

SDGs and Social Sustainability in the Walled City of Famagusta

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ABSTRACT

Despite the fact that, social sustainability (SS) is a key component of the sustainable development (SD), in fact till this moment little is known about a precise definition, measure and operationalize the idea of SS. Additionally, the factors that influence people's perceptions of their neighborhood are unexplored. This research facilitates to speed up and increase awareness of the benefits of Sustainable Development Goals (SDGs), especially in terms of social sustainability in North Cyprus, and particularly in the city of Famagusta. The research's main aim is to test and measure the level of social sustainability in the Walled City of Famagusta (SSWCF) and then to develop proposals to further develop SS. We believe that SS is a multi-dimensional concept that includes many dimensions such as neighborhood satisfaction, social equity, sense of place, social participation, safety and security, social engagement, housing satisfaction, health and well-being, quality of life, public realm and future focus. If any of these factors is not taken into account, the image of SS may be incomplete. The data for this research comes from the household questionnaire survey of 60 respondents in the case study's neighborhood (walled city of Famagusta) including interviews. After collecting data, factor analysis is used to investigate the reliability, validity of the social sustainability scale. Thus, this investigation provides us new evidence about the necessity of improving neighborhood in general and particularly the walled city of Famagusta (WCF), as well as the relationship between distinct dimensions of social sustainability and also overall social sustainability concept.

Keywords: Social Sustainability, Sustainable Development Goals (SDGs), Walled city of Famagusta, Sustainable Community, Sustainable Neighborhood.

ÖZ

Sosyal sürdürülebilirliğin sürdürülebilir kalkınmanın kilit bir bileşeni olduğu bilinmesine rağmen, araştırmalar açısından sosyal sürdürülebilirlik kavramını açıkça tanımlamak, ölçmek ve işlevsel hale getirmek konularında eksiklikler olduğu söylenebilir. Birleşmiş Milletler tarafından 2015 yılında, iklim değişikliği, ekonomik eşitsizlikler, yenilikçilik, sürdürülebilir tüketim, kaliteli eğitim gibi alanları kapsayan alanlara yönelik küresel bir eylem çağrısı olarak ortaya konulan Sürdürülebilir Kalkınma Amaçları, sosyal sürdürülebilirlik ile de doğrudan ilgili konuları içermektedir. Bu araştırma, Kuzey Kıbrıs'ta ve özellikle Mağusa kentinde Sürdürülebilir Kalkınma Amaçlarının (SKA) sosyal sürdürülebilirlik açısından faydalarının hızlandırılmasını ve farkındalığın artırılmasını hedeflemektedir. Araştırmanın temel amacı, Mağusa Suriçi'nde sosyal sürdürülebilirlik seviyesini test etmek ve ölçmek ve ardından sosyal sürdürülebilirliğin artırılması için öneriler geliştirmektir. Araştırma kapsamında, literatür araştırması sonucunda sosyal sürdürülebilirlik için belirlenen bileşenler - mahalle memnuniyeti, sosyal eşitlik, yer duygusu, sosyal katılım, güvenlik ve güvenlik, sosyal katılım, barınma memnuniyeti, sağlık ve esenlik, yaşam kalitesi, toplum, bölge ve gelecek odağı – SKA'ları ile ilişkilendirilerek, araştırmanın çalışma alanı olan Mağusa Suriçi'ndeki sosyal sürdürülebilirlik durumunun anlaşılması amacıyla kullanılmıştır. Araştırmanın verileri, alan çalışmasının yapıldığı alanda (Mağusa Suriçi'nde) 60 katılımcının katılımının sağlandığı hanehalkı anketinden elde edilmiştir. Veriler toplandıktan sonra sosyal sürdürülebilirlik ölçeğinin güvenilirlik ve geçerliliğini araştırmak için faktör analizi kullanılmıştır. Araştırma sonucunda; sosyal sürdürülebilirliğin farklı boyutları ile SKA arasındaki ilişki kuramsal olarak açıklanmış ve ardından surlarla çevrili

Mağusa kentinin sosyal sürdürülebilirlik açısından mevcut durumu ortaya konarak, iyileştirilmesi gereken noktalar belirlenmiştir.

Anahtar kelimeler: Sosyal Sürdürülebilirlik, Sürdürülebilir Kalkınma Amaçları (SKA), Mağusa Suriçi, Sürdürülebilir Toplum, Sürdürülebilir Mahalle

To My Family, Friends
and especially to
my late Uncle Abakar Adam Brahim

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LIST OF SYMBOLS AND ABBREVIATIONS

FF	Future Focus
HS	Housing Satisfaction
HW	Health and Well-being
MDG	Millennium Development Goals
NS	Neighborhood Satisfaction
PR	Public Realm
QOL	Quality of Life
SAS	Safety and Security
SD	Sustainable Development
SE	Social Equity
SE	Social Engagement
SDGs	Sustainable Development Goals
SOP	Sense of Place
SP	Social Participation
SS	Social Sustainability
WCF	Walled City of Famagusta

Chapter 1

INTRODUCTION

1.1 Background and Problem Statement

During the past few decades, sustainability has been the overall focus of urban planning and architecture Fields(Ghahramanpouri et al., 2015). Yet social sustainability (SS) is completely neglected with environmental and economic sustainability being sustainability's main focus point (Woodcraft et al., 2011), or was also used as social impacts on the environmental dimension (Shirazi & Keivani, n.d.). Only in the past 20 years the value of SS is widely acknowledged and debated (De Fine Licht & Folland, 2019). The concept is used by experts and scholars in various ways and fields to address problems about how society can be planned and developed in emerging and developed countries. Academics attempt to theorize this complex and multifaceted concept related to people, culture, and physical conditions for those who work on this concept. However, from a different perspective, the main idea of social sustainability is about the capability of a society in sustaining itself indefinitely; for example it can be five years, fifty years, or even more (De Fine Licht & Folland, 2019). It concerns people's quality of life in the future and today (jodipcx, 2019).

Based on current literature, the year 2020 is notable because it spots a tremendous change in the worldwide fight for long-term sustainability, sustainable development goals (SDG) have become the focal point for many countries or cities by trying to create it, and it became known as the United Nation's New Urban Agenda or called the Global 2030 Agenda, (Staniškienė & Stankevičiūtė, 2018). SDGs are a global

strategy to terminate high poverty levels, minimize inequalities, and secure the environment till 2030. SDGs were adopted in Paris (France) by 193 countries in 2015, after the most inclusive and detailed agreements in UN history, and have inspired people from all sectors, geographies, and cultures. Since then, the Sustainable Development Goals from the UN 2030 Agenda have been motivating and encouraging governments and all citizens to take transformative actions, both as a team and personally, for the environment, stability and humanity, as a result promoting global peace with more equality (Han & Goleman, daniel; boyatzis, Richard; Mckee, 2019). To accomplish the 2030 agenda or goals, courageous and innovative actions and a dedication to understanding what works and the ability to adapt to new awareness and evolving trends would be needed. The United Nations prioritizes proposals and programs that have a more significant effect, advance the SDG imperative to "No one should be left behind," and are supported by action, tangible promises, and evidence (Sustainable Development Goals | Unfoundation.Org, n.d.). SDGs plans, experiences learned, and Success Stories at various levels have shown the engagement, innovation, and teamwork capability of all stakeholders.

However, in Northern Cyprus, this type of knowledge, awareness, and work is too far from what it needs to be here. Thus, study helps Sustainable Development Goals (SDGs) benefit promotion and raise awareness about them, particularly social sustainability in Northern Cyprus.

While three pillars are forming a sustainable city - economic, environmental, and social- within a city that is functioning efficiently, balance is the base of interaction within those three pillars. If perceived in a collective perception, they form our quality of life's key together, abandoning one pillar means the definite collapse of the city.

The most basic pillar within these three is social sustainability which covers many points, including health, safety, living conditions, sense of place, diversity, work-life balance, human rights, security, wellness, community engagement, volunteerism, fair labor practices, neighborhood satisfaction, diversity, social equity, empowerment, philanthropy, and more. Social sustainability in cities is defined by Polèse & Stren (2000) as: “Development that is compatible with the harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvement in the quality of life for all segments of the population.”

Thus, while the ideas behind “sustainable city” or “social sustainability” have been investigated and debated thoroughly in the last 20 years in many regions around the world, unfortunately, the problem here in North Cyprus little is known regarding the significance and consideration of social sustainability value. Limited research has been done on the issue. Indeed, this gap will help us raise crucial issues and research questions concerning the general concept of SDGs and, more precisely, social sustainability, taking the historic urban quarter of the Walled City of Famagusta at street and neighborhood levels into consideration.

1.2 Research Aim, Objectives, and Questions

This study intends to speed up and increase awareness of the benefits of SDGs, especially in terms of social sustainability in North Cyprus and particularly in the city of Famagusta. The main aim of the research is to test and measure the level of social sustainability in the Walled City of Famagusta and then to develop proposals to further develop social sustainability there, with the belief that “common acceptance or good understanding that building socially sustainable cities isn’t a utopian dream and that local policies matter and essential” (Policy & Press, 2018)(Ghanbari & Rashti, 2017).

Thus, this study aims to show the importance of the social aspect of sustainability and its role in enhancing the success level in WCF, concentrating on the social aspects of SDGs. For this aim, the following research question has been asked:

- What is the level of social sustainability in the Wall City of Famagusta, and how can it be improved?

And research sub-questions are:

- What is social sustainability?
- What are the targets of SDGs relating to social sustainability?
- What are the indicators of social sustainability at the neighborhood level?
- How can the level of social sustainability be measured?

1.3 Research Methodology

This is documentary research, case study, and exploratory research that focuses on a mixed methodology approach with qualitative and quantitative methods. Documentary research involving the qualitative data is based on the existing knowledge on SDGs and social sustainability through a literature survey of relevant journal articles, books, websites, and on-site observations. Exploratory research comprising the quantitative data is gathered from a questionnaire survey and one-to-one interviews conducted within residents of WCF, which is this research's case study. Cochran's alpha formula was used to determine the number of surveys. The items in the survey will be evaluated on a five-point Likert scale Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5). Multiple techniques have been provided in the following Table 1, which will be discussed in chapter 4 (Case study area) to utilize in this study for convenience of information relating:

Table 1: Overview of the study's methodology, source (Author)

Research approach	Deductive				Inductive		
Research purpose	Explanatory	Documentary			Descriptive		Exploratory
Research strategy	Case study	Grounded theory	Archival research	Experiment	Survey	Ethnography	Action research
Data collecting techniques	Quantitative				Qualitative		
Data collection type	Questionnaire		Observation			Interview	
Questionnaire types	Structured interview	Postal questionnaire	Internet mediated questionnaires		Deliver and collecting questionnaire		Telephone questionnaire
Types of sampling	Judgmental sampling		Representative sampling				
Sampling technique	Systematic	Cluster	Simple random			Stratified random	
Designing questionnaire	Developing new		Adapting			Adopting	
Types of questions	5 point Likert scale – close ended questions						
Validity & reliability	Cronbach alpha				Factor Analysis		

 The selected method for this research

1.4 Limitation

This research will cover social sustainability aspect in the Walled City of Famagusta. The study also explores the SDGs with their targets and the possibility of implementing these Goals. The research analyses different examples from different nations - Spain, Serbia, Brazil, Kenya and India - who had implemented the SDGs.

1.5 Organization of the Thesis

This thesis is divided into six chapters. The first chapter of the thesis is the introduction part. In this chapter, the thesis's aims are established, and its research methodology is described. The second chapter investigates the beginnings of the Sustainable Development Goals (SDGs). Moreover, aims of SDGs, dimensions of SDGs, their targets, linkages between the SDGs, and examples of some countries' implications of SDGs are explored in this chapter with a short summary at the end.

The third chapter examines the idea of social sustainability, including its dimensions, definitions, components, indicators. Moreover, it explores the relationship of social

sustainability and SDGs. It explains social sustainability at neighborhood level and its indicators, ending with a short summary of the chapter.

The fourth chapter of this study focuses on the research approach including data collection and analysis.

The fifth chapter focuses on the case study area of the research (WCF) with a focus on its social sustainability. It firstly explains the historical development of WCF, in addition to its location, urban characteristic, and social characteristics. Then, the research focuses on the social sustainability in the Walled City of Famagusta and explains all indicators of SS within its residential neighborhoods.

Lastly is the thesis' conclusion chapter, the overview of the whole study is explained by giving recommendations concerning future research.

The organization of the thesis and its chapters are presented in the Figure 1 below.

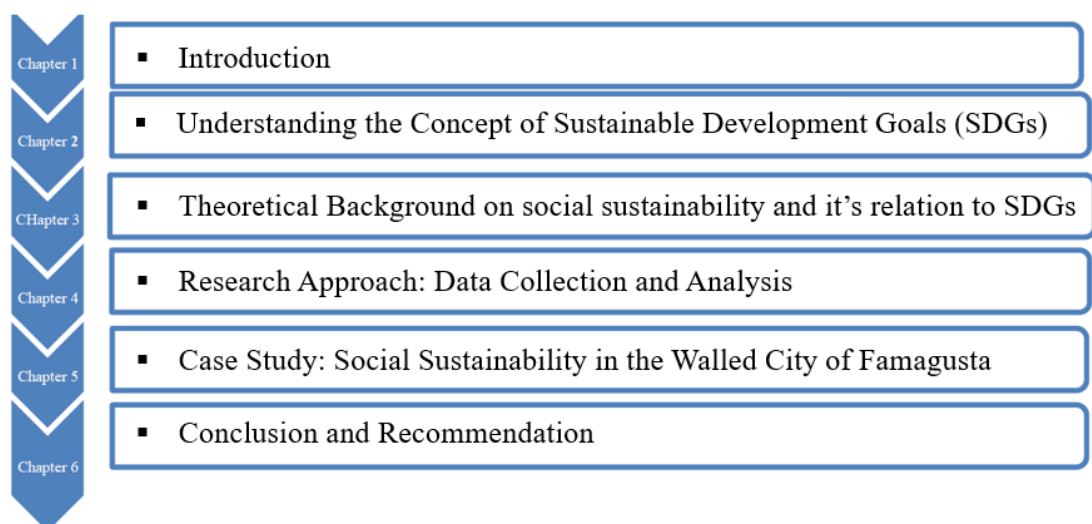


Figure 1: Thesis structure

Chapter 2

UNDERSTANDING SUSTAINABLE DEVELOPMENT GOALS (SDGs)

This chapter will look at the Sustainable Development Goals (SDGs) that is called as New Urban agenda 2030, which is the continuation of Millennium Development Goals (MDG). It explores all the 17 goals and see how they will help communities to achieve social sustainability by reducing inequality and poverty and increasing social inclusion, sense of place and so on. For example, on ethnicity, older people, children and youth, as well as promoting effective governance and institutional structures. It also analyses some example studies from different countries and regions and to find out how we can apply the concept to the Walled City of Famagusta. The chapter is divided into six (6) sections. Firstly, it gives the general view of SDGs including definition, goals, and targets. Secondly, it explains the targets of SDGs. Thirdly, it explores the linkage or connection between all the goals. Fourth it explores some examples of the implication of SDGs in different countries and last section explains the chapter summary.

2.1 Definition of SDGs

The (SDGs) are worldwide collective strategy or plan for reducing inequality, protecting the planet, and ending extreme poverty by the end of 2030. SDGs were adopted and accepted by 193 countries in 2015, after the most inclusive and detailed agreements in UN history, and have inspired people from all fields, society or cultures and regions around the world. (Leal Filho et al., 2019).

The (SDGs) consist of an updated version of the Millennium Development Goals (MDGs), which were set to expire in the year 2015 and aimed to eliminate poverty and increase health in developed countries (SDG Agenda, 2030). Because the MDGs were in effect from 2000 to 2015 and were meant to encourage security, climate protection, justice, and equality. Any of these MDGs, such as poverty elimination, education advancement, and enhancing the people's welfare in developed regions, were accomplished in world's particular parts over the last 15 years. However, several other objectives were not met (Veitch, 2006). Indeed, the focus of Sustainable Development Goals concerns completing the project by 2030.

From a more optimistic view, the SDGs will be a key tool for accelerating global social transformation, economic growth, and environmental sustainability. The SDGs have been set to represent the collectively held view regarding growth that leads to a just, safe and equitable environment for all people. They are based on the belief that fulfilling this vision requires everyone and every country to take responsibility. As a result, the focus would shift away from foreign affairs and toward reducing inequity and inequalities within nations. They are a set of seventeen (17) goals and 169 objectives (target) that address all dimensions of sustainability and are an optimistic (ambitious) plan toward achieving actionable priorities for sustainable development in all areas of society. Each of the seventeen (17) goals for sustainable development is briefly described see Figure 2.

 1. End poverty in all its forms everywhere.	 7. Ensure access to affordable, reliable, sustainable and modern energy for all.	 13. Take urgent action to combat climate change and its impacts.
 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	 14. Conserve and sustainable use of the oceans, seas and marine resources for sustainable development.
 3. Ensure healthy lives and promote well-being for all at all ages.	 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and biodiversity loss.
 4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all.	 10. Reduce inequality within and among countries.	 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
 5. Achieve gender equality and empower all women and girls.	 11. Make cities and human settlements inclusive, safe, resilient and sustainable.	 17. Strengthen the means of implementation and revitalise the global partnership for sustainable development.
 6. Ensure availability and sustainable management of water and sanitation for all.	 12. Ensure sustainable consumption and production patterns.	

Figure 2: Overview of the 17 sustainable development goals, source (UN 2016).

Waage et al (2015) thinks that SDGs will have a significant impact on governance, collaboration among member nations and environmental justice. “Everyone has the right to life, liberty, and the security of his or her person,” the Universal Declaration of Human Rights states in Article 3 (UN 1948)(Zandy, 2019). Such beliefs are strongly reflected in the approach to long-term sustainability, which aims to strike stability between economic growth and environmental conservation while simultaneously taking into account social concerns (N. Dempsey et al., 2012), that consist essential

elements for living a happy and safe life. That is why the Global New Urban Agenda 2030 for Sustainable Development (SD) is deeply spotted by an approach concerning human rights, which is shown in the document's 17 SDGs. As a result, reaching a balance is necessary between the environmental, economic, and social aspects of sustainability, as showing in Figure 3. Those interconnected mechanism of sustainability aims to increase energy and resource quality, mitigate waste generation, encourage renewable energy output with use, enhance carbon–neutrality, provide reliable with safe transportation, decrease emissions, support architecture scalability with spatial proximity, protect wildlife or green space and prioritize compactness, as well as to foster livability and human ecosystems that are centered on society. In a nutshell, a prosperous city must fulfill the needs of its inhabitants taking into consideration future generations and avoid compromising their opportunity in meeting their own.

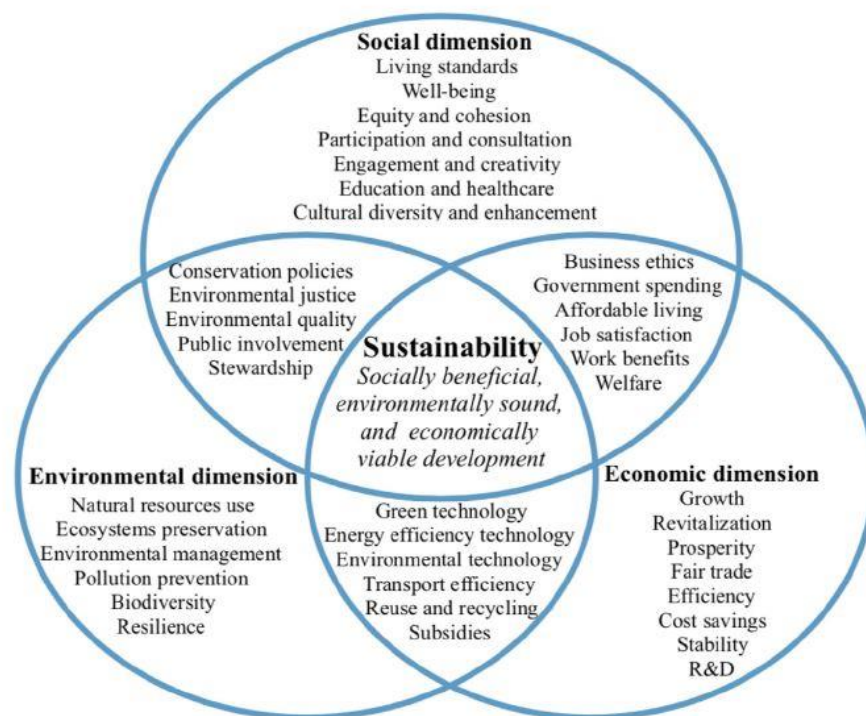


Figure 3: Structure for balancing the pillars of sustainability (Rasouli & Kumarasuriyar, 2016).

Furthermore, the SDGs would place a higher priority on environmental protection than the MDGs (Griggs, 2013). Beyond their presence and awareness of environmental problems, a global definition of environmental inequality represents discrimination of access to places, resources and risks within socially diverse classes (represented by race, gender and class as well as other attributes or characteristics) (Zilney et al., 2006).

Following Sustainable Development Agenda in 2015, there was a careful assessment of its outcomes, resulting in differing viewpoints about whether the Millennium Development Goals were achieved. As an example, if we look the goals related to ending poverty, the MDG were successful in some developed countries, such as Eastern Asia (Japan, North and south Korea, Taiwan and China) but, they were unsuccessful in many others country especially in undeveloped countries, such as Southern Asia (Bangladesh, Afghanistan, Pakistan, India) and Africa (Chad, Central African republic, Angola, Burundi, Somalia, Soudan) (Yiu & Saner, 2014). Unlike the MDGs, which were mostly focused on developed countries and were heavily reliant on support from wealthier countries, the SDGs take into account human rights, security and equality within every developed and undeveloped country, forming private sector collaboration, government, and civil society organizations for promoting sustainable growth (Kumar et al., 2016).

Commitment to deploy worldwide alliances built on the aspect of enhanced global unity, with the involvement of all stakeholders, all citizens and all nations, is stated in the 2030 Agenda (Alkema et al., 2016)(UN 2015, p. 2). Thus, SDGs propose several significant issues that countries would not have the ability to emphasize on their own. In order to guarantee ‘long-term viability, such collaborations should be put on common profits, while still trying to collaborate in creation of meaningful change

(Evans & Heijden, 2015). Despite that, each government is responsible for implementing national strategies for a prosperous economy and human growth, the SDGs' principles can be translated into real policymaking by help of tough and organized global governance.

2.2 The SDGs and their Targets

According to General Secretary of UN Ban Ki-Moon (UN, 2015a) 'we count as the first generation to be able to end hunger, make sure no one left behind and to be able to prevent the worst effects of climate change.' If we refuse to respect our spiritual and historical responsibilities, future generations will be unfairly judged, Thus, because of that throughout the last few decades, urban planning has put a strong emphasis on sustainability (Ghahramanpouri et al., 2015). Different SDGs reports has also documented that 55% of world's population based their homes in urban areas, with the expectation of reaching 70 % by 2050 (Han & goleman, daniel; boyatzis, Richard; Mckee, 2019). Which means 70% of population will leave in city. Indeed, that prediction is challenging all fields' especially urban planners, architects, engineers to human settlement and city creation is safe, inclusive, sustainable, and resilient. Considering the mentioned extraordinary obstacles, there is no denying the need for a global deal to address these problems. Indeed, that lead the word to have a common agenda which is knowing or named as urban new agenda 2030 (SDGs), including the 17 goals see Figure 4.

SUSTAINABLE DEVELOPMENT GOALS



Figure 4: The SDGs (source: <https://bit.ly/2Ohq3F5>).

These 17 SDG Goals, which include 169 targets, inspire all society members to work together intruder to make our planet a safer and more prosperous place. The Goals were formulated with the engagement of civil society actors, companies, and government representatives (Han & goleman, daniel; boyatzis, Richard; Mckee, 2019). Indeed, they are classified as aspirational and global, with each government depending on their own degrees which is based on national goals of ambition with minding local realities. There is the need for each government to make the decision of the ways to integrate those global and aspirational goals into national strategies, planning procedures and policies.

Furthermore, the World in 2050 (TWI2050) which has been known as an international research project that supports the UN's Agenda to implementation and complete the mission in 2030 organized by the International Institute for Applied Systems Analysis (IIASA) in Luxemburg, Austria, the Stockholm Resilience Centre (Stockholm University), and the Sustainable Development Solutions Network, divided the 17

development goals into six subgroups to better understand their coexistence and interdependence as showing in Figure 5:

- Human Basic Needs (SDGs 1, 2, 3)
- Universal Values (SDGs 4, 5, 10)
- Use of Renewable Resources in a Sustainable Way (SDGs 6, 7, 12)
- Economic and Social Development (SDGs 8, 9, 11)
- Earth's Preconditions (SDGs 13, 14, 15)
- Governance or management (SDG 16) and Collaboration or Partnership (SDG 17).



Figure 5: The TWI2050 project's classification of SDGs into six subgroups, source (IIASA, 2017).

This definition demonstrates the interconnectedness of the structure of sustainable development goals while also demonstrating its complexity. A solid science base would be needed to achieve all 17 (SDGs).

Furthermore, Sachs (2012) thinks that current day's society faces numerous issues as a consequence of human pursuits altering Earth's dynamic that are resulting in large greenhouse gas emissions, ocean acidification, environmental pollution and biodiversity loss. In light of these catastrophic and unprecedented circumstances, the necessity for immediate, change-producing and high-profile global goals needs to be clear. Certainly, creation of the SDGs was based on this basic idea.

SDG 1 focuses towards terminating all forms of high levels of poverty that is defined as those incomes less than \$1.25 per day (UN 2016). It aims to reduce the number of various generations of people who are poor, taking national definitions into consideration. This will necessitate the establishment of social protection systems that are adapted to the needs of each country. The goal of guaranteeing fair access to economic resources and basic services (Goal 1 and 4) raises the bar for universal economic integration and inclusion. If successful, this will aid in normalizing vulnerable and poor groups into fundamental economic prosperity, hence this positively promotes the economic stability of the targeted groups' and it reduces the likelihood of having 'victims of unsustainability,' as described by Kopnina (2016). Integrating the impact of social, environmental, and economic shocks, such as major natural disasters, to poverty is a particularly important step in assuring the long-term viability of the targeted poverty reduction goal. This should be extremely beneficial in preserving the poor's economic well-being, as such disasters and shocks frequently lower the development impact and limit prospects for inclusive economic progress. If

efficient systems to protect the poor from such extreme adversity can be put in place, it will surely be a defining moment in attempts to improve the economic situations of the interested society. This objective also emphasizes on the critical resource mobilization concerning a range of origins within expanded cooperation of development that will enable vulnerable and poor people concerning developing and emerging regions gain access to resources. This not only paves the way for better coordinated economic development around the world, yet it also opens up lots of new possibilities for moving smoothly beyond geographical boundaries through communal development process innovations. This, however, offers an opposition concerning country preferences and prejudice regarding supporting development cooperation based on their interests that can be subjectively objective. Generally, SDG-1 desires by providing concrete procedures for achieving it and, as a result, ending poverty in the world. Meanwhile, one must be aware of matters about inequality in income, as aiming to eliminate poverty while increasing income inequality may not help to the establishment of stabilized and comprehensive economies with true poverty reduction aims.

SDG 2, which focuses in eliminating hunger and increase nutrition and food security, connects sustainable agriculture development with poverty eradication and provides a cushion for achieving the target. As a result, achieving this aim is critical in ensuring justice in the environment. Ending hunger by ensuring all age groups have access to nutritious, safe and enough amount of food throughout the year (United Nations 2016) would be a huge achievement for contributing this fundamental and crucial state for an enhances quality of life for the vulnerable and poor. This aim identifies particular nutritional and food supports of various types of people, such as children less than five years old, adolescent girls, lactating and pregnant women, and the elderly, which

Provides the basis for implementing to a collective effort to terminate hunger and to provide the minimum required of the food nutritional level. The attention regarding increasing the levels of productions of agriculture and incomes of small-scale food providers, particularly indigenous peoples, pastoralists, women, family farmers and fishers will possess a straight focus on a micro-scale of agricultural producers' economic sustainability. This strategy is consistent with Gandhi's vision of sustainability concerning village and rural areas (Biglari et al., 2022). This aim also focuses on the important constraints in successful small-scale productions of agriculture, such as value-adding, land access, know-how, market and financial access for small-scale agricultural providers. Increased investments regarding agriculture, combined with termination of trade policies and restrictions of trading activities, and is expected to enhance productions of agriculture at multiple levels significantly. Focusing on food production practices that are climate-friendly can assist to reduce the risks associated with natural catastrophes, which have previously led to a variety of negative consequences in some countries, such as India, Bangladesh, Pakistan including small-scale farmer depression and bad mental health. The proposed measures to limit commodity of food market volatility will secure that poor and vulnerable populations have better access to cost-effective food.

SDG 3 that emphasizes guaranteeing promoting health and well-being for everyone. And also, it has straight effect on quality of life through preventing newborn deaths (United Nations 2016). Efforts to fight water-borne, hepatitis, and other infectious diseases, as well as to eliminate plagues such as malaria, neglected tropical diseases, tuberculosis and AIDS are likely expected to improve the living standard of the mankind. Improving the well-being of people of all ages will require enhancing health systems to terminate and deal with unusual alcohol use, cigarette and narcotic drug

misuse. Inclusive access to services regarding reproductive and sexual health care might lead to a positive impact on the health of global economically and socially disadvantaged females. For economically disadvantaged, the focus is to cover design for all, that contains quality access to immediate health care services, protection of financial risk, and access to cheap and high-quality necessary medicines, is crucial. Emphasizing decreasing fatalities and diseases numbers caused by unusual chemicals, such as contamination and pollution of water and air, will foster new partnerships while also linking this goal to environmental sustainability goals. Goal 3 and related aims 3.3 and 3.9, according to Cutter (1995), are required in order to reach justice in the environment. Efforts to enhance health services by creating job opportunities and training health professionals and improving health systems of undeveloped and developing nations might enhance creation of new opportunities for jobs, thereby achieving SDG 1. Furthermore, it emphasizes the significant involvement of all parties including the stakeholders as well as the non-governmental organization (NGOs), so that it increases the potential income of the labor forces.

SDG 4 focuses on high-quality of education, which is one of the most critical sectors. The goal of ensuring that everyone can approach to limitless, high and equitable quality education for secondary and primary levels can serve as a stimulus for future support for other SDG targets. As an illustration, tertiary, technical and vocational education with university education, can provide better options for all. Inequality in education and vocational training should be eliminated as a first step toward increasing women's participation in the economy and labor market. Increased scholarship funding would facilitate seamless worldwide knowledge exchange, particularly for individuals in emerging and least developed countries. This goal continues to emphasize the SDGs' integration into education at all levels. The aim of this goal is to help the creation of

jobs in the educational sector at different levels or sectors, as well as a good amount of positions through a global movement of instructors.

SDG 5 is mainly about Gender equality in all forms. For instance, general forms of women's violence in a workplace along with human trafficking and sexual abuses and other forms of taking advantage of humans should be eliminated (United Nations 2014), should be eliminated. The purpose of eliminating forced and premature marriage, as well as female genital mutilation, is an important step in securing females quality of life, especially in communities that these types of practices are implemented presenting custom tradition. Women engagement in positions such as leadership and decision-making lead to the creation of a solid foundation for future equality in genders. Those efforts for women economic and financial equal rights can not only improve women's quality of lives, but they can also have a good effect on family quality of life, particularly when a female assumes leadership roles within the family. Therefore, contributing to the long-term well-being of women and girls is a highly positive and significant goal.

Goals 6 and 7 together are essential to provide global environmental justice by ensuring secure and inclusive access to renewable energy and clean water. Water, sanitation, with hygiene continue to be major developmental challenges regarding various parts of the globe. The sixth Sustainable Development Goal tends to provide universal access to water and sanitation, as well as effective management of these resources (United Nations 2016). The goal of providing universal and equal access to safe and inexpensive drinking water for all people, as well as appropriate and equitable sanitation and hygiene, will contribute greatly to more sustainable living. Water scarcity may be addressed by focusing on enhanced water-use efficiency across all

sectors, which will significantly reduce the number of people affected. The initiatives to enhance quality of water have a tendency to connect the target to lead to numerous SDGs related to environmental sustainability. In some cases, transboundary collaboration in combined controlling of water resource might lead to further implications concerning cross-border economic and social collaboration, lowering political tensions. Developing global cooperation in both developing and undeveloped countries in sanitation and clean water related programs, including recycling, wastewater treatment, and technologies concerning reuse, might lead to a backed help to promote agriculture (SDG2), and have a direct and indirect impact on people's quality of life. All development activities require access to affordable electricity. Energy availability remains a major obstacle limiting GDP growth in many developing or less-developed countries. SDG 7 commits to ensuring that everyone has ability to access a cheap, sustainable and reliable energy (United Nations 2016). Therefore, a reliable and efficient source of energy is the prime target of this goal. Also, this goal focuses on increasing renewable energy. Global collaboration in technology and renewable energy studies can indeed be intimately linked to international collaboration in education. The achievement of these goals will very certainly contribute greatly to poverty reduction and long-term sustainability.

SDG 8 focuses on inclusive and sustainable economic development that can drive progress for all women and men. For example, all people should pay equally for same work, including persons with disabilities (Hansen et al., 2021). This goal connects the socioeconomic viability of a country to the dignity of individual workers. The prevention of forced work, such as youngster labor and military recruiting of children, will aid in the integration of children into the development process. Furthermore, the development of banking system and financial services can also to provide additional

job opportunities for all, especially young people. By achieving this plan, this target will greatly reduce socioeconomic crises and unemployment issues in various countries around the world. Surprisingly, this target also seeks to distinguish socioeconomic development from environmental destruction highlighting the importance of big producers and other institutions in advancing ecological sustainability. The key pillars of progress in modern civilization are infrastructure and technological advancements. By focusing on creativity, technology, and infrastructure for the long term, SDG 9 targets to encourage collective and long-term industrial productions according to UN report (United Nations 2019). Technology and infrastructure improvements will have direct influence on job generation and economic growth in many contexts, as well as increasing overall quality of life (Mori Junior et al., 2019). By the end of 2022, all people in both least developed countries and developing countries around the world will have access to the Internet, which will help bridge the digital divide (Eurostat., 2020). Cross-border knowledge transmission will be aided through international collaboration in research (scientific) and technology improvement. Focusing on technologies will aid to improve local ability for innovative solutions to many human-related issues.

SDG 10 continues to focus on reducing inequities across countries (Kumar et al., 2016). The goal of increasing economic growth for the bottom 43% of the community faster than national average is a critical step for improving the lives of people at the bottom of the pyramid (Yonehara et al., 2017). Indeed, enhancing socioeconomic, and political participation for women and men, regardless their age, ethnicity, gender, handicap, color, religion, or other perspective, offers possibility or hope for a more international society in the coming 12 years. On the one hand, policies on revenue, wages, and social welfare or polity, as well as effective legislation (Leal Filho et al., 2018), may aid in

creating greater equality. This goal aims to make global financial systems more linked and regulated in order to avoid manufactured economic shocks. As an illustration increasing economical help to developing and least developed nations might aid in the fight against various socioeconomic and political problems that these nations confront or face.

Sustainable urbanization demands an increase in the availability of excellent living conditions as well as adequate accommodation for all, and also support services such as transportation. These challenges are addressed in SDG 11 to ensure inclusive, safe, resilient, and sustainable human settlements and cities (Mawonde & Togo, 2019). First, it aims to prevent the urbanization of slum communities. Second, ensure adequate public transportation. Third, decrease the number of mortalities from water and air pollution and fourth, facilitating access to long-term green spaces (11-7), with a particular focus on the most socially marginalized people (Eurostat., 2020). Finding safe housing for the poor and vulnerable in society is a huge challenge. The goal of providing secure, cheap housing and renovating slums will help to improve people's living conditions. Indeed, the purpose of this approach is to consider and use local building materials, which will help to enhance the local construction sector.

SDG 12, production and consumption activities are the main focus of this goal (Oagbvg, 2021). The second part of the twentieth century experienced massive increase in consumption and production that leads to unrestrained expansion with harmful effects for the environment. This may be seen as a primary reason for rising income disparity, despite the fact that GDP is increasing numerically. It reduces the usage of fossil fuel and it also minimizes the waste, at every point along the food value chain (Stefanescu, 2021). The detection of corruption on both the demand and supply sides will be aided

by improvements in public procurement procedures. The change to sustainable production will also benefit the environment's long-term viability.

Although the majority of the SDGs directly or indirectly address climate change and environmental sustainability problems, SDG 13 focuses particularly, on addressing climate changing issues and its consequences (Mawonde & Togo, 2019). One of the primary aims of the goal is to introduce climate change mitigation, adaptation, and impact reduction activities through education and capacity-building. This objective will aid in reducing the negative consequences of global warming and climate change.

Another aspect of environmental sustainability is natural resource conservation called SDG 14 argues the general protection and proper use of seas and oceans as well as marine resources (The Sustainable Development Goals Report, n.d.). Its focus is to eliminate marine pollution while also preserving marine and coastal habitats. For example, fishing regulations and overfishing reductions will help to improve the quality of fish-related products. Indeed, focusing on increasing the economic advantages to Least Developed Countries and Small Island Developing States through sustainable marine resource exploitation will help to create jobs opportunity and improve economic progress.

The usage of terrestrial ecosystems and forests more sustainably, is represented by SDG 15, which is another crucial aspect of environmental sustainability (Halderen et al., 2019). As an illustration, safeguarding ecosystems and biodiversity, as well as avoiding land deterioration, are among the goals. Sustainable forests will help to reduce deforestation and, as a result, will promote to the continuation of a healthy ecosystem. Indeed, to battle the protection of endangered species, local communities

must be given other livelihood options, which can be developed through long-term capacity building (Halderen et al., 2019).

Harmony and peace are required for human survival to be long-term is known SDG 16 advocates to have equal access to information and justice for all, with an emphasis on creating prosperous and sustainable societies (Whaites et al., n.d.). Stopping illegal money and arms transfers will go a long way toward achieving peace. Combating corruption will aid in the mobilization of additional funds for development. This also means that institutional governance at all levels will be more transparent. Involvement of developing nations in global governance organizations would be an important step in the path of achieving international development equity.

SDG 17 identifies issues with the effective implementation of all previous SDGs that been discussed. For example, encouraging peaceful, inclusive societies where everyone has equal access to information and justice (Sustainable Development Goals | Unfoundation.Org, n.d.). This goal calls for more funding and cooperation, as well as a more collaborative approach to long-term sustainability.

There is evidence that all the above goals are tightly interconnected when it comes to sustainability difficulties. Climate change mitigation, for example, will necessitate significant changes in the water, energy, and food sectors, as well as the protection of people's well-being (Griggs, 2013). However, some SDGs are more directly related with social aspects, yet some are more with environmental or economic. Accordingly, some scholars have grouped the SDGs under different sustainability pillars. For example, as an illustration, to understand social sustainability and SDGs, one study (Delli Paoli & Addeo, 2019) looked at the direct implications and policy goals of SDGs

in order to group them according to the social, economic, and environmental pillars. As a result, SDGs with social direct effects and goals were grouped together in the social pillar, while those with economic direct impacts and goals were grouped together in the economic pillar, and those with ecological direct impacts and goals were grouped together in the environmental pillar Figure 6.

Accordingly, this research will also intend to do a similar grouping in the following lines, considering its aims and objectives.



Figure 6: The three pillars of the sustainable development goals, (Delli Paoli & Addeo, 2019)

2.3 Linkage between SDGs

The 17 Goals and 169 objectives were accepted by world leaders in September 2015, they are leading us to a new path toward attaining the shared future we desire in 2030.

Regardless of the fact that, the SDGs are divided into 17 different goals, the objectives are inextricably linked, providing an integrated framework that aspires to achieve

holistic sustainability from a systemic perspective (Muschett, 2018). On the one hand, attaining one goal or target may help you achieve other ones. For instance, reduced inequality, which is Goal 10, will contribute to poverty elimination which knowing as Goal 1 and improved food security which is zero hunger (Goal 2), entails achieving full and productive employment, as well as decent work and economic growth which is Goal-8. Achieving one objective or target, on the other hand, could interfere with achieving others. (Zhou & Moinuddin, 2017).

The interconnections between goals and their related targets constitute a complex network (Researcher & Centre, 2018). Identifying the benefits of SDGs it is required to understand the interconnections between the objectives and targets. For example in SDGs report 2020 has mentioned that, a crucial component of SDG integration and policy coherence is eliminating trade-offs and maximizing synergies or advantage is based on understanding the linkage between the goals and targets (Researcher, 2018).

Many national governments have recognized the need of SDG integration, which necessitates a substantial change away from the traditional fragmented approach and toward a systems approach (Helga & Katherine, 2018). Perhaps, this is where the issue comes, because many people have very little knowledge about how the SDGs interact with one another. Despite the fact that many experts, scholars, and organizations have begun to look into SDG integration, there are still substantial gaps, particularly in terms of the objectives and targets' comprehensiveness. Indeed, especially in Northern Cyprus the level of understanding, and work is far behind. Thus, the research may aids in accelerating and raising awareness of the Sustainable Development Goals, as well as their advantages (SDGs). Because SDG interactions are typically context- and case-specific, varying according to place, time, place, technology, and directionality and

governance. It is critical for the SDGs to work together synergistically to drive the global system toward desirable results (Cernev & Fenner, 2020).

2.4 Examples of Implications of SDGs

It is critical for the SDGs to work together synergistically to drive the global system toward desirable results. Thus, a random selection of five examples are offered to illustrate how some countries are currently dealing with the SDGs. These were chosen for a variety of reasons such as different geographical local (Europe, Asia, America and Africa), developed, developing and undeveloped country and they take more in to consideration the local people, particularly in urban neighborhood to implement SDGs. Indeed, since our case is in a historical area focusing target are the local people those examples may be useful for our case study (WCF). In addition that research the diversity of stakeholders, their scope, and the thematic emphasis, plans for achieving those international goals may be a great example for the stakeholders in North Cyprus, especially in the Walled city of Famagusta. Because India, Kenya and Brazil are at early stage and getting benefit of SDGs, so this study may help North Cyprus to introduce the knowledge of SDGs and to get benefit of SDGs, because SDGs is road map for now and future.

The examples of selected five countries are shown below:

- Spain is a developed country, a member of the European Union and strong historical and cultural background;
- India: A developing country seeking to modernize and industrialize while combating poverty which is the first goal of SDGs;
- Serbia is a developing economy, not nearly as industrialized as Spain, but with better circumstances and infrastructure than India;
- Brazil is a vast rising country with a diverse culture, natural resource base;

- Kenya is a well-known West African country that deals with high-levels.

The characteristics of the sampled countries utilized as examples are listed in Table 2. The adoption of the global agenda is at an early stage in India (Asia), Kenya (Africa), and Brazil (South America), whereas it is moderate in Serbia (Europe) and Spain (Europe), with some actual policies aiming at achieving the international goals. Currently, none of these countries can be considered advanced in terms of SDG implementation, however this trend can be changed. Despite the fact that the sample is limited and thus cannot be considered comprehensive, it does illustrate some of the sustainability challenges that different types of countries confront around the world.

Table 2: Some characteristics of the countries chosen as case studies (Pradhan et al., 2017).

Country/characteristics	Spain	Serbia	Brazil	India	Kenya
Area	505,990 km ²	88,361 km ²	8.516 million km ²	3.287 million km ²	581,309 km ²
Population	50.55 million	7.057 million	207.7 million	1.324 billion	48 million
Gross national income (GNI) per capital	32.779	12.202	14.145	5.663	2.881
The ranking calculated using the 2017 UN Human Development Index.	26	66	79	131	147

The Countries mentioned above are offered to illustrate how they are currently dealing with the Global Agenda. The following is a short description of selected country:

Spain

Spain has remained a vocal participant in the global development agenda debate, especially in the establishment of the SDGs (Pradhan et al., 2017). In 2013, Spain was the site of a Slightly elevated Consultation on Hunger, Education, Food Security, and

Nutrition. Also participated actively in the UNGA's Open Working Group on the SDGs, which was in charge of defining all SDGs and their 169 targets, and it was sponsored in 2015 by the Latin American business community. However, its worldwide reputation may or may not mirror its social policy.

In summary, still a multidimensional global crisis continues to plague Spain's economic and social situation. The recent austerity measures in governmental policies and found out that there is a significant impact on the spanish's community, especially among the most vulnerable parts of the society. The income disparity has expanded dramatically, and the poverty rate continues to rise, particularly among youngsters. In this regard, a recent report questioned Spain's possibility to achieve the SDG targets to some extent. On the other hand, the SDG index a tool established to rate nations based on their beginning status on the 17 SDGs (Sachs et al., 2019), ranks Spain 30th out of 149 countries studied and is ranked 26th in the OECD (35, in total) (Sustainable Development Report 2021 - Jeffrey Sachs, Christian Kroll, Guillaume Lafortune, Grayson Fuller, Finn Woelm - Google Books, n.d.) . The report, also includes SDGs Monitoring systems, in which to indicate whether the country has met the global goal. According to the findings Spain faces substantial difficulties in fulfilling nine of the SDGs. Specially SDGs 12,13,14 and 15. For example, Spain's 22.4 percent unemployment rate puts dreadfully in tenth position of the list (SDG 8), and rank to the bottom of the net Official Development Assistance (ODA). Because it has the responsibility to help developing nation to implement the 2030 Agenda.

Lastly, consideration of local governments help Spain to decentralize its government and lead to a prosperity position and to develop feasible agendas that react to local needs and aspirations. Indeed, Surprisingly, numerous autonomous governments in

Spain have established a local plan to achieve the SDGs. (The Region of Valencia and the Local Implementation of the SDGs: A Region Committed to Cooperation and the 2030 Agenda for Sustainable Development, 2016).

India

India seems to be well prepared to commit to the Global Agenda. The remarks can be found in both the federal government's and the majority of provincial governments' planning documents. Various organizations from various sectors, such as corporations, scholars from various field and civil society organizations, are all working under one umbrella to align their activities with the SDG aims. However, the procedure faces a variety of context-specific obstacles. According to (Sachs et al., 2019), India is ranked 120th out of 152 countries examined, and the findings show that the country has numerous hurdles in achieving the majority of the urban new agenda. One of the more difficult issues to address is population increase. According to Sekhawat (2015), the population of India is expected to reach up 1.7 billion in the middle of this century (20250). As predicted the UN, the country will face an enviromental crises even the human per-capita and the consumption of available resours remains steady. It's worth noting that population expansion will be a difficult issue on socioeconomic sustainability, since it will have a negative impact on most development projects. Another crucial issue has to do with government. India is divided into two governments: A provincial and a federal. The provincial governments may or may not be affiliated with the central government. Occasionally, development effort suffers as a result of different ideological views and interests. Furthermore, in other circumstances, provincial governance has been accused for a lack of transparency in development programs. Corruption has become one of the country's most serious issues. Corruption diverts the majority of resources away from development channels

and into private property. Although, the young population is expanding, which is a powerful tool for countries development. Recent years, the youth are participating political and developmental institutions of the country and they are trying to modernize and fight the deeply rooted corruption system in both provincial and central government. (Kattumuri, 2018). Furthermore, because the current federal administration looks to be trying hard to combat corruption, it is expected to be reduced in the future. SDGs implementation at the local level, especially historical area necessitates to increase awareness, knowledge and capacity-building programs in this area. Many leaders in government and private sectors, continue to see the SDGs as primarily environmental sustainability goals. As a result, in SDGs implementation capacity-building programs, it is critical to harmonize and integrate all three elements. Despite the obstacles, the country is making good progress toward reaching the SDGs. With commitment and clarity, India is anticipated to make great progress toward the SDGs in the coming years.

Serbia

It is known as one of 58 nations that are campaigning 'The World We Want', which involves the prioritizing of the world's future goals. The "Serbia, We Want" campaign began at the end of 2012, with more than 240 000 participants participated in consultations, including 27 000 people who actively took part via the website (www.srbijakakvuzelim.rs), media, or face to face workshops and seminars. After gathering the total information of the participants, a nine post-2015 developmental priorities was set and divided to the following categories.

The first: more often and better jobs, as well as decent work; poverty eradication and improved support for vulnerable populations; and effective governance and

trustworthy institutions are all priorities. The second: cultural and social cohesion, excellent healthcare service and higher quality of education. The third: better management of migration and population mobility; a sustainable environment; gender equality (Cizler, 2013). The country took part in the implementation of SDGs and became member of the United Nations Economic and Social Council for two years from 2014 to 2016 and also it is the Open Working Group, as Intergovernmental Committee of Experts for sustainable development in Finance (Serbia in the UN | Ministry of Foreign Affairs, n.d.) at the end of 2016, Serbia able to monitor and implement all the goals of SDGs.

Additionally, Serbia is ranked 38th out of 150 nations, with substantial progress in the sector of poverty elimination (SDG.1), safeguarding and supplying clear water supply as well as promoting general hygiene (SDG-6) and reduction of disparities (SDG-10). Serbia has made progress toward SDGs 2,3,4,7,9,11, 12 and 17, but there is still a long way to go. It has been exempted from SDG 14 because it has no sea within its borders. Total protection of the earth's surface (SDG 15) is one of the environmental challenges, whereas the government efficiency rate is a key indicator of SDG 16 achievement (Sachs et al., 2019).

Brazil

Brazil which is one of the top five largest countries in the world is also the sixth the seventh's strongest economy on earth. This nation had decided to plan and implement the SDGs since 2015.

Based on the research on the coherence between public strategy implementation, country's objective tool and the targets of SDGs, the relationship among the targets,

creativities, and programs of the 2016–2019 multi-annual plan and the whole 169 targets of the SDGs remains diffuse. The formation of the National Commission for Sustainable Development Goals is a great step forward (THE 17 GOALS | Sustainable Development, n.d.). This is what it's supposed to be the major institutional governance instrument for facilitating subnational and civil society discussion, participation, and integration. The commission's goal is to absorb, communicate, and ensure transparency in the implementation of the 2030 Agenda. Despite this good backdrop, as seen by continuing poverty, violence, social inequality and the extensive deterioration of ecosystems such as the Amazon rainforests, existing social, environmental, and economic information do not imply that the SDGs are being applied as they should be.

Kenya

Based on the Kenyan National Bureau of Statistics, in 2015, 45.2 percent of people were considered living in poverty (daily earnings of less than \$1.25), includes 33.5% in urban areas and 50.2% living in rural areas– this signifies that poverty affects approximately half of Kenya's population (KNBS 2015).

The country is pursuing a 'adaptation of the SDGs' in order to adapt their implementation to Kenya's development. In terms of structure, all members of the government have been instructed to include the sustainable development goals into their strategies for planning and to link them to Kenya's 'Vision 2030,' whose primary components are:

- Social: A society that is just and cohesive, with equal social progress in an environment that is equitable, secure, and safe;
- Economic: It is necessary to maintain the annual economic growth of 10%;

- Political: A democratic political system that is issue-driven, people-focused results-oriented, and accountable.

In May 2016, a Specialized Unit for the SDGs was established to act as a National focus of attention, connecting national government agencies with organizations of civil society, UN agencies, and governments of counties. Kenya has chosen a set of SDGs to be prioritized. Gender equality and universal education, enterprise and employment, the environment and well-being, food security and agriculture and health are all issues that need to be addressed. While this is understandable, the fact that the government places so little focus on the other SDGs means that there is a high reliance on external contributors (Reisman et al., 2017).

The case studies' diversity of examples and perspectives allows for the identification of certain conclusions that can be drawn, these are:

First, Inclusivity: No one must be left behind. The SDGs place a major emphasis on eliminating inequality, with many targets aimed at making sure that "no one is left behind. As a result, the SDGs apply to everyone, and both developing and developed countries will require to mobilize their endeavors to accomplish them. To determine poverty and approach society's most vulnerable individuals, a paradigm shift is required. To ensure that "everyone must be onboard", a focus on most vulnerable and the disadvantaged people must be prioritized in order to reduce their suffering and vulnerability to climate-related disasters, as well as other social, environmental, economic and tragedies and shocks.

Second, The requirement for better collaboration and partnerships with more power across the governmental, civil, and private society, private and public sectors. People

are willing to contribute insights and be more involved in seeking answers to the issues of social and environmental concern they encounter when asked, as evidenced by the case studies. Various problems relating to poverty, political changes or migration are all interconnected, influencing the SDGs' implementation in the case study countries and beyond. To reach improvement toward attaining sustainable development, more coordination of the efforts of various government agencies and sectors is required. The Sustainable Development Goals Encyclopedia, which is now in the works, will bring together over 1.700 sustainability specialists from government, and non-governmental organizations and academia that are working on sustainable development (Reisman et al., 2017).

Thirdly, application of the SDGs requires governance, proper collective monitoring and indicators. The achievement of the Millennium Development Goals (MDGs) underlines the significance of governance that is effective and the use of relevant assessment as quickly as possible (Sustainable Development Solutions Network 2015). Certainly, criteria will serve as the foundation for tracking improvement toward the SDGs on a regional, local, national, and worldwide scale. The MDGs taught us the implementation of a well planned and calculated projects are most like implemented because it is easy to control the input and the output of the project. To make the SDGs and its aims into a tool for management for countries to use in implementation strategies and distributing resources appropriately, clear, measurable, and action-oriented indicators must be identified and applied (Sustainable Development Solutions Network 2015, Hák et al. 2016). Furthermore, a report card according to a smaller number of trustworthy indexes allows to track improvement and guarantee that all stakeholders are held accountable for reaching the SDGs.

Therefore, it will be several years ago the legal framework of SDG indicators is built on complete information (Sachs et al. 2016).

The fourth, the requirement for greater responsibility: Citizens holding governments and funders responsible will be a critical part in promoting and accelerating SDG results. Data of high quality that offers the appropriate data on the right topics at the right time is the raw material for accountability (Independent Expert Advisory Group on a Data Revolution for Sustainable Development 2014), and civil society will be able follow growths for the SDGs by using information of income budget and related public expenses (Martin and Walker 2015).

The lastly, increased financial assistance for achieving the SDGs: The SDGs will only be successful if governments throughout the world invest enough in tackling their problems. Globally, investments in sustainable development will not be large, especially when contrasted to the massive expenses that will result if there are no investments (Sachs 2012). failing to address inequality will result in the SDGs not being achieved (Martin and Walker 2015). According to Sachs (2008), a 2–3% share of worldwide revenue would be required to achieve the principal goals of climate change mitigation, poverty reduction, biodiversity protection and universal primary health care (Sachs 2008).

In addition, as Fukuda-Parr (2016) points out, implementing the SDGs necessitates changes in the aim, idea, in addition politics of worldwide development goal creation. Generally, the SDGs' implementation may re-energize the global research agenda on SD (Leal Filho et al. 2017a).

The selected countries example show that SDGs is a Global Agenda deal with all the countries, undeveloped, developing or developed. Based on the case study to implement SDGs, first, the implication of all stakeholders including civil society, private and public sector by considering local people as a key component. In many countries people who are living in the historical urban area are left behind, indeed the most common sentence of SDGs is “make sure no one left behind” so our historical environment are the most important area for SDGs especially social sustainability because they are the core of the society. Further the implementation of SDGs at school including primary, college, high school and higher education because they play a crucial role in a social. By looking those examples the Walled city of Famagusta is far behind in implementation of the Global agenda.

2.5 Chapter Summary

The Goals for Sustainable Development (SDGs) successor the Millennium Development Goals (MDGs) as an orientation and worldwide guidepost for transitioning to sustainable development between 2015 and 2030. These goals, unlike the Millennium Development Goals, are meant to be universal, meaning they should apply to all nations, developing and developed equally. The proposal was made in 2014, following intergovernmental cooperation for a year by what was then known as the Open Working Group and a choice made at the RIO+20 Conference as a result of 17 goals (see Figure 2), each with several targets, totaling 169 targets. The proposed goals and targets form a network, with relations between goals established through targets that refer to numerous goals (Wp141_2015, n.d.). The motive of this chapter was to observe the SDGs in general, the process of integrating them, and the need for a clearer picture of the current and future problems of sustainable development. The chapter also explores countries' implementation of SDGs and may be an example for the case of WCF. This is necessary because it will be waste of time and resource, if we

do not know the current state of SDGs. The chapter has demonstrated that implementing the SDGs offers unrivaled opportunities while also posing multiple difficulties that must be addressed in efforts to progress possibility for all and promote economic empowerment, which may help to address concerns like ignorance and discrimination, which perpetuate limit growth and poverty. Countries, especially North Cyprus must be deeply involved in order to get the desired results. It is indeed vital that nations work toward the development of criteria and measures that will allow them to assess their success in implementing the SDGs on a national scale, like to how universities have devised methods for assessing how sustainability is applied at the institutional scale. Furthermore, we must develop methods to measure, verify, and model potential discrepancies between the SDGs.

Chapter 3

THEORETICAL BACKGROUND ON SOCIAL SUSTAINABILITY AND ITS RELATION TO SDGS

Scholars from various backgrounds have addressed social sustainability of urban studies over the last decade. Indeed, this chapter will attempt to clarify the concept driving Sustainability in general and social sustainability (SS) in particular, which is an essential part of our towns and communities. Furthermore, it tries to cover many definitions and historical evolution of sustainability, component and dimensions of sustainability, the role of social sustainability and their indicator at neighbor level and conclusion. This Chapter also will explain the notion of social sustainability and its relation to SDGs. The chapter is structured in fourth sections along with sub-tittle. Firstly, it will explain the overview of the sustainable concept including dimension of sustainability, and definition, component, indicators of SS. Secondly, it will describe the relationship of SS with SDGs. Thirdly, it will analyze SS at neighborhood level along with sustainable community, indicators of SS in a neighborhood and lastly it will end with the summary of the chapter.

3.1 An Overview of the Sustainability Concept

In the late 1920s, the notion of Modernism began to emerge in urban planning (Rasouli & Kumarasuriyar, 2016b). Many scholars believed that Modernism destroyed the community's energy by the early 1960 and late 1970s, and blamed it caused high crime rates and create many social issues (Smith & Stewart, 1997). Since the late nineteenth century, the challenges caused by contemporary urban development have manifested

as various urban crises in three dimensions: climate, social, and economic, rendering these cities inefficient and unstable, prompting experts to consider alternative urban development trends (Escobar, 2006). According to some city planners, modern lifestyles consume too much natural resources, destroying forests, rising socioeconomic injustice, causing urban heat island effect in cities, as well as contributing to global warming (Davidson, 2010a). As a result, the concept of sustainable development becomes more relevant, and here in Table 3 are some examples of global economic and social crises in the twentieth century.

Table 3: Economic and social crises in the twentieth century source (author)

No	Years	Remarks	References
1	1907	American banking crisis	(Fuchs, 1907)
2	1923	Crisis of American hyperinflation	(Han & goleman, daniel; boyatzis, Richard; Mckee, 2019)
3	1929	Financial crises at 1930s	(D'Apice & Ferri, 2010)
4	1968	Worldwide protests against bureaucratic elites	(Soule, 2021)
5	1973 & 1979	Oil shocks	(Hamilton, 2013)
6	1982	Debt shock of developing countries	(DOOLEY, 2021)

Furthermore, the following Table 4 shows some examples of ecological crises such as: Exxon Valdez oil spill, Rongelap nuclear fallout, and Mercury crisis of Minamata, Seveso disaster, Bhopal disaster, Seveso disaster, Erika disaster which has affected the world socially, economically and environmentally.

Table 4: Ecological crises in the twentieth century, source (Author).

No	Years	Remarks	References
1	1954	Rongelap nuclear fallout	(Palafox et al., 2007)
2	1956	Mercury crisis of Minamata	(Harada et al., 2005)
3	1957	Torrey Canyon oil spill	(Coan, 2015)
4	1976	Seveso disaster	(Bertazzi et al., 1998)
5	1984	Bhopal disaster	(Broughton, 2005)
6	1986	Chernobyl nuclear disaster	(Hatch et al., 2005)
7	1989	Exxon Valdez oil spill	(Genest et al., 2016)
8	1999	Erika disaster	(Le Moigne & Laubier, 2004)

As a result of those challenges that faced the world, the term "sustainability" was developed by the United Nations (UN) in the Brundtland Commission Report (Keeble, 1988), which describes it as "people's quality of life now and in the future". (Mehan et al., 2017). Figure 7 shows the beginning process of sustainability, their different dimensions and relative over time. For example, A. Environmental Importance 1990s), B. Economic and Environmental Importance (Late 1990s), C. Balanced Importance of All Three Aspects (2000s) source: (Andrea Colantonio & Dixon, 2011b).

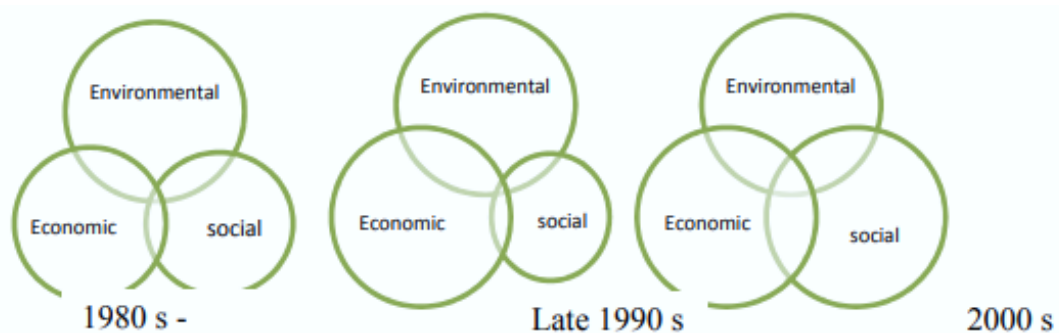


Figure 7: Beginning process of sustainability and the dimensions: source: (Andrea Colantonio & Dixon, 2011b).

Thus, from C figure we can say that a sustainable society or city is based on three (3) pillars, which are Social, economic and environmental. Those keys are interconnected and has a profound effect on community development, identity, social planning, and physical infrastructure. Indeed, those pillars must be balanced in a well-functioning city. Indeed, they are all crucial to our quality of life now and in the future, and if one of them is ignored, the city will eventually fall or collapse. Furthermore, according to (Newman & Kenworthy, 1999) the idea of sustainability, which emerged from a global political phase, seeks to combine the most difficult time demands at the same time, namely:

- Firstly, the necessity of economic growth in order to reduce poverty;
- Secondly, significance of environmental protection, especially soil, water; biodiversity, and air on which we all rely (depend on it);
- Thirdly, the importance of social justice and cultural diversity in allowing local people to articulate their ideals in addressing these problems.

In 1987, Brundlant presented a report "Our Shared Future" knowing as common future to the World Commission on Environment and Development (WCED). The focus of the report is on topics of sustainability, equality, as well as environmental honesty. The most common concept of sustainable growth, according to the Brundlant study, is "mankind's desire to guarantee a sustainable development, guaranteeing that current demands are met without risking the ability of future generations to meet their own."

“Sustainable development necessitates to fulfil the basic needs for all and giving everyone chance to achieve their aspirations or dreams for a better life now and future. For example in environment where inequality is widespread will continue be a threat to environmental and social problem.”

The key aspect of this definition is multigenerational equity, which means that future generations have the same rights as existing generations. Intergenerational justice, on the other hand, means for example people of the same generation from various demographic along with geographic, social, cultural, economic, and political origins have equal access to opportunities. Indeed, in this perspective, sustainable growth should not be seen as a permanent state, but rather as a continuous phase that involves the interaction of the three (3) necessary and inseparable concepts of sustainable development: Economic, social and environmental dimensions.

3.1.1 Dimensions of Sustainability

Sustainable development may be defined, achieved, and measured in a variety of ways. Each of these various concepts are based by the three fundamental dimensions (eg. Economic, Environmental and Social) and the dynamic movement between them. Below, we go through each of the dimensions in further detail, especially social dimension of sustainability. For example, economic dimension refers to the potential to generate revenue and jobs in order to keep communities financially stable.

Environmental dimension, refers to the desire to maximize the importance of the environment and its characteristics while preserving and renewing natural resources and the environment's heritage (Hasna, 2012).

Social dimension refers to the desire to provide security, welfare, education and health for all people, regardless of their social status or gender. Based on source (Khajuria et al., 2009) social sustainability refers to the willingness of the various social players (stakeholders) to collaborate effectively, with the same interests in mind, supported by strong institutional engagement at all levels. It seems social sustainability as an essential factor in a move forward SD because it provides unique strengths like safety,

sense of place, social participation. However, to clearly understand the dimensions, a variety of models have been created to conceptualize sustainability and the relationship between the three pillars. The first sustainability model is represented by three interconnected circles (Larimian & Sadeghi, 2019). This concept or model of sustainability is defined by an understanding of the relationships between the three aspects as well as establishing balance among them. This model, in particular, allows to evaluate of dynamics within each sphere as well as at the sphere's boundaries.

In the second concept or mode Figure 8, Sustainability used three overlapping circles to indicate the, society, economy and environment as a systems inside systems. Indeed, the model illustrates that the economy exists entirely inside society, according to the needs of human interaction in all aspects of the economy. Society, on the other hand, is much more than the economy, and it involves a wide range of relationships that go beyond the trade of goods and services. As a result, society is regarded as existing entirely inside the environment on which we rely for fundamental needs.

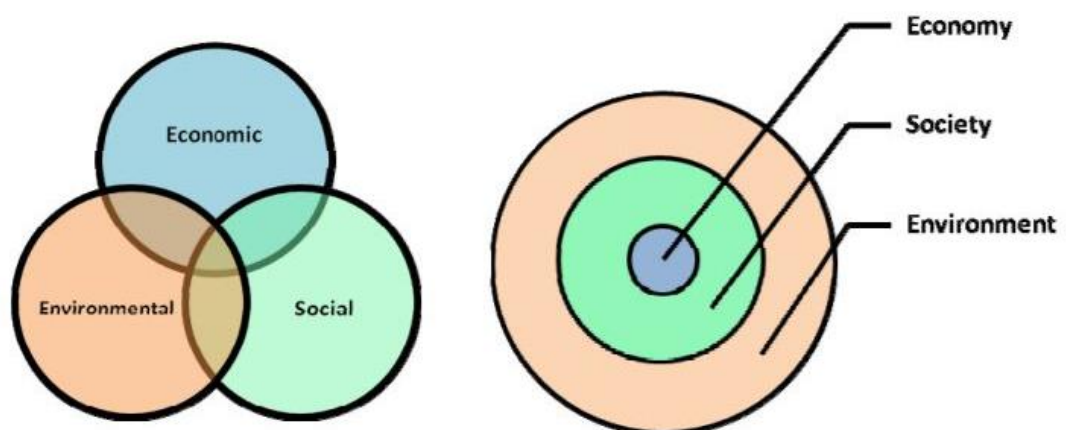


Figure 8 : a) Interconnected circle model of sustainability circles and b) Model of sustainable in concentric circles Source (Mak & Peacock, 2011).

Both models clearly serve different purposes. The concentric model illustrates the mutual independence and eventual dependency of both economic and social well-

being on the physical and environment. The interknitted model, on the other hand, provides a visual representation of overlaps among the economic, social and environmental spheres (Mak & Peacock, 2011). The focus, on the interconnected of the concept reflects the fact that, although much has been completed base on economic and environmental aspects of sustainability, the social sustainability has tended to fall the surface and is mostly unexplored and ignored concept of sustainability.

3.2 Social Sustainability: Definition, Components, Indicators

3.2.1 Definition of SS

Social sustainability (SS) has gotten a lot of attention in the recent decades, as an important part of long-term growth. However, many governments around the world has used this reason to integrate their political, economic, and urban policies, acknowledging the value of social consistency as one of the most essential aspects of sustainable growth. But, despite general agreement on the value of SS, there is still a lack of agreement on how to identify and operationalize that notion or conception (Vallance et al., 2011). Furthermore, also there lack of strong and clear alignment about which principles to be used to identify and determine the idea of social sustainability (De Fine Licht & Folland, 2019).

Despite from a lack of clarification on the approaches and a set of principle that can be applied to conceptualize and evaluate social sustainability, it seems there is no clear agreement on the approaches and principle that can be applied to conceptualize and evaluate the concept (Shirazi & Keivani, 2017). Studies from different disciplines seem to have taken a range of approaches to social sustainability. For example, according to Chan and Lee (2008)(Chan & Lee, 2008) SS covers six (6) dimensions: Urban planning, job opportunities, accessibility, social infrastructure, local characteristics, and psychological needs. In contrast to Sachs (1999), SS is focused on

three(3) dimensions: equality, social justice, democracy. Thin et al. (2002), Considered the aspects of social sustainability as inclusion, social justice, stability, and unity, while Masnavi (2007) categorizes social sustainability into two categories: neighborhood satisfaction and social engagement.

The 'City Form' study experiment, carried out by (Bramley et al., 2006) in the perspective of the United Kingdom's cities, is one of the important and deep studies in the field of urban area. (Bramley and Power 2006: 16), described SS as a human contact and communication, city's long-term potential to provide a viable environment for cultural development. In their study of social sustainability, highlight the two (2) main aspects of "social justice" and "social resilience". Recently, (Hemani et al. 2017 172) to create SS structure based on the 'City Shape' research project, and described social sustainability is "a combined bottom-up and top-down approach for implementing, urban spatial planning types that supports the 4S which are social integration, social security, social equality, and social capital.

The following explanations gathered from previous research may explain such variance on SS (Ghahramanpouri et al., 2015). The first is the intangibility of the concept, as related to the more measurable and tangible concept of economic and environmental sustainability. Therefore, instead of describing the term itself, some scholars such as (Littig & Grießler, 2005) use other social concepts/theories. Second, because of researchers from various fields conceptualize the concept in different ways, multidisciplinary approaches to it lead to analytical uncertainty and a lack of normative significance for social sustainability, The third is regarding the multifaceted aspect or concept of social sustainability, which contributes to the presence of multiple meanings based on perspective, scopes and scale. The fourth is concern the concepts

diverse features as they apply to individuals and culture, as well as their changing desires and circumstances. Because of these analyses, an author may be able to have two explanations or definitions in addition to the one previously presented. Finally, since it is commonly considered that the term is highly context oriented, with a strong focus on the local perspective, it is reasonable that different meanings indicate different locations and nations.

The study of social sustainability at the neighborhood scale has gotten various focus in the last few years including Walled City of Famagusta (North Cyprus). According to a chronological overview, the degree of research on issues of social sustainability has changed over time (Shirazi & Keivani, n.d.). Previous analysis has appeared to concentrate on the macro stages for example city and region (Burton, 2001), Latest research has largely concentrated on micro levels, for instance neighborhood and community (N. Dempsey et al., 2012). As stated in this chronological review, we also understand how traditional difficult SS dimensions, like job opportunities and economic development, are being replaced with many more soft and intangible indicators, such as identity, happiness and social engagement. Indeed, this type of contextual approach also indicates how traditional 'hard' SS factors like poverty reduction and adequate skills and knowledge are being supplemented with 'soft' and intangible dimensions like social involvement, happiness, sense of place, and identity (A Colantonio, 2009). Despite the fact that this shift in SS contributes to the indicator's or measurement's ambiguity and makes it difficult to fully comprehend the concept, it represents individuals' and societies' changing social needs and aspirations. However, Researchers working on this idea attempt to theorize this multifaceted concept in relation to society, people, and the Built Environment (Woodcraft, 2012). According to King (2008) and Griessler (2005), described SS as meeting basic human needs and

guaranteeing their longevity now and future generations. As a result, the term "human" is used to define the notion of SS (Nicola Dempsey et al., 2011). As an illustration to clarify the concept of SS many perspectives, objectives, scales and indicators have been offered Table 5.

Table 5: Social sustainability research overview through literature review

Perspective	Objective	Scale	Indicators	Authors
Social Sustainability	Influence of urban planning on social sustainability	City	Equity; community; urbanity	Yiftachel & Hedgcock (1993)
Social sustainability	Checklist for the sustainability of neighborhoods	Neighborhood	"Open space; built space; community safety; health; equity and choice; access to facilities; infrastructure"	Burton (2000)
Social Equity	Higher-densities and social equity	City	"Access to green space; access to superstores; public transport use; the amount of living space; crime; health; segregation; affordable housing; job accessibility; the extent of walking and cycling"	Burton (2000b)
Social Sustainability	Exploring the relationship between social sustainability and housing	districts/housing developments	"Accessibility to public housing; external residential quality; affordability; accessibility to the housing market; inadequately housed household; internal housing conditions; adequacy of government subsidy in housing"	Chiu (2003)
Social Sustainability	Understanding urban renewal programs and social sustainability	not specific	"Availability of open spaces ;the satisfaction of welfare requirements; creation of harmonious living environment; provisions facilitating daily life operations conservation of resources and the surroundings; ; the form of development"	Chan & Lee (2007)
Social Capital	Developing and spreading knowledge about sustainable development	region (province)	Solidarity; health and care facilities; safety; citizenship; living environment; cultural diversity; education and training	Knippenberg (2007)
Social Sustainability	Relationship between residential density and social sustainability	Neighborhood	"Access to services; participation in collective community activities; security (lack of crime and disorder); pride or sense of place; interaction with other residents or social networks; residential stability (versus turnover) "	Bramley & Power (2009)
Social Sustainability	A framework for investigating social sustainability	urban regional	"Social justice and equity; engaged governance ;social capital; social infrastructure"	Cuthill (2010)
Social Consistency	Relationship between urban design and layout with aspects of social and communal life	Neighborhood	"Participation; a sense of belonging and sense of community; community spirit; friendliness, a sense of safety social network; social interaction"	Raman (2010)
Social Sustainability	Exploring the concept of social sustainability within the British urban context	Neighborhood	Participation in collective groups, social interaction ,community stability, safety/security, pride/ sense of place	Dempsey (2011)
Social Sustainability	Developing a simplified social sustainability assessment framework	District/ Neighborhood	"Identity; housing; demography; social mix/cohesion; empowerment/participation; employment; health and safety; social capital; education"	Colantonio & Dixon (2011)

Well Being	Social sustainability at the neighborhood level based on the impact of urban form	Neighborhood	"Knowing the neighbors; pride of place; participation in community and social activity; safety concerns; opportunities for formal and informal gathering; stop and chat with neighbors or say hello; feeling firmly attached to the residence; frequency of meeting the neighbors; a number of neighbors visited	Karuppannan & Sivam (2011)
Social Sustainability	Relationship between social aspects of sustainability and density in developing countries	Neighborhood	"Access to facilities and amenities; a sense of safety; community spirit and social interaction; health of the inhabitants; satisfaction with the neighborhood; the amount of living space"	Dave (2010, 2011)
Social Sustainability	Framework development for measuring the social sustainability of new housing and mixed-use developments	Housing Developments	"A place with distinctive character; transport links; provision of community space; accessible street layout; integration with a broader neighborhood; perceptions of ability to influence local area; adaptable physical space for future development; relationships with neighbors; community facilities; willingness to act to improve area; well-being; feelings of safety; positive local identity"	Bacon (2012)
Social Sustainability	Social sustainability and Influence of urban forms relation in Indian cities	City/ Neighborhood	"Access to local services, Basic needs, facilities and opportunities, Availability of open recreational spaces, Pride of Place /Attachment to the locality, Social interaction, Social mixing/cultural unity, Stability/Demographic change, Safety and trust"	S Hemani, A.K. Das & Rudlin (2012)
Social Sustainability	Social sustainability and its aspect	not specific	"Health and wellbeing; accessibility; safety and security; social cohesion and inclusion; fair distribution of income, local democracy, employment; participation and empowerment; cultural heritage; equal opportunities and equity; education and training; connectivity and movement; housing and community stability; sense of place and belonging; social Justice; attractive public realm; mixed-use and tenure; social capital and networks local environmental quality and amenity"	Weingaertner & Moberg (2014)
Social Sustainability	The framework of Social Sustainability for Chinese communities : Revelation from western experience	Community/ Neighborhood	"Leisure and Public Realm, Social interaction, Safety and Security, Sense of community, Social Cohesion, Community stewardship, Community structure, Community regeneration basic amenities"	Yu Wang (2016)
Social Sustainability	Proposing a framework for evaluating and assessing social sustainability efforts within jurisdictions of American cities	City	"Access to open spaces/recreation; equal access to job opportunities for all; procedural fairness; equal access in connectivity and transportation; equal education access and opportunity; health risk and well-being; environmental justice index by census tract; social capital; social segregation; affordable housing; fair distribution of income; safety and security"	Opp (2016)
Social Sustainability	The role of Social Sustainability in building assessment	Building Level	Accessibility, Participatory process, Social Cohesion	M Stender & Annette Walter (2018)
Social Sustainability	The triad of Social Sustainability: Defining and measuring the social sustainability of the urban neighborhood	Neighborhood	"Mixed land use, urban pattern & connectivity, Density, quality of life, Building typology Access to facilities, Social networking and interaction, Safety and security, quality of home, Sense of attachment, Participation, quality of the neighborhood"	M. Reza Shirazi & Ramin Keivani (2018)

The objective of this review is to define the SS aspects of the built environment. Furthermore, since different study levels interpret social sustainability metrics differently, this study's parameters were restricted to those that could be evaluated at the community or neighborhood level. This is related to the increasing importance of community-based research in the field of urban social development (Shirazi & Keivani, 2017). While social sustainability may seem to be a confusing term at first, it is not (Vallance et al., 2011). Because in related literature, there are several common elements among the defined dimensions and most scholars, for instance, have defined social justice as one of the most important aspects of SS (Rasouli & Kumarasuriyar, 2016a). Those common elements of social sustainability are: First element is Future Focus (or promotion and long-Term Sustainability); it has been suggested that social sustainability is largely about valuing and preserving positive values of cultures (Davidson, 2010a) and supporting current situation people, families, and societies and as well as retaining the values for future generations. It reflects on an urban setting's potential to continue for decades, guaranteeing human longevity as well as neighborhood sustainable conditions. Second element, Satisfaction of basic needs for example shelter, food, access to resources. It is based on Maslow's hierarchy of needs and addresses social (mutual respect, relationships and trust,), and self-actualization (morality and creativity) physiological (water, safety, fitness and food,) needs. It is, on the other hand, about the possibilities and services that are present in society at the group level. Third element, it is about relational dimensions of community as well as human and personal aspects, and it is a socially inclusive and physically organized urban entity. In the recent comprehensive social sustainability literature, the importance of inter-relationships between social and physical environments is strongly elaborated. Physical environment is considered beneficial to social cohabitation, socially inclusive, and fostering well-being and quality of life of a mixed society in

many current definitions of social sustainability. This is a case study from the United Kingdom, illustrates the overlap between physical environment and social interpretations of SS. Table 6 presents useful elements considered by practitioners and researches as a benchmark to urban SS and SS urban communities. The table shows the broad range of associated ideas and hints at the close conceptual vicinity of variables referred to as "social dimensions of SD" by some and "sustainable communities" by others.

Table 6: Physical environment and social interpretations of SS (Rasouli & Kumarasuriyar, 2016a).

Non-Physical factors or elements	Physical factors or elements
• Social interaction • Social networks • Social cohesion • Social order • Social justice: inter- and intra-generational • Social inclusion • Participation and local democracy • Education and training • Health, quality of life and well-being • Social capital • Community • Safety • Mixed tenure • Fair distribution of income • Community cohesion • Sense of community and belonging • Employment • Residential stability • Active community organizations • Cultural traditions	• Local environmental quality and amenity • Urbanity • Decent housing • Accessibility (e.g. to local services and green space/employment/facilities) • Attractive public realm • Sustainable urban design • Walkable neighborhood: pedestrian friendly • Neighborhood

Furthermore, instead of offering a general and systematic concept of social sustainability with various frameworks as showing in Table 7, some scholars like Brundtland Commission (1987), (Redclift, 2009), Barron and Gauntlett (2002), (Mak

et al., n.d.), Davidson and Wilson (2009) (Arman et al., 2009), MacIntosh and Wilkinson (2006), Yiftachel and Hedgecock (1993), Ancell and Thompson-Fawcett (2008), Chan and Lee (2008) (Ghahramanpouri et al., 2013), (A Colantonio, 2009) have provided concepts of sustainability, perspective of sustainability, to help local communities. For example, improving quality of life, sense of place, social equity, education social and cultural life, diversity, quality of life for all, future focus, health and well-being, equity, social justice and so on.

In addition to that in Table 8, explains some of the core aspects of SS that have been established and should be considered in urban SS according to key writers, those core aspect are: the concept of SS, perspective of SS, key themes to SS, goal of SS and significant success factors of SS. And base one those different core aspect of SS, it is clear that justice and human needs have been prioritized in this concept (Spangenberg, 2004).

Table 7: Definitions of social sustainability

Theoretical frame work	Urban social sustainability definition	Researchers
Condition framework	Social sustainability relates to social norms and conditions in that any environmental or economic decision must not exceed the community's tolerance for change".	(Chiu, 2002)
	"A condition where an extended set of basic needs are met for all residents regardless of their race/ethnicity. Age, religion, gender, socioeconomic status and/or level of ability and the highest possible level of social inclusion and participation in community life is promoted"	(Laguna, 2014)
Measurement framework	"Traditional hard social sustainability themes Such as employment and poverty alleviation are increasingly being complemented or replaced by the emerging "soft" and less measurable concepts such as happiness, social mixing and sense of place"	(Colantino, 2010)
	"Socially sustainable societies are equitable, diverse, connected and self-governing and provide a good quality of life"	(Barron&Gauntlett, 2002)
Future focus framework	"Social Sustainability is the maintenance and improvement of wellbeing of current and future generations"	(Chiu, 2003)
	"Social Sustainability concerns the ability of human beings of every generation not merely to survive but to thrive"	(Magis & Shinn, 2009)
Process framework	"Social sustainability is a life enhancing state within communities and a process within groups that can achieve that condition"	(McKenzie, 2004)
	"A process of urban progress, supported by policies and insituations that ensure harmonious social terms, enhance social cohesion and improve living conditions for all groups".	(Holden, 2012)

Table 8: List of social sustainability considerations in urban area

Social Sustainability Considerations		Authors
(A) Concepts of sustainability		
1	Sustainable development meets the needs of the present without compromising the ability of future generations.	Brundtland Commission (1987)
2	Sustainability is a combination of three fundamentals: • Social sustainability • Environmental sustainability • Economical sustainability	Barron and Gauntlett (2002), Davidson and Wilson (2009), MacIntosh and Wilkinson (2006)
3	Concentric relationship between the environment, social and economic spheres portraying the mutual independence and the ultimate reliance, as social and economic beings, on the physical environment.	Barron and Gauntlett (2002)
(B) Perspectives of Social Sustainability		
4	Development-oriented perspective: development is socially sustainable when it keeps to social relations, customs, structures and values.	Davidson and Wilson (2009)
5	Environment-oriented perspective: development is sustainable when it meets social conditions, norms and preferences required for people to support ecologically sustainable actions regarding resource distribution and intergenerational equality.	Davidson and Wilson (2009)
6	People-oriented perspective: emphasis on maintaining levels of social cohesion and preventing social polarisation and exclusion.	Davidson and Wilson (2009)
(C) Key Themes to Social Sustainability		
7	Key themes show how basic needs and equity are consistently as fundamental pillars of social sustainability: • Identity, sense of place and culture • Empowerment, participation, access • Health and safety • Social capital • Demographic change • Social mixing and cohesion • Wellbeing, happiness, quality of life	Colantonio (2008a), Colantonio (2008b) (A Colantonio, 2009)
8	Concerns how individuals, communities and societies live with each other.	Colantonio (2008a)
9	Incorporated equity of access to key services (including health, education, transport housing and recreation), as well as equity between current and future generations.	McKenzie (2004)
(D) Dimensions to Assist Local Communities		
10	The urban environment as a space within which social needs are to be fulfilled, and implies that the physical form in urban developments should make the fulfilment of these needs viable.	Yiftachel and Hedgecock (1993)
11	Individuals within the society need to work together and interact with the built elements in order for societies to be socially sustained.	Ancell and Thompson-Fawcett (2008)

12	Social equity or sustainability of community: concerned with the continued feasibility, health and performance of “society” itself as a communal entity: • Interactions in the community/social networks • Community participation • Pride and sense of place • Community stability • Security (crime)		
13	Urban developments in order to be socially sustainable should create a harmonious living environment, reduces social inequality and divides, and improves quality of life in general.	Chan and Lee (2008)	
(E) Goals of Social Sustainability			
14	• Equity: Equitable opportunities and outcomes • Interconnectedness: Community processors, systems and structures that promote connectedness within and outside the community • Quality of life: Insurance that the communities basics needs are met • Democracy and governance: Democratic processors, open and accountable governance structures •	Barron and Gauntlett (2002)	
(F) Significant Success Factors			
15	• Provision of social infrastructure: Public facilities for basic needs, open spaces facilitate social gatherings and public interaction, provision of accommodation for different socioeconomic groups • Availability of job opportunities: Provision of employment and the working area offers a place for social contact and interaction, to improve the feeling of social well-being of citizens. • Accessibility: Aspirations to live, work and participate in leisure and cultural activates without travelling too far, and to be housed in areas of convenience to access certain places in daily lives, with the freedom of movement. • Townscape design: Pedestrian-oriented streetscapes, visual images of street furniture, and interconnectivity of street layouts • Preservation of local characteristics: Preservation of heritage items, local characteristics and distinctiveness in existing community networks has to be conserved. • Ability to fulfill psychological needs: Safe and security is an essential element in every neighbourhood, senses of belonging in the community	Chan and Lee (2008)	

3.2.2 Components of SS

Social Sustainability point out the degree to which a community promotes individual and collective well-being (Choguill, 2008). There are three key components of

sustainability such as economic, environmental and social. Each of those components are interconnected, especially social sustainability with other components. However, each component has its own item. Researchers from varies fields of study suggest different components of social sustainability like quality of life, interconnectedness, democracy and governance shown in Figure 9.

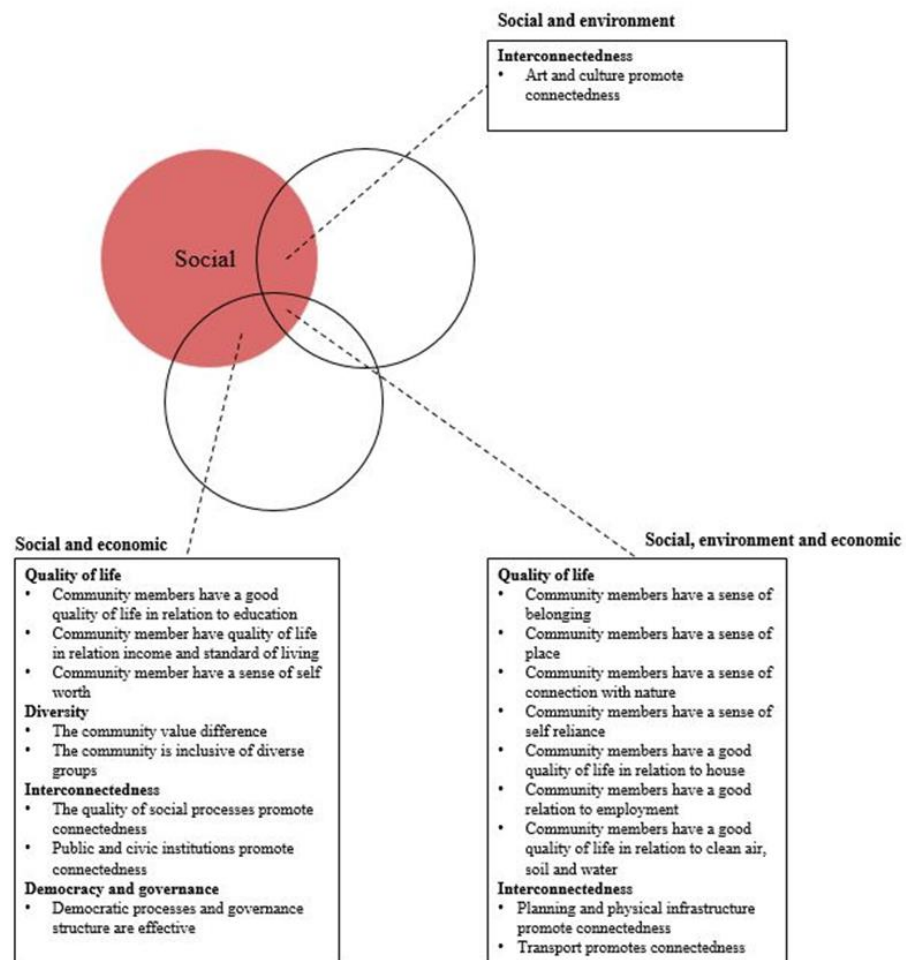


Figure 9: Connection of social component with environmental and economic sustainability components (Rasouli & Kumarasuriyar, 2016c).

3.2.3 Indicators of SS

Different disciplines, like political science, economics and environmental studies, have added to the body of knowledge on social sustainability. Despite a lack of clarification in terms of context and conceptualization, scholars from a variety of fields

have identified a number of indicators for measuring social sustainability in different level. For example in the "Model of Social Sustainability, (Mak & Peacock, 2011)" Erin Gauntlett and Leanne Barron state that: The indicators of social sustainability is what makes a society stable and livable now and in the future and depend from nation to nation and region to region, with the aim of capturing the aspirations of socially sustainable communities. Figure 10 show some of the indicators.



Figure 10: Social sustainable indicators (Rasouli & Kumarasuriyar, 2016c).

Social sustainability is described as a global vision and a strategy in society hat is capable of achieving that condition. The indicators mentioned above are condition indicators, while the methods for implementing and identifying them are process aspects:

- Democracy and governance — Democratic systems and inclusive and responsive governance systems are established by the community;
- Equity: All members of the population, including the poorest and most disadvantaged, have equal opportunities and results. Although equity is listed as a different concept, it is such a crucial aspect that the distinction is purely arbitrary. In truth, equity acts as a prism by which all other values are evaluated. As an illustration, while quality of life along with people's sense of connection with nature, and needs to be understood in terms of the extent to

which all people around the world have access to a safe and positive environment;

- **Interconnectedness:** At the formal, informal, and structural levels, the society offers processes, procedures, and institutions that facilitate connection within and beyond the community;
- **Diversity:** The society supports and embraces diversity. For example, a cultural connection system that protects and values various cultures' compensations, as well as promotes and supports cultural integration, is in place when individuals and societies demand it and political participation in election processes and other aspects of politics, especially at the local level;
- **Quality of life:** At the citizen, group, and neighborhood levels, the community ensures that basic needs are fulfilled and that everyone enjoys a decent quality of life. For instance, community members have the ability to develop socially and personally.

In addition, the interdependence of the three major challenges of sustainability, which are social, economic, and environmental, and illustrated in Figure 9 has a profound effect on community connectedness, identity, planning, and social and physical infrastructure.

3.3 Social Sustainability at Neighborhood Level

The long-term viability of a community which is known as a neighborhood sustainability (NS) is highly dependent on the built and unbuilt environment of the neighborhood, which contributes to people's well-being including quality of life, safety, local amenities and security, equity (Andrea Colantonio & Dixon, 2011a). Indeed, thus social sustainability at neighborhood is an opportunity for social participation. It is

about environmental conditions that are advantageous for example, clear air, less pollution and noise, enough opportunity for business and so. Based on the theory, addressing these potential challenges will ensure a long-term neighborhood.

3.3.1 Sustainable Community

A sustainable society is defined by eight parameters, according to the “Conclusions of the Bristol Ministerial Informal Meeting on Sustainable Communities in Europe.” As it is illustrated in Figure 11, well-run, well-connected, well-served, environmentally aware, thriving, well-designed and built, affordable for everyone, active, inclusive, and safe are the parameters. All the parameters are connected to each others. Furthermore, social cohesion and inclusion are claimed to contribute to the development of strong, fair, and just societies for present and future generations in the theory and policy (Nicola Dempsey et al., 2011). In fact, this refers to a neighborhood's dominant social order as well as the encouragement of social contact and networks among its inhabitants. Sustainable Community refers to a society's or a small community's ability to sustain and reproduce itself at a sufficient level of functioning. This is linked to the ideas of social integrity and social equity, which comprise social networks, reciprocity principles, and social organization aspects (Coleman, 1999), as well as the integration of ensuing social behavior (Nicola Dempsey et al., 2011).

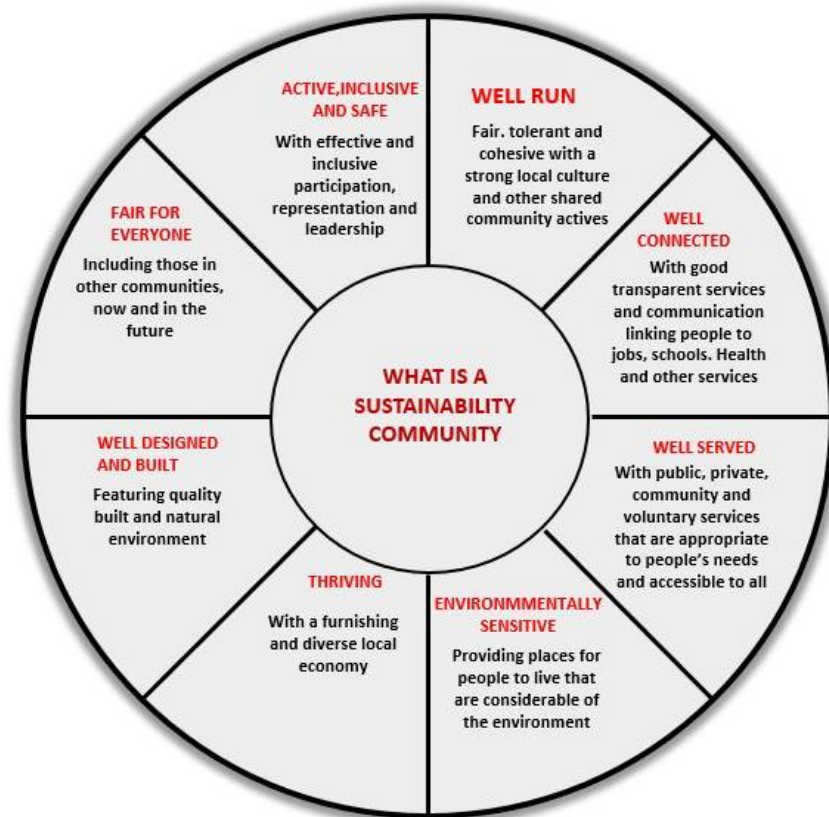


Figure 11: Sustainable community components (Bramley & Power, 2009).

Based on the Bristol Ministerial Informal Meeting on Sustainable Communities in Europe, to have a sustainable community, we should consider all those eight parameters. As with the notions or definitions of sustainability, what makes a community sustainable is up to interpretation (Alaimo et al., 2021). The European policy definition of a sustainable community incorporates social characteristics and characterizes them as inclusive, safe, and active (ODPM & Committee, 2004). Others claimed that, (Mitchell & Burton, 2006) and (Forrest & Kearns, 2001), Sustainable communities is to have a strong sense of community in a healthy and safe environment, as well as social interaction and a stable group of residents who feel connected to their surroundings.

It is obvious that community sustainability is linked or connected to cooperative components of social life. In order to examine such social life at the neighbourhood level, a range of specific inter-related measurable indicators of community sustainability are given below. These are the five dimensions:

- Social networks in the community/ social interaction;
- Involvement in community groups and networks in the community;
- Community cohesion/ sense of belonging;
- Sense of place/pride;
- Security and safety.

According to (Bramley & Power, 2009). These dimensions refer to common elements of everyday life and are acceptable and meaningful terms at the neighborhood scale.

3.4 Relationship of SS with SDGs

Based on the literature SS is one of the key components of SDGs. Indeed, SDGs are intended to be globally relevant, taking into account or consideration a wide range of national facts capacities, and levels of development, as well as national policies and priorities (Woodcraft, 2011). That lead to each government is required to establish its own national goals based on the global level of ambition while taking into consideration local circumstances. The Sustainable Development Goals encourage people to live in a way that is environmentally friendly. The targets and goals that are specified for each of the SDGs are an important part of ensuring and promoting social sustainability. As has been mentioned previously, all the 17 goals of SD are interconnected. However, it can be argued that some are more directly related to social aspects of sustainability just as some others are to economic and/or environmental aspects.

After studying the targets of all SDGs and reviewing the literature, this research selected goals 1, 3, 4, 5, 10, 11, and 16 as being directly related to social sustainability, as shown in Figure 12, with the justification of this grouping below. Thus, the following is a short description of selected goals and their contribution to SS.

Goal 1, encourages social sustainability by enhancing and improving poverty manifestations including hunger and malnutrition, and other basic services, like social discrimination and exclusion. It is one of the key indicators of social sustainability.

Goal 3, helps social sustainability, which will increase and improve people's well-being regardless of their age. For example, good health is central to human well-being and happiness. People should feel happy and healthy in their building environment in order to call them a sustainable community.

Goal 4, underlines the notion that education is one of the most potent and proven drivers for social sustainable development by attaining universal access to inclusive and high-quality education for all. As an illustration, the world has achieved equality in primary education between boys and girls, but few countries have achieved that target at all levels of education.

Goal 5, encourages social sustainability, with a focus on eliminating all kind of discrimination against female in the workplace and at home. Gender equality is not just a basic human right, but also a necessity for a world that is peaceful, affluent, and socially sustainable. For example, having equal access to education, a decent job, and participation in political and decision-making processes for women and girls will support sustainability in general, especially social sustainability.

Goal 10 helps social sustainability by enhancing socio-economic, and political participation for women and men, regardless their age, ethnicity, gender, handicap, color, religion, and so on. Inequality across nations continues to exist, with large gaps in access to health and education services, as well as other assets. As an illustration, social welfare or polity, as well as effective legislation may aid in creating greater equality.

Goal 11, contributes to social sustainability through improving the sustainability of cities, including giving job and business possibilities in the cities, providing safety and affordable housing, and that will enhance the societies and economies. It entails investing in public transportation, establishing green public areas, and promoting participatory and inclusive urban planning and management. For example, cities can solve their issues in ways that allow them to prosper and grow while also improving resource utilization and reducing pollution and poverty.

Goal 16, encourages social sustainability by minimizing all forms of violence and collaborating with governments and communities to resolve conflict and insecurity. Enhancing social equity and justice as well as reducing the flow of illicit weapons and encouraging developing country participation in global governance organizations, are all important aspects of this process. It is a goal that places people and the planet at the center.

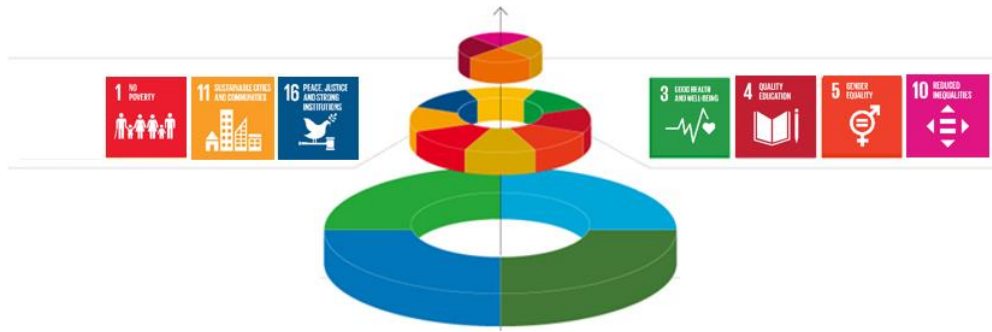


Figure 12: Social sustainability and the SDGs, source: Author's elaboration

3.4.1 Indicators of SS in a Neighborhood

Based on a comprehensive study of various literature reviews and a thematic overview of the dimensions and concepts found, this research created a multidimensional and systematic evaluation of the most widely stated aspects of SS and their social indicators at neighborhood. The following approach is formulated from the available evidence:

Approach: Eleven key dimensions of urban social sustainability - neighborhood satisfaction, social equity, sense of place, social participation, safety and security, social engagement, housing satisfaction, health and well-being, quality of life, public realm and future focus are all factors that influence community satisfaction.

In this research, we describe that a SS neighborhood as something that promotes a sense of pride and satisfaction in the neighborhood such that people continue to live there now and in the coming years (future), with equal access to education, infrastructure, utilities, as well as a good health care system and secure atmosphere for community engagement and involvement. The following is a short description of each of the eleven aspects of SS:

‘Neighborhood satisfaction’ refers to the difference between an individual's desired and real or actual built environment quality, which is related to residents' general

overview of their neighborhood environment (Grzeskowiak et al., 2003). Subjective happiness for such as quality of living, healthy life, and life satisfaction are all expressions that can be used to describe neighborhood satisfaction (Larimian, 2019). This indicator is related to SDGs (5 and 11) base on direct impacts and policy aims of SDGs.

On a neighborhood scale, '**social equity**' is based on social justice, distributive justice (or "fairness in the distribution of resources"), and equality in circumstance (Ansell & Thompson-Fawcett, 2008). Indeed, it is defined as ensuring that people from various socioeconomic backgrounds have equal access to a variety of facilities and services (Nicola Dempsey et al., 2011). People should be able to work, live and engage in recreational and recreational events without having to go too far, regardless of their age or physical wellbeing (jodipcx, 2019). It's linked more to the Sustainable Development Goals (1, 5, 4, 10 and 16).

'Sense of place' the sense of place in society is described as a " key component of people's happiness and their relationship with their built environment," which is influenced by community culture and social norms (Shrivastava & Singh, 2019). It is described as a combination of mutual emotional touch based on a sense of belonging and place connection, as well as feelings of having an "equal right" (Talen, 1999). For example, people who are proud of where they are living have a stronger connection to their neighborhood and are much more likely to participate, choose and remain in the area in its continued growth (Urban Social Sustainability at the Neighbourhood Scale: Measurement and the Impact of Physical and p | Enhanced Reader, n.d.). By considering, direct impacts and policy aims of SDGs, this indicator related to SDGs (5, 10 and 11).

‘Social participation’ is known as "glue" that holds humanity together (Larimian et al., 2020) and performs the role of a ‘social support device’ (Ghahramanpouri et al., 2013). Without social involvement, residents of a community may be defined as a group of people who live in isolation and have little connection of location or no sense of place to their community (Nicola Dempsey et al., 2011). In order for society to be treated as socially sustainable, they must live, work, and engage with one another (Vallée et al., 2010). The indicator is linked to SDGs (4, 5, 10 and 16).

‘Safety and security’ (lack of crime and disorder) is seen as a necessary precondition for any of the relevant social events that take place in the neighborhoods (Jabareen et al., 2017) because people "hate to feel vulnerable or live in an insecure environment," according to the argument, and most merely want confidence that they have nothing to fear from their neighbors (Jenks et al., 2008). The degree where community feel comfortable moving around their neighborhood and using the facilities and services available to them is known as safety (Mitchell & Burton, 2006). For example, real crime rates as well as the perception of crime may have a negative impact on a neighborhood's potential to achieve social sustainability (Larimian et al., 2013). By looking at direct impacts and policy aims of SDGs, the indicator related to SDGs (16).

‘Social engagement’ is a crucial component of social sustainability, and it is related to social solidarity and social networks (Murphy, 2012). Participating in social activities, such as using leisure centers (e.g. parks, a community center and sports fields) or being a part of a social group (e.g. sports teams or religion participation), People are more likely to engage with other members of the group if they feel like they're a part of it (Davidson, 2010b). This indicator is linked to the Sustainable Development Goals (5, 10 and 16).

‘Housing satisfaction’ is described as a balance between home ownership desires and their living environment's reality (Cowper-smith & Grosbois, 2011). For example for many people, housing satisfaction is a determinant aspect of people's condition or quality of life can serve as a "mediator" of their feelings of well-being or enjoyment for most people, as it is the greatest "investment item" of their lives (Ateca-amestoy, 2008). Considering direct impacts and policy aims of SDGs, the indicator related to SDGs (11).

‘Health and well-being’ many authors review the literature on social determinants of health and well-being, paying special attention to how health behavior, neighborhood environments, working conditions, and access to health care relate to the social processes and institutions that influence well-being and health outcomes, and linking key findings to concepts of social sustainability. Through a better understanding of these mechanisms, policy levers for establishing socially sustainable policies and practices that have the potential to positively influence health and well-being can be found (Forbes et al., 2019). It's linked to the Sustainable Development Goals (3 and 11), according on the SDGs' direct implications and policy priorities.

‘Quality of life’ it refers to the total number of factors that influence citizens' social, economic, and environmental well-being. The subjects discussed include well-being, happiness, and fulfillment (Weingaertner & Moberg, 2014). Indeed, based on direct benefits and political goals of SDGs, this indicator is related to SDGs (1, 3, 5, 10, 11 and 16).

‘Public realm’ is defined as areas and locations that are owned and accessible by the government and are open to the public. These include city streets, lanes, squares,

plazas, walkways, trails, parks, open spaces, waterfronts, public transportation systems, conservation areas, and civic structures and institutions (Stefanescu, 2021). It's related to the Sustainable Development Goals (5, 10, 11 and 16).

‘Future focus’ the most important part of social development is valuing and protecting beneficial aspects of societies. Appreciating and preserving positive qualities of cultures is the most crucial factor of social sustainability. This occurs when official and informal processes, systems, structures, and linkages actively increase the capacity of future generations to establish healthy and livable societies (Ghahramanpouri et al., 2013). Indeed, it's about expanding opportunities for all people today and tomorrow. By looking and considering the SDGs' direct policy implications and aims and target. This indicator is related to SDGs (1, 3, 4, 5, 10, 11 and 16).

3.5 Chapter Summary

As previously noted, the social aspect of sustainability is the least discussed of the three stated pillars of sustainability (Social, Environmental and Economical) and was only seriously considered as an integral part of sustainability after the year 2000. Since social sustainability is a context-dependent definition, different mechanisms for identifying Social Sustainability Indicators such as future focus, social justice, social equity, social participation, process structure, and measurements have been provided. According to a review of current concepts of social sustainability in the relevant literature, there are several similar characteristics among scholars' definitions, such as social interaction, focusing on the future, meeting human needs, enhancing the quality of life, and social mixing (inclusion and cohesion). The confusion, vogue complexity, and fragmentation of social sustainability literature has been determined in previous sections; this variation can be clarified by the following explanations derived from previous works: context-focused, concept intangibility, multi-disciplinary approaches,

diverse existence, various scales, scopes, viewpoints and multifaceted nature on the topic. Regarding a review of studies implemented at various urban scales, it was discovered that previous efforts of social sustainability, focused more on macro-scale problems such as towns. According to the findings of this study, micro-scale such as neighborhoods, streets and public squares have received little attention. Analyzing the discussed urban interventions in social sustainability literature, such as urban regeneration, infrastructure, urban renewal, urban structure, urban transformation, and renovation, reveals that the most studied topic is urban form and regeneration solutions to achieve social sustainability, illustrating the context-based existence of social sustainability discussions. Furthermore, since spatial qualities are characterized by human needs, the Maslow hierarchy of needs was chosen to translate human needs into spatial qualities in urban development. According to the SDGs' direct consequences and policy priorities, this indicator is linked to the Sustainable Development Goals (16).

In summary, as an output of this chapter, Table 9 below illustrates all the SS indicators or so-called factors impacting urban social sustainability including Neighborhood satisfaction, Safety and security, Legibility, Equality, Diversity, housing satisfaction, Cultural Diversity, Social participation, Sense of Place, Health and well-being, Quality of life, Public realm and Future focus and their relation to SDGs. For instance, neighborhood satisfaction (NS) is more related to SDGs 5 and 11, while the sense of place is linked to SDGs 11. The remaining indicators and their relations to SDGs are clearly displayed in the table.

Table 9: Social sustainability indicators and their relations to SDGs

	Social Sustainability Indicators	SS Related SDGs
1	Neighborhood satisfaction	Goals (5 and 11)
2	Social equity	Goals (1, 4, 5, 10 and 16)
3	Sense of place	Goal (5, 10 and 11)
4	Social participation	Goals (4, 5, 10 and 16)
5	Safety and security	Goal (16)
6	Social engagement	Goals (10, 5 and 16)
7	Housing satisfaction	Goals (11)
8	Health and well-being	Goals (3 and 11)
9	Quality of life	Goals (1, 3, 5, 10, 11 and 16)
10	Public realm	Goals (5, 10, 11, 16)
11	Future focus	Goals (1, 3, 4, 5, 10, 11 and 16)

Chapter 4

RESEARCH APPROACH: DATA COLLECTION AND ANALYSIS

The collection of data is a process of gathering, analyzing and measuring or evaluating proper findings for research by using standard and approved methods. The data or information gathered is evaluated by the researcher's hypothesis. Data collection is usually the first and most important element of any research approach, regardless of the subject in which you are working. This chapter will mainly explain research approach including data collection technique and analysis. It is structured into ten sections. First section will clarify the research approach. Second one is going to illustrate the purpose of the research whereas third will explain the research strategy. Fourth section explains data collection and process. Section five will explore data analysis. Section six will describe the reliability and validation of the research. Section seven is going to present results of the data analysis. Section eight will then explain about descriptive analysis in addition with scale values, dimension and sub-factors coding, demographic statistic and also descriptive statistic for the variables. Section nine will present analysis factor including KMO and Barlett test, reliability, and validity. Lastly, the chapter will end with a summary of the chapter.

4.1 Research Approach

Deductive and inductive are the two main research approaches that is proposed by researchers (Saunders, Lewis and Thornhill 2008). Inductive research approach is based on investigation of data, creating theories or hypothesis from data defined by

survey questions and then compared to the existing literatures (Saunders et al., 2008 P: 61). On the otherhand, the deductive research approach is the usage of literature or secondary data that helps the researchers to identify or discover ideas as well as theoretical approaches. As a result this method allows the researchers to conceptually develop a theoretical framework. According to Robson (2002), there are five steps to follow while conducting deductive approach:

- Investigate the hypotheses with one of the research strategies;
- Identify the hypotheses' situations in order to demonstrate the links between variables;
- Test the hypotheses with one of the research methods;
- Examine the results of hypothesis;
- Re-evaluate the hypotheses' results.

Deductive and inductive research are shown in the bellow Table 10 to identify both induction and deduction emphasizes.

Table 10: Inductive and deductive research, source: (Saunders et al., 2008 P: 127)

Induction Emphasizes	Deduction Emphasizes
• Gaining and understanding of the meanings human attach to events • A close understanding of the research context • The collection of the qualitative data • A more flexible structure to permit changes of research emphasis as the research progresses • A realization that the research is part of the research process • Less concern With the need to generalize	• Scientific principles • Moving from theory to data • The need to explain casual relationships between variables • The collection of qualitative data • The application of controls to ensure validity of data • The operationalization of concepts to ensure clarity of definition • A high Structured approach • Researcher independence of what is being researched • The necessity to select samples of sufficient size in order to generalize conclusion

Based on short definitions and comparison between inductive and deductive approaches, deductive approach is considered to be suitable for this study because the hypothesis is validated with the existing literature models and then tested with the numerical data. By using this method, the mentioned indicators of social sustainability in the Walled City of Famagusta could be tested and generalized.

4.2 Research Purpose

In terms of addressing questions concerning this research study, there are numerous approaches that can be used to clarify the study's purpose; such as exploratory, descriptive, case study, explanatory and documentary (Saunders et al., 2008). Research normally has one of these five research purposes, however this research purpose type can be exploratory, documentary and case study. Since we will discuss the problem of the case study area with exploratory and documentary.

Robson defines exploratory research method as "looking into what's going on, seeking fresh ideas, asking questions, and evaluating things from a new perspective" (Robson 2002, P: 56). Indeed, according to Saunders et al. (2008) when researchers are unsure about the exact concept of an issue, thus in this case it is really beneficial to define their knowledge of understandings from the problem case. Furthermore, documentary research, according to Scott & Marshall (2015), is about personal and official documents that are used as source material. For example, articles, newspapers, maps, government reports, pictures, audio recordings, and computer data and so on. As previously stated, the exploratory and documentary research methods are the best way to express the research's purpose.

4.3 Research Strategy

Case study, survey, action research, ethnography, archival and grounded theory research are six methodologies that can be used in this study. According to (Saunders et al., 2008), all of them can be used in explanatory, exploratory and descriptive research. Some are for inductive research, while others are for deductive research.

A case study, according to (Robson 2002, P: 178), is a "research technique that includes an empirical review of a particular contemporary phenomenon in its real-life context using different sources of information."

Surveys are more popular and beneficial in business researches, because they provide answers to "what, who, how much, and how many and where" they are useful tools for exploratory and descriptive research. Additionally, researchers collect huge amounts of quantitative data and analyze them by using descriptive and statistical interpretation (Saunders et al., 2008).

Ethnography is an inductive approach method that requires time. The world social objectives are explained and described by ethnography (Saunders et al., 2008). According to (Saunders et al., 2008), archival research: is a sort of research that employs secondary data as its primary source of information. It is beneficial if the goal is to collect all administrative papers on a specific subject.

Grounded or apprehensive theory is a method for creating new ideas of theory that combines an inductive and deductive approach to explain and predict behaviors and manners (Saunders et al., 2008).

The survey method was selected for this study based on the above strategy descriptions because it can be useful for evaluating the level of social sustainability in the selected case area.

4.4 Data Collection and Technique

According to Saunders et al. (2008) (M. N. K. Saunders et al., n.d.) , there are two methods for collecting and analyzing data: quantitative and qualitative methods. Quantitative denotes to any data gathering process or method (such as a questionnaires survey) or data analysis procedure (like statistics or graphs, table) that generates or uses numerical data. However qualitative methods use a variety of approaches and procedures to obtain non-numerical data. Since Numerical data is required for statistical analysis, in order to estimate the level of SS. Thus, for this survey, both qualitative and quantitative approach was chosen.

Interview, observation, and questionnaire are considered as the three pillars of primary data collection methods. The most reliable and effective way of data collection in a survey is questionnaires. For this study, since the data collection approaches are

quantitative and qualitative. Conducting interviews, observation, and creating and distributing questionnaires were chosen for this study. It also allows us to collect data from a large enough population in a reasonable period of time. Saunders et al. (2008) discussed many sorts of questionnaires, as seen in Figure 13.

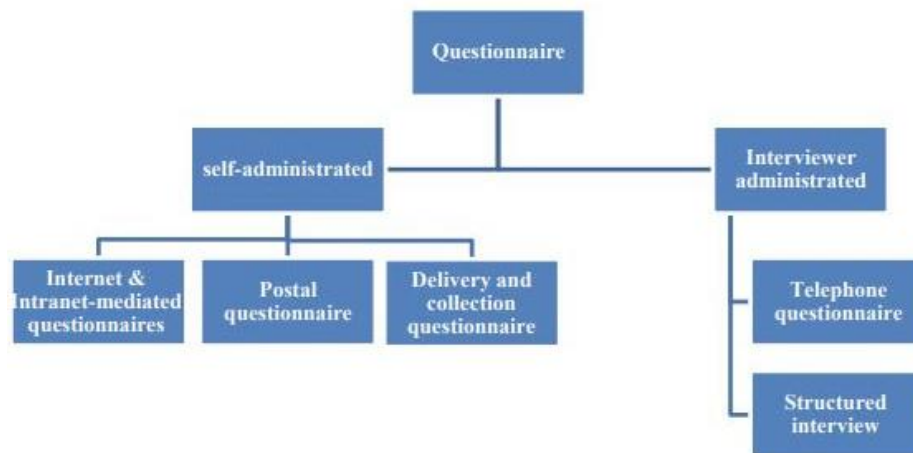


Figure 13: The several sorts of questionnaires

In order to get a higher response rate for this study, the questionnaires were delivered and collected back from responders' homes. Based on above descriptions, for the objectives and the aims of this present research, we prepared household survey questionnaires titled "social sustainability in Walled city of Famagusta", along with face to face interview, observation and it was also considered as the primary or main source data for determining SS.

We believe that the best evaluators of a neighborhood's quality are people who live there. Individuals' perceptions of the quality of their lives and their physical environment (e.g. Building, street furniture) are "Issues with the perceiver's subjective evaluation or judgment." hence the values assigned to these characteristics may vary from person to person (Dave, 2011: 201). Second data, such as public report or consensus data can't capture this kind of variation well enough, and they are frequently

missing at the neighborhood scale. The questionnaires were reviewed several times by the thesis supervisor, more familiar with the research subject and updated based on her suggestions to ensure the content validity of the measures. Ethical approval for the study was obtained from the EMU's Scientific Research and Publication Ethics (BAYEK). In addition to the questionnaire, we provided information on the research aims and goals to the respondents. A sample study questionnaire was conducted collection of primary data to check for survey component failures and to analyze the terminology, guidance, and participation forms used during survey. The data for this present research was collected via a printed questionnaire in both language (Turkish & English) using a distribution strategy in the case area.

A total of 300 residents in the Walled City of Famagusta, was expected to participate in the questionnaire study to measure the level of social sustainability in the WCF.

The selection of volunteers was randomly, visiting housing units along the residential districts by knocking their doors. The interested areas are shown in Figure 16. The researchers focused in blue and dark grey zone on the map because those areas are residential and a mixed zone of both commercial and residential buildings.

Furthermore, in addition to the questionnaire survey, face-to-face semi-structured interviews have also been conducted with the locals with a random selection of shop owners, café owners, etc. along the main pedestrian axis (Istiklal Street) as showing in the Figure 14. Also, further data have been collected through site observations within the Walled City, in addition to land use analysis.

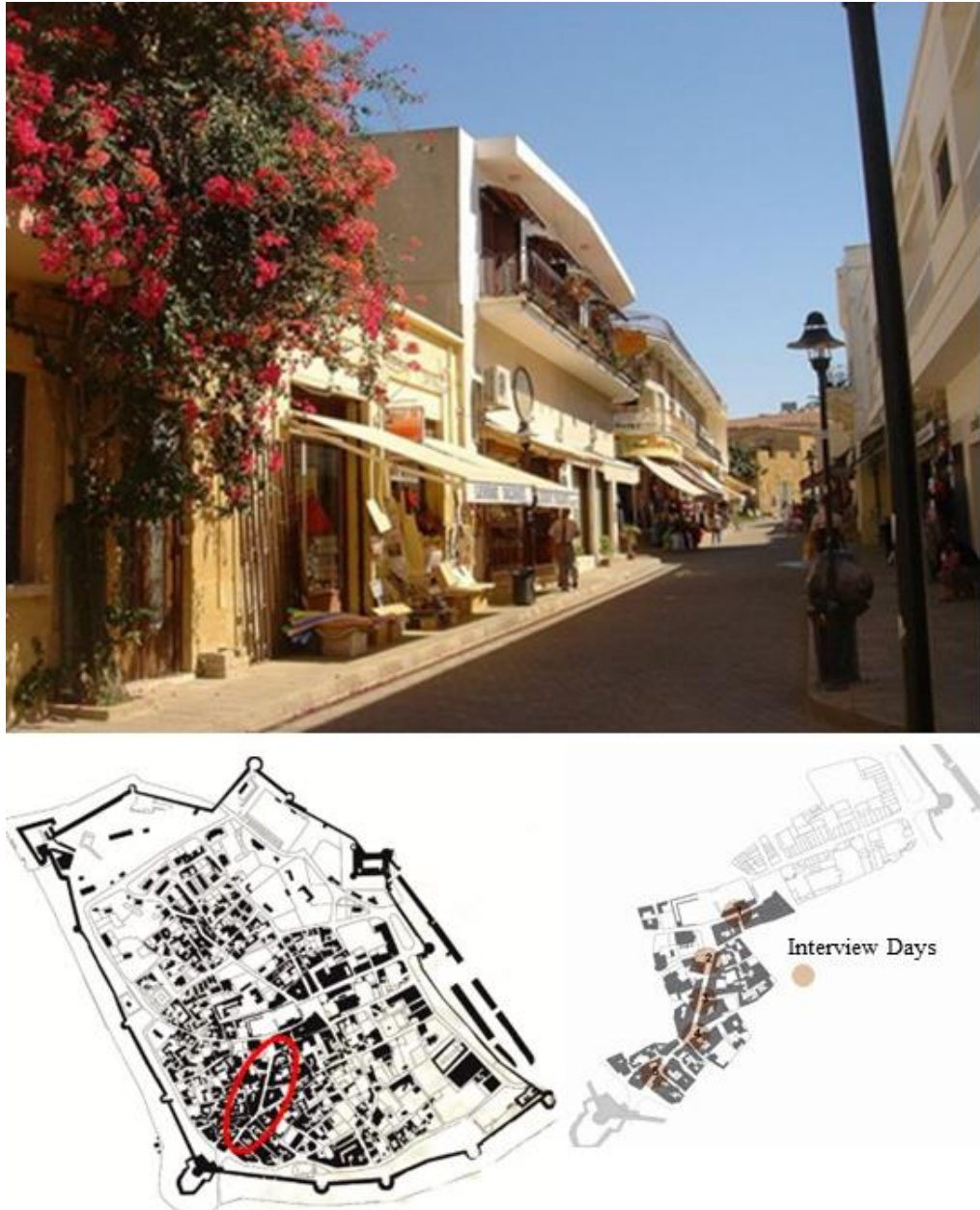


Figure 14: Location of Istiklal street and function. (Shahideh, 2013).

It is important to mention that researchers had faced a great obstacle during the distribution of the questionnaires and conducting interviews. One of the biggest problems was that many local residents were not interested to participate the interview and questionnaires. It is understood that many people were not cooperative due to Covid-19 pandemic because most interested residents are above 50 years and they may have underlining health conditions, so that they do not want to contact anyone outside from their circle. Additionally, language communication between researchers and the

interested local residents was difficult and that is why researcher requested their supervisor and other friends who are native speakers (Turkish) to help them. Finally, researcher observed that many buildings located in residential zone were empty due to their physical conditions as it is shown in Figure 15. As the results of those obstacles especially the pandemic (Covid-19, Omicron, Alpha and so on), the expected number of participants had dramatically decreased.



Figure 15: Physical condition of some buildings, source (Author).

A total of 110 questionnaires were distributed to case study participants. Sixty-six questionnaires were collected in total, representing a 60 percent response rate. Six of the surveys were incomplete, resulting in a 55 percent valid response rate (60 questionnaires). This neighborhood was chosen to reflect the variety of urban neighborhood shapes found in Walled city of Famagusta, as well as a range of dwelling types, residential density, occupancy various types, and land use pattern. Furthermore, thus this research takes into consideration the influence of personal variables which is factors, for example community's evaluation of social sustainability at the neighborhoods scale. Figure 16, provides some background information on the case study area (WCF) and Table 11 provides information on the demographics of the case study area.



Figure 16: Walled City of Famagusta - the case study area (Author).

Table 11: Information on the demographics of the case study area. Source (Author)

Data Source	Neighborhood	Walled City of Famagusta
Statistic Walled City of Famagusta	Location within the city	Middle area
	Population	2, 250
	Residential units	820
	Commercial units	539 including 240 shops
Household survey	questionnaire	
	Total Number of distributed questionnaire survey	110
	Total Number of respond	66

To develop and measure social sustainability scale, computer-assisted factor analysis (SPSS) will be used to analyses the data. The data analysis focuses on the social sustainable scale's implementation in the context of urban neighborhoods in the walled of city of Famagusta.

4.5 Data Analysis

Data collected and evaluated utilizing quantitative approaches, which included IBM SPSS and Microsoft Excel. All answers were transferred to Excel files for each variety of participants, and then the data was uploaded into SPSS program to extract statistics. For general information, descriptive statistics should do.

Demographic statistics will be used to provide general information about responders. A factor analysis will be performed before evaluating the hypothesis. To verify if the model is accepted or not, reliability testing using Alpha Cronbach will be analyzed to measure internal consistency.

The analysis scores were calculated using the factors that were entered into the model to measure the level of each dimension and the overall model on the dependent variable. Then a one-way analysis of variance was used to compare the results between the groups of respondents.

4.6 Reliability and Validation

4.6.1 Reliability

"Reliability is all about is the questionnaire' robustness, especially whether or not it will provide reliable data at various times and under different conditions." According to (Saunders et al., 2008 P: 373) (M. N. K. Saunders et al., n.d.) There are three main types of reliability such as, alternative from internal consistency and test/ re-test.

In this study, test and re-test could not be used to examine reliability due to the lack of time and unwillingness of the local residents, thus the internal consistency was examined by Cronbach's alpha test. In the next chapter, we'll look at alpha numbers and tables.

4.6.2 Validation

"In the context of questionnaires survey, internal validity refers to a questionnaire's ability to quantify what you intend it to quantify." (P: 372, Saunders et al., 2008) (M. N. K. Saunders et al., 2007). In order to improve the content and construct validity for this study, several approaches were explored. As explained in part 4.7 the items for measuring social sustainability were derived and modified from the existing literature (e.g., Bramley et al., 2009; Cerin et al., 2008; Bacon et al., 2012; Rani, 2012; Smith, 2011). Therefore, they had more validity rather than creating new items for evaluating social sustainability dimension.

First drafts of the modified questionnaire were submitted to the thesis supervisor who is familiar with the topic. She examined the clarity of the questions' content. Changes have been made based on her suggestion.

The next stage towards determining validity is to use statistics to compute associations among various variables in order to discover connections and quantify their strength. Analyzing correlations among various sub-factors of variables was also done to determine if they were appropriately gathered or not. Factor Analysis was chosen for this work in order to discover different factor loading groups for variables and determine which factors form groups with one another. In the following chapter, these steps will be presented.

4.7 Results of the Data Analysis

Data analysis is one of the processes of calculating, evaluating, and testing the research questions and hypotheses as part of the research technique, allowing us to draw some conclusions from the study problem. The following steps would be used in data

analysis: Factor analysis (Cronbach alpha), descriptive analysis and deductive analysis.

Data would be provided in deductive analysis to test preliminary data, reliability, hypotheses, and the strength of associations among variables.

In deductive analysis, data should be given to test preliminary results, consistency, testing hypotheses and the strength of relationships among variables whereas in descriptive analysis, it's critical to summarize data and provide a broad view of the findings.

Firstly, the general information about the sample in descriptive analysis (Age, Education level, History of resident in Walled City of Famagusta) was given. This section describes the characteristics of the samples. Then, for each of the hypotheses' questions, frequency descriptive statistics such as mean and standard deviation are shown.

The first stage in factor analysis is to find a correlation between sub-factors. Then, if factors are loaded relevantly and accurately, factor analysis for social sustainability dimensions will be performed, and the reliability of all questions and variables will be tested using Alpha. Finally, in each variable, we analyze and compare the means for groups of respondents.

4.8 Descriptive Analysis

This unit will handle statistics analysis using a frequency distribution table, demographic information, and calculating descriptive values such as index of umbilical (mean, median, and mode) and index of distribution (standard deviation).

4.8.1 Scale Values

First, we assign values to each point of Likert statements in order to do quantitative analysis using the questionnaire data:

1. Strongly disagree (1)
2. Disagree (2)
3. Neutral (3)
4. Agree (4)
5. Strongly agree (5).

These members will be used to calculated indexes for the following steps.

4.8.2 Social Sustainability and Sub-factors Coding

Each element that was asked in the questionnaire is given a code in Table 12. This will be used to tag each item in future analyses and to reflect each variable's values.

Table 12: Social sustainability measurement variables and dimensions.

Dimensions	Variables that were asked in the survey.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Neighbourhood satisfaction	NS-1: This neighborhood is a nice location to live. NS-2: The quality of living in this neighborhood is excellent. NS-3: This is a good neighborhood for kids to grow up in. NS-4: People should be proud to call this neighborhood home. NS-5: This neighborhood is beneficial to my mental and physical wellness.					
Social Equity	SE-1: Access to educational facilities is easy (early childhood education, primary school, secondary school) SE-2: There are recreational facilities, easily accessible (Sports field, park/public garden, indoor community facility, playground) SE-3: Essential services are available (Supermarket, sundry shop/convenience store, post office, healthcare centre/doctor, bank/money machine, religious centre) SE-4: Access to transportation facilities is easy (public transport) SE-5: There are adequate number of public open spaces for all.					
Sense of place	SOP-1: When I'm away from this neighborhood for too long, I miss it. SOP-2: I feel like I'm a part of this community. SOP-3: This neighborhood provides me a sense of belonging. SOP-4: I like to think of myself as someone who is equal to the residents of this neighborhood. SOP-5: I am willing to stay in this neighborhood for a long time.					
Social participation	SP-1: I'm ready to work with others on a project that will benefit my neighborhood. SP-2: In my neighborhood, I participate in events with a social group. (e.g., golf, Mosque, church, etc.) SP-3: In the last 12 months, I've done some volunteer work in my community. SP-4: Our neighborhood has a strong and engaged community. SP-5: I want to be a part of the activities in my neighborhood					
Safety and security	SOS-1: walking alone around the neighborhood. SOS-2: In the last 12 months, I am not aware of any crimes committed in the neighborhood. SOS-3: In my neighborhood, I'm not worried about crime. SOS-4: During the day, I feel safe walking around the neighborhood. SOS-5: I can use the public spaces freely and safely.					
Social engagement	SEN-1: I know the surnames of my next door neighbours. SEN-2: I am happy with the level of interaction I have with my neighbours. SEN-3: I visit my neighbours in their homes. SEN-4: In an emergency, I am confident that my neighbors will help me. SEN-5: With my neighbors, I borrow things and exchange favours. SEN-6: I regularly stop and talk with people in my neighbourhood.					

	SEN-7: My relationships and connections with my neighbors are really important to me. SEN-8: I am getting on well with my neighbours
Housing satisfaction	HS-1: I am satisfied with the size of my house. HS-2: Housing in my neighbourhood is affordable. HS-3: I am satisfied with the condition of my house. HS-4: The amenities and infrastructure of my housing unit is satisfactory.
Health and well-being	HW-1: I am satisfied with the quality of the health care organizations in my local area. HW-2: I am happy and healthy with the area that I live in. HW-3: I am satisfied with the climatic comfort of my house during summer time. HW-4: I am satisfied with the climatic comfort of my house during winter time. HW-5: There is an air and noise pollution in my local area. HW-6: There are sufficient number of public open spaces and green spaces in my local area. HW-7: The quality of the public open spaces in my local area support mental health.
Quality of life	QOL-1: I am satisfied with the quality of life in the walled city. QOL-2: I am satisfied with the spatial organization of my house. QOL-3: I am satisfied with the transportation network. QOL-4: I receive appropriate services in my own homes based on my needs.
Public realm	PR-1: There are enough public places for the local people to come together for socialization. PR-2: I am satisfied with the spatial organization of the public open spaces in the Walled City. PR-3: I feel a sense of belonging when I am in the public open spaces. PR-4: There are plenty of places for resting with comfortable seats in public buildings and open spaces. PR-5: Facilities are combined that increase social encounters and interactions. PR-6: Public spaces are equipped with cultural, sports, and safety items in case of emergency. PR-7: There is the possibility for public and integrated access (e.g., buses, and taxis) to public spaces.
Future Focus	FF-1: My neighborhood will be a more liveable place in the future. FF-2: The Walled City will attract more visitors in the future. FF-3: If there is more investment in the Walled City, the quality of life will increase. FF-4: Tourism can be a positive tool for the future of the Walled City. FF-5: University (EMU) should invest more and bring some academic units to the Walled City.

4.8.3 Demographic Statistics

The frequency and percentage classification of the targeted population's age, educational level and history of resident is shown in Table 13. As it shown in the table,

the most participant's age is ranging from 50-59 and 60-69 years old which counts 30% and 28.3% of the total participants.

Table 13: Frequencies and percentage classification

	Classification	Frequency	Percent (%)
Age	20-29	8	13.3
	30-39	10	16.7
	40-49	7	11.7
	50-59	18	30
	60-69	17	28.3
Education	Primary & diploma	10	16.7
	Associate degree	17	28.3
	Bachelor's degree	17	28.3
	Master/PhD degree	16	26.7
History of residence	<5yrs	11	18.3
	6-10yrs	5	8.3
	11-15yrs	2	3.3
	16-20yrs	10	16.7
	>20yrs	32	53.3
	Total	60	100

Figure 17, illustrates the number of year that the interested population were living in walled city of Famagusta. Based on the graph, 54% of the participants have been living here more than 20 years. This give us a higher confidence level of this research because the target of this study was to collect and survey the local inhabitant of the area.

History of residence

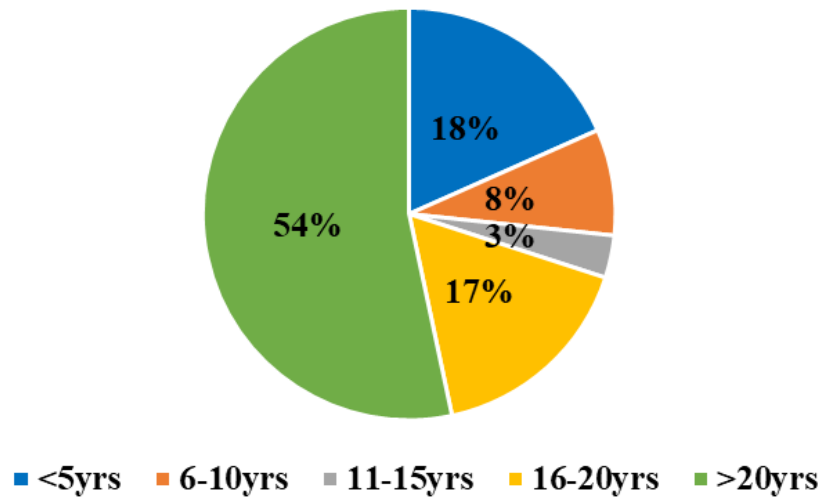


Figure 17: History of residence

Additionally, the age of the resident and their education is presented in Figure 18 below. It is clear that the bachelor and higher education holders dominates at the young age people. On the other hand, participants who are above 50years had reach up to associate degree and very few of them had reached higher education.

One of the most important things to emphasize is that all categories of the participants had some sort of education level.

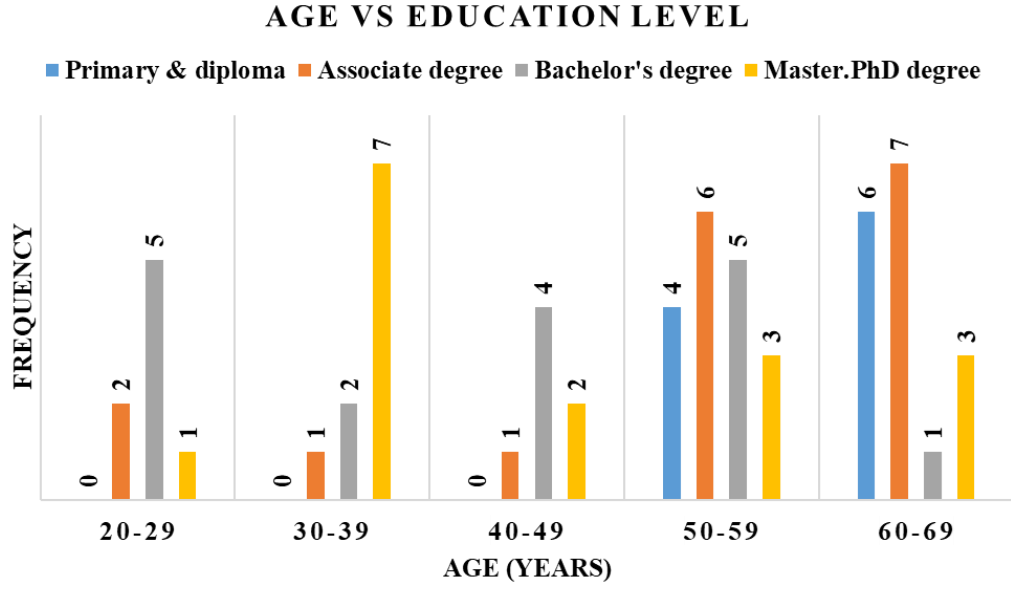


Figure 18: Age vs education level

4.8.4 Descriptive Statistics

This category we shall present the frequency distribution of the level of social sustainability in the Walled City of Famagusta. Those dimensions are our dependent variables, and we would show the standard deviation, mean and mode of each assessment. The average or mean of the sample can be calculated by (Lee et al., 2015).

$$\begin{aligned}
 &Mean_j \\
 &= \frac{\sum_i^n X(i,j)}{n}
 \end{aligned} \tag{1}$$

While the standard deviation of the sample is calculated as follows:

$$\begin{aligned}
 &\sigma \\
 &= \sqrt{\frac{\sum_i^n (X(i,j) - mean_j)^2}{n}}
 \end{aligned} \tag{2}$$

Where n is the number of sample size.

Neighborhood Satisfaction (NS)

The mean and the total mean as well as the standard deviation of descriptive data for neighborhood satisfaction is presented in Table 14. Based on the data both mean, and the mean of all questions (4.108) are higher than (>3). That means the frequencies of the answers (strongly agree and agree) are more than (strongly disagree and disagree). Further analytical approach is shown in Figure 19. The figure below shows the NS versus percentage of the participant. It is clear that (strongly agree) counts the highest in all five questions of NS. The overall percentage of (strongly agree) is about 48% and the lowest percentage is observed in (strongly disagree) which is 2.66%.

Table 14: Descriptive statistics for NS

	N	Mean	Std. Deviation
NS1	60	4.35	0.899
NS2	60	3.95	1.064
NS3	60	4.07	1.087
NS4	60	4.22	1.043
NS5	60	3.95	1.171
Total	60	4.108	1.0528

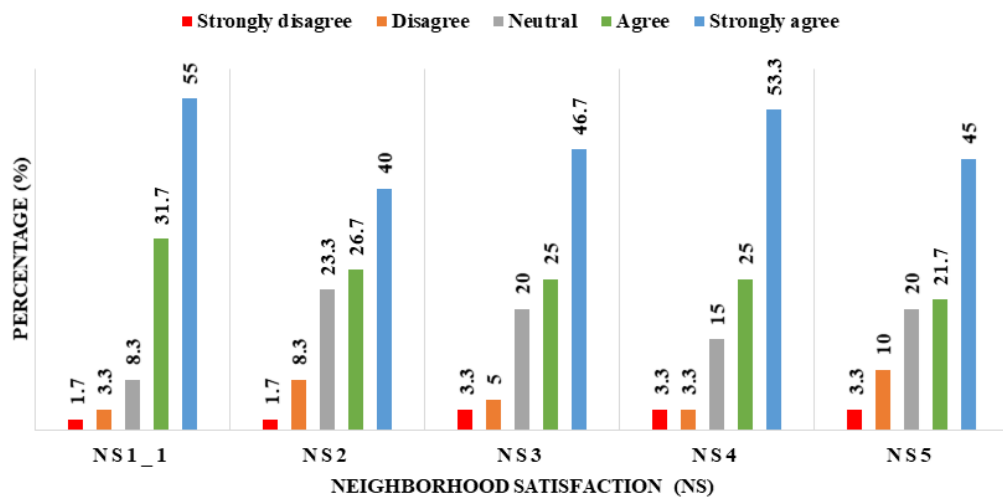


Figure 19: Neighborhood satisfaction (NS)

Social Equity (SE)

Social Equity (SE) is another factor which is examined in this study. The mean of each question and their overall means is presented in Table 15. Based on the mean value, most of the responders selected neutral and agree responses. To illustrate graphically Figure 20 is presented, the first two questions (SE-1 and SE-2) showed same trend all responses except the strongly disagree options. Additionally, questions SE-3 and SE4 showed two different results. Most responders were neutral (SE-3: Essential services are available (e.g. boutique, post office, healthcare center, banks, public transport, religious center) while they disagree in question SE-4 (Access to transportation facilities is easy). In this assessment, majority of the responders were either agreed or stated neutral on social equity question. The overall percentage of neutral and agreed responders were 27.02% and 22.66% while 11.32% of the responders strongly disagreed.

Table 15: Descriptive statistics for SE

	N	Mean	Std. Deviation
SE1	60	3.4	1.167
SE2	60	3.33	1.115
SE3	60	3.1	1.115
SE4	60	2.03	0.882
SE5	60	3.28	1.277
Total	60	3.028	1.1112

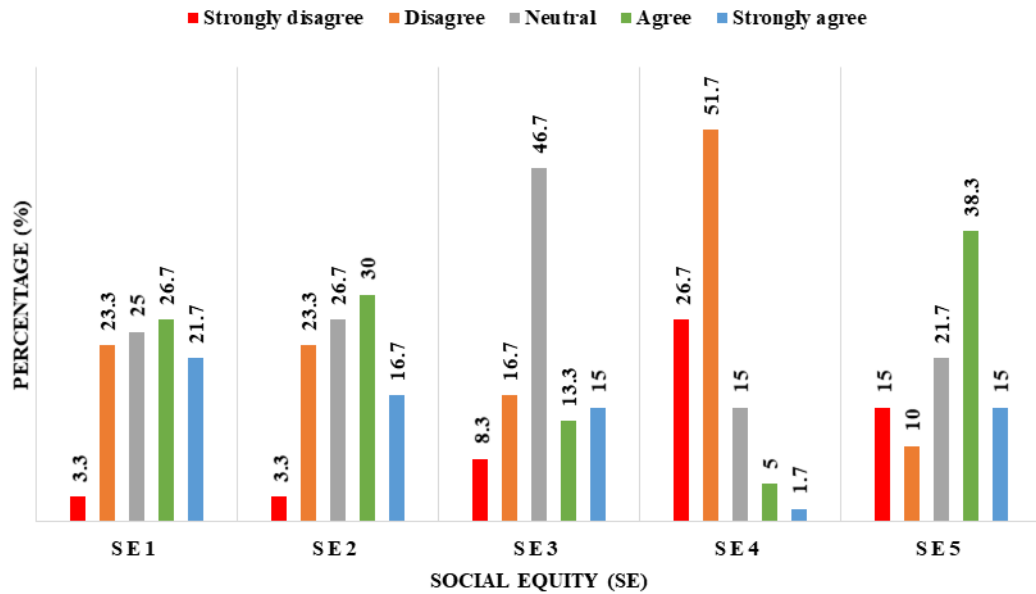


Figure 20: Descriptive analysis bar chart for SE.

Sense of Place (SOP)

This assessment was measuring the responder's feeling towards their residents that they were living. The total mean and individual mean of each question is shown in Table 16. The total mean of SOP is 3.852, which is higher than the threshold of 3. This indicates that a majority of the responders were happy and strongly agree that they belong to this neighborhood. To visualize this issue, Figure 21 was presented. From the figure, it is shown that participants strongly agreed with each individual question of SOP. The overall percentage of strongly agree responders was 39%, while those who agreed accounted for 25.34%. This has a good agreement with the history of residents because over 54% have been living in this neighborhood for over 20 years.

Table 16: Descriptive statistics for SOP

	N	Mean	Std. Deviation
SOP1	60	3.98	1.017
SOP2	60	3.83	1.21
SOP3	60	3.98	1.142
SOP4	60	3.77	1.267
SOP5	60	3.7	1.169
Total	60	3.852	1.161

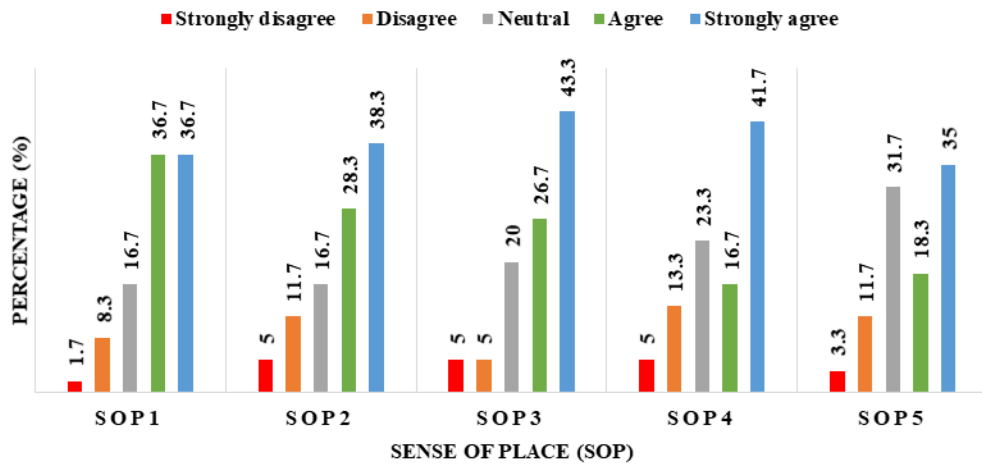


Figure 21: Descriptive analysis bar chart for SOP.

Social Participation (SP)

This indicator is focusing on implementing beneficial projects, participating social events, volunteering and social engagement of the neighborhood. Based on the chart below, participants were divided this indicator. For instant, participants had strongly agreed (SP1 and SP5) to work with ours and actively participate the useful projects in the neighborhood. In questions SP2 and SP4 showed that there is some sort of social gathering especially in mosques and public spaces. However, the participants had disagreed that they had volunteer to the neighborhood for the past 12 months and Figure 22 and Table 17 descriptive. In general, the participants had strongly agreed the important of SP in this neighborhood as it's indicated by the total percentage which counts 30.36% while the percentage of those strongly degraded is 8.98%.

Table 17: Descriptive statistics for SP

	N	Mean	Std. Deviation
SP1	60	4.18	1.157
SP2	60	3.43	1.226
SP3	60	2.35	1.071
SP4	60	3.38	1.263
SP5	60	4.12	1.075
Total	60	3.492	1.1584

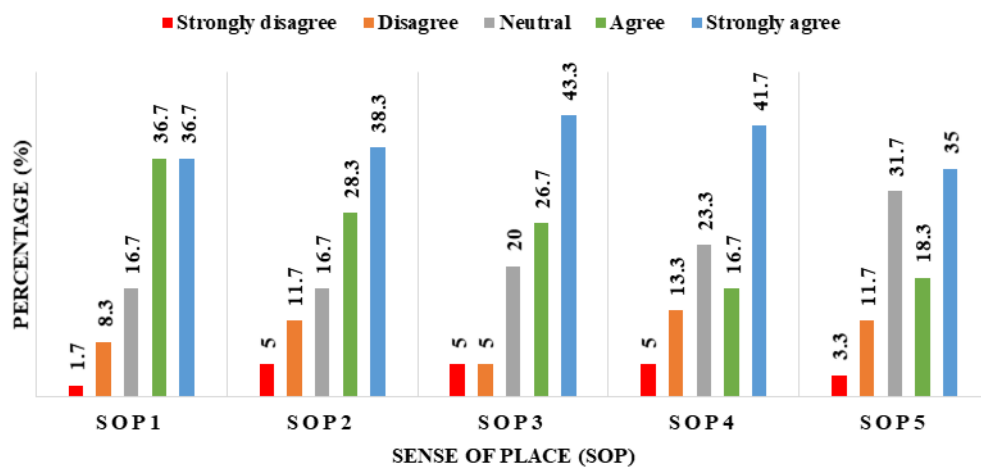


Figure 22: Descriptive analysis bar chart for SP.

Safety and Security (SAS)

This indicator was measuring the level of security and crime rate of the walled city neighborhood. As we can see the mean average in the Table 18 and the Figure 23 below, the majority of the participants have strongly agreed that the neighborhood is safe and secure and they can move any time they want to the public spaces. In general, the crime rate in North Cyprus is low and it's one of the reason that over 60.34% had strongly agreed this indicator.

Table 18: Descriptive statistics for SAS

	N	Mean	Std. Deviation
SAS1	60	4.03	1.193
SAS2	60	4.08	1.078
SAS3	60	4.2	1.005
SAS4	60	4.57	0.909
SAS5	60	4.5	0.966
Total	60	4.276	1.0302

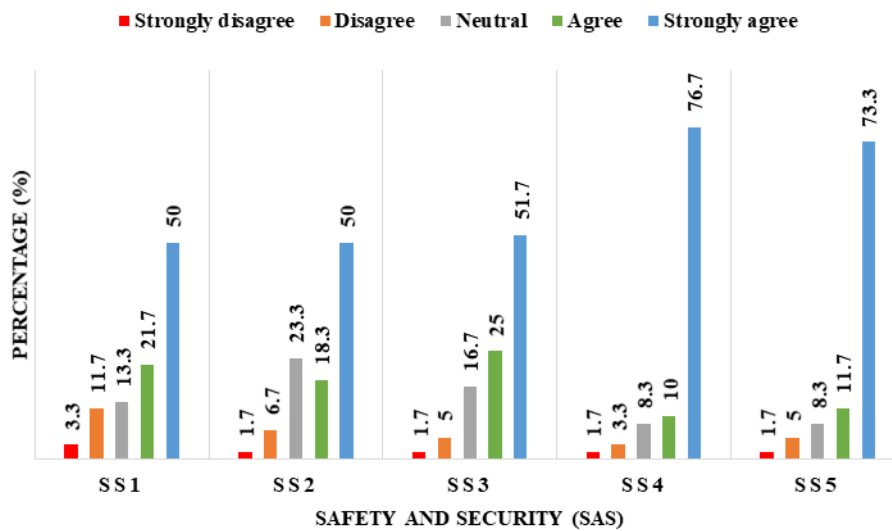


Figure 23: Descriptive analysis bar chart for SE

Social Engagement (SEN)

Social engagement among the individual level in the neighborhood is important factor to be analyzed in this study. Researchers asked nine questions including the trust between individuals in the neighborhood, borrowing things and exchanging favor as well as the home visiting. Based on SEN, a strong bond among the individual neighborhood was observed as it is shown in Table 19 and Figure 24 below. Over 47.04% had strongly agreed this indicator. This is because over 58.3% of neighborhood occupants are above 50 years and more than 54% have been living this area for more than 20 years, so this have created a strong social network and connection.

Table 19: Descriptive statistics for SE

	N	Mean	Std. Deviation
SEN1	60	3.87	1.282
SEN2	60	4.12	1.106
SEN3	60	4	1.058
SEN4	60	4.12	0.94
SEN5	60	3.87	0.982
SEN6	60	4.1	1.02
SEN7	60	4.3	1.013
SEN8	60	4.28	1.043
SEN9	60	4.38	0.922
Total	60	4.186	0.996

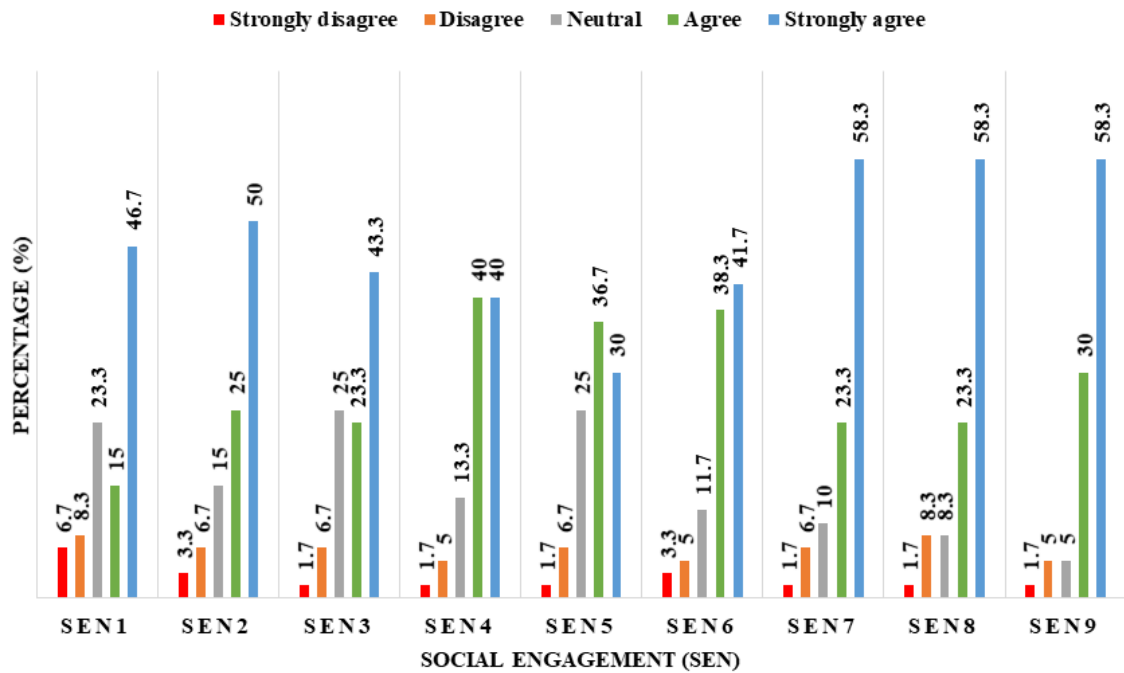


Figure 24: Descriptive analysis bar chart for SEN

Housing Satisfaction (HS)

This assessment mainly focuses the sizes and the conditions of the housing as well as the infrastructure and affordability of this neighborhood. Based on the results on the chart, participants gave neutral answers to the question (HS2 and HS3) which are based on affordability and the conditions of the house Figure 25. Overall percentage of the

neutral respond counts about 29.175% while those agreed to all asked questions were 32.5%. From the observation during the data collection, it was clear that infrastructure of the housing is outdated and it needs to be renovated so that the live of this neighborhood will go for long time.

Table 20: Descriptive statistics for HS

	N	Mean	Std. Deviation
HS1	60	3.95	1.048
HS2	60	3.02	1.127
HS3	60	3.43	1.095
SH4	60	3.52	0.965
Total	60	3.48	1.05875

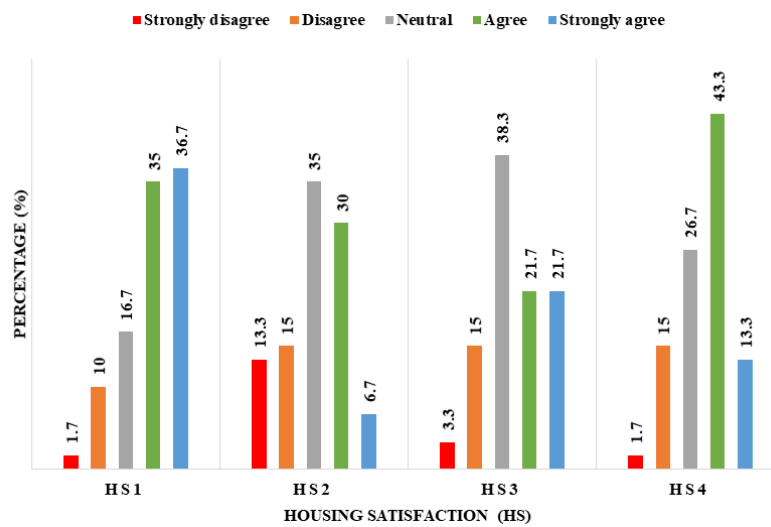


Figure 25: Descriptive analysis bar chart for HS

Health and Well-being (HW)

One of the most important aspects of this study is to observe and analyse the health and the well-being of this neighborhood. Seven questions were asked to the participant. Those questions were mainly focused on the availability of health care centers, the climate comfort during summer and winter, air and noise pollution and sufficient of

public and open spaces. In Table 21 presents the individual and total means of the HW questions. The total mean (2.91) is less than threshold (3= neutral). This indicates that a good number of responders are happy the health service. To further investigate this phenomenon, Figure 26 were presented. According from the figure, participants disagreed or strongly disagree (HW1, HW3 and HW4). The total percentage of those two indications were 26.43% and 13.8% respectively. This indicates that there is lack of health service and health care centers. Additionally, the climate comfort during extreme weather of summer and winter is very poor. This research highlights that lack of proper health care as well as bad thermal comfort during summer and winter period will extremely effect the aged residents of this neighborhood.

Table 21: Descriptive statistics for HW

	N	Mean	Std. Deviation
HW1	60	2.27	1.163
HW2	60	3.67	1.13
HW3	60	2.62	1.367
HW4	60	2.3	1.28
HW5	60	2.8	1.219
HW6	60	3.4	1.167
HW7	60	3.43	1.031
Total	60	2.91	1.2128

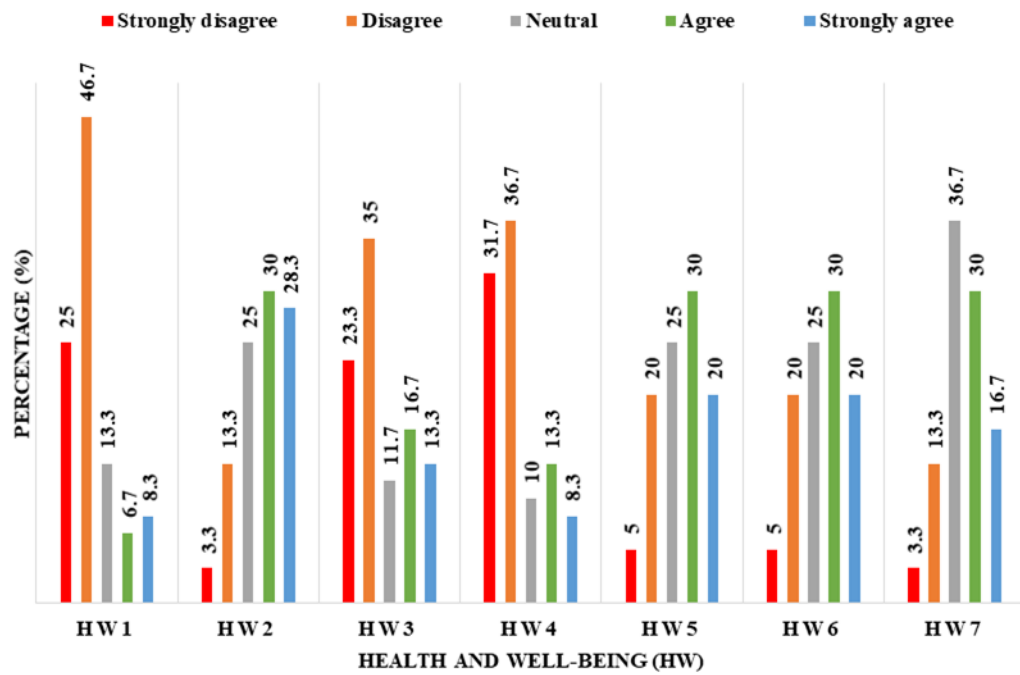


Figure 26: Descriptive analysis bar chart for HW.

Quality of Life (QOL)

The selected neighborhood had existed for centuries. So it is mandatory to investigate the life quality of the resident. Neighborhood quality, spatial organization of the houses transportation system and receiving appropriate services were focused. Based on the mean values in Figure 27 the participants had divided opinions. Responders had strongly agreed in question (QOL1 and QOL2). However, the participants had shown disagreed and strongly disagreement in asked question (QOL3). For instant, over 46.7% strongly disagreed the transportation quality. This is caused by two things. First, the city-walled neighborhood was built centuries ago so its road and transportation system is too narrow and cannot handle the modern transportation systems. Secondly, the Island does not have good public transportation systems.

Table 22: Descriptive statistics for QOL

	N	Mean	Std. Deviation
QOL1	60	3.97	1.134
QOL2	60	3.92	1.154
QOL3	60	1.9	1.069
QOL4	60	3.12	1.075
Total	60	3.2275	1.108

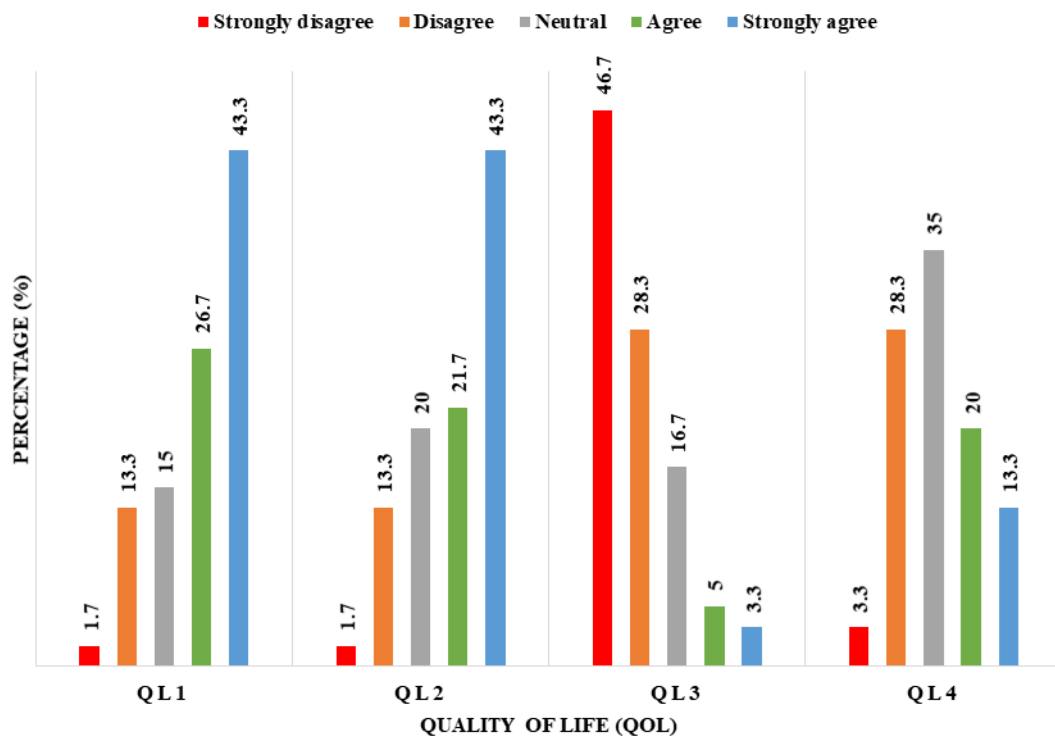


Figure 27: Descriptive analysis bar chart for QOL

Public Realm (PR)

This assessment was mainly focused a public owned spaces and places which accessible to the people. Figure 28, illustrates the participant's responds to each questioner. Majority of the responders were neutral about public realm. However, a feasible number of participants showed that there is limited public belongs. The total percentage of those disagreed is 26.66%. Also, some 10.47% totally disagreed about the existence of well-designed and integrated space. It is clear that those who strongly

disagreed are mainly the young adults which counts about 13.3% of the total participants.

Table 23: Descriptive statistics for PR

	N	Mean	Std. Deviation
PR1	60	3.43	1.184
PR2	60	3.65	1.102
PR3	60	3.93	1.177
PR4	60	2.65	1.055
PR5	60	2.78	1.121
PR6	60	2.65	1.071
PR7	60	2.97	1.089
Total	60	2.996	1.1026

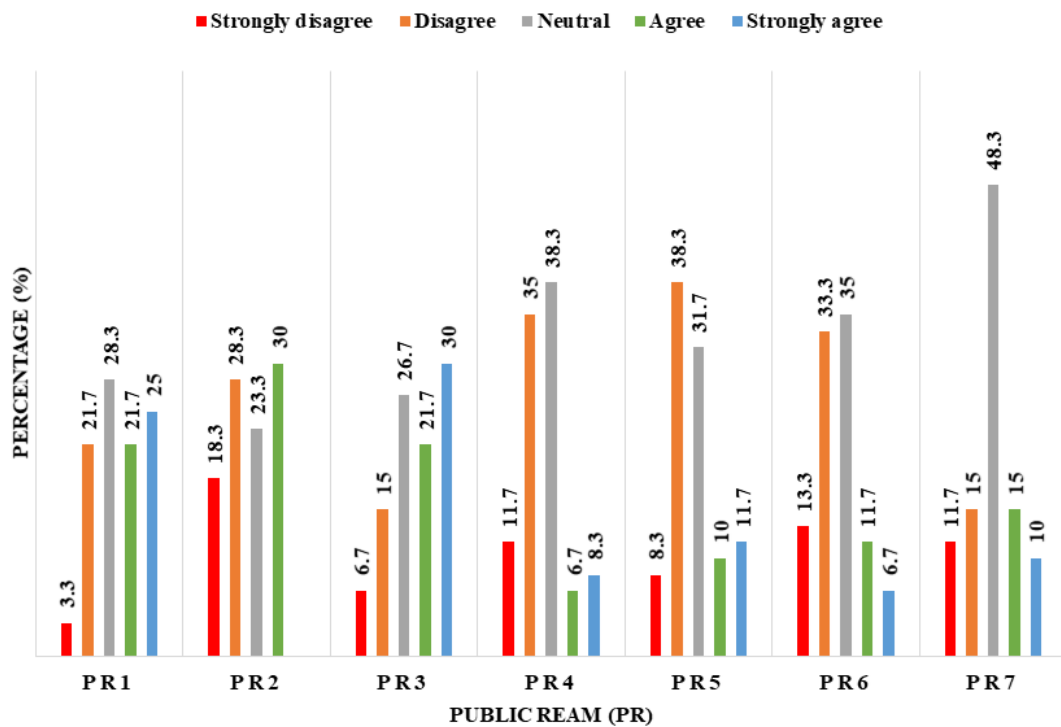


Figure 28: Descriptive analysis bar chart for PR

Future Focus (FF)

The last indicator of this assessment was based on the future focus of the neighborhood in the case study area. Participants were asked five questions including whether an investment from Eastern Mediterranean University, government or other partnerships

that can increase the quality of live and continuation of live in this neighborhood. The responders had welcomed any social and economic activities to this historic neighborhood. As it is shown in Figure 29 over 73% (strongly agreed + agree) of total participates support the idea of investment.

Table 24: Descriptive statistics for FF

	N	Mean	Std. Deviation
FF1	60	3.55	1.016
FF2	60	3.75	1.083
FF3	60	4.45	0.946
FF4	60	4.25	1.019
FF5	60	4.37	1.025
Total	60	4.074	1.0178

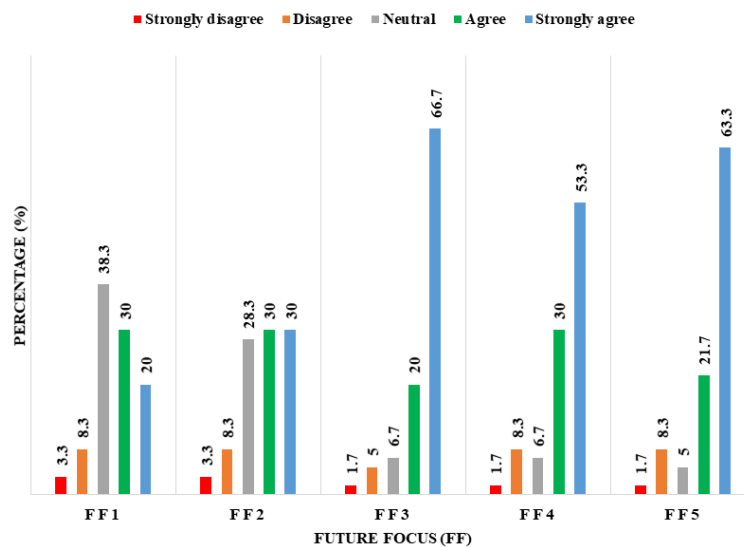


Figure 29: Descriptive analysis bar chart for FF

The Table 25 and the Figure 30 below indicate the total mean for all the indicators, ranking and related to SDGs. Most responders in the walled city agreed or strongly agreed about the safety and security in the WCF. While the Public realm and Health

and well-being are lower than 3 which explains that they are not happy with these indicators. To illustrate the table shows all the indicators means and ranking.

Table 25: Total mean rank of all indicators and its relation to SDGs

SS Indicators	Total mean	Ranking	SS related SDGs
Safety and Security (SS)	4.276	1	Goal (16)
Social Engagement (SEN)	4.186	2	Goals (5, 10 and 16)
Neighborhood Satisfaction (NS)	4.108	3	Goals (5 and 11)
Future Focus (FF)	4.074	4	Goals (1, 3, 4, 5, 10, 11 and 16)
Sense of Place (SOP)	3.852	5	Goal (5, 10 and 11)
Social Participation (SP)	3.492	6	Goals (4, 5, 10 and 16)
Housing Satisfaction (HS)	3.48	7	Goals (11)
Quality of Life (QOL)	3.23	8	Goals (1, 3, 5, 10, 11 and 16)
Social Equity (SE)	3.028	9	Goals (1, 4, 5, 10 and 16)
Public Realm (PR)	2.996	10	Goals (5, 10, 11 and 16)
Health and Well-Being (HW)	2.91	11	Goals (3 and 11)

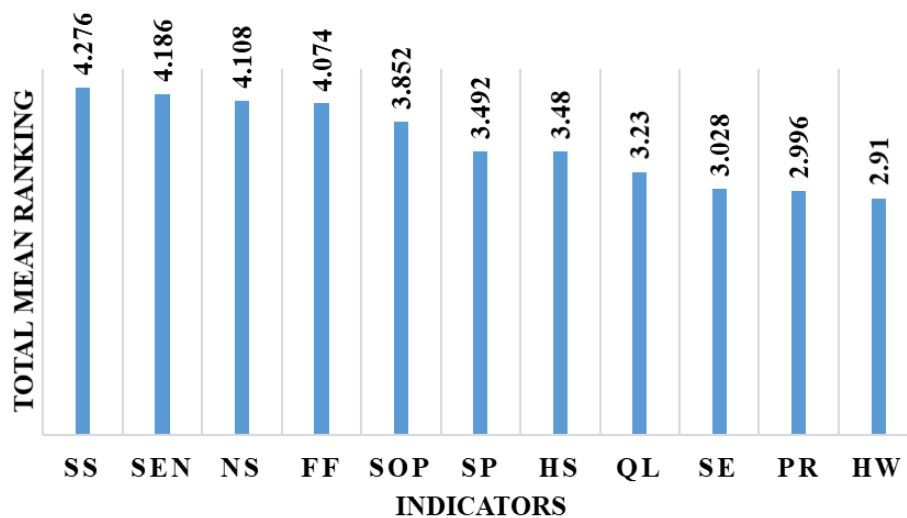


Figure 30: Described the total mean and the ranking of all indicators.

4.9 Factor Analysis

Factor analysis is a type of reliability and validity valuation that uses statistics to quantify the relationship among different variables and sub-factors and identify the parts that different sub-factors and factors will load on them and measure their

reliability. It also provides coefficient scores for additional deductive analyses, such as correlation between indicators of social suitability as independent variables. In factor analysis, however, the correlation matrix and alpha coefficients are evaluated from dependents and independent variables. Factor analysis can be done in a variety of methods; in our study, we unloaded factors using the Principal Component Factoring model.

4.9.1 KMO and Bartlett Test

The Kaiser-Meyer-Olkin test determines the acceptability of the samples. The results of the KMO test range between zero (0) to one (1). Zero (0) indicates that, sum of correlations for some of them is large in contrast to the sum of correlations. The numbers close to one (1) indicate that R number patterns are relatively compact. According to Kaiser, values greater than 0.5 are acceptable. Indeed, for KMO for this research is about 0.650, that is satisfactory. The Bartlett test decides if the original correlation matrix is an identity matrix or not. All correlation numbers would be zero, if the matrix is an identity matrix. For hypothesis testing the P-values are important elements. For this case, the P-value of 0.001 is significant as it's seen in The P-value in Table 26.

Table 26: Bartlett and KMO's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.622
Bartlett's Test of Sphericity	Approx. Chi-Square	3165.203
	df	1176
	Sig.	.000

4.9.2 Reliability Analysis

To understand the data's internal consistency and trust the results, the alpha coefficients must be determined. Cronbach's alpha for all data (which includes 11

indicators of social sustainability) was found to be 0.965, and standardized Cronbach's alpha for all variables is 0.966. Both Cronbach's Alpha and standardized Alpha are higher than the acceptable threshold of 0.7. Therefore, this study is reliable as shown in Table 27.

Table 27: Cronbach alpha for all items (N: 60)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.965	0.966	60

Additionally, Table 28, shows the Cronbach Alpha for each variable of this study. All of them are higher than the acceptance value except quality life (QOL) which shows lower than 0.7. Based on Cronbach's alpha QOL must be deleted.

Table 28: Cronbach alpha for each variable

No	Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
1	NS	0.897	0.901
2	SE	0.746	0.726
3	SOP	0.900	0.900
4	SP	0.707	0.699
5	SAS	0.901	0.906
6	SEN	0.951	0.952
7	HS	0.706	0.715
8	HW	0.762	0.767
9	QOL	0.568	0.560
10	PR	0.82	0.82
11	FF	0.820	0.821

Furthermore, the interview question is about the SDGs (e.g. Have you ever heard about sustainable development goals/ if yes, where and when) because, SDGs covers all the

sustainable development agenda, but regrettably 80% of the responders have no idea about SDGs specially shop owners and even those whose who knows has very less knowledge about the global agenda. Thus, the plan of implementation of SDGs in walled city must consider by the government including civil society organization in order the benefit of SDGs like other mentioned above nations. As illustration collaborating with universities (EMU) to make some plans about the SDGs in WCF. And also, the question “What is the first word that you think of when we say sustainable development? Was asked and more than half of the responders responded ‘greenery’ and ‘climate change’.

4.10 Summary of the Chapter

Research is process of conducting of a comprehensive study for a certain research topic. It is a method of conducting a systematic search for relevant information on a certain topic of interest. It is a detailed study or investigation, particularly through the discovery of new facts in any field of expertise. It's a scientific method of obtaining answers to research questions and putting hypotheses to the test. The research question is based on a population's uncertainty about something. As mentioned above, data collection is the first and most important element of any research approach. This research uses various methods of data collection and analysis including descriptive analysis, factor analysis to find out how the research is reliable and will be used the future research see table 1 in first chapter.

Chapter 5

CASE STUDY: SOCIAL SUSTAINABILITY IN THE WALLED CITY OF FAMAGUSTA

The WCF is a globally recognized cultural landmark that has had a troubled past. This chapter will explain the case study of the research study. It is structured into two sections. Firstly, it explains the overview of the WCF including historical development, urban characteristic, and social characteristic. Secondly, it will explain social sustainability in the walled city of Famagusta, based on the eleven indicators of social sustainability in the neighborhood of WCF.

5.1 The Walled City of Famagusta

This research focuses on Famagusta, Northern Cyprus's second biggest city, and more specifically on WCF. The Walled City is the city's old urban section, situated on the island's eastern shore. Figure a–c shows Famagusta, Cyprus, and the Walled City's historical residential quarter, respectively. The Walled City is encircled by fortifications, as illustrated by the dashed lines in Figure 31 c; these fortifications are continuous Venetian-era masonry walls.

Currently, there are five types of neighborhoods in the Walled City: historic/antique, dense in a three-dimensional structure, 1-2 story dwellings (courtyard houses predominate), partially mixed-use, and middle-to-high/low income (Marans et al., 2009). The Walled City of Famagusta is defined by its organic urban character, which comprises narrow streets and low-rise dwellings that have grown through time,

according to (The Walled City of Famagusta, 2008), numerous characteristics of low social value exist in the WCF (Davoodi & Dağlı, 2019). During the 1970s armed conflict, it was associated with segregation. The remaining Turkish Cypriots sought safety in the WC after the Greek Cypriots fled. Additionally, improvements outside of WC are luring individuals with financial ability to go to surrounding districts, leaving behind a disabled and vulnerable population, the majority of whom are immigrants. Numerous residents have relocated from the WC to freshly constructed outlying flats and villas (Marans et al., 2009). The WCF now has a low sense of community, many unoccupied and deteriorated buildings as a result of these relocations. It retains, nevertheless, its traditional character, as seen by the presence of several monumental and historic structures, as well as tiny organic streets with cul-de-sacs, human sized buildings, and numerous monumental and historic monuments.



Figure 31: a) Cyprus's geographical location, b) Famagusta's location, c) Walled city location. Source: Google Earth (extracted and edited).

The proposed technique has been evolved into a framework for assessing or quantifying social sustainability, and it has been tested in North Cyprus' Wall-city area, where a multi-method approach was employed to complete different tasks.

5.1.1 Historical Development of the Walled City

The historical and development of Famagusta's walled city may be traced all the way back to the first (1st) century AD. As a historical site, it has passed through various hands over the centuries. From 1192 until 1489, it was ruled by the Lusignans, who established it in 648 AD. There followed the Venetian who took place from 1489-1571, then Ottoman dating from 1552 to 1777 and then British eras started at 1878 and finished by 1960. On January 1, 1960, Cyprus declared its independence from the United Kingdom. The country enjoyed self-rule until 1974, when it was divided into two sovereign republics. However, the walled city's traditional identity, which includes tiny organic lanes with cul-de-sacs, human-scaled buildings, and numerous monumental and ancient structures, is still present today. Due to the out-of-date building state in the walled city, there are many unoccupied and deteriorated buildings, as well as a decline in local population (Oktay & Hoşkara, n.d.).

During the Ottoman era, the non-Muslim residents of the city moved to the periphery of the city. This substantially influenced the start of spatial segregation between the two dominant communities which are, the Turkish Cypriots and Greek Cypriots. The Greek Cypriots dispersed to the south of the walled city, in the districts known as Varosha (Maras) and Kato Varosha (Asagi Maras). As a consequence, the growth of the city migrated to the north (Oktay & Hoşkara, n.d.). The excess housing stock left vacant by the departure of the Greek population was rapidly absorbed by refugees from the southern half of the country and immigrants from Turkish Anatolia. Despite the fact that the island's demography changed dramatically in the years following the war,

the spatial arrangement remained relatively unchanged. Until the end of traditional life in the Walled City and other parts of Northern Cyprus and Anatolia, the concept or emotion of "neighborhood" (means "mahalle" in Turkish) was especially significant, (Oktay & Marans, 2010).

A neighborhood was more than simply a place to live in a city; it was also a social group where people might come together to share resources and work together on projects. Families were concerned about one another and their neighborhoods because it was such a small community. Base on this, the street was the most basic of intersections between the private and public realms, connecting a collection of homes to one another and to a broader circulation artery. Despite the fact that the Walled City of Famagusta was proclaimed a conservation area in its original form, conservation and revitalization efforts have not resulted in a condition of cultural or economic sustainability, leaving the region functionally separated from the rest of the city (Famagusta). The city's isolation was exacerbated by uncontrolled urban expansion in the north due to the absence of a master plan, the 'boom' in building activity after the Annan Plan, and the uncertainty surrounding the desolate Varosha area in the south.

According to the TRNC latest census, and land-use survey (Architectural and Planning, n.d.), there are 2, 250 people living in the Walled City, this shows a 12.5% decline in comparison to the population in 1996, neighborhood in walled city of Famagusta. The population of the Walled City is around 18% of the total population of the city (Famagusta) also, 820 residential units and 539 commercial units, including 240 different types of retail businesses, eight banks, and several storage facilities and offices. There is also a library, a museum, restaurants, pubs, cafes, a sports club, and a sports field, as well as a variety of communal services such as two elementary schools,

three mosques, public facilities, a police station, and numerous passive and active recreational facilities, including a library, a museum, restaurants, pubs, cafes, a sports clubs, and a field.

5.1.2 Urban Characteristic of WCF

The street system and urban structure of Famagusta's walled city generate a high-density, uniform shape of dwellings. The urban planning is characterized by small, randomly structured streets lined with one- or two-story dwellings. Figure 32, illustrates the Walled City of Famagusta's characteristic urban texture and street pattern or system.

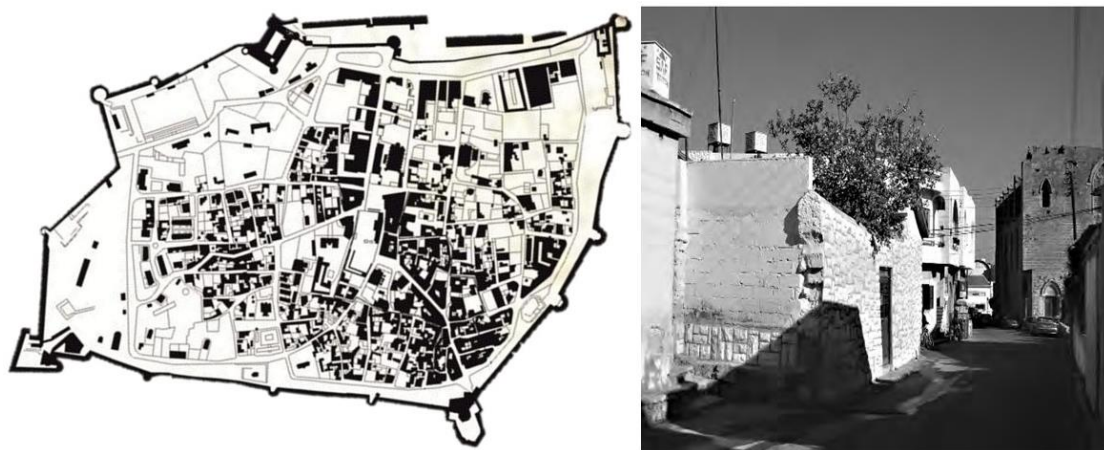


Figure 32: Urban texture and street pattern of walled city (Oktay & Marans, 2010).

Due to climatic and cultural considerations, the plan arrangement of open, semi-open, and closed areas of residential units, as well as their façade designs, reflect or represent the social life-style of the occupants. The main Square is a common gathering point for cultural and political events. What makes the area so unique is indeed the historical context, as well as the numerous cafés that give it a habitable portion of the walled city of Famagusta today. The square's attractiveness has been enhanced even further with the addition of the new side walks around the square, and no vehicles are permitted. The character's situation didn't take place in a randomly constructed medieval city. The

city's main evolution began in the center of the city. According to these essential reasons, the city's most notable useful buildings and monuments were positioned in the main square (Guley & Selen Abbasoglu, n.d.). Indeed, the most notable buildings, such as the Venetian Palace and the Cathedral of Saint Nicholas, are located in the central square. These are the landmarks of Famagusta's walled city Figure 33.



Figure 33: Cathedral of Saint Nicholas source (Davoodi & Dağlı, 2019).

During the historical period as mentioned above, for example, coffee kiosk and bedesten (which is fabric market in English) both located in the Walled city's square. Nowadays, the importance of the walled city square remains the same, but there are some significant distinctions from the previous period. For instance now the square is only active or livable during the day but in the past it was livable 24 hours. The city center, which is surrounded by historically significant buildings, and dominated by a plaza. When compared to Famagusta's walled city design, the aesthetic value of its asymmetrical streets and squares is derived from the existence of ancient buildings for varied purposes and architectural traits that distinguish numerous historical periods

under different civilizations. Consequently, there is a continuity of cultural memory inside the city pattern in addition to aesthetic or visual consistency.

5.1.3 Social Characteristic of WCF

Based on the results of the latest census, and land-use survey (Architectural and Planning, n.d.), there are 2, 250 people living in the Walled City, 820 residential units and 539 commercial units, including 240 different types of retail businesses, eight banks, and several storage facilities and offices. There is also a library, a museum, restaurants, pubs, cafes, a sports club, and a sports field, as well as a variety of communal services such as two elementary schools, three mosques, public facilities, a police station, and numerous passive and active recreational facilities, including a library, a museum, restaurants, pubs, cafes, a sports club, and a field. While the Walled City is a historical urban area in its whole, clearly defined by its surrounding fortifications based on land use and architectural appraisal, six districts within the broader district may be distinguished based on their distinct functional and physical qualities (Doratli, 2000). For a number of modern reasons, the historical backdrop is critical. These social ideals are founded on the continuous use of the Walled City in daily life; Figure 34. It remains a viable urban environment, despite the fact that it is no longer a municipality's administrative center.

We discovered throughout the poll that only some Cypriots, including those who were reared within the walls but have since migrated outside, continue to enjoy the life of proximity given by dense, traditional urbanism. The preservation of the historic town fabric, combined with the climate and customs of Cypriot architecture and multicultural urbanization, contributes to the city's social permeability. Individuals who dwell outdoors, indoors, and in between their dwellings, so populating the town rather than the house alone. This may take the shape of well-maintained residential

gardens and entrances, or it may simply take the form of placing seats and tables along shaded roadways or site pathways. Other forms of social value can be found in the historic built environment, such as an elevated level of local business ownership, the cafés, restaurants, and bars that attract the local populace to the Walled City, and an active religious life, as evidenced not only by daily calls to prayer, but also by the use of mosques and the main square for funerals and festivals. On the other side, the Walled City is associated with a variety of characteristics associated with low social value. It has been synonymous with segregation, first in its entirety during the 1970 military conflict, when Turkish Cypriots sought safety and the surviving Greek Cypriots fled, and subsequently, when growth beyond the walls lured the wealthy to migrate (Oktay & Hoşkara, n.d.). As a result, leaving behind a population that is, older, poorer.

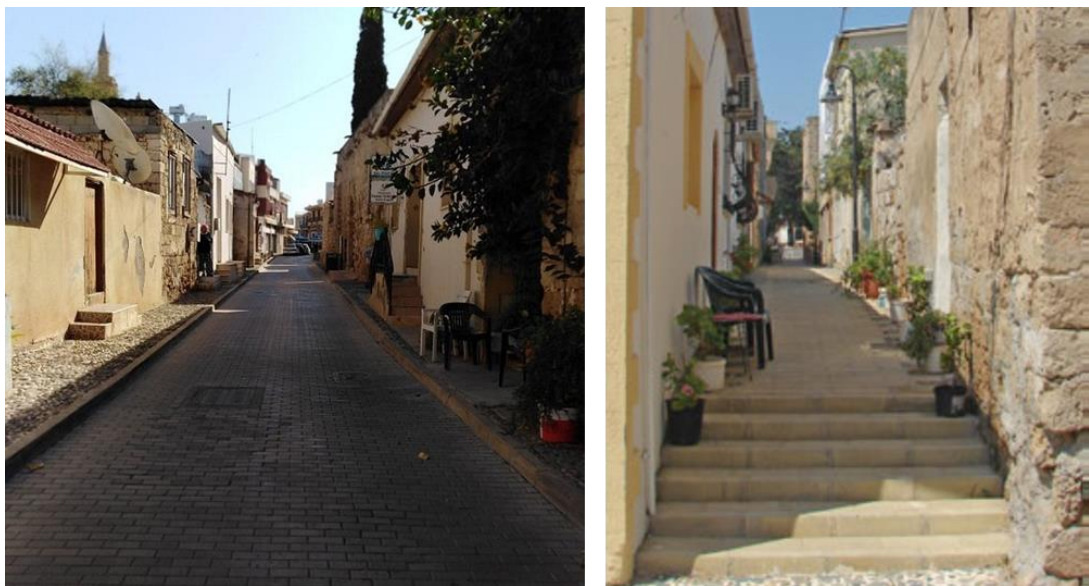


Figure 34: Social interaction for the residents of the walled city source (author)

5.2 Neighborhood Satisfaction

Literature review and the research approach provided us with detailed information about neighborhood satisfaction and its relation to SDGs (5 and 11). For example, they

provided us to find out the differences and the similarities between an individual's desired and real or actual life style for a building environment, which is related to residents' general overview of their neighborhood environment including living quality, health well-being and life satisfaction. In WCF most of resident are local and above 50 years according to the data. The data also show that both mean, and the mean of all questions (4.108) are higher than (>3). That means that the mean value of (strongly disagree and disagree) are less the mean value of (strongly agree and agree). It is clear that (strongly agree) counts the highest in all five questions survey of NS. The overall percentage of (strongly agree) is about 48% and the lowest percentage is observed in (strongly disagree) which is 2.66%. As a result, it lead us to sentence “those local people are very proud to call this neighborhood home” and “Nice location for them to live. This sentence may change after that generation, because during the survey, observation, and interview most the young are willing to leave to new building outside the Walled City.

5.3 Social Equity

Based on findings, social equity related to SDGs (1, 4, 5, 10 and 16), play an important factor in neighborhood scale, considering social justice, fairness, and equality. Based on the mean value, most of the responders selected neutral and agree on responses. Based on the finding, most responders were neutral (SE-3: Essential services are available (Supermarket, sundry shop/convenience store, post office, healthcare center/doctor, bank/money machine, religious center) while they are disagree in question SE4, (Access to transportation facilities is easy (public transport)). In this assessment, majority of the responders were either agreed or stated neutral on Social equity question. The overall percentage of neutral and agreed responders were 27.02% and 22.66% while 11.32% of the responders strong disagreed. The transportation

system is general problem in Cyprus especially in WCF. It is difficult to public transportation in WCF. In addition, that, the essential services such as health care center, convenience store are less in WCF. As most of the resident are old people, health care should be taking to consideration in WCF especially during that unpredictable time.

5.4 Sense of Place

People who are leaving in WCF has strong sense of place due to historical and cultural background. In general, a sense of place in a society which is related to SDG (5, 10 and 11), is defined as a crucial element of community's happiness and attachment of their built environment," which is influenced by community culture and social norms. In the research this assessment was measuring, the responder's feeling towards their residents that they are living. The total mean of SOP is 3.852, which is higher than the threshold of three (3). The overall percentage of strongly agree responders were 39% while those agreed counts about 25.34%. This indicates that majority of the survey participant are happy and have strong sense belong to their neighborhood. This has a good agreement with the history of resident because over 54% have been living this neighborhood for over 20 years. In addition, the resident of WCF seem very proud of their neighborhood and have stronger connection. They are much more likely to choose to remain in the area and participate in its forward development and sustainable.

5.5 Social Participation

Lack of social participation of a certain resident can be defined a group of inhabitants living in isolation and have no sense of place or little connection to their community. In contrast, residents working together and engaging with one another can be considered sustainable society. For example, focusing on implementing beneficial

projects, participating social events, volunteering and social engagement of the neighborhood. In WCF survey participants were divided into two in this indicator. For example, responders had strongly agreed in (SP1 and SP5) to work together and actively participate in the useful projects in the neighborhood. Questions SP2 and SP4 showed that there is some sort of social gathering especially in mosques and public spaces. However, the participants had disagreed that they had volunteered to the neighborhood for the past 12 months. In general, the participants had strongly agreed on the importance of SP in this neighborhood as it's indicated by the total percentage which counts 30.36% while the percentage of those strongly degraded is 8.98%. Indeed, in WCF participants are ready to take action or involve in any kind of activity that can benefit their neighborhood. Taking this into consideration will lead to achieve the SDGs (4, 5, 10 and 16), based on the SDGs' direct policy implications and objectives.

5.6 Safety and Security

The degree to which people feel comfortable moving around their neighborhood and using the facilities and services available to them is known as safety. As an illustration, real crime rates as well as the perception of crime may have a negative impact on a neighborhood's potential to achieve SDG (16), especially SS. According to the finding, participants have strongly agreed that their neighborhood is safe and secure, and they can move any time they want to the public spaces except during the time due to lack lighting some participants are neutral. In general, the crime rate in North Cyprus is low particularly in the WCF and its one of the reasons that over 60.34% had strongly agreed this indicator. People who live in safe and comfortable neighborhoods are more likely to engage in local community activities.

5.7 Social Engagement

Social engagement such as using leisure centers (e.g. Sport fields, parks, a community center and playground) or being a part of a social group (e.g. sports teams, student globe or religion participation, trust, connections, interaction). It is a vital aspect of SDGs (5, 10 and 16), particularly social sustainability and it is associated with a network and solidarity. In the WCF neighborhood occupants are above 50 years and more than 54% had been living this neighborhood for more than 20 years, so this has created a strong social network. Researchers asked nine questions including the trust between individuals in the neighborhood, borrowing things and exchanging favor as well as the home visiting, helping in an emergency. As a result, in most of the item the participants are agreed and strongly agreed. In addition to that, based to their cultural background the resident in WCF people are more likely to engage with each other.

5.8 Housing Satisfaction

Housing satisfaction relating to SDG (11), is a determinant aspect of the life quality of the people and can serve as a "mediator" of their feelings of well-being. It is a balance between homeownership desires and their living. Indeed, the questionnaire focused on the dwelling sizes and conditions, as well as the neighborhood's infrastructure and affordability. As a result, participants in WCF gave neutral answers to the question (HS2 and HS3) which are based on affordability and the conditions of the house. The overall percentage of neutral responses is at 29.175 percent, with 32.5 percent agreeing to all of the questions. During the data collection, it became evident that there are many empty neighborhoods due to fact that, the housing infrastructure is old. Many houses in WCF need to be renovated in order for the residents of this neighborhood to live comfortably. Because housing satisfaction is the greatest "investment item" of our

lives. For example, when building configurations are well and the physical look is pleasant, people feel more connected to their environment.

5.9 Health and Well-being

Various authors review the literature on social determinants of health and well-being and it is linked to SDGs (3 and 11). It is one of the most significant aspects social sustainability is to watch and analyze the neighborhood's health and well-being. Indeed, in this study multiple question were asked to the participant including the availability of health care centers, the climate comfort during summer and winter, noise, and air contamination and sufficient of public and open places. The total mean (2.91) is less than the threshold (three= neutral). This indicates that a good number of responders are not happy with the health care service in the WCF. This may highlight that there is a lack of proper health care as well as bad thermal comfort during summer and winter. Through a better of these mechanisms, the implementation of good health system is urgently required in WCF.

5.10 Quality of Life

Generally, quality of life is the entire number of factors that influence resident's social, economic, and environmental well-being and it is related to SDGs (1, 3, 5, 10, 11 and 16). It about the happiness and well-being of a resident. Indeed, it is necessary to look at the resident's quality of life. Base on the data participants had strongly agreed in question (QL1 and QL2). However, they are disagreed and strongly disagreement in question (QL3) which about the transportation network in WCF. This is due to two factors, firstly, because the Walled City is an historical area and was constructed centuries ago, its road are too narrow to accommodate modern transportation systems. Secondly, the Island's public transportation system is inadequate. For example, over 46.7% strongly disagreed in the transportation quality.

5.11 Public Realm

Since the research is evaluating the Wall-city of Famagusta is a historical settlement. There seems to be strong consensus on the importance of social and urban characteristic. These include the streets, squares, plazas, walkways, trails, parks, open spaces, waterfronts, public transportation systems, conservation areas, and civic structures and institutions. For example conservation, proper lighting, urban open public spaces and well-maintained public realm facilitates residents' use of public spaces and services by creating a friendly and healthy environment. In this study, most of the responders were neutral about public realm. However a reasonable number of participants showed that there is limited public space. The total percentage of those disagreed is 26.66%. And 10.47% are totally disagreed about the existence of well-designed and integrated space. It is clear that those who strongly disagreed are mainly the young adults which counts about 13.3% of the total participants. Further, most of the public spaces in WCF are not active especially during the night. Public realm which is related to related to SDGs (5, 10, 11 and 16) and it's considered as one of the key player of social sustainability. So in order to enhance SS we should consider the public space in the WCF. Because it support everyone's social sustainability.

5.12 Future Focus

Expanding possibilities for all people today and tomorrow is also a part of social sustainability. Indeed, it is valuing and protecting beneficial aspects of societies. Appreciating and preserving the positive qualities of cultures is the most crucial factor of social sustainability, especially SDGs. This helps to increase the awareness of future generations to establish healthy and livable societies. In the research, five questions were posed to the participants, including if investment from Eastern Mediterranean University, the government, or other partnerships could improve the quality of life and

ensure the neighborhood's survival. The respondents encouraged any social and economic development in this historic neighborhood. 73 percent of all participants (strongly agreed + agree) support the idea of investing. Considering this indicator and its relation to SDGs (1, 3, 4, 5, 10, 11 and 16), may help to increase the awareness of future generations to establish healthy and livable societies in the walled city of Famagusta. Also it improve the quality of our society now and in the future.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

This Chapter summarizes the conclusions of the overall research while also presenting recommendations for future research. The Chapter is divided into three subsections. Firstly, an overview of the research will be presented. Secondly, recommendations for improving social sustainability in the Walled City of Famagusta will be given. Finally, an agenda for future research will be presented.

6.1 Overview of the Research

Social sustainability (SS) has been investigated in a variety of contexts and disciplines as an important component of sustainable development (SD), especially in urban planning and architecture. However, the examination of the literature suggests that there is still a need for a proper definition, operationalization, measurement, and conceptualization of social sustainability and its local and place-based implications.

Accordingly, the proposed definitions were developed into an approach for evaluating social sustainability and were tested in the case of the Walled City of Famagusta in North Cyprus, utilizing a multi-method approach for addressing different aspects of the work. The Walled City of Famagusta is an ideal case for evaluating the approach because it has different factors, some of which have already been discussed in previous sections. For example, it has a strong tradition of urban community life as part of Famagusta and it has been subjected to many forms of development. Thus, this research provides eleven factors including neighborhood satisfaction, social equity,

and sense of place, social participation, safety and security, social engagement, housing satisfaction, health and well-being, quality of life, public realm, and future focus - for determining SS based on a detailed analysis of the literature and relates these to UN SDGs. A set of variables defines each of the social sustainability dimensions, indeed each variable is related or associated to a single question in the household survey. Participants were asked to rank their answers to a statement using five-point Likert scale, ranging from strongly disagree (rating of 1) to strongly agree (rating of 5). The variables is derived and modified from previous validated research and surveys (eg, Bramley et al, 2009; Cerin et al, 2008; Bacon et al, 2012; Rani, 2012; Smith, 2011). It is modified because the quality of life factors are not universal and are likely different from city to city (Mazumdar, 2003). Table 11 provides a full summary of the predicted social sustainability aspects and their associated variables. Those variables helped us to create a framework, which included data collection, data processing, analysis, and recommendations.

This study may help to address these gaps in the literature by employing a systematical statistical technique to operationalize the SS level as a complete or understandable measurement model for measuring SS at the neighborhood level or urban area. In addition, this research contributes to the existing literature by expanding our understanding of social sustainability while relating it to United Nations' Sustainable Development Goals. According to a theoretical viewpoint, the suggested SS has the opportunities to facilitate and integrate the broken conceptualization of the concept, bringing its disparate elements together in a logical and understandable framework. Despite the fact that, the majority of the variables and dimensions in the SS scale have been researched separately in earlier research. We contend or believe that failing to evaluate each of these aspects or component of SS may result in a distorted or even

incomplete image of SS as a multidimensional and complicated phenomenon or paradox. This research also highlights the lack of coherence in previous studies' social sustainability indicators, which have rarely completed thorough validity, reliability, and evaluations. The SS scale can be used in future research to look into the determinants and outcomes of social sustainability at the neighborhood scale. Such investigations have gotten little attention to date and require more clarification. Furthermore, this research provides more comprehensive and explored various aspects of SS at the neighborhood scale. It could be used by practitioners to map out each neighborhood's strengths and weaknesses across several dimensions of social sustainability at neighborhood level.

In this study we have used descriptive statistics in order to measure the level of the neighborhood satisfaction SPSS program was adapted to calculate the means, standard deviation and the percentage of each individual questioners. It is found that:

- The mean of all investigated parameters except PR and HW had a significant value that is higher than the threshold (3). This indicates that the participants had selected “strongly agree” and “agree” compare the disagree choices;
- The data is validated by KMO and Bartlett test. The test reflects good significant and acceptable correlation values among all parameters;
- For NS, NE, SOP, SS, and FF indicators, the responders had shown a positive result. The total percentage of “strongly agree” was 48%, 27.02%, 39%, 60%, and 73% respectively; and they are related to SDGs (1, 3, 4, 5, 10, 11, and 16).
- Participants had shown great concern about the “health and well-being HW” assessment which is related to SDGs (3 and 11). About 26.43% showed that there is lack of health service and health care centers in the neighborhood. This issue is important to the resident because over 54% are older than 50 years and

they are indeed a good health system in their areas. Moreover, most the responders are neutral disagree with the transportation systems which result that there not happy with transportation system.

Moreover, during interview the most asked question is about the SDGs (have you ever heard about sustainable development goals) since it covers all sustainable agenda, but most of the responders have no idea about SDGs and those who knows has very less knowledge about the global agenda. In addition, we asked the question “What is the first word that you think of when we say sustainable development? Most of the responders responded: greenery and climate change.

Lastly, people desire the same things across the world, for example: access to education; a safe and healthy environment in which to raise their children; shelter (house satisfaction) neighborhood satisfaction; a sense of place; and the capacity to participate in decisions that influence their lives (equity). As a result, sustainability serves as a sort of road map for our lives now and in the future. The explored case may be an example to implement the SDGs in WCF.

6.2 Recommendations for Improving SS in the WCF

This research has investigated the level of social sustainability at neighborhood among residents living in the WCF and offers a more comprehensive and well-informed look at various dimensions of SS at the neighborhood scale. The finding could be used to map out each neighborhood's strengths and weaknesses across multiple dimensions of SS.

Based on the research approach and result analyses, the following suggestions have been provided to improve the quality of life and develop sustainable neighborhoods in the WCF:

- We really need to involve the elderly people in the community. Therefore, creating spaces such as educational classes that could help to share their valuable experiences with others, especially with the young generation. Because the population are facing ageing, as evidence more 50% of questionnaire survey responders are above 50 years and as a result after that generation the WCF may lose its historical and cultural value including sense of place and belonging, social participation and so on;
- It may be good to use the elderly's experiences to preserve and improve neighborhoods according to their demands. Moreover, non-governmental organizations (NGOs) and government should encourage and assist the elderly and their families. This may prevent them from feeling abandoned by the society or their relatives;
- The majority of residents highly agreed on the indicators NS and SS. To them, their neighborhood may be a 'world.' As a result, the factors that have the strongest links to NS, SS and their related to selected SDGs targets should be seriously considered in future applications and policy. For example, a factor like SOP, SE and HW;
- The transportation system must be improved in WCF especially public transportation, because most the participants are strongly disagree about transportation system;

- Physical condition of the building should be improved, because during the survey, observation many buildings are left empty due to their physical conditions;
- Increase the number of light bulbs in neighborhoods in order to increase safety and security level. As an illustration in the SS indicator some neighborhoods are not sure about the security during night time;
- QOL indicator is lower than 0.6, based on KMO test it should be deleted or be under another indicator so in this case, it can be mixed with the HW indicator questionnaires for the future research;
- Implementation of SDGs in the WCF, because during the interview 80% of responders especially shops owners have no idea about SDGs and even the remaining 20% have less knowledge the SDGs. However, there is an urgent need to implement SDGs in the WCF like the other nations. Because the SDGs serve as a road map for our current and future lives;
- Creation of SDGs office in the WCF, in which all events and programs related to the SDGs will be carried out, and for the office to support any other event which could promote any Goal within the SDG framework;
- Selected nations are useful case study to implement SDGs in the WCF;
- Other researchers are recommended with more items to evaluate level of social sustainability to understanding more about sustainability at neighborhood scale because it as multidimensional concept. Moreover, how can we adopt a flexible course of action in SDGs in order to maximize their benefits in WCF before 2030?

6.3 Agenda for Future Research

This study was conducted to measure the level of social sustainability in Walled City of Famagusta and it explored different indicators of social sustainability at the neighborhood level, while relating them all to UN SDGs. The study also investigated various case studies to find out how they implemented SDGs with the belief that they may act as examples for North Cyprus, particularly for the Walled City of Famagusta. We believe that other researchers, local and central government authorities, and students interested in social sustainability, SDGs, and the Walled City of Famagusta can benefit from this research in the future. We also believe that this research may pave the way for a number of new research ideas, some of which can be listed as follows:

- The research may be expanded for other dimensions – environmental and economic – of sustainable development for the Walled City of Famagusta.
- Social sustainability in another context can be investigated again in regard to SDGs.
- The same methodological approach can be utilized, for other dimensions and in another context.
- The SDGs can be explored further to find out other gaps in different contexts.

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APPENDICES

Appendix A: Survey Questionnaire

Research Volunteer Participation Form

This study was carried out by Lamine Moustapha Adam at the Eastern Mediterranean University Department of Architecture, Prof.Dr. Şebnem Hoşkara, it is a step of the master's thesis research titled "A Review on Social Sustainability in the Walled City of Famagusta". It aims to measure the degree of This step of the study is carried out by Lamine Moustapha Adam and it is aimed to develop suggestions for ensuring the social sustainability of Famagusta walled city by using the results;

- Your participation in this study is on a voluntary basis;
- In line with the purpose of the study, with the questionnaire study developed with the Likert Scale data will be collected from you;
- Have to write your name or provide information that will reveal your identity. The names of the participants in the research will be kept confidential;
- The data collected within the scope of the research are only used for scientific purposes. Will be used for purposes other than the purpose of the research or will not be used in any other research. and, if necessary, will not be able to share it with others without your (written) consent;
- You have the right to examine the data collected from you if you wish;
- The data collected from you will be kept under lock and protected and at the end of the research will be archived or destroyed;
- There will be no questions / requests that may disturb you during the data collection process(s). However, if you feel uncomfortable for any reason during your participation, you will be able to leave the study at any time. If you

leave the study, the data collected from you will be removed from the study and destroyed.

Thank you for taking the time to read and evaluate the volunteer participation form. You can ask your questions about the study to Lamine Moustapha Adam from the Eastern Mediterranean University Department of Architecture or you can direct it to Prof.Dr Şebnem Hoşkara.

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I participate in this study completely of my own free will.	Participant Name and Surname :
I accept the use of the information I voluntarily provide for scientific purposes.	Phone (not required) :
	Signature :
	Date :

Please give this form to the data collector after completing and signing it.

Questionnaires

Please mark X

Age (year)	20-29		30-39		40-49		50-59		60-69	
Education Level	Primary and Diploma		Associate Degree (High School)		Bachelor's Degree		Master's Degree/PhD		No mension	
History of Residence in wall-city	≤5		6-10		11-15		16-20		>21	

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
01	Neighbourhood satisfaction (NS)	This neighborhood is a nice location to live.					
		The quality of living in this neighborhood is excellent.					
		This is a good neighborhood for kids to grow up in.					
		People should be proud to call this neighborhood home.					
		This neighborhood is beneficial to my mental and physical wellness.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
02	Social Equity (SE)	Access to educational facilities is easy (early childhood education, primary school, secondary school)					
		There are recreational facilities easily accessible (Sports field, park/public garden, indoor community facility, playground)					
		Essential services are available (Supermarket, sundry shop/convenience store, post office, healthcare centre/doctor, bank/money machine, religious centre)					
		Access to transportation facilities is easy (public transport)					
		There are adequate number of public open spaces for all					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
03	Sense of place (SOP)	When I'm away from this neighborhood for too long, I miss it.					
		I feel like I'm a part of this community.					
		This neighborhood provides me a sense of belonging.					
		I like to think of myself as someone who is equal to the residents of this neighborhood.					
		I am willing to stay in this neighborhood for a long time.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
04	Social participation (SP)	I'm ready to work with others on a project that will benefit my neighborhood					
		In my neighborhood, I participate in events with a social group. (e.g., golf, Mosque, church, etc.)					
		In the last 12 months, I've done some volunteer work in my community					
		Our neighborhood has a strong and engaged community.					
		I want to be a part of the activities in my neighborhood					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
05	Safety and security (SS)	After sunset, I am comfortable walking alone around the neighborhood.					
		In the last 12 months, I am not aware of any crimes committed in the neighborhood					
		In my neighborhood, I'm not worried about crime.					
		During the day, I feel safe walking around the neighborhood					
		I can use the public spaces freely and safely.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
06	Social engagement (SE)	I know the surnames of my next door neighbours					
		I am happy with the level of interaction I have with my neighbours.					
		I visit my neighbours in their homes					
		In an emergency, I am confident that my neighbors will help me.					
		With my neighbors, I borrow things and exchange favours.					
		I regularly stop and talk with people in my neighbourhood					
		My relationships and connections with my neighbors are really important to me.					
		I know my neighbours I am getting on well with my neighbours					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
07	Housing satisfaction (HS)	I am satisfied with the size of my house					
		Housing in my neighbourhood is affordable					
		I am satisfied with the condition of my house					
		The amenities and infrastructure of my housing unit is satisfactory.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
08	Health and well-being	I am satisfied with the quality of the health care organizations in my local area.					
		I am happy and healthy with the area that I live in.					
		I am satisfied with the climatic comfort of my house during summer time.					
		I am satisfied with the climatic comfort of my house during winter time.					
		There is an air and noise pollution in my local area.					
		There are sufficient number of public open spaces and green spaces in my local area					
		The quality of the public open spaces in my local area support mental health					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
09	Quality of life	I am satisfied with the quality of life in the walled city					
		I am satisfied with the spatial organization of my house.					
		I am satisfied with the transportation network.					
		I receive appropriate services in my own homes based on my needs.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
10	Public realm	There are enough public places for the local people to come together for socialization.					
		I am satisfied with the spatial organization of the public open spaces in the Walled City					
		I feel a sense of belonging when I am in the public open spaces					
		There are plenty of places for resting with comfortable seats in public buildings and open spaces.					
		Facilities are combined that increase social encounters and interactions.					
		Public spaces are equipped with cultural, sports, and safety items in case of emergency.					
		There is the possibility for public and integrated access (e.g., buses, and taxis) to public spaces.					

N	Indicator	Items	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
11	Future Focus (FF)	My neighborhood will be a more liveable place in the future					
		The Walled City will attract more visitors in the future					
		If there is more investment in the Walled City, the quality of life will increase					
		Tourism can be a positive tool for the future of the Walled City					
		University (EMU) should invest more and bring some academic units to the Walled City.					

Appendix B: Interview

1. Sürdürülebilirlik denince aklınıza gelen ilk kelime nedir? / What is the first word that you think of when we say sustainability?
2. Sürdürülebilir Kalkınma denince aklınıza gelen ilk kelime nedir? / What is the first word that you think of when we say sustainable development?
3. Sürdürülebilir Kalkınma Amaçları nedir biliyor musunuz? / Have you ever heard about Sustainable Development Goals (SDGs)?
Evet ise, ilk kez ne zaman ve nerede duydunuz? / If yes, where? When?