouping or conflict in urban green spaces and that social relationships are strong.
- On the other hand, it is concluded that individuals with high-income levels feel more insecure in urban green spaces. Also, high-income groups state that the accessibility of the case area is high.

In addition, some environmental factors and design features such as urban furniture, playgrounds, picnic areas, lighting and coastal recreation attracts the attention of visitors. The areas that are used more actively affect social ties required for social sustainability by creating opportunities for social encounters.

As a result, considering social sustainability while creating new urban green spaces or reorganizing existing urban green spaces can contribute to a healthier society with stronger social ties. This study has reached some useful conclusions on social sustainability. This thesis, which developed a scale to evaluate social sustainability in urban green spaces, can be a background study for further research. However, given that each case area has its own characteristics, some changes may be needed in further research. In future studies, various urban green space typologies can be examined. Besides, social sustainability dimensions such as quality of life, safety and participation should be examined in more detail.

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APPENDICES

Appendix A

ANKET FORMU

Sayın Katılımcı;

Bu anket formu İzmir Yüksek Teknoloji Enstitüsü Mühendislik ve Fen Bilimleri Enstitüsü'nde yürütülmekte olan ***" A Study On Social Sustainability In Urban Green Spaces: The Case Of İnciraltı City Forest (Kamusal Yeşil Alanlarda Sosyal Sürdürülebilirlik Üzerine Bir İncleme: İnciraltı Kent Ormanı "*** başlıklı yüksek lisans tez çalışması için yapılmaktadır. Sizlerden edinilecek bilgiler tamamen bilimsel amaçlı kullanılacak olup, ankette isim belirtme gerekliliği bulunmamaktadır. Ankette yer alan sorulara içtenlikle ve hiçbir soruyu atlamadan yanıt vermeniz araştırmanın bilimsel geçerliliği ve güvenilirliği açısından büyük önem taşımaktadır. Katkılarınız bizim için önemlidir. Şimdiden değerli katkılarınızdan dolayı teşekkür ederiz**.**

Doç. Dr. Ebru Yılmaz
İzmir Yüksek Teknoloji Enstitüsü
Mimarlık Bölümü (Tez Danışmanı)

Gülbiye Hacıoğlu
İzmir Yüksek Teknoloji Enstitüsü
Mimarlık Bölümü

A. GENEL BİLGİLER

1.Cinsiyet
( ) Kadın ( ) Erkek
2.Yaş Aralığı
a.18 yaş altı b.18-24 yaş arası c.25-34 yaş arası d.35-50 yaş arası e.50 yaş ve üzeri...
3.Meslek
( ).....
4.Eğitim Seviyesi
a. Okul bitirmemiş b. İlkokul mezunu c. Ortaokul mezunu d. Lise mezunu e. Üniversite mezunu
f. Yüksek lisans veya doktora mezunu
5.Gelir Düzeyi
a.500 TL'den az b.500-1000TL c.1000-2000TL d.2000-4000TL e.4000 TL ve üzeri
6.Alana ne sıklıkla geliyorsunuz?
a. Her gün b. Haftada birkaç kere c. Haftada bir kere d. Ayda birkaç kere e. Ayda bir veya daha az
3.Alanın kullanım olanakları
a. Günün her saati kullanım b. Sabah ve akşam kullanım c. Sadece sabah d. Sadece öğlen e. Sadece akşam

B. ERİŞİLEBİLİRLİK

1.Bölgeye ulaşımı nasıl sağlıyorsunuz?
a. Yürüyerek b. Bisiklet c. Otobüs / Dolmuş d.Deniz ulaşım araçlarıyla e. Özel araçla
2.Yaşadığınız yer alana ne kadar uzaklıkta?
a.5-10 dk yürüyüş mesafesi b.15-20 dk yürüyüş mesafesi c.5-10 dk araç mesafesi
d.15-20 dk araç mesafesi e.20 dk araç mesafesinden uzak
3.Alandaki yönlendirme levhalarını yeterli buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
4.Alandaki engelli ulaşımını uygun ve yeterli buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

C. GÜVENLİK

1.Burada kendimi güvende hissediyorum
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

2.Alandaki diğer kullanıcıların yanında kendimi güvende hissediyorum
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3.Sokak aydınlatmalarını yeterli buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

D. SOSYAL KATILIM
1.Aktivite çeşitliliği
a. Çok yetersiz b. Yetersiz c. Fikrim yok d. Yeterli e. Çok yeterli
2.Mekânın hem bireysel hem de grup aktivitelerine uygunluğu
a. Çok yetersiz b. Yetersiz c. Fikrim yok d. Yeterli e. Çok yeterli
3.Bölgesel gruplaşma yok, insanlar arası çatışma gözlenmiyor.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

E. YAŞAM KALİTESİ
1.Rekreasyon aktiviteleri yeterli
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
2.Alanın fiziksel ve estetik kalitesi yeterli
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3.Alandaki sanat ürünlerini ve heykelleri yeterli buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
4.Alandaki eğlence yerlerini (kafe-bar) yeterli buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
5.Çocuk oyun alanlarını yeterli ve kullanışlı buluyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

F. KİMLİK VE TOPLULUK HİSSİ
1.Alanda kendimi buraya ait hissediyorum.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
2.Alanda diğer insanlarla iyi ilişkiler içindeyim.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3.Alana yeniden gelmek isterim.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

G. SOSYAL ADALET VE EŞİTLİK
1.Alan tüm sosyo-ekonomik gruplara açık.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
2.Alanda herkes eylemlerini gerçekleştirmek için eşit fırsata sahiptir.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3.Kamusal hizmetlerin sunumunda adil davranılmaktadır.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

G. İNSAN HAKLARI VE TOPLUMSAL CİNSİYET
1.Bu alanda ifade ve hareket özgürlüğü var.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
2.Alanda etnik köken, dil, din ve inanç eşitliği var.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3.Alanda cinsiyet eşitliği var.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

H. REFAH DÜZEYİ
1.Düzenli bir işim/ gelirim var.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum

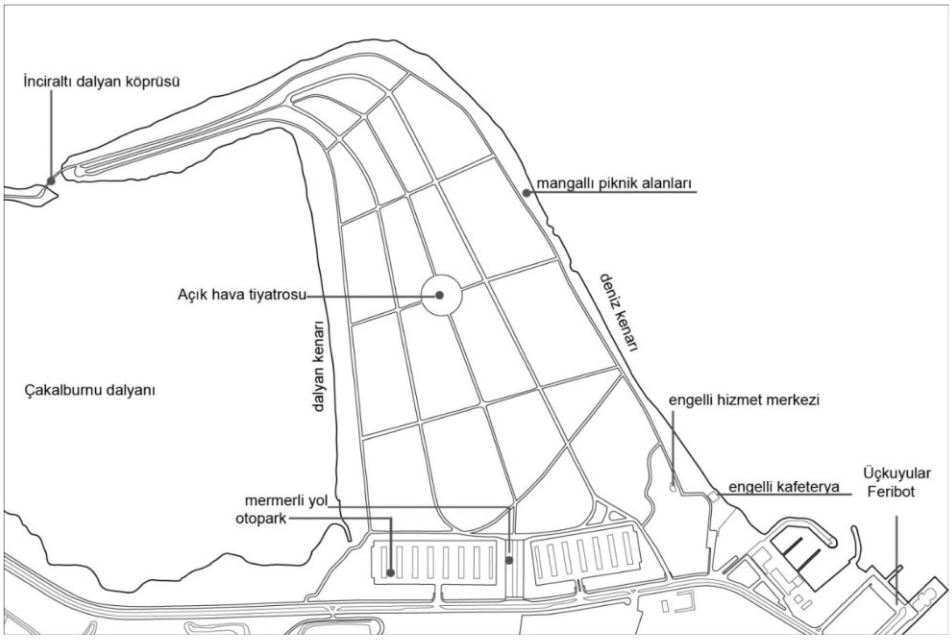
2.Gelir düzeyim alanda sunulan servislere uygun.
a. Kesinlikle katılmıyorum b. Katılmıyorum c. Kararsızım d. Katılıyorum e. Kesinlikle katılıyorum
3. Alanda bulunduğunuz süre içinde ortalama kaç TL harcıyorsunuz?
a.0-10TL b.10-20TL c.20-50TL d.50-100TL e.100TL üzeri.

I. AÇIK UÇLU SORU/ YORUM
1.Alanda yapmayı en çok sevdiğiniz eylemler nelerdir? (Birden fazla işaretleyebilirsiniz)
( ) Yürüyüş
( ) Piknik
( ) Balık tutmak
( ) Yeme-içme
( ) Spor yapmak
( ) Köpek dolaştırmak
( ) Çocuklarımla vakit geçirmek
( ) Arkadaşlarımla buluşmak
( ) Diğer .....

2.Sizce alanın en güçlü ve zayıf özellikleri nelerdir?

3.Kullanıcı olarak beklentileriniz nelerdir?

J. SIK KULLANINILAN ALANLAR
Alanda en çok ziyaret ettiğiniz yerleri haritada işaretleyiniz.



Appendix B

Table of the regression analysis

Visiting Hours	Frequency Of Visit	Income Level	Educational Level	Age Groups	Gender	Constant	
0,001	-0,168	0,113	-0,106	0,01	-0,044	2,984	Accessibility
0,99	0,181	0,198	0,265	0,934	0,835	0	(p-values)
0,002	-0,206	-0,118	0,145	0,115	-0,068	2,622	Security
0,979	0,089	0,163	0,116	0,311	0,739	0	(p-values)
0,051	0,038	-0,1	0,096	0,173	-0,202	2,149	Social Cohesion
0,374	0,722	0,184	0,237	0,088	0,266	0	p-values
0,055	-0,047	0,013	0,008	0,105	-0,497	2,17	Quality of life
0,31	0,637	0,849	0,921	0,269	0,005	0	p-values
-0,073	-0,158	0,084	0,023	-0,208	-0,089	4,107	Sense of belonging
0,279	0,206	0,338	0,809	0,08	0,676	0	p-values
0,05	-0,206	-0,111	0,129	-0,049	-0,197	3,707	Equity
0,468	0,111	0,22	0,186	0,684	0,368	0	p-values
0,005	-0,214	0,018	-0,037	-0,026	0,084	3,931	Human Rights
0,95	0,123	0,851	0,722	0,842	0,719	0	p-values
0,038	-0,028	0,426	0,04	0,238	-0,183	1,264	Poverty
0,526	0,799	0	0,635	0,026	0,336	0	p-values
0,019	-0,119	0,019	0,04	0,044	-0,182	2,872	TOTAL
0,655	0,132	0,729	0,5	0,556	0,177	0	p-values