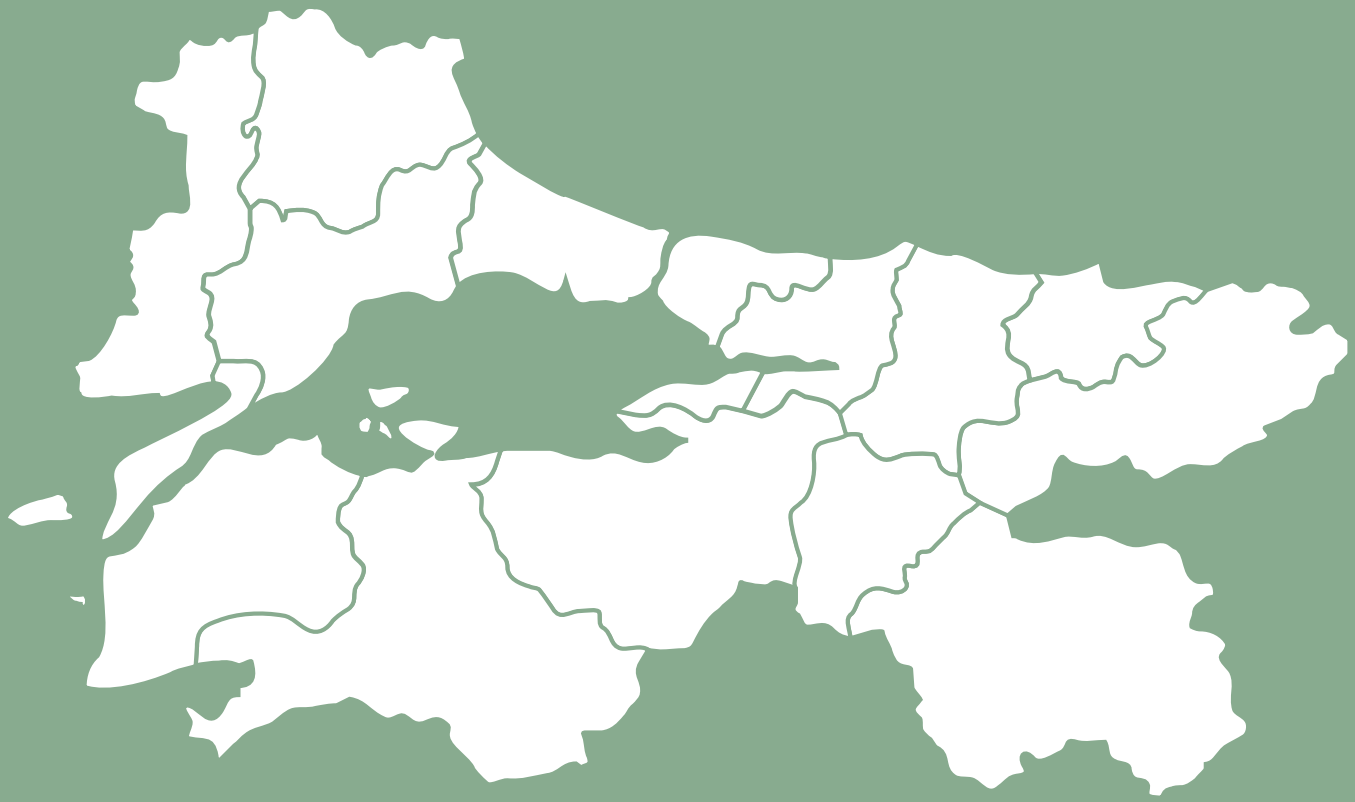
MSDSF

MARMARA REGION SPATIAL DEVELOPMENT STRATEGIC FRAMEWORK

EXECUTIVE SUMMARY



MARMARA MUNICIPALITIES UNION

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FOREWORD

The Marmara Region is a dynamic, creative, and diverse region that brings together unique cities with unique characteristics. In terms of planning, cities in Turkey have environmental plans, strategic plans, master plans, and implementation plans. In addition, development agencies have strategic plans. There are studies carried out and ongoing at the national level. However, there is no study so far on regional-level settlement and spatial planning decision-making.

Marmara Region Spatial Development Strategic Framework (MSDSF) is the first study in Turkey that develops a principled approach to regional-level spatial settlement and strategic planning studies. Another feature of this study is the inclusion of the provinces of Düzce, Bolu, and Eskişehir in the scope of the MSDSF, in addition to 11 provinces that fall under the geographic definition of the Marmara region (Istanbul, Kocaeli, Bursa, Sakarya, Balıkesir, Tekirdağ, Edirne, Kırklareli, Çanakkale, Bilecik, Yalova). Although these three provinces (Düzce, Bolu, and Eskişehir) are not located in the Marmara Region in terms of geographical definition, they are within the scope of the 5 development agencies under which the cities in the region fall, and they have strong and developed interaction and relationship networks with the cities in the Marmara Region, as well as common risks and opportunities in terms of production and consumption. Therefore, they have an important place in the holistic view of the region.

MSFD is based on an inclusive and integrated approach in terms of scale and method. In this study, strategic plans and environmental plans of development agencies, metropolitan, provincial, district and town municipalities, and provincial special administrations were examined. Subsequently, various meetings and workshops were held with municipal officials as well as representatives from development agencies, chambers of commerce and industry, governorships, provincial special administrations, and non-governmental organizations. With these meetings, it was aimed to obtain concrete information about regionally effective projects, and the relations between cities were evaluated by receiving the opinions of representatives of different fields of expertise.

MSDSF was developed in line with national policy documents such as the 11th Development Plan, the National Strategy on Regional Development (NSRD) Doc-

ument, Turkey Spatial Strategy Plan, Turkey Logistics Master Plan, strategic plans at the level of Ministries, as well as the United Nations Sustainable Development Goals (SDGs). In this regard, MSDSF is an original study that presents regional syntheses while evaluating global goals and local goals together according to the SDGs, which are one of the most comprehensive documents globally agreed upon.

It should be noted that this study does not constitute a plan. Marmara Municipalities Union (MMU) does not have the authority to make a regional plan to be put into effect, and the process of planning at this scale requires more data and more detailed and interdisciplinary work in the longer term. However, this study is a guiding document that takes into account the holistic approaches which have become an increasingly determining need, as well as the mobility between cities, common problems, solutions, opportunities, and impacts. In this context, the focal points, clusters, and distributions of all the sectors and issues examined were discussed at the regional level. Thus, an important assessment opportunity was offered to urban planners. In this aspect, it is envisaged that the MSDSF will be one of the guides to be taken into account in the strategic and sub-scale planning studies that will be carried out from now on.

It is very valuable that this document is a first and was prepared by the Marmara Municipalities Union, an institution that constitutes a well-established example of collectively searching for a solution. I would like to thank our Executive Board and Council members who have provided full support since the beginning of the study, as well as my colleagues from the Marmara Municipalities Union who have been devotedly carrying out the study, and our professors in the research team who have meticulously followed through the study.

I hope this study will facilitate the movement of regional studies by establishing a stairway between national plans and urban plans, and lead to plans and practices that consider basic principles such as multidimensional relationships between cities, sustainability and livability.

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PREFACE

It is envisaged that the changing and transforming urbanization agenda in the world and in Turkey will be linked to regional and spatial development policies (Ministry of Development, 2018). The Marmara Region Spatial Development Strategic Framework Document (MSDSF) is an original and innovative study in terms of scope, content, approach, and process. It is compatible with the scope and processes of regional development, regional-spatial development, and spatial strategic planning, the definition and content of which differ in the current international literature, and it takes into account the United Nations (UN) Sustainable Development Goals (2015) and the UN New Urban Agenda (2016). The MSDSF was developed with an interdisciplinary group of researchers as a pioneer study with a "process-oriented" approach that takes into account all the goals and principles of the global sustainable development agenda, under the leadership of the Marmara Municipalities Union, covering a macro-region in which five development agencies operate in the Marmara region, including Istanbul.

Regional development is the reduction of unemployment and the improvement of living standards through the reduction of socio-economic development disparities between and within the nation's regions, the development of the potential and capacity of the relatively less developed regions, and the diversification of economic activities and the increase of productivity in the developed regions. The study area of the MSDSF is a region where innovative economic activities with high added value and developed human capital are concentrated.

The conceptualization of "region" has differentiated over time and according to the perspectives of different disciplines. The ontology of "place" and "area" is subject to change due to transnational linkages and processes on a global scale (Amin, 2002). According to Paasi (2001), regions have existed and continue to be formed in social practice and discourse. Castells (2002) suggested that the networked region is a new paradigm and stated that spatial mobility is a field of discovery for the new theory of urbanism. It was stated that the concept of region, which finds its meaning in the continuity of space and the existence of a boundary, has no basis when space is thought in terms

of network relations (Tekeli, 1996). Relational zoning thinking focuses on processes rather than fixed structures. The main drivers for the formation of network-based relational zones are actor networks, negotiations between actors, and collaborations guided by political agendas (Herrscel & Tallberg, 2011). In the current literature, the concept of region is divided into a "territorial" region and a "relational" region (Varro & Lagendijk 2011). While in the traditional understanding a region is defined as a spatial constant with certain boundaries and, especially in the field of human geography, with homogeneous elements, a region is now conceptualized as relational. According to Eraydın (2002), the concept of region has been described since ancient times based on various factors. Especially since the 1980s, the concept of "region" has been defined as a subunit of the global economic system and used synonymously with the concept of "local" instead of being defined with reference to the nation-state. In the global understanding, a region is a variable unit whose boundaries are determined by a network of relationships formed by locals that lack spatial continuity and are directly open to international relations. The nature of the network of relationships and the intensity of the relationships determine the development of the local and thus the region (DPT, 2000).

The European Commission (2004) defined the statistical region as an administratively defined area at the subnational level. Regions of different countries can be described administratively or according to their geographical, social and cultural similarities such as climate, language, origin, and common history. On the other hand, according to the new understanding, the definition of a region emphasizes networks and cooperation among actors, a region is tied to the policy agenda and is inherently volatile, and its boundaries are not clear for these reasons (Herrschel & Tallberg, 2011).

When it emerged in the 1950s, regional science was mathematical, quantitative, positivistic, and optimistic. Regional science as a policy had its heyday between 1950 and 1980. In the 1980s, regional science and national development policies fell out of favor. Since the 1980s, regional policy has changed dramatically around the world, particularly in Europe and the United States. The most striking feature of this change is that the approach to regional de-

velopment, which was guided by central government investment and determined at the national level, is being replaced by an understanding in which regions evaluate their internal resources and potential under the leadership of local actors, and the central government is accepted as only one of the actors engaged in regional development (Sezgin & Erkut, 2020; Dedeoğlu & Sertesen, 2011; Eraydın, 2010).

The 1990s have been defined as the rebirth period of regional science. In this period, local development stands out. The new economic geography that has emerged since the mid-1990s has moved away from considering economic processes separately from their social, cultural, and political context. Instead, social, cultural, and institutional factors are now seen as the most important factors in understanding economic dynamics. At the theoretical level, endogenous growth theory has been instrumental in highlighting the perspective of local economic development.

In the traditional approach to regional development that prevailed between the post-World War II period and the 1980s, regional development was evaluated as a function of national development. National governments attempted to achieve development at the regional level with funds transferred from the central budget to the regions, with investments by central governments, with large projects that can be considered derivatives of them, and with investment incentives. The main characteristic of such a centrally controlled policy is that nations strive for the balanced development of all their regions. Thus, priority was given to eliminating development disparities between regions, and raising the development level of individual regions remained in the background (Doğruel, 2006; Öngen & Bakır, 2014).

If we consider the current status of regional planning in Turkey, taking into account the current legislation, we find that with Law No. 7153 on Amending Environmental and Some Other Laws, which came into effect after publication in the Official Gazette on November 29, 2018, the preparation of a Spatial Strategy Plan (SSP) has become necessary at the national level. On the other hand, there is no such certainty regarding the regional scale (Sezgin & Erkut, 2020). “The Spatial Strategy Plan is the plan that guides physical development and sectoral decisions and links economic, social and environmental policies and strategies to space. It is prepared nationwide and in the regions

deemed necessary and is complementary to its report." With strategic spatial planning, instead of preparing static plans that define the type of use, location, and boundaries and anticipate sectoral developments with the land-use approach, it is envisaged to guide the spatial targets to be defined by taking into account sectoral requirements, to guide the sectoral developments according to criteria of siting and construction, and to promote the alignment of sub-scale plans (Ministry of Development, 2018).

The new law (amendment) does not make planning at the regional level mandatory and leaves the regional scale ambiguous as an intermediate stage that links the national scale with the local, defining a direct cascade between Turkey's SSPs and environmental plans. Thus, the planning legislation envisages that a plan prepared at the national scale using the strategic planning approach will guide plans prepared at the provincial or regional level using the land use regulation approach. On the other hand, the importance of redefining municipal services in the context of the regional role of the province was pointed out.

Development agencies in Turkey are tasked with preparing regional plans at the level of NUTS Level-2 regions. The development agencies prepare strategic plans that take into account the spatial dimension and local characteristics of development but give priority to economic development. Under the coordination of the Ministry of Development, the development agencies have prepared two regional plans for 2010-2013 and 2014-2023. The purpose of developing the plans is to "provide the framework for regional development and the basis for regional programs and projects to be implemented by the agencies" (Ministry of Development, 2013, p.66).

All five development agencies in the study area of the MSDSF have two plans for each region. The spatial strategic plans aim for social and economic development and competitiveness rather than land-use regulation. Thus, they are not comprehensive documents that decide everything about a settlement or a region. On the contrary, they are documents that aim to achieve competitiveness and progress in accordance with the determined targets, focus their resources on achieving their targets rather than spreading them across different areas, and develop selective strategies. To this end, they are process and implementation oriented, as the achievement of the targets set in the

plan takes precedence over the plan itself. In other words, they have a flexible and dynamic structure that can update quickly in the face of developments and program actions to achieve targets (Healey, 2009, Albrechts et al., 2003, Albrechts & Balducci, 2013; Erkut, 2008; Erkut & Sezgin, 2014).

Development agencies have institutionalized the regional level as a scale for planning and development purposes rather than administrative purposes by not participating in the hierarchy between the center and the locals (Sezgin & Erkut, 2020). At this scale, they have taken steps to create a layered model of government by incorporating local government, civil society, and central government institutions. We hope that the spatial strategic framework document prepared for the Marmara Region will form a basis for the strategic spatial plan to be prepared for a macro-region in the future.

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1. INTRODUCTION

1. INTRODUCTION

1.1. PURPOSE AND SCOPE

In the face of new developments, new facts, and problems emerging in the world, the traditional comprehensive planning approach has proven insufficient. With the increasing uncertainty about the future, cities have to create solutions against big and sudden changes. Therefore, more interactive, fast-reacting, and innovative approaches are needed in urban and regional planning. It is important that the problems are identified with the participation of all stakeholders in the city and the region and that the solution proposals are addressed in integrity, cooperation, and harmony with the projects and activities of institutions and organizations in the region. This combined assessment is critical to reducing the total social, economic, and environmental costs and increasing the total benefits that can be achieved as we move toward the goal of sustainable development. In this sense, there is a need for action-oriented, flexible, and participatory "strategic documents" that prioritize goals such as reducing inter-regional socio-economic development disparities, increasing the global competitive power and the cooperation capacity with the local, developing an innovative production structure with higher added value, and being mindful of climatic and ecological sensitivities.

Marmara Region Spatial Development Strategic Framework (MSDSF) is a document prepared to fulfill this need. The MSDSF contributes directly or indirectly[1] to all 17 Sustainable Development Goals (SDGs) established by the United Nations. Moreover, it is based on a work structure that focuses on Global Goal 11 (SDG 11), "Sustainable Cities and Communities". In accordance with SDG 11, it is aimed to develop inclusive and sustainable urbanization for participatory, integrated, and sustainable human settlement planning and management in all countries, and to support positive economic, social, and environmental links between the city, the urban periphery, and rural areas by strengthening national and regional development planning by 2030. The HABITAT III New Urban Agenda aims to achieve cities and human settlements where all peo-

[1] Among Sustainable Development Goals, this study contributes directly to the following goals: "No Poverty", "Quality Education", "Affordable and Clean Energy", "Decent Work and Economic Growth", "Industry, Innovation and Infrastructure", "Reduced Inequalities" and "Sustainable Cities and Communities," and indirectly to the other SDGs.

ple have fundamental rights and freedoms, as well as equal opportunities, following the purposes and principles of the United Nations Convention. In this respect, it is aimed to develop international, national, and local cooperation, share good practices, and develop an effective policy framework for collaborative planning and urban spatial management through policies, programs, and capacity building. The SDGs and the New Urban Agenda's global priorities for sustainability are consistent with the purpose and scope of the MSDSF.

In accordance with all international sustainability programs, the MSDSF study provides a basis for the discussion of spatial strategy plans at the regional level. The MSDSF aims to address future projections and possible spatial development strategies for the Marmara Region by evaluating the region's current problems and potentials and creating a dialogue platform and a road map that will contribute to regional and national development in cooperation with local governments.

The provinces covered by the MSDSF study are the five NUTS Level 2 Regions surrounding the Marmara Region. The fact that regional development strategies and the regional data system are based on NUTS Level 2 Regions was decisive for the scope of the project. Thus, the provinces of Eskişehir and Düzce, as well as the provinces where the member municipalities of the Marmara Municipalities Union are located (Istanbul, Tekirdağ, Edirne, Kırklareli, Balıkesir, Çanakkale, Bursa, Kocaeli, Sakarya, Bilecik, Yalova, Bolu), were included in the study.

Figure 1.1. Study area

The study area comprises fourteen provinces, seven of which are metropolitan cities, and five NUTS Level 2 regions (TR10, TR21, TR22, TR41, TR42) (Figure 1.1). The total population of the area in 2019 was 27,246,170. Covering 12% of the country's territory, 33% (one-third) of the population resides in the area (TÜİK, 2019).

The project area is also located in six water conservation basins: Meriç-Ergene, Marmara, Western Black Sea, Sakarya, Susurluk, and North Aegean (Figure 1.2).

Figure 1.2. The Basins in Which the Study area is Located

1.2. METHOD

The MSDSF study used a process-oriented approach to develop solution proposals for Turkey's current sustainable regional development problems by bringing together 14 provinces. In this context, the study started with situational analyzes and analytical assessments of the region's current situation and was completed with proposals of projects based on the vision, strategic axes, and goals.

As such, the MSDSF study was carried out by the following processes and methods:

Situational analyses and analytical assessments of the region's current situation were carried out within five main study subjects: population and settlement system, economy and private specialization zones, transportation and logistics, energy infrastructure and natural and cultural structure, and climate change. At this stage, taking the data and findings obtained from the "Turkey Spatial Strategy Plan Current Situation Synthesis and Spatial Assessments" study as a basis and compiling them specifically for the region formed the country-scale input of the study (spatial upper scale).

The problems and potentials of the settlements included in the regional plans of the five NUTS Level 2 regions, the upper-scale environmental plans of the provinces, and the action plans for the protection of six water basins were compiled and evaluated according to the MSDSF study subjects. The collection of additional data required by the regional scale level and the necessary analytical spatial assessments were defined as the focal point of the study (regional scale), and the examination of spatial decisions defined in environmental plans at the provincial scale was defined as the lower scale limit (spatial subscale - micro). The regional plans prepared by the Development Agencies were the main documents that fed the study horizontally.

The first field research was conducted to understand the assessments of the actors in the region regarding the problems and potential of settlements. In this context, public institutions (provincial, district, and town municipalities, governorships, district governorships, and special provincial administrations) were asked to list the most critical problems and priority projects related to their settlements. Likewise, professional chambers and NGOs were asked to list the problems that they consider urgent and the potentials that should be

evaluated primarily in the field of economy, nature, environment, urbanization, and social domain.

The field of application of this research was determined as 14 provinces in the study area of the MSDSF, and the sampling frame was determined as a total of 243 provinces, district and town municipalities, 14 governorships, 182 district governorships, 7 special provincial administrations, 91 professional chambers[2], and 13 NGOs in these 14 provinces. The Field Research Form-1 (Questions Directed to Governorships, Municipalities, District Governorships, and Special Provincial Administrations) and the Field Research Form-2 (Questions Directed to NGOs and Professional Chambers) are provided in the appendices.

After analytical studies and the first field research, related study topics and themes were determined. Then, the data and analyzes among these topics/themes that are planned to be subject to multiple assessments were combined, and the following relational synthesis studies were carried out:

- Relations between migration, innovation, human capital, and attractiveness
- Relations between population, industry, and natural disasters
- Relations between migration, transportation, logistics, and natural disasters
- Relations between settlements, transportation, and logistics infrastructure
- Relations between competitiveness and innovation
- Relations between human capital, innovation, population, and income inequality
- Relations between competitiveness, innovation, and employment
- Relations between competitiveness, innovation, and added value
- Relations between competitiveness, innovation, and industry
- Relations between transportation and logistics
- Relations between transportation, logistics, energy infrastructure, and production
- Relations between sectoral-based employment rates and transportation

[2] Professional chambers refer to chambers of industry and commerce (18 units) and the branches and representative offices of the UCTEA Chamber of Geological Engineers (12 units), UCTEA Chamber of City Planners (14 units), UCTEA Chamber of Environmental Engineers (5 units), UCTEA Chamber of Agricultural Engineers (14 units), UCTEA Chamber of Forest Engineers (14 units) and TMMOB Chamber of Landscape Architects (14 units).

and logistics infrastructure

- Relations between tourism potential and transportation
- Relations between natural resources, the agricultural sector, and agricultural loans
- Relations between natural resources, agricultural sector, agricultural investments, and agricultural cooperatives
- Relations between natural resources, the agricultural sector, and the consumption of chemical fertilizers and medicines
- Relations between natural resources, urban sensitive areas, and hazardous wastes
- Relations between natural resources and population
- Relations between industry, tourism, and areas whose use and development are defined by special requirements

After assessing the regions with a relational approach, their strategic identities were addressed with three different forms of spatial representation: "unique focal points", "transition zones (interaction sites)" of the regions, and "integration axles, connections, and corridors". In this sense, **unique focal points** were assessed in 5 groups: natural and cultural focal points, tourism focal points, transportation, and logistics focal points, production and innovation focal points, and human capital and appeal focal points. Natural areas in the region that do not coincide with the provincial borders, basins, preserved areas, large plains, cultivated areas, urban settlements, and large industrial areas were addressed within the context of **transition zones** in the region. Finally, industrial, tourism and **transportation axles, connections, and corridors** were defined.

After defining the study field, a database for regional-scale projects produced in the field was created. A series of workshops were carried out to determine topics, sectoral projects, and vision-oriented terms that constitute priority issues for the region and necessitate cooperation among 14 cities (Istanbul, Kocaeli, Bursa, Balıkesir, Sakarya, Tekirdağ, Edirne, Bilecik, Çanakkale, Yalova, Kırklareli, Düzce, Bolu, and Eskişehir). Priority projects and concepts deemed necessary to the MSDSF vision were obtained during workshops attended by

[3] Play Marmara was developed for MARUF (Marmara Urban Forum), Turkey's first international urban forum. With a total number of 155 active players, it was held in October 2019 in a total of 5 sessions, 3 of which were held as private sessions.

development agencies, governorships, municipalities, professional chambers, and NGOs. The form that was filled out online by the actors during the workshops is provided in the appendices (Appendix 3). Secondary data were obtained from development agencies in the region and from the Play Marmara Report. A comprehensive database was created of upper-scale projects that are or will be implemented in the region by examining all data collectively. Current projects were analyzed according to their distributions by themes and benefits, and their spatial assessments were performed utilizing the prepared database. The database contains the following information::

- The subject of the project
- The expected utility of the project
- Project name
- Project explanation
- Project site-province
- Project site-district
- Project status (at the idea stage, at the initial stage, ongoing, completed)
- Budget of the project
- Source of data (Field research, development agency, Play Marmara)

The plans and policy documents prepared at the regional level were examined within the context of the vision and vision-related development axes and goals, and spatial decisions taken for the study area of the MSDSF were evaluated in the documents. The documents evaluated in this context are as follows:

- ***At the international level:*** United Nations Development Goals, Habitat documents
- ***At the national level:*** 11th Development Plan, NSRD (National Strategy for Regional Development) Document, Spatial Strategy Plan of Turkey, Logistics Master Plan, Strategic plans at the Ministerial level
- ***At the regional level:*** Approaches in the regional plans of the development agencies that contribute to strategic spatial planning and are within the scope of the study area of the Marmara Municipalities Union and the MSDSF.

Finally, the vision of the MSDSF, the development axes of the vision, the goals for the realization of the vision, the spatial development scheme, and

the projects that were agreed upon through participatory methods were defined. The vision, strategic axis, and goals of the MSDSF were determined in 3 stages:

- ***Review of current plan and policy documents and the minutes of the MSDSF workshop minutes:*** At the policy level, the visions, goals, axes, and basic strategies of environmental layout plans, regional plans, municipal strategic plans, and the MMU strategic plan were analyzed. Problems that were obtained through field research and from institutions were taken into account. The concepts deemed necessary for the MSFSD vision were obtained during the series of workshops attended by development agencies, governorships, municipalities, professional chambers, and NGOs in the field of the project. In addition, the United Nations Sustainable Development Goals, which shed light on the study of the MSDSF, were also taken into account in this context. Accordingly, the key concepts that appear in all future-oriented visions, goals, and approaches contained in all the documents, including the minutes of the workshop, were compiled.
- ***Analysis of key concepts and creation of a vision framework:*** The key concepts obtained from the reviewed documents were grouped according to their scope, level, and themes they represent. Frequency analysis was performed on the key concepts under the main headings formed in the grouping. As a result of the analysis, thematic concepts that may be included in the MSDSF vision statement and the recommendations on strategic axes and goals for these themes were compiled.
- The proposals regarding the conceptual-level vision, strategy, and goals were discussed at the vision meeting attended by representatives of the MMU and the MSDSF project team. Therefore, the final MSDSF vision, strategic axes, and goals were agreed upon.

"The MSDSF spatial development scheme" was created based upon analyses and relational syntheses regarding the current situation, spatial approaches, decisions in national-level strategy documents and regional plans, as well as the MSDSF's vision, strategic axis, and goals.

Projects and actions were proposed to solve the problems identified in the study area of the MSDSF and to help the region's development. Project proposals were prioritized according to certain parameters. These parameters are

the level of importance, cooperation, benefit, and duration. In this context, a project assessment form was prepared for each project (Appendix 4). By using these forms, "project files" with summary information about each project were prepared (Appendix 5). The project files contain the following information:

- The strategic axis and goals of the project
- Project name
- Purpose of the project
- The basis for the project
- Which problem will the project solve
- The importance of the project
- The expected utility of the project
- Duration of the project
- Stakeholders of the project
- Project supervisor

The proposed projects were evaluated within the context of the goals and basic spatial decisions contained in the international, national, and regional strategy documents and plans. Since the study MSDSF study directly or indirectly contributes to all the United Nations Sustainable Development Goals (SDGs), the strategic axes, goals, and projects of the MSDSF were evaluated by associating them with the sub-goals of the 17 SDGs and 11th Development Plan.

2. THE CURRENT SITUATION

2. THE CURRENT SITUATION

As of 2019, the study area of the MSDSF covers 12.4% of Turkey's surface area and hosts 32.7% of the country's population. The most populated provinces in the region are respectively Istanbul, Bursa, and Kocaeli, whereas the provinces with the lowest population are Yalova and Bilecik. Looking at the provinces with the highest population density between 1990 and 2018, the provinces of Istanbul, Kocaeli, Yalova, Bursa, and Sakarya stand out. The provinces with the highest urban residential area size and urban residential area changes are Istanbul, Bursa, and Kocaeli. In addition, the provinces with the highest rates of natural land loss during urban settlement change in the region between 1990 and 2018 are Istanbul, Kocaeli, and Yalova. The population growth rate of Istanbul (TR10), the TR41 region (Bursa-Bilecik-Eskişehir), and the TR42 region (Kocaeli, Yalova, Sakarya, Bolu, Düzce), where industrialization is most intense, has always been above the average in Turkey, except for the years 1980-90. With the decentralization of industry in Istanbul in recent years, the population growth rate of TR21 (Tekirdağ, Edirne, Kırklareli) and TR42 (Kocaeli, Yalova, Sakarya, Bolu, Düzce) regions has exceeded that of Istanbul. The region with the lowest population growth rate is the TR22 region (Balıkesir, Çanakkale). While the youth dependency ratio in the study area of the MSDSF is below the average in Turkey, the elderly dependency ratio is above average. Starting in the 1950s, the migration movement from underdeveloped regions to developed regions influenced the population dynamics in the study area of the MSDSF, especially in Istanbul. After the 2000s, the population growth rate of all NUTS Level 2 regions was higher than the average in Turkey. The main reason for this is that the industry and service sectors are concentrated in the study area. Net migration rates, on the other hand, have increased between 2008 and 2019 in all provinces of the region. In addition to international and internal migration, the rapid population growth in the cities in the study area, especially in Istanbul, has brought some problems. The provinces that receive the most immigration from abroad and send the most immigrants abroad are Istanbul and Bursa. Approximately 27% of Syrian refugees living in Turkey live in Istanbul. Employment losses in agriculture due to migration from rural to urban areas in the region have been one of the prominent problems. Istanbul

(TR10 region) has sent and received the most immigrants in the study area of MSDSF between 2008 and 2019. Net migration rates in TR21, TR41, and TR42 regions were always on an increasing trend between 2008 and 2019. These areas include Tekirdağ, Kocaeli, Sakarya, Bursa, and Eskişehir, which are the provinces where the industry is concentrated. Looking at the highest level of education for immigrants in Level 2 regions in the study area between 2009 and 2019, the rate of graduates with a bachelor's degree or higher and the rate of graduates from high schools and their equivalents increased in all regions, while the rate of graduates from elementary schools and below decreased. Istanbul and Eskişehir are two provinces that diverge greatly from the general trend of the region and even that of Turkey as a whole in terms of their capacity to attract university students. These provinces stand out not only by attracting large numbers of students but also by attracting large populations of young people from geographically distant regions.

Looking at the relationship between population density, industrial areas, and natural disasters, the risks of the expected big earthquake become evident. The provinces with the highest concentration of industrial enterprises in Turkey are located in the region. The Istanbul-Sakarya axis, where the population and industrial areas are dense, is also the axis with the highest earthquake risk (Figure 2.1).

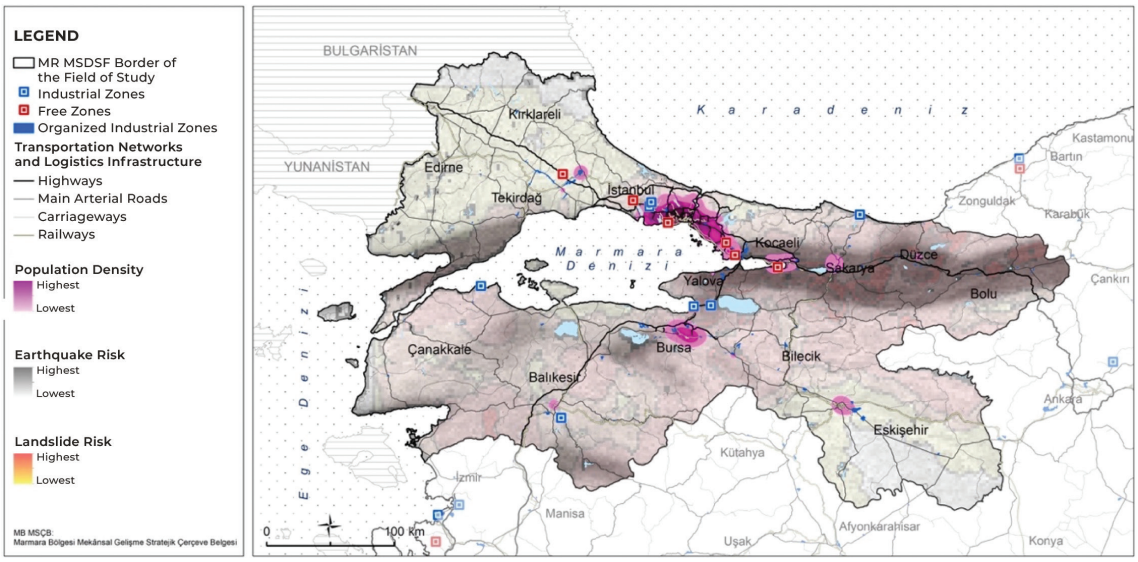

Figure 2.1 The Relationship Between Industry and Natural Disasters

Looking at the relationship between migration, innovation, human capital, and attractiveness, Kocaeli, Bursa, and Eskişehir are the provinces that both

have net migration increase rates above the average of the study area and stand out in terms of human capital, attractiveness, and innovation clustering. Istanbul stands out in the region in terms of innovation, human capital, and attractiveness clustering (Figure 2.2).

The analysis of the relationship between migration, transportation, logistics, and natural disasters shows that the study area, which has developed trans-

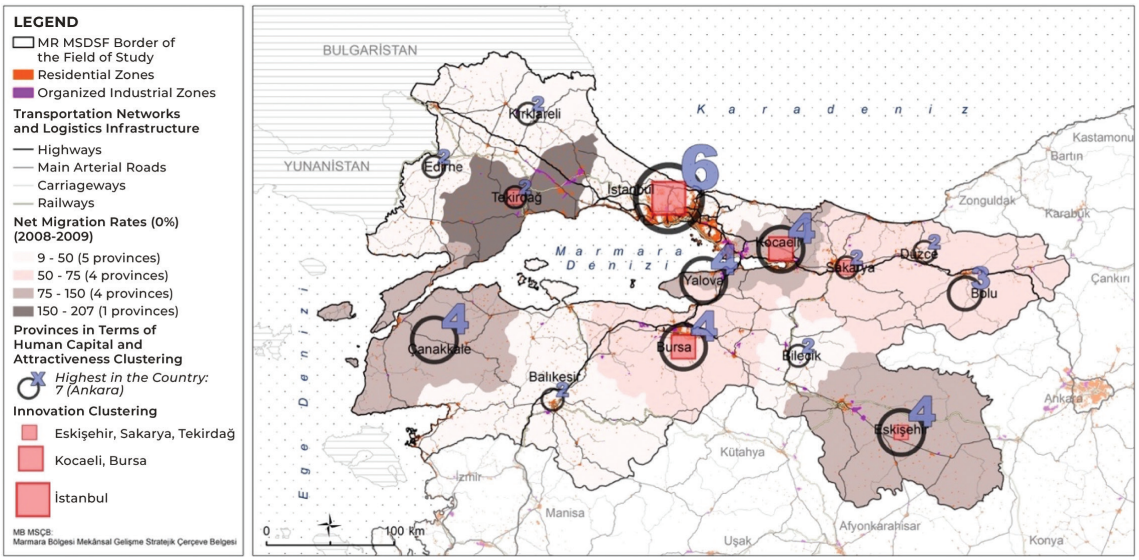

Figure 2.2 The Relationship between Migration, Innovation, Human Capital and Attractiveness

portation networks, an important logistical base, and a very high net migration rate, is also in a risky situation in terms of earthquake hazards. Especially Bursa and its southwest, south of Bilecik, and west and center of Eskişehir are areas with high earthquake risk (Figure 2.3).

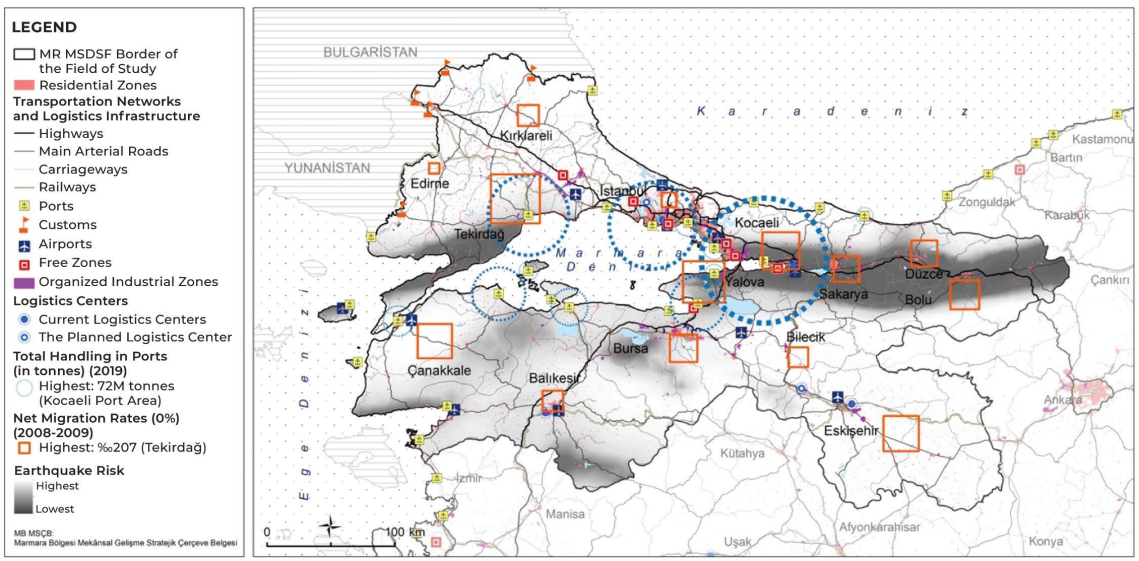

Figure 2.3 The Relationship Between Migration, Transportation, Logistics and Natural Disasters

The region is located at the intersection of east-west and north-south international transportation corridors and is the region where Turkey's road network is most dense. Looking at the relationship between the population densities of the settlements and the transportation and logistics infrastructure, the population and production centers are distributed in certain areas throughout the region, and this distribution is centered around Istanbul. Most of the cargo from the eight airports in use in the region is transmitted through the airports in Istanbul. In terms of total handling capacity, the leading ports are the Kocaeli port region, Istanbul port region, and Tekirdağ port region. It is noteworthy that the settlements in Istanbul, Kocaeli, Sakarya, and Bursa, where production centers and distribution channels are concentrated, are also large and dense (Figure 2.4).

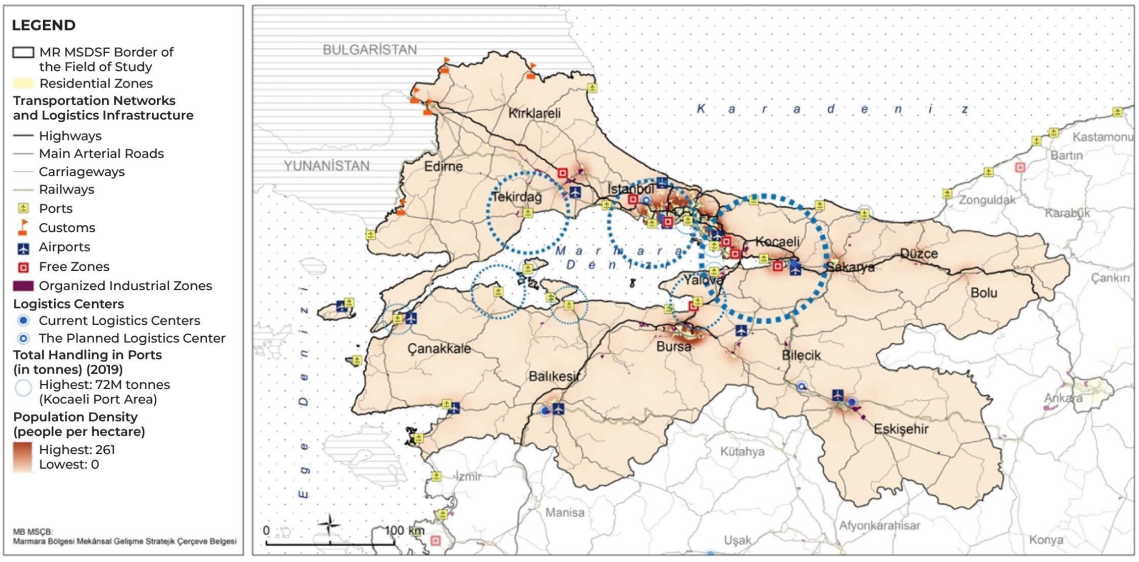

Figure 2.4 The Relationship Between Settlements, Transportation and Logistics Infrastructure

Looking at the relationship between competitiveness and innovation, it was found that Istanbul stands out from other cities and forms its own cluster as it is the center of innovation activities as well as other economic activities with its strong economic structure and population, and it is the most innovative and competitive city not only in the Marmara Region but also in the whole of Turkey. While Bursa and Kocaeli stand out as the most innovative cities after Istanbul, industrial cities such as Bursa, Kocaeli, Eskişehir, and Sakarya have a potential for innovation in terms of sectoral and human capital. Thus, an innovation and competitiveness cluster is formed that includes the provinces of Istanbul and Kocaeli-Bursa (Figure 2.5).

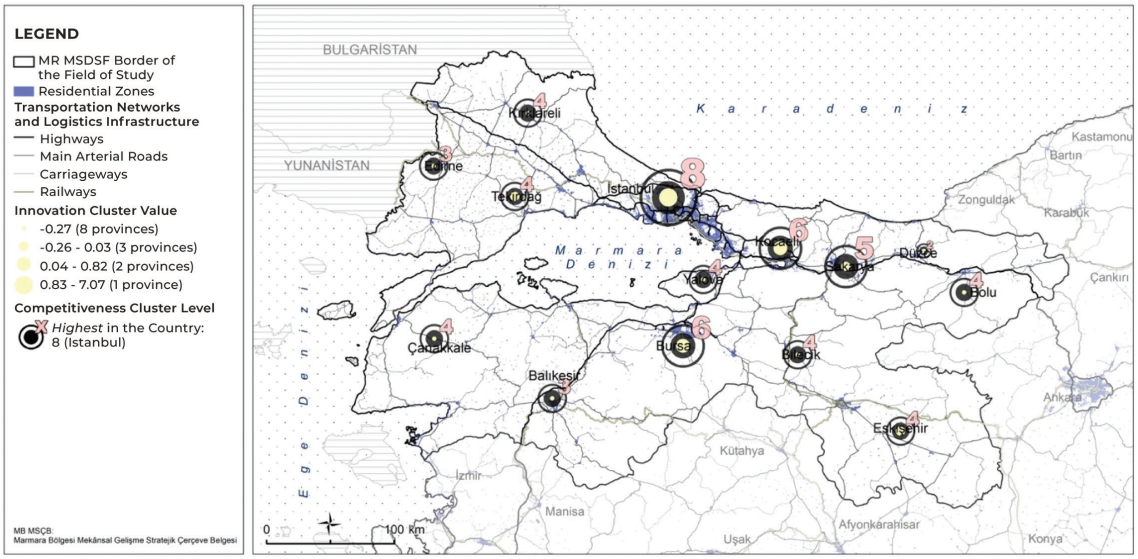

Figure 2.5 Competitiveness and Innovation Levels of Provinces

The relational analysis of human capital, innovation, population, and income inequality shows that income inequality in Istanbul, the most innovative and developed province in terms of human capital and attractiveness, is higher than the Turkey average. The regions with the lowest income inequality are TR41 and TR42. The province that receives the highest number of university graduate immigrants is Balıkesir, the province that gives the highest number of university graduate immigrants is Eskişehir, and the provinces that attract university students the most are Istanbul and Eskişehir (Figure 2.6).

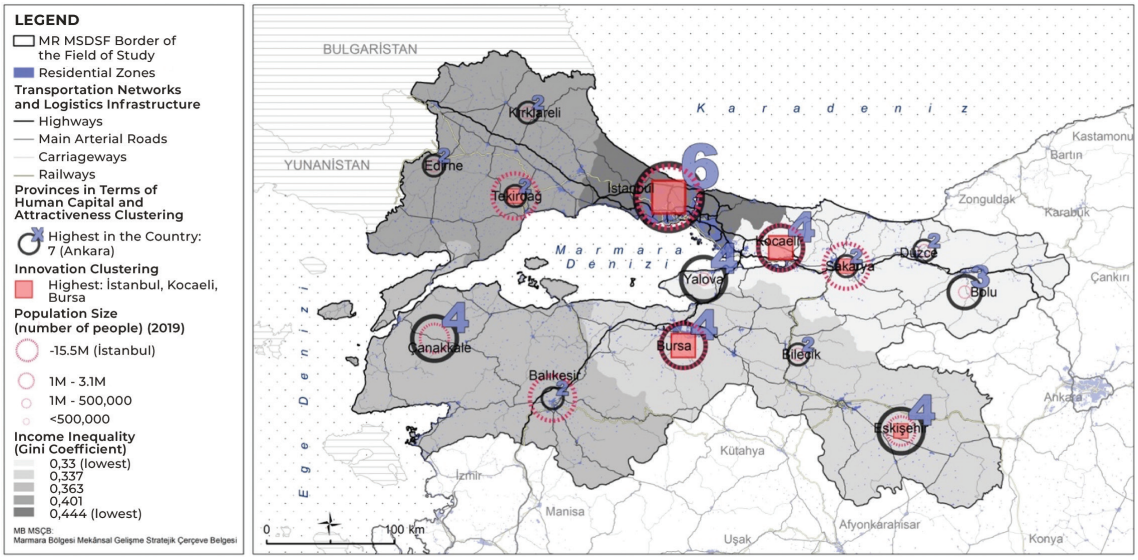

Figure 2.6 The Relationship Between Human Capital, Innovation, Population and Income Inequality

The relational analysis of competitiveness, innovation, and employment in the agricultural sector shows that Kırklareli ranks first, followed by Balıkesir, Düzce, and Yalova. It is noteworthy that the provinces that stand out in terms of competitiveness and innovation in the study area are Kocaeli, Bursa, Tekirdağ, and especially Istanbul, but the employment rate of these provinces in the agricultural sector is very low (Figure 2.7).

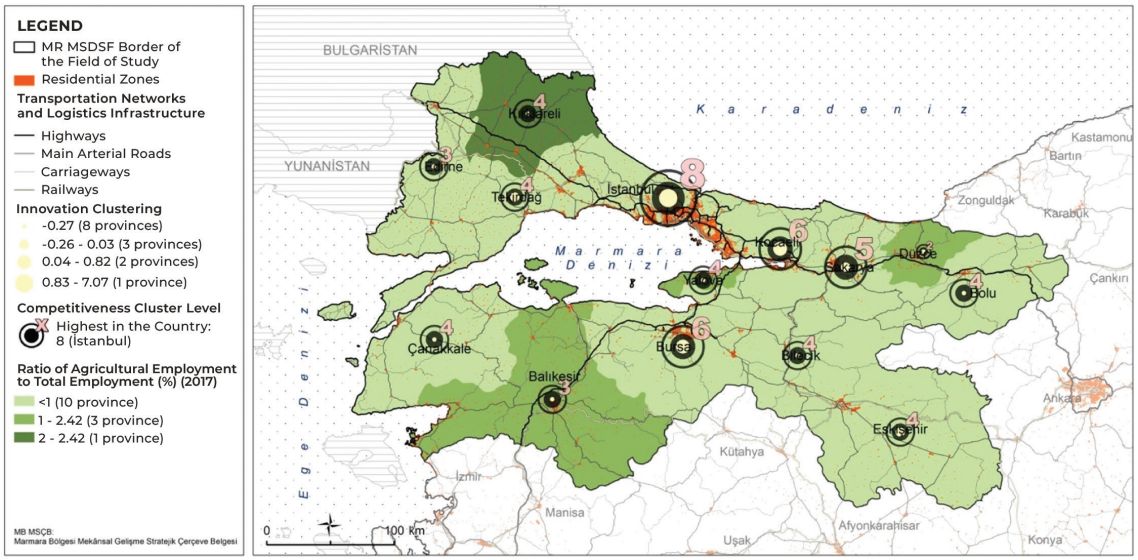

Figure 2.7 The Relationship Between Competitiveness, Innovation and Employment – I

The analysis of the relationship between the employment rate in the manufacturing industry and competitiveness and innovation shows that the share of industry in employment is significantly higher in the region

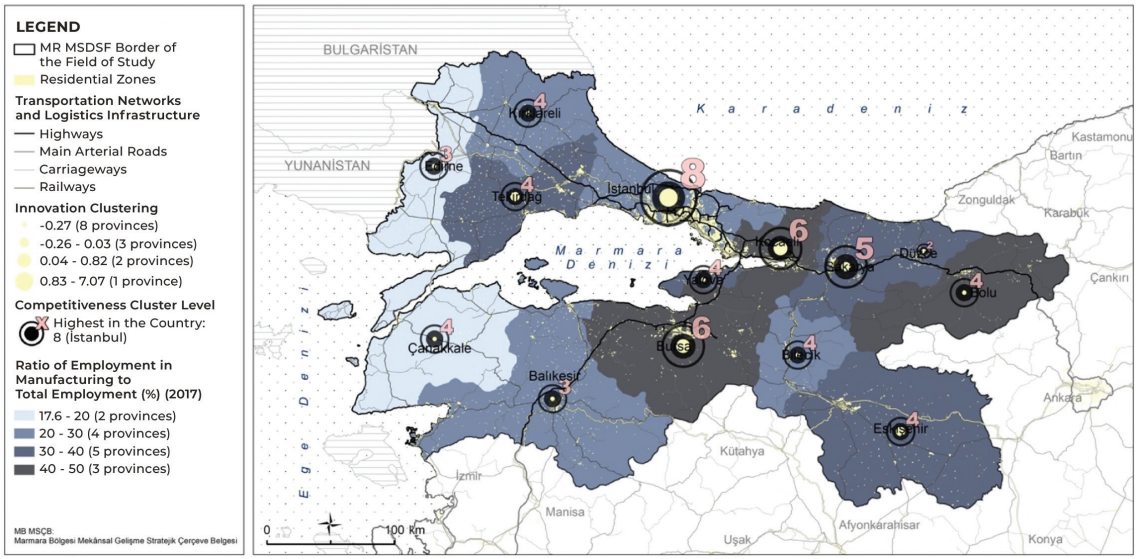

Figure 2.8 The Relationship between Competitiveness, Innovation and Employment – II

than in Turkey in general, and the employment rate in the manufacturing industry sector is high in the Istanbul-Ankara axis, which has a high value for innovation and competitiveness clusters. (Figure 2.8).

In the relational analysis of service sector employment, innovation, and competitiveness, Istanbul stands out for both the highest value of innovation and competitiveness clusters and high service sector employment. (Figure 2.9).

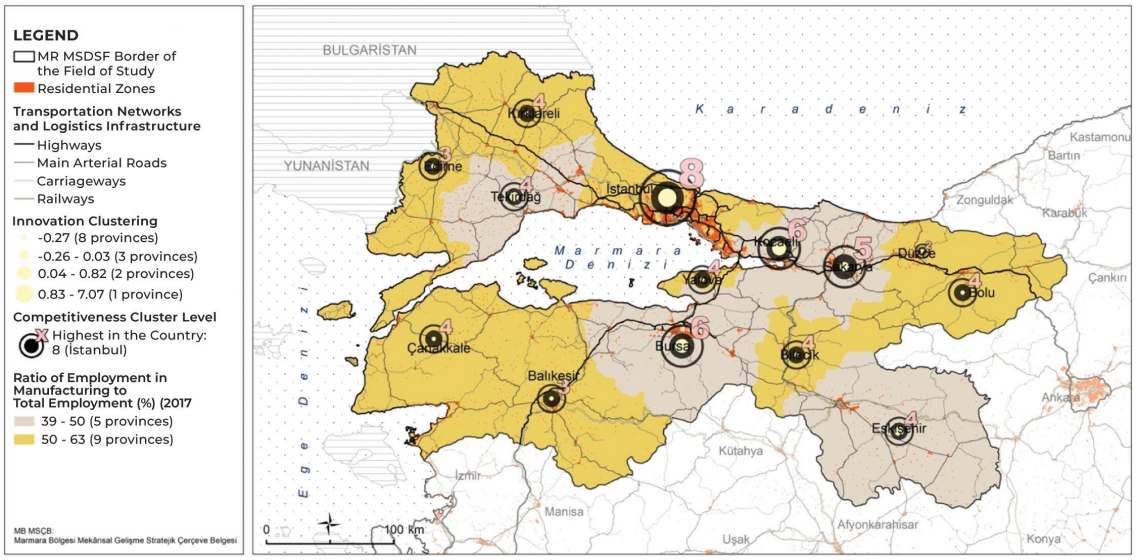

Figure 2.9 The Relationship Between Competitiveness, Innovation and Employment – III

The share of the region in the total added value is 47%. The sector with the largest share in added value is the service sector with 63%, while the sector with the lowest share is the agriculture sector with 2%. The share of industry in the

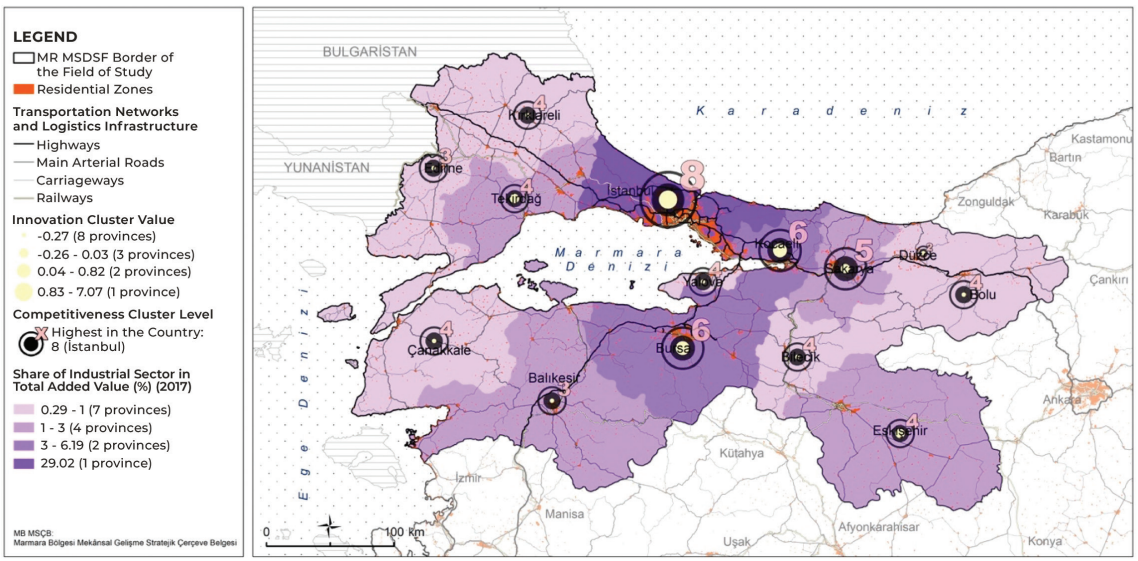

Figure 2.10 The Relationship Between Competitiveness, Innovation and Added Value – I

added value created in the region is 35%. Istanbul, Bursa, and Kocaeli constitute 83% of the added value produced in the region.

Looking at the relationship between competitiveness, innovation, and added value in the context of the industrial sector, the provinces of Istanbul, Kocaeli, and Bursa, which have the highest values for competitiveness and innovation, also stand out the most in the industrial sector. These values are at low levels in Bolu, Düzce, Kırklareli, Edirne, Çanakkale and Bilecik (Figure 2.10).

Looking at the relationship between competitiveness, innovation, and added value in the context of the service sector, Istanbul constitutes a significant part of the service sector's share in the total added value and stands out as the service center of the region. Istanbul is followed by Kocaeli, Bursa and Çanakkale (Figure 2.11).

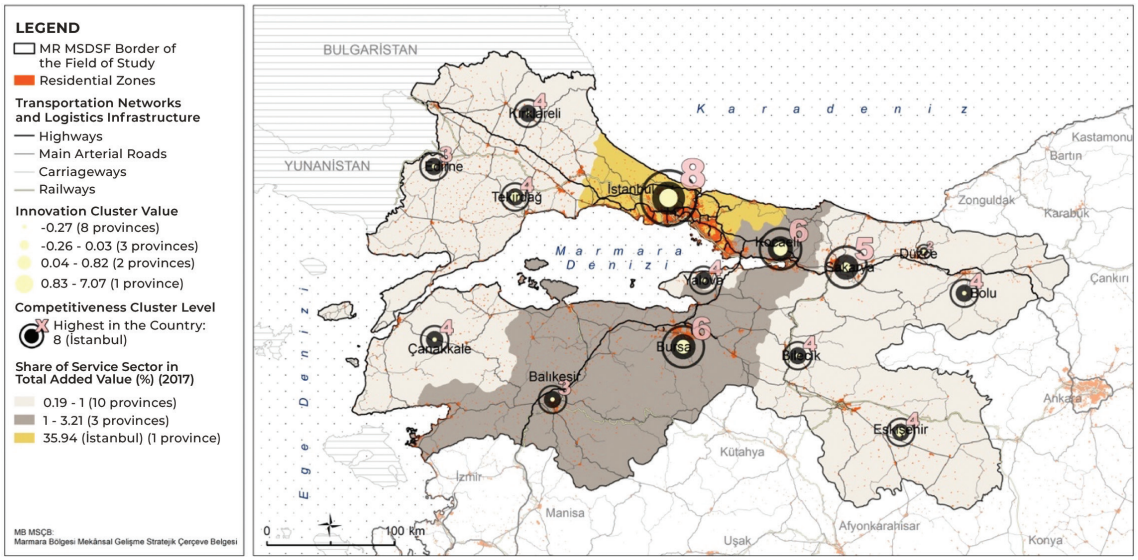

Figure 2.11 The Relationship Between Competitiveness, Innovation and Added Value – II

The analysis of the relationship between competitiveness, innovation, and added value in the context of the agricultural sector shows that the share of added value in the agriculture sector is low throughout the region and Bursa stands out in agriculture as well as in industry, followed by Balıkesir (Figure 2.12).

Looking at the relationship between competitiveness, innovation, and the creative sector, Istanbul stands out as an important focal point with its employment rate in the creative sector, its share of gross added value, and its innovation and competitiveness cluster value. Kocaeli and Bursa follow Istanbul in terms of innovation and competitiveness, and the shares of gross added

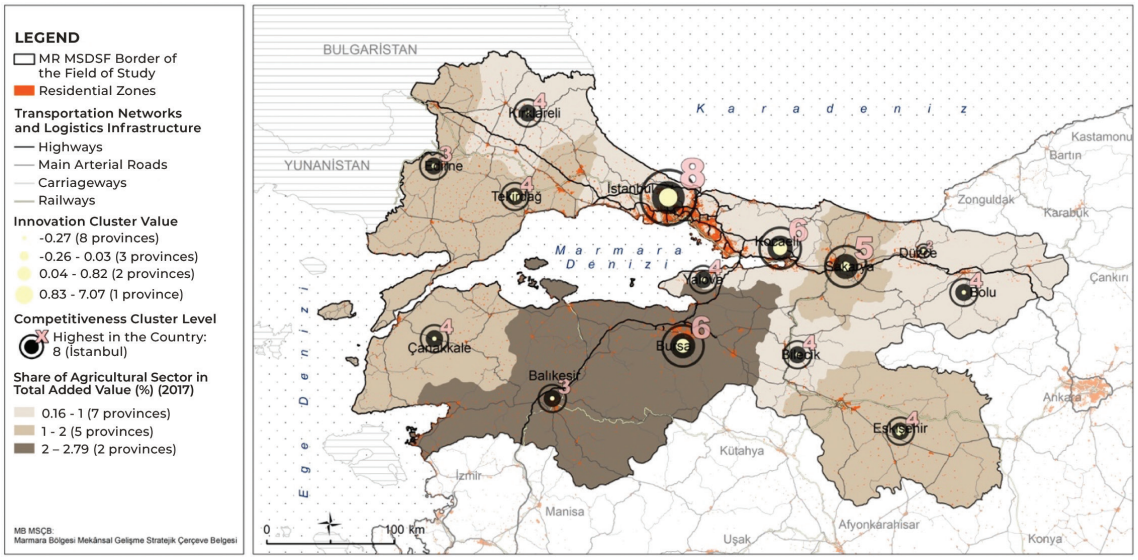

Figure 2.12 Relationship between Competitiveness, Innovation and Added Value – III

value and creative sector employment are relatively high. Çanakkale follows Istanbul in terms of employment in the creative sectors. Sakarya, Düzce, and Bolu are the provinces with the lowest ratio (Figure 2.13).

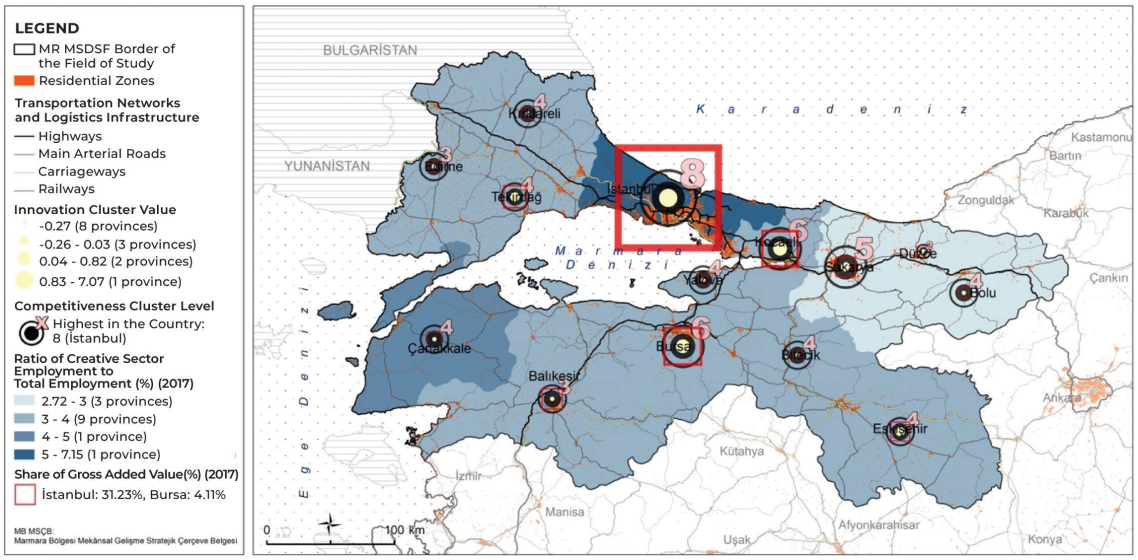

Figure 2.13 The Relationship Between Competitiveness, Innovation and Industry

The analysis of the relationship between transportation and logistics shows that the study area is the leader in terms of transportation and logistics infrastructure diversity, passenger and cargo traffic in the country, and Istanbul's airports stand out in terms of passenger and cargo traffic, transportation connections, and industrial enterprises (Figure 2.14).

In the relational analysis of transportation and logistics infrastructures and energy infrastructure, Istanbul stands out with a high value in terms of the

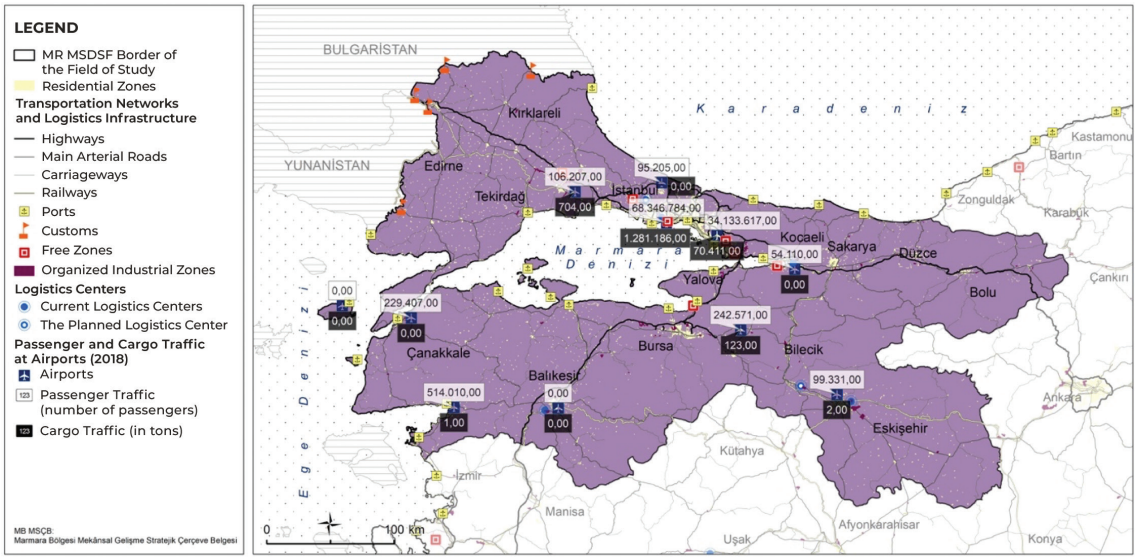

Figure 2.14 The Relationship Between Settlements, Transportation and Logistics

electricity consumption in the industrial sector, the highest number of ICI 500 (ISO 500 - Istanbul Chamber of Industry Research on 500 Top Industrial Organizations of Turkey) establishments, and the first place in terms of passenger and cargo traffic at airports, both at the country and regional levels.

High electricity consumption in the industrial sector is considered an indicator of development. In terms of this development indicator, Tekirdağ, Bursa, and Kocaeli provinces follow Istanbul. As for the number of establishments in ICI 500, the provinces of Kocaeli, Bursa, and Tekirdağ are in the lead after Istanbul. The province of Kocaeli is also distinguished by its port area and the amount of cargo handled in its ports. As a border region, Thrace Region stands out with its ports, customs gates, and free zone (Figure 2.15).

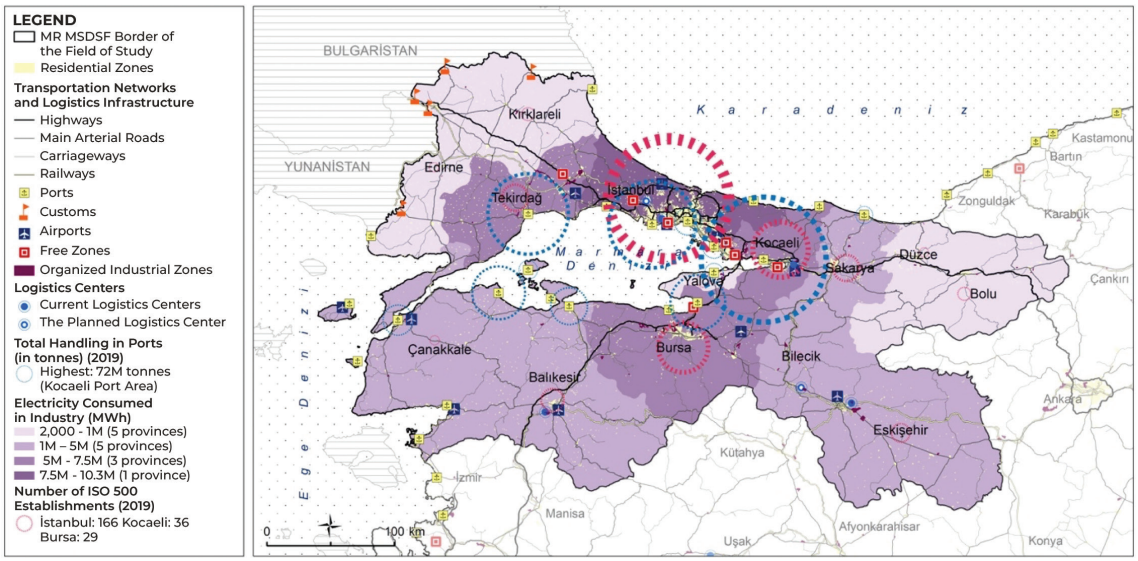

Figure 2.15 The Relationship Between Transportation, Logistics, Energy Infrastructure and Production

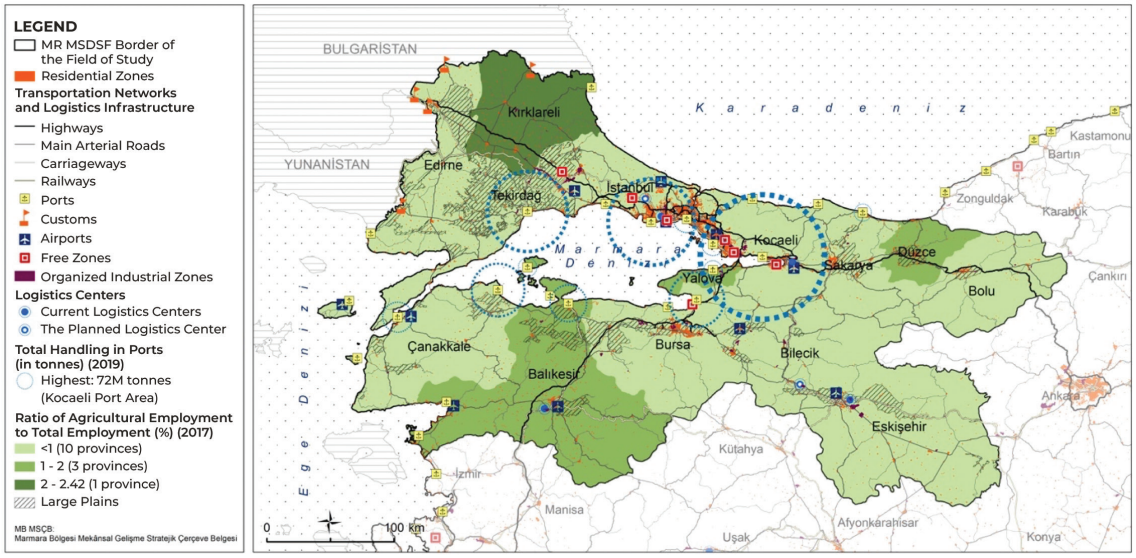

Figure 2.16 The Relationship Between Employment Rate and Transportation and Logistics Infrastructure in the Agriculture Sector

The analysis of the relationship between the transportation and logistics infrastructure and the employment rate in the agricultural sector shows that Kırklareli province has the highest employment rate in the agricultural sector. However, Kırklareli is one of the weakest provinces in the study area in terms of transportation networks and logistics infrastructure. In terms of the agricultural sector employment rate, Kırklareli is followed by Balıkesir, Düzce, and Yalova (Figure 2.16).

The relational analysis of the employment rate in the manufacturing sector and the transportation and logistics infrastructure shows that the Eastern and Southern Marmara provinces are in a spatially advantageous position in

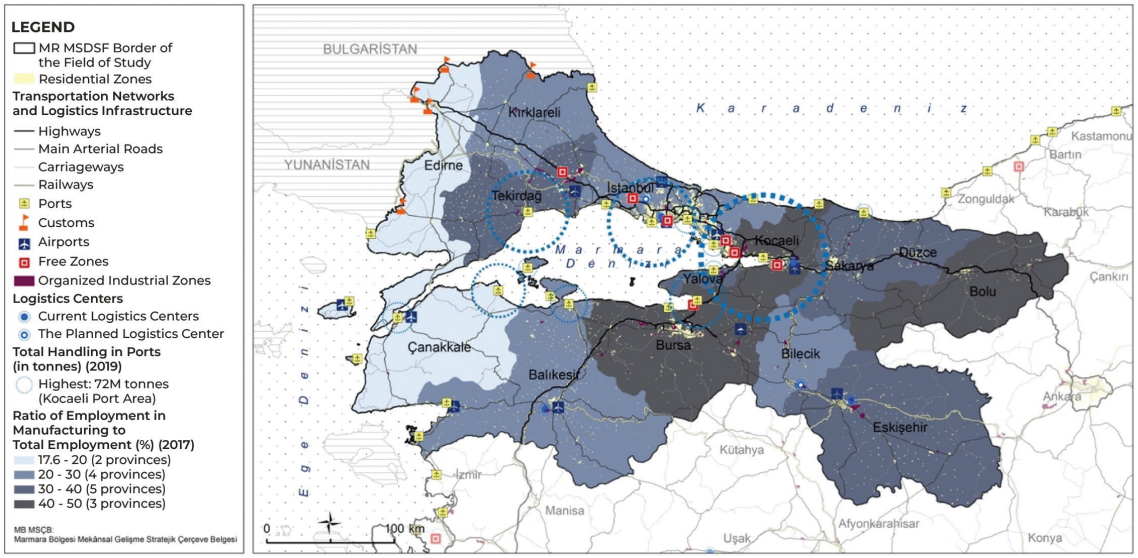

Figure 2.17 The Relationship Between Employment Rate and Transportation and Logistics Infrastructure in the Manufacturing Sector

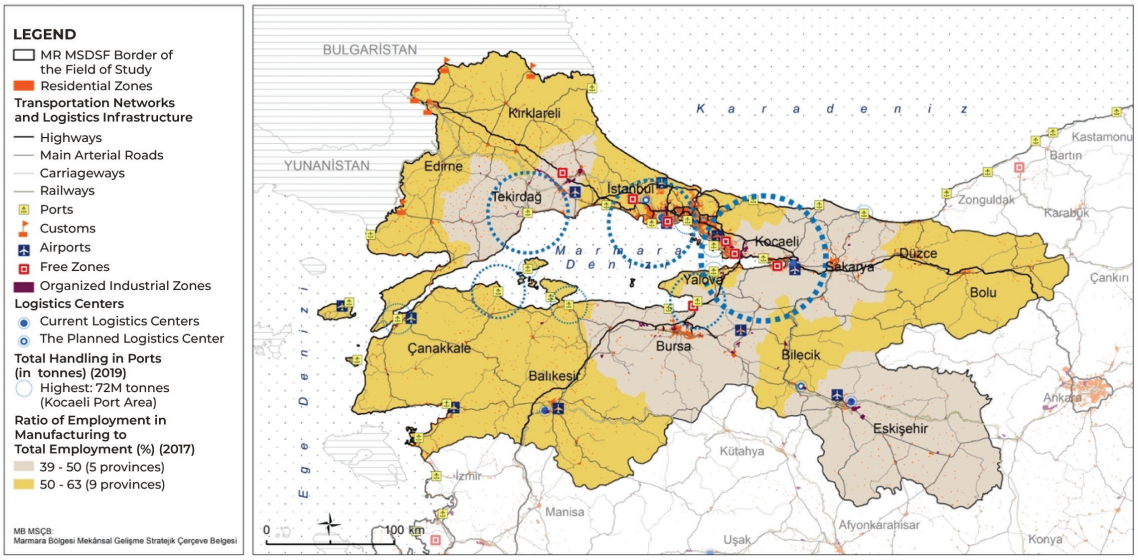

Figure 2.18 The Relationship Between Employment Rate and Transportation and Logistics Infrastructure in the Service Sector

terms of production centers and distribution channels. In this context, Kocaeli, Sakarya, Düzce, and Bolu axis and Kocaeli - Bursa axis located in the Eastern Marmara Region stand out, and especially Bursa, Kocaeli, and Bolu provinces are leaders in the employment rate of the manufacturing sector (Figure 2.17).

Looking at the relationship between the employment rate in the service sector and the transportation and logistics infrastructure, it can be seen that employment in the service sector is lower in provinces characterized by a high employment rate in the manufacturing sector. These provinces are Kocaeli, Bursa, Eskişehir and Tekirdağ (Figure 2.18).

Looking at the relationship between tourism potential and transportation, Istanbul stands out with its historical and cultural heritage and its status as a congress and trade fair tourism city, as well as its location on an international scale. On the other hand, Bursa is one of the provinces of congress and trade fair tourism despite its small bed capacity and accommodation facilities. Due to its important location in the olive corridor, it has a high potential to attract foreign tourists. The provinces that stand out in terms of the number of tourists in the region are Istanbul, Bursa, Balıkesir, and Çanakkale, while the provinces that stand out in terms of bed capacity are Istanbul, Bursa, Balıkesir, Kocaeli, and Çanakkale (Figure 2.19).

Looking at the relationship between natural resources, the agricultural sector, and agricultural loans, it can be seen that the number of agricultural loans also decreased due to the decline in agricultural added value in the region.

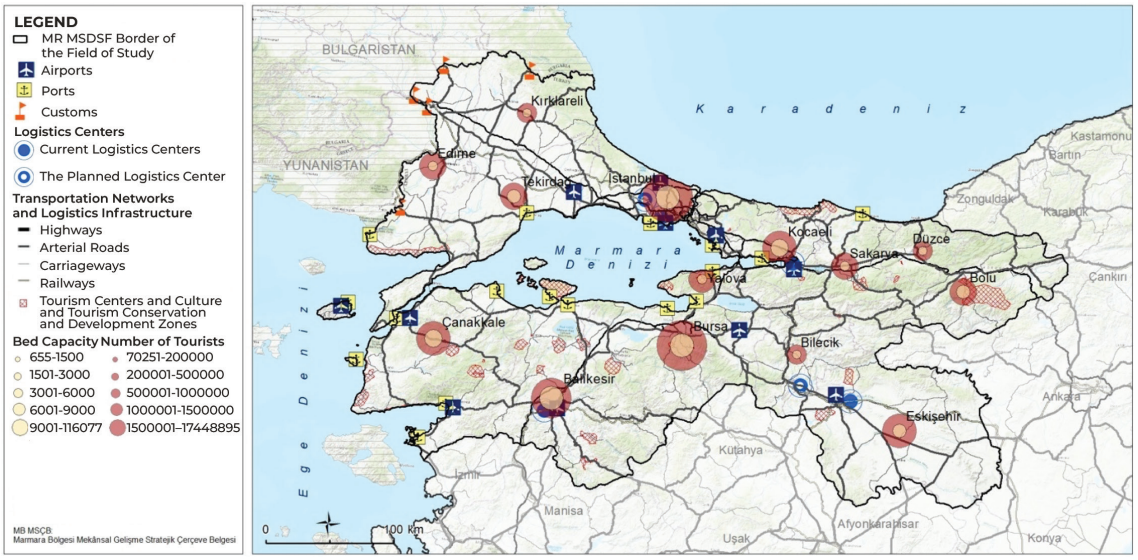

Figure 2.19 The Relationship Between Tourism Potential and Transportation

Balıkesir and Bursa stand out in terms of great plains, agricultural added value, and agricultural loan amount. Çanakkale has the highest agricultural added value, while Bilecik and Düzce have the lowest values in terms of both agricultural added value and agricultural loan amount (Figure 2.20).

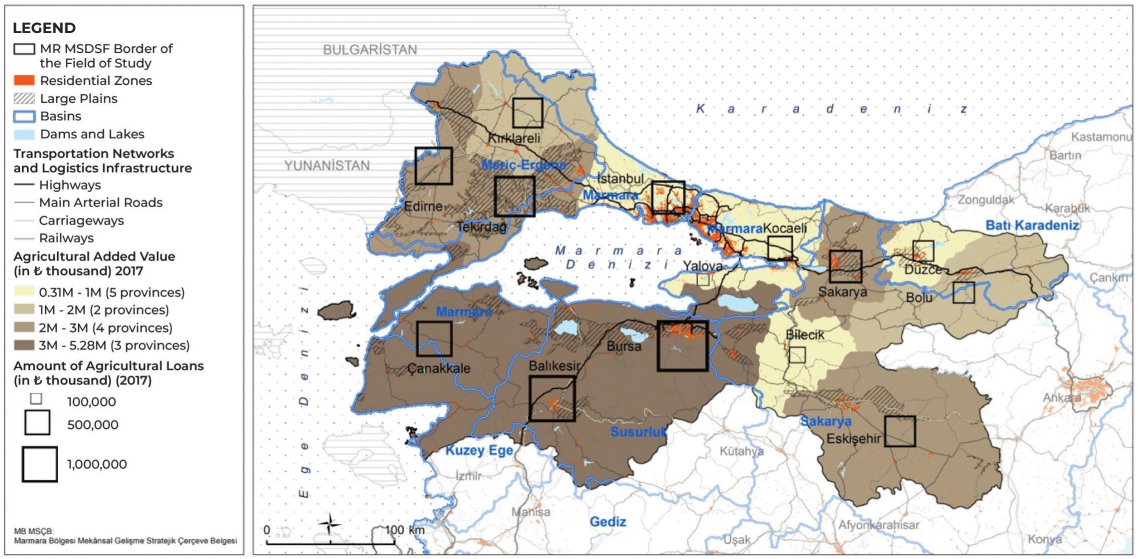

Figure 2.20 The Relationship Between Natural Resources, Agricultural Sector and Agricultural Loans

The relational analysis of natural resources, agriculture sector, agricultural investments, and agricultural cooperatives shows that the provinces of Edirne, Balıkesir, and Bursa have the highest value in agricultural investments. Istanbul and Düzce are the provinces with the lowest agricultural added value and the lowest investment in agriculture. It is noteworthy that agricultural investment is low in Tekirdağ, which is rich in large plains and water resources. Looking at the distribution of cooperatives, a pattern of relationships can be observed that increases toward the west and south and decreases toward the north. The provinces of Bursa and Balıkesir stand out in terms of the number of cooperatives, followed by Tekirdağ, Çanakkale, and Sakarya (Figure 2.21).

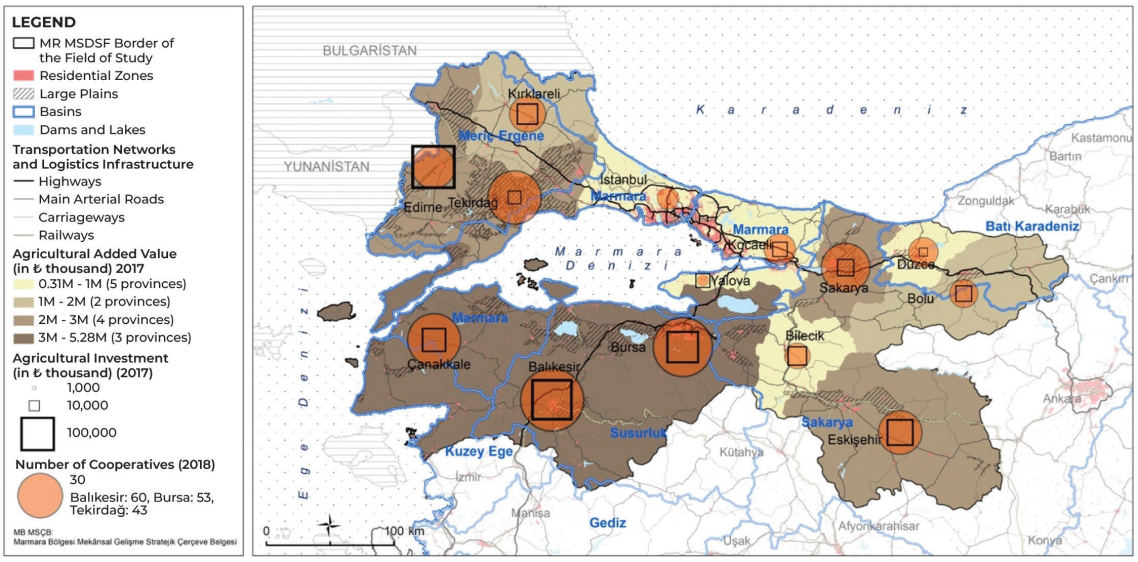

Figure 2.21 The Relationship Between Natural Resources, Agricultural Sector, Agricultural Investments and Agricultural Cooperatives

Looking at the relationship between natural resources, the agricultural sector, and the consumption of chemical fertilizers and pesticides, it can be seen that Tekirdağ, Kırklareli, Balıkesir, and Eskişehir stand out in terms of agricultural land, and Bursa stands out in terms of consumption of chemical pharmaceuticals. It is noteworthy that the province with the highest use of chemical fertilizers is Tekirdağ, and this situation threatens the Marmara Sea and other related water resources, particularly the Meriç-Ergene Basin (Figure 2.22).

The relational analysis of the natural resources, urban sensitive areas, and hazardous wastes shows that the provinces with the highest amount of hazardous waste

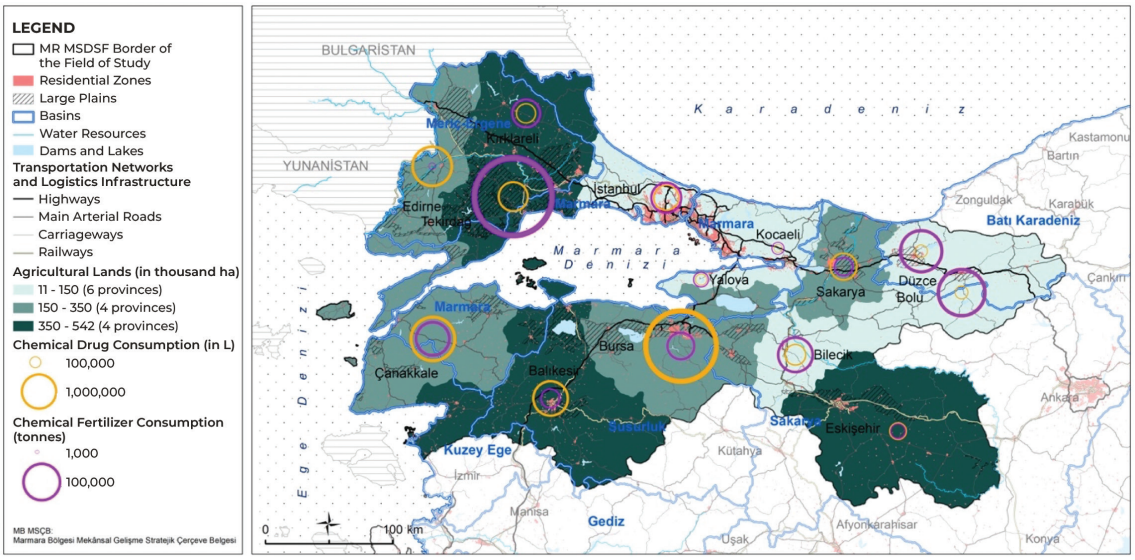

Figure 2.22 The Relationship Between Natural Resources, the Agricultural Sector and the Consumption of Chemical Fertilizers and Medicines

are Istanbul, Kocaeli, Bursa, and Tekirdağ, which are also the provinces with the most developed industry. The high amount of hazardous waste in Çanakkale, which has important natural areas, poses significant risks in terms of natural resources. Provinces with a high amount of hazardous waste also have coastlines and this poses a threat to water resources (Figure 2.23).

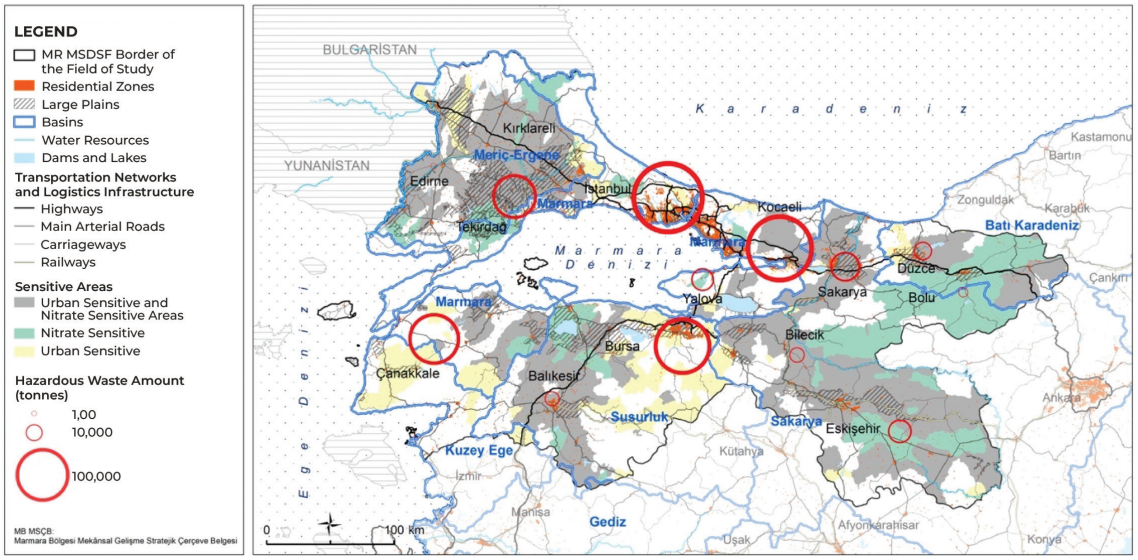

Figure 2.23 The Relationship Between Natural Resources, Urban Sensitive Areas and Hazardous Wastes

The analysis of the relationship between natural resources and population points to the important problem that a large part of the region is water scarce and, given the amount of water that can be used annually, has no possibility of exchanging water among themselves (Figure 2.24).

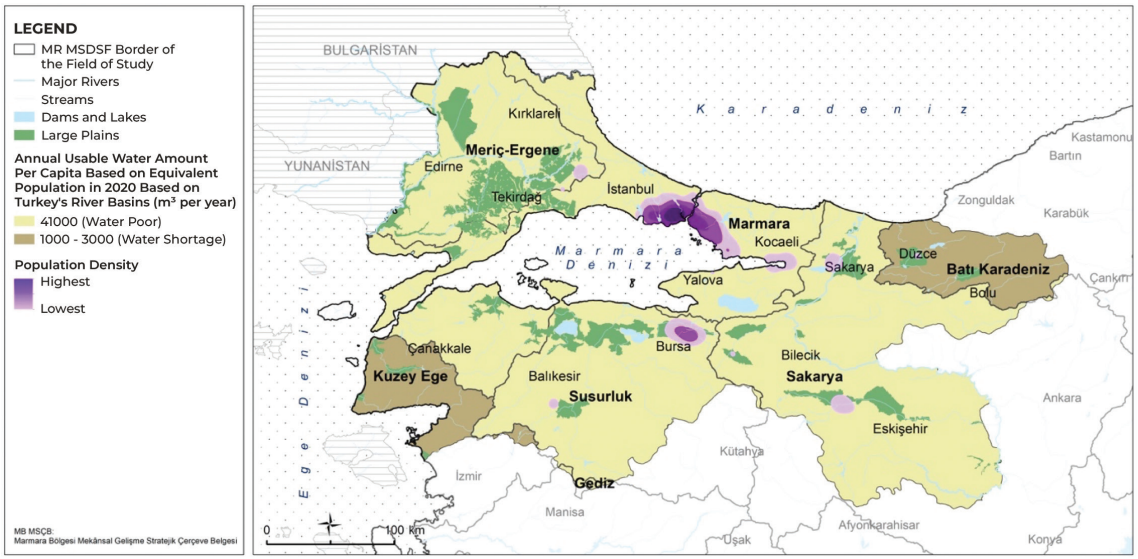

Figure 2.24 The Relationship Between Natural Resources and Population

The analysis of the relationship between the fields, industry, and tourism, whose use and development are defined by special conditions, shows the important potential of the region, which has ecosystem areas of critical importance in terms of climate change, located on the east-west axis parallel to the Black Sea coast, and ecosystem service areas that are critical to climate change (ESACCC), which are of regional, national and global importance, in the north and south. The provinces of Istanbul, Kocaeli, and Bursa, where organized industrial zones (OIZs), industrial zones, free zones, and tourism centers are concentrated, are considered to be metropolitan areas affected by urban heat island effects, and the existence and sustainability of ECACCC areas in these areas are gaining importance due to the negative impacts of climate change. In this context, there are some noteworthy problems: To begin with, urbanization pressures are increasing in the region in landscape/ecosystem-sensitive areas. Another reason is that the SESACCC areas, which continue to serve as ecological corridors, are facing the strongest urbanization pressure, especially in the north of the region, on the Istanbul-Kocaeli route. In addition, in the context of agricultural basins, Meriç and Northern Marmara are among the ar-

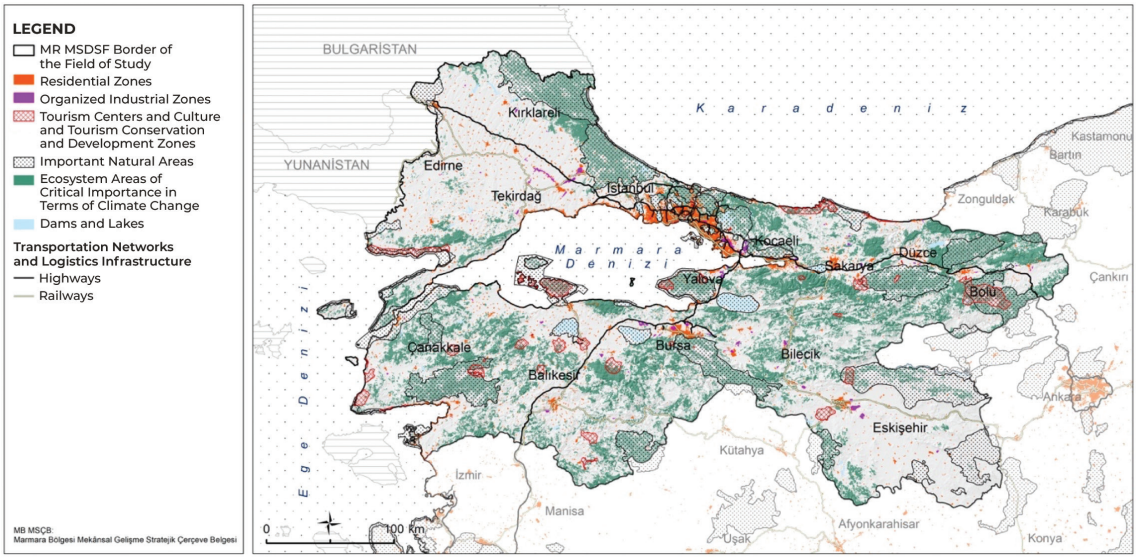

Figure 2.25 The Relationship Between Areas Defined by Special Conditions for Use and Development and Industry and Tourism

eas that are expected to be water scarce. Finally, ESACC areas in five provinces (Istanbul, Kocaeli, Tekirdağ, Bursa, Edirne, and Yalova) are below the Turkey average in terms of per capita area (Figure 2.25).

After the relational syntheses for the current situation through double, triple, and quadruple cross-assessments between population and settlement system, economy and specialization regions, transportation and logistics infrastructure, energy infrastructure and natural-cultural structure, and climate change; the original focal points in the region, transition zones, integration axes-junctions, and corridors were defined. The region, with its unique historical and cultural heritage, has great importance both at the international and national levels. Particularly Istanbul, the capital of great empires such as Rome, Byzantium, and the Ottoman Empire, and Edirne and Bursa, which were also the capitals of the Ottoman Empire for many years, stand out as important cultural focal points on an international scale because of their unique cultural assets. Many areas on the UNESCO World Heritage List such as Bursa and Cumalıkızık, Troy Archaeological Site, Edirne Selimiye Mosque and Complex, and Istanbul historical sites, are the unique cultural centers of the region.

The region has important natural focal points with its geographical location, topographic structure, and natural assets of international importance. The Sea of Marmara, the Dardanelles, and the Bosporus are unique water resources in the world. In addition, the region is home to special natural treasures such

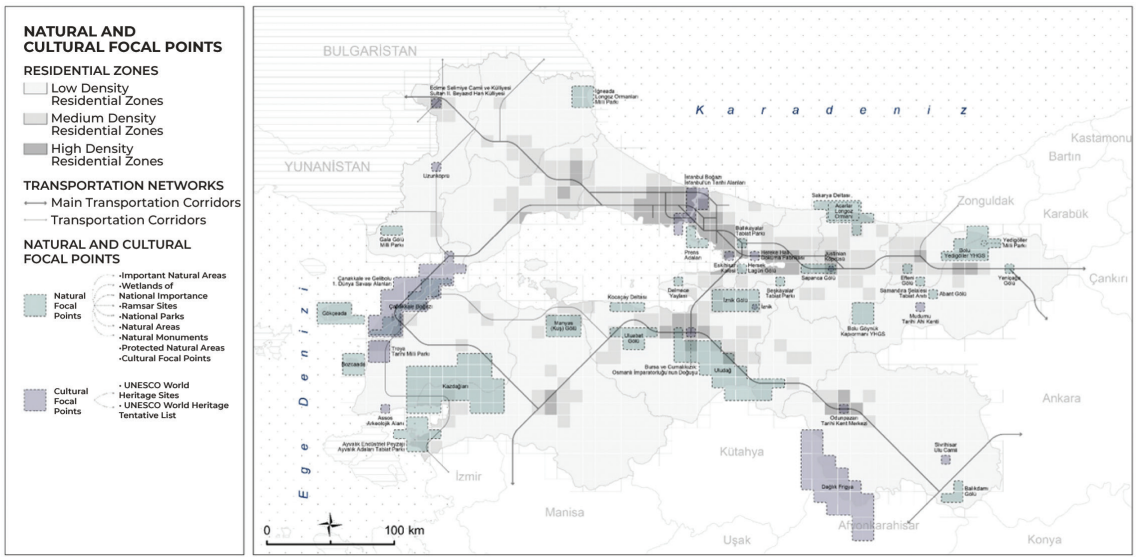

Figure 2.26 Natural and Cultural Focal Points

as the İğneada floodplains, which are among the 3 floodplains in the world, Manyas (Kuş) Lake, Kuşcenneti, Kazdağları, and Uludağ with a rich diversity of flora and fauna.

The analysis of tourism focal points shows that especially Istanbul, Edirne, Çanakkale, Bursa, Eskişehir, İznik, Bilecik (Söğüt), and Bolu (Mudurnu) stand out as important centers of cultural tourism in the region. The presence of the Dardanelles and the Bosporus, which connect the continents, as well as the Sea of Marmara, make the study area an extremely important area for yacht and cruise tourism. In Istanbul, Salıpazarı-Karaköy Port serves cruise ships for tourism purposes, and Ayvalık Marina and Burhaniye Marina in Edremit Bay

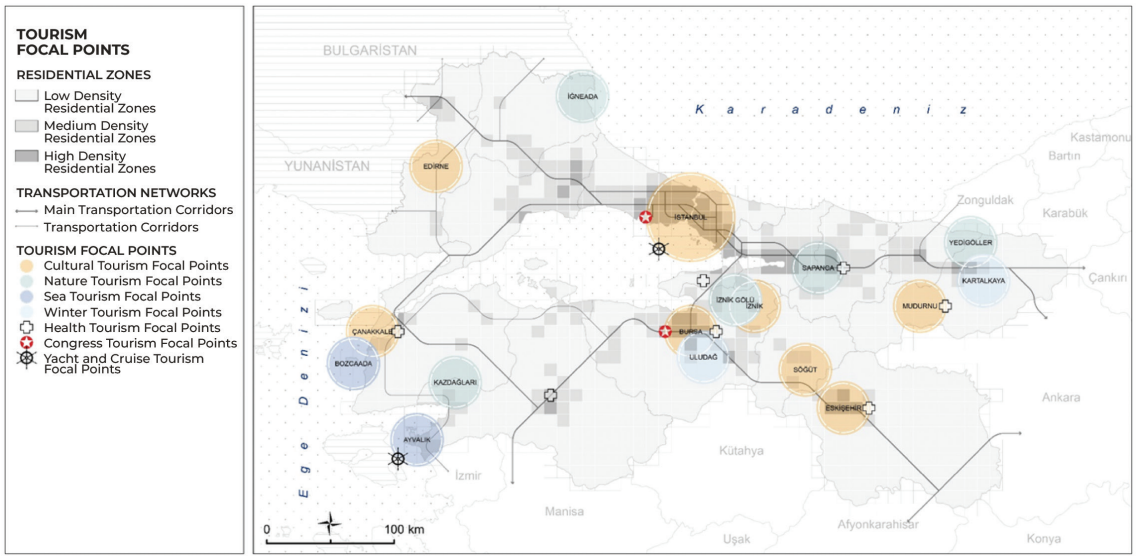

Figure 2.27 Tourism Focal Points

are suitable for yacht tourism. In addition, Çanakkale province is a focal point with great potential for cruise and yacht tourism. The Ida Mountains, Lake İznik, Uludağ, İğneada, Sapanca, Yedigöller, and Kartalkaya stand out as focal points of nature tourism in the region, while trade fair and congress tourism is a focal point in Bursa and Istanbul, the most industrially developed provinces. Winter tourism focal points are Bolu-Kartalkaya, Kocaeli-Kartepe and Bursa-Uludağ. Diving tourism focal points are Edremit Bay, Saros Bay, Ayvalık Islands, Marmara Islands and Gökçeada coasts. Health and thermal tourism focal points stand out in the provinces of Balıkesir (Balya, Bigadiç, Edremit, Gönen, Manyas, Sındırgı, Susurluk), Çanakkale (Ayvacık, Çan, Ezine, Yenice),

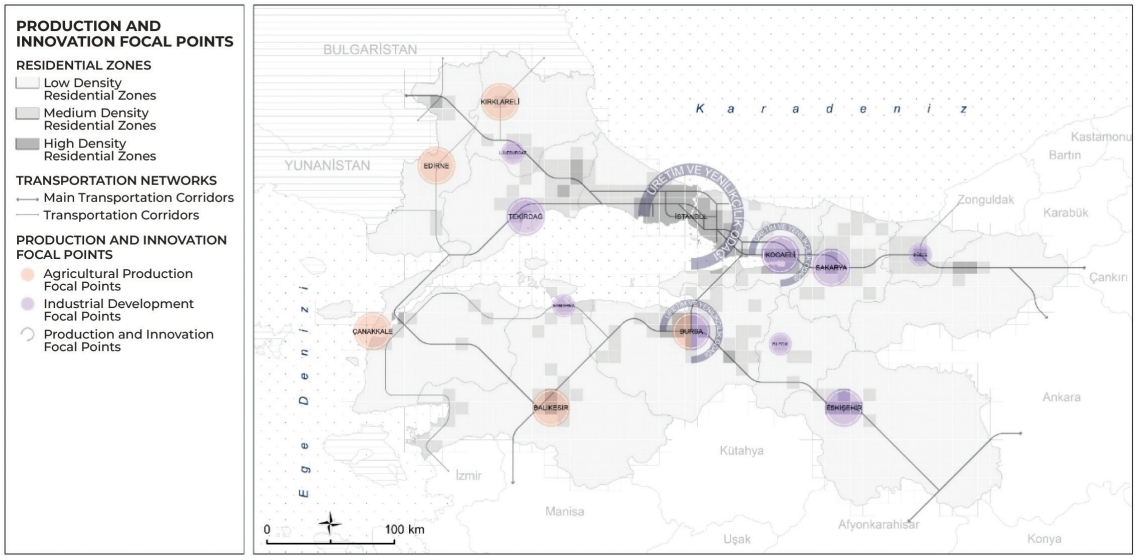

Figure 2.28 Production and Innovation Focal Points

Yalova (Termal, Armutlu), Bursa (Oylat, Aslanlı, Mustafakemalpaşa, Ağaçhisar), Eskişehir (the city center, Sakaryabaşı, Sakarılıca, Kızılinler), Sakarya (Sapanca, Akyazı-Kuzuluk, Taraklı, Karacasu) and Bolu (Mudurnu).

The production and innovation focal points of the region are defined by the contribution of the provinces to the added value, the number of industrial enterprises, the places where sectoral employment is concentrated, and the innovation and competitiveness of the provinces.

As of 2018, 42% of the country's industrial companies are located in the region, and almost half of the total value added is generated here. Istanbul creates 66% of this added value and handles 34% of the country's exports and 32% of its imports.

The provinces of Bursa, Kocaeli, and Sakarya follow Istanbul in both exports

and imports. As of 2018, Level 2 regions with the highest number of OIZs in the whole country are located in the study area. These regions are TR42 (Kocaeli, Sakarya, Düzce, Bolu and Yalova) with 35 OIZs and TR41(Bursa, Eskişehir, Bilecik) with 26 OIZs. Istanbul has 8 OIZs. Three Level 2 regions stand out in terms of innovation and competitiveness. TR10 Region (Istanbul) is the innovation center and the most competitive city not only in the region but also in Turkey. Other prominent regions along with Istanbul are TR41 and TR42. Due to their geographical and relational proximity, Bursa and Kocaeli form an innovation ecosystem together with Istanbul. The Eastern Marmara Region has an advantageous and easily accessible location between Istanbul and Ankara, the two largest and most innovative metropolises in Turkey. The country's most competitive and innovative city, Istanbul, which accounts for most of the country's added value and foreign trade, is the province where Turkey's largest industry, commerce, finance, advertising, and other economic institutions are located.

As of 2019, 42 of Turkey's 100 largest industrial companies and 250 of Turkey's 500 largest companies are located in Istanbul. The analysis of these indicators shows that Istanbul is the first-degree production and innovation focal point, while the provinces of Bursa and Kocaeli stand out as the 2nd-degree production and innovation focal points. These provinces are the two provinces that, after Istanbul, contribute the most to the added value in the study area. In addition, the number of industrial enterprises (OIZ) they have is an impor-

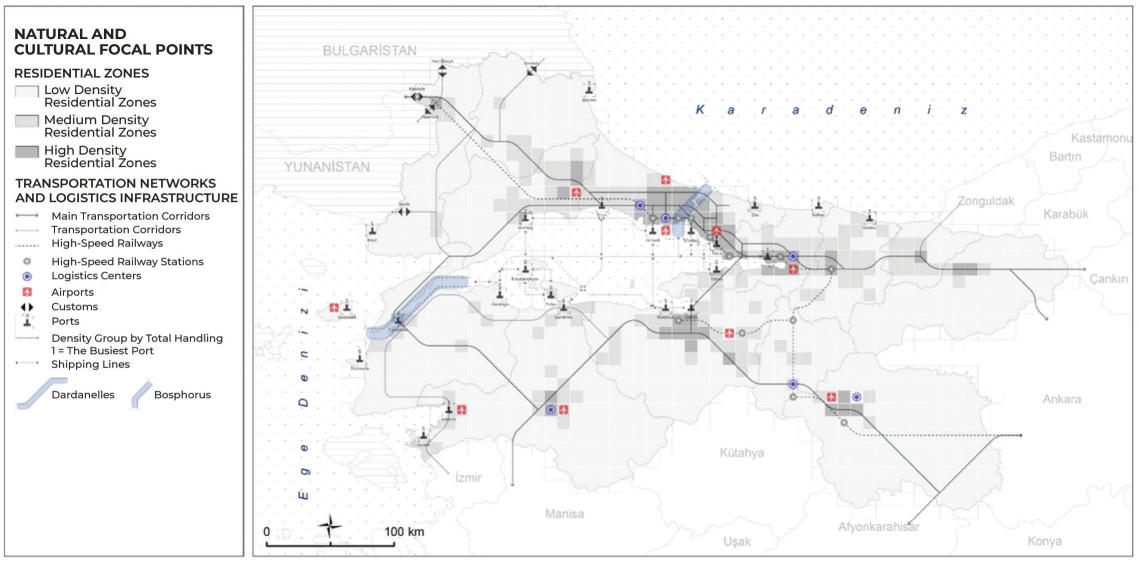

Figure 2.29 Settlement, Transportation and Logistics Focal Points

tant factor in being the focal point of production and innovation at the 2nd level. The main industrial focal points in the study area are the provinces of Kocaeli, Tekirdağ, Bursa, Eskişehir, and Sakarya, while the second-degree industrial focal points are the provinces of Kırklareli (Lüleburgaz), Bilecik, Düzce, Balıkesir (Bandırma). Agricultural production focal points are the provinces of Kırklareli, Edirne, Çanakkale, Balıkesir and Bursa.

Major connecting points in the region where various modes of transportation are integrated, logistics centers, ports, airports, border and customs gates, sea bus stops, high-speed train stops, Dardanelles and Bosporus, and shipyards are discussed in the context of **transportation and logistics focal points**.

The strategic location of the Marmara Region, which lies on the historical transit routes connecting the Balkans, the Caucasus and Central Asia, the Middle East, and Northern Europe, as well as the Black Sea and Mediterranean countries, is one of the factors contributing to the region's logistical development. The logistics centers opened in the study area are Halkalı Logistics Center, İzmit Köseköy Logistics Center, Hasanbey Logistics Center, and Gökköy Logistics Center. The two centers under project/construction are Bozüyük Logistics Center and Yeşilbayır/Hadımköy Logistics Center. Yeşilbayır/Hadımköy, the construction of which has started, is planned to be the biggest logistics center in Istanbul. The analysis of the study area in terms of ports shows that there are 3 main port areas in the field: İzmit Bay ports, Istanbul ports, and Gemlik ports. Apart from the port areas, the prominent ports are Asyaport

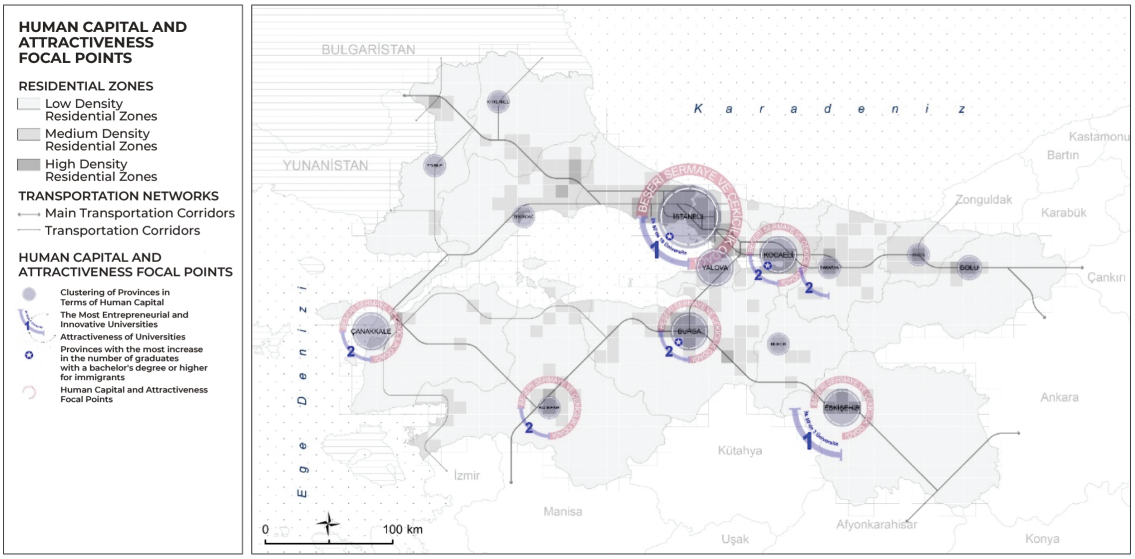

Figure 2.30 Human Capital and Attractiveness Focal Points

in Tekirdağ and Karasu in Sakarya. Asyaport is Turkey's largest container port. Approximately 38% of cargo handled in Turkey and 61.8% of containers are handled in the study area.

In addition, 8 airports in the region are important transportation and logistics focal points in the study area. At the end of 2019, it is seen that 73% of the cargo carried by air in Turkey is transmitted via the airports in Istanbul. In addition, the possession of the Bosporus and the Dardanelles places the study area at a strategic point for maritime freight traffic. Bosporus and Dardanelles constitute two of the 9 important straits in the world. The annual average number of ships passing through the Bosporus is 45693, and the annual average number of vessels passing through the Dardanelles is 44434.

Another important transportation and logistics focal point in the study area is border gates. There are 5 border gates in the field that cross into Bulgaria and Greece. The border gates with the highest number of vehicles entering and leaving annually are Kapıkule Border Gate, İpsala Border Gate, Hamzabeyli Border Gate, Aziziye (Dereköy) Border Gate, and Karaağaç (Pazarkule) Border Gate.

To define the focal points of human capital and attractiveness in the study area, firstly, "cluster study of the provinces in human capital and attractiveness", "educational status of the provinces for immigrants" and "the attractiveness of provinces to university students" analyses, which were conducted as part of the MSDSF analysis studies, were taken into account. In addition, the analysis of "entrepreneurship and innovation status of universities" published by TÜBİTAK in 2020 was also used.

The population that will receive university education constitutes the potential human capital stock of the provinces. In this context, Istanbul stands out both regionally and nationally, with 53 universities and 21% of the teaching staff in Turkey. The study conducted by TÜBİTAK to rank the most entrepreneurial and innovative universities in 2020 shows that 6 of the universities in the top 10 are in Istanbul. In addition, 24 of the universities in the top 50 are in the study area. The provinces with the highest number of these top universities are Istanbul (16 universities) and Eskişehir (3 universities). One university each from the provinces of Bursa, Kocaeli, Sakarya, Düzce, and Tekirdağ are represented in the ranking. Moreover, the analysis conducted by evaluating

the 2018 university placement results shows that the provinces of Istanbul and Eskişehir are the most attractive provinces to university students in the study area, and it also shows that these provinces are far above the average of Turkey in this regard. According to the analysis, the provinces of Çanakkale, Balıkesir, Bursa, Kocaeli, and Sakarya follow Istanbul and Eskişehir in the study area. The analysis of "educational status of the provinces for immigrants (between the years 2009-2019)" based on Level 2 regions shows that the highest cumulative increase in those who earned a bachelor's degree or higher is in the provinces of Istanbul, Bursa, and Kocaeli, respectively.

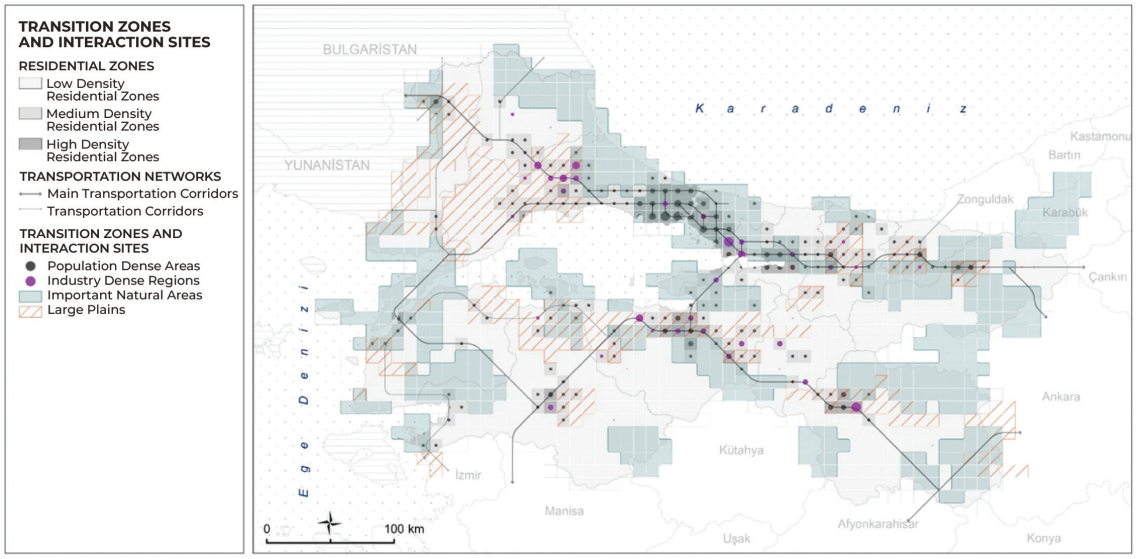

Figure 2.31 Transition Zones and Interaction Zones

The analysis of "educational status of the provinces for immigrants (between the years 2009-2019)" based on Level 2 regions shows that the highest cumulative increase in those who earned a bachelor's degree or higher is in the provinces of Istanbul, Bursa, and Kocaeli, respectively.

In line with these analyzes, according to the cluster study of the provinces in human capital and attractiveness conducted as part of the MSDSF studies, Istanbul ranks first, the provinces of Bursa, Kocaeli, Eskişehir, Çanakkale, and Yalova rank second, Bolu ranks third and Balıkesir, Tekirdağ, Bilecik, Düzce, Edirne, Kırklareli, and Sakarya rank fourth.

The collective evaluation of the analysis shows that Istanbul stands out in the first place in terms of human capital and attractiveness focal points in the study area, while the provinces of Bursa, Eskişehir, Kocaeli, and Çanakkale

stand out in the second place.

Different areas beyond the provincial borders such as basins, plains, agricultural areas, natural areas, protected areas, urban settlement areas, and industrial areas interact with each other within the scope of the study area. Introducing the transition zones and interaction zones is considered important in terms of analyzing this interaction.

The study area has large forest areas. The contiguous northern forests of Thrace and Istanbul meet the Sakarya Acarlar floodplain and the Bolu National Park in the west. These forest areas partly overlap with agricultural areas and partly with industrial areas. In the Thrace Region, industrial areas are concentrated in the Çorlu-Çerkezköy-Lüleburgaz triangle. In this region and on the border of Thrace-Istanbul, agricultural areas and important natural areas, residential areas, and industrial areas coexist. Compared to the region in general, the agricultural areas in Istanbul are very limited in terms of their ratio to the provincial surface area. The settlement areas in Istanbul, which have dense forest areas in the northern parts of the Black Sea coast, are intertwined with the natural environment due to the linear growth of the city over time and then towards the northern forests. The industrial areas in the city are developing in the direction of the Eastern Marmara Region along the transportation axes in the provinces of Kocaeli and Sakarya. These areas also have dense settlement spots and forest areas are dense. Agricultural lands in the Eastern Marmara Region are concentrated in Sakarya, but they are not as extensive

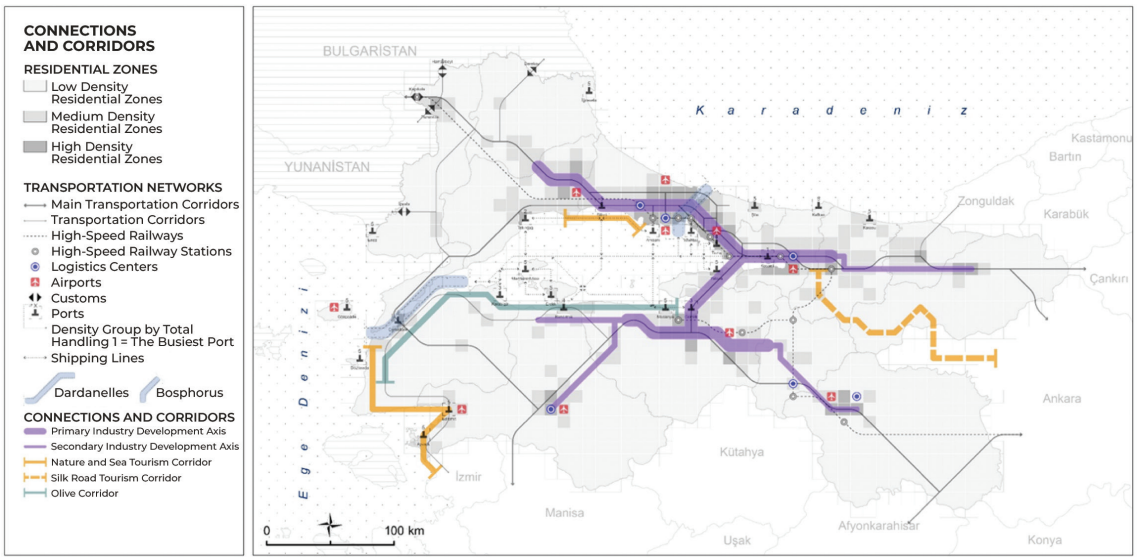

Figure 2.32 Integration Axes, Connections, Corridors

as Thrace and Southern Marmara Region. Kocaeli is the province where important natural areas, industry, and residential areas overlap, while Sakarya is the province where forest, agriculture, industry, and residential areas overlap. Düzce, Bolu, and Yalova have rich geography in terms of forest areas. Bursa is a prominent city in the region in terms of forest areas and agricultural areas as well as industrial and residential areas. All sectors and natural areas are intertwined in the city. Bilecik and Eskişehir have important industrial areas on the main transportation axes. Along with Bursa, which is located in the south of the Sea of Marmara, Çanakkale and Balıkesir also host important wetlands, forest areas, and agricultural areas. Turkey's most important wetlands are located in this area. Unlike many other provinces in the study area, industrial areas are very few in the provinces of Balıkesir and Çanakkale. Agricultural areas are concentrated in Balıkesir, while forest areas are concentrated in Çanakkale.

The study area of the MSDSF is assessed in terms of settlement axes, industrial and tourism axes, and transportation axes that include various modes of transportation, extending from the metropolitan provinces, particularly Istanbul, to the surrounding provinces along the main access roads. The analysis of the axes is considered important to show the relationships and interactions between settlements that go beyond the provincial borders.

The study area of the MSDSF is in a position that connects Asia and Europe with relational connections and is diverse in terms of all modes of transportation. Thanks to its geographical location, Turkey is part of international transportation corridors and networks that involve many countries and include more than one mode of transportation. Moreover, all international transportation corridors and networks in which Turkey participates pass through the Marmara Region. The highways in the study area are also of national and international importance.

The study area is the region where Turkey's road network is most dense. Looking at the traffic volume on state highways in 2019, the intercity road with the highest average daily traffic volume is the D-100 Istanbul-Kocaeli highway. In addition, railway lines pass through 10 out of 14 cities in the area (There are no railway lines in Çanakkale, Bolu, Düzce, and Yalova). The total length of high-speed train lines in the study area corresponds to 44.9% of Turkey's total. As for sea routes, the Bosporus and Dardanelles straits connect the Black Sea

with the Mediterranean and other seas and oceans. In 2019, the total number of passengers carried in the Marmara Basin, İzmit Bay and the Çanakkale Region accounts for about 88% of the passengers carried in the whole of Turkey.

The analysis of industrial axes shows that 4 industrial axes stand out. The industrial axis of Süleymanpaşa-Çerkezköy-Çorlu-Lüleburgaz and the industrial axis of Gebze-Çayırova-Dilovası-İzmit, advancing towards the east and west of Istanbul, constitute the two important industrial axes in the area. These axes stretch from Thrace to Sakarya, and after Sakarya, they weaken and extend to Bolu.

The main tourist axes in the study area are the axis for nature and marine tourism in southern Marmara and the second residential axis on the southern Marmara Aegean coast. In addition, the two corridors that are not as actively used as these two axes, but potentially have the characteristics of an axis and are recommended to be strengthened are the İpekyolu Tourism Corridor and the Olive Corridor.

3. VISION, SPATIAL DEVELOPMENT AND PROJECTS

3. VISION, SPATIAL DEVELOPMENT AND PROJECTS

3.1. VISION, STRATEGIC AXES AND TARGETS

The vision of the Marmara Region Spatial Development Strategic Framework Document determined by participatory methods is as follows:

> ***"Making Marmara a Region with Natural and Cultural Assets and Sustainable, Resilient and Inclusive Settlements, Prioritizing Efficiency, Innovation and Global Competition in Production with Strong Local Cooperation and Networks"***

5 strategic axes and 21 goals related to these axes were identified and 71 projects were proposed to achieve the vision.

In this context, the MSDSF strategic axes are SA1: Strong local cooperation and networks; SA2: Productivity in production, innovation, and global competition; SA3: Natural and cultural assets; SA4: Sustainable and resilient settlements; SA5: Social development and inclusion.

MSDSF strategic axes and objectives are provided in Table 3.1.

MSDSF Strategic Axes	MSDSF Goals
SA1. Strong local collaboration and networks	Goal 1.1 Ensuring speed and security in transportation and access
	Goal 1.2. Creation of a widespread and complementary logistics network
	Goal 1.3. Development of cultural routes and tourism network
	Goal 1.4. Development of local, national and global collaborations in urban management and environmental protection
SE2. Efficiency, innovation and global competition in production	Goal 2.1. Increasing the production of high-tech products/services for international markets and creating qualified added value
	Goal 2.2. Increasing efficiency in production
	Goal 2.3 Development of knowledge-intensive and innovative production focal points
	Goal 2.4. Supporting rural development
SE3. Natural and cultural assets	Goal 3.1. Protection and restoration of the ecosystem
	Goal 3.2. Development of environmental infrastructure
	Goal 3.3. Preservation of cultural heritage
	Goal 3.4. Expanding the use of renewable energy sources
SE4. Sustainable and resilient settlements	Goal 4.1. Reducing disaster risks
	Goal 4.2. Creating a livable and healthy built environment
	Goal 4.3. Protecting rural identity
	Goal 4.4. Reducing the negative effects of climate change
	Goal 4.5. Development of health services
SE5. Social development and inclusion	Goal 5.1. Development of human capital
	Goal 5.2. Training a qualified workforce
	Goal 5.3. Reducing social inequalities and empowering the disadvantaged population
	Goal 5.4. Managing internal and external migration

Table 3.1 MSDSF Strategic Axis and Targets

3.2. SPATIAL DEVELOPMENT TRENDS

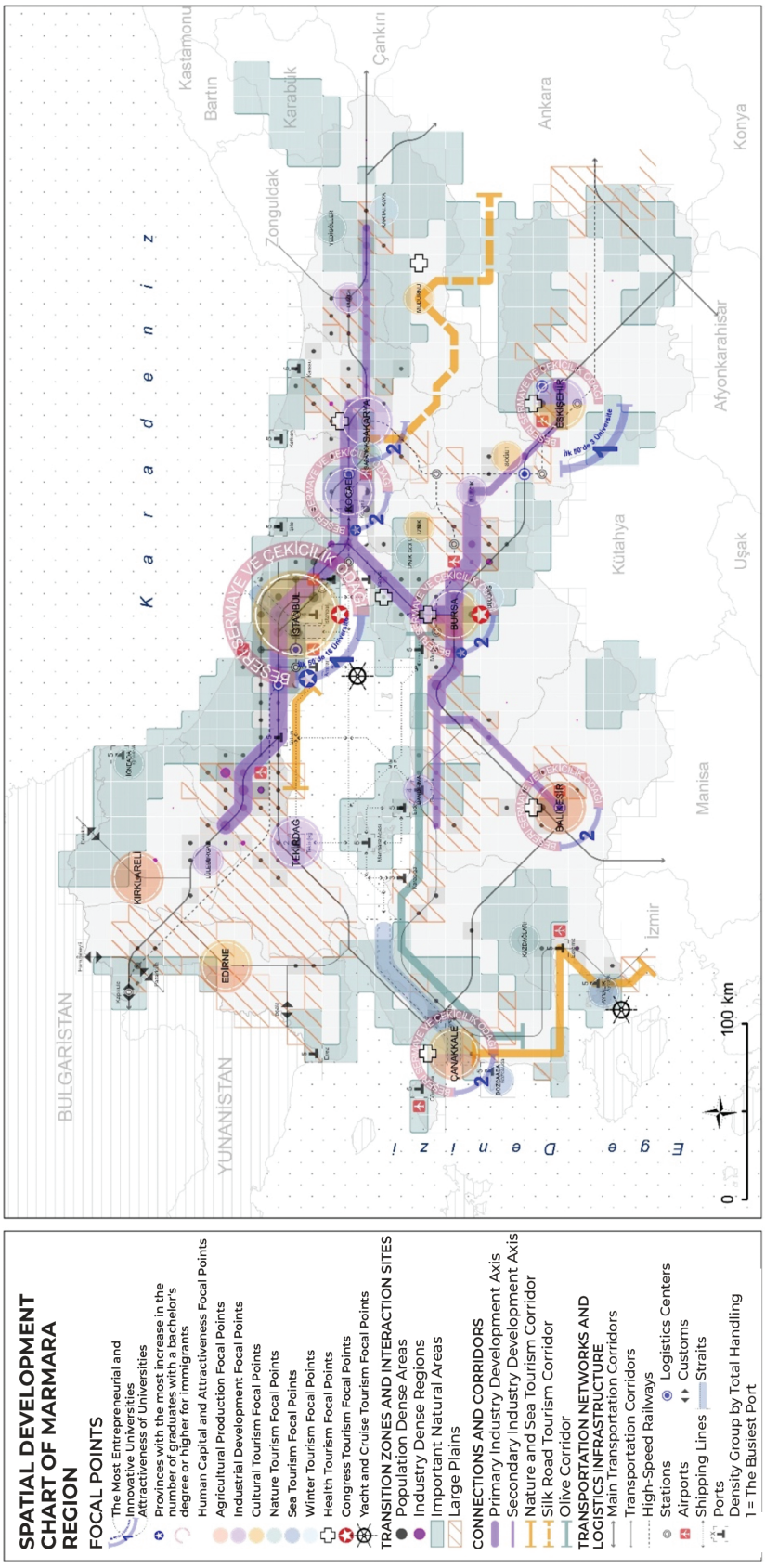

Figure 3.1 Spatial Development Trends Chart

3.3. PRIORITY PROJECTS

Initial projects and actions were proposed to address issues identified in the study area and promote development in the region to achieve the vision, strategic goals, and axes of the MSDSF. The tables4 with the codes and names of the projects related to the strategic axis and targets are provided later in the text.

STRATEGIC AXIS 1. Strong Local Collaboration and Networks

Goals	Projects
Goal 1.1 Ensuring speed and security in transportation and access	P.1.1.1 Project for Establishment of Modern Information Processing and Tracking Systems Center
	P1.1.2 Project for Asset Management in Transportation
	P.1.1.3 Project for Enhancement of Transportation Security
	P1.1.4 Vision Zero: Increasing Road Safety Project
	P.1.1.5 Project for Railroad Network Development
Goal 1.2. Creation of a widespread and complementary logistics network	P1.2.1 Project for Increasing the Efficiency and Integration of Existing Logistics Centers
	P1.2.2 Project for Supporting the Use of Combined Transport in Freight Movements
	P1.2.3 Project for Environmentally Friendly Logistics Chain Planning
	P.1.1.5 Project for Railroad Network Development
Goal 1.3. Development of cultural routes and tourism network	P.1.3.1 Project for Alternative Tourism Types Planning
	P.1.3.2 Project for Establishment of Alternative Cultural Tourism Routes
Goal 1.4. Development of local, national and global collaborations in urban management and environmental protection	P.1.4.1 Project for Integrated Historical and Cultural Site Management
	P.3.3.1 Project for Participation in Tangible and Intangible Cultural Heritage Networks
	P.3.2.9 Project for the Development of Integrated Solid Waste Separation, Recycling and Processing Facilities
	P.3.2.2 Project for Integrated Coastal Area Management
	P.3.2.7 Projects for Sustainable Environmen-tal Infrastructure Development
	P.3.2.1 Project for Marmara Basin Integrated Water Security

Table 3.2 SA 1. Projects Proposed Within Strong Local Collaboration and Networks

[4] A project may depend on more than one strategic axis and/or goal. Projects linked to supporting goals are represented in the tables in blue color. Long-term projects, which have a span of more than 5 years, are represented in red.

STRATEGIC AXIS 2. Efficiency, innovation, and global competition in the production

Goals	Projects
Goal 2.1. Developing knowledge-intensive and innovative production focal points	P.2.1.1 Project for Information and Technology Focused Transformation of Industry
	P.2.1.2 Project for Development of Regional Research and Development Centers
Goal 2.2. Increasing the production of high-tech products/ services for international markets and creating qualified added value	P.2.2.1 Project for Establishment of Higher Economic Council
	P.2.2.2 Project for Establishment of Regional Innovation Centers for Youth
	P.2.2.3 Project for Technology-Oriented Employment for Youth
Goal 2.3 Increasing efficiency in production	P.2.3.1 Project for Support and Develop-ment for Local and Organic Products
	P.2.3.2 Project for Sapling Production Centers
	P.2.2.1 Project for Establishment of Higher Economic Council
Goal 2.4. Supporting rural development	P.2.4.1 Project for Agricultural and Rural Development Congresses
	P.2.4.2 Project for Social Entrepreneurship Certificate Programs for Agricultural and Rural Development
	P.2.4.3 Project for Cooperative Markets (KOPMAR)

Table 3.3 SA 2. Projects Proposed Within the Axis of Efficiency, Innovation, and Global Competition in the Production

STRATEGIC AXIS 3. Natural and cultural assets

Goals	Projects
Goal 3.1. Protection and restoration of the ecosystem	P.3.1.1 Project for Determining the Ecological Corridors of the Marmara Region with the Ecosystem Service-Based Method
	P.3.1.2 Project for Identifying Ecosystem Service Areas with Critical Importance for Adaptation to Climate Change
	P.3.1.3 Project for Identifying Ecosystem Service Areas of Critical Importance to Water Supply
	P.3.1.4 Project for Identifying Ecosystem Service Areas of Critical Importance for Food Production in the Marmara Region
Goal 3.2. Development of environmental infrastructure	P.3.2.1 Project for Marmara Basin Integrated Water Security
	P.3.2.2 Project for Integrated Coastal Area Management
	P.3.2.3 Project for Effective and Efficient Use of Water in Industry
	P.3.2.4 Project for Development of Alternative Water Resources
	P.3.2.6 Project for Dissemination of the "Sustainable Cities Project"
	P.3.2.7 Projects for Sustainable Environmental Infrastructure Development
	P.3.2.8 Project for Geothermal Resources Development and Management
	P.3.2.9 Project for Development of Integrated Solid Waste Separation, Recycling and Processing Facilities
	P.3.2.10 Project for Hydrocarbon (Petroleum-Natural Gas) Research
	P.3.2.11 Project for Development of Natural Block stone (Marble) Good Mining Activities
	P.3.2.12 Project for Dissemination of Mining Education
Goal 3.3. Preservation of cultural heritage	P.3.3.1 Project for Participation in Tangible and Intangible Cultural Heritage Networks
	P.1.3.1 Project for Alternative Tourism Types Planning
	P.1.3.2 Project for Establishment of Alternative Cultural Tourism Routes
Goal 3.4. Expanding the use of renewable energy sources	P.3.4.1 Project for Energy Awareness Development
	P.3.4.2 Project for Establishment of Energy Performance Data of Public Buildings and Development of Energy Efficiency Strategies
	P.3.4.3 Project for Determination of Renewable Energy Application Points and Potentials in Urban and Rural Areas on a Provincial Basis
	P.3.4.4 Project for Street and Outdoor Lighting Transformation
	P.3.4.5 Project for Solid Waste Energy Conversion
	P.3.4.6 Project for Bioenergy Production from Agricultural Wastes
	P.3.4.7 Project for Energy Transformation in Transportation
	P.3.4.8 Project for Establishing Financing Models for Renewable Energy Dissemination
	P.3.4.9 Project for District Heating
	P.3.4.10 Project for Building and Roof Orientation in Zoning Plans
	P.3.4.11 Project for Geothermal Energy, Greenhouse and District Heating
	P.3.4.12 Project for Dissemination of Energy Cooperatives
	P.3.4.13 Project for Energy Conversion in Industry

Table 3.4 SA 3. Projects Proposed Within the Axis of Natural and Cultural Heritage

STRATEGIC AXIS 4. Sustainable and resilient settlements

Goals	Projects
Goal 4.1. Reducing disaster risks	P.4.1.1 Project for Increasing the Resilience of Urban Settlements Against Earthquake and Landslide
	P.3.2.1 Project for Marmara Basin Integrated Water Security
	P.4.4.3 Project for Determination of Projections of Sea Level Rise on the Coasts of the Marmara Region and Possible Impacts
Goal 4.2. Creating a livable and healthy built environment	P.4.2.1 Project for Urban and Environmental Measurement and Monitoring
	P.1.1.3 Project for Enhancement of Transportation Security
	P.3.2.6 Project for Dissemination of the "Sustainable Cities Project"
	P.3.2.7 Projects for Sustainable Environmental Infrastructure Development
	P.3.4.7 Project for Energy Transformation in Transportation
	P.3.4.13 Project for Energy Conversion in Industry
	P.4.1.1 Project for Increasing the Resilience of Urban Settlements Against Earthquake and Landslide
	P.4.4.4 Project for Resource Management of Climate Change and Environmental Risks
Goal 4.3. Protecting rural identity	P.4.3.1 Project for Rural Design Guides Preparation
	P.2.3.1 Project for Support and Development for Local and Organic Products
	P.2.4.3 Project for Cooperative Markets (KOPMAR)
Goal 4.4. Reducing the negative effects of climate change	P.4.4.1 Project for Completion of Climate Change Action Plans on the Basis of Provinces
	P.4.4.2 Project for Calculation of Northern Marmara Multi-Model Climate Change Projections and Possible Impacts
	P.4.4.3 Project for Determination of Sea Level Rising Projections and Possible Impacts
	P.4.4.4 Project for Resource Management of Climate Change and Environmental Risks
	P.4.4.5 Project for Evaluation of Forest Fire Potential in a Changing Climate
	P.4.4.6 Project for Determination of the Effect of Climate Change on Hydrometeorological Events
	P.4.4.7 Project for Calculation of Possible Migration Movements and Population Projections Due to Climate Change
	P.3.4.7 Project for Energy Transformation in Transportation
	P.3.4.13 Project for Energy Conversion in Industry
Goal 4.5. Development of health services	P.4.5.1 Project for Determining the Health Infrastructure Needs at the Provincial Level for Pandemic Induced Risks According to the Scenarios

Table 3.5 SA 4. Projects Proposed Within the Axis of Sustainable and Resilient Settlements

STRATEGIC AXIS 5. Social development and inclusion

Goals	Projects
Goal 5.1. Development of human capital	P.5.1.1 Project for Development of Appropriate Distance Education Programs That Will Help Build Human Capital for the Direct Needs of the Local Economy
	P.5.1.2 Project for Establishment of Marmara Social Innovation Foundation (MASIV)
	P.5.1.3 Project for Digital Database Creation
	P.5.1.4 Project for Establishment of Job Training Centers
	P.5.1.5 Project for Resilience in Local Governance (RESLOG Turkey)
	P.2.4.2 Project for Social Entrepreneurship Certificate Programs for Agricultural and Rural Development
Goal 5.2. Training a qualified workforce	P.5.2.1 Project for Establishment of Agricultural Economy Consulting Center (TEDAM)
	P.2.2.2 Project for Establishment of Regional Innovation Centers for Youth
	P.2.2.3 Project for Technology-Oriented Employment for Youth
Goal 5.3. Reducing social inequalities and empowering the disadvantaged population	P.5.3.1 Project for Online Language Skills Development for the Adaptation of the Migrant Population
	P.5.3.2 Project for Designing a Migration Experience Center/Museum
	P.5.4.1 Project for Marmara Region Migration Research
	P.5.1.5 Project for Resilience in Local Governance (RESLOG Turkey)
Goal 5.4. Managing internal and external migration	P.5.4.1 Project for Marmara Region Migration Research
	P.4.4.7 Project for Calculation of Possible Migration Movements and Population Projections Due to Climate Change

Table 3.6 SA 5. Projects Proposed Within the Axis of Social Development and Inclusion

Tables 3.7 to Table 3.11 list the issues related to the study area of the MS-DSF that also contributed to the establishment of the strategic axes and goals. Common issues related to the study area of the MSDSF are summarized by compiling relevant regional plans, environmental plans, and field studies. While the problems related to the field direct the formation of strategic axes and goals, it also sheds light on the presentation of priority projects.

Table 3.7 lists the problems defined for the strategic axis "Strong Local Cooperation and Networks".

STRATEGIC AXIS 1. Strong Local Collaboration and Networks

Goals	Key Issues in the Study area
Goal 1.1 Ensuring speed and security in transportation and access	The road-oriented development of the transportation system
	The increase in private car ownership in the region as a result of the fact that road transportation dominates over other forms of transportation such as sea and rail, and the problems that this increase brings, such as pollution and traffic.
	Inadequate use of maritime transportation among different modes of transportation
	The absence of railway connection in the provinces of Çanakkale, Bolu, Düzce, and Yalova.
	Increasing need for transportation diversity due to the unbalanced and uncontrolled development of land use structure and urban functions
	Traffic congestion and traffic safety problems due to the predominant use of roads in settlements where industrial and logistic activities and population are concentrated.
Goal 1.2. Creation of a widespread and complementary logistics network	Lack of a holistic planning approach for the logistics sector
	Inadequate railway and port infrastructure and the predominant use of highway infrastructure in logistics activities
	Low rates of railway use in the logistics sector compared to highways and ports
	The reduction in the efficiency and competitiveness of the logistics sector and the negative impact on passenger transportation due to the pressure on infrastructure caused by the intensive use of highways for logistics activities
Goal 1.3. Development of cultural routes and tourism network	Deficiencies in international transport links in tourism
	Insufficient studies on the promotion and branding of tourism destinations on international platforms
	The scarcity of qualified tourism areas
	Lack of tourism-related scientific studies such as sectoral structure, inventory, plan, and target market research
Goal 1.4. Development of local, national, and global collaborations in urban management and environmental protection	Lack of coordination and cooperation mechanisms between institutions (especially public-private sector)
	Weak cooperation between local governments on environmental infrastructure
	Insufficient institutional capacity to establish and conduct international cooperation

Table 3.7 Table of Current Problems Regarding the Strategic Axis of "SA 1. Strong Local Cooperation and Networks"

Table 3.8 lists the problems defined for the strategic axis "Production Efficiency, Innovation, and Global Competition".

STRATEGIC AXIS 2. Efficiency, innovation, and global competition in the production

Goals	Key Issues in the Study area
Goal 2.1. Increasing the production of high-tech products/ services for international markets and creating qualified added value	Turkey's innovation performance is not yet at the desired level compared to the developed economies of the world
	The scarcity of financing from foreign sources in R&D expenditures and the importation of technology-intensive products based on R&D
	The ineffective use of the opportunities in entrepreneurial clusters, such as law and accounting, and the fact that these support structures do not have sufficient training on the current problems of entrepreneurship
	Inability to compete with countries that employ cheap labor (India, China, etc.)
Goal 2.2. Increasing efficiency in production	The ineffective use of the opportunities in entrepreneurial clusters, such as law and accounting, and the fact that these support structures do not have sufficient training on the current problems of entrepreneurship
	Despite the potential of the study area, there are deficiencies in the production of high value-added products
	The industrial sector imports the energy it needs for production at high costs
	Deficiencies in policies and practices for agricultural production planning
	Incentives in agricultural production are not differentiated according to the area and production amount
	Low productivity of agricultural production cooperatives and unions, inadequate legislation and laws
	The need for the development of contract seed infrastructure and contract farming
	The threats of environmental pollution to food security
Goal 2.3 Development of knowledge-intensive and innovative production focal points	Lack of institutions and centers that encourage innovative and entrepreneurial thinking and innovation
	Relatively low private sector R&D investments
	SMEs' limited access to R&D applications and support, and their inability to innovate due to their insufficient cooperation with universities and research institutions
	Inadequate transformation of R&D activities into products and commercialization
	The results obtained from the studies carried out in universities cannot be shared with the private sector due to the lack of communication and cooperation and remain within the university.
	R&D, innovation, entrepreneurship, design, branding, patent, promotion, and marketing are lagging behind, and legal regulations are weak in the protection of intellectual property rights
	Inadequate use of agricultural technology, and insufficient development of innovation and R&D in agriculture
Goal 2.4. Supporting rural development	Industrial and urbanization pressure on agricultural areas and wrong land-use decisions in planning
	Risk of extinction of local varieties due to the introduction of modern species in agriculture
	Inadequate irrigation systems and unconscious agricultural irrigation
	Deficiencies in the marketing of agricultural products
	Absence of model projects in agriculture and the lack of good practices and guidance
	Ignorance of farmers about food safety, good agricultural/organic farming practices, and pesticide/fertilizer use
	Loss of employment in agriculture due to migration from rural to urban areas
	Inadequacies in access to socio-cultural and emergency health services, especially in rural settlements
	Low productivity of agricultural production cooperatives and unions

Table 3.8 Table of Current Problems Regarding the Strategic Axis of "SA 2. Efficiency, Innovation and Global Competition in Production"

Table 3.9 lists the problems defined for the strategic axis of “Natural and Cultural Assets”.

STRATEGIC AXIS 3. Natural and cultural assets

Goals	Key Issues in the Study area
Goal 3.1. Protection and restoration of the ecosystem	Increasing pressure on the natural environment, especially on forest areas and water resources, caused by unplanned industrialization, rapid urbanization, and residential development
	The negative impact of the intensity of agriculture, livestock, and mining on the ecosystem of the region.
	The negative impact of the shipyard areas on the coastal ecosystem
	Land use, agricultural activities (fertilizer use), livestock activities, atmospheric transport, solid waste storage activities (irregular landfill leachate), cesspool effluent and use of pesticides (pesticide use) are the main diffused pollutant sources in the basins
	Discharge of industrial and domestic wastewater without treatment and pollution of water resources, especially in areas where industry and urbanization are intense
Goal 3.2. Development of environmental infrastructure	Irregular urbanization in settlements with strong population growth and environmental problems caused by the fact that industrial areas are located in residential areas
	Inadequate technical infrastructure, especially in settlements with high population growth
	Insufficient landfill areas
	The majority of industrial establishments do not actively operate their wastewater treatment facilities and lack oversight in this regard.
	Local governments and the private sector's lack of infrastructure for waste recycling and disposal
	Equipment and infrastructure problems experienced due to the increase in the summer population in coastal areas
	Failure to rehabilitate abandoned mines
Goal 3.3. Preservation of cultural heritage	The threats that urbanization pressures pose to archeological and historical areas in densely populated settlements.
	The elements that make up the cultural identity are not adequately revealed and appropriated, and the promotion is low. These elements are at the risk of being lost due to these reasons.
	Conservation awareness is not sufficiently developed both institutionally and socially.
Goal 3.4. Expanding the use of renewable energy sources	Ineffective and efficient use of energy resources
	Insufficient R&D studies on renewable energy and insufficient support
	The pollution caused by energy production and the necessity of transition to clean energy
	Lack of adequate educational infrastructure, especially on renewable energy

Table 3.9 Table of Current Problems Regarding the Strategic Axis of “SA 3. Natural and Cultural Assets”

Table 3.10 lists the problems related to the strategic axis of "Sustainable and Resilient Settlements".

STRATEGIC AXIS 4. Sustainable and resilient settlements

Goals	Key Issues in the Study area
Goal 4.1. Reducing disaster risks	The general risk of the study area in terms of disaster hazards, especially earthquakes and urban floods
	The population and industry functions are concentrated along the fault line, and especially the North Anatolian fault zone, which has a very high earthquake risk, is a region where major earthquake events have been experienced in the last 70 years
	Inadequate geological studies and micro-zoning studies in settlements with high earthquake risk, even if they are not on the fault line
Goal 4.2. Creating a livable and healthy built environment	Migration and population growth, unplanned construction, and existing unhealthy building stock
	Pollution of water and soil resources due to urbanization, industrialization, and lack of control (domestic and industrial wastewater discharged without treatment)
	The existing industry is increasingly being a part of the city centers, leaving cities to deal with population, logistics, security, transportation, and many other infrastructure issues
	Inequalities between settlements in terms of quality of life
	Environmental impacts of industrial activities in unplanned industrial areas and urban working areas without residential use, and irregular urbanization around unplanned industrial areas
	Deficiencies and imbalances in basic amenities such as urban open and green spaces, educational and health facilities, urban administrative units, cultural, social, and religious facilities, student dormitories, which determine the quality of life in cities
	Failure to implement a qualified infrastructure on time due to rapid population growth, the inadequacy of urban equipment, and insufficient consideration of disaster preparedness, quality, universal design, authenticity, aesthetics architectural concerns in housing and other building stocks
	Unplanned urban development of areas due to increasing migration and population as well as infrastructure deficiencies and decrease in quality of life due to population agglomeration in certain regions
	Multi-story buildings and unplanned development that disrupt the structure and silhouette, especially in certain provinces
	Weakness of sea and city communication
	Inadequate pedestrian and bicycle paths
Goal 4.3. Protecting rural identity	Rural population loss
	Rural population aging
	The disappearance of the original rural structure and architecture, especially in settlements with high population growth and/or tourism
	Neighborhoods with a rural structure are planned with the perspective of an urban land-use plan and lose their original structure, especially in metropolitan municipalities
Goal 4.4. Reducing the negative effects of climate change	Greenhouse gas emissions resulting from energy production and consumption cause global warming and climate change
	Increasing negative impacts of global climate change and human-induced environmental damages on natural disasters
	Inability to protect forest areas and deforestation problem
	Failure to consider climatic conditions and orientation in urban development areas
	Insufficient awareness of climate change risks and inadequate institutional and societal information on the issue
Goal 4.5. Development of health services	Lack of equal and balanced distribution in health infrastructure
	Inadequacies in accessing emergency health services, especially in rural settlements

Table 3.10 Table of Current Problems Regarding the Strategic Axis of "SA 4. Sustainable and Resilient Settlements

Finally, Table 3.11 lists problems related to the “Social Development and Inclusion” axis, which is the 5th strategic axis.

STRATEGIC AXIS 5. Social development and inclusion

Goals	Key Issues in the Study area
Goal 5.1. Development of human capital	The study area and Turkey in general are below the OECD average in terms of the number of students per classroom and teachers, which are the main indicators of the quality of education
	Lack of vocational and applied education and incompatibility between vocational education and the requirements of the labor market
	In formal education, enrollment rates are not at the desired level, especially in non-compulsory preschool and secondary education, and there is an uneven distribution in the study area in terms of enrollment rates
Goal 5.2. Training a qualified workforce	Skilled workers in relatively medium-sized settlements migrate to large cities such as Istanbul, Ankara, and Bursa
	The region is under strong national and international migratory pressure and unskilled cheap labor comes with migration to the region
	insufficient analysis of the needs in the training of entrepreneurs.
Goal 5.3. Reducing social inequalities and empowering the disadvantaged population	Disparities in socio-economic development and quality of life
	Inadequate activities, places, and practices for women, children, the elderly, and the disabled
	Sexist values and judgments in the social structure prevent women from using their legal rights in the sphere of social life and in their daily life practices, and there is insufficient employment for women and a lack of equal opportunities
	Uneven distribution of unemployment and social exclusion caused by unemployment
	The increase in productivity in the industry does not affect the increase in employment, and global competition forces companies to produce more with less employment.
	Social inequalities, lack of practices and services for disadvantaged groups
	Disabled people have lower enrollment and employment rates than those without disabilities, and higher rates of poverty, health, exposure to violence, and discrimination
Goal 5.4. Managing internal and external migration	The region covers the provinces with the highest immigration and population growth in the country
	Population density and urbanization rates of the majority of provinces are above the country's average
	Problems of irregular construction, social incompatibility, and decrease in quality of life due to immigration

Table 3.11 Table of Current Problems Regarding the Strategic Axis of “ SA 5. Social Development and Inclusion”

3.4. ASSESSMENT

The United Nations Sustainable Development Goals (SDGs) have a new vision for sustainable development that aims to end poverty, promote human prosperity and well-being, and protect the environment by 2030. In line with achieving this vision by 2030, 17 goals and 169 targets were set. The SDGs, grouped under 17 titles, consist of the following:

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

inclusive institutions at all levels

- Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

The 11th Development Plan aims to strengthen the economy by prioritizing the industrial sector and establishing a stable export-based growth model that emphasizes competitiveness, production and efficiency, and innovation. Productivity, innovation, and competitiveness in production are among the MSDSF targets. In addition to the emphasis on the industry in the document, agriculture, tourism, and the defense industry were also identified as priority areas for development. In line with the axis of livable environment and the rule of law, the aim is to develop nature-conscious, people-oriented, fair, and accessible residential areas with a high quality of life, especially in light of current problems such as rapid urbanization, population growth, climate change, natural disasters, and environmental problems. In addition, applications for smart cities are emphasized. The analysis of spatial precautionary decisions for the Marmara Region emphasizes the development of integrated transportation and logistics systems in the region, the development of railroads and ports, the provision of industrial connections in certain regions, the priority promotion of vocational training to support the automotive industry in Kocaeli, Istanbul, Bursa, and Sakarya, the development of cruise tourism in Istanbul, and the transformation of Çanakkale into a historical open-air museum. In addition, much attention is paid to urban transformation studies and disaster action plans, especially in Istanbul. Finally, special attention is paid to the formulation of climate action plans for all regions.

MSDSF contributes directly or indirectly to all SDGs.

Both the global priorities of the SDGs in the context of sustainability and the goals of the 11th Development Plan led to the shaping of the MSDSF.

In this context, the strategic axes and targets of the MSDSF related to the SDGs and the 11th Development Plan, as well as the number of projects proposed accordingly, are provided in Table 3.12.

In addition, “SDG 11: Sustainable Cities and Communities”, is placed at the center of the MSDSF. SDG 11 aims to develop inclusive and sustainable urbanization and capacity building for participatory, integrated, and sustainable settlement planning and management, and to support positive economic, so-

cial, and environmental linkages between urban, peri-urban, and rural areas by strengthening national and regional development planning in all countries by 2030. In this context, the strategic axes and targets of the MSDSF related to the sub-targets of SDG 11, as well as the number of projects proposed accordingly, are provided in Table 3.13.

UN Sustainable Development Goals	The Targets of the Development Plan
Goal 3: Good Health and Well-being; Goal 11: Sustainable Cities and Communities	2.1. Stable and strong economy; 2.4. Livable cities, sustainable environment
Goal 9: Industry, Innovation and Infrastructure; Goal 11: Sustainable Cities and Communities	
Goal 11: Sustainable Cities and Communities	
Goal 3: Good Health and Well-being; Goal 9: Industry, Innovation and Infrastructure; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action; Goal 14: Life Below Water; Goal 15: Life on Land; Goal 17: Partnership for the Goals	
Goal 8: Decent Work and Economic Growth; Goal 9: Industry, Innovation and Infrastructure; Goal 12: Responsible Consumption and Production	2.1. Stable and strong economy; 2.2 Competitive production and productivity; 2.3. Qualified people, strong society; 2.4. Livable cities, sustainable environment
Goal 12: Responsible Consumption and Production,	
Goal 8: Decent Work and Economic Growth; Goal 9: Industry, Innovation and Infrastructure; Goal 12: Responsible Consumption and Production	
Goal 1: No Poverty; Goal 2: Zero Hunger; Goal 10: Reduced Inequalities; Goal 11: Sustainable Cities and Communities; Goal 12: Responsible Consumption and Production	
Goal 2: Zero Hunger; Goal 3: Good Health and Well-being; Goal 6: Clean Water and Sanitation; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action; Goal 14: Life Below Water; Goal 15: Life on Land	2.1. Stable and strong economy; 2.4. Livable cities, sustainable environment
Goal 3: Good Health and Well-being; Goal 6: Clean Water and Sanitation; Goal 7: Affordable and Clean Energy; Goal 9: Industry, Innovation and Infrastructure; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action; Goal 14: Life Below Water; Goal 15: Life on Land	
Goal 11: Sustainable Cities and Communities	
Goal 3: Good Health and Well-being; Goal 7: Affordable and Clean Energy; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action	
Goal 3: Good Health and Well-being; Goal 11: Sustainable Cities and Communities	2.1. Stable and strong economy; 2.3. Qualified people, strong society; 2.4. Livable cities, sustainable environment
Goal 3: Good Health and Well-being; Goal 6: Clean Water and Sanitation; Goal 7: Affordable and Clean Energy; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action	
Goal 1: No Poverty; Goal 2: Zero Hunger; Goal 10: Reduced Inequalities; Goal 11: Sustainable Cities and Communities; Goal 12: Responsible Consumption and Production	
Goal 2: Zero Hunger; Goal 3: Good Health and Well-being; Goal 6: Clean Water and Sanitation; Goal 7: Affordable and Clean Energy; Goal 11: Sustainable Cities and Communities; Goal 13: Climate Action; Goal 14: Life Below Water; Goal 15: Life on Land	
Goal 3: Good Health and Well-being; Goal 11: Sustainable Cities and Communities	
Goal 1: No Poverty; Goal 4: Quality Education; Goal 8: Decent Work and Economic Growth; Goal 9: Industry, Innovation and Infrastructure; Goal 10: Reduced Inequalities; Goal 11: Sustainable Cities and Communities; Goal 16: Peace, Justice, and Strong Institutions	2.1. Stable and strong economy; 2.2. Competitive production and productivity; 2.3. Qualified people, strong society; 2.4. Livable cities, sustainable environment; 2.5. Rule of law, democratization and good governance
Goal 1: No Poverty; Goal 4: Quality Education; Goal 8: Decent Work and Economic Growth; Goal 9: Industry, Innovation and Infrastructure; Goal 10: Reduced Inequalities; Goal 11: Sustainable Cities and Communities	
Goal 1: No Poverty; Goal 4: Quality Education; Goal 10: Reduced Inequalities Goal 11: Sustainable Cities and Communities; Goal 16: Peace, Justice, and Strong Institutions; Goal 17: Partnerships for the Goals	
Goal 1: No Poverty; Goal 10: Reduced Inequalities; Goal 11: Goal 16: Peace, Justice, and Strong Institutions	

Table 3.12 The Strategic Axes and Targets of the MSDSF related to the UN Sustainable Development Goals and the 11th Development Plan

MSDSF Strategic Axes	MSDSF Goals	Number of Projects
SE1	Goal 1.1 Ensuring speed and security in transportation and access	5
	Goal 1.2. Creation of a widespread and complementary logistics network	4 (3+1)
	Goal 1.3. Development of cultural routes and tourism network	2
	Goal 1.4. Development of local, national and global collaborations in urban management and environmental protection	6 (1+5)
SE2	Goal 2.1. Increasing the production of high-tech products/services for international markets and creating qualified added value	2
	Goal 2.2. Increasing efficiency in production	3
	Goal 2.3 Development of knowledge-intensive and innovative production focal points	3 (2+1)
	Goal 2.4. Supporting rural development	3
SE3	Goal 3.1. Protection and restoration of the ecosystem	4
	Goal 3.2. Development of environmental infrastructure	12
	Goal 3.3. Preservation of cultural heritage	3 (1+2)
	Goal 3.4. Expanding the use of renewable energy sources	13
SE4	Goal 4.1. Reducing disaster risks	3 (1+2)
	Goal 4.2. Creating a livable and healthy built environment	7 (1+6)
	Goal 4.3. Protecting rural identity	3 (1+2)
	Goal 4.4. Reducing the negative effects of climate change	9 (7+2)
	Goal 4.5. Development of health services	1
SE5	Goal 5.1. Development of human capital	6 (5+1)
	Goal 5.2. Training a qualified workforce	3 (1+2)
	Goal 5.3. Reducing social inequalities and empowering the disadvantaged population	4 (2+2)
	Goal 5.4. Managing internal and external migration	2 (1+1)

Table 3.12 The Strategic Axes and Targets of the MSDSF related to the UN Sustainable Development Goals and the 11th Development Plan [5]

[5]In the Number of Projects column, the number outside the parenthesis indicates the total number of projects related to the relevant target, the first number in the parenthesis indicates the number of main projects related to the target, and the second number indicates the number of supporting projects related to the target.

UN SDG 11: Sustainable Cities and Communities
11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
11.4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries; 11.a. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
11.a. 11.a. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
11.b. By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
11.4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
11.5. By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries; 11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
11.a. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
11.b. By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
11.5. By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries;
11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
11.a. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
11.b. By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster risk reduction 2015–2030, holistic disaster risk management at all levels
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

Table 3.13 The Strategic Axes and Targets of the MSDSF related to the SDG 11

MSDSF Strategic Axes	MSDSF Goals	Number of Projects
SA1. Strong local collaboration and networks	Goal 1.1 Ensuring speed and security in transportation and access	5
	Goal 1.2. Creation of a widespread and complementary logistics network	4 (3+1)
	Goal 1.3. Development of cultural routes and tourism network	2
	Goal 1.4. Development of local, national and global collaborations in urban management and environmental protection	6 (1+5)
SE2. Productivity in production, innovation and global competition	Goal 2.4. Supporting rural development	2
SE3. Natural and cultural assets	Goal 3.1. Protection and restoration of the ecosystem	4
	Goal 3.2. Development of environmental infrastructure	12
	Goal 3.3. Preservation of cultural heritage	3 (1+2)
	Goal 3.4. Expanding the use of renewable energy sources	13
SE4. Sustainable and resilient settlements	Goal 4.1. Reducing disaster risks	3 (1+2)
	Goal 4.2. Creating a livable and healthy built environment	7 (1+6)
	Goal 4.3. Protecting rural identity	3 (1+2)
	Goal 4.4. Reducing the negative effects of climate change	9 (7+2)
	Goal 4.5. Development of health services	1
SE5. Social development and inclusion	Goal 5.1. Development of human capital	6 (5+1)
	Goal 5.2. Training a qualified workforce	3 (1+2)
	Goal 5.3. Reducing social inequalities and empowering the disadvantaged population	4 (2+2)
	Goal 5.4. Managing internal and external migration	2 (1+1)

Table 3.13 The Strategic Axes and Targets of the MSDSF related to the SDG 11

APPENDICIES

APPENDIX 1: Field Research Form 1 (Questions Asked to the Governor's Office, Municipality, District Governor's Office, and Special Provincial Administrations)

MARMARA REGION SPATIAL DEVELOPMENT STRATEGIC FRAMEWORK Document Project Issues Information Form
Name of the Institution/Organization Making Investment or Project
The First and Last Names of the Person Filling the Form
Appointment of the Person Filling the Form in the Organization
Telephone
E-mail

ISSUES	
1st critical issue in the region	
2nd critical issue in the region	
3rd critical issue in the region	
4th critical issue in the region	
5th critical issue in the region	

APPENDIX 2: Field Research Form-2 (Questions Asked to NGOs and Professional Chambers)

MARMARA REGION SPATIAL DEVELOPMENT STRATEGIC FRAMEWORK Document Project Issues-Potentials Information Form	
The Type of the Legal Entity Filling the Form	
Institution Full Name	
First and Last Names of the Person Filling the Form	
Appointment of the Person Filling the Form in the Institution	
E-mail	

Activity Description	
Scope of the activity	

Institutions and other associations/foundations/ non-governmental organizations/chambers that cooperate at the local level	
Institutions and other associations/foundations/ non-governmental organizations/chambers that cooperate at the regional level	
Institutions and other associations/foundations/ non-governmental organizations/chambers that cooperate at the national level	
Institutions and other associations/foundations/ non-governmental organizations/chambers that cooperate at the international level	

The 1st important problem that you think must be solved in the field of economy for the development of the Marmara Region / the level of the problem	
The 2nd important problem that you think must be solved in the field of economy for the development of the Marmara Region / the level of the problem	
The 3rd important problem that you think must be solved in the field of economy for the development of the Marmara Region / the level of the problem	

The 1st important problem that you think must be solved in the field of urbanization for the development of the Marmara Region / the level of the problem	
The 2nd important problem that you think must be solved in the field of urbanization for the development of the Marmara Region / the level of the problem	
The 3rd important problem that you think must be solved in the field of urbanization for the development of the Marmara Region / the level of the problem	

The 1st important problem that you think must be solved in the social field for the development of the Marmara Region / the level of the problem	
The 2nd important problem that you think must be solved in the social field for the development of the Marmara Region / the level of the problem	
The 3rd important problem that you think must be solved in the social field for the development of the Marmara Region / the level of the problem	

What are the potentials that should be evaluated first for the development of the Marmara Region?	

APPENDIX 3: Field Research Form-3 (Form Filled Online by Actors at Workshops)

MARMARA REGION SPATIAL DEVELOPMENT STRATEGIC FRAMEWORK Document Project Information Form	
Name of the Institution/Organization Making Investment or Project	
First and Last Names of the Person Filling the Form	

Project No	1	2	3	4	5	Other
Full name of the project						
What problem will the project solve?						
Province(s)/district(s) where the project is located						
Project start year						
Project completion year						
The approximate sum of the project (TL)						
The final status of the project						
Indicate the Concepts That You Deem Necessary for the Vision of the MSDSF						

Full name of the project	Write down the full name of the project (current or projected).
What problem will the project solve?	A project can solve more than one problem; write down the most basic/important problem.
Province(s)/district(s) where the project is located	Which province/district does the project cover? In some cases, there may be more than one associated district. In this case, list the districts with a comma between them.
The approximate sum of the project (TL)	Enter the approximate sum of the project.
The final status of the project	Please enter information about the latest status of the project defined in the list.

APPENDIX-4 Project Evaluation Form

Code and Name of the Project

LEVEL OF IMPORTANCE	**LOW**	**MEDIUM**	**HIGH**
Possibility of solving an urgent and critical problem			
Dependency on other ongoing or upcoming projects (the need to progress in coordination)			
The existence of opportunities and triggers for its achievement (funds, requests, laws, entrepreneurs, covid-19, climate change, technological opportunities, etc.)			
Dependency of its launch on the completion of other (currently ongoing) projects			
The extent to which it can be accomplished after further research, as resources increase, as demand increases, or when a trigger point is reached			

COOPERATION	**LOW**	**MEDIUM**	**HIGH**
International Institutions, Foundations, and Organizations			
Centralized Management			
Local Authority			
NGOs			
Private Sector			

BENEFIT	**LOW**	**MEDIUM**	**HIGH**
Creating qualified added value			
Creating employment			
Reducing the negative effects of climate change			
Protection and restoration of the ecosystem			
Disaster risk reduction			
Safe food production and supply			
Creating a livable and healthy built environment			
Fast and safe transportation and access			
Creation of a widespread and complementary logistics network			
Facilitating access to technology			
Reducing social inequalities			
Advanced technology product/service production			
Other (please explain)			

TIME (TERM)	**SHORT-TERM (5 YEARS)**	**EXCEEDING SHORT-TERM (OVER 5 YEARS)**
Duration of the project		

APPENDIX-5 Project Sheet

Name of the Strategic Axis / Name of the Target	
Code and Name of the Project	
Purpose	
Basis	
Issues	
Level Of Importance	
Expected Benefit	
Time	
Stakeholders	
Project Supervisor	

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