SUSTAINABLE DESIGN IMPLICATIONS FOR ALTERNATIVE FOOD
NETWORKS: A CASE ON GÜNEŞKÖY'S COMMUNITY SUPPORTED
AGRICULTURE (CSA) MODEL

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ABSTRACT

SUSTAINABLE DESIGN IMPLICATIONS FOR ALTERNATIVE FOOD NETWORKS: A CASE ON GÜNEŞKÖY'S COMMUNITY SUPPORTED AGRICULTURE (CSA) MODEL

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The global food system consists of complex processes (i.e., food production, distribution, consumption, and disposal) and contains several environmental, economic, and social sustainability challenges. As a result of the food system's problems, some producers and consumers have taken actions that have resulted in the emergence of alternative food networks. These are primarily bottom-up initiatives led by creative and innovative groups of people collaborating to develop alternative food-system solutions. Different areas of *design for sustainability*, such as *social innovations*, *creative communities*, and *product-service-system design*, can improve and empower alternative food initiatives through diverse strategies and methods. Also, these communities carry the characteristics of creative communities and involve valuable sources of knowledge and insights for designers. In this regard, this thesis focuses on the Güneşköy initiative that is selected as a case study in the context of the Community Supported Agriculture (CSA) model. This study aims to examine the significant aspects of the CSA model within the context of the Güneşköy initiative through adopting participatory design and action research approaches to present design for sustainability implications that empower the community to maintain its activities and structure.

ÖZ

ALTERNATİF GIDA AĞLARI İÇİN SÜRDÜRÜLEBİLİR TASARIM ÖNERİLERİ: GÜNEŞKÖY'ÜN TOPLULUK DESTEKLİ TARIM (TDT) MODELİ ÜZERİNE BİR VAKA ÇALIŞMASI

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Küresel gıda sistemi, karmaşık süreçlerden (gıda üretimi, dağıtımı, tüketimi ve atık yönetimi) oluşur ve çevresel, ekonomik ve sosyal sürdürülebilirlik açısından çeşitli zorlukları içerir. Gıda sisteminin sorunlarının bir sonucu olarak, bazı üreticiler ve tüketiciler alternatif gıda ağlarının ortaya çıkmasına neden olan eylemlerde bulunmuştur. Bunlar, alternatif gıda sistemi çözümleri geliştirmek için işbirliği yapan, yaratıcı ve yenilikçi gruplar tarafından yönetilen ve tabandan gelen inisiyatiflerdir. *Sosyal inovasyon, yaratıcı topluluklar* ve *ürün-hizmet-sistem tasarımı* gibi *sürdürülebilirlik için tasarımın* farklı alanları, çeşitli stratejiler ve yöntemler aracılığıyla alternatif gıda girişimlerini iyileştirebilir ve güçlendirebilir. Ayrıca, bu topluluklar yaratıcı toplulukların özelliklerini taşır ve tasarımcılar için değerli bilgi ve içgörü kaynaklarıdır. Bu bağlamda, bu tez Topluluk Destekli Tarım (TDT) modeli kapsamında örnek vaka olarak seçilen Güneşköy topluluğuna odaklanmaktadır. Bu çalışma, TDT modelinin önemli yönlerini, katılımcı tasarım ve eylem araştırması yöntemlerini benimseyerek Güneşköy topluluğu bağlamında incelemeyi ve topluluğun faaliyetlerini ve yapısını sürdürme konusunda güçlendiren sürdürülebilirlik için tasarım önerileri sunmayı amaçlamaktadır.

Anahtar Kelimeler: Topluluk Destekli Tarım, Alternatif Gıda Ağları, Sürdürülebilirlik için Tasarım, Sosyal İnovasyon, Yaratıcı Topluluklar

To my family

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ABBREVIATIONS

AFNs: Alternative Food Networks

CSA: Community Supported Agriculture

CFNs: Civic Food Networks

DBB: Doğal Besin Bilinçli Beslenme Ağı (Natural Food, Conscious Nutrition Network)

DfS: Design for Sustainability

FCNs: Food Community Networks

SFSCs: Short Food Supply Chains

CHAPTER 1

INTRODUCTION

The food system at the global scale involves a complex process of production, distribution, consumption, and disposal of food. It has a significant effect on climate change that around 30% of total GHG emissions, which is the primary contributor to global warming, was generated by the food system between 2007 and 2016 (FAO et al., 2020). Food systems also have other environmental effects such as damaging local habitats and biodiversity, water pollution (e.g., usage of fertilizers and pesticides), and usage of natural resources (Mbow et al., 2019) such as freshwater, which around 70% of the global source is used in agriculture (FAO et al., 2020).

In addition to environmental impact, the industrialized food system also has effects on economic and social dimensions. The domination of global-scale companies in the food sector threatened the local economies and local producers (Garnett, 2013). Local and small-scale farmers experience difficulty in entering the market and competing with the big companies. Also, long food chains and intermediaries cause price gaps, leading to underpayment for producers and high final prices for consumers (Meroni, 2006). Due to physical and social distance between consumers and producers, consumers lack understanding and knowledge about where products come from, how they are produced, and who the producers are (Meroni, 2006; Soysal Al & Küçük, 2019; Vittersø et al., 2019). The industrial food system is also seen as a driving force of the loss of local food cultures and communities (Garnett, 2013). Thus, the conventional food system has some drawbacks in terms of production, consumption, and distribution of food considering environmental, economic, and social dimensions.

As a response to the problems in the food system, there are some actions taken by producers and consumers. In this study, Alternative Food Networks (AFNs) term will be used to refer to alternative food systems and communities that facilitate and promote sustainable food production, consumption, and distribution practices by:

- supporting small scale agriculture and local farmers,
- eliminating intermediaries, and creating direct food sale links between producers and consumers,
- involving and empowering different actors, and
- encouraging a food system that is both economically and socially just (Feenstra, 1997; Jarosz, 2008; Renting et al., 2012; Wilson, 2013).

AFNs can emerge in different forms, such as community gardens, community-supported agriculture (CSA), farmers markets, and buying clubs (Michel-Villarreal et al., 2019; Prost et al., 2018; Savarese et al., 2020; Si et al., 2015). Since AFNs are mainly bottom-up initiatives driven by the groups of creative and innovative people who develop alternative solutions for food systems collectively, they can be examined from the perspectives of *design for sustainability and social innovations, creative communities, community-centred design,* and *product-service-system design* (Joly & Cipolla, 2013; Manzini & Meroni, 2014; Meroni, 2006; Meroni, 2007). These various areas of design discipline can enhance and enable alternative food communities and initiatives through different strategies and tools as well as obtaining valuable knowledge and insights from them.

In this regard, this thesis focuses on the Güneşköy initiative that is selected as a case study in the context of the Community Supported Agriculture (CSA) model. It is based on the division of the risks (e.g., loss of harvest partially or fully) and benefits of the production between farmers and consumers through in advance payments, and the involvement of the consumers in farming activities (Renting et al., 2012; Wilson 2013). Güneşköy is a cooperative and ecovillage initiative established in 2000 in the east of Ankara, within the borders of Kırıkkale. Based on the initial search on alternative food communities and initiatives that adopt sustainable practices,

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Güneşköy was chosen as a good working model for carrying out a well-established CSA application. It sustains that model and application for more than ten years with the involvement of various actors and containing rich experience.

1.1 Aim and Objectives of Study

The study aims to explore the main characteristics of the community-supported agriculture model in the context of Güneşköy case through investigating its structure and CSA practice, and identifying problems that Güneşköy's stakeholders encounter and the strategies they adopt and develop through a participatory approach to generate sustainability implications that enable the community to sustain their activities and structure. Since CSA is a form of AFNs and the emergence, nature, and structure of CSA are strongly related to the current food system and AFNs, before analyzing the CSA model in detail, this study also aims to investigate the main characteristics and examples of AFNs from the sustainability perspective. The aims and research questions of this study are presented with the main methodology of the research in Table 1.1.

1.2 Research Questions

The main research question is:

- What are the main characteristics of the community-supported agriculture model regarding sustainability considerations through an exemplary case of Güneşköy from *design for sustainability* and *action research* approaches?

The sub-questions that support the main questions are:

- What are the main characteristics of AFNs regarding the food-related systems and sustainability considerations from the social innovation and creative communities viewpoints?

- How does Güneşköy's structure (i.e., foundation, stakeholders, land, activities, and relations) enable and support the implementation of CSA?

- How does the CSA model work in Güneşköy in terms of its operation (farming activities and services), supporters, and products?

- What are the problems that the stakeholders of Güneşköy encounter and strategies they develop?

- What are the design for sustainability implications considering those problems and strategies?

Table 1.1 The structure of the study.

1. Aim and Objectives of Study

The aim of the study is to explore the main characteristics of the community-supported agriculture model in the context of the Güneşköy case with a participatory approach to provide design for sustainability implications that enable the community to sustain its activities and structure.

2. Research Questions

What are the main characteristics of the community-supported agriculture model regarding sustainability considerations through an exemplary case of Güneşköy from *design for sustainability* and *action research* approaches?	What are the main characteristics of AFNs regarding the food-related systems and sustainability considerations from the social innovation and creative communities viewpoints?
How does the CSA model work in Güneşköy in terms of its operation (farming activities and services), supporters, and products?	How does Güneşköy's structure (i.e., foundation, stakeholders, land, activities, and relations) enable and support the implementation of CSA?
What are the design for sustainability implications considering those problems and strategies?	What are the problems that the stakeholders of Güneşköy encounter and strategies they develop?

3. Methodology

Research Approach: qualitative research with a particular focus on action research and case study approaches	**Data Collecting Methods:** semi-structured interview and participant observation
Sampling: purposeful sampling, critical case sampling, snowball sampling	**Data Analysis:** thematic coding, content analysis, descriptive coding, process coding, values coding

1.3   Significance of the Study

The current industrial food system contains various problems for different actors, and these problems drive the emergence of alternative solutions. Along with the increase of bottom-up solutions initiated by producers and consumers, the academic studies related to AFNs are expanded and accelerated. However, it can still be considered as a recent field, and there are many areas to be explored. For example,

Wilson (2013) and Michel-Villarreal et al. (2019) highlights that studies in AFNs generally focus on either producer or consumer perspective and studies incorporating both actors are lacking, but it is critical to adopt more holistic approaches involving different views to understand the complexity of connections and ensure the sustainability of AFNs. In line with this argument, this study includes various perspectives such as producers and consumers in the context of the CSA model.

Alternative food initiatives and organizations in Turkey have been emerging with significant pace and influence in recent years, and accordingly, it is critical to examine the collective actions of these new actors and their potential in this dynamic field to understand local food systems and the experiences of emerging projects (Kurtsal & Viaggi, 2020; Soysal Al, 2020). Some forms of AFNs, like food communities, are more common in Turkey. Some of the food communities apply CSA practices partially, but many food initiatives in Turkey have set CSA as their goal to achieve (Özden, 2020) rather than applying the CSA model with all dimensions. Therefore, there are not well-known, original and established CSA applications in Turkey as in the case of international examples, except Buğday Association's Bahçe and Güneşköy's Bahçemiz projects. Academic research is going parallel with that situation. Except for a few studies (Özden, 2019; Özden 2020), the majority of studies on AFNS in Turkey have a specific focus on food communities, whereas CSA remains undiscussed and unexplored in the literature.

Furthermore, most of the recent studies in the context of AFNs in Turkey focus on the food initiatives in İstanbul (Ince & Kadirbeyoglu, 2020; Demir 2013; Soysal Al, 2020; Soysal Al & Küçük, 2019; Öz & Aksoy 2019) and coastal side of Turkey, particularly in İzmir (Kurtsal, Ayalp & Viaggi, 2020; Özden, 2019; Özden, 2020) while some of the studies include initiatives from all over Turkey (Kurtsal & Viaggi, 2020; Aksoy & Öz, 2020; Kadirbeyoglu & Konya, 2017). However, there are not many academic studies related to AFNs in Central Anatolia, including Ankara.

One of the notable situations is that a substantial amount of studies in the Turkish context are looking through alternative food initiatives from the perspectives of

political science, management, and sociology disciplines, along with few studies from agricultural studies. Even though design approaches are used and studied in the framework of food systems and AFNs in global literature (Ballantyne-Brodie et al., 2013; Ballantyne-Brodie & Telalbasic, 2017; Fassi et al., 2013; Manzini, 2014; Meroni, 2006; Renting et al., 2012), the relation of design and AFNs studies particularly focusing on the CSA model mainly remained undiscovered in the literature of Turkey.

After this review, the significance of this study becomes more relevant and apparent. This study focuses on the CSA model of the Güneşköy initiative in Ankara from the design perspective. Since food practices and networks are shaped based on specific social, economic, and political contexts they exist in (Wilson, 2013), exploring the particular problems, strategies, and solutions in the local context can contribute to accumulating knowledge in that setting. Güneşköy implements a well-established and original CSA model and sets an exemplary case in Ankara, Turkey. Therefore, investigating Güneşköy's CSA model through perspectives of *design for sustainability and social innovations, creative communities, community-centred design,* and *product-service-system design* (Joly & Cipolla, 2013; Manzini & Meroni, 2014; Meroni, 2006; Meroni, 2007) can offer new possibilities to (1) obtaining knowledge from a creative community, (2) exploring their strategies and making them visible which may lead the transfer of these strategies to other communities, (3) identifying their problems and suggesting solutions to strengthen the community and improve their services, and (4) develop scenarios for sustainable and resilient food systems in that context.

1.4   Structure of the Thesis

This thesis is divided into five chapters:

The first chapter, *Introduction*, presents a brief overview of the topics related to the study and introduces the aim and objectives of the research, research questions, and the significance of the study.

Chapter 2, *Literature Review*; offers an in-depth review of the literature that is applicable to the research's aim and scope in order to provide a deeper understanding of the context of the research topic. It starts with explaining the food system by covering the conventional food system and discussing the food system in the context of Turkey. It continues with the alternative food networks by describing aims and practices along with the categorization of different forms of AFNs. Lastly, the design for sustainability and social innovation section explains the various design approaches related to the research topic.

Chapter 3, *Methodology*, presents the methodological approach used in this study. It provides a detailed description of qualitative research with a particular focus on action research and case study approaches, data collecting methods (i.e., interview and participant observation), and data analysis techniques. Finally, it discusses the ethical considerations and study's limitations.

Chapter 4, *Findings*, explains the outcomes of data analysis through the main themes and sub-themes under four sections: Food System, Structure of Güneşköy, CSA Model of Güneşköy, and Design for Sustainability and Social Innovation Implications. It starts with discussing problems of the food system and AFNs from participants' perspectives, and continues with describing the structure of Güneşköy through its foundation, stakeholders, land, projects, and relations. Later, it covers the community-supported agriculture model and processes in Güneşköy. In addition to findings from the field research, it provides a cross-analysis of the design for sustainability implementations through key findings.

Chapter 5, *Conclusions*, presents the overall results and insights of the study through reviewing the research aim and answering the research questions. Finally, it discusses the limitations and recommendations for further research.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews the literature under three sections: the food system, alternative food networks (AFNs), and Design for Sustainability and Social Innovation. In the first section, the food system, specifically the agro-food system, will be discussed in terms of the conventional food system at the global level and the food system in Turkey. The following section focuses on the alternative food networks introducing the relevant terms, discussing alternativeness and limitations of AFNs, and explaining the different forms of AFNs (i.e., community gardens, CSA, farmers markets and buying clubs). The AFNs section ends with the review of AFNs in the Turkey context. The last section of the literature review is Design for Sustainability and Social Innovation which presents definitions and perspectives related to social innovation, creative communities, community-centered design, service design, and strategic design.

2.1 The Food System

In this section, the food system, especially the agro-food system, will be addressed in terms of the conventional food system on a global scale and the food system in Turkey. Firstly, the conventional food system's characteristics, structure and problems, and food movements will be examined. Secondly, the food system in Turkey will be analyzed shortly.

2.1.1   The Conventional Food System

Conventional or industrial agriculture is often associated with monoculture applications in large areas and extensive use of machines, leading to reliance on fossil fuels and agricultural chemicals like pesticides and fertilizers (Michel-Villarreal et al., 2019; Soysal Al, 2020). The industrialized food system and big companies as the main reinforcing power imbalances by disrupting local agriculture, weakening local communities and networks, destroying local food cultures, and promoting packaged foods whose manufacturing is deliberately engineered to maximize the profits of the corporations (Garnett, 2013). According to Meroni (2006), contemporary food intermediation increasingly shows the insufficiency of a number of considerations, both globally and locally:

- *the trend of extra costs* that increases the final price while underpaying farmers,

- *product over-standardization* that dramatically reduces diversity as well as damaging small-scale production and small farmers,

- *increasing disappointment of customers* who do not have clear access to knowledge about the product's origins,

- *transportation* designed for vast volumes of product over long distances, and

- *detachment from season and territory*, resulting in a loss of food knowledge and unsustainable environmental impacts.

Traditional agriculture knowledge of local farmers has an essential role in preserving crop diversity and genetic sources which are substantial for agricultural sustainability and resilience (Aksoy & Öz, 2020). However, local and small-scale farmers are experiencing various challenges in the conventional food structure. Meroni (2006) explains that small productions are omitted from organized distribution structures due to their small amounts, seasonal existence, and the fact that they do not meet the aesthetic requirements of mass production. There is a need

for change in the food system to advance the sustainability and productivity of food structures and the socio-economic conditions of small-scale producers (Michel-Villarreal, 2019).

From the consumption perspective, Garnett (2013) states that according to the market indication, consumers prefer Western-style food which is easy to prepare, energy- and fat-dense, processed, and dependent on advanced supply chains. Regarding this issue, Lang and Barling (2012) point out the nutrition transition and public health concerns, and they explain that consumers' diets change from basic traditional food to modern, processed, fatty, and sugary food. On the other hand, Meroni (2006) states that issues related to traceability of food source, transparency, and demand for knowledge start to gain importance from the consumers' point of view.

With the globalization of the food system, geographical areas where production and consumption activities take place constantly become separated and distant; therefore, foods are transported long distances to reach the consumers (Trobe, 2001). Similarly, Soysal Al and Küçük (2019) highlight that the commoditization of food at the global level causes increased distance between urban and rural areas as well as a lack of power over the land and understanding of small-scale farming. Therefore, it can be concluded that the accumulation of food production in particular areas and concentration in supply chains have caused higher physical and social distances between the actors in the food system (Vittersø et al., 2019).

In today's world, how production, distribution and supply of food are operated causes serious challenges related to health and environmental issues (Vittersø et al., 2019). The global food system is seen as one of the influential contributors to climate change, greenhouse gas emissions (GHGs), water and soil pollution, excessive usage of natural sources, and loss of biodiversity (Reisch et al., 2013; Savarese et al., 2020; United Nations, 2016). However, it is hard to calculate the environmental impact of the food system due to its complexity, and each action and practice has different drawbacks and advantages. For example, the packaging is essential to preserve

vulnerable foods which prevent food waste, but at the same time, its production and recycling processes contribute the greenhouse gas emissions (Vittersø et al., 2019)

There are various perspectives regarding the food system dilemma. That can be seen as:

- a production issue, requiring improvements on how food is processed by increasing unit efficiency;

- a consumption issue, demanding changes to the nutritional drivers that influence food production;

- or a socio-economic challenge requiring changes to regulating the food system (Garnett, 2013).

Based on the food system transformation view, the challenges we encounter result from unequal connections between producers and consumers and within countries and societies; thus, they are socio-economic problems rather than technological or the result of individual decisions (Garnett, 2013). Meroni (2006) explains that in the modern food system, the actors in the first and last points of the chain, who are producers and consumers, suffer since local farmers have difficulty entering the market and consumers have limited opportunity of understanding and choice. She emphasizes that many local farmers who are important for cultural heritage and local economies are at risk of disappearance.

Policymakers have difficulty addressing the interconnected and complex nature of the whole food system considering different views which prioritize various interests such as markets, citizens, production efficiency and food security (Lang & Barling, 2012). There are criticisms related to the dominant food governance systems, as Renting et al. (2012) assert that the role and participation of civil society have diminished to passive consumers and receivers of promotions and similarly, farmers have regarded price takers and recipients of regulations.

As a response to problems in the current food system, food movements emerged with various aims and priorities. Holt Giménez and Shattuck (2011) discuss global food movements under two main trends that are progressive and radical. They state that both directions aim to transform the structural conditions in a way that functional innovations for fair and sustainable food systems can operate. Holt Giménez and Shattuck (2011) explain that the *progressive trend* calls for developing alternative practices to industrial foods (e.g., agroecological farming, organic agriculture and community food networks). That trend mostly remains in the current capitalist food framework and demands food justice, right to food, authenticity, and the quality food for people including various backgrounds in terms of socio-economic status, ethnicity and gender. On the other hand, the *radical trend* concentrates on the redistribution of power, land and water resources in favor of smallholders, laborers, farmers, and peasants. It asks for systematic food change regarding market reforms and property regimes (Holt Giménez & Shattuck, 2011).

Food democracy is one of the frequently used notions in the context of food movements. Prost et al. (2018, p.1) state that the aim of food democracy is "structural change in the dominant corporate food regime towards 'ethical food practices', as characterized by the values of social and economic justice, environmental sustainability, and democratic governance." Renting et al. (2012) state that food sovereignty goes primarily parallel to the food democracy notion, but food sovereignty is more firmly established on rights and generally described as a producer-led movement.

2.1.2   The Food System in Turkey

To better understand Turkey's current food system and agricultural practices, firstly, I will start with the historical summary. Kadirbeyoglu and Konya (2017) give an overview of the historical background of agricultural production and food policies in Turkey. They state that commercialization of agricultural production started in the 1920s, and between the 1950s-1960s, mechanization and industrialization were

favored through state policies, and this period was followed by state support on chemical fertilizers and tractor usage in agriculture. Since 1960, five-year development plans were implemented which also affected agricultural policies, and in the 1980s, liberal economic policies were adopted which led to market-driven conditions in agriculture and private sectors were supported by state policies (Mavi, 2020). In the 2000s, the implementation of the Agricultural Reform Implementation Project was an important milestone in agriculture of Turkey, and later, with the utilization of other laws regulating agricultural practices and usage of seeds, small producers faced very challenging conditions such as bankruptcy (Demirdöğen & Olhan, 2017; Kadirbeyoğlu & Konya, 2017).

Difficult economic conditions of farmers force them to find other ways of surviving, and as a result, the contract farming applications have increased. In contract farming, agro-food companies make a deal with the farmers that the companies are in charge of deciding which type of crops and seeds are produced, time of planting and harvesting, and quantities of fertilizers and pesticides used, and farmers do not even have a choice on not to use these agricultural chemicals or hybrid seeds at all (Soysal Al, 2020). As a result of these circumstances, farmers have been alienated from their own production, and they are accustomed to the agricultural chemical inputs and hybrid seeds, which lead to farmers' loss of knowledge on how to cultivate the soil and preserve their crops without fertilizers and pesticides (Soysal Al, 2020). Considering these issues, it can be concluded that agriculture and especially small-scale farming in Turkey have faced many problems from various aspects such as economic, social and environmental.

2.2   Alternative Food Networks

This section starts with the definition of alternative food networks (AFNs) from various perspectives and continues to discuss the related terms (i.e., civic food networks, short food supply chains, food community networks) as summarizing their fundamental aspects. Then it moves on to the AFNs' alternativeness dimensions and

limitations of AFNs. Lastly, the categories of AFNs are examined, and each type of AFNs (i.e., community-supported agriculture (CSA), community gardens, buying clubs, and farmers markets) are explained in detail.

2.2.1 Definition of AFNs and Related Terms

As opposed to problems in the food system, different solutions and movements emerged in time. Various perspectives related to alternative food systems and formations are discussed in the diverse disciplines. In the studies, different terms have been used for them, such as *alternative food networks* (AFNs) (Jarosz, 2008; Michel-Villarreal et al., 2019; Savarese et al., 2020; Si et al., 2015), *civic food networks* (CFNs) (Prost et al., 2018; Renting et al. 2012), *short food supply chains* (SFSCs) (Vittersø et al., 2019) and *food community networks* (FCNs) (Kurtsal & Viaggi, 2020).

Feenstra (1997) emphasizes the locality of AFNs and claims that they have the purpose of supporting farmers and consumers economically, practicing ecological food production and distribution, and strengthening social justice in the community. Jarosz (2008) suggests that AFNs can be defined by four main themes:

1. shortening the link between producers and consumers,
2. applying small scale and organic agricultural methods which are opposed to large scale conventional agriculture practices,
3. presence of food purchasing sites like food cooperatives, CSA linkages, and farmers markets, and
4. commitment to sustainable food production, consumption, and distribution as expressing social, economic, and environmental values.

Wilson (2013) describes AFNs in a broader perspective as saying that AFNs refer to producers and consumers searching for diverse forms of changing conventional food systems. She elaborates that AFNs are perceived as a response to the commercialized global and corporate food system based on efficiency and standardization through

which the food is valued almost like a commodity open to technological and scientific interventions. Likewise, Renting et al. (2012) say that the participants of newly emerging alternative networks actively revise their roles and connections with the food system and reconsider the ecological, cultural and social meanings of food as seeing it beyond economic commodity. On the other hand, Venn et al. (2006) emphasize the variety and complexity of the AFNs, and state that defining the AFNs as everything which is not a conventional market is not enough anymore, since "this undermines the depth and diversity of this growing sector and does not do credit to the array of creative/innovative relationships orchestrated through new consumer-producer partnerships" (p. 256).

Similar to AFNs, civic food networks are defined as civil society movements that include different types of alternative food initiatives and involve food democracy processes as demanding redistribution of power and increased participation of people in the food system (Prost et al., 2018). Renting et al. (2012) explain that CFNs have some common features such as, encouraging ecological farming practices, preventing avoidable food miles and energy consumption, promoting seasonal foods, providing fair payment to workers and producers in the food system, and offering the accessibility of quality food for different financial budgets rather than only for high-income levels. They also say that both social, environmental and ethical considerations related to food quality and informal and flexible ways of management are integrated into CFNs. Renting et al. (2012) express that CFNs present various competencies to perform as agents of change in the agri-food system at a local level, and at the level of society, public discourses and market forces as increasing the effect of the role of civil society.

Short food supply chains reinforce the link between producers and consumers, and they are seen as a more direct, transparent, and personal practice of distributing food that is alternative to industrial and large-scale supply chains (Vittersø et al., 2019). The short food supply chains' role in terms of environmental sustainability discussed by Vittersø et al. (2019) as stated that the ways of food distribution that includes travel distances, packaging and seasonality of food which are related to

carbon footprint, food waste and freshness has a more direct impact on the environment while biodiversity and animal welfare has indirect relation with short food supply chains. Kurtsal and Viaggi (2020) explain food community networks as a formal or informal organization of consumers to gather regularly for meetings and communicate with local producers to buy their food products from them without intermediaries.

As it is seen, even though there are different terms like AFNs, CFNs, SFSCs, and FCNs, all terms are closely related to each other and have shared understandings and purposes for the food system. In this study, AFNs term is selected for referring alternative food systems and formations that aims to enable sustainable food processes (i.e., production, consumption, distribution, disposal) as supporting small scale agriculture and local farmers; integrating consumers to the system; creating a strong economic and social bond between consumers and producers and encouraging economically and socially fair food system.

2.2.2   Alternativeness and Limitations of AFNs

The alternativeness of AFNs is discussed and categorized under different dimensions in different studies (see Si et al., 2015; Whatmore et al., 2003). Three major dimensions of alternativeness are classified as (1) redistribution of value between stakeholders, (2) reunite food producers and consumers, and (3) pursue new ways of market governance (Whatmore et al., 2003). Si et al. (2015) explain that these three dimensions in Whatmore et al.'s (2003) study cover the economic, social, and political aspects of AFNs. Si et al. (2015) add the ecological dimension as a fourth dimension and express that ecological alternativeness is a shared characteristic of many AFNs in terms of adopting ecological production applications. Si et al., (2015, p.303) further develop these four dimensions into more specific eight elements which are "healthy, ecological, local, seasonal, small-scale, strengthening social ties and personal connections, socially just, and political." In their study, AFNs are analyzed in terms of features of food such as healthy, ecological, and local and from the

perspective of food production and links between consumers and producers under the concepts of small-scale, socially just, and so on. On the other hand, Si et al. (2015) highlight that manifestations of these AFNs' alternativeness dimensions are context-specific and differ in various economic, social, and political settings.

One of the major criticisms related to AFNs is that the term of *alternative* is a very ambiguous concept which doesn't reflect the participants' various perspectives and intentions and principles of ethical and ecological food communities as well as limiting them to be defined as an opposition to or distinction from mainstream food system regardless of their diverse practices (Renting et al., 2012; Wilson, 2013). Researchers also emphasize that since AFNs are shaped according to specific settings (e.g., social, politic, economic) that they are operated, it is not possible to simply classify their practices as alternative or conventional, and often they are mixed and tangled with each other (Forssell & Lankoski, 2015; Soysal Al & Küçük, 2019; Wilson, 2013).

Another notable criticism about AFNs is not being able to provide social justice and equity in terms of economic class, privilege, and race as working almost like a niche market for the middle class and white consumers (Wilson, 2013). Two particular studies from different contexts share similar concerns. Si et al. (2015) point out that in the context of AFNs in China, the founders of CSAs are mostly "new peasants", buying clubs are operated by housewives, organizers of farmer' markets, and city-dwellers who rent a place for community gardens are "well-educated" elites, and involvement of "real" peasants to AFN's development is minimal. Prost et al. (2018) exemplify from their research in the UK that Open Food Networks and food hubs which are a form of AFNs established mostly in affluent areas where people can afford the privilege to buy organic, local, and ethically grown food whereas people who cannot procure them have to make the best use of the cheapest food they can reach and afford.

Lastly, Wilson (2013) discusses the Food Not Bombs case as stating they attempt to create an area where a meal is shared collectively and consumer and producer roles are intertwined, but only a core group of the community participates in tasks like cooking, cleaning, and collecting ingredients. He explains that this core group is mostly formed by students or white and middle class who are part of the activity since they prefer to do, not out of necessity.The researcher claims that because of economic limitations, care obligations, and repressive systems of capitalism, only some people who have the privilege to have time and status can engage in that activities.

2.2.3   Categories of AFNs

Venn et al. (2016) identify categories of AFNs under (1) *producers as consumers*, (2) *producer-consumer partnerships*, (3) *direct sell initiatives*, and (4) *specialist retailers* headings based on the consumers' degree of involvement in the food production process and the relations between the producer and consumer (see Table 2.1). Venn et al. (2016) explain that in the first category which is producers as consumers, there is no clear differentiation between consumer and producer roles since the same people produce and consume the food. They claim that the examples in these categories reflect the consumers' active involvement in finding their own solutions to food acquisition rather than represent the consumers as passive beneficiaries of the system. Venn et al. (2016) analyze that, in the producer-consumer partnerships category, consumers engage in the food production through arrangements for mutual advantage while the third category, direct sell, provides a direct connection between consumers and producers and makes visible the original source of food for the consumers. Lastly, in their study, they explain that the specialist retailers facilitate as the intermediaries so that it is unlikely that consumers and producers have a direct relationship with each other as in the case of other categories but since specialist retailers can give more information about where and the food is produced compared to conventional markets, they still may operate as a

form of the connection point. It can be concluded that people's involvement and level of engagement in production decreases from the first category to the fourth one.

Table 2.1 Categorization of AFNs (Adapted from Venn et al., 2016, p.256).

Category	Explanation	Examples
Producers as consumers	Schemes where the food or produced by those who consume it. Often promote healthy lifestyles. Extent of commercial orientation varies. Produce is usually sold on a local level but may be targeted at specific groups, e.g. low incomes, ethnic minorities.	Community gardens Community centers with specific food projects Community food cooperatives Allotment groups
Producer-consumer partnerships	Partnerships between farmers and consumers, where the risks and rewards of farming are shared - to varying degrees - due to subscription or share arrangements.	Community Supported Agriculture (CSA)
Direct sell initiatives	Farmers or producers cut out middlemen and sell direct to consumers. Can be direct face to face or over the Internet.	Farmers markets Farm gate sales Adoption/rental schemes Mobile food shops Box schemes Producer cooperatives
Specialist retailers	Enable producers to sell to consumers more directly than through conventional supermarkets. Often sell high value-added, quality or speciality foods and may be targeted at tourists.	Online grocers Specialist wholesalers Tourist attractions

In addition to the categorization of Venn et al. (2016), different classifications are used in the literature but the most common examples of AFNs which are community gardens, community supported agriculture (CSA), farmers markets, and buying clubs (Michel-Villarreal et al., 2019; Prost et al., 2018; Savarese et al., 2020; Si et al., 2015) are chosen to discuss in detail in the scope of this research.

2.2.3.1   Community Gardens

Sabitzer et al. (2018) describe the community gardens as a piece of land where participants share the space and their gardening tools for the cultivation of food. Community gardens can be arranged in various ways, such as collaborative work on public spaces, individual vegetable plots in large areas and might be settled in various spaces like school gardens, neighborhood areas, university campuses, and urban

street corners (Fassi et al. 2013; Sabitzer et al. 2018). According to Fassi et al. (2013), growing your own food which is fresh and tasty and building a connection with nature, is an essential part of human life and community gardens offer a chance to produce your own food and facilitate learning, socializing, and knowledge transfer within the community.

Community gardens' effect on people's health is discussed by Turner (2011) and she expresses that community gardens increase the awareness of eating seasonal food and since the members of the community consume the food they grow, they can experience mental comfort in terms of having the knowledge of what they are eating and how it is produced. Turner (2011) also emphasizes that community gardens may contribute to the promotion of sustainable urban living by facilitating reconnection to place and the food system at the individual and community levels.

2.2.3.2 CSA

Wilson (2013) explains that the main idea of the CSA application is based on distributing the risks and benefits of the harvest between producers and consumers who acknowledge that their harvest share depends on various factors such as social and environmental conditions. Renting et al. (2012) say that in the CSA model, consumers agreed on contributing the farm financially by making in advance payments and accepting production risks (i.e., having poor harvest) and in some conditions helping the tasks in the process of production, so that the relationship between farmers and consumers expand beyond the financial transactions as including social and political aspects. Renting et al. (2012) exemplify the working structure of the CSA system to say that subscribed members get a food box on a weekly basis and may be involved in the production process as visiting the farm and helping the harvest.

Although the principles of the CSA model remain the same, different approaches and practices can be applied regarding the degree of subscribed members' involvement in the farm activities and harvest share distribution. For example, in some CSA applications, subscribers can choose different sizes for the food box which is offered by the farmers (Savarese et al., 2020), while in other cases, farmers may only provide a standard size of box for each subscriber. As a different CSA structure, Wilson (2013) explains *The Vegetables Unplugged* CSA case, which has a formal workshare structure through which subscribers commit to working in the farm as an exchange for a weekly harvest share. For example, workshare members are expected to contribute labor to the farm three hours each week during the season to receive a large share whereas small share members are required to work three hours for the half of the season. In this study, it is also highlighted that the workshare structure creates a space for learning practical farming skills along with being part of the non-monetary exchange and in some aspects, producing own food collectively supports self-reliance and autonomy outside of the market.

Savarese et al. (2020) point out that most of the models in AFNs usually concentrate on the viewpoints of producers or consumers, while in the CSA model, producers and consumers jointly experience a co-creation process as sharing the financial risk, farming responsibilities, and skills. Additionally, Savarese et al. (2020) analyze the social dimension of CSA farms and state that in the CSA model, a dynamic community where consumers experience *a sense of belonging and connection* is created with the stimulation of food consumption's nature of strengthening the social aspects, so that they are more eager to participate in the co-creation process. The researchers also express that consumers' deep engagement to the CSA structure through participating in co-creation procedure encourages them to become *agents of change* processes in their region by sharing their experiences about *learning and doing* process so that longer-term change for more conscious and sustainable consumption practices and lifestyle can be implemented (Savarese et al. 2020).

There are some drawbacks and limitations of the CSA structure mentioned in the studies. For example, having limited variety for the CSA products is expressed as

one of the complaints of subscribers who may get used to reaching a variety of foods from all over the world (Si et al., 2015). The convenience of CSA practice is also discussed, and Wilson (2013) argues that it could be regarded as inconvenient from the consumers' viewpoint, but CSA bases on the mutual benefits and needs of both consumers and producers so that from the perspective of producers it is not convenient either to wait for the consumers all day standing at a market stall. In addition to that, Wilson (2013) draws attention to the social aspect of picking up the CSA package from the distribution points and states that encountering with the farmer and other CSA members in that weekly pick-up moments creates an open and friendly environment, which is not the case in the market setting mostly and even though not all members use the chance of building a new connection, the possibility of it exist there still.

2.2.3.3   Farmers Markets

Farmers markets as a mode of direct sale between farmers and consumers promote product visibility and relationships between the actors and they are differentiated from the neighborhood markets where products come after passing through various mediators (Meroni, 2006). Brown (2001) emphasizes that although the notion of farmers markets may include a broad range of arrangements such as municipal markets and flea markets where producers and resellers are blended in early times, the definition of farmers markets have evolved to be more limited as accepting farm products which are only produced and sold by the farmers themselves rather than resellers.

Farmers markets are examined in terms of different perspectives and from an ecological aspect, Trobe (2001) asserts that since many producers in farmers markets apply small-scale production and products are sold in the local setting in a very short time after they are harvested, they are less dependent on chemical additives which are used for preserving the products for a long time during the transportation and shelf display. On the other hand, when it is examined from the economic perspective,

Trobe (2001) says that farmers markets provide a space for farmers to enter the market where they can sell their products directly to the consumers as cutting out the intermediary, so that they can benefit more from their products. Farmers markets contribute to the *local economy* since a greater amount of the locally produced goods' value stays within the local economy instead of spreading to processors, intermediaries, and chain stores that don't have a close connection to the local community (Trobe, 2001).

The social aspect of the farmers markets is also discussed in the studies. For example, Kirwan (2006) states that having good quality products from farmers markets is the primary reason for consumers' regular participation in farmers markets, but at the same time consumers value the personal interaction with the producers which help them build up trust and receive firsthand information about the products. The non-commercial aspect of farmers markets which is emerged by direct communication and reciprocal recognition is also appreciated by farmers, since they have the opportunity to be perceived and treated as individuals rather than just being anonymous suppliers (Kirwan, 2006). In the farmers markets, consumers have the opportunity to get information about where and how products are grown so that it strengthens the *confidence of consumers*, and raises the *traceability of products* and also they can taste the products before purchasing so that they can experience a more pleasing and social way of shopping (Trobe, 2011).

2.2.3.4   Buying Clubs

Buying clubs can cover different ranges of initiatives and enterprises, such as small groups of people or structured organizations and communities (Little et al., 2010). Some types of buying clubs are known under different names in various places. For example, *Solidarity Purchasing Group* originated in Italy in the form of a citizen organization where consumers buy local products directly from the farmers (Michel-Villarreal et al., 2019; Savarese et al., 2020). In practice, its working principle and aims are in line with the buying clubs. Similarly, the *food communities* term is used

in Turkey for formal (e.g., cooperatives) or informal communities which organize collective orders from farmers and meet regularly for various events (Kurtsal & Viaggi, 2020). Although buying clubs are popular with different terms in different settings, the main purpose of buying clubs can be summarized as reaching healthy food without intermediaries in the form of collective purchase and supporting farmers.

Ainonghui which is a farmers' association established in 2005 in China is another example of network development between producer and consumer which promotes distribution of local and organic food (Manzini, 2014). By trading traditionally sourced food, the association introduces traditional and organic farming to citizens, proposes a sustainable lifestyle to city dwellers as well as supporting farmers economically, and provides more fair pricing (Manzini, 2014). Si et al. (2015) also mention Ainonghui as a well-known buying club, and explain its starting point is that a number of people who are self-declared nature lovers initiate to buy local food regularly from the farmers in Liuzhou city. After the establishment of Ainonghui, volunteers and housewives who have intense concerns about food safety founded their own buying clubs in Beijing and Shanghai (Si et al., 2015).

In some cases, activities of buying clubs extend beyond collective purchasing of healthy food and they are involved in arranging regular farmers' markets and organizing local farm visits which facilitate informal control for farmers; and creating social relations and having an experience on farming for consumers (Si et al., 2015). These informal inspections are also known as Participatory Guarantee Systems (PGS), where participants (e.g., consumers, moderators of buying clubs and other farmers) are actively involved in the process to monitor producers so that it is based on trust, social links, and exchange of knowledge (IFOAM, 2008).

2.2.4   Alternative Food Networks in Turkey

Kurtsal and Viaggi (2020) express that the food initiatives in Turkey have been expanding in the last five-six years, and they seek suitable ways and solutions for how to function. The authors state that any further studies related to food initiatives in the Turkish context can contribute to understanding local food systems and experiences of novel bottom-up initiatives. Supporting this view, Soysal Al (2020) states that various collective food organizations are flourishing recently with a noticeable pace and impact in Turkey, and consequently, investigating these new actors' collective activities and promising momentum in this dynamic field appear to be critical.

In line with the growing number of alternative food networks in Turkey, academic studies related to this field have been increasing in recent years. Most of the studies related to food initiatives in the context of Turkey have a particular focus on *food communities*. As explained earlier (see Section 2.2.3.4), food communities are a form of buying clubs and more common with this term in Turkey. Although the food community term is mostly used in practice and the related communities use this term while defining themselves, various terminology can be seen in literature such as *food community networks* (Kurtsal & Viaggi, 2020) and *consumer-led collective ecological food initiatives* (Soysal Al, 2020) in the context of Turkey. Soysal Al (2020) explains that consumer-led collective ecological food initiatives have two forms which are *food communities* and *consumer food cooperatives,* and describes their differences as establishing formal consumer food cooperative requires legal procedures or additional efforts of operating physical store while forming food community is easier regarding the procedures and practicality comes with being neighborhood-level organization, but mostly food communities experience difficulties related to the lack of volunteers much stronger than food cooperatives. Even though consumer-led collective ecological food initiatives have some differentiation, they have some common features explained by Soysal Al (2020) as follows:

- Developing solidarity relationships with small-scale ecological farmers through local and collective efforts in the scale of neighborhood or university campus,

- Building ecological relations as restricting the usage of agricultural pesticides, herbicides, preservatives, and hybrid seeds,

- Supporting direct and fair production and consumption relations between producers and consumers of ecological food,

- Establishing trust-based relationships as monitoring the production process by field visits rather than asking for organic certification which is a bureaucratic and economic burden for farmers,

- Defining themselves as political actors of the food system which they want to transform but not having affiliation with political parties to be more inclusive and participative.

Food communities and food cooperatives can operate in different settings and scales as Ince and Kadirbeyoglu (2020) exemplify in their studies focusing on three İstanbul-based food initiatives; (1) BÜKOOP (Boğaziçi University Consumers' Cooperative), a university-based cooperative, (2) Kadıköy Cooperative, a neighborhood cooperative and (3) DÜRTÜK (Resisting Producer and Consumer Collective), a food collective. BÜKOOP and Kadıköy Cooperative share similar characteristics as coordinating relations between consumers and producers, but they operate in different settings and scales. On the other hand, DÜRTÜK has the aim of sustaining İstanbul's historical vegetable gardens which are Piyalepaşa and Yedikule Gardens, whose presence has been threatened by extensive urban projects so that the DÜRTÜK collaborated with the small farmers from these farmers and other small farmers around İstanbul by providing vegetables directly from them (Soysal Al, 2020).

Kurtsal and Viaggi (2020) share the results of their empirical study regarding consumers' behavioral intentions to participate in FCNs in Turkey along with the main challenges associated with active participation. Kurtsal and Viaggi (2020) explain that they conducted a survey of 18 food communities in various cities in Turkey, and concluded that lack of time is the biggest constraint limiting the active participation of consumers, while the absence of volunteers taking responsibility is the most challenging issue in terms of group dynamics.

Although food communities are the most common form of alternative food networks in Turkey, it is possible to see other forms of initiatives like community gardens. The most known community or urban gardens in Turkey are in İstanbul including historical gardens like Yedikule Gardens and Kuzguncuk Gardens. Even though Yedikule Gardens have existed for many years providing a wide range of fresh vegetables, contributing to the protection of heirloom seeds and product diversity (Kanbak, 2016), its continuation is uncertain due to municipality projects in that area (Kanbak, 2018). In addition to historical gardens, more recent collective gardens are functioning. For example, Roma Garden which is established in 2013 in the Cihangir neighborhood of İstanbul with the idea that emerged in the forums during the Gezi Protests, facilitate a field for socializing and sharing experience and skills as well as practicing agricultural production in small and symbolic scale (Öcal & Erkut, 2019). Similar to Roma Garden, the foundation of 100. Yıl Berkin Elvan Bostan in Ankara has a close connection to the neighborhood forums and solidarity networks formed with the effect of the Gezi Protest, and it carries the characteristics of collective community gardens rather than hobby gardens where individual vegetable plots are assigned for specific people (Koçak, 2019). It is concluded that different forms of gardens are operating in Turkey including *historical gardens*, *collective community gardens*, and *urban hobby gardens* with different priorities and interests.

Farmer's markets (known as bazaars in Turkey) are mostly in the form of neighborhood-based outdoor market places mostly managed by the municipalities in Turkey (Atalan-Helicke & Abiral, 2021). Bazaars settle one or two days a week throughout the year, and often middlemen sell fresh vegetables and fruits, dairy

products and some house items as well as clothes and most of the time food products don't have labels indicating origins and grown conventionally (Atalan-Helicke & Abiral, 2021). The first organic bazaar in Turkey opened in İstanbul in 2006 and second one started to work in 2009 with the initiation of the Buğday Association and collaboration of municipalities (Demir, 2013). After the initial organic markets in İstanbul, they spread to other cities in Turkey including İzmir, Eskişehir, Samsun (Demir, 2013) and Ankara (i.e., Ayrancı and Çayyolu neighborhood organic markets).

As another form of AFNs, the CSA model is not very common in Turkey compared to food communities, farmers markets and community gardens. The first CSA example was implemented by the Buğday Association with the name of Bahçe, but after two years it couldn't be sustained (Aydemir et al., 2014). The first example inspired Güneşköy's Bahçemiz project which is discussed comprehensively as an exemplary case in this thesis. Özden (2019) highlights that there are structural differences between food communities and the CSA model; food communities prioritize healthy and safe food supply without intermediaries, while CSA models concern having more extensive relationships with producers considering social and economic dimensions. Özden (2020) also states that advance payment and purchase assurance practices that support farmers regarding sharing risks and production planning are not common in food initiatives in Turkey.

Therefore, it is seen that some of the food communities apply CSA practices to some extent by making an agreement with few farmers for buying all their products and giving some prepayments along with the irregular shopping from other farmers. Many food initiatives in Turkey have set CSA as their goal to achieve (Özden, 2020) rather than applying the CSA model with all dimensions. Thus, it is concluded that there are not well-known original and established CSA applications in Turkey as in the case of international examples, except Buğday Associations' Bahçe and Güneşköy's Bahçemiz projects. However, as Özden (2019) mentions that there is a growing interest in CSA practices and food communities in Turkey.

2.3 Design for Sustainability and Social Innovation

This section explains the various design approaches including *design for social innovation, community-centred design, service design and strategic design*. They have a close relation with the focus of this thesis is the Güneşköy case and its CSA model, and the details of the case with the relation of the literature will be discussed in the latter sections.

2.3.1 Social Innovation

Manzini (2014, p.57) defines *social innovation* as a "process of change emerging from the creative re-combination of existing assets (from social capital to historical heritage, from traditional craftsmanship to accessible advanced technology), the aim of which is to achieve socially recognized goals in a new way" and states that the number of social innovation initiatives is increasing, and it will be increased even more eventually as a response to the growing challenges of the financial crisis and necessary transformation into sustainability.

In addition to Manzini's definition, Mulgan (2006, p.8) initially defines social innovation from a very broad perspective by saying social innovations are "new ideas that work in meeting social goals" and then narrow it down to "innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organizations whose primary purposes are social." Manzini and Meroni (2014) explain the difference of social innovation from other forms of innovations by saying social innovation is motivated by social needs rather than business or independent scientific and technological developments, and it is created mainly by its actors rather than professional researchers. It can be observed that social innovation grows and progresses when two contemporary circumstances exist: when society encounters complex challenges and when commonly used technologies initiate fresh and partially examined possibilities (Manzini & Meroni, 2014).

Manzini and Meroni (2014) explain social innovation based on three polarities including *incremental vs. radical innovation*, *top-down vs. bottom-up*, and *social problems vs. sustainable changes*. For the first polarity, authors state that innovations range from incremental innovations where changes stay within the current ways of doing and thinking to radical innovations where changes stay outside of the system, while the second polarity lies on the basis of the original drivers of the innovation; when they are mainly professionals, decision-makers, or political activists it is called top-down whereas when individuals and communities mostly involved in, it is bottom-up innovation. The last polarity derives from the two different understandings of the social notion; one refers to urgent problems caused by some diseases, extreme poverty, working opportunities for special groups, and so on while another meaning of social notion signifies the sustainable changes which are dependent on global societal factors such as demographic change, urbanization, increased mobility, and, more broadly, the transformation to a sustainable society (Manzini & Meroni, 2014).

2.3.2 Design for Social Innovation

In the context of *design for social innovation*, designers shift their attention to society, observing ideas that emerge from its core and then developing technology to sustain them (Joly & Cipolla, 2013). The innovation process occurs when the community's creativity is put into action: designers examine the community's ideas and innovative organizational structures before implementing projects to design services, objects, or processes to empower them (Joly & Cipolla, 2013). The definition of *design for social innovation* refers to the empowerment and reproduction of social innovation cases that reflect alternate approaches to carry out everyday tasks by using design methods, strategies and tools (Joly & Cipolla, 2013). From Manzini's (2014) perspective, Design for Social Innovation can be described as all the design activities which start, promote, encourage, strengthen, and reproduce social innovation (Manzini, 2014).

According to Manzini and Meroni (2014), what design professionals do to inspire and promote social innovation can be divided into four categories:

- To have scenarios and proposals to nourish social discussions at various scales, ranging from the smallest (particular local problems) to the biggest (the aim of forming mutual future visions),

- To strengthen current cases of social innovation by collaborating with creative communities and assisting them in becoming more productive, open, and pleasurable over time through the use of dedicated resources and specially designed goods and services,

- To function as agents of social innovation by reproducing good ideas and launching new ones, forming new groups, and applying design thinking and skills, and

- To encourage large-scale structural changes by bringing together different local initiatives through the improvement of well-developed framework strategies.

Manzini and Meroni (2014, p.367) refer to the bottom-up innovations which are mainly driven and implemented by communities as *community-based innovations*, and state that they have the greatest potential being powerful and diffusive drivers of sustainable changes and state that community-based innovation can be defined as "the result of a co-design process between a variety of actors (final users, grassroots technicians and entrepreneurs, local institutions and civil society organisations) seeking to find a shared solution for a common issue."

2.3.3   Creative Communities

Creative communities have a prominent role in the context of social innovations as being inventors and sources of many grassroots innovations. People in creative communities who work cooperatively in order to develop, enhance and maintain

creative solutions for new lifestyles (Meroni, 2007) take action and break the mainstream ways of thinking and doing rather than staying and hoping for a systemic transition on the big scale (Manzini & Meroni, 2014). Creative communities influenced indirectly by the traditional economy have the ability to innovate, since they operate in their own structures, but with the dynamism that derives from their values, practices, relations and knowledge passed on from generation to generation (Joly & Cipolla, 2013). Meroni (2007) explains the creative communities through their shared characteristics:

- Introducing new ideas that align individual priorities with social and environmental concerns,

- Being strongly rooted in a place and using available local sources effectively,

- Promoting new ways of social exchange, and

- Being connected to networks of related initiatives taking place across the world which allows them to share their experiences and challenges on a global scale.

Meroni (2007) examined 56 case studies as the examples of creative communities under housing, eating, commuting, working, learning and socializing sections in her book titled "Creative Communities: People Inventing Sustainable Ways of Living." Case studies in the book include a wide range of examples such as home nursery playgroups, self-help groups for the elderly, time banks, ethical purchasing groups, tool exchange, community supported agriculture, car-sharing and vegetable gardens in parks. In relation to the focus of this study, I will mention some of the examples in her book related to the eating section. In the book, one of the exemplary cases of creative communities is a Cérès's garden (p.62) case in which a consumer group made an agreement with a farmer who is an organic food producer to make prepayment for the products and helped the farmer during the process as a form of CSA practice. The other case from the book is Gemüsekiste - Vegetable Box (p.58) where the farm delivers a box of organic and local vegetables to the houses of

customers (see Figure 2.1). The farm offers different options for boxes like the basic vegetable box and family box which also include a list of recipes for the foods. The Vegetable Box case has very similar characteristics with Güneşköy's CSA model which was chosen as a case in this study. Lastly, the GAS – Group purchasing organisation (p.56) case is given in the book as an example of a consumer organization who make collective purchases from small local farmers, so that they can support the farmers and reach the good quality food.
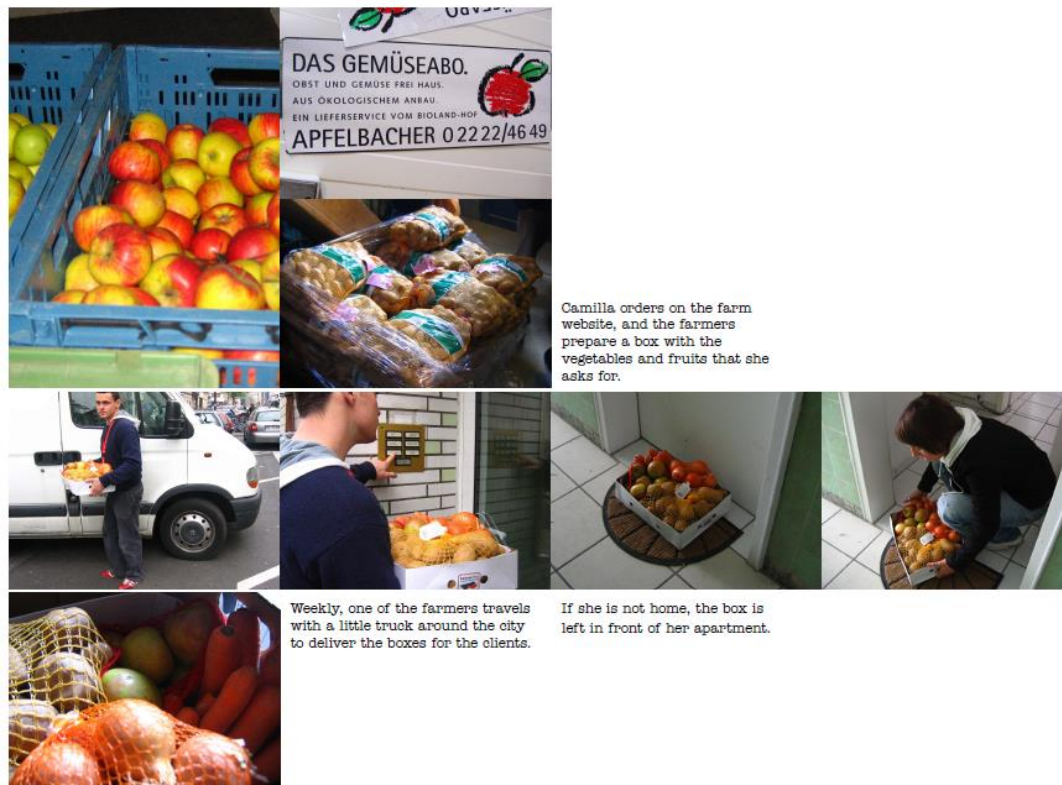
Figure 2.1 Gemüsekiste - Vegetable Box (Meroni, 2007, p.59).

2.3.4 Community-Centred Design

Creative communities are valuable because they serve as "prototypes" for sustainable practices and lifestyles as creating alternatives to critical contemporary issues, and they have the potential to spread and support sustainable ways of living for more people (Manzini & Meroni, 2014, p.369). According to Manzini and Meroni,

creative communities are good sources for designers, and they assert that "The communities are not replicable in their very essence, but a deep knowledge of them is worth acquiring, whether we aim to work for and with them or if we want to learn from them" (2014, p.369). In line with their emphasis on creative communities, they offer the term Community-Centred Design as focusing on creative communities from the design point of view, which entails two types of competence (Manzini & Meroni, 2014):

1. The ability to obtain knowledge about the community and the environment in which it resides through involving field research to have a direct relation with the context and cultivate familiarity with the community, and

2. The ability to collaborate with non-designers using designer creativity.

Manzini and Meroni (2014) explain that design interventions in the context of Community-Centred Design can occur in different ways; collaborating with the community to develop or overcome challenges that arise as a result of their activity, contributing to the community applying expertise skills to a variety of problems and replicating the existent structure aiming to make it more applicable to a wider audience. Manzini and Meroni (2014) also offer a *synergizing* strategy aiming to connect communities so that they can share resources and energy, and that strategy involves creating a shared network of many initiatives. In the context of this study, the Community-Centred Design approach is used in terms of involving the field research to obtain knowledge and insights related to Güneşköy initiative and aimed to contribute to the community offering suggestions for improvement of their activity through the design interventions.

2.3.5 Service Design and Strategic Design

Various design approaches are becoming more active in the food sector and they have the potential to intervene the processes in the food system to improve them. Meroni (2006) looks at the food system through the lens of service design and

strategic design approaches. Meroni (2006) asserts that service design possesses the necessary skills to reevaluate the food intermediation to create the circumstances for a food chain that provides effective service and good quality products. Moreover, she explains that strategic design refers to a way of looking at *product-service-system design* that is based on notions related to value, culture and transformation of our ways of creating and living, and when the food sector is analyzed from this perspective the focus would be the food system rather than the single food products.

Meroni (2006) states that strategic design approach can contribute to the food sector and strategic designers might have different roles (e.g., facilitator and multiplier) in the process and they might adopt one of the types of interventions listed below:

- assist current initiatives and encourage similar ones by developing a set of tools for participants,

- rework promising projects that present certain concepts, in diverse ways and on various scales, so that they can be more viable for people with different levels of interest, and

- elaborate and suggest new intermediary structures for the actors in the system, both based on the previously studied and conceptual models transferred from various fields with similar features.

As explained, the focus of this thesis is the Güneşköy case and its CSA model, and the details of the case with the relation of the literature will be discussed in the findings chapter. However, I will provide a short analysis of the Güneşköy initiative to make initial connections with the literature. First, I will relate the innovative nature of Güneşköy to three polarities explained by Manzini and Meroni (2014) (see Section 2.3.1). As discussed in AFNs section (see Section 4.1.2), Güneşköy adopts the CSA model as a form of AFNs, and even though AFNs offer an alternative way of producing, distributing and consuming food, they are still in relation with the conventional systems. From this perspective, Güneşköy offers an alternative model for food needs of its members to some extent, but cannot cover all the needs of them

through the year and members still use the conventional systems along with the Güneşköy's CSA products. Therefore, it can be evaluated that Güneşköy's CSA case falls into *incremental innovation* rather than radical one. For the second polarity, Güneşköy can be defined as *bottom-up innovation*, since the founders of it take the initiatives themselves for creating a sustainable and ecological settlement (see Section 4.2). Lastly, Güneşköy aims for *sustainable changes* by adopting sustainable and ecological practices and spreading them to transform the society in a more sustainable direction in adapting and applying sustainable agriculture practices.

Based on Meroni's (2007) *creative communities* description, Güneşköy is one them as being an ecovillage initiative and CSA implementer which offers new and creative solutions to the food production and consumption practices for the local people, and also being connected to the related initiatives strongly in national and international levels. To conclude this section, it is seen that various fields of design discipline can contribute to social innovations, communities and initiatives through different strategies and tools. Thus, it can be argued that design approaches and strategies are applicable in the food system context, and further discussion will take place in the findings chapter related to the Güneşköy case, and associated design implications.

CHAPTER 3

METHODOLOGY

This chapter explains the research methodology used in the study, discussing the research approach and stages, field research process, ethical considerations, and limitations of the study. The study was carried under the qualitative research framework as adopting action research and case study approaches, and the research data was collected through semi-structured in-depth interviews and participant observations. Throughout the study, the principles of ethical research were carefully followed, and extra attention was given to the presentation and discussion of findings through keeping the identities and related information confidential. Finally, the chapter concluded with limitations and a summary.

3.1   Research Approach

Qualitative researchers focus on how people interpret their experiences and what meaning is attributed to those experiences, and how they build their world (Merriam & Tisdell, 2015). Saldana (2011, p.3) explains the qualitative research as follows:

> The information or data collected and analyzed is primarily (but not exclusively) nonquantitative in character, consisting of textual materials such as interview transcripts, field notes, and documents, and/or visual materials such as artifacts, photographs, video recordings, and Internet sites, that document human experiences about others and/or one's self in social action and reflexive states.

In line with the explanations, I adopted qualitative research methods in this research. There are multiple genres within qualitative research, such as action research and case study. In action research, the researcher not only aims to understand how

meaning is constructed or participants interpret a specific phenomenon in their working area, community, and practice but also try to engage participants to some extent in the process in order to solve a practical problem or enhance the situation as focusing on the improvement of practice (Merriam & Tisdell, 2015). Qualitative case studies aim to represent an in-depth analysis of the quality and complexity of social or educational programs implemented in particular contexts (Simons, 2014).

Merriam and Tisdell (2015) express that researchers might use the combination of qualitative research approaches and methods in one study. Accordingly, in this study, I conduct field research by combining different qualitative research approaches: action research and case study. In the field research process, I use in-depth interviews and participant observation methods which provide me extensive and intense data and insights. As adopting action research and participatory observation, I am actively involved in processes and practices in Güneşköy with different roles (i.e., researcher, designer, volunteer, and supporter). Although I didn't have the opportunity to develop design solutions and suggestions with the involvement of the participation of members of Güneşköy, I contributed to the community and had an influence on the processes as being one of the members.

3.2   Research Stages

As explained in the previous section, I adopted action research and case study within the context of a qualitative research approach through incorporating semi-structured interviews and participant observations which provided me extensive field experience during the study. The involvement and concentration of the field emerged in the initial phases of my research journey. When I was in the process of narrowing down and shaping the research focus and approach for thesis study, I attended different activities and events which had a positive effect on the process. One of the milestones in that period was attending Ecological Life Days (Ekolojik Yaşam Günleri) on 24-25 October 2018 organized by ÇerÇöp Çorbacılar. The weekend-long event included a wide range of workshops (e.g., DIY workshops for ecological

personal care goods and home cleaning goods, healthy eating and cooking workshops, and gardening workshops), documentary screenings, presentations, and discussion sessions. People from mostly Ankara-based ecological initiatives including Güneşköy, METU Bostan, Çiğdemim Association, 100. Yıl Neighborhood Food Community and The Natural Food Conscious Nutrition Network participated in the event. They introduced their initiatives and activities in the presentations, and in the following session, problems, strategies, possible solutions, and future plans were discussed with the participation of all communities. Before the Ecological Life Days event, I already had heard about some of the communities, but I didn't have that much extensive and insightful knowledge about these ecological initiatives. Consequently, attending the Ecological Life Days event gave me the inspiration on shaping my research topic and constructing the basis of the research context and phases.

Starting from October 2018, I have been conducting a literature search on social innovation, design for sustainability, alternative food initiatives, and networks. While progressing on literature search, I have participated in METU Bostan in March 2019 for the first time, and I am still an active member. Attending Bostan's weekly meetings, agricultural and social activities was a very insightful experience for me. I got to know people from different food communities and attended their events through Bostan. I was introducing myself as a METU Bostan member, and that helped me to fit in the context.

Although I didn't start field research formally until the end of 2019, I was in the field as a participant in activities and a member of METU Bostan. I visited Güneşköy in May 2019 as a METU Bostan event together with around fifteen members. I attended different events organized by food communities and Güneşköy in the summer period of 2019. Thanks to these visits and events, I had the opportunity to have a thorough understanding of the principles, activities, and problems of food communities and Güneşköy. Also, I had personal connections with the members of them, and it helped me during the recruitment of participants in field research.

In October 2019, I structured the field research, and in December 2019, I started in-depth semi-structured interviews with participants. I had 11 interviews and 10 of them conducted between December 2019 and February 2020. I had one more interview in August 2020. While having participant interviews, I have conducted field observations between January 2020 and October 2020 as visiting Güneşköy and attending their meetings. I started to transcribe and analyze the interview data in February 2020 and continued until October 2020. Lastly, the thesis writing process continued in parallel to those phases until June 2021.

3.3   Field Research

This section describes the field research part of the study. It starts with sampling methods used for the selection of the case and participants and recruitment procedure. Then, data collection methods are discussed under the interview and participant observation topics. Lastly, the data analysis process is explained with the phases of transcription of data and analysis of data.

3.3.1   Sampling

Merriam and Tisdell (2015) explain that *probability* and *nonprobability* samplings are two main sampling types but in qualitative research, nonprobability sampling is mostly used rather than probability sampling, since statistical generalization is not the interest of qualitative researchers usually. *Purposeful sampling* is one of the most commonly used forms of nonprobability sampling and is built on the ground that the researcher aims to select a sample from which the most s/he understand, learn and gain insights from (Merriam & Tisdell, 2015). Therefore, purposeful sampling is selected for this study.

Merriam and Tisdell (2015) point out that it is essential to have two levels of sampling in a qualitative case study: the first one for choosing the case itself and the second one for selecting people, documents, and activities within the case. In the

scope of my study, I also applied two levels of selection for the case and participants. For the case, I used *critical case sampling* as explained by Patton (2002, p.236), where the researcher "pick the site that would yield the most information and have the greatest impact on the development of knowledge." In the process of choosing the research topic and case study, I reviewed the alternative food communities in Turkey and Ankara, and I decided that Güneşköy can be selected as a good working model as applying an original and established CSA application, and sustaining it more than ten years, involving different actors and containing rich experience.

After choosing the case as a Güneşköy, I reached some of the founders of Güneşköy who were the key informants for the research. After a few interviews, the stakeholder groups of Güneşköy were identified as *active members*, *workers*, *supporters*, and *volunteers*. After determining the stakeholder groups, I apply the criterion sampling which is based on selecting the sampling units with particular characteristics and features (Patton, 2002; Ritchie & Lewis, 2003). Therefore, I recruit the participants based on which stakeholder group they are in, and having at least two participants from each category was one of the criteria in the selection process in order to have a variety of views for each group (see Table 3.1).

Table 3.1 List of participants.

Participant Pseudonym	Stakeholder Group	Duration of Interview
Yağmur	active member	1h
Ümit	active member	1h
Derya	active member	50 min
Gökçe	active member	1 h
Deniz	active member	1h 20min
Zeynel	worker	20 min
Zeynep	worker	30 min
Ege	volunteer	1h
Eylül	volunteer	1h 30min
Bilge	supporter	1h 30min
Irmak	supporter	30 min

I also used snowball sampling (Patton, 2002) to reach some participants. For example, since I already know the key informants, I ask them who are the founders and active volunteers. Every time I interviewed the new participants, I obtained information about people in different stakeholder groups. I reached some of the participants by going to the field and learning their roles in the process and asking them whether they are willing to participate in my research. Overall, except for the last participant I interviewed, I contacted all of the participants directly through face-to-face conversations, messages, and phone calls. I reached the last participant through Güneşköy's Whatsapp group announcement. The Whatsapp group members were Güneşköy's 2020 season supporters, and I sent a message to the group for recruiting a participant from the supporter stakeholder group. In the message (see Appendices A), I introduced myself and my thesis, and explained that all the information gathered through observations and insights would be anonymous. I told them they can share their experiences with Güneşköy and CSA through a written private message or in a short meeting. One of the supporters contacted me to share her experience, and we arranged an online Zoom meeting with her.

3.3.2   Data Collection

Semi-structured interviews and participant observations were chosen as data collection methods. In total, I interviewed 11 participants who have different roles in Güneşköy. All the interviews were voice recorded with the consent of participants (see Appendices C). In addition to this, I used *participant observation* and collected data in the form of field notes and photographs taken from the field. In the scope of field research, I completed 10 face-to-face interviews, visited Güneşköy two times and attended 6 physical meetings between January and February 2020. When I visited Güneşköy in that period, it was the winter season and there wasn't CSA activity in that time. In these visits, I interviewed with the active members and workers on site, took photos, got familiar with the context and people. After that time, Covid-19 pandemic conditions had emerged, and I attended five online

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meetings between April and July 2020. Since I was a supporter of Güneşköy for the 2020 season, I also had a chance to experience and observe the CSA season from the supporter perspective. Between August and September 2020, I conducted one more interview with a Güneşköy supporter through an online meeting, attended the distribution of CSA packages to pick-up points in Ankara one time, and visited Güneşköy three times which allowed me to observe and participate in the CSA season which includes harvesting, packaging and distribution of CSA products.

I took field notes for all these activities and analyzed them (see Section 3.3.3.2). Lastly, I used *content analysis* for the systematic analysis of texts and visuals (e.g., publications, films, Internet sites) (Saldana, 2011) and reviewed Güneşköy's website, blogs and social media accounts, news, talks, interviews, short documentaries related to Güneşköy, but I didn't include them in my findings, instead, they helped me to understand the contexts, relations and activities.

3.3.2.1   Interviews

Interviews are one of the most widespread forms of collecting data in qualitative research, and the main goal of the interviews can be described as collecting special types of information (Merriam & Tisdell, 2015). Brinkmann (2013) points out that people use conversation as the main tool to learn about others, their experiences, feelings, and activities for a long time and in recent times, interviews have been cultivated as knowledge-producing conversations. In the research, I used the interviews as a primary data collection method and conducted interviews with eleven participants (Table 3.1). Interviews can be planned as group or individual interviews, and even though individual interviews might be less alive compared to group ones, they have some advantages like providing a more convenient setting for the researcher to direct the conversation for the purpose of the study and creating a more comfortable and confidential atmosphere to discuss personal or sensitive issues (Brinkmann, 2013). In this research, all the interviews were one-to-one

conversations, so that participants were able to tell their experiences, feelings, and dreams freely without worrying about others' presence and comments.

Different interview formats are used in qualitative studies including highly structured interviews where researchers ask a series of prepared questions in a specific order and unstructured interviews which consist of only a general list of discussion topics (Saldana, 2011). Semi-structured interview format positions in between highly structured and unstructured interviews as offering some advantages such as providing an opportunity to become a notable knowledge-producer in the process rather than staying behind a prepared interview guide as in the case of highly structured one, and having a greater influence on the conversation as focusing specific issues which s/he considers important compared to unstructured format (Brinkmann, 2013). I used semi-structured interviews in the research, using the question list (see Appendices B). The order of the questions was different according to the flow of the conversation. I didn't interrupt the participant while responding the questions, but I also asked follow-up questions if the details were missing. The general structure of questions are follows:

- *Warm-up question:* introducing herself/himself,
- *Introductory questions related to food initiatives:* name of the food initiatives involved, motivations and duration of membership, and how to define these initiatives,
- *In-depth questions related to Güneşköy:* definition of Güneşköy, CSA model, stakeholders, involvement of stakeholders, future of Güneşköy, and recording process of Güneşköy,
- *Activities, problems and strategies of food initiatives:* type of activities take place in food initiatives, involvement of these activities, problems encountered and strategies developed,
- *Ideal/dream food initiative:* description of ideal food initiative and Güneşköy, and

- *The conventional food system and AFNs:* definition of the conventional food system and food initiatives, their differences and similarities, evaluation of CSA model, relations between food initiatives and transfer of knowledge and strategies between food initiatives and the stakeholders involved in those.

Brinkmann (2013) explains the stages of interview projects as preparation, interviewing, analysis, and reporting, and says that these stages shouldn't be seen as disconnected parts, since the interview is an iterative process and its phases often overlap. For example, after analyzing the initial interview, the researcher may conduct further interviews or re-thematize the project if there is a problem, and this gives flexibility to the researcher to design and conduct the research iteratively (Brinkmann, 2013). Similarly, my interview phases followed an iterative process; I took detailed notes during the interviews and after a couple of interviews, I updated some of the interview questions. Since there weren't major changes in the content of the questions, I was able to use the first interviews for analysis without the need for re-interviewing and major revision on the questions.

Merriam and Tisdell (2015) assert that interviews can be conducted in a physical setting or using online tools to have synchronous (through Skype, Adobe Connect, etc.) or asynchronous (through email, blogs, online discussion groups, etc.) communication. The first ten of the interviews were done in face-to-face meetings; while four of them were in Güneşköy, the rest were conducted in cafes and offices. Only the last interview was done through the online video conference application Zoom due to pandemic conditions. The duration of the interviews changed from a minimum of twenty minutes to a maximum of one and a half hours (see Table 3.1).

3.3.2.2 User Observations

Saldana (2011) defines the purpose of *participant observation* as capturing people's realistic actions, reactions and interactions and interpreting how they feel and think, and explains that the written recording of these human processes is called field notes.

Although interviews can provide information, it is one way of learning about individuals or communities and what participants say in the interviews may not be reflected and observed in real life, so that participant observation plays an important role as supplementing the data with another way of learning (Saldana, 2011). For this reason, I choose the participant observation method for data collection as complementing the interviews.

There are different approaches to taking field notes on-site or after the observations. Taylor et al. (2015) explain that some researchers prefer to record, write or type their notes in the field so that they don't risk forgetting the details, while others claim that recording data visibly in the field take attention to the presence of an observer and disturb the natural process of actions and conversations. Likewise, Saldana (2011) highlights that most people feel nervous when they are constantly aware of an observer watching them and taking notes all the time, and their actions may be different compared to the natural conditions. Because of these concerns, I preferred to take field notes at home as soon as possible after I came back from the field, so that I remember most of the details and have the opportunity to observe the field without disturbing the natural atmosphere. Another reason for not taking notes on the site was to choose to be part of the processes and activities as in the nature of action research rather than having a passive role and record the observations on the corner.

The field notes include descriptions of time, place, events, transactions, and conversations as well as the researcher's feelings and actions as detailed as possible (Simons, 2014; Taylor et al., 2015). Aligned with these, I always recorded the date, setting, actors in the field along with the activities, practices, relations between the actors, problems, and strategies that I observed to have an in depth understanding of community supported agriculture model. With this full recording process, my field notes were better linked with further explorations in field research. I used a notebook for recording the field notes and felt more comfortable expressing my insights and notes by handwriting and sketches (see Figure 3.1). Later, I transferred them to my computer to analyze the same way with the interview data through content analysis.

In total, I compiled field notes organized in 17 parts including diverse occasions such as five field trips to Güneşköy, one food distribution task to the pick-up points that I volunteered, and in a total of 11 physical and online meetings.
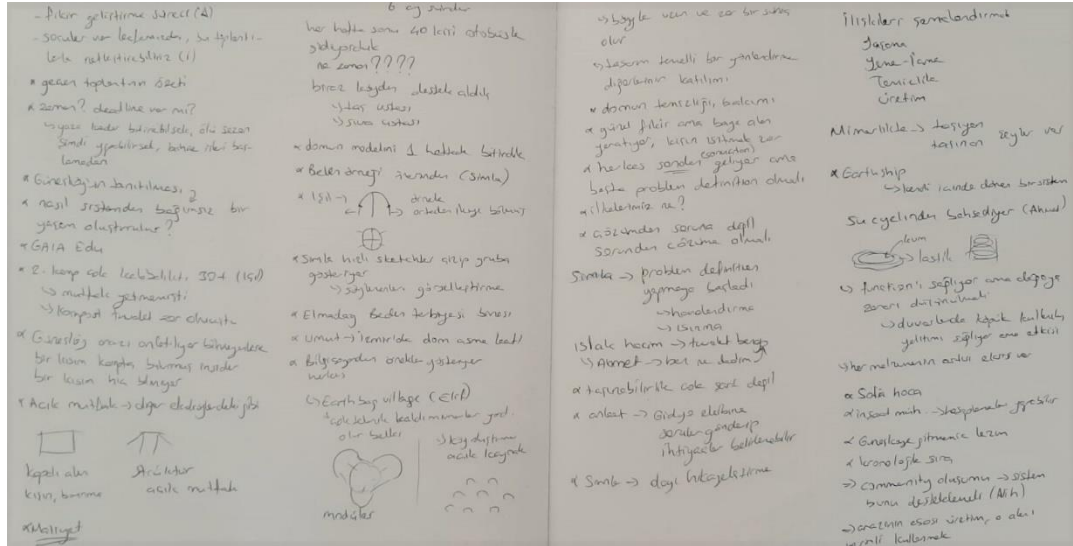
Figure 3.1 Field notes on the notebook.

3.3.3   Data Analysis

In this study, data analysis consists of two phases which are the transcription of interview voice recordings and the analysis of interview data and field notes. Saldana (2011) states that qualitative data analysis goes parallel with the data collection and handling, because researchers have the chance to read the texts and take preliminary notes on the documents as bolding or highlighting some parts while transcribing the interviews, cultivating the field notes and organizing the documents. Supporting Saldana, Brinkmann (2013) expresses that researchers start to analyze during the interviews, since they try to understand and interpret the participants' statements and sometimes summarize what participants say for verification or additional reflections. Accordingly, in this study, the phases of data collection and analysis stages were carried simultaneously, and they informed and directed each other's processes. Since I took very detailed notes during the interviews, before completing transcription and starting analysis on Excel sheets, I could highlight some parts, and write some

comments on the participant statements which helped me create the basis of the data analysis (see Figure 3.2). Saldana (2011) describes this process as keeping *analytic memos* that are researchers' reflexive freewriting on analytical insights and thinking process on detecting possible patterns in the data.
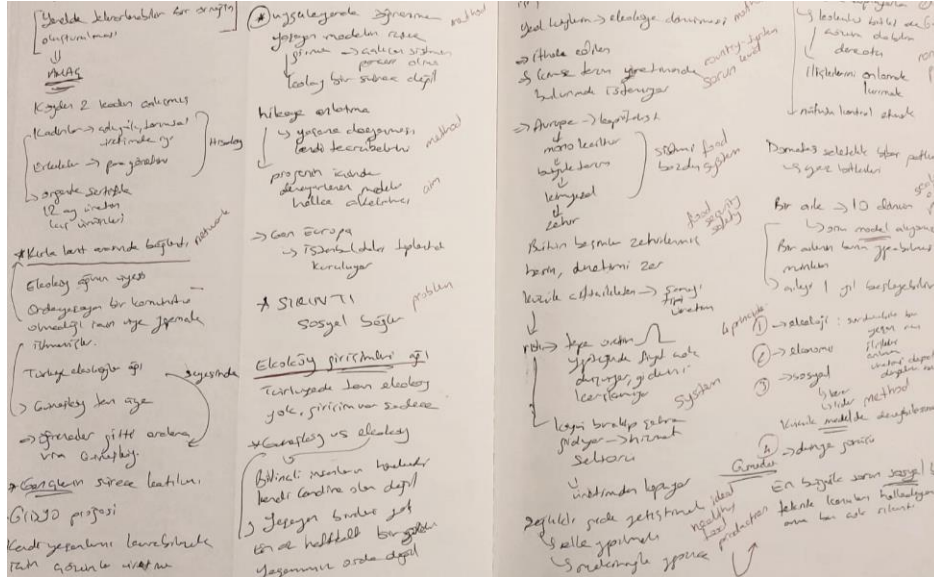
Figure 3.2 Analytical memos on interview notes.

3.3.3.1   Transcription of the Data

Brinkmann (2013) defines transcribing as translating from one mode (speaking) to another one (writing), and expresses that the transcription procedure of recordings needs to be considered as a part of the analysis. In the study, I transcribed all the recordings of eleven interviews by typing manually via verbatim transcription. I used the Express Scribe program for keyboard shortcuts which eased and accelerated the process. Transcribing all the interviews manually was time-consuming, but it also helped me to go through the conversations after the interviews, so that data was very familiar for me when I moved to the analysis phase.

3.3.3.2 Analysis of the Data

Simons (2014) explains that analyzing the data follows the process of breaking down the data into segments (i.e., codes and categories) and then reordering them for creating themes and patterns. Saldana (2013, p.3) describes the code as "A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data." Saldana (2013) explains several coding methods for qualitative analysis under two main categories which are first cycle and second cycle coding. Similarly, in this study, the data obtained from the interviews were analyzed in two cycles.

Figure 3.3 The excel sheet of data analysis.

I didn't use a specific program or tool for the analysis of data except for Excel sheets (see Figure 3.3). Initially, two of the interview data were transcribed and transferred to the Excel sheets for first cycle coding. Since the interviews were conducted in Turkish, in the process of analyzing statements of participants translated to English. Based on Saldana's (2013) definitions, *descriptive* coding (summarize the basic topic of the passage), *process* coding (imply actions with the usage of gerunds), and *values* coding (reflect values, attitudes, perspectives, and beliefs) methods were used in the

first cycle. After the first cycle coding was completed, I listed the codes and grouped them under main titles so that the initial themes (e.g., activities, community, CSA, knowledge, and network) were developed. Following this step, according to the initial codes, categories, and themes, I analyzed two more interview data from different stakeholder groups in order to diversify the data. As a next step, I filtered all the interview data that I analyzed according to the classification and made some adjustments on main themes and sub-themes. I created a glossary of terms document for keeping the record of the themes and sub-themes including the brief descriptions about them to have consistency throughout the analysis process (see Figure 3.4). Thus, I had the final version of my list and used it for the rest of the interviews' analysis. I made some minor changes to the final classification in the later stages, since it is an iterative process. In the end, I had six main themes consisting of several sub-themes and categories (see Figure 4.1).

1	Theme Name	Description	2	Theme Name	Description
	Structure	history and foundation process, sustaining the güneşköy, process, definiton		**CSA**	how is it work, planning and working process of CSA in Güneşköy. It is spesific to Güneşköy CSA practices, general comments about CSA coded under alternative systems
Sub themes	aim	aim of güneşköy	Sub themes	features	working principle of CSA in güneşköy, setting an example by doing CSA
	foundation	when and how it is founded		supporters	examining supporters spesifically in CSA activities, what thay do, why thay do, their experinces, strategies, feedback and criticism related to them
	definition	what güneşköy means to them		products	investigating products in CSA activities, supporters' interaction and experience of products. this sub theme focus on consumption practices and experience of supporters rather than production aspect as in the agricultural production activities
	stakeholder	who are the stakeholders and what they do		distribution	distribuiton phase of CSA
	relations	(network) relations between people, communities (national and international) and city-rural. how this relations are developed, what are the outcomes/effects of that relationships, importance of relations, what are the prob&strateg			
	physical place	how the physical space there is used: it is used for different purposes and functions (agriculture, shelter, natural observation etc.)			

Figure 3.4 Example of glossary of terms for some themes and sub-themes.

3.3.4   Roles in the Field
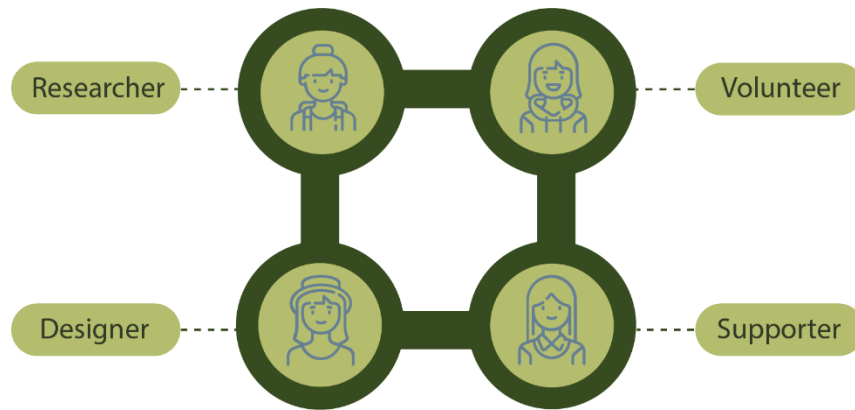
Figure 3.5 My different roles during the field research.

In this study, I was actively involved in processes and activities in Güneşköy as a member of the community through action and participatory research approaches. I had different roles, which are the *researcher, designer, volunteer, and supporter* during the field research (Figure 3.5). Sometimes the roles I had were tangled so deeply that it was hard to differentiate from each other, while in some activities, one or two of them were more dominant compared to others. For example, while I was interviewing the participants and taking photos in Güneşköy, my researcher role was more prominent. My volunteer role was more visible when I was Güneşköy and helping harvesting, packaging, and distribution, but I still carry the researcher role since I was actively experiencing and observing the process and other participants. In some cases, I feel more like a designer, like when we were discussing the dome project (see Section 4.2.4.1) in the meetings. On the other hand, my supporter role was coming to the forefront while communicating through the Whatsapp group of supporters or managing practical issues like picking up my bag from the distribution point.

As mentioned, even though I was involved in the processes with the volunteer, designer and supporter roles, my researcher side was also there to both observe and record the process in a structured manner. Thus, I can evaluate that being researcher was my secondary role for every activity except when I was engaging with people in

more personal conversations. For example, we were having small chats while performing tasks (e.g., collecting tomatoes in the field and filling the packages with food), and sometimes the topic turned into personal issues. In that case, I felt that I need to extra careful not to reveal any private discussion. The ethical considerations of this issue are discussed in the next section (see Section 3.4) in detail. Therefore, I can evaluate that adopting action research and having many roles in the field bring extensive benefits in terms of experiencing the processes with different angles and reaching deeper insights, but at the same time, they increase the complexity of the research, particularly in the phase of analysing and presenting the data through focussing on the main topics of the research.

3.4   Ethical Considerations and Presentation of Data

Before starting my field research, I got approval from METU UEAM for ethics (see Appendices D). I prepared a consent form (see Appendices C) and shared it with the participants before the interview. During the interviews, I always asked for permission to use voice recording. Since my field research also includes observations, I introduced myself and informed the people about my research to get their verbal consent when I am in the meetings and sites. When I took photos of the setting, places and products, I got approval from the people who are responsible for the area and activities. Saldana (2011) asserts the importance of moral and legal codes while carrying the research and highlights that researchers, even those who apply action research or adopt an investigative approach, don't have the freedom to do what they want to reach their aims. Following that, since I was adopting *action research* approach and *participant observation* method, I was part of the community and actively engaged with the people and area which gives broad freedom to walk around, take photos, have conversations and observe the social relations, but I was always very careful to not the exceed the borders between private communication and research aims. My presence in the field and the meetings provided me with great insights and understanding of the situations and relations, but I had a special effort

not to reveal personal communications and information in the study, unless I clearly ask for permission to use it in my study or discussed in the interviews.

As stated in the consent form shared with the participants, I paid attention to not reveal the identity of the participants. However, it is not an easy task as Simons (2014) explains that most of the case researchers encounter the challenge of processing the data when people might be identifiable in the context. Since all the participants have connected with Güneşköy and it is a relatively small community, it might be possible for people who are engaged with the Güneşköy in different ways to recognize some of the participants' identity. In order to prevent this situation and to anonymize the participants, *pseudonyms* were used, and the genders of some participants were altered in the study. In addition to that, if there were clues in the statements of the participants regarding their identification (e.g., profession, personality traits, and hobby) and that parts couldn't be removed in terms of flow of the content, more general terms like 'one of the participants' and 'one of the active members' were preferred instead of mentioning the pseudonyms, so that statements of the participants and their pseudonyms can not be matched with each other.

3.5   Limitations of the Study

In this study, being in the field was important, since I adopted an action research approach and participant observation method. Observing people, practices, activities and relations were valuable for understanding the problems, solutions and strategies in that context. Also, it was very insightful to experience the process firsthand as participating in the activities and being present in the field. As explained earlier (see Section 3.3.2), I conducted the majority of field research before the Covid-19 pandemic started, but my visits in September 2020 contributed a lot to my research regarding participating in the CSA season. However, I believe that I could have more extensive data in terms of field visits and notes in normal conditions without the limitations of the pandemic.

3.6 Summary

This chapter has described the methods used in this research including research approach, research phases, data collection, data analysis, ethical concerns, and limitations of the study. I adopted the qualitative research framework and more particularly used action research and case study. For data collection, I conducted interviews with 11 participants who belong to different stakeholder groups. All the interviews were voice recorded and transcribed fully. Participant observation was used in the field trips and data was collected in the form of field notes and photographs. After all the data organized in folders, I transferred them to Excel sheets and analyzed them in two cycles. As a result of the analysis process, I obtained a list of themes and sub-themes which the findings chapter is built on. Throughout the study, I gave a special interest in the principles of ethical research and protecting participants' confidentiality. Lastly, the chapter concluded by discussing the limitations of the study.

CHAPTER 4

FINDINGS

After the analysis of the data, six main themes have emerged which are: *the food system*; *the structure of the ecovillage initiative*; *sustainability considerations*; *agricultural production activities*; *CSA*, and *knowledge, experience and inspiration* (see Figure 4.1). The *food system* theme provides data about the problems of mainstream food systems, and alternative food systems like community gardens, farmer's markets and buying groups for direct sales from farmers to consumers. The *structure of the ecovillage initiative* and *sustainability considerations* themes are examined in order to understand the organization of the ecovillage initiative in terms of its aim, stakeholders, projects and relations, etc., and its sustainability considerations under the ecologic, economic and social sustainability aspects. *CSA* and *agricultural production activities* themes are inquired to identify ecovillage initiative's agricultural practices as determining specific tasks and strategies for farming and analyzing how the foods are distributed to the supporters who are subscribed for getting food boxes during the season with the CSA system. *Knowledge, experience and inspiration* theme is explored to uncover the process of sharing and transferring knowledge, experience and inspiration related to sustainable and ecological practices between individuals and communities. In this chapter, I explain the outcomes of data analysis through the main themes and sub-themes under three sections; Food System, Structure of Güneşköy and CSA.

Food system
- systemic food problems
  - production aspect
  - consumption aspect
  - distribution aspect
- alternative systems
  - examples
  - features
  - spread
- food waste
  - individual level
  - sistemic level

Agricultural Production Activities
- planning arable land usage
  - access to water
  - efficient use of land
- planting methods
  - companion planting
  - crop rotation
- identfying production amount & variety
  - encountering unforeseen production amount
  - planning production amount
  - determining product variety
- recording
  - recording and preserving seeds
  - recording of arable land usage plan
  - recording of products' amount
- planting
  - managing plant care
  - planting seedlings
  - planning number of seedlings
- managing weed and pest control
  - using natural recipies
- composting
  - managing worm castings
  - composting of plant residues
  - using barn manure as fertilizer

CSA
- Features
  - working principle of CSA
  - background of CSA
  - duration of CSA season
- Supporters
  - planning number of supporters
  - number of supporters
  - criticism to supporters
  - motivation of supporters
- Products
  - use of extra products
  - amount and variety of products
  - acceptance of products
- Distribution
  - planning distribution points

THEMES

Structure
- Aim
  - producing clean food for city
  - having permanent settlement
  - creating living space based on ecological life and practices
  - learning agriculture and village life
  - spreading ecological life practices
  - developing a production model
- Foundation
  - background of güneşköy
- Stakeholer
  - volunteers
  - founders
  - visitors (children)
  - supporters
  - workers
- Physical place
  - nature of land
  - location of land
- Projects
  - past projects
  - current projects
  - future projects
  - ecological agriculture

Knowledge Experience Inspiration
- Getting more knowledgeable and experienced
  - learning from mistakes
  - learning by doing
- Sharing knowledge and experience
  - from founders to supporters
  - from güneşköy to new initiative
  - from güneşköy to farmers
- Transfer of knowledge and experience
  - from hocamköy to güneşköy
  - from buğday to güneşköy
  - from güneşköy to new initiative
  - from güneşköy to volunteers
- Transfer of inspiration
  - growing the movement
  - being an inspiration source

Sustainability Considerations
- Ecological sustainability
  - ecological land and buildings
  - clean agricultural production
  - use of sources
- Economic sustainability
  - volunteer oriented approach
  - job oriented approach
  - CSA as the main source
- Social sustainability
  - sustaining the social structure
  - growing community
  - decision making

Figure 4.1 Themes and sub-themes.

4.1 Food System

The food system theme is examined to identify (1) food system problems in terms of production, consumption, distribution and disposal of food, and (2) alternative food systems in the local setting by introducing different initiatives and defining their characteristics.

4.1.1 Food System Problems

The problems of the food system will be examined under the production, consumption, distribution and disposal sections. Even though there are specific issues related to each section, there are common problems that affect all the food system stages. As Eylül highlights, "It is important to evaluate everything related to food in a holistic way. Not only the farmer doesn't use drugs and chemical fertilizers, but also the *consumer needs to be involved in the process*." I will explain the problems of each stage in the following sections as starting with the production of food.

4.1.1.1 Production

The most discussed topic in terms of food production was the usage of pesticides and chemical fertilizers. The participants reflected their concerns about their negative effects on both human health and nature. Most of them prefer to call pesticides poison. Deniz states that "Apple is poisoned fifteen times a year. Every week they throw poison, throw it over and over again. Then what you eat is the one that's left on it [pesticides]". He also emphasizes that producers need to take care of the products, and control the pest to grow crops, but they can use nature-friendly methods to manage pest control. Similarly, Eylül expresses that the producer is poisoning the consumer, himself and also his own family by using agricultural drugs

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to make their products look beautiful, bright, vivid, smooth and long-lasting in order to attract the attention of people in the market.

Based on the examples provided by the participants, the usage of pesticides on agricultural products causes health-related concerns. There are some initiatives and campaigns about agricultural drugs and Gökçe explains of them as follows:

> The Wheat Association for Supporting Ecological Living (Buğday Association, Buğday Ekolojik Yaşamı Destekleme Derneği) has an important initiative, namely, 'No Pesticides on Our Plate'. They are trying to support non-toxic production by drawing attention to these poisons used, but for some reason, nothing can compete with mass production, as far as I can see. They prepared films and organized campaigns. The aim is to initiate the complete withdrawal of these agricultural poisons used over time from agriculture. This is possible, but since people do not see these poisons with their eyes, they buy them with peace of mind, but unfortunately, there are many remains.

According to participants, the usage of pesticides and chemical fertilizers affects human health as well as damages natural sources, leading to soil degradation, water pollution, and a decline in biodiversity. Eylül describes in detail his arguments about the issue:

> Using more chemical fertilizers every year also disrupts the structure of the soil. Using more fertilizers means washing the soil with more water and increasing the salinization rate. Our land is very fertile and very valuable. Chemical fertilizer affects biological diversity under the soil and microbiology. As the soil needs nourishment, it also needs these microorganisms. So instead of repairing the soil, it pollutes nature more and consumes the resources even faster. This means the degradation of the soil.

In addition to agricultural pesticides and chemical fertilizers, the usage of hybrid seeds instead of heirloom seeds is one of the important problems in agricultural production. Eylül defines hybrid seeds as seeds that are genetically engineered in

laboratories so that their products look brighter and last longer, but he highlights that heirloom seeds are the more resistant seeds that have been accustomed to this geography for centuries. The participants criticize hybrid seeds in terms of being dependent on the "monopolized seed sector." The issue of being dependent on seed companies was discussed, as hybrid seeds are not suitable for planting again in the following years opposite to heirloom seeds. For this reason, farmers need to buy the seeds from the companies repeatedly. Farmer's dependency on companies is not limited to hybrid seeds but also includes pesticides and chemical fertilizers. Eylül explains this as;

> Let's say I'm a farmer. I go and buy seeds. He tells me that you need to use this fertilizer for this seed. If you are using this fertilizer and this seed, you should also use the medicine [pesticide] I sell so that your yield will increase.

As it is seen from the excerpt, all of them are connected with each other, and farmers become stuck in that system using hybrid seeds. The discussion of pesticide, chemical fertilizer, and hybrid seed usage in agriculture can be evaluated within the context of the industrialization of food production. In the interviews, industrial production is criticized for creating monoculture using machine production in very large agricultural areas. Deniz states that:

> In monoculture, some pests can cause great damage, and chemicals are used for it. So you have to use chemicals in big-scale agriculture. So much poison is used in a monoculture that is incredibly large and ever-increasing. We have moved from small family farming to large industrial food production. So, what we eat is not healthy.

He also gives the example that if the family farming model is created and in the Ankara scale, it can be a self-sufficient city that organizes healthy production. Similarly, Ümit highlights the importance of *small and local farms* in terms of reducing carbon footprint and increasing diversity against monoculture. However, he also asserts that:

People in small farms need to be enabled to prosper in economic and social comfort. If they know that they can pay their bills the next day, they will continue, but if they cannot earn money and have constant costs, they may not be able to do so.

Supporting Ümit's concerns for farmers in small or family farms, Gökçe says that agricultural production jobs are not profitable in Turkey. Also, Deniz expresses that nobody wants to be involved in agricultural production because of the disadvantages like price fluctuations (e.g., too low prices for the products during the peak times of the season) and unexpected weather conditions. In addition to that, Eylül explains that in the industrial agriculture system, farmers enter endless debt circles:

The farmer owns the companies when he buys hybrids seeds, fertilizers, and pesticides. The weather was going bad that year, he could not fight the disease, etc. and the product remained in the field or made a loss by selling it for less than the cost. The other year, he again bought seeds, fertilizers and pesticides from this company. He already had debt and goes into debt even more. He can't pay and he commits suicide, or he's selling what he's got. His land, land, tractor, etc. his future shortly.

It can be seen that the industrial agriculture system has negative effects on the environment and farmers. After all, the negative effect of pesticides and chemical fertilizers on both human health and nature is discussed as well as the usage of hybrid seeds. Also, the industrialization of the food sector is explained together with small family farming.

4.1.1.2   Consumption

Access to *healthy, safe and clean food* was a prominently discussed topic by the participants in the consumption aspect of food. Eylül states that "Access to *safe and healthy food* is everyone's right." For Ege, a healthy diet is part of healthy living

while Ümit highlights that after he had health problems, he was more aware of everything that he eats. He also adds that:

> Everything I eat should be clean and good quality products. They need to contain food. We are talking about unprocessed products...It is important to raise people's awareness of *food safety*. We are what we eat, what we eat is our medicine.

The use of pesticides, chemical fertilizers and hybrid seeds in the production phase concerns the participants in the consumption phase, too. In addition to health reasons, the participants also revealed taste-related preferences. Zeynel says that when we eat natural food that is free from drugs and produced from heirloom seed, it leaves the taste, but we can't get the same flavor from the products of hybrid seeds. Another participant has an agreement on that and claims that products of hybrid seeds don't have flavor and taste like "wood". As it is seen from the quotes, eating healthy and tasty food is important for the participants. However, it is also asserted that consuming healthy and clean food was not possible for everyone. The cost of the foods and being able to control the cleanliness of products are also important issues in the consumption aspect. Gökçe says that:

> Prices are rising a lot. There is no way for people in the city to have control over their [products'] cleanliness. They buy what they find, what they find cheap...But nothing can be found cheaply anymore.

The effect of the food system on climate change is discussed in terms of food consumption in the interviews. Consuming healthy, clean and tasty food is significant for the participants as well as considering local consumption. According to Ümit, we should stay away from packaged and processed food that comes far away via trucks or planes; we should not accept the products that we don't need, so that we can eliminate high carbon footprints. He expresses that "The comfort-seeking enormously increases the footprint of the city people. Our planet has now passed the point where this luxurious life can be lifted, says many scientists." Similar to Ümit's emphasis on *localization*, Ege criticizes that the local culture has disappeared and

people have started to consume globally produced food too often. He explains in detail as follows:

> For example, if people try to meet their basic needs from locals, we say it is a reflection of culture on the table. This is really important. Because we no longer have a culture, something can come from everywhere. We can even see the coconut on our table now. This is a good thing, exotic things can come, I'm not saying it's bad we get to them, but it's strange that they are constantly here as if they were ours... We consume things with a very high carbon footprint. We do not consume locally.

4.1.1.3   Distribution and Disposal

The distribution and disposal stages of the food system were not mentioned as much as the production and consumption stages in the interviews. One of the criticisms related to the distribution of food was that *long food chains* cause an increase in carbon footprint by using too much gasoline for *long-distance transportations*. The other comment for distributing food was related to the *intermediaries and wholesalers in the food chain*. Eylül suggests that if *local production* and *short food chains* are encouraged, intermediaries are prevented from earning more money from the producer. Ege criticizes the dominance of the wholesalers in the market and says that:

> Here we buy what the wholesalers buy, the ones that reach us or those who come directly from abroad. Strangely, some fruits and vegetables from China are cheaper than our local ones because there is a huge state and capital support for it.

The disposal of food is mostly referred to as food waste by the participants during the interviews. The most criticized issue was generating food waste because some products' appearance, size, or shape do not meet the markets' quality standards. Gökçe says that "About one-third of the products in the market go to the trash

because of its shape, size, etc. This is a loss and shame. You are wasting what nature gives and the farmer's labor." She also expresses her disapproval of "throw-away habit" in city life. She shares her strategies for sorting out the fruits and vegetables to prevent food waste as "You put the soft portion of tomato into the meal and use the hard portion in the salad." She concludes her talk by saying, "You will not waste, you will take care."

Another participant, Bilge, shares her experiences with food waste in her home setting. She explains that one of the reasons for food waste in her home is eating outside, which is more practical and fast in her opinion. She says that she loves greenery, but since she tries to wash them really well three or four times, it becomes a troublesome job. After a time, she gets lazy to clean green vegetables and delays consuming them, and finally finds them rotten in the fridge. She also elaborates on her strategies for preventing food waste. For instance, after finding zucchini two weeks old in the invisible parts of the refrigerator, she tries to classify newcomers and old products in the fridge by putting the old one on the top shelf in the front to see it and use it as soon as possible. However, she thinks that she couldn't manage the process well and explains the reasons by saying, "That is because of not being able to be active in the kitchen all the time. I am in a rush."

In conclusion, food system problems have been discussed in terms of production, consumption, distribution, and disposal stages based on the interviews. I would like to close the food system problems section with the quote of Bilge:

> I think that people like me, who are hoping for small-scale production and direct sales channels, should be patient. Because in the short term, the production and distribution of food will not change in the world, since there is a lot of connection with other socio-economic systems. You know, they intertwined like a ball. Therefore, I patiently wait and hope for change in the world.

4.1.1.4   DfS Implications: Food System

The findings related to the food system are closely connected with the discussions in literature review (see Section 4.1.1). When we look at the mainstream food system, there are many challenges in terms of environmental, economic and social sustainability. As mainly highlighted in the production phase of the food system, the usage of agricultural fertilizers and pesticides threatens the biological diversity and pollutes the natural sources as well as harms the health of people. Having long supply chains and transportation of food for long distances is also one of the main concerns related to food miles, carbon emissions and the dependency of fossil fuels. Food waste is another environmental burden in the food system, and it occurs throughout the food cycle from production and consumption to disposal.

From the economic sustainability point of view, small-scale local farmers can be seen as the most vulnerable group. Small scale farmers have disadvantages in the conventional market compared to global mass production companies (Meroni, 2006), and in addition to that they are experiencing difficulties related to state policies in Turkey (see section 2.1.2). Social sustainability of the food system has a strong link with localization, since the relations between consumers and producers become weak and distant in the current system, and the notion of localization has potential to restore it. Also, the disappearance of local food culture with the effect of globalization is a challenge for social sustainability. Other important problems in the food system in terms of social sustainability can be pointed out as small-scale local farmers' loss of traditional farming knowledge without using chemical inputs (Soysal Al, 2020). All in all, according to findings and literature, there are many areas to be improved and redesigned in the mainstream food system to evolve in a more sustainable structure. As a step towards that direction, alternative food initiatives will be discussed in the next section.

4.1.2   Alternative Food Systems

In the interviews, participants talked about various food initiatives and formations they participated in or were in relations with somehow. After briefly introducing these food initiatives by explaining their working principles, problems, and relations among each other as the participants expressed, I will analyze their characteristics. Even though I focused on the Güneşköy as a case in my study, I include the overview of food initiatives (i.e., community gardens, buying clubs, farmer's markets, and other formations) that the participants are involved in to reflect on the specific context where the research is carried out. Additionally, as Deniz states, "There is an organic bond between sustainable food initiatives on the scale of Ankara", and Güneşköy takes an essential role in that network. Therefore, it is useful to briefly introduce these food initiatives to understand the position of Güneşköy in the setting of sustainable food initiatives in Ankara, Turkey.

Before starting to introduce the food initiatives one by one, I would like to share some general comments related to them. *Being bottom-up initiatives* is one of the strongest characteristics of alternative food initiatives. Ege defines the members of these communities as innovative people who are seeing the problems of the life we live in here and open to changes. Ümit and Eylül highlight the necessity of taking action for *food safety*. Eylül explains that:

> Access to *safe and healthy food* is everyone's right. I think that the global industrial agriculture chain will break somewhere, and people can create this mode of production and food chain themselves, starting from small. So, it is difficult to change something from above, but it will be more robust and efficient to create something from the bottom up.

4.1.2.1 Community Gardens

The most discussed community gardens which will be called *Bostan* in the thesis in the interviews are METU Bostan, 100. Yıl Berkin Elvan Bostan and Çiğdemim Association Bostan. All of them are located in the Çankaya district of Ankara, and they are very close to each other. Eylül highlights that by saying, "Perhaps the most intense community garden in Ankara was formed here. It was such a triangle". The participants also mention community gardens in other cities like Kuzguncuk Bostanı in İstanbul, but they are referred to only as examples rather than having deep conversations about them. Firstly, I will introduce METU Bostan and continue with other community garden examples.

METU Bostan, which will be called Bostan after this point, settled on the METU campus area. Two of the participants are active members of Bostan as well as volunteers of Güneşköy. I also actively participated in Bostan's activities for almost two years. According to Eylül, Bostan unofficially started in 2014 summer in the area of Yalıncak, which is located in the forest of the METU campus. He said that people from the METU Mountaineering Club (DKSK) were the initial members who helped prepare the land, seedlings, and planting of the first garden. However, shortly, the seedlings were removed, because it was the campus area and there wasn't a formal procedure for making a garden there. Then, they moved to another place which is close to the first place but more hidden.

Eylül explains that the official foundation of Bostan was at the end of the same year with the call of Buğday Association on the "Seeds to Campuses" project. Eylül says that they received support and guidance from the founders of Güneşköy during the application process and got accepted to the project in the winter of 2015. After Buğday Association's two-day training and financial support for fences, gates, water pipes, etc., they started their activities. The final location of Bostan is closer to the campus settlement area compared to the first places in the campus forest. Eylül reflects on that saying, "In that way, Bostan came closer and reached more people." The aims of the Bostan are explained by Eylül as follows; first, encouraging people

to produce, and secondly, protecting, reproducing, and sharing the heirloom seeds. He elaborates on that by saying:

> Everyone who has the opportunity should experience the production process on the balcony, in the garden or village. Perhaps food-related habits will change. They will try different ways to reach healthy food … People should touch the soil. They should have seen that they could produce the products they missed. They should know that there are other alternative means of production, not with existing industrial agriculture.

Bostan also provides an *exploratory area for ecological farming practices* to the members. During my time in Bostan, I observed and experienced that Bostan gives an appropriate setting for *learning and exploring ecological practices*. Ege says that:

> Our advantage is that we don't risk anything like a farmer at all. We don't have to worry about money. I think this is very important, and we can try whatever we want. There is free space. I think this is one of the most important things in Bostan.

Activities of Bostan can be evaluated under two main sections; field work in the garden and weekly meetings where ecological practices are discussed through presentations and documentaries. Eylül explains the activities of Bostan:

> When the weather gets warmer, we have a seed planting festival. We bring the seedlings to the soil in the first week of June. In the summer, we clear the weeds and hoe the soil. Generally, there are works in the soil, especially in the garden. During the winter, we have workshops on soap, cheese, and pickles. We watch documentaries and talk about heirloom seeds, climate change, agriculture, water, farmers, non-toxic food, and the production processes of any product.

One of the most prominent elements in Bostan is *collaborative work*, according to the participants. Ege describes it by saying, "We plant together, we collect it together. We teach something together, we learn together, and we also develop a

culture together." He also emphasizes the *strength of the community bond* in Bostan as "Bostan is my home and even my family." Eylül's words support the notion of collaborative work and spirit in Bostan. He expresses that people's collective effort and solidarity started Bostan in the first place in Yalıncak under challenging conditions, and still, everything is produced, shared, and consumed together. However, he also adds that the biggest problem of Bostan is sustaining the community to continue existing. He says they need new members to transfer their experiences, and continue producing and sharing them in the garden.

Other community garden examples, 100. Yıl Berkin Elvan Bostan and Çiğdemim Association Bostan, founded in the same year with Bostan. 100. Yıl Berkin Elvan Bostan is a subgroup of 100. Yıl Initiative, which is located in the 100. Yıl Neighborhood. Another subgroup of the initiative is 100. Yıl Food Community, which will be discussed under the buying clubs section. According to Eylül, since their foundation process took place in the same years with METU Bostan, they helped each other in various ways. He explains it:

> When the 100. Yıl Berkin Elvan Bostan was first established; we were exchanging materials such as digging shovels and seeds. There were people from Metu Bostan who went to the neighborhood to help. We were asking each other about planting work. We had experienced ones among us. In that sense, we were also exchanging information.

Similarly, Eylül states that METU Bostan helped prepare the garden area while the Çiğdemim Association Bostan was building. Ege also expresses his compliments about Çiğdemim Association Bostan's current summer and winter planting and composting works. He explains the working principle of Çiğdemim Association Bostan as "They adopt a production system where only members can obtain products." In that way, three of the community gardens follow the working model of collaborative production and consumption. Therefore, they do not aim to sell their products or earn profits.

4.1.2.2 Buying Clubs

In this section, food communities, namely 100. Yıl Food Community and Bardacık Food Community, and Natural Food, Conscious Nutrition Network (Doğal Besin Bilinçli Beslenme Ağı / DBB) are examined through participants' arguments. As discussed (see Section 2.2.3.4 and Section 2.2.4), in the Turkey context, these kinds of formations mostly use the terms of food communities or participatory guarantee systems (PGS), but I gather them under the buying clubs section in this study to be consistent with the literature.

Eylül defines the food communities as a bridge between producers and consumers to "provide communication and enable the consumer to reach producers who practice community-supported agriculture and good agriculture." He gives the 100. Yıl Food Community as an example of food communities and explains their working mechanism as "they communicate with the producers in the villages and bring their products to consumers in Ankara." 100. Yıl Food Community collaborates with producers in the villages and works with producer-led food cooperatives to deliver their products. Since I had an experience of buying some products via 100. Yıl Food Community, I can describe the process. First, I saw their post on their Facebook group stating available products. Then I sent a private message to the group via Facebook to arrange a pick-up time. After setting the date and time, I went to the place of 100. Yıl Neighborhood Atelier where 100. Yıl Food Community stores their products to pick up my product. In addition to this version of the transaction, they can be reached in the public events in the neighborhood like second-hand bazaars.

Having discussed 100. Yıl Food Community, I move on to DBB which is a network of consumers and producers with the purpose of reaching healthy food and strengthening small farmers. The model of The Natural Food, Conscious Nutrition Network (DBB) explained as a participatory guarantee system (PGS) and states that "DBB *involves producers and consumers* who work together to facilitate direct access to healthy food produced using agro ecological methods, and who take responsibility in this respect" (Doğal Besin Bilinçli Beslenme Ağı, n.d.). In their

website, it is explained that they use email groups for communication and arranging orders as well as sharing knowledge (Doğal Besin Bilinçli Beslenme Ağı, n.d.). According to Bilge, the birth of the DBB is very closely linked to Güneşköy, since the founders of DBB were already volunteers and supporters of Güneşköy. She says that she is an active member of DBB from the beginning, and she contributes to organizing cargo and motivating people to order from DBB collectively. She explains that ordering individually doesn't make much sense because of high shipment prices. She suggests that "The optimum is sharing with around 4-7 people. When shared with over 7-8 people, its organization is very troublesome. Then we start to make Excel tables for what for whom, how many cents of cargo dropped for each."

Similar to Bilge, Irmak is a member of DBB and places orders from there. She reflects on some difficulties in the DBB system by saying, "The problem is that the producers are in different places, so the products come from different places. So you have to pay for every cargo, and you have to be there physically to meet each cargo. It's pretty hard". To prevent the disadvantages of individual orders, people in the same neighborhoods or districts get together for collective orders. She gives the Bardacık Food Community an example that became a sub-community to facilitate collective shipments and payments for bulk orders from DBB. Bilge also talks about the Bardacık Food Community, explaining that they rent a place for communal activities, and distribute DBB orders and invite DBB producers in their meetings. Bilge and Irmak say that there are similar formations under DBB in Esat and Ayrancı neighborhoods in Ankara. Irmak explains the working principle of them as "All products come to a place and these people take responsibility and deliver them to each other from there."

In addition to the consumer perspective, Gökçe highlights that DBB creates a good option and channel for the small producers who can not sell their products. Irmak shares her appreciation as "I see that DBB is a great system in Ankara. I see there is such a growth, and I hope it will increase." Also, Eylül spotlights the importance of

food communities by "Thanks to food communities, overconsumption and *food safety* problems can be solved."

4.1.2.3   Farmer's Markets

Farmer's markets are known as bazaars in Turkey, and they are widespread. In almost every neighborhood, bazaars are settled in the streets or reserved marketplace areas on a specific day(s) of the week. In the bazaars, consumers can buy fresh vegetables and fruits from the farmers and sellers who buy their products from intermediaries or wholesale marketplaces. In the interviews, participants mostly talked about organic bazaars where *local farmers* sell their organic products rather than neighborhood bazaars. In Turkey, the first organic bazaars were settled in İstanbul with the name of 100% Ecological Farmers' Market by Buğday Association's support (Buğday Association, n.d.). Later, two organic bazaars in Ayrancı and Çayyolu neighborhoods in Ankara were formed. Deniz explains the formation of these bazaars in Ankara by saying Çankaya Municipality took the initiative for founding Ayrancı organic bazaar with the cooperation of Güneşköy and Buğday Association. It is an example of Güneşköy's and Buğday Association's leading role in Ankara in terms of supporting ecological and organic food production and consumption.

Organic bazaars in Ankara can be examined from different perspectives. For example, Bilge, who is a consumer of organic bazaars, describes her motivation to go to the organic bazaar as seeking chemical-free and seasonal food along with supporting *local producers*. On the other hand, Gökçe complains that organic bazaars in Ankara are not valued and popularized by the consumers compared to İstanbul. Therefore, she says that some organic food producers couldn't sell their products and stop going to the organic bazaar.

In addition to the organic bazaars, Irmak highlights the importance of the spread of farmer's bazaars. She doesn't specify the organic production, but she gives attention

to the *local production and consumption of the food* through local farmer's bazaars. A particular example of a farmer's bazaar is in Tahtacıörencik-Güdül town of Ankara. Güdül joined the Cittaslow network recently, and different projects are carried out related to local and sustainable development (Cittaslow Türkiye, n.d.). In the scope of these projects, various events are organized, and one of them was Tahtacıörencik Hasat Festivali (Tahtacıörencik Harvest Festival), which included the farmer's bazaar, farm visits, and local food workshops in September 2019 (see Figure 4.1). I attended the event as a part of the initial exploration of the field research and made observations. During my visit, it was explained that most of the farmers/producers in the village try "natural agriculture" as farming without pesticides. I walked around and shopped in the farmer's bazaar. The bazaar was explicitly settled for the event for that day, but they have a regular bazaar for local people and visitors on normal days.

Another event I have attended was Üreticiden Aracısız Doğal Ürünler Panayırı (Natural Products Fair From the Farmers Without Intermediaries) in the Çiğdemim Association's place in Ankara in August 2019 (see Figure 4.2). Farmers from Güdül, Güneşköy, and various food communities participated in the event and sold their products. It was a temporary farmer's market rather than a traditional bazaar. According to my observations, the event aimed to increase the *visibility of these food initiatives* as well as the trade of products.

Figure 4.2 Flyers of the Tahtacıörencik Harvest Festival and Natural Products Fair.

4.1.2.4 CSA, Ecovillage Movement and Buğday Association

Since Güneşköy adopts the CSA model and ecovillage movement, these two topics will be discussed more in detail in the later sections while examining the Güneşköy case. However, I would like to briefly overview the CSA and ecovillage movement in Turkey based on the interviews. Deniz explains that the first known CSA practice was in İstanbul as a Buğday Association's project called BAHÇE (Garden), but it didn't continue for a long time because of the land ownership problems. Deniz states that the Buğday Association helped Güneşköy to start CSA in Ankara under the name of Bahçemiz (Our Garden). In Buğday Association's and Güneşlöy's CSA applications, consumers make a prepayment for the whole season and receive food boxes during the season. Deniz explains that in that way, producers are not affected by price fluctuations, and consumers have access to healthy food. Similarly, Bilge says that CSA is an excellent method to make *small-scale production* to guarantee whatever expenses. Other than Buğday Association's and Güneşköy's CSA practices, some food communities and initiatives like DBB adopt the principles of CSA to some extent.

The Ecovillage movement and sustainable food movement have strong connections with each other in Turkey. They involve mainly the same actors such as members from Buğday Association, Güneşköy, and Hocamköy. Deniz describes *the ecovillage movement* as the *movement of conscious people*. He says that people in the movement claim that "We dedicate our lives here, and we will change the world. We will do it with self-sufficient communities with small applications." In the interviews, Hocamköy often was stated it as the first ecovillage initiative in Turkey and Güneşköy is the continuation of it. As it will be discussed later, Hocamköy and Güneşköy are ecovillage initiatives rather than ecovillage itself. According to Deniz:

> There are people who give up the city life and move to rural life in Turkey, but a complete ecovillage was not formed. For example, there was no settlement where 30-50 people lived. There are a lot of small initiatives, but no reasonably sized settlements have sustained. Of course, there have been quite a few attempts in the Kaz mountains. There are many small enterprises in Ankara, Datça, İzmir, and Fethiye. We wish that over time, one of them will turn into a settlement.

Deniz also states that there is a national network of ecovillage initiatives, but it could not be fully functional. He explains that this network was established in 2009 with the participation of Victor Ananias, the founder of Buğday Association, Mete Hacaloğlu, the founder of Hocamköy, and some founders of Güneşköy. At the international level, Güneşköy is the full member of GEN Europe (European network for ecovillages) and Yeryüzü Association as the aspiring member from Turkey (GEN Europe, n.d.) (see Section 4.2.5 to read more about GEN Europe).

In addition to the CSA and ecovillage movement, I would like to mention that Buğday Association has a special place in the ecological organizations and initiatives. It has an essential role in the alternative food movement in Turkey. Buğday Association's roots went back to Buğday Vegetarian Restaurant in 1992, and it took the name of Buğday Association for Supporting Ecological Living officially in 2002 (Buğday Association, n.d.). Buğday Association has many projects

related to ecological living and healthy food. Some of these projects have already been mentioned, such as the *No Pesticides on Our Plate* campaign, Seeds to Campuses project, 100% Ecological Farmers' Market project, and BAHÇE project (CSA). It can be seen that the Buğday Association is very active and has collaborated with other initiatives and organizations like Güneşköy, METU Bostan, food communities, and municipalities in those projects.

4.1.2.5   DfS Implications: Characteristics of Alternative Food Systems

Various food initiatives and formations have been introduced until now. Even though they have different operating systems and priorities, I analyzed that they have some common characteristics based on interviews and my observations, explained in detail in previous sections. These features can be summarized as follows:

1. Producing or delivering safe, healthy, and delicious products,
2. Supporting small scale and local production,
3. Eliminating intermediaries,
4. Encouraging local transportation, which leads to low carbon emission and avoiding long food chains,
5. Integrating consumers into the process,
6. Being bottom-up initiatives, and
7. Involving people as volunteers and promoting collective work

All of the characteristics might not be applicable at the same level for all food initiatives and formations, but they fit most of the initiatives. The first five features of initiatives are mostly related to solutions they offer related to problems of the conventional food system (see Section 4.1.1). They share similar goals in terms of healthy and sustainable food, and they are connected with each other. It has been seen that all of the initiatives have relations with each other in different levels, such as being an inspiration source, helping each other in physical work, sharing knowledge, and carrying out joint projects and events.

Some of the food initiatives are producer-led, and some of them are consumer-led communities. Still, all of them take care to *grow and offer healthy and ecological food* mostly related to pesticide and chemical fertilizer-free production, usage of heirloom seeds, and seasonal food, as discussed in the previous sections. *Supporting small-scale and local production* is essential both for the sake of farmers and ecological sustainability. *Eliminating intermediaries* as directly selling to the consumers via CSA practice and farmer's market or creating channels between producer and consumer as in the case of buying clubs is protecting farmers and consumers against price gaps. Local production and consumption of food without intermediaries mostly lead to *local transportation* and low carbon emission. In the alternative food initiatives discussed, consumers can *participate in the production or observe the process* by becoming volunteers or attending field trips. It can be seen that the aims and features of alternative food initiatives discussed in the findings are aligned with the AFNs discussions in the literature review, particularly with Jarosz' (2008) description of AFNS with four main themes (see Section 2.2.1), and Soysal Al's (2020) characterization of ecological food initiatives in Turkish context (see Section 2.2.4).

The last two of the features of food initiatives listed are more related to their way of establishing and operating their activities. They are *bottom-up initiatives* established and organized by innovative people who take the initiative and act with community spirit. Also, c*ollective work and volunteering* are prevalent and crucial in these alternative food initiatives and communities. It is also applicable to discuss the food initiatives introduced in the previous section from the perspective of *community-based innovations* (Manzini & Meroni, 2014), since they are initiated and implemented by communities to find solutions for shared problems in the context of the food system. Additionally, the food initiatives embody the characteristics of *creative communities* (Meroni, 2007) (1) introducing new ideas, (2) being strongly rooted in a specific context and conditions (i.e., Ankara, Turkey) using available sources, (3) promoting new ways of food production and consumption, and (4) being

in relation with other initiatives in local and global level, so that they can transfer their knowledge and experiences to each other as well as get inspired.

4.2 Structure of Güneşköy

In this section, the structure of Güneşköy is examined in order to understand the organization of the *ecovillage initiative* in terms of its foundation and aim, stakeholders, physical place, projects and relations. Güneşköy is located in Hisarköy, Kırıkkale, and founded in 2000 as a cooperative with nine members (Figure 4.3).

Figure 4.3 View of greenhouse and farming field in Güneşköy.

4.2.1 Foundation and Aim

For the participants, the foundation story of Güneşköy roots back to the Hocamköy ecovillage initiative in Kırıkkale. The participants tell that Hocamköy started with the initiative of people from METU Mountaineering Club under the lead of Mete Hacaloğlu. Deniz explains that:

We started an ecovillage initiative group for the first time in Turkey with the Hocamköy project. This was in 1996-97. A place was allocated close to Ankara. There was no exact settlement there, but the projects on natural buildings and permaculture were done. The aim was to create a sustainable life.

Gökçe expresses that Hocamköy couldn't last long because the municipality gave the land, but the former owner came and demanded it back. Therefore, land and all the other works there were gone. She says that they learned an important lesson from Hocamköy: "If we are going to do something ecological, we should definitely own the land." Yağmur says that she also participated in the Hocamköy project through METU Mountaineering Club and was part of planting trees and building a two-room adobe house, irrigation channels, and a wall structure with bottles against the wind.

After the Hocamköy initiative dissolved due to loss of land, Güneşköy cooperative was founded in 2000. Deniz explains the process of founding Güneşköy, says that they wanted to continue the Hocamköy project. He says after long research, they found a place called the Balaban Valley, in the east of Ankara, within the borders of Kırıkkale. They bought the place and established a non-profit cooperative. He also expresses that "Güneşköy is a continuation of Hocamköy. If Güneşköy disappears, something else will come out of it. It creates a field of experience by teaching and affecting each other. Nothing goes forever; it changes and transforms." Therefore, it can be seen that Güneşköy gives importance to the process of experience and the transfer of it. This is a valuable vision; it contributes to society's *accumulation of knowledge and experience*.

Güneşköy is a cooperative, ecovillage initiative and CSA implementer. For the participants, Güneşköy means "a living space based on ecological life and practices" (Derya), "non-toxic table and food without poison" (Zeynel), and "a promising and good example" (Bilge). Bilge elaborates on this as "Güneşköy is one of the examples I gave while introducing myself and trying to explain to people what I am working for." It can be understood that Güneşköy's ecological aspect is strongly perceived by

the participants and sets the example for ecological and food-related projects and organizations.

Deniz explains that Güneşköy's aim in the foundation period was to *establish an ecological settlement*. Gökçe supports Deniz's words by saying, "We were a group of people who were willing to start an ecological life, and we had an attempt and intention to establish an eco-village." In relation to establishing an ecovillage, one of the aims of Güneşköy is to have a permanent settlement with a living community there. Deniz and Gökçe say that the intention was to live in Güneşköy in the long term, but they couldn't build their lives there; therefore, they didn't reach their exact goal and desired result. Derya comments similarly and adds that "Our aim was to build 20 nature-friendly houses there. But we had jobs and families in the city. So we couldn't establish a life there. If it could be done, today's development would be completely different." Consequently, having permanent settlement and creating an ecovillage community in Güneşköy couldn't be achieved. Still, Bilge shares her positive thoughts "Güneşköy is hope for Ankara. Of course, I see that nobody settled there; a community could not be established there. But I keep my hope that it will be an ecovillage that will reach its full potential."

Another aim of Güneşköy is to *create a connection between the rural area and the city*. Since Güneşköy is located in the Hisarköy village, which is 75 km away from Ankara city center, it can be considered as a rural area. Food production and other ecological activities are held in the village setting while food is distributed to consumers in the city. However, founders live in the city and have strong connections with city life and city dwellers. Deniz explains that they have good relations with the villagers at the individual level, but since they don't live in Güneşköy permanently and couldn't deal with the problems of the area, there isn't expected change in the village. For example, former workers of Güneşköy started organic production with the support of Güneşköy, but the transition to organic farming didn't spread in the village scale. Eylül commented from the other perspective, saying Güneşköy provides a solid ground for visitors and volunteers to experience rural life as well as

learn garden work. Therefore, it is evaluated that Güneşköy reached its aim of connecting rural and city in some parts but couldn't fulfill all aspects.

Derya and Deniz state that Güneşköy also aims to develop *an exemplary model for ecological food production*. They emphasize that farmers are suffering from selling their products effectively. Consumers have difficulty finding healthy food free from chemicals, so Güneşköy aims to create a locally reproducible model to solve these problems. They say that they learn and experience agriculture and rural life themselves and then spread these practices to people. From the participants' expressions, it can be said that they give importance to spreading their experience and practices to other people as well as producing food.

Based on the interviews, the aims of Güneşköy can be summarized as *establishing an ecological settlement, creating a connection between the rural area and the city, and developing an exemplary model for ecological food production*. As discussed, the aims can't be achieved fully but on some levels. According to my field observations and experiences, Güneşköy becomes more successful in generating an exemplary food production model by applying CSA and using ecological farming practices. Therefore, I observe that Güneşköy achieved its aim of developing an agricultural production model more than its other aims.

4.2.2 Stakeholders

The participants identify the stakeholders of Güneşköy as active members, workers, supporters, volunteers and visitors. All of the stakeholders have different impacts and contributions to Güneşköy.

4.2.2.1 Active Members

Since Güneşköy is a cooperative, official shareholders are the charter members of the cooperative. However, not all of the founding members are actively participating

in Güneşköy. Besides, there are some volunteers who are regularly working and supporting Güneşköy for a long time. Therefore, I use the *active members* term to describe people who are active founding members and regular volunteers.

According to the participants, Güneşköy's founders were divided into two groups as active and passive after the high-speed train project over the land of Güneşköy (see 4.2.3.2). Gökçe states that the reasons for that division were the *lack of social bonds*, *clear decision-making structure*, and *conflict resolution mechanism*. He says that the active group with fewer members maintains the daily works, carries out projects, and manages relations with GEN. In contrast, the passive group neither leaves the cooperative nor participates in the work. Bilge comments that few people remained active on the cooperative after the train viaduct construction, and that increased the anxiety of whether Güneşköy would continue or disappear. She says that luckily it was resurrected but still having few remaining people is a weakness of the cooperative. She also analyses that "Güneşköy creaked a lot due to communication problems. I think subgroups with different priorities wanted to do different jobs and communication was blocked. The excitement of those who were very excited was also hampered." Similarly, Ümit highlights that Güneşköy needs unity to achieve its goals, but not all members of the cooperative have shared agreement in this regard.

As Bilge highlights, some members have different priorities and expectations in both active members and passive members of Güneşköy. I evaluated that when these priorities and expectations became too different, two different groups (i.e., active and passive groups) emerged. Active members work for the sustainability of Güneşköy for the long term and are eager to continue their activities. Active members share similar backgrounds and professions; there are a considerable number of academicians, chemists, and one landscape architect. Most of them have strong bonds with METU. Even though they have a shared understanding and consensus among active members to continue to work for Güneşköy, they still have diverse areas of interests and motivations. For example, one of the active members states that her motivation to be part of Güneşköy is to observe and be in nature as expressing, "I feel good in nature. You find different treasures every time. I like

observing nature and flowers and collecting insects. Agriculture is not much in my interest, but as long as others want to carry on, I continue."

According to my field notes, similarly, one active member is more interested in increasing the publicity of Güneşköy. Some of the active members make an effort for agricultural activities and projects (i.e., CRY-Gen, natural buildings), while one active member is involved in the vermicompost process. However, since agricultural production and CSA applications require a high level of labor and provide the main income of Güneşköy for its economic sustainability, all of the active members contribute to these works on some level. I consider that having members with various interests brings diversity to Güneşköy and increases its resilience as long as members can have an agreement on fundamental principles, and their priorities and expectations aren't too different to prevent the division of active and passive groups.

4.2.2.2 Workers

In Güneşköy, one permanent worker is living and working in Güneşköy throughout the year, and one seasonal worker is employed during the CSA season. The permanent worker states that he has been working in Güneşköy for more than ten years and before Güneşköy, he was also farming in his village that is not far from Hisarköy village. He is staying in the Günsera Greenhouse building in Güneşköy and dealing with all the work, including farming. He says that active members come twice a week to Güneşköy to help with the harvest and packaging of the products during the season.

Gökçe and Deniz state that thanks to the permanent farmer in Güneşköy, food production processes are carried out smoothly. Deniz says that the farmer has a lot to say in planting, harvesting and other works, and all the planning process has been done together with his guidance because he knows what's going on there more than anyone. Deniz also mentions the hardship of finding a seasonal worker to help with farming activities. She explains that "Although we searched and asked nearby

villages, we could not find someone to work as such, and we had to hire a foreign assistant farmer." Based on my field notes, last season, which is one year after the interviews were conducted, they also employed a foreign seasonal worker for Güneşköy. I observed that seasonal workers in the last two seasons lived in Güneşköy together with the permanent worker during the summer months when agricultural works required more labor.

Apart from the current permanent farmer and seasonal workers, Güneşköy had other workers from the Hisarköy village. In the interview, one of the former workers expresses that they were already doing agriculture and growing their crops in their field and had good relations with the Güneşköy before they started to work there. She says that after they worked one year in Güneşköy, they learned organic farming and started themselves and sold their products in organic bazaars in Ankara. Active members and the former worker explains that during the transition to organic farming, Güneşköy helped and encouraged former workers. Former workers and Güneşköy still have good relations and support each other in various ways. Former workers of Güneşköy learned and experienced organic production while they worked there and then applied their knowledge and experience to their life. For example, the former worker says that they were using herbicide before they worked in Güneşköy but later stopped using it in their fields. She gives another example: they learned to prepare a natural mixture consisting of hot pepper, garlic juice, etc., for the flies and insects instead of using pesticides. She states that they still consult active members of Güneşköy when they experience difficulty related to agricultural production or organic bazaars in Ankara. Therefore, I observe that there is a *transfer of knowledge and experience* from Güneşköy to villagers.

4.2.2.3 Supporters

CSA supporters of Güneşköy are one of the essential contributors to the sustainability of the structure in Güneşköy. Supporters' motivations, impacts, and participants' critiques related to them will be discussed in Section 4.3.2, but I want

to introduce those supporters here briefly. They are the subscribers of Güneşköy's CSA practice for a season to receive a food box with products grown in Güneşköy. The supporters might subscribe for each season constantly, intermittently, or one time only. Güneşköy had around 70-80 supporters each season in the last years. Ege comments that the CSA supporters are mostly elite people living in the city who can reach and afford that type of food which is more expensive compared to regular foods. Bilge also shares her insights about supporters of Güneşköy's CSA practice as:

> 10-12 years ago, it [supporter group] was a narrow section like a university teacher or student. So they were highly educated and intellectual people. Now I see more mixed groups. I think supporters have diversified in recent years. For example, people from high-income levels, who follow environmental problems, who have health problems in themselves or in their families such as cancer and MS, and who are pregnant or caring for children started to join.

Two of the participants, who are also supporters, say that they are actively interested in healthy eating and a healthy lifestyle. They also express that they want to support communities that offer healthy food. Irmak explains that she first found the Güneşköy while searching on the internet and then became a supporter for four seasons. Bilge says that she encountered Güneşköy through their flyer on METU, which invited people to be supporters in 2008. After that, she became a supporter intermittently for three seasons.

4.2.2.4   Volunteers and Visitors

Volunteers of Güneşköy is an inclusive term that includes many people with different roles. As I mentioned before in the active members part, there are *regular volunteers* who seriously work and contribute to Güneşköy for a long time. Also, there are *short-term volunteers* who come to Güneşköy one or a couple of times in different periods.

Supporters and students are the most frequent contributors to that short-term volunteering.

Since the active members of Güneşköy have strong connections with the METU and students, student trips to Güneşköy are very common. Derya states that many students came to Güneşköy for educational projects and trips, including Greenpeace and METU Bostan. I also visited Güneşköy as a part of the METU Bostan event on 12 May 2019. We were around fifteen students from METU Bostan. We spent all day there and worked in groups on various tasks such as planting pepper seedlings, collecting stones, preparing meals, and cleaning. Also, active members there told us about their projects and what they are doing in Güneşköy.

Gökçe explains that Güneşköy has a project named Climate Resilient Youth Generation (CRY-Gen) that is funded from the Small Grants Programme of the United Nations Development Programme (UNDP). The details of the project will be explained in the later section (see 4.2.4), but the project participants contributed to Güneşköy in various ways like helping the preparation of land, harvesting and distribution. Therefore, the students who joined the projects in Güneşköy can be counted as an important volunteer group.

Supporters also might have a volunteer role in Güneşköy. Both Irmak and Bilge, who are supporters of Güneşköy, say that they went to Güneşköy to help with harvesting and packaging as well as spend time in nature a few times. However, they express that they didn't go there regularly as volunteers. Bilge asserts that it takes one hour and fifteen minutes to get to Güneşköy from the Ankara city center, which is a close distance for her, and enjoying the time there is a good alternative to spend the weekend. However, she also shares the difficulties of volunteering as:

> It is necessary to make a special effort for any volunteering. For example, a decision such as whether I will spend the weekend resting or volunteering easily leads to rest and sleep. For people working full time, it takes a lot of extra effort to make such an attempt. It can also wear out quickly. When you hit the slightest problem, it can be a deterrent.

Volunteers and visitors of Güneşköy have many aspects in common, and it is hard to differentiate them. There is a more apparent distinction between regular volunteers and visitors, but short-term volunteers have similar characteristics with visitors. Both short-term volunteers and visitors come to Güneşköy from time to time to help with some work and spend good time in nature and have conversations with the people there. Derya states that "We had 300-350 visitors, especially in the last three years on an annual basis. Children, students, parents and people related to ecological life and production come to ask and learn." According to him, people who visit Güneşköy regularly become more stakeholders than one-time comers.

4.2.2.5   DfS Implications: Active Involvement of Stakeholders

Since Güneşköy was officially founded as a cooperative, all the charter members must agree on the continuation of Güneşköy officially. As discussed, two groups currently exist as active and passive groups, including members with different priorities and interests, which might create problems in the future in terms of making decisions about Güneşköy in the charter. Regarding this issue, I can evaluate that having members with various interests can be advantageous while creating a community or initiative, since each of them can contribute in different areas and attract people from diverse fields. However, it is crucial to have a consensus on the fundamental decisions. The key point is the degree of differentiation in interests and goals. If it is too different, then it is hard to work collaboratively.

Based on findings, volunteers are important stakeholders of Güneşköy. As explained (see 4.2.2.1), some volunteers are making as much effort as founding members, and their contribution to Güneşköy is very valuable. Those regular volunteers participate and work for tasks related to CSA, farming, maintenance of buildings and machines, and the publicity of Güneşköy. Even though they are actively involved in all processes in Güneşköy, since they are not charter members, they don't have the official right to engage in the formal decision mechanism of the Güneşköy cooperative. It can be a drawback for regular volunteers and Güneşköy's operation

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system since the current arrangement does not let volunteers get involved in formal decision-making. It can be concluded that having a rigid management structure that does not allow any change in the membership process can be a limitation for initiatives and organizations.

According to my observations, both regular and short-term volunteers cover most of Güneşköy's workload together with active founding members. Without volunteers' and founding members' contribution, it is unlikely that one permanent and one seasonal worker could handle all the work in Güneşköy. Therefore, it is vital to motivate volunteers to actively participate in the long term so that the sustainability of Güneşköy is ensured. On the other hand, as explained, volunteering requires special effort and dedication and involves the risk of burn-out. As discussed (see section 2.2.4), Kurtsal and Viaggi (2020) identify similar problems regarding the food communities in Turkey and state that the most problematic situation considering group dynamics is the lack of volunteers taking responsibility. For that reason, encouraging the active involvement of volunteers in Güneşköy is a difficult task as well as a crucial one.

All in all, when I consider Güneşköy from the perspectives of *community-based innovation* (Manzini & Meroni, 2014) and *creative communities* (Meroni, 2007), I can identify three issues that can be improved. The first one is that core members of the community need to have shared goals and consensus and the ability to work collaboratively; however, they might have various interests to some degree. The second one is that determining the structure and decision-making mechanism of the creative communities is important, since it might limit the involvement of new members to the community to some extent as in the case of Güneşköy. Lastly, since the basis of creative communities is the movement and initiation of a group of people collectively, it is important to keep people involved in the processes and encourage them to take responsibility. I can conclude that these three insights from the Güneşköy case are essential for ensuring the sustainability of creative communities.

As discussed (see Section 2.3.5*), strategic and service design* fields can contribute to the development of food systems, and designers can intervene in the systems as assisting current communities by developing a set of tools for participants (Meroni, 2006). From that perspective, it can be suggested that service and system design methods can contribute to Güneşköy and creative communities by:

- developing effective communication tools and strategies which help community members to understand whether everyone has consensus on the main goals in the initial phases of community building and also during the process of their operation to check whether everyone still on the same path (e.g., providing card decks for discussion or offering tools for creating their own cards which may include keywords, images and sketches related to the community)

- supporting communities in creating and deciding on their own working structure which enables the participation of new members and recognition of the volunteers' contribution so that they could have some forms of ownership (e.g., organizing workshops with the involvement of community members for developing diverse scenarios to explore different forms of organizational structure), and

- encouraging active involvement of diverse actors (e.g., creating personas and system maps to develop strategies for increased participation of actors).

4.2.3 Land of Güneşköy

Güneşköy is settled in a 75.000 m2 area which includes buildings, structures and farming fields. I will provide a brief description of the area, referring to Figure 4.4 below. In Figure 4.4, we see the map of the Güneşköy land and its elements. A glass greenhouse called Günsera (see Figure 4.4, number 1) is used for living space, kitchen, and agricultural production. There are other greenhouses; one for vermicompost (see Figure 4.4, number 3) and one for agricultural production (see Figure 4.4, number 3). Strawbale building called mandala (see Figure 4.4, number 8) is used for training and gatherings. There are fields for farming in different areas (see Figure 4.4, number 5, 6, 9). One half-buried stone building is used to store some machines, seeds and pickles (see Figure 4.4, number 4). There is a arbor (*çardak*) near the Günsera and used for eating, gathering, and packaging (see Figure 4.4, number 2). There are fruit trees (see Figure 4.4, number 10) in Güneşköy and Zeynel says that mostly sour cherries and plums give fruits while apricots and almonds are often frosted since they bloom early. On the map, we can also see the railway viaduct which splits the land in two (see Figure 4.4, number 7).
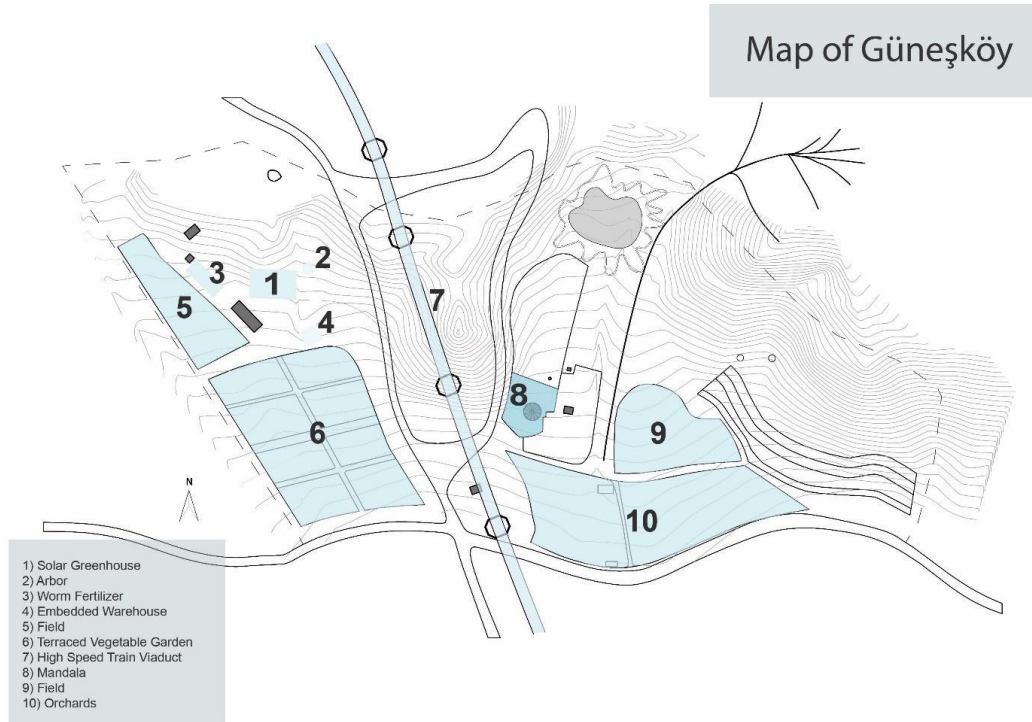
Figure 4.4 Map of Güneşköy (Adopted from Güneşköy, 2019).

4.2.3.1 Location of Land

As mentioned before, Güneşköy is located in the Balaban Valley, standing in the east of Ankara, within the borders of Hisarköy village in Kırıkkale. Güneşköy is around 75 km far from Ankara city center and takes almost one hour and fifteen minutes. Yağmur states that going to Güneşköy from Ankara is difficult in terms of public transportation. She says the public bus from Ankara comes until Elmadağ, which is still 15 km away from Güneşköy. She also mentions that due to dogs wandering around the road in that 15 km, she doesn't feel so safe to walk or bike in that distance. Also, one of the active members said that she started to practice driving again after 30 years to come to Güneşköy. Similarly, Eylül expresses the transportation problem that even though he wanted to go and see Güneşköy much earlier, he waited for a more crowded trip to be organized and go with the shuttle.

According to my field observations, there are different ways to reach Güneşköy from Ankara. As it is said, public transportation is not preferred since it comes only until Elmadağ. One option is to drive in a personal car and maybe carry other passengers to Güneşköy if it is requested. The other option is communicating with active members who go to Güneşköy regularly and then asking for a spare place in the car. Another option is to travel there by shuttle if a trip is organized.

Active members are regularly coming and going between Ankara and Güneşköy, and experience some difficulties. For example, Ümit talks about the difficulty of driving in bad weather conditions like snow and rain, and car breakdowns on the road. He says there are both financial and intangible costs, but these difficulties shouldn't hinder people instead strengthen the resistance. Deniz points out the distance of Güneşköy as:

> I dream of something that is not far enough away from a city but has a city leg. For example, something similar happened in Spain. They both live in the city and have a place in the countryside. This idea sounds good to me; it is linked to a city. This place [Güneşköy's current location] is 65 km away from Ankara. For example, 20 km away would be much easier. But of course, the land values are high there too.

Güneşköy is settled in Central Anatolia. It is affected by this region's physical and social conditions, such as climate and soil characteristics in terms of agricultural activities and reaching people, and creating a community in that specific context. Deniz comments on that as "We will see whether Güneşköy continues in the future, we actually want it to continue. Because there are not many such successful examples in inner Anatolia. Life is easier in the west and in the countryside."

4.2.3.2   Division of land

As discussed in the section of active members (4.2.2.1), after the high-speed train project over the Güneşköy, the founders were divided into two groups: active and

passive. High-speed train projects have some consequences on the division of the land in addition to the split of people. Deniz explains the process of railway project as:

> Sivas Ankara high-speed train project came out in 2015. It is planned to pass over the Güneşköy land. We could not intervene in it because when it is made as a public benefit project, a lawsuit cannot be filed. So they expropriate. Of course, we are very depressed that there was a construction of a large structure with the establishment of 100 meters high viaducts.

Yağmur states that because of the railway construction, a hill in the land of Güneşköy was removed. Gökçe says that there were trees on the railway line, and those trees were removed and planted somewhere else with the help of young people from METU Bostan. Deniz mentions the future threat of splitting the area in half if officers pull a fence under the viaduct. He says that on one side, there is a straw bale building called mandala and fields, and on the other side, there is a greenhouse called Günsera and other fields. If the fence separates them, it will not be possible to walk through those places. (see Figure 4.5)

Despite the problems caused by the high-speed train project, the active members of Güneşköy decided to continue their projects and CSA there after a few years break. Yağmur says that: "This viaduct is bad, but I think it is not the highway at first. Because if there was a highway, vehicles would cross the highway every hour, 24/7. They wouldn't know we existed". Similarly, Zeynel comments that "I think the high-speed train does not have much effect. It passes above, plus it passes with electricity. Not fuel either".

Figure 4.5 Views of high-speed train viaduct.

4.2.3.3   DfS Implications: Land, Accessibility, and Resilience

I conclude that the physical place has some implications on Güneşköy. Since agricultural production is one of the key activities of Güneşköy, the land needs to meet the requirements of farming, such as the suitable size of arable land and access to water. Additionally, the financial aspect of owning land is one of the important criteria. As discussed, due to the location of land, some problems like having difficulty in finding transportation and traveling long distances frequently are experienced by the stakeholders of Güneşköy. This situation is also related to the *accessibility* and *visibility* of Güneşköy at the city level. Considering these conditions, the scale of agricultural production becomes a touchstone when choosing the location of the land. Small-scale ecological food production areas in the city setting can be more accessible, visible, and inspirational for a larger number of people, while large-scale ecological food production areas can provide food for more people. Owning big size arable land close to the city center requires high financial investment, and it can be questionable for ecological and healthy agriculture in terms of contamination of air and soil.

As seen in the high-speed train project, there might be unforeseen situations related to the land even though it is owned. Güneşköy went through loss and division of land because of the high-speed train construction. As a part of this process, the conflict between founding members and division (i.e., active and passive) and the interruption of Güneşköy activities and CSA application for around two years took

place. Therefore, I evaluate that it is crucial for initiatives to be prepared for unplanned situations and difficulties, like in the case of the high-speed train project in Güneşköy. Increasing the strength and resilience of a community can be beneficial for the continuity of the organization.

4.2.4 Projects and Relations of Güneşköy

4.2.4.1 Projects of Güneşköy

Deniz gives examples from their previous projects carried out in Güneşköy. One of them is an UN-funded project to make agriculture fossil fuel-free by obtaining the main source of the fuel from vegetable oil produced by local farmers and using it in tractors. Accordingly, they transformed a tractor and used the oil obtained from the plants grown in the village. Deniz says that Mandala is also the outcome of the project. He explains that it is a straw bale building that was designed and produced collaboratively.

Gökçe explains that Güneşköy has a project named Climate Resilient Youth Generation (CRY-Gen) which is funded from the Small Grants Programme of the United Nations Development Programme (UNDP) and shares the details as follows:

> We received a project from the UN in May last year to train young people, and we are carrying it out now. This is a project that will enable them to be in touch with the countryside and CSA and sustainability concepts. Three camps were organized with approximately 25 young people in Güneşköy.

As a participant of the CRY-Gen project, Ege says, "Here we learn how we can create a life together, how we can make the countryside a more livable place for other people. We have received a lot of training with the CRY-Gen project; there is a lot of education in the fields." Some examples of the training and activities are compost making, the process of agricultural production from preparing the land to growing

seedlings and planting, walking meditation, and nonviolent communication. Deniz highlights the importance of *learning by doing* as part of a living model in Güneşköy and applying in real life what he has learned in the context of this project. He also states that *storytelling* of what has been experienced is a very effective strategy for *transferring the experience* to society, and that is the next stage for the project.

Similar to Mandala building, Güneşköy is in the process of constructing a geodesic dome structure as a living space in the scope of CRY-Gen project. Geodesic dome structure is the outcome of collaborative work. Since I participated in some phases of designing and planning the structure, I had a chance to gain insights into the motivations, concerns, aims, and the process of making a living place in Güneşköy. Based on my field notes, many actors are involved in the process, such as active members, volunteers, workers, experts from diverse fields, and craftsmen. Volunteers are also a broad definition since many people participated in this project, like students from CRY-Gen project, students from METU, and short-term volunteers who come across in the process.

It is still an ongoing project in Güneşköy. Since I was primarily involved in the initial phases, I will shortly share my observations and insights related to the geodesic dome project. Many meetings were arranged in the beginning in order to analyze and identify the main aim and features of the structure. There were in the form of workshops to some extent where participants share their ideas and contribute to the process (see Figure 4.6). After the meetings, the decisions and road map were discussed, and some of the participants volunteered for the tasks determined in the meeting. One of the significant observations I had for many meetings was most of the participants see the project and process as collective learning and experiencing activity. They value that aspect as much as the physical outcome of the project.

Figure 4.6 The plans and notes from one of the initial meetings.

The progress of the project was interrupted, and some plans had to be altered due to the Covid-19 pandemic conditions, but meetings were switched to the online platforms after a while. As explained, I participated in the initial phases of the project actively. I followed the later developments through Whatsapp groups, blogs on Güneşköy's website, and personal conversations with the participants. According to the latest news, the geodesic dome structure is placed in Güneşköy, and the process will continue (see Figure 4.7).

Figure 4.7 The construction process of geodesic dome (Güneşköy, 2021).

Another activity of Güneşköy is to send students and young people, who are volunteers of Güneşköy at the same time, to ecovillages in Europe. Deniz explains that:

> Especially in recent years, close to 20 students have gone to ecovillages in Europe via Güneşköy. They had experiences there, then tell what they have learned here. They are writing their reports on what they learned. Then they are telling their friends in the group how a sustainable life can be formed in practice.

This excerpt shows that the *transfer of knowledge and experience* takes place in different levels; first, knowledge and experiences are transferred from ecovillages to students, and then from the students to people at the Güneşköy.

Most of the participants share the dream of having an education center in Güneşköy as a future project. Derya stresses that education should be part of Güneşköy, and thanks to the CRY-Gen project, the educational part of Güneşköy becomes more prominent. He says that one of his dreams about Güneşköy is establishing a university for ecological studies. Deniz states that with the experience gained from the CRY-Gen project, they want to create a regular education curriculum and *transfer their knowledge and experiences* to the broader community. Likewise, Yağmur expresses that having an education center in Güneşköy would be an opportunity for adults and children to learn from nature. Bilge shares that incorporating educational activities into Güneşköy would be beneficial for students and young people.

There are also some projects related to increasing the visibility of Güneşköy. For example, one of the active members tells the story of the EkoFiko shop in Ankara. He says that the EkoFiko shop aims to create a connection point between the production area of Güneşköy and the city (Ankara) and provide a place for ecology-related meetings and workshops. EkoFiko is a distribution point for Güneşköy's CSA products as well as a shopping point for natural and organic products. He explains that they make around 30 types of jams, tomato paste and pickles out of fruits collected in the mountains and surplus or crushed products in Güneşköy. Also, they establish relations with producers in different cities and sell organic legumes, spices, walnuts, almonds, etc., which come directly from those producers. In the EkoFiko shop, there is a shelf for the seeds, and those seeds are distributed to people without any charge. It is analyzed that the EkoFiko shop is an important factor in terms of the visibility of Güneşköy at the city level. However, since the active member who is responsible for the EkoFiko shop is moving abroad, it stops working.

Apart from EkoFiko shop, the visibility of Güneşköy is procured by its webpage, social media accounts, and blogs in online settings. Bilge says that Güneşköy has been using social media more effectively for the last three years, and therefore, they can reach the "educated segment and internet users." In addition to online platforms, the publicity of Güneşköy is increased through social relations with other communities. For example, Eylül states that when they organize a trip to Güneşköy as METU Bostan, they announce publicly and try to introduce Güneşköy. Lastly, Derya comments on the visibility of Güneşköy in the national and international level as saying:

> I think Güneşköy is more known abroad. I think the publicity is less in the country and that is a shortcoming. Yes, we have a web page, and we are involved in educational activities... Advertising is a big thing; we couldn't introduce ourselves sufficiently. Maybe that is because we are discouraged that our workforce is low or alarmed if there is more demand [for CSA products].

Güneşköy's publicity abroad is mainly connected to its relations with GEN Europe. Since active members are actively participating in GEN Europe's annual meetings and have good communication with other ecovillages, the visibility of Güneşköy in that area is high.

4.2.4.2   Relations of Güneşköy
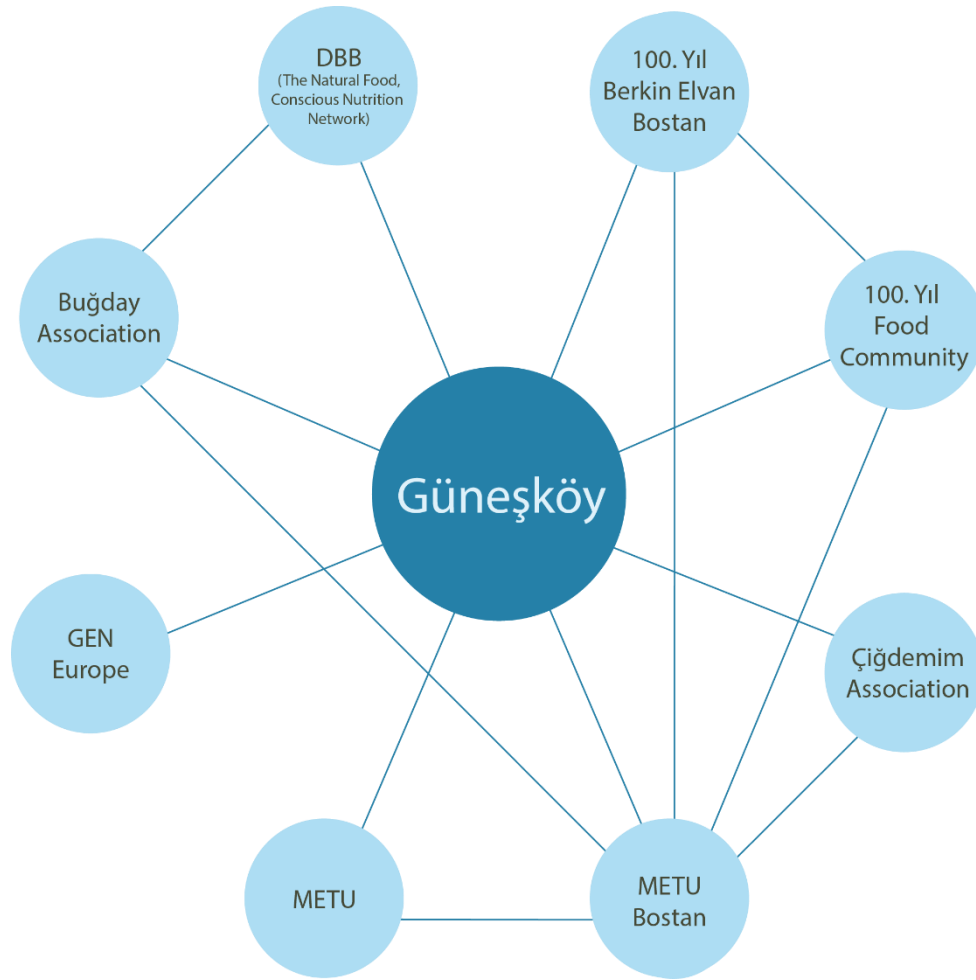
Figure 4.8 Illustration of Güneşköy's network with other AFNs and organizations.

Güneşköy has a natural bond with the alternative food initiatives in Turkey, more specifically in Ankara (see 4.1.2) (see Figure 4.8). As being one of the earliest organizations in terms of ecological life and food in Ankara, Güneşköy supported emerging community gardens in Ankara (i.e., METU Bostan, 100. Yıl Berkin Elvan Bostan and Çiğdemim Association Bostan) as sharing experience as well as seeds and seedlings. Güneşköy also receives help from the food initiatives in the city in terms of physical activities, such as harvesting and replanting trees and the publicity of Güneşköy. Eylül describes the relationship between METU Bostan and Güneşköy as "mutual support and sharing" and highlights that during their visits to Güneşköy,

they have an opportunity of *learning by doing*. Güneşköy also participates and organizes various events jointly with alternative food initiatives.

Güneşköy also has a strong relationship with GEN-Europe (Global Ecovillage Network-Europe) as an ecovillage initiative. Deniz explains the story of Güneşköy and GEN:

> GEN-Europe has been a very successful application. Interestingly, its first establishment was in Istanbul. UN habitat meetings were happening. The 2nd meeting was in Istanbul in 1996. Such an initiative has already been started by entrepreneurs in Europe. But the first decision of the establishment of the organization was in Istanbul. We have been followers of this network since 2000.

Even though Güneşköy has links with GEN-Europe from the beginning, Deniz says that initially, GEN-Europe did not want to make Güneşköy a member due to lack of living community and permanent settlement in Güneşköy. However, Deniz states that Güneşköy convinced them that their aim is to create a connection between the countryside and the city, which was accepted by GEN-Europe, and consequently Güneşköy became a full member in 2010. Two of the active members of Güneşköy attend the GEN-Europe's annual meetings regularly, and one of them was a council member for two terms. One of the active members who attend GEN-Europe's annual meetings states that thanks to these meetings, they have a chance to connect with other ecovillages and people. When they experience difficulty, people in those communities who have passed similar roads help them to solve their problems.

One of the important aspects of GEN-Europe is the training curriculum named Ecovillage Design Education (EDE) includes four main dimensions of sustainability (i.e., *social, worldview, ecological and economic*) and developed based on the experience of outstanding ecovillages in the world (Gaia Education, n.d.) According to participants, three EDE training were completed in 2007-2008 with the Güneşköy's leading. Ümit, who attended three sessions of training, expresses that two of these were held in METU, and he learned about the Güneşköy in those

meetings. Therefore, it is evaluated that *transfer of knowledge and experience* occurs between Güneşköy and GEN-Europe through GEN-Europe's annual meetings and EDE training.

As it is seen from the examples, Güneşköy has a strong connection with METU. There are many teachers, students and graduates from METU in Güneşköy's founders, active members, supporters and volunteers. Bilge states that she perceived the Güneşköy as an extension of METU. Since many people are from METU in Güneşköy from the beginning, they announce and introduce the Güneşköy in the university. That increased the publicity of Güneşköy in the METU, and more people participated in Güneşköy's activities and CSA.

One of the characteristics of Güneşköy is identified as being an inspiration to other people, communities and initiatives. Deniz says that the existence of Güneşköy is very important even for the emergence of ideas. He gives the example of establishing organic bazaars in Ankara and says that Güneşköy became a catalyst and created connections between Buğday Association and Çankaya Municipality. Ümit expresses that Güneşköy is known as a reference point in the context of ecological and alternative initiatives. He highlights the 20-year long history of Güneşköy and says that Güneşköy provides an experience field for people to gain resilience and create new initiatives. He gives the example of the CRY-Gen project and says that young people go to Güneşköy and get inspired there during the project. Similar to Ümit comments, Gökçe says that:

> After two years in Güneşköy, our friends started DBB and went to Tahtacıörencik. This is a very enjoyable thing. You know you raise your child, then s/he goes to start his own business. Therefore, I wish these things were too many, we cannot always go to Tahtacıörencik, but we know that a group of people do something nice there.

Gökçe also mentions the orientation of the Güneşköy's former workers to organic agriculture with their support. She says that it is like spreading seeds; in nature, trees shed seeds, and some grow. She explains that they are also spreading seeds, but

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virtual seeds and seeds of ideas and adds that "Our friends inspired us in time and we took their seeds and grew them. The movement grows like this."

Deniz says good examples and models related to ecological living and food movement can be reproduced and developed. He explains that it is better to start on the small model and then move to the large scale since it is easier to change the small structure, which someone can be deeply involved in the process. He also highlights that "Sometimes it fails and falls apart. But someone takes what s/he sees and improves it. So nothing is wasted. It inspires someone else, and a more durable and better one can be produced." Gökçe explains that when small formations and actions come together, they evolve to bigger things, and Turkey is in that phase now. She also says that "Alternative food systems have to take place in human's life sooner or later."

4.2.4.3   DfS Implications: Knowledge, Experience, and Inspiration

In this section, we can see some clear examples of the innovative nature of the Güneşköy community. Güneşköy is discussed from the *creative communities* and *community-centred innovation* approaches in previous sections, but I can elaborate more on this topic considering the projects and activities explained here. I can point out the obtaining the fuel from the vegetable oil project to exemplify the innovative spirit of the community. At the same time, the buildings and structures and particularly their approach to the process can show their creative and designer spirit.

One of the important aspects of the Güneşköy case is the emphasis on cumulation and transfer of knowledge, experience, and inspiration. Many different examples of this exchange process between different actors and initiatives have been discussed in the previous sections. The participants also shared some strategies for that process, such as *storytelling* and *learning by doing*. I consider that communication through storytelling can be a very powerful strategy in sharing knowledge and experience and strengthening the sense of community. Likewise, as also mentioned in the

literature (see Section 2.2.3.2), learning by doing strategy can be effective since the actors involved in the process themselves so that they might *become agents of change* towards more sustainable lifestyles (Savarese et al. 2020) and in the case of Güneşköy the stakeholders can experience all the processes at first hand, and they can implement them in other places.

Another strategy of Güneşköy that I can highlight is having EkoFiko shop, which creates a connection point with the city and increases the visibility and accessibility of Güneşköy for wider people. I have discussed the accessibility and visibility of Güneşköy at the city level in Section 4.2.3.3, and I think creating a touchpoint through EkoFiko shop is a good strategy for Güneşköy which can inspire other initiatives. However, as explained, EkoFiko shop will not be active anymore since the responsible member lives in another country. Then, it can be concluded that sustainability of solutions and strategies is as crucial as initiating them.

Growing the movement, spreading the seeds and reproducing the good models are expressed by the participants. These ideas are closely related to Manzini and Meroni's (2014) consideration of *creative communities* as prototypes of sustainable practices which can be spread to more people. Güneşköy provides an example for ecological lifestyle and CSA model in the context of Ankara. Other people and initiatives in the same or similar settings (see Section 4.1.2) inspired by them replicate some of their features, transform some additional features, and create their own models and systems. They all contribute to society by offering new solutions for the problems in that context and move towards more sustainable lifestyles and practices.

4.3   CSA Model of Güneşköy

Güneşköy's CSA model will be discussed under three sections which are Güneşköy, supporters, and products. Figure 4.9 presents the flow of activities and the CSA model of Güneşköy, and it is developed based on the findings of this study. In Figure

4.9, the phases in the circle represent the main tasks carried in Güneşköy by workers and active members, while the activities on the bottom line represent the process of supporters during the CSA season. The details of the phases will be explained in the following sections.

4.3.1   Güneşköy

Güneşköy started to implement CSA in 2006 with the help and guidance of Buğday Association (see 4.1.2.4). Güneşköy seeks to set a reproducible example for food production as well as produce healthy and ecological food through CSA. Gökçe explains that CSA works based on mutual trust between producers and supporters. She says that supporters make the payment in advance or a couple of installments, and the products are shared between the supporters. She highlights that "It [CSA] is two-way valued. Without supporters, we cannot take on this project; if we don't do that, they will not have access to such clean food." Similarly, Deniz expresses that thanks to CSA, consumers and producers are connected in a positive way, since supporters reach healthy food throughout the season and producers aren't affected by price fluctuations and other problems like loss of products due to unexpected weather conditions. Ege explains that CSA covers the expenses of the field and the farmers, and when the season opens, it works with the weekly arrival of the promised product. He highlights that CSA is a good application since the farmers can secure themselves and the fields. Gökçe summarizes the CSA process as:

> When the season starts, we create Whatsapp groups with registered supporters. We have 7-8 distribution points in the city where we left these vegetable bags. We have a Whatsapp group for every point. We can instantly communicate with them, for example, your boxes have been delivered, etc.
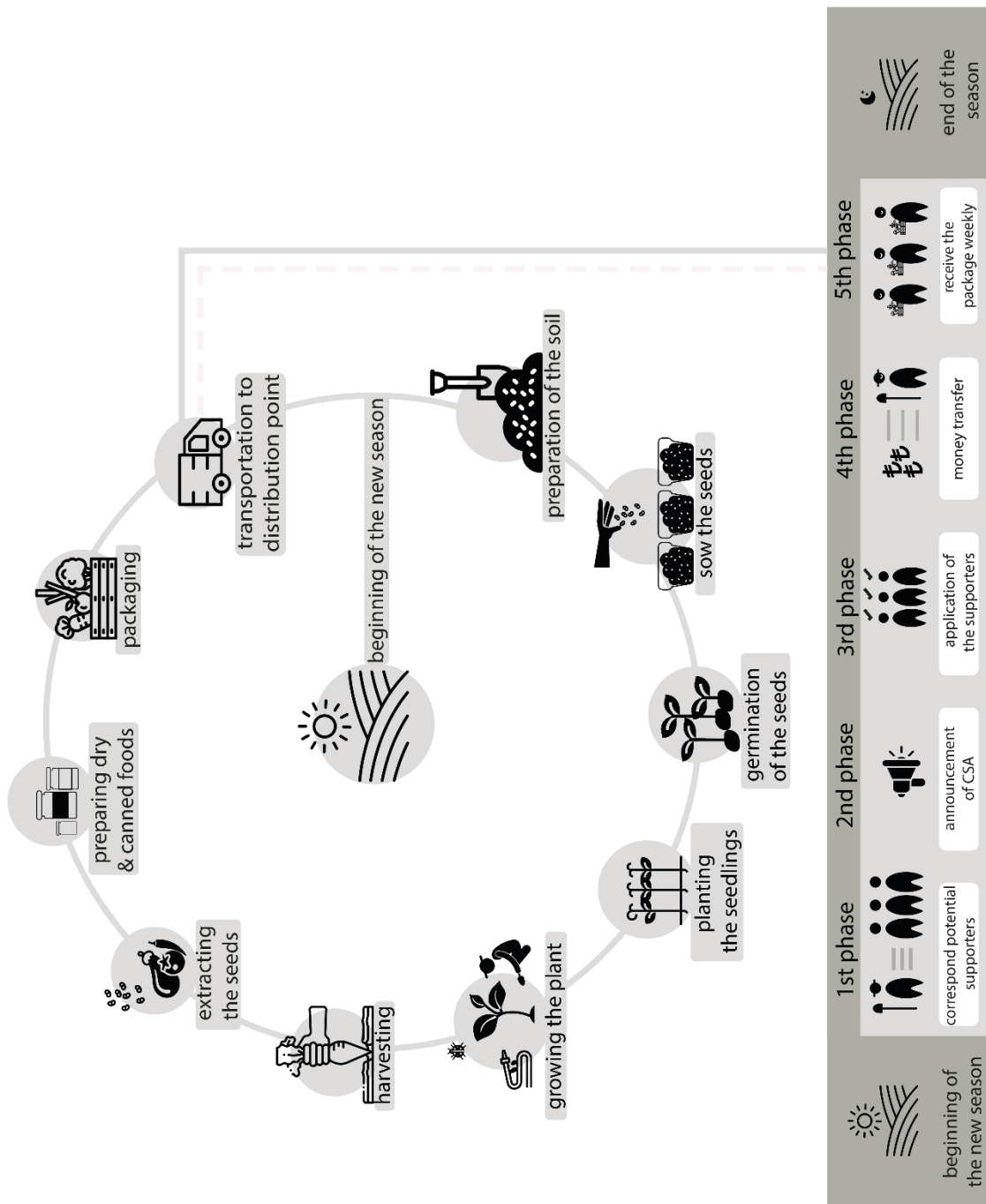
Figure 4.9 CSA model of Güneşköy.

4.3.1.1 Agricultural Production and Service

Güneşköy's CSA implementation can be explained through specific activities and tasks which are;

- planning the arable land usage,
- determining agricultural production amount and product variety,
- managing seeds,
- planting,
- managing plant care, weed and pest control,
- harvesting,
- packaging and distribution,
- preserving, and
- composting.

For agricultural production activities, one of the first tasks is *planning the arable land usage*. Gökçe says that since the arable land is quite big in Güneşköy, it is important to plan the arable land usage efficiently (Figure 4.10). She states that access to water is an important consideration factor in a way that the farmer shouldn't get tired of walking around the field all the time. The permanent worker of Güneşköy expresses that they plan where and what will be planted together with active members. They also keep the record of the arable land plan, including which crops should be planted to which field or row for each season.

Figure 4.10 Views of arable lands in Güneşköy.

Determining agricultural production amount and product variety is part of the planning process in Güneşköy. Planning production amount is closely related to a number of CSA supporters who benefit from Güneşköy's products; Gökçe says that they start to correspond with potential supporters while they are planning how many seedlings they need for the season. She also says that even if they project the number of seedlings and production volume before the season starts, sometimes they encounter unforeseen production amounts such as abundant tomatoes or insufficient eggplants. According to the interviews, Güneşköy offers 20-25 varieties of products which include different types of peppers, tomatoes, eggplant, zucchini, etc., for a season (Figure 4.11).

Figure 4.11 Different type of products produced in Güneşköy.

Managing seeds; one of the significant practices of Güneşköy related to ecological agricultural production is the usage of heirloom seeds. Zeynel says they use the heirloom seeds taken from the products planted in previous years in Güneşköy. Therefore, they have a circular system for the seeds; after each season, seeds are taken from the harvested products to use for the following year. Zeynel shares the procedure of taking seeds from the products which require knowledge and experience and says that:

> You take the tomato seeds from the ripened one. But the pepper is not like that; you have to leave the pepper for a long time until it gets red. You reserve an

area and hang a sign to specify they will be used for taking seeds. When you take the seeds when it is green, it will not be a seed, it will be rotten.

After the seeds are taken from the harvested products in Güneşköy, the next step is recording and preserving seeds. They are measured and placed in a jar with the name and dates. Seeds are stored in the half-subterranean stone building that provides cool and shady space (Figure 4.12).

Figure 4.12 Stored seeds in the half-subterranean stone building.

As a first step of the *planting* process, heirloom seeds of Güneşköy are prepared to sow according to the production plan for that season. Some of the seeds are directly sown on the field to grow them, while some of them need to be raised in the small pots as seedlings and replanted to the field later. Zeynel explains that they grow the seedlings in the closed environment, greenhouse, and when the frost is over, they replant them. He also adds that seedlings are growing faster when they are replanted *(şaşırtma)*. Active members and the permanent worker explain that they use *companion planting* and *crop rotation* methods for planting in Güneşköy. They explain companion planting as plants that get along well or protect each other are planted in the same places. Deniz gives the example of potatoes and dill and says that, since insects that harm potatoes don't like the smell of dill, they couldn't come closer to potatoes. Crop rotation is applied in Güneşköy. Since they record the arable land plan, they know which crops were planted where in each season. Zeynel

describes that they put signs at the parts of arable land such as A1, A2, B1, B2, etc., to identify specific areas for planting, and they rotate the crops for each planting time. For instance, he explains that legumes are nitrogenous, and they can release nitrogen into the soil; therefore, next time something else needs to be planted there.

Managing plant care, weed and pest control; after the seedlings are planted to the field, they need to be cared for against harmful weeds and pests. As discussed before (see Section 4.1.1), there are different ways of managing weeds and pests and ecological methods in Güneşköy practices, like applying biological control and using natural recipes instead of pesticides and herbicides. Yağmur explains the principle of biological control as keeping the number of insects or weeds below the threshold so that they don't cause significant damage. She illustrates that she realized a parasitic plant emerged in carrots, and she removed them regularly, so it was under control. Similarly, Deniz says that when the potato beetles first appear, the members collect them by hand to keep their population under control, as they harm and eat potato leaves. As another method for eliminating harmful weeds and pests, a natural mixture consisting of vinegar, hot pepper, garlic juice, etc., is used in Güneşköy.

Harvesting; products grown for CSA packages are harvested two times a week. The participants express that harvesting is a labor-intensive job. Zeynel explains that products need to be collected regularly, and if not, vegetables like cucumber and zucchini overgrow very quickly. Based on my observations and experiences, crops are collected by hand without using extra tools like gloves or gardening shears. Gökçe shares their experience of having too many tomatoes for one of the seasons, and since they couldn't catch up with physical labor to collect them, they had to leave some of them in the field.

Packaging and distribution; after products are collected from the fields, they are carried to the bower (çardak) near the Günsera via plastic crates, buckets and sacks (Figure 4.13). Then, each product type, like tomatoes, peppers, onions, etc., is weighted, and their total weights are written on the booklet for recording. For equal

distribution, some products are weighted one by one for each bag, and some products are portioned through same sized buckets (Figure 4.14).

Figure 4.13 Harvested products in bower before packaging.

Weighting the total amount of products for each product type   Recording the weights of products   Portioning via small buckets
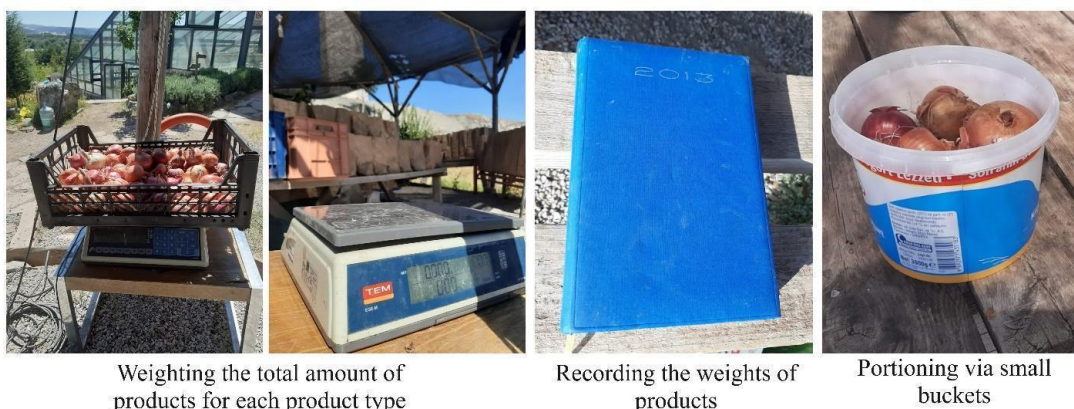
Figure 4.14 Preparations before packaging.

The harvested products are distributed to each supporter bag. Some strategies are used for placing the products on supporter bags for carrying and distributing products without getting damaged. For example, more durable and tough products like onions and potatoes are placed at the bottom of the bag, while softer products like tomatoes and greeneries are placed on the top. Also, tomatoes are put in smaller bags first, and then they are placed in the big supporter bag (Figure 4.15). After all the products are put in the packages and get ready for transportation, they are carried to the car (transporter) and placed carefully (Figure 4.16). The packages are brought to the distribution points in Ankara on specified days. After the packages reach the

distribution area and are prepared for pick up, a message is sent to the supporters to say that their packages are ready for pick up.

Figure 4.15 Filling small bags with tomatoes and beans.

All products for that week are placed together to the biggest bag   Packages are placed to the car

Figure 4.16 Prepared CSA packages.

Preserving; participants express that some products such as tomatoes, zucchini, and peppers are preserved as dried, canned and pickled (Figure 4.17). Gökçe says that "We preserve some products that can be used in winter to utilize the surplus ones. For example, we make tomato paste from tomatoes." The processed products are distributed to the supporters together with CSA packages.

Figure 4.17 Pickles and tomato paste made in Güneşköy.

Composting is one of the activities of Güneşköy. Zeynel explains the process of making compost from plant residues as "We collect the remains of tomatoes, peppers, eggplants, zucchini, cucumbers and rot them in that place and make compost. We use it in the field. So nothing goes to waste here. We turn the plant residues into fertilizer again" (Figure 4.18). He says that they start to make compost after the season is over, in October or November. The compost is used in spring to fertilize the soil before planting. Zeynel explains that other methods, such as barn manure and vermicompost, are used to fertilize the soil in addition to the plant residues compost.

Figure 4.18 Composting.

4.3.1.2   DfS Implications: Farming and Service

Güneşköy members have carried out the CSA activities for more than ten years, developed some solutions and strategies, and improved the system by trying different options. For example, initially, the packages were distributed door by door, and nowadays, the supporters pick up their packages from distribution points which is more manageable for Güneşköy. Also, the package itself has evolved in time from the form of the box to a paper bag. All in all, Güneşköy finds a way to operate the system and be able to sustain it until this point, but the activities of Güneşköy in the context of CSA practice has many open areas for improvement in terms of service and system design, which are important for sustainability of the initiative:

- Improving the farming experience as providing tools, accessories, and strategies for collecting products and carrying them,

- Advancing the packaging materials and process in terms of portioning and protecting food against damaging,

- Encouraging systematic recording process of agricultural production (e.g., recording of the arable land plan including the placement of the different kind of crops yearly basis), and

- Developing a proper and effective labeling system for seeds which includes the name of the seed (name of its species if applicable), time and place of harvest (e.g., red bell pepper, 2020, Güneşköy)

4.3.2   Supporters

4.3.2.1   Motivation of Supporters

Bilge explains that she subscribed for CSA season two years in a row in 2008 and 2009. She says that her main aim was to support Güneşköy and their CSA application while reaching good food, and according to her, two of them have already come to

the same point. She asserts that she stops to be a supporter after two season subscriptions until the 2019 season when she signed up again. She explains her reasons to give a break to CSA subscription for ten years as the discouragement of her partner, living abroad for a year, not having full-time work, leading to financial limitation, not having permanent house and settlement, and availability of organic markets. She says that she started to be a supporter when she has a regular income, a settled house, and people who can share the surplus of the CSA package. She adds that she had difficulty carrying heavy food packages a few times, but she says nothing compared to the joy of getting fresh vegetables. Bilge also comments on other people's motivation to obtain healthy and organic food as environmental concerns and health issues like having chronic illnesses, pregnancy, and caring for children.

Irmak explains that her engagement with healthy eating started after she moved out of her parent's home. She is also interested in yoga and nature observation, and she thinks that they might be all related to each other as a part of healthy living and a healthy diet. She explains that she cares about healthy eating, and at the same, it is essential for her to support things that are appropriately done while shopping for food so that she is directing her own preferences to support the things she cares about.

4.3.2.2   Interaction of Supporters

As it is stated, Whatsapp groups for each distribution point, and one general group is created every season. Based on the interviews, communication between Güneşköy and supporters is mainly formed through those Whatsapp groups. Active members explain that supporters contact them when there is a problem via Whatsapp, and they work on the issue quickly. They say that Whatsapp communication also works as an instant feedback mechanism throughout the season. Supporters also (Bilge and Irmak) assert that they share their feedback or special situations through Whatsapp. Bilge says that "Except for the Whatsapp group, I cannot say that I was very

interactive this year. Whatsapp has become something both comfortable and reducing face-to-face interaction from my point of view."

In addition to the Whatsapp messages, Güneşköy uses an online survey for getting feedback from supporters. Both Bilge and Irmak state that they filled out a questionnaire about satisfaction at the end of each season. Irmak says that she is taking notes during the season to fill in the survey and report them with that. On the other hand, Bilge expresses that she was hesitant to write about the negative things because she thinks that sometimes negative criticisms seem to hinder Güneşköy and turn into a chain of dissatisfaction.

The participants mention that a meeting with supporters was organized at the end of the year to get feedback a few times. Gökçe says that even though they tried to plan a meeting with the supporters for the last season, they had to cancel it due to insufficient participation. Derya says that they organize these meetings because they want various ideas to come forward for future years, but supporters don't prefer this kind of participation very much. He says that supporters send their feedback online. Based on the surveys, it is seen that Güneşköy's products are well received and appreciated, but few are attending physical meetings. He thinks that participation in the supporter meeting is not enough, and at least four-fifths of the supporters should participate in the meeting. Similarly, Yağmur comments that although participants say nice things like products are so delicious and beautiful, they don't even come to the meeting. She perceives the lack of participation of supporters at the meeting as "so painful" and resembles the situation by saying, "come on you work, we eat it."

Supporters explain the situation from their point of view. Irmak states that: "I did not participate. I was informed, but it was a little difficult. I didn't feel like going. I am reporting my views from the group and survey.". At the same time, Bilge says that "I was sorry that the meeting was canceled at the end, but I did not have time and energy."

4.3.2.3 Criticism to Supporters

Gökçe comments that people get used to the market where everything is very similar in size, even in the same appearance, but Güneşköy's products are not like that. She explains that even though they are collected and packaged as carefully as possible, some crushed or over mature products can be mixed in between. Some of the supporters make this a big deal and complain about it. Likewise, Bilge points out that people from high-income levels are starting to participate, and she suspects that they were the ones who complain that they were wormy. She adds that "I start to observe a somewhat spoiled demanding situation as 'I pay well, I should get good service.'" Similarly, Yağmur says that the supporters come with different problems and complaints as "vegetables are very wilted", "there is a bug in it" and "I want to take my package from another distribution point, not here." She says that since there were already 12 packages in that distribution point and there is no more space, they can't make it. She details the process as:

> That is the perception there, that was the service that person was looking for, but we are not a company. Here, we are people who work wholeheartedly, but we also have limits... We don't need people who approach negatively because there are enough challenges here. We need positive supporters, not fussy. You can go to the supermarket, and you can say it's rotten, but we don't guarantee anything like that. What we guarantee is that if you come here, you will really understand how much trouble there is and we give how much attention to detail. Okay, the outer layer of greenery may be rotten but did you come or join in!

Derya criticizes that some people see Güneşköy's CSA practice as a "*modern Migros*" where they give money and buy products. He highlights that supporters should participate more in the process as helping with transporting, driving, boxing and harvesting. He says that if supporters don't involve the work, all of it rests on their shoulders and adds that "Supporters should bring an understanding where they

are fed, and they should be there with their labor force. We give our labor free of charge so that we want supporters to do the same for these systems to survive."

Derya also analyzes the reasons for supporters' insufficient contribution and volunteerism as lack of time and absence of sustainable communication. He says that maybe they need to push supporters a little more to visit and help the works in Güneşköy. He asserts as "I think that a person should follow the place where he is fed or the point where he eagerly supports. Maybe I can call it negligence. I think this is a shortcoming."

4.3.2.4   DfS Implications: Supporters

The CSA model of Güneşköy (Figure 4.9) is created based on the findings and current situation of Güneşköy's CSA practice. It is seen on the model that the supporters are not involved in the main tasks (e.g. harvesting, packaging, distribution, etc.) in Güneşköy which are mostly carried by workers and active members. Therefore, the processes of Güneşköy and supporters are represented seperately and that it challenging issue for Güneşköy.

As discussed in the literature (see Section 2.2.3.2), there might be structured volunteering systems for some CSA applications like in the Vegetables Unplugged CSA case (Wilson, 2013) or more flexible models where supporters help the tasks in the farm and contribute to the system based on volunteering. In the Güneşköy case, it can be seen that there might be unclear communication between Güneşköy and supporters in terms of supporters' contribution to the works. Some of the supporters' expectations and motivations might not match the CSA's vision and priorities, which might create frustration for the CSA implementers. According to my observations, Güneşköy doesn't state and communicate clearly their expectations from supporters in terms of the contribution to the tasks (e.g., harvesting, distribution, increasing the publicity of Güneşköy, maintenance of tools and buildings in Güneşköy), and some of the supporters might not be even aware of the situation. However, I could only

observe the 2020 season fully, which was a pandemic period, and the active involvement of people might not be preferred in that time due to health concerns.

There might be improvements in Güneşköy's system from the service and system design perspective regarding:

- strengthening the communication between actors,

- increasing the visibility of active members' volunteering efforts which may motivate supporters to involve in the processes, and

- structuring the feedback mechanism in a way that can enhance the relationships and improve the system based on the needs and preferences of all actors.

The workshare's structure of the Vegetables Unplugged CSA case (Wilson, 2013) might also be inspirational to explore various ways to motivate and involve supporters in the processes in Güneşköy. Since Güneşköy has been discussed from the creative communities and community-centered innovation perspectives before, it can be said that they are most eager to find solutions for the challenges they encounter and develop strategies with their innovative, creative, and designerly spirits. For this reason, having a workshop or meetings to investigate different structures or strategies for increasing the involvement of stakeholders can be beneficial for the improvement and sustainability of Güneşköy's CSA model.

4.3.3   Products

In this section, I will discuss the CSA food produced in Güneşköy from supporters' perspective based on their experience, practice, strategies and understanding.

4.3.3.1 Amount and Variety of Products

The amount of products included in one CSA package changes in the different periods of the season. At the beginning of the season, one package is mostly around six kilograms, while it increases to ten-eleven kilograms in the middle of the season, which is around August. Then, it falls again to around six kilograms at the end of the season in autumn. Bilge says that one package has enough food for four people. Similar to the total weight of the package, the amount of different types of vegetables and products varies in each package according to the harvest of that week. Consequently, the supporters don't know which type of products and how many kilograms of those product types come each week.

One of the most discussed topics related to CSA products by supporters was the abundance of specific types of foods throughout the season. Bilge illustrates the situation as:

> For example, there was endless zucchini and pepper. It came from the genres that I did not love very much. I think I'm tired of them. For example, if kale came, it would be roasted quickly, and with olive oil and sesame, it would turn into a great side dish, and I like it. In the 2008-2009 seasons, there were too many tomatoes. I was with tomatoes up to my elbows, and it was also difficult. Whatever comes so much, it can drive a person crazy slowly.

The supporters develop different strategies for using and preserving extra products such as sharing with their friends and relatives, making sauce for winter, pickling, drying, and freezing. However, supporters say that managing these works requires time and effort, and making them regularly and excessively is tiresome for them. For example, Bilge says that some products' amounts exceed her needs, and she makes use of them in different ways. She explains the process as "I make tomato sauce every week, pickle the extra cucumber, and chop the extra pepper and throw it into the freezer, but this consumes me. I don't want to see peppers; I'm tired of chopping

peppers." She adds that if she does these tasks collaboratively with other people, it can be a more pleasant experience because she feels like it is complicated to do alone.

The supporters, Bilge and Irmak, state that the uncertainty of what will be in the package for each week and having an abnormal surplus of some products while having little from some of them are sometimes inconvenient for the supporters, but they say that it is in the nature of CSA practice and at the end, they agree to accept whatever comes from the field.

4.3.3.2 Acceptance of Products

Bilge says that sometimes products of CSA packages are more than she can consume. She tells about her experience in the 2008 season. She says that when she wanted to share extra products with her friends, the products were not welcomed very well, since they are not all in regular shape and similar size, and her friends said that they could not even make stuffed zucchini with them due to different sizes. She also gives the example of sharing onions during the 2009 season and says that her friends more easily accept onions, but she explains that since organic production was less known and popular back then, her friends didn't give so much attention to this feature of onions.

She compares her past experiences on sharing extra products with her friends with the situation in the last season she subscribed to. She thinks that Güneşköy's CSA products are much more desired and appreciated when she shares them with her friends. According to her, it can be related to increased awareness of organic and healthy food thanks to Bülent Şık's pesticide research, the studies related to cancer cases, and the No Pesticides on Our Plate campaign. She also says that after becoming a yoga instructor, the number of people who care for healthy eating, nutrition, and vegetarian diet has increased, and she knew that they would happily accept Güneşköy's products. Lastly, she states that in the last season of her

subscription, she divided the CSA food and gave some of it to her two friends regularly, and also took it to the collective kitchen where she is a member.

4.3.3.3 Distribution of Products

Both of the supporters explain that they went to distribution points to pick up their packages in the last season, but they say that packages were distributed to houses door to door in the earlier seasons. Bilge points out that even though it was easier for supporters to get the packages home, it was difficult for Güneşköy in terms of transportation expenses, carrying the bags by hand, and climbing up the stairs until the supporters' doors. Irmak shares that she volunteered by facilitating a distribution point for Batıkent district for one season for three other supporters. She says that Batıkent was too far from a common pick-up point, so they came up with a solution that worked well for that time.

In the current system of Güneşköy's CSA structure, packages are distributed to the pre-organized pick-up locations, and the supporters go there by car on foot to get their packages. Bilge explains the process and shares her strategies as saying that products were coming in big paper bags. If there is something too heavy, like watermelon or pumpkin, she brought a cloth bag or plastic bag with her and divided it in half to carry it more easily. Similarly, during my supporter period, I brought extra cloth bags and a backpack for dividing the products for ease of carrying by foot. Even though there weren't big-sized and heavy products like a pumpkin, it was difficult to carry all of the products as a single package by hand.

4.3.3.4 DfS Implications: Products

In line with the Irmak's statement about making preserving activities (e.g., tomato paste, pickling and freezing) together with other people, organizing community activities to make these tasks collectively might have the potential to increase social sustainability and community spirit as well as preventing food waste. Likewise,

sharing recipes related to foods in CSA packages and encouraging supporters to share their own recipes and strategies can be beneficial for the community and lead supporters to use products in different ways rather than wasting them.

4.4 Design for Sustainability and Social Innovation Implications

This section presents the overall implications of findings and insights for design for sustainability and social innovation which are discussed in detail in previous sections. Table 4.1 provides the key findings and insights related to particular topics along with the design solution areas and suggestions.

Table 4.1 Implications of Findings and Insights for Design for Sustainability and Social Innovation

Topic	Key Findings and Insights	Design Solution Areas and Suggestions
Characteristics of AFNs (Section 4.1.2.5)	Regarding sustainability considerations, the main characteristics of AFNs are as follows: 1. Producing or delivering safe, healthy, and delicious products, 2. Supporting small scale and local production, 3. Eliminating intermediaries, 4. Encouraging local transportation, which leads to low carbon emission and avoiding long food chains, 5. Integrating consumers into the process, 6. Being bottom-up initiatives, and 7. Involving people as volunteers and promoting collective work.	These key characteristics which emerged from the findings define the nature of AFNs. The first five are derived from the solutions they offer for problems in the food system, while the last two characteristics are related to their organizational structure, which fulfills the main aspects of *creative communities and community-based innovatioAns* (Meroni, 2007; Manzini & Meroni, 2014). Those characteristics of AFNs can shed light on the direction towards more sustainable food systems.
Active Involvement of Stakeholders (Section 4.2.2.5)	The main findings and insights related to stakeholders of active involvement are listed below as: 1. Core members of the community should have shared goals and consensus and the capacity to operate collaboratively, including the fact that they may have a variety of interests. 2. Defining creative communities' structure and decision-making process is critical; it should be flexible enough to allow new participants' participation in the group. 3. Since the basis of creative communities is the movement and initiation of a group of people collectively, it is important to keep people engaged in the processes and encourage them to take responsibility for the	These considerations are derived from the Güneşköy case which is identified as a creative community. They can guide to uncover the dimensions of active involvement of stakeholders and strengthen the *social sustainability of creative communities* in the same or similar contexts. *Service and system design* methods can contribute to the creative communities by; ● **developing effective communication tools and strategies** which help community members to understand whether everyone has consensus on the main goals in the initial phases of community building and also during the process of their operation to check whether everyone still on the same path (e.g., providing card decks for discussion or offering tools for creating their own cards which may include keywords, images and sketches related to the community) ● **assist communities in creating and deciding on their own working structure** (e.g., organizing workshops with the participation of community members for developing diverse scenarios from highly rigid to highly flexible structures to explore different forms of organization), and ● **encouraging active involvement of diverse actors** (e.g., creating personas and system maps to develop strategies for increased participation of actors).

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Table 4.1 Implications of Findings and Insights for Design for Sustainability and Social Innovation (cont.)

Land, Accessibility, and Resilience (Section 4.2.2.3)	The physical place has some implications in terms of transportation, accessibility, the visibility of initiative. The scale of agricultural production is one of the determinants for selecting the physical place. Loss and division of land can have diverse effects on the community.	Determining the scale and location of the land is affected by various factors and conditions. Based on the decisions, solutions and strategies can be developed to enhance the system by **offering transportation solutions** that ease the planning process and encourage volunteers' involvement, and **provide connection and communication points** at different levels (e.g., village, neighbourhood, city, and country). Strengthening a community's social sustainability and resilience by **developing scenarios and plans for diverse conditions** can be beneficial for creative communities.
Knowledge, Experience, and Inspiration (Section 4.2.4.3)	Güneşköy uses strategies for cumulation and transfer of knowledge, experience, and inspirations between different actors and initiatives. Two prominent strategies are storytelling and learning by doing. The sustainability of solutions and strategies is as important as initiating them.	Other initiatives can also use the strategies of Güneşköy, and the sustainability of these strategies, solutions, and practices can be enhanced accordingly. For example, *creative communities* can adopt the *storytelling* strategy to **generate the narrative of their community** (e.g., foundation process, challenges, and dreams) and *transfer their values and visions* to newcomers and other people through these narratives. Also, participants of the creative communities can be involved in the community's processes through *learning by doing* strategy and experience active learning.
Farming and Service (Section 4.3.1.2)	Güneşköy finds a way to operate the system and develops some solutions and strategies to improve the system by trying different options, but the activities of Güneşköy in the context of CSA practice have many open areas for improvement.	The areas for improvement in terms of *service and system design* which are important for the sustainability of Güneşköy: • **improving the farming experience** by providing tools, accessories, and strategies for collecting products and carrying them, • **advancing the packaging materials and process** in terms of portioning and protecting food against damaging, • **encouraging systematic recording process** of agricultural production (e.g., recording of the arable land plan including the placement of the different kind of crops yearly basis), and • **developing a proper and effective labeling system** for seeds which includes the name of the seed (name of its species if applicable), time and place of harvest (e.g., red bell pepper, 2020, Güneşköy).

Table 4.1 Implications of Findings and Insights for Design for Sustainability and Social Innovation (cont.)

Supporters (Section 4.3.2.4)	It can be observed that there might be unclear communication between Güneşköy and supporters in terms of supporters' contributions to the works. Some of the supporters' expectations and motivations might not match the CSA's vision and priorities, which might create frustration for	There might be improvements in Güneşköy's system from the service and system design perspective regarding: • **strengthening the communication between actors** (e.g., organizing meetings and activities where supporters and active members can communicate clearly their expectations and understanding through role-playing, sketches, scenarios, etc.) • **increasing the visibility of active members' volunteering efforts** which may motivate supporters to involve in the processes, and • **structuring the feedback mechanism** in a way that can enhance the relationships, as well as improving the system considering the needs and preferences of all actors.
Products (Section 4.3.3.4)	The supporters develop different strategies for using and preserving extra products, such as sharing with their friends and relatives, making sauce for winter, pickling, drying, and freezing. However, the supporters say that managing these works requires time and effort, and making them regularly and excessively is tiresome for them.	**Organizing community activities** to make preserving tasks collectively might have the potential to increase *social sustainability and community spirit* as well as preventing *food waste*. Likewise, **sharing recipes** related to foods in CSA packages and **encouraging supporters to share their own recipes** and strategies can be beneficial for the community and lead supporters to use products in different ways rather than wasting them.

Table 4.1 presents the key findings and design solution areas under seven main topics discussed in detail in previous sections. The first topic of the table is *characteristics of AFNs*, which presents the shared features of Ankara-based AFNs and identifies AFNs as creative communities. As discussed earlier, in Turkey, AFNs are an emerging area, and design studies in relation to food initiatives remain undiscovered. Therefore, analyzing AFNs in Turkey, particularly in Ankara, from the design perspective can contribute to both literature of AFNs and social innovation and design.

After the *characteristics of AFNs*, structural elements of Güneşköy is discussed under three main topics;

- *Active Involvement of Stakeholders*

- *Land, Accessibility, and Resilience*
- *Knowledge, Experience, and Inspiration*

Although the key findings in Table 4.1 are specific to the Güneşköy case, I consider that the problems and design solution areas can be applied to other creative communities. Particularly, problems and design suggestions in the a*ctive involvement of stakeholders* part can be widely observed in creative communities since they are related to the main phases of community building. Therefore, design solution areas offered in the table can be beneficial for other creative communities which are either focused on food issues or other topics.

The last parts of Table 4.1 are related to the CSA model, which is examined under three topics which are;

- *Farming and Service*
- *Supporters*
- *Products*

The findings and design solution areas in that topics are mostly Güneşköy specific and might not be applicable for other creative communities in Turkey as in the case of a*ctive involvement of stakeholders* part. However, key insights and design suggestions related to the CSA model of Güneşköy can be inspirational for other AFNs, particularly food communities in Turkey who partially adopt the CSA model (see Section 2.2.4). Since Güneşköy set an examplary case in Turkey to implement and sustain the CSA model for more than ten years, making its strategies more visible, identifying its problems, and offering design suggestions for improvement of the system can contribute to the AFNs movement in Turkey.

CHAPTER 5

CONCLUSIONS

This chapter explains the main conclusions and insights from the research through reviewing and answering the research questions. Later, it discusses the limitations of the study, and it ends with recommendations for further research based on the overall results of the thesis.

Before moving on to the revisiting research questions, the revised version of the CSA model of Güneşköy will be explained (Figure 5.1). Figure 4.9 presents the current CSA model of Güneşköy based on the findings. On the other hand, Figure 5.1 offers a new model for Güneşköy according to the *design for sustainability* implications discussed in previous sections. One of the important problems identified in Güneşköy's CSA model is lack of supporters and volunteers involved in the processes in Güneşköy (see Section 4.2.2.5 and Section 4.3.2.4). In the previous model (Figure 4.9), the stages of agricultural production of Güneşköy and supporters were separated since supporters contribution to and involvement in these tasks were very low, and their interaction with the Güneşköy was mainly remained in the level of subscription to the season and receiving their packages weekly. However, in the revised model, it is suggested that supporters should involve all the stages of CSA practice in Güneşköy after their subscription which is aligned with the nature of CSA. It is not expected that supporters need to be volunteers for the tasks in Güneşköy every week, but volunteering each task a couple of times during the season would address many of the problems as experienced now in Güneşköy. For example, the labor pressure on active members and workers can be decreased, supporters' understanding of the processes can be enhanced, and relations and communication between stakeholders can be improved through frequent interaction.

In Figure 5.1, it is presented that supporters and volunteers are participating in the tasks starting from the harvesting stage. It is represented in that way because supporters subscribe for one season only, and their involvement in the system coincides with the beginning of the harvesting time generally. Also, the required labor is much higher during the summer period for the tasks like harvesting, packaging, and distribution, while the other tasks spread throughout the time so that it is more manageable for workers and active members. However, it doesn't mean that volunteers are not welcomed to participate in the tasks before the harvesting; all the stages are open for volunteers and supporters in the suggested model. Involvement of all participants in the early stages (e.g., sowing the seeds and planting seedlings) can be very informative and engaging for them to see those stages to have this emotional connection at an early phase and have a holistic understanding. Therefore, participation of all stakeholders in tasks that require more labor (e.g., harvesting, packaging, distribution, etc.) is more critical for the sustainability of the model, but participation in the early stages also contributes to the community in various ways.

In addition to the active involvement of supporters and volunteers in the tasks in Güneşköy, various *design for sustainability* implications are discussed in the previous section, but they are not represented visually in Figure 5.1 due to the complexity of the system. Therefore, the revised model of Güneşköy in Figure 5.1 only represents some part of the design solution areas offered in Table 4.2.
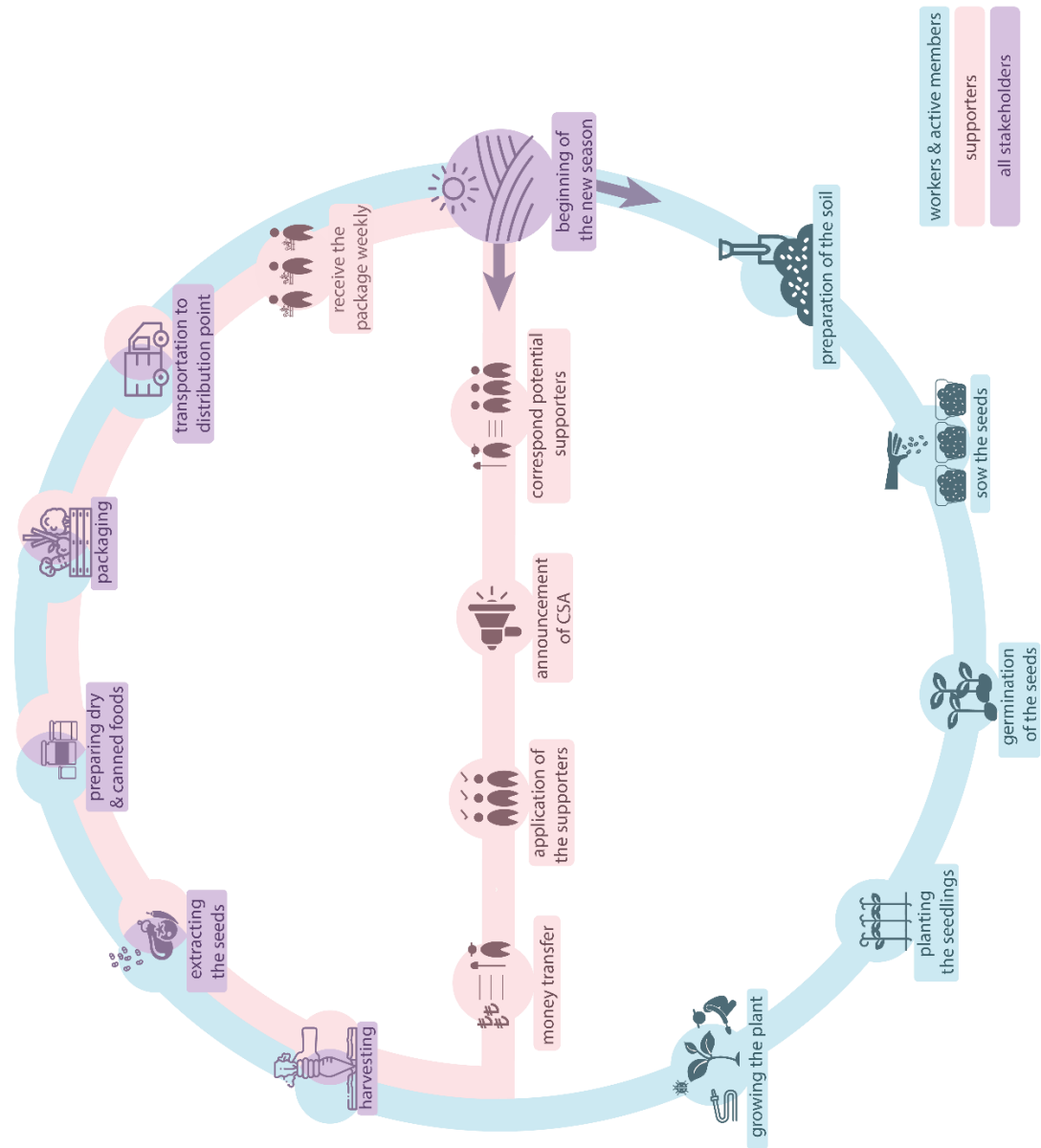
Figure 5.1 Revised CSA model of Güneşköy.

In order to exemplify the design solution areas and suggestions discussed in Table 4.1, the *active involvement of stakeholders* part is illustrated in Figure 5.2. It presents the three main parts including problems, suggestions, and related design methods, strategies, and tools for demonstrating how suggestions can be achieved. The findings and recommendations are driven from the Güneşköy case (see Section 4.2.2.5), but they can be applicable to many creative communities.
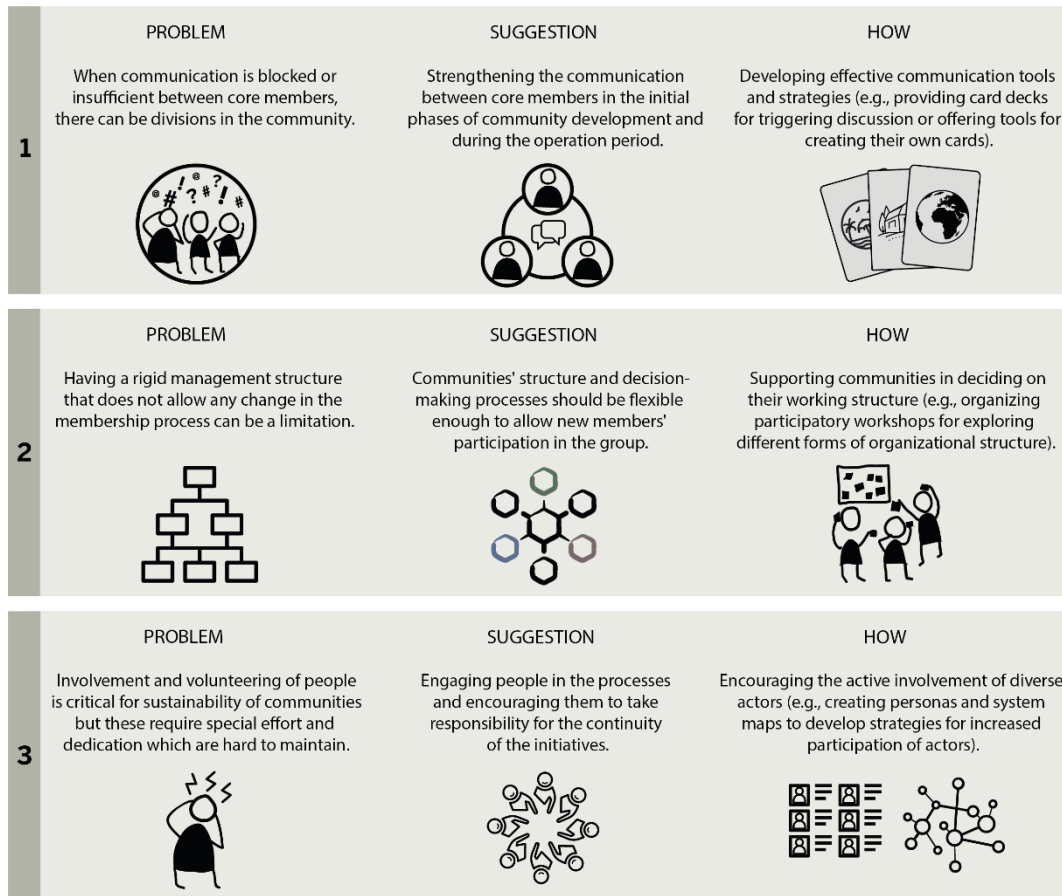
Figure 5.2 Design directions for the active involvement of stakeholders.

5.1 Research Questions Revisited

In the scope of this thesis, it was aimed to explore the main characteristics of the community-supported agriculture model in the context of the Güneşköy case with a participatory approach to provide design for sustainability implications that enable

the community to sustain its activities and structure. CSA structure is one form of AFNs characterized as bottom-up initiatives to develop alternative solutions to the problems of the mainstream food system through creative and collective effort. Although design approaches are applied and examined in the context of food systems and AFNs in the worldwide literature (Ballantyne-Brodie et al., 2013; Ballantyne-Brodie & Telalbasic, 2017; Fassi et al., 2013; Manzini, 2014; Meroni, 2006; Renting et al., 2012), the relationship between design and AFNs research has mainly remained unrecognized in Turkey. Therefore, examining Güneşköy's CSA model via the lenses of *design for sustainability and social innovations, creative communities, community-based design, and product-service-system design* (Joly & Cipolla, 2013; Manzini & Meroni, 2014; Meroni, 2006; Meroni, 2007) might increase the potential for obtaining knowledge and inspiration from a creative community, exploring their strategies and making them visible to enable the transfer of these strategies to other communities, and identifying their problems, and providing ways to strengthen the community and enhance their service.

Since food practices and networks are shaped based on specific social, economic, and political contexts they exist in (Wilson, 2013), exploring the particular problems, strategies, and solutions in the local context can contribute to the accumulation of knowledge in that setting. In the case of this study, the CSA model of the Güneşköy initiative in Ankara was investigated from the design perspective. Regarding the aim and objectives of the study, qualitative research methods were adopted to address the following main and sub-questions.

The main research question was;

- What are the main characteristics of the community-supported agriculture model regarding sustainability considerations through an exemplary case of Güneşköy from the *design for sustainability* and *action research* approaches?

The sub-questions that support the main questions were;

- What are the main characteristics of AFNs regarding the food system and sustainability considerations from the social innovation and creative communities viewpoints?

- How does Güneşköy's structure (i.e., foundation, stakeholders, land, activities, and relations) enable and support the implementation of CSA?

- How does the CSA model work in Güneşköy in terms of its operation (farming activities and services), supporters, and products?

- What are the problems that the stakeholders of Güneşköy encounter and strategies they develop?

- What are the Design for Sustainability implications considering those problems and strategies?

The sub-questions will be discussed first to answer the main research question.

What are the main characteristics of AFNs regarding the food system and sustainability considerations from the social innovation and creative communities viewpoints?

AFNs are shaped by the context and conditions in which they exist (e.g., social, political, and economic) (Forssell & Lankoski, 2015; Soysal Al & Küçük, 2019; Wilson, 2013). Since this study is mainly interested in the CSA model as a form of AFNs, it is relevant to explore and discuss the food systems and AFNs from a broader perspective to gain an in-depth understanding of the emergence, nature, and structure of the CSA model. Therefore, before investigating the CSA model of Güneşköy, the main features of AFNs are identified and discussed through the examples mentioned by participants in the context of Ankara (see Section 4.1.2). Regarding sustainability considerations, the main characteristics of AFNs generated from field research are:

1. Producing or delivering safe, healthy, and delicious products,
2. Supporting small scale and local production,
3. Eliminating intermediaries,
4. Encouraging local transportation, which leads to low carbon emission and avoiding long food chains,

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5. Integrating consumers into the process,

6. Being bottom-up initiatives, and

7. Involving people as volunteers and promoting collective work.

The nature of AFNs can be described by these main characteristics that resulted from the findings. The first five features are drawn from the strategies that actors of AFNs develop for problems in the food system. As discussed earlier, the current food system causes environmental, economic, and social sustainability challenges. The characteristics listed above offer solutions in terms of environmental sustainability by eliminating chemical pesticides and fertilizers, using heirloom seeds to support crop diversity against monoculture, and promoting local and direct food distribution, which leads to lower carbon emissions. AFNs support local economies and small-scale producers and protect farmers and consumers against price gaps from the economic sustainability viewpoint. Lastly, AFNs contribute to social sustainability by creating social links between producers and consumers, strengthening local communities and networks, and preventing the loss of traditional agricultural knowledge of farmers.

The last two features of AFNs are linked with their organizational structure, which satisfies the key facets of *creative communities and community-based innovations.* AFNs can be analyzed as *creative communities* which (1) introduce new ideas, (2) are strongly rooted in a specific context and conditions (i.e., Ankara, Turkey) using available sources, (3) promote new ways of food production and consumption, and (4) are in relation with other initiatives in local and global level, so that they can transfer their knowledge and experiences to each other as well as get inspired (Meroni, 2007). From the perspective of c*ommunity-based innovation,* it can be evaluated that AFNs are initiated and implemented by communities to solve shared problems in the food system with collective and creative approaches (Manzini & Meroni, 2014). All in all, these features of AFNs can help to illuminate the path to more sustainable food systems and lifestyles.

How does Güneşköy's structure (i.e., foundation, stakeholders, land, activities, and relations) enable and support the implementation of CSA?

Foundation

Güneşköy was founded as a non-profit cooperative with the aim of *establishing an ecological settlement, creating a connection between the rural area and the city, and developing an exemplary model for ecological food production* (see section 4.2.1). As previously stated, the goals only partially fulfilled, since having permanent settlement and creating an ecovillage community in Güneşköy couldn't be achieved. The transition to organic farming is limited with a small number of farmers rather than spreading in the village scale. On the other hand, Güneşköy became more effective in producing an exemplary food production model through using the CSA model and adopting ecological agricultural methods. Although all the aims couldn't be met fully, I consider that setting these goals and having that vision creates the essence of Güneşköy, and the spirit generated by overall goals and concepts make it possible to have an exemplary CSA model.

The foundation of Güneşköy has a background story related to the Hocamköy initiative, and participants perceive Güneşköy as a continuation of Hocamköy. Therefore, the experiences from Hocamköy were transferred to Güneşköy by the common members of two initiatives. For example, the effect of Hocamköy can be seen in the case of owning Güneşköy's land, which was a strategy developed as a result of the lesson taken from Hocamköy's dissolution due to loss of land. Thus, previous experiences of founders affected the decisions related to the establishment of Güneşköy and shaping its structure which enabled the continuity of Güneşköy.

Stakeholders

Stakeholders of Güneşköy are identified as active members, workers, supporters, volunteers, and visitors (see section 4.2.2.). All of the stakeholders have various impacts and contributions to Güneşköy. Since Güneşköy is a cooperative, formal shareholders are the cooperative's charter members. Not all of the charter members,

however, are actively involved in Güneşköy. Besides, there are certain volunteers who have been helping Güneşköy for a long period. As a result, I refer to persons who are active founder members and regular volunteers as "active members." Active members and workers are the main coordinators and contributors of CSA in Güneşköy in terms of agricultural production, logistics service, and planning of the process. The supporters, who also have volunteer roles, are essential actors in the CSA model in terms of the economic sustainability of the system. The volunteers of Güneşköy is an inclusive term that encompasses a wide range of people who serve in various capacities. The active members can be stated as the volunteers who contributed physically and mentally the most, while the inputs of supporters, students and visitors are necessary and valuable for the sustainability of the system.

Land

Güneşköy is located in the Balaban Valley, east of Ankara, within the borders of Hisarköy village in Kırıkkale and settled in a 75.000 m2 area which includes buildings, structures, and farming fields (see section 4.2.3). Güneşköy is around 75 km from Ankara's city center, and it requires around an hour and fifteen minutes to get there. Being in a rural area and distance from the city center has some advantages and disadvantages for Güneşköy. Small-scale ecological food production areas in urban settings can be more accessible, visible, and inspiring to a wider number of people, but large-scale ecological food production areas can feed a greater number of people. Owning large plots of arable land near the city center necessitates a significant financial commitment. It may be unsuitable for ecological and healthy agriculture due to air and soil contamination. Considering the aims of Güneşköy and the scale of agricultural production there, being in a rural area can have benefits in terms of the financial cost of owning the land, applying the CSA model to provide food for 70-80 families, and creating a link between village and city.

Projects and Relations

In addition to CSA activities, Güneşköy has different projects in various areas. For example, the Climate Resilient Youth Generation (CRY-Gen) project, which is funded from the Small Grants Programme of the UNDP, aims to train young people as involving them the processes in Güneşköy and CSA so that they can have an understanding of rural areas, ecological practices, and sustainability concepts through experiencing and *learning by doing*. Therefore, the participants of the projects benefit from being part of Güneşköy as well as contributing the works in Güneşköy as volunteers.

Similar to the Mandala building, which is an outcome of an oil-based fuel project developed in Güneşköy, a geodesic dome project is being carried out collectively as a living space in the scope of the CRY-Gen project. Although it seems like this project doesn't have a relation with the CSA model of Güneşköy, I consider these projects like mandala and geodesic dome strengthen the nature of the creative community and social sustainability of Güneşköy through enhancing interaction, engaging various actors, and cumulating the experiences and knowledge so that Güneşköy can continue and implement CSA.

Güneşköy's relations with the communities and organizations in Ankara, Turkey, and the international settings are essential sources of development. Through the network of these communities, Güneşköy mutually receives and gives support in terms of physical and intellectual contributions.

How does the CSA model work in Güneşköy in terms of its operation (farming activities and services), supporters, and products?

Güneşköy started implementing CSA in 2006 with the assistance of the Buğday Association (see section 4.3). Both supporters and Güneşköy benefit from CSA since supporters have access to nutritious food throughout the season and Güneşköy is not influenced by price fluctuations or other issues such as product loss due to unforeseen weather circumstances. In Güneşköy's CSA model, farming activities

take place in Güneşköy's land as well as packaging tasks and CSA packages distributed in the designated pick-up points where supporters go and collect their packages. The implementation of the CSA in Güneşköy can be explained through particular tasks and activities that include:

- planning the arable land usage,
- determining agricultural production amount and product variety,
- managing seeds,
- planting,
- managing plant care, weed, and pest control,
- harvesting,
- packaging and distribution,
- preserving, and
- composting.

Supporters' motivations are identified as reaching healthy food and supporting Güneşköy and its CSA model, and they have a particular interest in a healthy lifestyle. The primary communication tool between supporters and Güneşköy is Whatsapp groups which also work as instant feedback mechanisms throughout the season. In addition to Whatsapp messages, Güneşköy collects input from supporters through an online survey. Güneşköy also organized meetings with supporters at the end of the season to gather feedback a few times, but they had to cancel the meeting due to a lack of participation in the last season. Güneşköy organizes these gatherings because they want different ideas for future years, but supporters don't prefer this kind of participation very much.

As mentioned previously, the supporters also have volunteer roles, but according to findings, most of the supporters aren't involved in the processes in Güneşköy. Lack of time, absence of sustainable communication, and negligence were mentioned as possible reasons for supporters' insufficient contribution and volunteerism. Also, some supporters' expectations and intentions may differ from the CSA's vision and goals, causing frustration for CSA implementers in Güneşköy.

The unpredictability of what will be in the package each week, and having an extraordinary surplus of some products while having little from others, can be inconvenient for supporters, but they explain that this is the nature of CSA practice and, in the end, they agree to take whatever comes from the field.

What are the problems that the stakeholders of Güneşköy encounter and strategies they develop? What are the Design for Sustainability implications considering those problems and strategies?

For ease of follow and clarity, the answers for these two questions will be discussed jointly.

Active involvement of stakeholders

When I examine Güneşköy through the lenses of *community-based innovation* (Manzini & Meroni, 2014) and *creative communities* (Meroni, 2007), I identify three areas for improvement. The first is that key members of the community must *share common aims* and be able to work together, even if their interests differ to some extent. Because Güneşköy was formally established as a cooperative, all charter members must agree on the formal continuance of Güneşköy. As previously noted, two groups now exist as active and passive groups, which may cause issues in the future when making decisions about Güneşköy in the charter.

The second one is that *defining the structure and decision-making process* of creative communities is crucial, since it may limit the engagement of new members to some degree. Regular volunteers in Güneşköy do not have the legitimate right to participate in the Güneşköy cooperative's formal decision procedure since they are not charter members. Finally, because the foundation of creative communities is the collective movement and initiation of a group of people (Meroni, 2007), it is critical to keep individuals *engaged in the processes* and motivate them to take responsibility. I can conclude that these three findings from the Güneşköy case are critical for maintaining the sustainability of creative communities.

Strategic and service design fields can contribute to the development of food systems, and designers can intervene in the systems as assisting current communities by developing a set of tools for participants (Meroni, 2006). From that perspective, it can be suggested that service and system design methods can contribute to Güneşköy and creative communities by:

- developing effective communication tools and strategies which are the key in the initial phases of communities to understand whether everyone has consensus on the main goals and also during the process of their operation since some of them can be distracted in time,
- creating and deciding on their own working structure, and
- encouraging the active involvement of diverse actors.

Land, Accessibility, and Resilience

I conclude that the physical location has some impact on Güneşköy. As previously stated, the stakeholders of Güneşköy face several difficulties as a result of the land's location, such as trouble finding transportation and frequently traveling long distances. This condition is also connected to Güneşköy's *accessibility* and *visibility* at the city level.

Even if the property is owned, as evidenced in the high-speed railway project, there may be unexpected difficulties associated with it. Güneşköy suffered land loss and division as a result of the high-speed railway construction. As part of this procedure, a disagreement between founding members and division (i.e., active and passive) occurred, resulting in the suspension of Güneşköy operations and CSA application for almost two years. As a result, I believe it is critical for initiatives to be prepared for unforeseen scenarios and problems, such as the high-speed railway project in Güneşköy.

As a result, solutions and strategies for improving the system can be generated, such as *providing transportation options* that ease the planning process, stimulate volunteer participation, and offer connection and communication points at various

levels (e.g., village, neighborhood, city, and country). For creative communities, strengthening a community's *social sustainability* and *resilience* by creating scenarios and strategies for a variety of circumstances might be valuable.

Knowledge, Experience, and Inspiration

One of the essential characteristics of the Güneşköy case is the concentration on the accumulation and transfer of information, experience, and inspiration. Several forms of that interchange occur in the setting of the Güneşköy through some strategies, such as *storytelling* and *learning by doing*, which may also strengthen the sense of community. Learning by doing strategy can be effective since the actors involved in the process themselves, they might *become agents of change* towards more sustainable lifestyles (Savarese et al. 2020). In the case of Güneşköy, the stakeholders may experience all of the processes firsthand and reproduce them in other areas. Güneşköy has another strategy, EkoFiko store, which establishes a link with the city and increases the *visibility* and *accessibility* of Güneşköy for the wider population. Creating a touchpoint through the EkoFiko shop can be considered as a good strategy for Güneşköy which can inspire other initiatives. However, the EkoFiko shop will no longer be open because the responsible member lives in another country. Then, it can be concluded that the sustainability of solutions and strategies is as crucial as initiating them.

Growing the movement, spreading the seeds, and reproducing the good models are commonly used phrases by the participants. These ideas are closely related to Manzini and Meroni's (2014) consideration of *creative communities* as *prototypes of sustainable practices* which can be spread to more people. An example of an ecological lifestyle and the CSA model in Ankara, Güneşköy offers inspiration to others. They contribute to society by providing new solutions to problems and moving towards a more sustainable way of living.

Implementing CSA

The members of Güneşköy have been conducting CSA activities for over ten years, developing specific solutions and methods and enhancing the system through various alternatives. Even though Güneşköy finds a means to function and to sustain the system until today, the CSA practices in Güneşköy have many areas open for improvement in terms of service and system design, which are essential for the sustainability of the initiative:

- improving the *farming experience* by providing tools, accessories, and strategies for collecting products and carrying them,
- advancing the *packaging* materials and process in terms of portioning and protecting food against damaging,
- encouraging *systematic recording* process of agricultural production (e.g., recording of the arable land plan including the placement of the different kind of crops yearly basis), and
- developing a *proper and effective labeling* system for seeds.

The communication between Güneşköy and its supporters might be insufficient since some supporters' expectations and motivations might not correspond to the aims and priorities of the CSA. On the other hand, Güneşköy does not explicitly express its expectations of supporters in terms of their contribution to the tasks, and some of the supporters might not even be aware of the situation. Therefore, Güneşköy's system might be improved from the service and system design point of view regarding:

- strengthening the *communication between actors*,
- increasing the *visibility of active members' volunteering efforts* which may motivate supporters to involve in the processes, and
- structuring an *effective feedback mechanism* in a way that can enhance the relationships and improve the system based on the needs and preferences of all actors.

The workshare's structure of the Vegetables Unplugged CSA case (Wilson, 2013) might inspire exploration of different approaches to motivate and involve supporters in the Güneşköy procedures. Since Güneşköy has already been addressed from the *creative communities* and community-centered innovation perspectives, it can be said that the active members are very interested in finding answers to the issues they experience. Therefore, holding participatory workshops or meetings to explore new structures or techniques for enhancing stakeholder participation and engagement can create potentials to improve Güneşköy's CSA model and its transference to other initiatives.

Lastly, organizing community activities to preserve tasks (e.g., tomato paste, pickling, and freezing) collectively might potentially improve social sustainability, the spirit of the community and avoid food waste. Likewise, sharing recipes related to foods in CSA packages and motivating supporters to share their own recipes and strategies can serve the community, and urge the supporters to utilize things in creative ways rather than waste them.

What are the main characteristics of the community-supported agriculture model regarding sustainability considerations through an exemplary case of Güneşköy from the *design for sustainability* and *action research* approaches?

As I answered the sub-questions, many aspects of the main question were explained. Güneşköy applies the well-established and original CSA model defined in the literature (see Section 2.2.3.2) as fulfilling all the main dimensions. The supporters guarantee the purchasing of products and sharing the risks of poor harvest so that the producer, Güneşköy, in this case, is protected from price fluctuations and doesn't have to struggle to enter the market. Supporters receive the products which are produced based on ecological farming practices.

When the CSA model of Güneşköy evaluated through the environmental, economic and social dimensions of sustainability, it can be concluded that environmental sustainability is the strongest aspect of Güneşköy considering its ecological farming practices. These include the elimination of chemical inputs like pesticides and

fertilizers, the use of heirloom seeds, the application of crop rotation and companion planting, and its particular care for and focus on developing natural buildings.

From the economic sustainability perspective, CSA practice provides significant benefits to Güneşköy in starting the season and production to guarantee that certain people will purchase their products and share the risks of poor harvest against unexpected situations. For example, the 2020 CSA season of Güneşköy was carried out under pandemic conditions, and it is explained in the announcement and registration phases that the risk of long-term lockdown conditions and distortion of production and distribution tasks are shared between Güneşköy and supporters. Güneşköy stated that if they couldn't start the distribution at all, they considered returning 80% of supporters' total payment while 20% would go towards production costs up to that point. That case was never realized since Güneşköy took required permissions and CSA packages were distributed regularly to the supporters. The critical point is that supporters agreed on these conditions at the beginning of the season and made the total payments in advance, and shared the risk, which gave Güneşköy the confidence to continue without worrying about the expenses in those uncertain conditions.

Therefore, it can be seen that CSA works well in Güneşköy's system in terms of sharing the risks and supporting the local producer. However, the economic sustainability of the CSA structure is closely related to the social aspects of the community in Güneşköy since it is a volunteer-based system and active members do not get any financial benefits for their significant efforts. The risk of burnout is high in those conditions for long-term volunteers, and as discussed earlier, the involvement of supporters and volunteers is crucial for the system's sustainability. As explained in the previous section in detail, social sustainability is one of the key and vulnerable points for Güneşköy and its CSA system and design strategies and solutions can contribute a lot to Güneşköy.

Since AFNs and creative communities are deeply rooted in their specific social, economic, political and cultural context in relation to locality and sense of place,

Güneşköy can also be discussed from a political perspective shortly. Güneşköy challenges the conventional food system and offer an alternative way of food production, distribution and consumption through the CSA model. It can be considered that although people and activities in Güneşköy have innovative and alternative characteristics as challenging the mainstream systems, they are not entirely independent from the conventional structures and organizations. For example, Güneşköy receives fundings for projects like CRY-Gen from global institutions and works collaboratively with the governmental organizations, as in the case of the establishment of organic markets in Ankara where Güneşköy worked with the municipalities as a guide and initiator. It can be evaluated that Güneşköy has a unique position as opposing the conventional food system and also being able to collaborate with the governmental and global institutions. Considering Güneşköy's ability to survive many years in that specific context, hybrid approaches can offer diverse ways of operating the initiatives. Lastly, Güneşköy's collaboration with the municipalities and governmental organizations can also bring power and potential to inform, affect and convince them to take the path towards more sustainable systems.

To conclude, Güneşköy has been implementing the CSA model since 2006, and it has explored specific solutions and developed strategies to sustain. Even though Güneşköy has found a way to function and sustain the system to this day, the CSA practices in Güneşköy have many open areas for development in terms of service and system design, which are critical for the initiative's long-term viability. Furthermore, from *creative communities* and *community-centred social innovation* perspectives, Güneşköy provides rich knowledge. I consider that the collaboration of Güneşköy and designers could be both beneficial for designers in terms of obtaining valuable insights and knowledge, and for Güneşköy in terms of improving its structure. As reflecting on to the literature, according to Manzini and Meroni, creative communities are good sources and provide potential design solution areas for designers, and they assert that "The communities are not replicable in their very essence, but a deep knowledge of them is worth acquiring, whether we aim to work

for and with them or if we want to learn from them" (2014, p.369). In line with that, in the context of this study, the Community-Centred Design approach is used in terms of involving the field research to obtain knowledge and insights related to the Güneşköy initiative and aimed to contribute to the community offering suggestions for improvement of their activity through the design interventions.

5.2 Limitations and Recommendations for Further Research

In this study, I was actively involved in processes and practices in Güneşköy with different roles and contributed to the community. I had an effect on the processes as a member through action and participatory research approaches. However, I did not have the chance to develop design solutions and proposals with the participation of Güneşköy members due to time limitations. Instead, I identified the strategies and problem areas inspirational for future design interventions in Güneşköy, and based on the findings, insights, and personal experiences, I offer solution areas through design for sustainability and social innovation implications.

As a further step, the design intervention areas identified in this thesis can be explored in collaboration with the community members through participatory design workshops. Practical solutions, strategies, and scenarios can be developed, leading to *community empowerment* and *increased resilience*. Further research can be expanded to the implementation of these solutions in the real-life turn into *research through design* process. Finally, involving different actors from different organizations (e.g., members of various food communities from Ankara, Turkey or worldwide, local people, people from Hisarköy, municipalities and local governors) in the process can enhance the *diversity and viability of solutions and applications* considering the complexity of food systems.

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A. THE MESSAGE FOR PARTICIPANT RECRUITMENT

In Turkish:

Merhabalar, herkese sağlıklı ve güzel günler diliyorum öncelikle :)

Ben Ayşe Kaplan, sizler gibi Bahçemiz 2020 sezonu destekçisiyim. Aynı zamanda ODTÜ'de Endüstriyel Tasarım Bölümü'nde yüksek lisans öğrencisi ve araştırma görevlisiyim. Tez çalışmamda Güneşköy odağında tasarım merkezli bir yaklaşımla gıda topluluklarını güçlendirmeyi amaçlıyorum.

Sezon boyunca hem Güneşköy'ün lezzetli ürünlerini almak hem de destekçi olarak süreci takip etmek çok keyifli oldu benim için. Tabii whatsapp gruplarındaki bilgi paylaşımı ve tarifler de hem yemeklerime hem de destekçi deneyimime renk kattı :)

Çalışmam kapsamında Güneşköy paydaşlarından bir çok kişiyle görüşmem oldu. Yaptığım görüşmelerde ve gruptan destekçi olarak edindiğim çıkarımlarda kişilerin bilgileri tamamen anonim olacak şekilde paylaşılan görüş ve önerileri, sizin izninizle araştırmama dahil etmeyi planlıyorum. Bu mesajla da sizi hem çalışmam konusunda bilgilendirmek hem de Güneşköy'le ilgili aktarmak istediğiniz yorumlarınız varsa diye haberdar etmek istedim. İster yazılı bir mesajla, isterseniz de ayarlayacağımız kısa bir görüşmeyle Güneşköy'le ve Topluluk Destekli Tarım'la ilgili deneyimlerinizi paylaşmak isterseniz bana bu numaradan ulaşabilirsiniz.

Bu uzun mesaja vakit ayırdığınız için çok teşekkürler :)

In English:

Hello,

I am Ayşe Kaplan, a Bahçemiz (our garden) 2020 supporter. I am a graduate student in the Industrial Design Department at METU. In my thesis, I aim to strengthen food

communities with a design-centered approach as focusing Güneşköy.

Throughout the season, information sharing and recipes in whatsapp groups along with the delicious products of Güneşköy added color to both my meals and my supporter experience :) As part of my work, I had meetings with many people from Güneşköy. I plan to include, with your consent, the opinions and suggestions of the people, whose information is shared in a completely anonymous way, in my interviews and in my inferences as supporters from the group. You can contact me at this number if you want to share your experiences with Güneşköy and Community Supported Agriculture either through a written message or in a short meeting we will arrange.

I would be very happy if you write your messages directly to me, not to the group.

Thank you very much for taking the time to this long post :)

B. INTERVIEW QUESTIONS

1. Kendinizi tanıtır mısınız?
2. Hangi gıda topluluğuna/topluluklarına üyesiniz?
3. Ne kadar süredir üyesiniz?
4. Neden bir gıda topluluğuna üye oldunuz? Motivasyonlarınız neler?
5. Topluluğu nasıl tanımlarsınız? Temel özellikleri neler?
6. Güneşköy için*;*
   A. Ekoköyden farkı ne?
   B. TDT uygulamasını niye ve nasıl seçtiniz?
   C. Güneşköyün paydaşlarını nasıl tanımlarsınız? Karar verme mekanizması nasıl işliyor ve paydaşların buna katılımı hangi düzeyde?
      a. *Hangi ürünlerin ekileceğine nasıl karar veriyorsunuz?*
      b. *Toprağın devamlılığını nasıl sağlıyorsunuz?*
   D. Güneşköyün geleceğini nasıl görüyorsunuz*?*
      a. *Güneşköy görünür olmak istiyor mu?*
      b. *Büyüme ölçeği, vizyonları neler?*
   E. Süreçler ve yapılanlar nasıl kayıt altına alınıyor*?*
7. Üye olduğunuz gıda topluluğunda nasıl aktiviteler gerçekleştiriliyor?
      a. Siz bunlara hangi düzeyde ve sıklıkta katılıyorsunuz?
      b. Süreçlere nasıl katıldığınıza dair örnekler verir misiniz?
8. Sizce gıda topluluklarının karşılaştıkları sorunlar neler (ör. İletişim, bilgi aktarımı ve gönüllülük, eğitim, vb.)?
9. Üye olduğunuz gıda topluluğunda karşılan sorunlara karşı üretilen çözümler ve stratejiler neler?
10. Hayalinizdeki ideal gıda topluluğu/Güneşköy nasıl olurdu?
11. Geleneksel ve yaygın gıda sistemiyle ilgili görüşleriniz neler? Sizce bu sistemin topluluk destekli tarım ve gıda topluluklarına göre farklılıkları ve benzerlikleri neler?

a. Topluluk destekli tarım ve gıda toplulukları hakkındaki genel görüşleriniz neler?

b. Bu topluluklar arasında nasıl benzerlikler ve farklılıklar görüyorsunuz?

c. Var olan çözüm ve stratejilerin diğer topluluklara aktarımı konusunda ne düşünüyorsunuz?

C. CONSENT FORM

Bu araştırma, ODTÜ Endüstri Ürünleri Tasarımı bölümünde öğrenci olan Ayşe Kaplan tarafından yüksek lisans tezi kapsamında yapılmaktadır. Araştırmanın amacı, tasarım merkezli bir yaklaşımla gıda topluluklarını güçlendirmek için sürdürülebilir gıda tüketimi konusunda bir bilgi birikimi oluşturmaktır. Bu kapsamda katılımcılarla röportaj ve diğer katılımcıların da olacağı bir çalıştay düzenlenecektir.

Röportajın yaklaşık 40-60 dakika sürmesi beklenmektedir. Görüşme sırasında kişisel bilgileriniz istenmeyecektir. Katılımcıların kimlik bilgileri saklı tutulacaktır. Konuşulanları ve süreci daha sonra tam olarak hatırlayabilmek ve gözden geçirebilmek için izin vermeniz durumunda görüşme sırasında ses kayıt cihazı kullanılacaktır. Ses kaydınız gizli tutulacak ve kayıtlar sadece araştırmacı tarafından değerlendirilecektir; elde edilen veriler bilimsel amaçlar için kullanılacaktır. Çalışma sonrası hazırlanacak olan raporda ve bilimsel yayınlarda kimliğinizi ortaya çıkaracak hiçbir bilgi kullanılmayacaktır.

Bu formu imzalayarak yapılacak araştırma konusunda size verilen bilgiyi anladığınızı ve görüşme yapılmasını onayladığınızı belirtmiş oluyorsunuz. Çalışmaya katılım gönüllülük esasına dayanır. Araştırma, katılımcılar açısından herhangi bir risk taşımamaktadır. Görüşme sürecinin başlangıcında veya herhangi bir aşamasında açıklama yapılmasını veya bilgi verilmesini isteyebilirsiniz. İstediğiniz zaman gerekçe belirtmeksizin görüşmenin durdurulmasını talep edebilirsiniz.

Araştırmaya katkıda bulunduğunuz için şimdiden teşekkür ederiz. Araştırma hakkındaki sorularınız için araştırmacıyla ve danışman hocayla ile iletişime geçebilirsiniz. Aşağıda iletişim bilgilerine ulaşabilirsiniz.

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>
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Katılımcının Adı Soyadı   Tarih   İmza

D. ETHICS APPROVAL

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22 EKİM 2019

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Çağla DOĞAN

Danışmanlığını yaptığınız **Ayşe KAPLAN'ın "Sürdürülebilir Gıda Tüketimi: Tasarım Odaklı Yaklaşımla Gıda Topluluklarını Keşfetmek ve Desteklemek"** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **374 ODTU 2019** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof. Dr. Tülin GENÇÖZ

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