TR22 SOUTH MARMARA REGION

DRAFT REGIONAL PLAN

2014-2023

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ABBREVIATIONS

EU	European Union
ABPRS	Address Based Population Registration System
R&D	Research and Development
BPUMSEM	Balıkesir Province Union of Municipalities for Sustainable Environmental Management
BALO	Great Anatolia Logistics Organization
NSRD	National Strategy for Regional Development
BİÇAY	Solid Wastes Association of Biga Çan Yenice & Surrounding Districts
MoSIT	Ministry of Science, Industry and Technology
ICTA	Information and Communications Technologies Authority
EP	Environmental Plan
EIA	Environmental Impact Assessment
ÇEVKO	Environmental Protection and Packaging Waste Recovery and Recycling Foundation
MoEUP	Ministry of Environment and Urban Planning
DHMİ	General Directorate of State Airports Authority
STO	State Planning Organization
GİMDES	Food and Supplies Auditing and Certification Foundation
SMDA	South Marmara Development Agency
GVA	Gross Value Added
GDP	Gross Domestic Product
MoFAL	Ministry of Food, Agriculture and Livestock
SWOT	Strengths-Weaknesses, Opportunities-Threats
NUTS	Nomenclature of Territorial Units for Statistics
GDH	General Directorate of Highways
MoD	Ministry of Development
SME	Small and Medium Sized Enterprises

KOSGEB	Small and Medium Sized Enterprises Development and Support Organization
SIA	Small Industrial Area
MTA	General Directorate of Mineral Research and Exploration
OECD	Organization for Economic Co-operation and Development
TDP	Tenth Development Plan
OIZ	Organized Industrial Zone
SEDI	Socio-Economic Development Index
SSI	Social Security Institution
NGO	Non-Governmental Organization
TBB	Banks Association of Turkey
TCDD	State Railways of Republic of Turkey
ARDSI	Agriculture and Rural Development Support Institution
TOBB	Union of Chambers and Commodity Exchanges of Turkey
TPI	Turkish Patent Institute
TSI	Turkish Standards Institute
TTGV	Technology Development Foundation of Turkey
TÜBİTAK	Scientific and Technological Research Council of Turkey
TMRF	Turkish Marine Research Foundation
TurkStat	Turkish Statistical Institute
UNESCO	United Nations Educational, Scientific and Cultural Organization
MOTMAC	Ministry of Transport, Maritime Affairs and Communications
UEDAŞ	Uludağ Electric Distribution Inc.
URAK	International Competitiveness Researches Institute

TR22 South Marmara Regional Plan for 2014-2023

VISION

A SOUTH MARMARA with more qualified labor, competitiveness and viability.

DEVELOPMENT AXIS 1
QUALITY SOCIAL LIFE AND QUALIFIED PEOPLE

PRIORITIES

1. Developing Human Resources
2. Developing entrepreneurship
3. Enhencing Employment and Improving Income Distribution
4. Social Entegration and Enriching Social Opportunities
5. Improving the Quality of Educational and Health Services

DEVELOPMENT AXIS 2
VIABLE ENVIRONMENT AND SPACES

PRIORITIES

1. Structuring the Industry on Appropriate Areas in a Planned Manner
2. Protecting the Environmental Values and Improving the Infrastructure
3. Increasing the Energy Efficiency and Region-Wide Dissemination of Cleaner Production Applications
4. Managing Natural Risk Factors
5. Improving Physical and Social Environment in Urban Areas
6. Strengthening Logistics, Transport and Communication Networks

DEVELOPMENT AXIS 3
STRONG ECONOMY AND COMPETITIVE SECTORS

PRIORITIES

1. Improving Efficiency and Quality in Agriculture
2. Developing Tourism
3. Improving Institutional Infrastructure of Enterprises
4. Improving R&D, Renovation and Branding
5. Improving Foreign Trade
6. Improving OIZs to Satisfy Needs of the Industry
7. Improving the Renewable Energy Sector

SECTION ONE

1 EXECUTIVE SUMMARY

The globalization is the concept that best defines our age in terms of economy, social structure, intergovernmental or human relations. Globalization brings a fast-paced, large-scaled change that exceeds time and space. Given the impacts of the globalization, a sustainable development can only be achieved through a participative planning approach which can keep pace with the change. Regional Plan for TR22 sub-region (NUTS-2) for 2014-2023 period is based on this approach and aims to place the region ahead of its both national and international competitors.

In order to ensure effective implementation of regional development policies and EU harmonization, Turkey has been divided in 26 Level 2 Sub-regions under Nomenclature of Territorial Units for Statistics. As a Level 2 Sub-region, TR22 South Marmara Region comprises Balıkesir (TR221) and Çanakkale (TR222) provinces. The sub-region covers a total surface area of 24.423,16 km^2 and includes 31 districts and 1457 villages. According to Address Based Population Registration System Data for 2012, population of TR22 South Marmara Region is 1.654.422.

The population structure is one of the main elements that represent the socio-economic profile of any region. As with the population in all over the Country, regional population is getting old. Proximity of TR22 Region to metropolitan cities like İstanbul, İzmir and Bursa provinces is the main reason for the immigration. Having strong industrial infrastructure, these metropolitan cities attract especially younger individuals between ages of 20-24 for various reasons such as seeking employment opportunities. Furthermore, due to improved access to services, immigration from rural areas to urban areas is a common phenomenon in the sub-region. In the course of this planning period, works focused on elderly welfare, healthy aging and improving social co-operation will be carried out. Socio-cultural activities will be enhanced and employment opportunities will be improved to prevent immigration of the young individuals.

Even though the TR22 region reflects a better profile than the Turkey’s average in terms of infant mortality rate and maternal health, its health infrastructure and number of specialized

medical practitioners lag behind. Given that the number of districts and villages within the sub-region is high, the health services need to be improved in rural areas. The practices that facilitate and expand the access to health services in overall region will be improved and increased.

Compared to the national average, TR22 South Marmara Region ranks high up in the educational indicators ratings. On lastest graduated school levels, the graduates from primary schools take the largest share while only a total of 10 percent of the population is graduated from university or higher level of education. New educational institutions, faculties and departments will be established in the Provinces of the Region to serve leading sectors in the region.

In the region, unemployment rate always remains below the national average. In parallel with the nation-wide improvement, the unemployment rate has reduced from 8 percent to 5.4 percent in the period of 2010-2012. One of rather important reasons for the relatively lower unemployment rate in the region is the high population in rural areas. Labor force participation rate of the Region, for the period of 2004-2009, was higher than the national average. However, starting from the year 2010, the figures have decreased below the national levels. With a 45.2 percent unregistered employment rate, the Region is above the national average of 42.1 percent. Co-operation opportunities will be enhanced between the relevant institutions and organizations to facilitate developing qualified workforce and to satisfy skilled labor needs of the sectors.

In terms of income distribution, the Region reflects a better standing than the national levels. Regional poverty rate of 11.6 percent in the year 2011 is well below the Turkish average. Employment-enhancing policies will be employed to fight against poverty and necessary steps will be taken to train and develop skilled workforce to improve human capital.

The most prominent feature of regional economy of TR22 Region is the fact that the share of the agriculture sector is 20 percent which is well higher than those of overall average of Turkey at 9.5 percent. Crop and livestock production values gradually increase in each year. In terms of per capita production values; Balıkesir is above national average in livestock production rates and Çanakkale is above national average in crop production rates. Milk and dairy products, white meat and egg are the essential products in animal husbandry sector

while olives for oil, tomatoes for sauce, paprika, nectarine, paddy and wheat are the leading crop products. A total of 22.3 percent of arable lands in Balıkesir province are irrigated while the same figure for Çanakkale province is 23.6 percent. One of the most significant factors that pull down the agricultural production efficiency is the low average figures in terms of land surface sizes per enterprise and scattered structure of the private fields. In this planning period, focus will be on land consolidation works, conversion to pressurized irrigation systems, improving organization of the farmers, organic agriculture and good agricultural practices and increasing certified seed usage and production.

Main animal products of the region are; milk, egg, broiler meat and red meat. 95 percent of bovine livestock of the region are culture races with higher milk yields or hybrids thereof. A total of 15.1 percent of broiler produced in all over Turkey in the year 2011 was produced in the Region. On the other hand, a total of 6.9 percent of laying hens are located in the Region. In this planning period, such efforts on expanding the size of animal enterprises, improvement and protection of meadows and pastures, increasing production of roughage which is one of the key process inputs in animal husbandry, environment-friendly animal production practices and evaluation of animal waste will be supported. Having coast at Marmara and Aegean Seas, the Region presents a significant potential for fishery products. Policies for improving realization of this potential will be established.

The share of TR22 Region's industry in the GVA is 21 percent which lags behind the national average at 28 percent. The regional industry undisputedly relies on agriculture and processing natural resources. Low- and medium-tech manufacturing industry is common in the TR22 Region. Manufacturing industry aggregates on wood, food, base metal and non-metallic other minerals' sectors. Leading industrial products of the Region are: flour, tomato paste, canned food, vegetable oil, fertilizer, margarine, processed fruits and vegetables, legumes, processed white-red meat, olive and olive oil, milk and dairy products, frozen and dried food, seafood, mineral products especially boron and marble, ceramic products, cement, rebar and construction steel. In Balıkesir Province, small sized enterprises are dominant while Çanakkale Province hosts the largest scrap iron-steel processing factory of Turkey, a canned fish factory and ceramic plants. In this planning period such works on attracting investments for prioritized sectors and potential sectors will be carried out. Such studies and works like clustering will be supported to enhance inter-corporate collaboration and to improve the

renovating capacities of private enterprises. R&D studies will be further supported and a better cooperation between universities and industry will be provided. Operations in the technology zones will be commenced after finalization of the infrastructure works.

According to the new incentives system regulations, Çanakkale Province is located on 2nd region while Balıkesir Province is in 3rd Region. Gökçeada and Bozcaada Districts, however, are located on 6th Region. Such incentives like income tax withholding allowance, social security premium support, tax exemption, tax immunity, land allocation and interest rate support will provide significant contributions for increasing investments in TR22 Region.

TR22 Region present a viable and strong alternative to over-sized industrial centers due to its ever-growing logistics and development potential as well as proximity to large industrials cities like İstanbul, Bursa and İzmir. The Region is a significant candidate for assuming the industry that will be moved from Istanbul (decentralization). Relocation of industries to the Region will provide a high level contribution to Regional Development. In this respect, occupancy of OIZs will be encouraged and their infrastructure will be improved and also specialized OIZs will be put into operation. Nevertheless, necessary planning will be duly exhausted to minimize any negative impact of industry on natural resources or on historical and cultural heritage.

The Region is blessed with rich and various mineral reserves. The underground resources of the region includes boron, marble, kaolin, bentonite, halloysite, magnesite, clay, perlite, talc, wollastonite, gold, silver, copper, zinc, antimony, manganese, iron, chromium, mercury, zeolite and lignite. However, in general, the minerals are exported as unprocessed or semi-processed raw-materials. Such measures to ensure that the minerals are processed in the Region thus becoming products with higher added values will be encouraged. This being said, protection-utilization balance will also be considered, monitored and maintained to ensure protection of natural, historical and cultural values of the Region.

TR22 Region has many advantages concerning environmental friendly renewable energy resources. The region is rich in wind, geothermal sources and amount of biomass that can be converted into biogas. In the planning period, awareness campaigns on energy efficiency and clean generation will be organized in public and industrial establishments and power economy will be encouraged. Investments in renewable power generation systems will also be

encouraged and special educational departments providing studies on renewable energy will be established in secondary and higher educational institutions.

The share of service sector in the GVA is 57.8 percent in the region, which is below national average at 64 percent. Having an important role within the economic structure, the service sector is led by construction and tourism in the Region. In recent years, construction sector showed a rapid increase in the Region. The region is located on 1st degree earthquake zone. Therefore, urban transformation practices for the purpose of improving existing infrastructure inventory as well as new housing projects in conformity with economic and social needs and sensitive to the environment.

The tourism corridor of TR22 Region offers cultural tourism development zones as well as health and thermal tourism centers. Region's tourism potential is well established since it has long coasts to Aegean and Marmara Seas, natural sands and blue-flag decorated beaches, a rich ecosystem hosting many endemic species, natural and historical national parks, traditional and cultural values as well as mythological heritage. Gökçeada and Bozcaada Districts (Islands) are strategically important due to their geopolitical location. These districts are defined as priority locations in the incentives system. In this planning period, such efforts to improve promoting the touristic assets, to establish adequate accommodation facilities, to provide qualified personnel and to develop new and effective policies concerning second houses will be carried out. Furthermore, supports will be provided for such projects for improving Region's transport networks to serve better to the tourism sector.

Due to its location TR22 Region has strategic importance concerning transportation networks. For this reason, the region constitutes the center of many regional, intra-regional and international transportation projects. Bursa-Balıkesir-İzmir section of TEM Highway network is located in the Region. High scale public investments like Gebze-Orhangazi-İzmir and Kınalı-Tekirdağ-Çanakkale-Balıkesir Highway projects present capacities to significantly affect the developmental dynamics of the Region. The fact that the Region has coasts to Aegean and Marmara Seas, increases the significance of the Region in national and international freight and passenger transportation. The Region is also a transit center for the railway connecting Ankara and İzmir. TR22 South Marmara Region hosts four airports used for civil aviation purposes. These are: Balıkesir Airport, Balıkesir Koca Seyit Airport, Çanakkale Airport and Gökçeada Airport. In order to provide additional momentum to

regional development, such projects aimed to remedy infrastructural deficiencies of land, railway, air and maritime transportation facilities and their modernization will be supported. On such areas with effective highway access that are appropriately distant from city centers, logistics centers with sufficient capacity to satisfy needs of the professionals shall be established. Such areas especially in proximity of industrial zones and those with freight potential shall be re-structured in line with technological and economic developments.

Northern parts of the region host industrial activities while the south-western parts host tourism activities and south-eastern parts host mining activities. Agriculture and agricultural industry have widespread influence over the whole of the Region. The Region interacts with İstanbul, İzmir and Bursa. Within the 2014-2023 planning period, special attention will be paid environmental impacts of the economic and social development with a view to the protection of the natural resources. Practices will be implemented to ensure coordination between the plans of the other development agencies and other institutions in the Region. During preparation of the TR22 South Marmara Regional Plan, due consideration was given to the effects of globalization on national and regional scale. Through shared wisdom meetings, sector workshops and district workshops, the knowledge and experiences of the stakeholders in the Region were also used in preparation of the Plan. The vision of the Region is determined to be *"A SOUTH MARMARA with more qualified labor, competitiveness and viability"*. The development axes to achieve this vision are divided under three aspects: "Quality Social Life and Qualified People, Viable Environment and Spaces, Strong Economy and Competitive Sectors.

The main scenario of the Regional Plan is based on a multi-centered development model. The economic development of South Marmara is designed to arise from tourism and industrial sectors without losing sight of the agricultural and environmental characteristics of the region. In this respect, it is aimed to improve innovation and foreign trade capacity of the existing sectors and develop new high-tech sectors such as renewable energy technologies.

2 PLANNING APPROACH AND METHODOLOGY

TR22 South Marmara Regional Plan is aimed to develop targets, aims and strategies for social and economic development of the Region and to ensure achievement of 2023 Vision of the Region. Regional Plan is a policy paper that is designed to contribute national and Regional development through effective use of resources. During preparation of the TR22 South Marmara Regional Plan, due consideration was given to the effects of globalization as well as other social and economic changes on national and regional scale and assessments were made for the Region. Within the Scope of Strengths-Weaknesses and Opportunities-Threats (SWOT) Study such strategies that will best serve to the 2023 Scenario of the Regional Plan were identified by determination of strengths, weaknesses, opportunities and threats concerning the Region.

The vision of the Region is determined to be "A SOUTH MARMARA with more qualified labor, competitiveness and viability". In order to realize this vision, the following principles will apply during plan implementation phase:

- Adoption of a people-oriented approach,
- Due consideration of the ideas of stakeholders in realization of the vision by never losing sight of participatory principle,
- Protection of environment and nature for the sake of future generations,
- Ensuring that the Plan is embraced by all actors,
- A competitive market, a democratic civil society, transparency, accountability, efficiency and citizen-satisfaction-oriented public service are the principles that will take precedence,
- An integrated approach for economic, social and cultural aspects of development,
- Establishment of a joint public, private and civil society spirit for common future.

One of the most significant priorities for the Planning phase was to reflect the knowledge and experiences of the stakeholders in the Region in the Plan. In order to mobilize the internal potential, such studies like sector analyses, examination, strategy and plan designing were conducted in the Region. In preparation processes quality participation was ensured through workshops, institutional meetings, surveys, meetings and use of technological facilities. In

detailed planning and coordination of the preparations, Special Regional Plan Preparation Guide was used. This Guide provides the process planning for works.

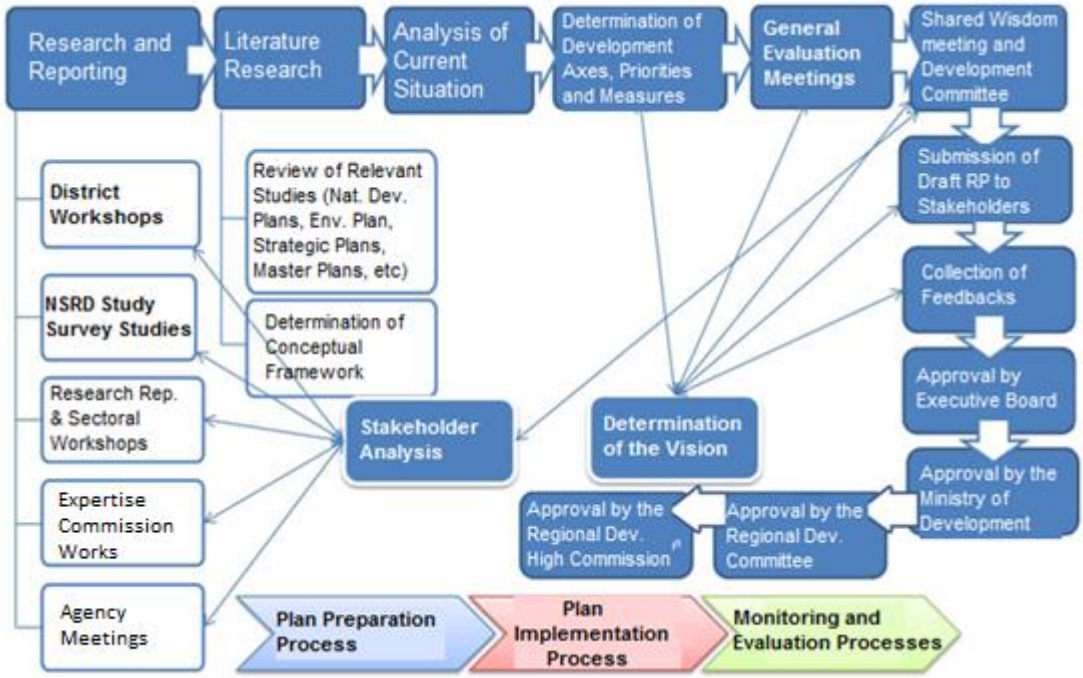

Figure 1: Regional Plan Processes
Source: SMDA Office Work, 2013

Analysis and Management of Stakeholders

One of the most significant steps of the preparation works of the Regional Plan was the Stakeholder Analysis. It is important to determine the institutions and organizations that may contribute to the Planning processes and that may be affected by the outputs of the plan and include them to the preparation process. Furthermore, inclusion of stakeholders such as different people and institutions in creation of strategies to mobilize natural, human and financial resources is essential to ensure participation in implementation phase of the Plan. In Stakeholder Analyses, activities of the stakeholders were examined to anticipate their impacts on and contributions to the Plan implementation process and the activities of the Agency. The cooperation as well as information and opinion exchanges that took place during preparation process may be deemed as the very first steps of contribution strategy practices.

Secondary Data

In addition to the researches, analyses and strategy studies prepared by the Agency, other materials such as up-to-date reports, periodicals, books, statistical data, bulletins and analyses prepared by various institutions and organizations for Turkey and for TR22 South Marmara Region were also used through secondary data analyses and literature research. Reliability of these secondary data was ensured by obtaining such data only from respective institutions and organizations.

Research, Analysis and Strategy Studies

The researches, analyses and strategy studies for preparation of 2014-2023 Regional Plan were carried out by the Agency in 2011-2013 period by co-operation with Agency experts, other development agencies, local institutions, academics from within and out of the Region. In this framework many researches were carried out and these researches provided direct input to the Plan. Exapmles of such research studies include: Bozcaada-Gökçeada Assessment Report, Social Policies of Development Agencies Since From Their Foundation, SMDA Approach to Mobilization of Istanbul's Industry, Review of Mineral Potential of Balıkesir Province, On the Way to Become a Metropolis: Balıkesir, Proceedings of Symposium: Halal Certificate for Export Purposes, Population Dynamics ofTR22 South Marmara Region, Çanakkale &Balıkesir Provinces Tourism Workshops' Reports, TR22 South Marmara Region OIZ Research, TR22 South Marmara Region Agriculture and Livestock Research, TR22 South Marmara Region Renewable Energy Research, TR22 South Marmara Region Social Structure Research. In other words, the significance of each study is reflected in its contribution to the Regional Plan.

Bozcaada-Gökçeada Assessment Report; has been prepared for establishing development efforts and strategies for the Islands which present strategic importance at both regional and national scale. A work group was established within the Agency for the studies to be carried out on the Islands. The work group conducted meetings with opinion leaders in the field. After field visits, national and international studies on these two islands were examined along with the policies applied to other Aegean Islands. In the light of the draft report, various strategies were developed for solution of the main problems as determined. The findings were also communicated with the stakeholders and relevant institutions. The strategies were tested

and submitted to public opinion through the meetings with locals of the islands and surveys were conducted in the second field visits.

Social Policies of Development Agencies since from Their Foundation; The report was prepared as a joint-work of working group consisting experts from EBSDA, ANKARADA, MBSDA, İDA and SMDA. The data used in this study were collected from social policies survey forms from 26 agencies. Social policies implemented and/or followed by the development agencies, their co-operations and suggestions regarding improving the same are the main subjects of the study.

SMDA Approach to Mobilization of Istanbul's Industry; The study focuses on mobilization of Istanbul's industry as a discussion for presenting a solution strategy for the existing problems of İstanbul metropolitan city. Having important natural, cultural and historical resources, the Region is under the pressure of heavy industrial threats. The Report aims to establish control points in the aspects of spatial development, sustainable development and employment to turn such threats into opportunities through strategies.

Review of Mineral Potential of Balıkesir Province: Aim of this study is to examine the mineral potential of Balıkesir Province which has very rich underground resources. In order to establish the position of the province within the sector, firstly, the global and national situations of the sector were examined. Furthermore new strategies for effective realization of mineral potential were also defined. Prepared by the experts from the Agency, the study was sent to the stakeholders and relevant authorities for further improvement of the strategy effectiveness.

Proceedings of Symposium: Halal Certificate for Export Purposes: A series of Symposiums were held on the subject of Halal Certificate to contribute the Regional Export. The data presented in these symposiums were compiled. Additionally, further symposiums were held in Balıkesir, Bandırma and Biga to raise awareness in the subject.

Population Dynamics of TR22 South Marmara Region, The Study was prepared according to the Address Based Population Registration System (ABPRS) results for the year 2011 by TurkStat. The breakdown of population figures is given under three items; total population of

settlements, age groups and province registered. The data obtained from these items were collected in a report and further updated by 2012 figures.

Çanakkale and Balıkesir Tourism Workshops' Reports, Deemed as an important sector for the Region, the problems of the Tourism were laid on table with the stakeholders. The study was prepared to determine these problems and to develop suggestions. In this respect, the information gathered in two workshops organized in Çanakkale and Balıkesir provinces were compiled in two reports.

TR22 South Marmara Region OIZ Research is aimed to assess the legal and practical aspects of OIZ development, to lay down the current situation and competitiveness levels as well as exportation capacities of enterprises in the OIZs. Within the scope of this report, a survey was conducted with the companies located in the OIZs and extensive meetings were held with the Directorates of OIZs. Moreover, co-operation with Provincial Directorates of Science, Industry and Technology was established in Balıkesir and Çanakkale so as to determine the current situation and planned development strategies.

TR22 South Marmara Region Agriculture and Livestock Research presents the current situation of agricultural sector of the Region and provides suggestions for solution of existing problems. Within the scope of this research, such workshops were organized where the public agencies, private sector actors, agricultural organizations and non-governmental organizations (NGO) engaged in agricultural sector came together to discuss the current situation, primary problems and possible solutions. The data obtained from these workshops were used to prepare farmer surveys. 402 farmers were interviewed with these survey forms. Additionally, lengthy meetings were held with representatives of the sector and experts on the subject.

TR22 South Marmara Region Renewable Energy Research; the scope of this study includes an analysis of the current situation in regional renewable energy sector and presentation of new strategies to improve contribution by this sector to Regional and National Economy. A

TR22 South Marmara Region Social Structure Research; The study addresses the social structure of the Region. A total number of 2300 people participated in the survey carried out

within the scope of this research. This tool enabled development of new solutions and strategies to accelerate to the social development of the Region.

TDP-NSRD Preparation Works, SMDA Final Report, This instrument was prepared to contribute to TDP and NSRD preparations from the perspective of TR22 South Marmara Region. During the Development Committee meeting dated September 5th, 2012, the TDP and NSRD studies were discussed as an agenda item. The study focuses on harmonization of national, regional and local priorities and on spreading the development processes to all sections of the population. To achieve this end, the Agencies shall play a facilitating role to collect opinions of stakeholders. The studies were designed with a view to the Development Priorities and Strategies for Turkey and the Development Priorities and Strategies for TR22 South Marmara Region. An online survey was held between the dates of July 11th – August 31st 2012. Upon examination of the survey results, the development areas were reviewed and further workshops were held to discuss the development priorities and strategies. The experts of the Agency assumed the roles of both moderator and reporter to be able to obtain such transparent and desired data in suitable format in these workshops. The results obtained were firstly assessed by the experts from the Agency and then sent to the stakeholders who attended these studies for comments. The Final Report was discussed in September Meeting of the Executive Board and submitted to the Ministry of Development.

Moreover, District Workshops were held to determine the internal potentials of the districts, the functional sub-districts and necessary research and analysis subjects for the 2014-2023 Planning Period. The workshops were held in 27 districts with 1577 participants and strategies were developed with local stakeholders. Furthermore, 29 meetings were held with institutions/organizations on various subjects and 3 sector workshops were organized in agriculture-animal husbandry, tourism and construction sectors.

This Planning period spans over a longer period of time compared to the previous Plan. Therefore maximum attention and care was given to ensure that the Plan reflects the characteristics of the Region. In order to achieve this goal, the main development sectors of the Region were determined through due studies. In order to access a wide stakeholder basis, online surveys were held on the internet site of the Agency.

Shared Wisdom Meetings; Shared Wisdom Meetings were held to ensure participation by local stakeholders in the preparation of the Plan, to provide joint-solutions for common problems, to ensure that the Regional Plan is embraced by the stakeholders and to determine common targets for the Region. Public sector, private sector and non-governmental organizations from the Region showed an extensive participation to this meeting.

Within the scope of Shared Wisdom Meetings, firstly group works were conducted with concerned local stakeholders. As a result of this study; strategies on specific subjects like common problems, obstacles, solutions and implementation suggestions were determined.

SECTION TWO

3 GENERAL OVERVIEW OF THE REGION

3.1 History

Shared history of Balıkesir and Çanakkale Provinces goes as back as thousands of years to the ancient civilizations lived in the Region. First settlements started around 6.000 years before. The known history of the Region was started with Troy. Balıkesir and Çanakkale Provinces, which constitute the TR22 Region, offers the most significant historical, touristic and cultural values. Mount Ida which was the venue of may mythological events, located between the two provinces and laying along the north coast of the Gulf of Edremit. According to Iliad and Odysseus by Homer, the Troy War was led from the peak of the Ida Mountain.[1] With a history of 4.000 years, Troy itself, is listed in the World Heritage List of UNESCO and is considered to be one of the most renown archeological sites of the world.[2] Excavations revealed a 9 layered structure. Therefore the Ancient Troy gives important clues about the historical events and constitutes a point of reference for other archeological sites in Europe and in Aegean Region. [3]

Located on one of the most strategically significant points on Aegean Marine Trade Routes, the city functioned as a passage point for the civilizations ruling the Region. Starting from the Bronze Age and even after its destruction in Trojan War, the city hosted Hellenistic, Persian and Roman periods. Urban civilization started in Çanakkale Province and continued in other ancient cities such as Adramytteion, Antandros, Kyzikos, Daskyleion established in Balıkesir Province of the Region 4.000 years ago. Respectively, Greek city-states, Persians, Romans and Byzantines ruled over the Region which then conquered by Turks in 11th Century. Seljuk Empire started first Turkish Rule over the Region which then Karesi Principality took over until Ottoman Age on mid 14th Century.

Gallipoli Battles have important place in the history of the Region. On 1915, Entente Powers (Allied States of WWI) sought to break through the Dardanelles. Considering the military forces of Ottomans in Gallipoli Battles, Balıkesir had the second largest number of enlistees in the battle. Sergeant Yahya of Ezine and Corporal Seyit of Havran are both important heroes of this war. Given that the Region was the venue of many actions during the War of

Independence, the 1915-1922 period plays an important role in the history of the Region. The very first front of the War of Independence was set in Ayvalık District and Kuvayi Milliye (Turkish National Forces) was founded upon Balıkesir Congress.

3.2 Geography and Main Characteristics of the Region

Located on west of Turkey, between Marmara and Aegean Geographical Regions, TR22 South Marmara Region includes Balıkesir and Çanakkale Provinces. Having coasts to both Marmara and Aegean Seas, the Region is surrounded by TR21 Edirne, Tekirdağ, Kırklareli on north; TR41 Bursa, Eskişehir, Bilecik on west and TR33 Afyon, Manisa, Kütahya, Uşak and TR31 İzmir Regions on south. Hosting Dardanelles, one of two straits of Turkey, the Region has lands on both Asian and European Continents.

Figure 2: Geographical Location of TR22 Region
Source: SMDA Office Work, 2013.

Having a surface area of 24.423,16 km^{2}the Region hosts 31 Districts[1] and 1457 villages. The Region covers many islands. These are: Gökçeada, Bozcaada and Ayvalık Islands in Aegean Sea and Marmara, Avşa, Paşalimanı and Ekinlik Islands in Marmara Sea. The Region features characteristics of different climates. South-eastern parts of the Region are dominated by continental climate while a milder climate affects the northern, coastal parts. Gulf of Edremit and Aegean Islands are under Mediterranean Climate. The highest elevation points in the Region are on Mount Ida (1774 m) and Alaçam Mountains (1615 m). Many plains are

[1] Pursuant to the Law numbered 6360, this number is increased to 32 which will become effective after the next local elections.

scattered throughout the Region. The Region is very rich in water resources. Most significant streams of the region are: Susurluk, Gönen, Simav, Sarıçay, Tuzla and Menderes Rivers.

According to Address Based Population Registration System Data for 2013, population of TR22 South Marmara Region is 1.665.089. At its current population size, the Region ranks 20th among 26 Level 2 Regions. The distribution of population in the Region is as follows: Balıkesir's population is 1.162.761 and Çanakkale's population is 502.328. A total of 87.2 percent of population live in urban areas (provincial and district centers) while remaining 12.8 percent live in rural areas (villages and towns). The Districts with relatively higher population of the Region are: Balıkesir Central District[2], Bandırma, Edremit and Çanakkale Central District. The districts with a population below 20.000 are: Balya, Savaştepe, Marmara, Gömeç, Bozcaada, Gökçeada and Eceabat.

As a historical crossroads of trade, the Marmara Region is the management center of transportation organizations of the country. Use of its transportation variety and frequency along with its hinterland increases the geopolitical importance of Marmara Region.

South Marmara Region has an important role in management of transportation arguments in its hinterland. Hosting many international land routes connecting Trace to Anatolia, Eurasian Transport Links and Economic Cooperation Transport Network, as well as Maritime Routes connecting Black Sea to Aegean Sea and land, railway and air routes connecting Marmara Region to Aegean and Central Anatolian Regions, the region connects important touristic, commercial and industrial centers.

When the existing transportation network of the Region is examined, it is seen that the Region is located on an important position between important centers of highway network like Istanbul, Izmir and Bursa which facilitates the interaction between these provinces. The Region connects the regions specialized in services and industrial sectors thus plays an important role in logistics sector. Accordingly, the region has an infrastructure where the goods' and services' flows pass, managed and directed.

[2]Pursuant to the Law numbered 6360, Central District of Balıkesir has been divided into two districts starting from the Local Elections on March 30th, 2014; these two new districts are named Altıeylül District and Karesi District.

Given that the Region is located on transition point of Marmara and Aegean Seas and that it has Dardanelles and ever-developing ports, significance of maritime transportation and development of relevant sectors will increase in the near-future. Maritime transportation and carriage as well as the other sectors affected thereof have important impacts on the spatial development tendency of South Marmara Region.

Even though the Region hosts four civil airports, air transportation is not quite developed in the Region due its easy accessibility and transportation facilities provided by its hinterland. Nonetheless, especially during summer season, when the touristic activities increase, the air transportation increases in the Region. Even mere existence of these infrastructural facilities is important for the Region.

Important tourism centers are located in the Region and in surrounding area which increases the importance of Region's role in transport sector. Many natural and historical touristic centers are located on the coastal line starting from Istanbul to south through Gelibolu (Gallipoli) Peninsula to Gulf of Edremit and Izmir up until Mediterranean region which caused development of land transport. Land transport axes from Central Anatolia Region to Western Anatolia are scattered to coastal areas.

According to Socio-Economic Development of Provinces and Regions Research by the Ministry of Development on 2011 data, Çanakkale ranks 14th with an index value of 0.5999 while Balıkesir takes 22nd place with an index value of 0.4764. TR22 South Marmara Region, on the other hand, ranks 10th among 26 Level 2 Region. It is seen that the place of the Region did not change in the ranking according to 2003 study.

According to Intra-Provincial Competitiveness Index (2009-2010)[3] which measures the level of competitiveness of the provinces, Balıkesir Province is the 23rd most competitive province in Turkey with 22.39 index points while Çanakkale is 33rd most competitive with 19.25 index points. When the sub-indexes, which constitute the competitive strength of the Region, are examined: Balıkesir has a 48.46 percent of Accessibility Index Share while Çanakkale has 35.47 percent. Balıkesir also has 23.09 percent in Human Resource and Life Quality Index while Çanakkale has 23.95. In Commercial Ability and Production Potential Index, Balıkesir has 16.86 percent and Çanakkale has 17.31 percent; In Branding Abilities and Innovation

[3] URAK, Intra-Provincial Competitiveness Index 2009-2010.

Index Balıkesir and Çanakkale have, respectively, 1.16 and 0.27 percents. On the other hand, according to the results of 2009 competitiveness index study by Economy and Foreign Politics Research Center (EDAM)[4]; Balıkesir takes 18th and Çanakkale takes 11th place among 81 provinces.

Agriculture and animal husbandry, agro-industry, tourism and mining are the most significant sectors in Regional economy. Regarding the renewable energy sector the Region presents a high potential. The geographical formations affected many factors from economy to culture, from transport to means of living of the Region. The agriculture and animal husbandry are well spread to whole of the Region while industry is developed around Bandırma-Biga Districts at the north of the Region. While Gulf of Edremit is prominent in tourism, mining and forestry activities are important means of livelihood in inner parts.

The Region is quite rich in natural and historical assets. Two natural and two historical national parks are located in the Region. Additionally protection areas are also very common in the Region. Moreover, the Region presents fast-paced developments in industrial and mineral sectors. In order to ensure implementation of sustainable development, the protection-utilization balance must be maintained and the investments important to the Regional economy must be realized in such a way that will prevent any harm to ecological balance.

Main agricultural products of the Region are: sunflower, paddy, corn silage, paprika and tomatoes for sauce, nectarine, peach, almond, olive and olive oil and animal products: white and red meat, egg, milk and dairy products. The Regional industry is based in organized industrial zones and small industrial sites. Leading sectors are: food industry, agricultural machinery, mining, forestry and wood products, cement and iron-steel industry. Even though non-integrated throughout the Region, large-scale enterprises play an important role in Regional economy.

The Region is very rich in renewable energy resources such as wind, solar, geothermal and biogas power. Power generation activities are carried out in many districts. Production of machinery and equipment used in renewable energy sector becomes widespread. Having coasts to two seas, the Region presents significant potential for coastal tourism, historical and cultural, thermal and eco-tourism.

[4] Economy and Foreign Politics Research Center, A Competitiveness Index for Turkey, 2009.

4 SOCIAL STRUCTURE

4.1 Population

4.1.1 Structure and Distribution of the Population

Population is the most important factor for revealing the social structure and observing the changes. The absolute size of the population, its distribution by age and gender, urban and rural settlements provide significant data concerning social structure of any region.

According to 2013 ABPRS data, total population of Turkey is 76.667.864. With 1.665.089 inhabitants, constituting 2.17 percent, TR22 South Marmara Region, ranks 20th among 26 Level 2 Regions. Population of Balıkesir is 1.162.761 which is %1.52 of the National Population. Çanakkale Population, however, is only 502.328 constituting mere %0.66 of national population. The districts with sizable populations are: Balıkesir Central District, Çanakkale Central District, Bandırma and Edremit. In terms of population size Ayvalık and Burhaniye are also noticeable districts.

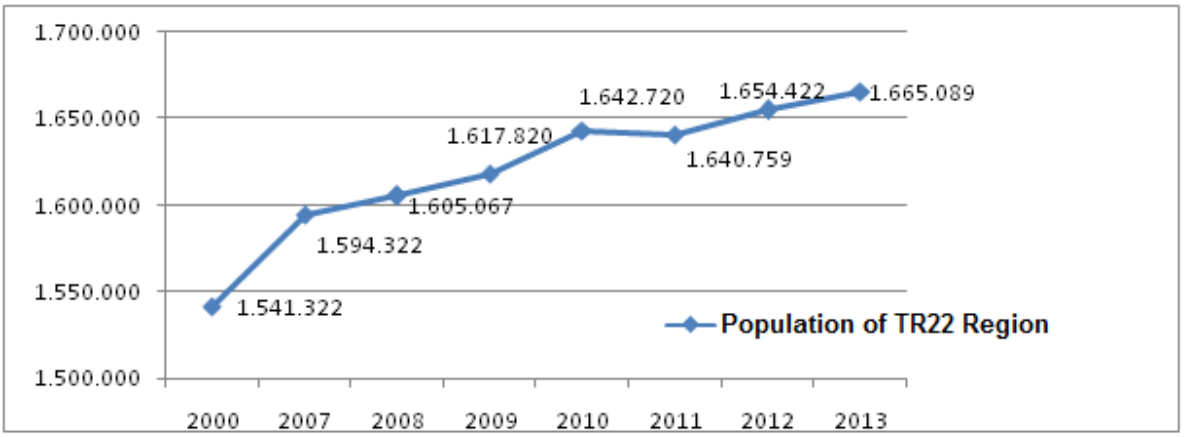

Figure 3: Population of TR22 Region by Years (Number of People)
Source: TurkStat, 2000-2013.

Population of Turkey increased from 67.803.927 to 76.667.864 by a %13.07 between the years; as it can be seen from the Figure 3, the Regional population increased from 1.541.322 to 1.665.089 by % 8.03 in the same period. According to these data, the population growth of the Region rate is lower than the population growth rate of Turkey.

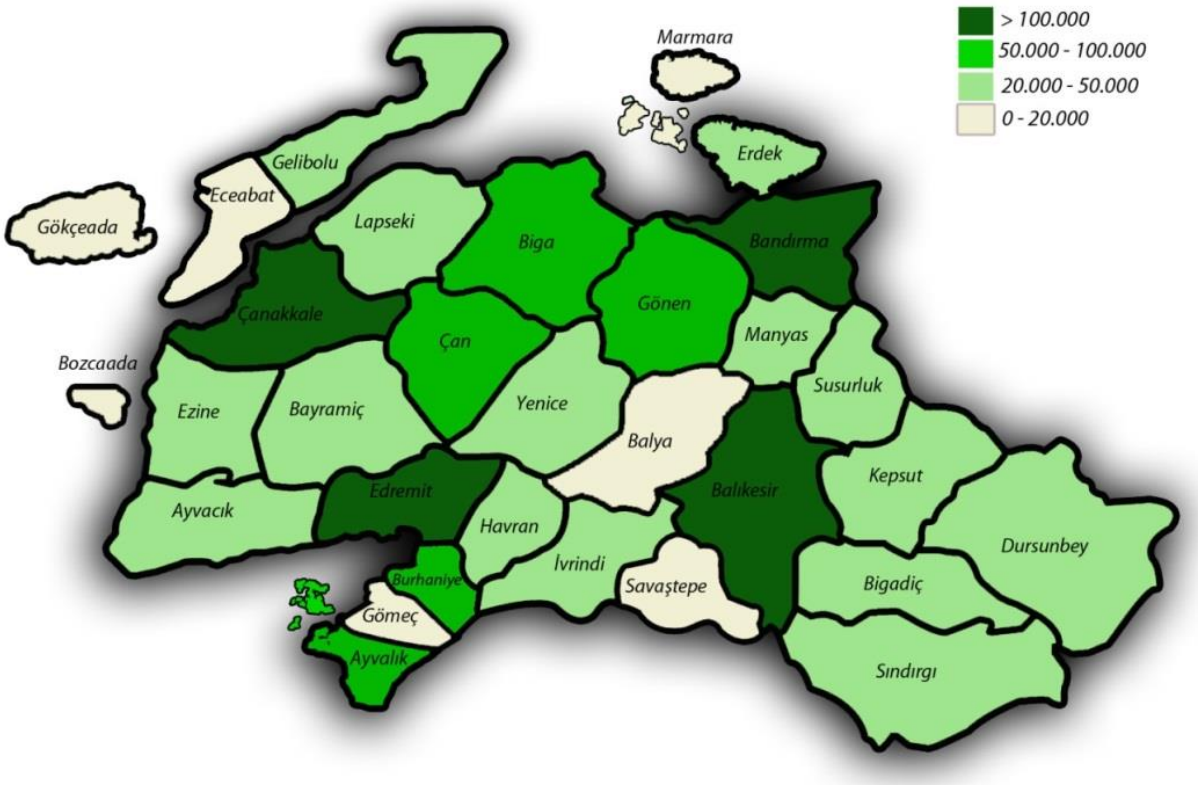

Figure 4: District Populations of TR22 Region (Number of People)
Source: Produced from TurkStat 2013 data.

As it is shown on Figure 4, there are 4 settlement areas in the Region with a population above 100.000. When the district centers are considered, populations of a large part of the Region remain below 50.000. Populations of Gökçeada, Bozcaada, and Marmara Island, Gömeç, Balya and Savaştepe districts are below 20.000 due to underdeveloped transportation, health and industrial facilities. Homogenous distribution of the Population to the Region is one of the most important indicators of regional development. TR22 Region does not present a homogenous distribution.

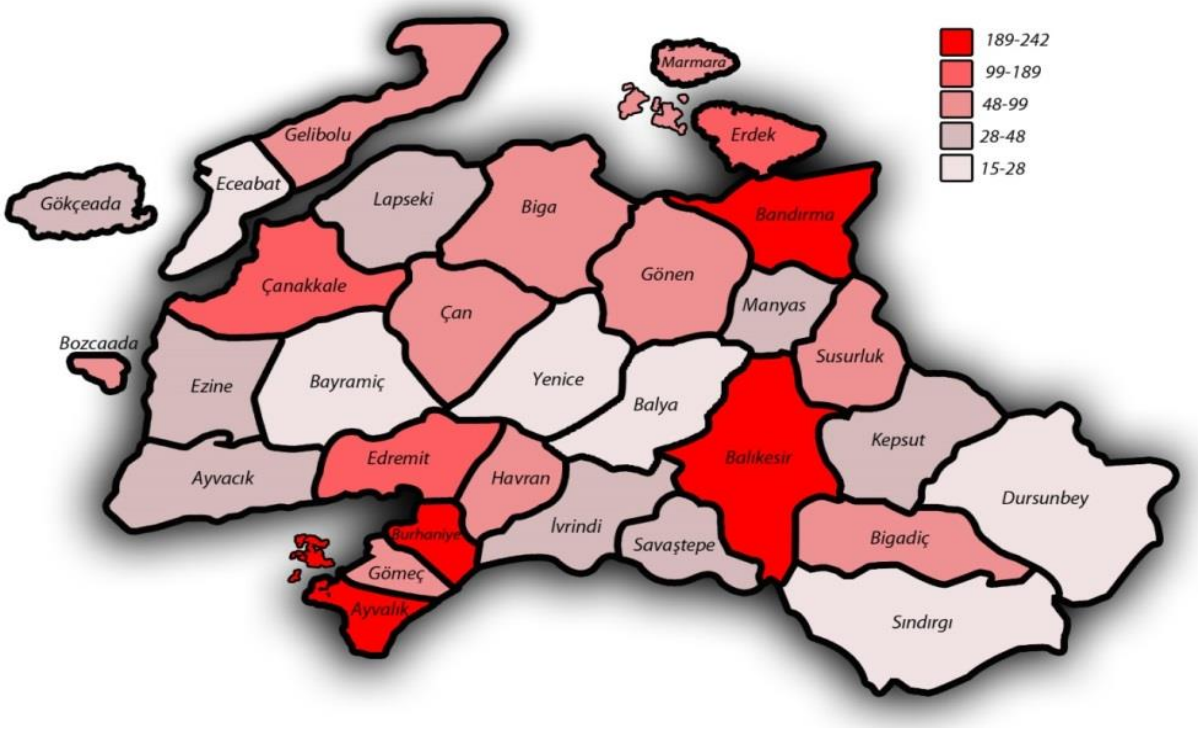

Figure 5: TR22 Region District Population Densities (Population/km²)
Source: Produced from TurkStat 2013 data.

Population density is another important indicator to measure the development status of districts. As it was with the Figure 4, no homogenous distribution is observed in the Figure 5. The settlements with highest population density are: Balıkesir Central District, Bandırma, Ayvalık and Burhaniye which are followed by Çanakkale Central District, Edremit and Erdek.

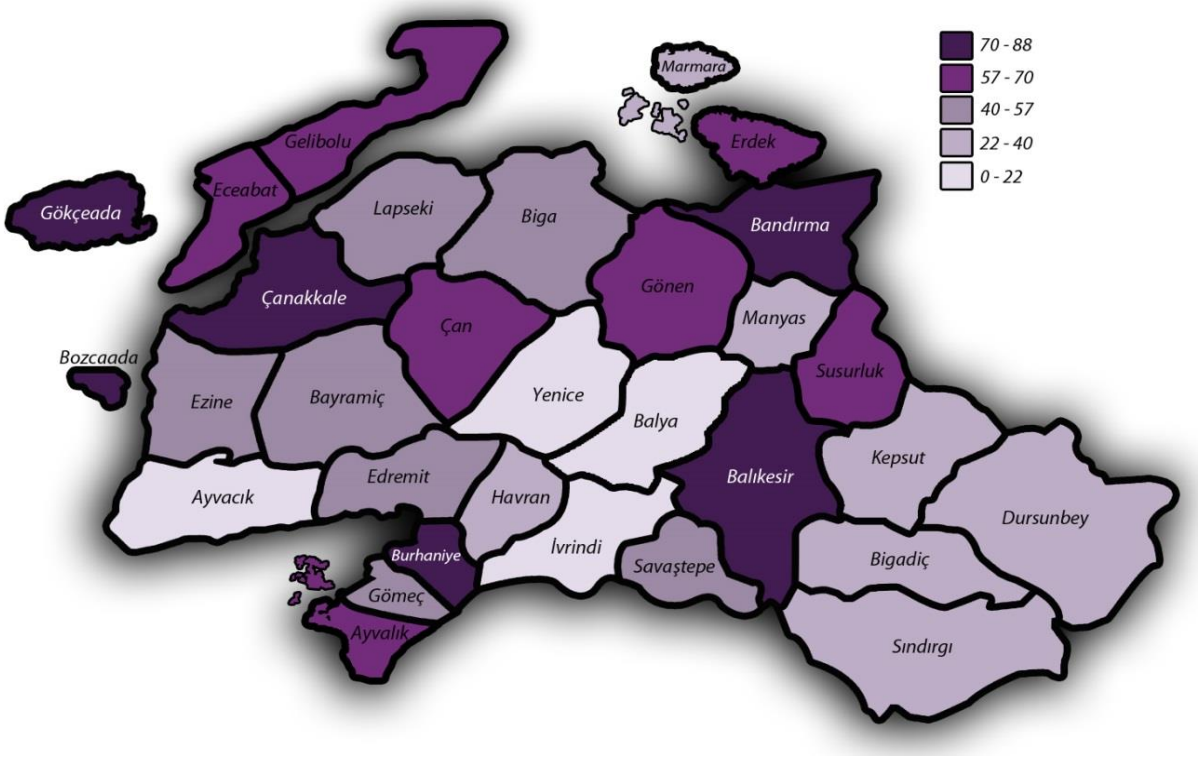

Figure 6: TR22 Region Urban Population Rates by Districts (%)
Source: Produced from TurkStat 2013 data.

Rural population rate of TR22 South Marmara Region well exceeds national average. At national scale, %91.3 of the population live in urban areas (provinces and districts) while only %8.7 live in rural areas (villages and towns). At Regional scale, however, %87.2 of the population live in urban areas (provinces and districts) and%12.8 live in rural areas (villages and towns). The total population as well as ratio of urban population steadily increases in the Region. In the year 2000, the urban population rate was %51.46 which increased to %87.2 by the year 2013.

The districts with highest urban population rates are: Balıkesir Central District, Çanakkale Central District, Bandırma, Burhaniye, Gökçeada and Bozcaada, the latter in fact, does not have any village. In terms of rural population rates, the following districts lead the Region-wide scale: İvrindi, Balya, Kepsut, Manyas, Yenice and Ayvacık.

Figure 7: TR22 Region Population Growth Rates (‰)
Source: Produced from TurkStat 2007-2013 Data.

The Regional population growth rate lags behind the national average. The districts with highest growth rates in the period of 2007 – 2012 are: Çanakkale Central District and Edremit. The districts that showed highest population decline in the same period are: Balya, Sındırgı and Dursunbey. Having a rural population rate well above national average, the Region needs developments in services for rural areas so as to maintain livability. On the other hand, by varying economic activities especially agriculture, in the rural parts, it is aimed to prevent immigration of youth in rural areas as well as to contribute Regional economy.

4.1.2 Demographic Characteristics

In general, population percentage of age group of 0-14 declined in overall Turkey while the number of individuals at 65 years of age or older increased. In parallel to the national figures, the same phenomenon is observed in TR22 Region.

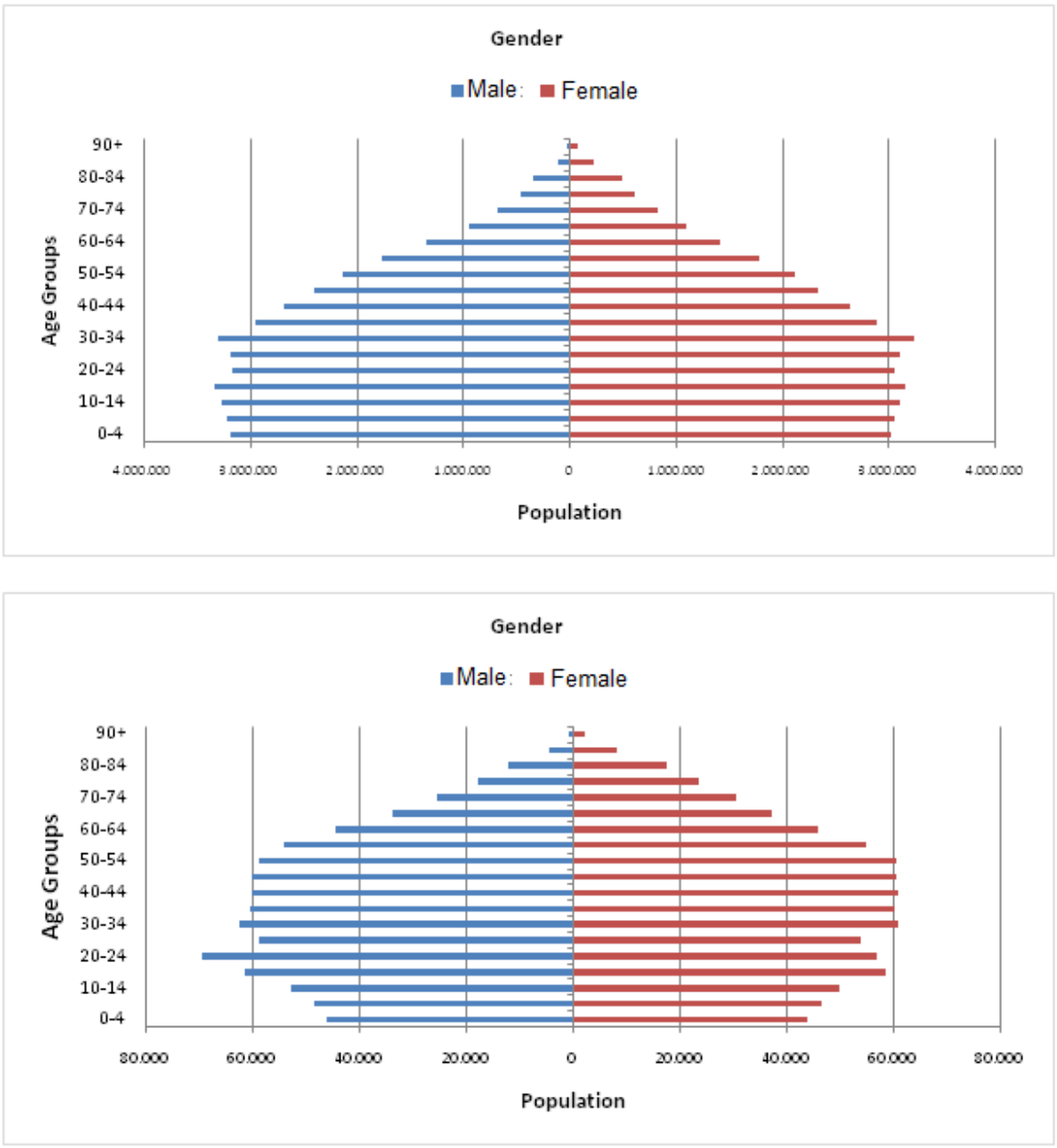

Figure 8: Population Pyramids of Turkey (Upper) and TR22 Region (Lower)
Source: TurkStat, 2013.

When examined in terms of age groups and genders the population pyramids of Turkey and TR22 Region show that the size of age groups older than 30-34 years steadily decreases at nation-wide scale. This tendency is not reflected in the Region. In overall Turkey, the biggest age group is 0-30 years while the largest age group of the Region is 30-55. It is further seen from the figure that the percentage of male individuals within the age group of 20-24 years is distinctly higher. In all age groups on and above 45 years, female population is higher than the male population.

Until the year 2012, mean age in Turkey was 30.1 which increased to 30.4 by 2013. Male mean age is 29.8 and female is 31. With a mean age of 37.7, TR22 South Marmara Region's Provinces, Çanakkale and Balıkesir rank in top three among 81 provinces. In both provinces, female population has a higher mean age than male population. Mean age distribution of Balıkesir Province by districts show that; the youngest district is the Central District and the oldest Balya which was the same in the year 2012. In Çanakkale, the youngest district is Gökçeada and the oldest is Yenice. Considering that the mean age in all Turkey is 30.4, all of the districts of TR22 Region exceeds the national mean age, except for Gökçeada District.

Figure 9: TR22 Region Young Population Dependency Rates (% percent)
Source: Produced from TurkStat 2013 data.

In terms of age dependency rates, TR22 Region shows similar tendency to those of all Turkey. The greater part of the dependent population includes young individuals. Elderly dependency rate of the region is higher while youth dependency rate is lower than national average. In other words, the population size of the Region at age group of 0-14 years is lower than national average while older population size is higher.

Figure 10: TR22 Region Elderly Population Dependency Rates (% Percent)
Source: Produced from TurkStat 2013 data.

The districts of the Region with highest youth dependency rates are: Dursunbey, Havran and Gömeç and the districts with highest elderly dependency rates are Sındırgı, İvrindi, Balya, Manyas, Yenice and Bayramiç.

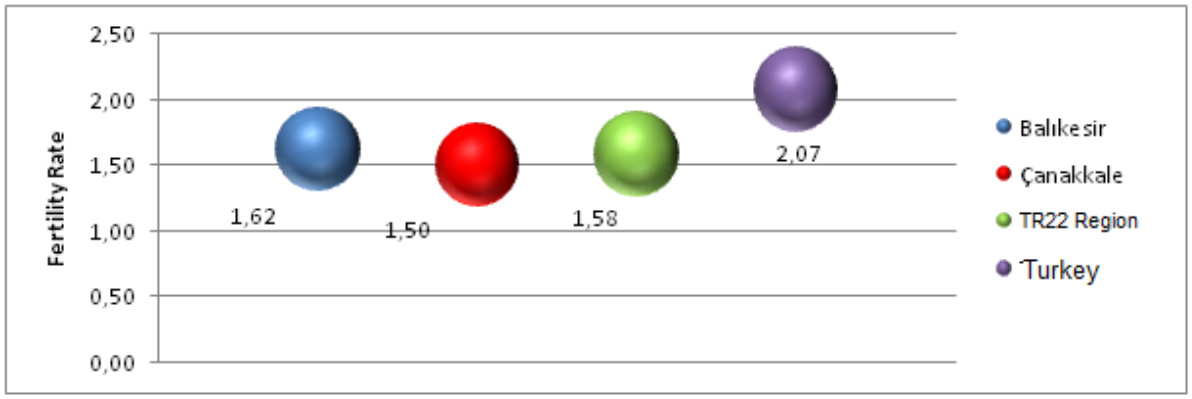

Figure 11: Fertility Rate (Number of child)
Source: Produced from TurkStat 2013 data.

According to total fertility rate data for the year 2013, the figure of children per mother is 2.07 in Turkey and is 1.58 for TR22 Region. The figure further drops in Çanakkale to 1.50. In

the year 2013, infant mortality rate in Turkey was 10.8. Balıkesir Province showed a lower value at 8.14 and Çanakkale Province showed a higher value at 11.43.

4.1.3 Migration

Migration figures, in both received and emigrated number, increased in the period of 2008 – 2013. The immigration and emigration figures were close in the period of 2009-2011 then the difference increased in the period of 2011-2013 and net number of people migrated from the Region increased to 5.550. In the last 5 years period, highest migration interactions occurred with TR10 İstanbul; TR41 Bursa, Eskişehir, Bilecik, TR31 İzmir and TR33 Manisa, Afyon, Uşak, Kütahya Regions.[5]

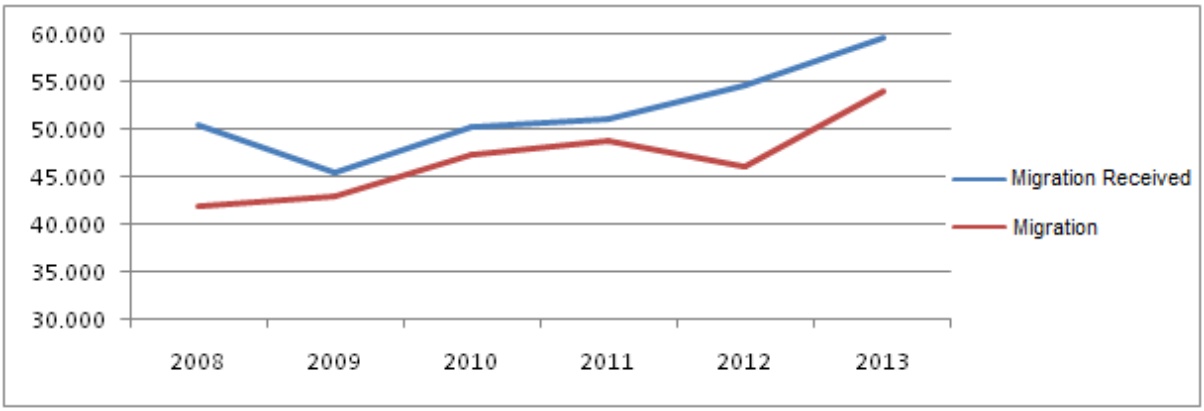

Figure 12: TR22 Region Migration Traffic
Source: TurkStat, 2008-2013.

One of the most important factors for population traffic in the TR22 Region is the fact that the Region is very close to İstanbul, İzmir and Bursa which are very large provinces. The fact that these provinces have better opportunities than TR22 Region especially in services and industry sectors as well as the better university education and job opportunities, lead the younger population, especially those in the age group of 20 – 24 years to turn their faces towards these provinces. Once the educational opportunities as well as industrial and services sectors are improved, it is expected to shift the tables of migration from emigration to immigration.

[5] TÜİK, **Migration Statistics,** http://rapor.tuik.gov.tr/reports/rwservlet?adnksdb2&ENVID=adnksdb2Env&report=wa_adnks_goc_duzey2ara.RDF&p_kod=2&p_duzey1=TR22&p_goc=1&p_yil=2013&p_dil=1&desformat=spreadsheet, 27.05.2014.

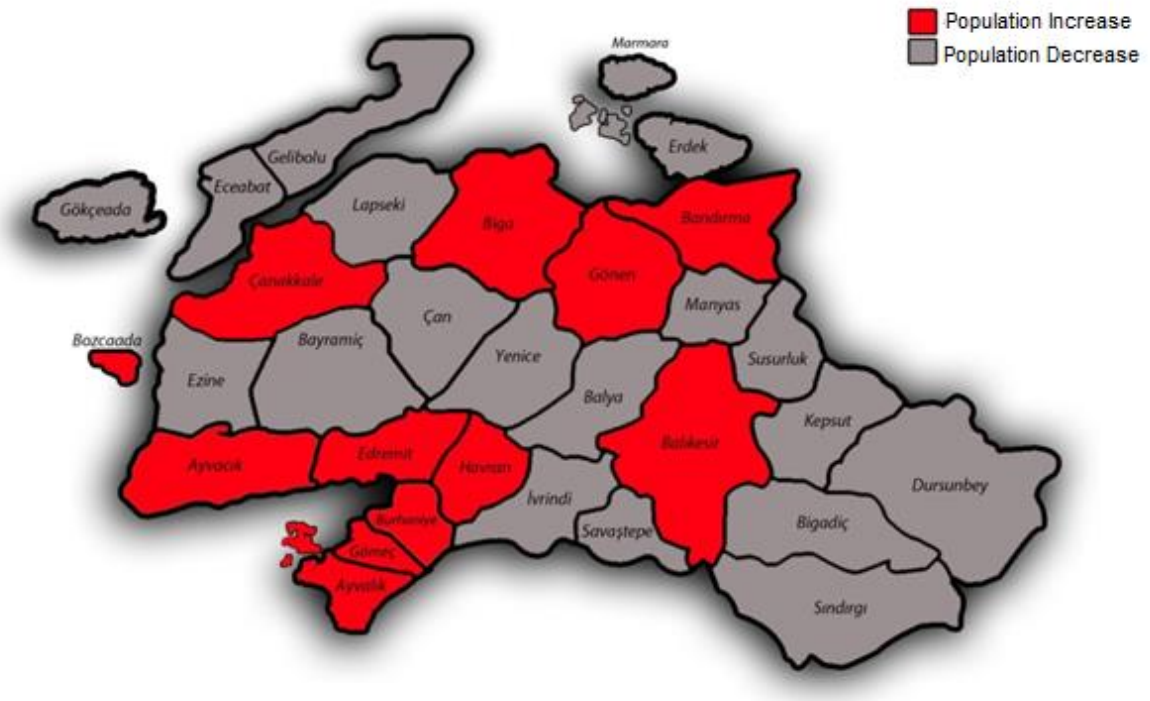

Figure 13: TR22 Region Population Changes in 2007-2013 Period
Source: Produced from TurkStat 2007-2013 Data.

In the 6 years period, population of 12 districts increased and those of 19 districts decreased in TR22 Region. It is seen that the districts with population increase concentrate on central districts and on Gulf of Edremit and northern parts. The population decreased in inner parts of the Region and increased in central, gulf and northern parts yet the total population of the Region did not show significant change which is an indication that the districts with increased population were subjected to immigration rather than emigration. In order to address such problems like difficulty in adapting to the city, unplanned urbanization, ghettoization and to shrink the migration to manageable size, it is needed to close the gap between the centers, the gulf, northern parts and the inner parts through socio-economic policies that will contribute in improving livability and competitiveness of inner parts.

Reduction of intra-regional development differences is not sufficient to prevent emigration of qualified human resource to other regions. It is needed to improve the Region's capacity to be preferred by means of improving not only the quality of higher education and health services but also that of quality job opportunities in services and industry sectors as well as socio-economic and socio-ecologic facilities in whole of the Region including those districts with increasing population.

4.1.4 Population Projections

Population projections are important tools for determining the existing population structure and tendencies and for making predictions for future population structure as a result of these tendencies and finally for developing policies.

It is estimated that population of Turkey will increase by 11 percent to 84.247.088 people by 2023 and to 93.475.575 by 2050.[6] It is further estimated that the population of Turkey will decline starting from 2050 and will be 89.172.088 people by the year 2075 (Figure 14).

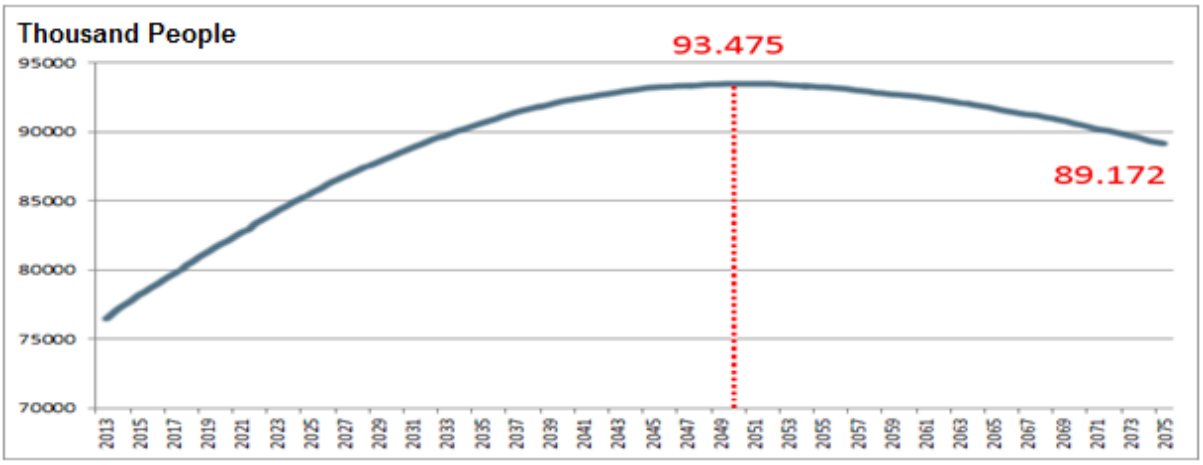

Figure 14: Population Estimates for Turkey (Thousand people)
Source: TurkStat, 2013-2075 estimations.

According to population projections by TurkStat, local population of 60 provinces will increase and those of 21 provinces will decrease in 2023. No changes are expected for the ranking among the four largest cities with biggest population figures: according to estimations, population of İstanbul is 16.6 million; Ankara 5.9 million, İzmir 4.4 million and Bursa 3.1 million.

[6]**Scenario 1:**This is the main scenario used for the projections. In this scenario, fertility rate will decline in the normal process and decrease to 1.65 by the year 2050 after which the fertility rate will start to incline and reach 1.85 by the year 2075.

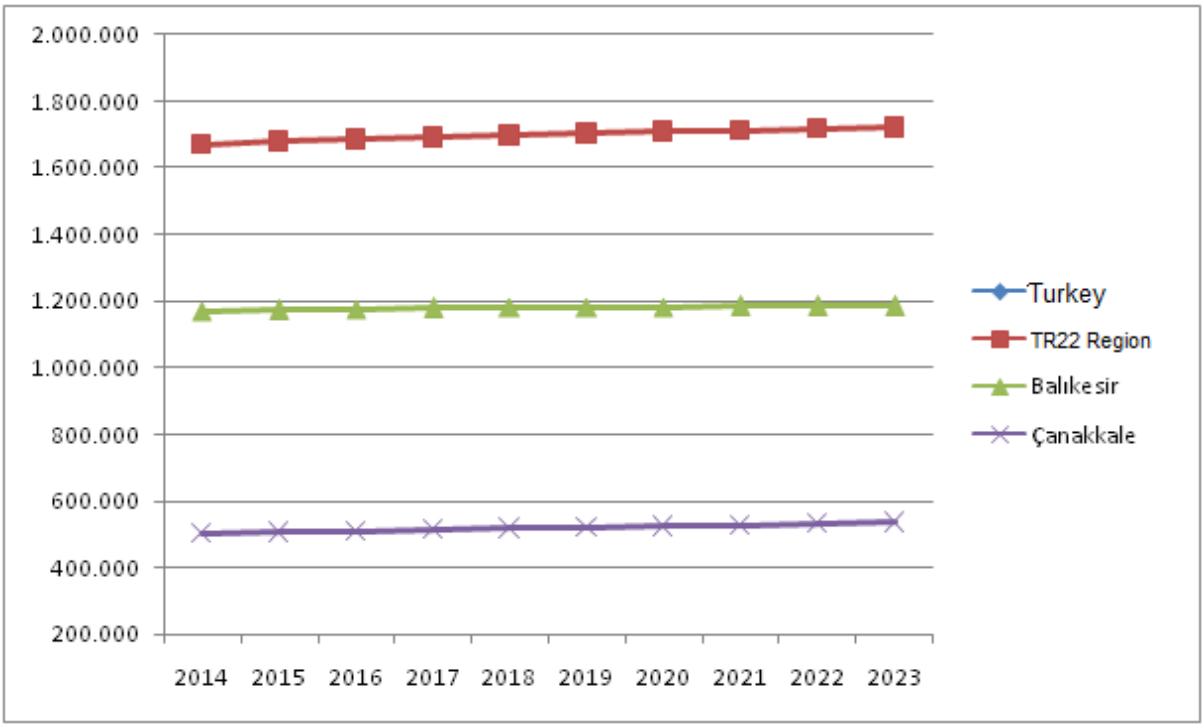

Figure 15: Turkey and TR22 Region Population Estimates for the Period of 2014-2023 (Number of People)
Source: TurkStat, 2013.

It is anticipated that TR22 Region will increase by 4 percent to 1.719.733 and thus will be hosting a 2.03 percent of Turkey's population in the year 2023. It is predicted that Balıkesir will have a population of 1.184.375 and Çanakkale will have a population of 535.358. The annual population growth rates of Balıkesir and Çanakkale are expected to be %0.4 and %0.7 respectively.

Should the current demographical tendencies continue, it is anticipated that the population of Turkey and of the Region will continue to grow older and that the mean age of Turkey, which was 30.4 in the year 2013 will increase to 34 by the year 2023; 42.9 by the year 2050 and; 47.4 by the year 2075. In the year 2013, the mean age of the provinces of the Region was 37.5 and it is calculated that the mean age of Balıkesir will reach 42.1 and that of Çanakkale will reach 40.4 by the year 2023.[7]

[7]TÜİK News Bulletin, 2013

4.2 Health

Social development of any economy is best represented by the health indicators. It cannot be claimed that a region with high individual income is a developed region without a healthy population. For this reason, the data on general health status of individuals and indicators of health service infrastructure and health system's functionality are extremely significant regarding determination of socio-economic development.

4.2.1 Health System Structure

TR22 Region has a total number of 45 hospitals, 30 of which are located in Balıkesir and 15 in Çanakkale Provinces. Balıkesir hosts twenty three state, one university and six private hospitals while Çanakkale has twelve state, one university and two private hospitals. All of the Districts of Balıkesir Province have at least one hospital. Six private hospitals of the province are distributed to larger districts like Central, Edremit and Bandırma. In Çanakkale Province, however, Eceabat and Bozcaada Districts do not have any hospitals while other ten districts have at least one hospital. Private hospitals are located in Central District and Biga District. 3 of the hospitals in Balıkesir and one in Çanakkale are Orthodontic Centers.

According to 2012 TurkStat data the Region has a total number of 4.364 hospital beds. 3038 of these are in Balıkesir and 1.326 are in Çanakkale. In Turkey, there are a total number of 265 hospital beds for each hundred thousand people. The same figure for the region is 264. Balıkesir has 262 hospital beds for each hundred thousand people while Çanakkale has 269. The figure for TR21 Level 2 Region (Tekirdağ, Kırklareli, and Edirne) is 284, for TR41 Level 2 Region (Bursa, Eskişehir, and Bilecik) is 282, for TR31 Level 2 Region (İzmir) is 285. The Region is close to the national average in terms of bed capacity yet lags behind the nearby regions.

The Region especially lacks advanced specialty polyclinics. Among seventy clinic services identified in the Hospital Appointment Center of the Ministry of Health, forty-five clinic services, including commonly needed ones such as allergic illnesses, neonatal care, nuclear medicine, pediatric surgery are lacked in the Region. For this reason, the locals frequently go to hospitals in larger cities like İstanbul, Ankara, İzmir and Bursa seeking such medical services like diagnosis, treatment or surgical operations.

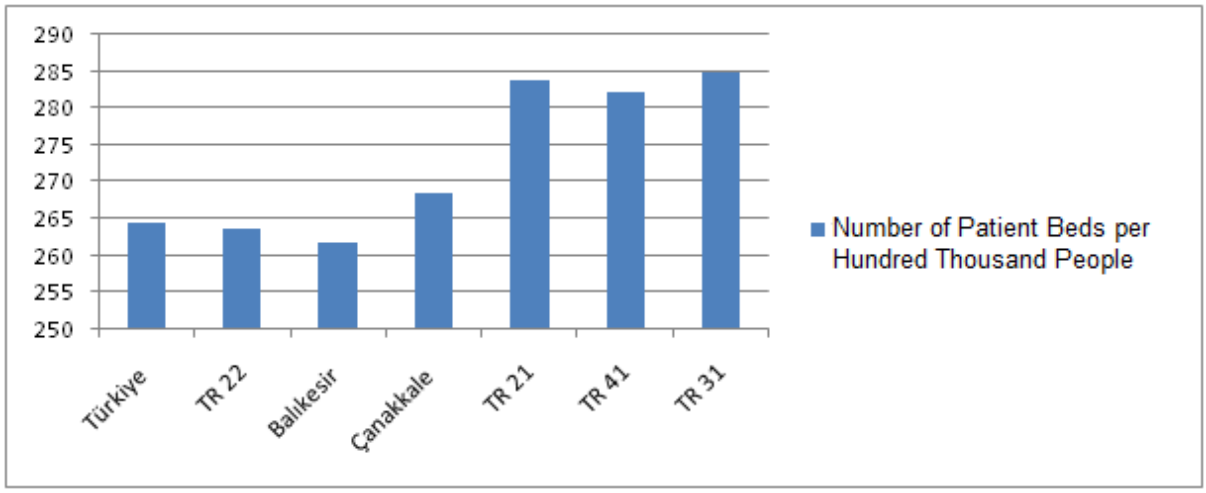

Figure 16: Number of Hospital Beds per Hundred Thousand People in Turkey, TR22 Region and Some Other Level 2 Regions in Surrounding Area
Source: TurkStat, 2012.

The City Hospital, planned to be established in Balıkesir, will offer a bed capacity of 850 and advanced specialty clinics which will allow the province to reach the national average and will contribute in improving the health infrastructure. Commissioning of Balıkesir City Hospital as soon as possible also planning for large-scale hospital needs of Çanakkale are of vital importance for improving the livability of the Region.

Table 1: Number of Medical Professionals in Turkey, TR22 Region and Some Other Level 2 Regions in Surrounding Area

Terrestrial Unit	Turkey	TR22	Balıkesir	Çanakkale	TR21	TR41	TR31
Specialist	70.103	1.240	806	434	1.359	3.393	5.061
General Practitioner	38.877	960	680	280	870	1.862	2.139
Assistant	20.792	116	15	101	327	705	1.868
Physicians Total	129.772	2.316	1.501	815	2.556	5.960	9.068
Dentist	21.404	486	322	164	450	982	1.593
Pharmacist	26.571	652	466	186	575	1.328	1.855
Medical Officer	122.663	2.724	1.859	865	2.557	6.001	6.226
Nurse	134.906	3.075	2.010	1.065	2.643	7.179	8.394
Midwife	53.466	1.929	1.322	607	1.389	2.806	2.647
Health Personnel	488.782	11.182	7.480	3.702	10.170	24.256	29.783
Specialist/Health Personnel (%)	14,34	11,09	10,78	11,72	13,36	13,99	16,99

Source: TurkStat, 2012.

According to Table 1 data; the Region has fewer number of specialist physicians compared to surrounding regions. In Turkey, only 14.3 percent of total health professionals are specialist physicians. For the Region, this figure corresponds to 10.7 percent (Balıkesir 10.9 percent and Çanakkale 10.3 percent). The same ratio for TR41 (Bursa, Eskişehir, Bilecik) Region is 13 percent, for TR21 (Tekirdağ, Edirne Kırklareli) Region 13.8 percent and for TR31 (İzmir) Region 16.9 percent. In order to increase the efficiency of the health services, the number of specialists must be increased in the Region. Proportion of the number of dentists, pharmacists, health officers, nurses and midwifes to the total medical professionals is similar to the national average.

As it is seen in Table 2, number of people per specialist physician is 1.131 in Turkey. For the Region, this figure rises to 1.505 in Balıkesir and to 1.443 in Çanakkale. In other Regions, the figures are: 1.177 for TR21 (Tekirdağ, Edirne, Kırklareli) Region, 1.187 for TR41 (Bursa, Eskişehir, and Bilecik) Region and 839 for İzmir. In order to improve the health services, the number of specialists must be increased in the Region.

Table 2: Number of People per Specialist (Population/Specialist)

Terrestrial Unit	Number of People per Specialist
Turkey	1.079
Balıkesir-Çanakkale	1.334
Balıkesir	1.440
Çanakkale	1.138
Tekirdağ-Edirne-Kırklareli	1.172
Bursa-Eskişehir-Bilecik	1.085
İzmir	791

Source: TurkStat, 2012.

According to World Health Organization data the maternal mortality rate of Turkey was 67 mothers per each hundred thousand live births in 1990s. This figure dropped down to 20 by the year 2010. According to 2012 data, the maternal mortality rate of the Region is approximately 8 per hundred thousand.[8] As a part of maternal and infant mortality prevention and reduction efforts in the Region, the Provincial Directorates of Health and Public Health Offices are planning to carry-out a Guest-Mother-Project. Other maternal and infant health awareness raising efforts include: neonatal screening and neonatal hearing screening

[8]Balıkesir, Çanakkale Provincial Directorates of Health, **Briefing File**, 2012

programs by District Public Health Offices and support program for protecting, encouraging and supporting breast feeding by family medicine centers.[9]

Number of emergency health response stations (called 112 stations after the telephone number of the medical emergency calls) in the Region increased by 10 times compared to 2002. Percentage of responding to urban cases within first 10 minutes of the incidence is %95 and percentage of responding to rural cases within first 30 minutes of the incidence is approximately %98.[10] Given the high number of villages and sub-districts in the Region, it is needed to improve the health services especially in rural parts. In this regard, it will be beneficial for Regional health infrastructure to facilitate access to medical services in districts.

4.2.2 Preventive Health Services

Preventive Health Services significantly advanced in the last decade. The facts that vaccination rates, which were 80 percent in the year 2002, reached 100 percent and that nearly all neonatal infants are subjected to hearing and various other screening tests by the year 2012 are examples of such development.[11] Furthermore, Provincial Directorates of Health and Public Health Offices carry out awareness raising campaigns for Regional population against obesity, cancer, addiction, diabetes, etc.

Home health services have also become widespread in the Region in recent years. Mobile Home Health Service Units were established in district state hospitals and in public health offices of the districts without state hospitals. In the year 2012 home health services were provided to nearly 5.000 patients.[12]

4.2.3 Health Problems in the Region

Given that the Region spans over a vast geography and that there are excessive numbers of villages within the Region and finally that the population temporarily increases in summer seasons, some problems regarding access to health services may occur at times in the Region. The leading causes of death by permanent residence in TR22 Region are mostly respiratory

[9]Balıkesir, Çanakkale Public Health Office, **Briefing File**, 2012
[10]Balıkesir, Çanakkale Provincial Directorate of Health Data, 2012
[11]Balıkesir, Çanakkale Public Health Office (2012)
[12]Balıkesir, Çanakkale Public Health Office (2012)

system disorders, malignant tumors and vascular disorders.[13] Increasing the number of hospitals specialized in respiratory system disorders in Gulf of Edremit will reduce these health problems and will also contribute to health tourism profile of the Region. Establishment of oncology and cardiovascular hospitals in central districts is needed to address these health problems.

4.3 Education

One of the leading factors that determine present and future socio-economic development of the Region is the education. TR22 Region is in a good standing in Turkey regarding educational indicators. Nonetheless, Turkey ranks below developed and developing states in international tests like PISA or TIMMS. In the Region, classroom occupancy rates are below the national average yet double shift schooling system still applies and day long schooling system is yet to be implemented. High circulation of teachers in rather under-developed districts and distant villages results in partial lack of teachers. Region's R&D and innovation levels are insufficient. The countries with fastest and largest performance increase in international tests like PISA and TIMMS are Far-East Countries which also show exceptional development performances. In 2009 PISA results, Shanghai of China took the first place, South Korea took second, Hong Kong took fourth and Singapore took fifth places. Therefore, it is safe to claim that education and development are two factors that significantly affect each other. For this reason, in order to achieve development goals, it is very important to implement such activities that will raise the place of our country and region to higher positions in international rankings concerning level of education not only during this planning period but also afterwards. In 2013 Higher Education Entrance Exam Balıkesir ranked 15th and Çanakkale ranked 39th in the list of most successful provinces. In order to increase the educational quality, therefore the success of the education efforts, the personnel qualities and physical infrastructure of education must be improved.

In TR22 Region a total number of 40.556 people at or above 6 years of age are illiterate. The literacy rate in the Region is 96 percent which is higher than national average (64 percent). In terms of latest graduated school, primary school graduates constitute the largest group in TR22 Region. Percentage of the people with a university degree or higher is 11 percent.

[13] TÜİK, **Cause of death statistics**,**http://www.tuik.gov.tr/PreHaberBultenleri.do?id=15847**,16.04.2013.

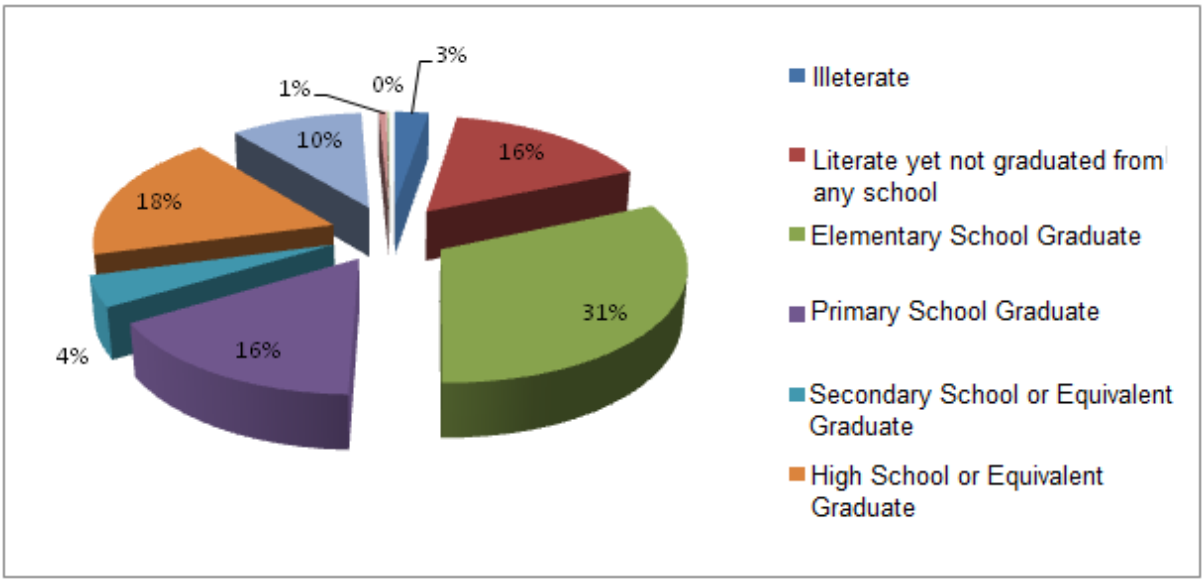

Figure 17: TR22 Region Education Levels
Source: TurkStat, 2013.

In the field of education levels by gender, the proportion of female individuals in the groups of illiterate, literate yet not graduated from any school and elementary school graduates, is higher than male individuals while proportion of male individuals in primary school and above is higher than females. Women's continuity of education after primary school is low in the Region.

4.3.1 Pre-School Education

In TR22 Region, there are 620 schools and 1.213 classes engaged in pre-school education in 2012-2013 school year. The Region has 32 students per school. Breakdown of this figure is as follows: 30 for Balıkesir and 36 for Çanakkale. According to ABPRS results of TurkStat dated 31.12.2012; a total number of 183.369 individuals are in 0-9 age group in the Region. Assuming that this population is evenly distributed in the years, it is estimated that there are 60.511 children in the age group of 4-6. Thus, at full capacity, there are 50 students in each of 97.5 classrooms per school. Therefore, the rate of participation to pre-school education is low in the Region. Number of pre-school education institutions and teachers must be increased. In fact, pre-school education rates approach to 100 percent in many developed countries. In our country, however, the pre-school education rate is 38.7 percent which is a clear sign for need

for rapid improvement in this field. Enrollment rate of the region is also well below that of developed countries.[14]

According to TurkStat data from the beginning of 2012-2013 school year, there are 16 students per teacher in pre-school education institutions of the Region. Both Provinces of the Region show similar figures. Also, the number of schools figures is very close in two provinces of the Region. Unfortunately numbers of students and teachers are very low in rural parts. Number of students per classroom is 19 in Balıkesir and 21 in Çanakkale. Given that the national average of number of students per classroom is 22, it is seen that the provinces of the Region are close to national average. On the other hand, number of villages and small towns in the Region is well above the national average. Attendance figures in schools at rural areas are very low while an agglomeration is observed in schools at urban areas.

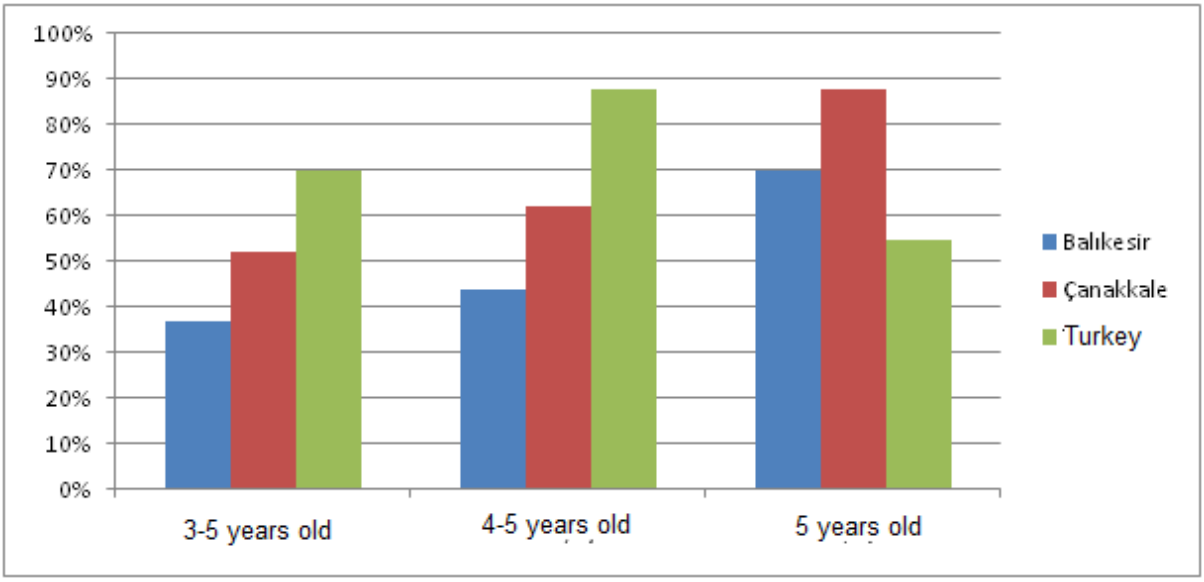

Figure 18: School Enrollment Rates for Pre-School Education
Source: TurkStat, from beginning of 2012-2013 School Year.

4.3.2 Primary Education

In 2012-2013 school year, there are a total number of 1.043 primary schools and 8.280 classrooms in service in TR22 Region. The Region has 16 students per teacher and 22 students per classroom. The number of students per classroom is 24 in Balıkesir and 19 in

[14] EUROSTAT, **School Enrollment Rates for Pre-School Education**, **http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tps00179&plugin=1** , 28.02.2013.

Çanakkale. Given that the national average for the number of students per teacher is 20 and per classroom is 31, it is seen that the TR22 Region is in a better standing. Primary school enrollment rate is close to 100% in parallel to those of Turkey's overall rate. Nonetheless in order to improve the quality of education, it is needed to reduce the number of students per class, especially in city centers and to switch to daylong education instead of current double shift school day.

4.3.3 Secondary Education

In TR22 Region, there are 299 secondary education institutions and 91.934 students enrolled to these institutions in 2012-2013 school year. 189 of these institutions are located in Balıkesir Province and 110 are located in Çanakkale Province.

Number of students per teacher in secondary education is 15 in the Region while overall national average is 20. Overall national average number of students per classroom in secondary education is 39 students and in the Region are 29 students. There is a large difference between the number of secondary education institutions in rural areas and those in urban areas throughout the Region. In order to increase the rate of enrollment to secondary education institutions in rural areas, it is needed to increase the number of such institutions in these parts.

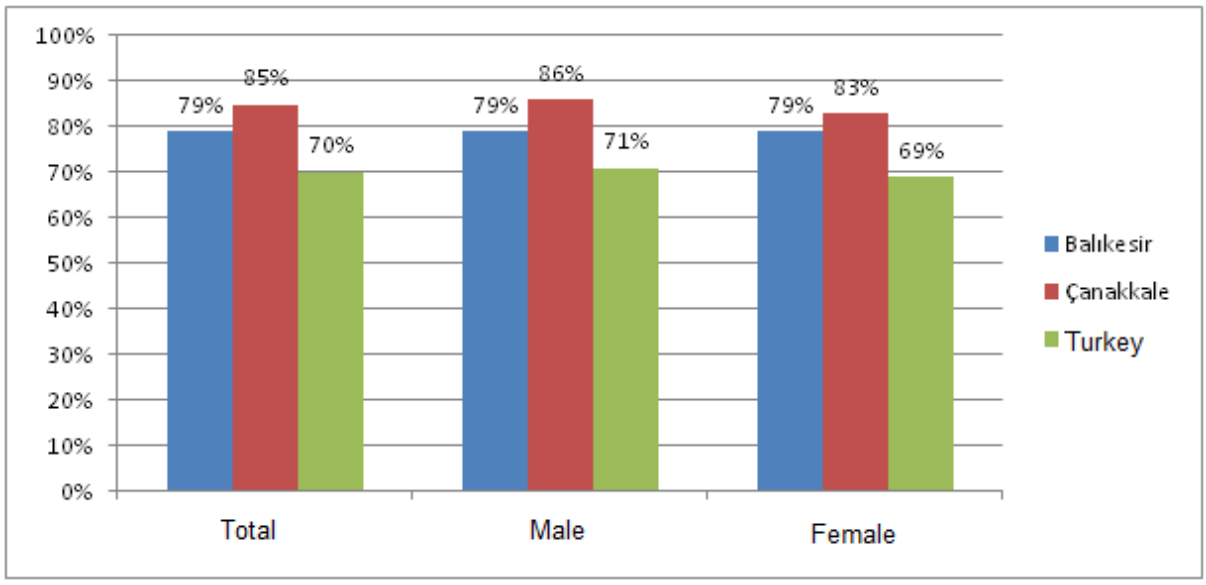

Figure 19: School Enrollment Rates in Secondary Education
Source: TurkStat, from beginning of 2012-2013 School Year.

In Turkey 70 out of 100 people at secondary education age continue secondary education. The average in Balıkesir Province is 79 and 85 in Çanakkale Province. Improving the school enrollment rates in secondary education institutions and especially in vocational schools is important to raise qualified labor force (Figure 19).

4.3.4 Higher Education

4.3.4.1 Balıkesir University

Founded in the year 1992, Balıkesir University includes 10 faculties, 5 institutes, 6 academies, and 16vocational schools of higher education and under the rector, 3 departments 14 research and application centers. Total number of students in the University for the 2012-2013 Academic Year is 37.750.[15]

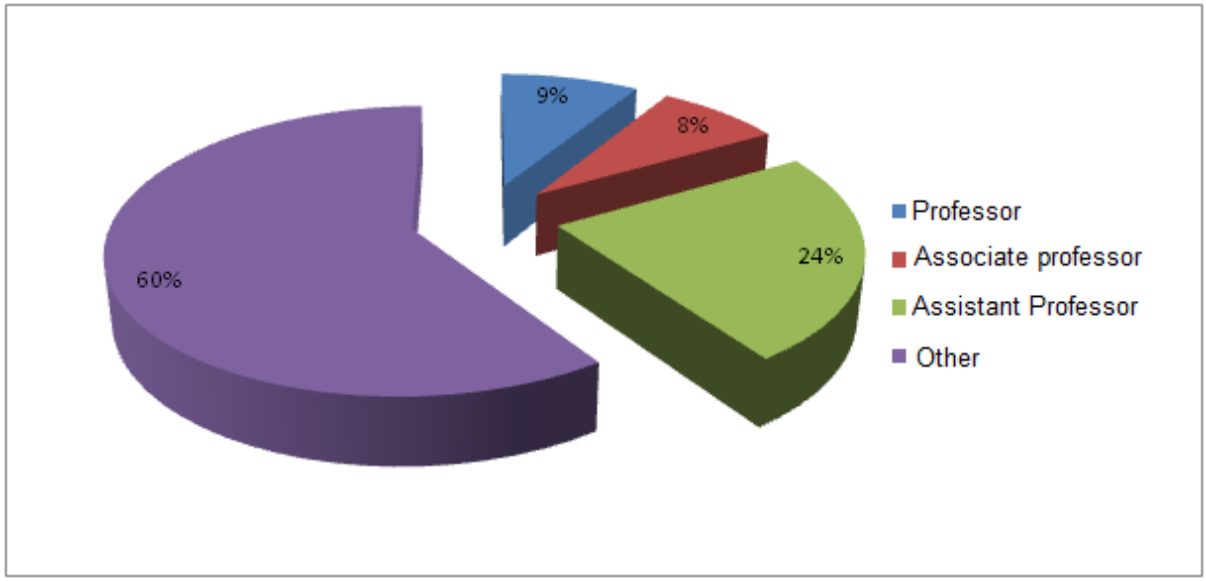

Figure 20: Distribution of Academicians by Degrees in Balıkesir University
Source: Balıkesir University Personnel Affairs Unit, 2012-2013.

In Balıkesir University, the number of students per academic staff member is 82 while the overall national average is 110. In order to improve quality of education in the university the number of students per academic staff member must be further reduced.

[15] Balıkesir University, **Registrar's Office**, 2012-2013

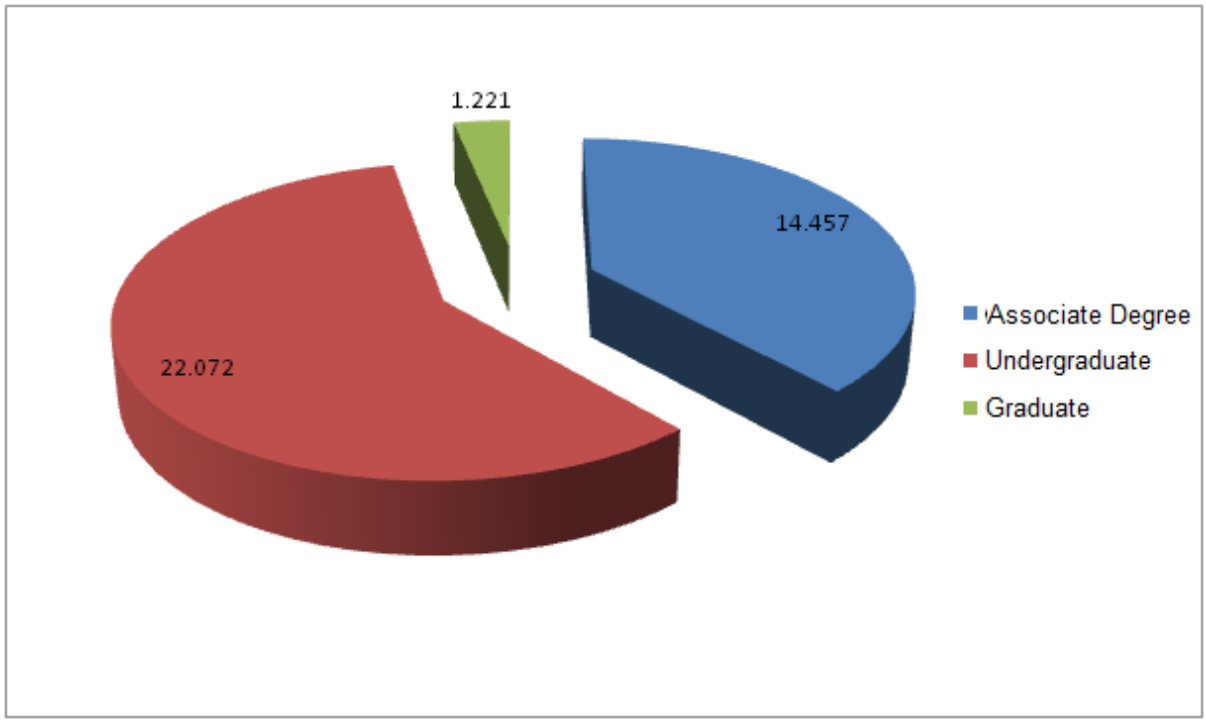

Figure 21: Distribution of Students by Programs in Balıkesir University
Source: Balıkesir University Registrar's Office, 2012-2013.

58 percent of students in Balıkesir University are studying in undergraduate programs while 3 percent are in graduate and 38 percent are in associate degree programs. 59.5 percent of all of the students are studying in the Central District Campus and the remaining 40.5 percent of students are studying in campuses in other districts.

4.3.4.2 Çanakkale Onsekiz Mart University

Founded in the year 1992, Çanakkale Onsekiz Mart University includes 12 faculties, 4institutes, 8 academies, and 12 vocational schools of higher education and under the rector, 6 departments 26 research and application centers. Total number of students in the University for the 2012-2013 Academic Year is 35.158.[16]

[16] Çanakkale Onsekiz Mart University, **Registrar's Office**, 2012-2013

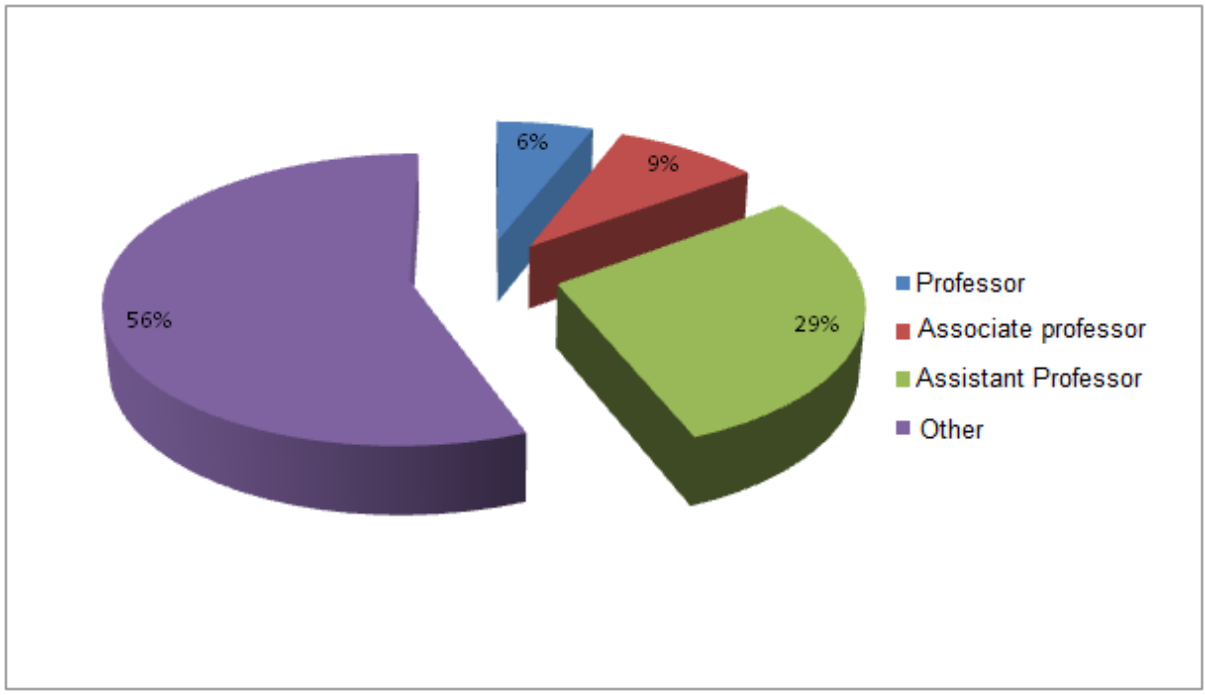

Figure 22: Distribution of Academicians by Degrees in Çanakkale Onsekiz Mart University
Source: Çanakkale Onsekiz Mart University Personnel Affairs Unit, 2012-2013.

The number of students per academic staff member is 52 in the University. In both universities the average number of students per academic staff member is lower than overall national average.

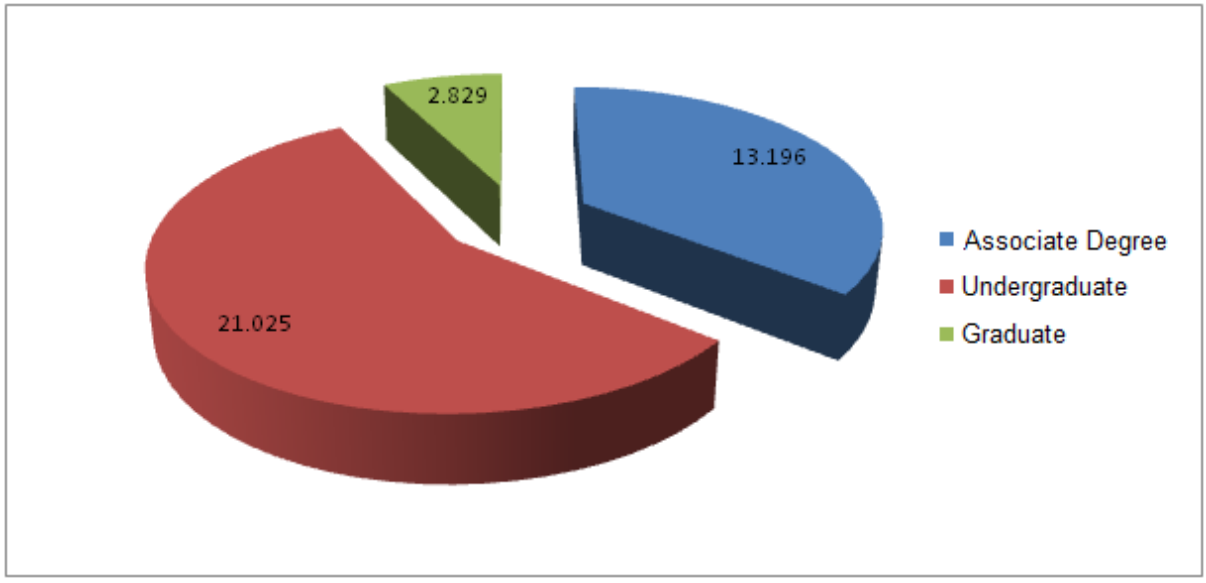

Figure 23: Distribution of Students by Programs in Çanakkale Onsekiz Mart University
Source: Çanakkale Onsekiz Mart University Registrar's Office, 2012-2013.

59 percent of 35.158students in Çanakkale Onsekiz Mart University are studying in undergraduate programs. Ratio of graduate students to total number of students of the university is 8 percent **(**Figure 23). 63.5 percent of all of the students are studying in the Central District Campus and the remaining 36.5 percent of students are studying in campuses in other districts.

In both Balıkesir and Çanakkale Provinces, large part of the university students is located in main campuses. Thanks to vocational schools of higher education located in smaller districts, the students revitalized economies of such districts. On the other hand settlements of universities in the region are widely scattered which causes difficulties not only in terms of transportation problems but also in terms of effective use of resources and prevents effective collaboration between academic staff members.

Average number of academic staff members with a professor degree in the Region is lower than the national average. According to TurkStat data in the 2012 – 2013 academic year a total number of 17.807 out of a total 130.653 academic staff members have a professor degree corresponding 13.6 percent of total number. Same figure for Balıkesir University is 10 percent and for Çanakkale Onsekiz Mart University are 6. Average of assistant professors in Turkey is around 20 percent. In Balıkesir University, the figure is 32 percent and 29 percent in Çanakkale Onsekiz Mart University. Therefore it can be said that there are excessive numbers of assistant professors in academic staff of the Region. In order to improve the number of associate professors and professors as well as the researcher profile of the Region, it is needed to improve the academic publishing as well as the means concerning transition to associate professor and professor degrees.

The provinces of the Region are in urgent need of a second university. All provinces of Turkey have at least 1 university. Balıkesir is one of 6 provinces which have only 1 university despite a population in excess of 1 million. After Şanlıurfa, Hatay and Manisa, the Province ranks 4th in the list of provinces with the largest population per university. Edremit and Bandırma districts of Balıkesir and Biga district of Çanakkale are important centers which present sufficient potential to host a new university. Establishment of such faculties and departments that serve to the leading sectors of the Region and districts, effective use of human resources, improvement of university-industry collaboration as well as competition and education quality are important factors that will contribute to the Regional economy.

4.3.5 Non-formal Education

Non-formal training and education courses are opened upon public qualifications interests and requests. These courses are important for ensuring introduction of individuals to economic and social life and for ensuring personal development.

In Turkey, non-formal trainings are usually given by public education centers and occupational training centers through courses. Non-formal education is defined as life-long-education in today's terminology. Rate of participation to life-long-education activities is around 9 percent in European Union. Unfortunately this rate is 2.9 percent in Turkey.[17] In the EU, it is aimed to increase the participation rate to 15 percent until 2015. Ministry of National Education in Turkey, however, set the goal at 8 percent. As of the year 2011, rate of participation to life-long-education activities was 2.1 percent in TR22 Region which was well below the national average.

There are a total number of 335 non-formal education centers in TR22 Region including 31 public education centers and 15 occupational training centers. In the region there are 8 teachers per institution. According to TurkStat data, in TR22 Region, 1.196 courses were opened and a total number of 41.812 students were trained in these courses in the year 2011. Only 37 percent of attendees of non-formal education courses are women. In Turkey, the overall average of women in the non-formal education is 45 percent. Mostly primary school graduates between the ages 23-44 years attend the non-formal education courses in the region. In TR22 Region, courses are provided on a variety of subjects like literacy, entertainment services, foreign language education and personal development.

4.4 Culture

4.4.1 Cultural Elements

Having received high numbers of immigrants from Balkans, the Region stands out with its cultural diversity. Yoruk (Turkish Nomads) culture is also found throughout the Region. Additionally, people of Turkic and Gypsy origins as well as those of Anatolian Greek origin living in Gökçeada and Bozcaada are major contributors to cultural fabric of the Region.

[17]EUROSTAT, **AB ÜlkelerindeYaygın Eğitime Katılım Oranları**, **http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdsc440&plugin=1**, 26.02.2013.

Gelibolu Mevlevi Lodge, located in Çanakkale, has the largest area and the largest Samahane (ritual hall) among fifteen existing lodges of the Mevlevi Order. Mevlevi Lodges were not only science and education centers of the Ottoman Era but also centers for culture and arts. Many activities are still organized within Gelibolu Mevlevi Lodge. The most renowned annual activity is *Seb-i Aruz* ceremony. Gelibolu was an important Ottoman town which hosted the navy headquarters and played an important role in spreading Turkish-Islamic culture in Balkans through scholars educated therein. Until recent years it was traditional for pilgrims to visit Gelibolu before going to Mecca. This tradition itself underlines the historical and cultural importance of Gelibolu as a Turkish Province in Thrace.

Another important cultural element of the Region is Balıkesir Barana Sohbet Meetings. As an extension of Ahi Culture (a Turkish-Islamic tradition) these meetings are traditional "conversations" allowed only for men. The Traditional Sohbet Meetings were accepted into UNESCO's "Representative List of World Cultural Heritage" as an intangible cultural heritage. Today, Barana Sohbet Meetings are still held in Dursunbey District of Balıkesir Province.[18]

Another significant cultural heritage in the Region is handicraft. In Çanakkale Province, earthenware crafting is well advanced and hand-made souvenirs are marketed. Additionally, Ezine, Bayramiç, Biga, Ayvacık and Yenice Districts of Çanakkale[19] and Bigadiç, Sındırgı and Kepsut Districts of Balıkesir are known for carpet weaving; Eceabat District of Çanakkale is known for socks and bath glove crafting, macramé and shalwar weaving; Gönen District of Balıkesir is known for point lace craft. Yağcıbedir carpets from villages of Sındırgı and Bigadiç Districts are paint with madder and are world-famous with their unique patterns. In order to contribute to development of tourism in rural areas of the Region, cultural fabric of the Region must be protected, the cultural assets must be promoted more effectively, the products must be promoted through various techniques to become touristic values with higher added values.

[18] Ali Yakıcı, "Tangible Venue of Intangible Cultural Heritage: Konya Barana Halls", **Milli Folklor**, Volume:11, Year:22, Issue: 87, 2010.

[19] Çanakkale On Sekiz Mart Üniversitesi Yenice Occupational School of Higher Education, **Traditional Handicrafts to Contribute Rural Tourism in Çanakkale-Yenice District**, GMKA DFD Program Output, Çanakkale, 2011.

Many domestic and international tourists visit the Region during Çanakkale 18th March Memorial Day activities which constitute one of the most significant organizations of the Region. Kurtdereli Wrestling Championship is an annual event taking place in Balıkesir Province named after Kurtdereli Mehmet who earned the "world champion" title in 1911 and is one of the most important traditional wrestling competitions of Turkey second only to Kırkpınar. Furthermore, numerous festivals and celebrations are organized in the Region Including: Traditional Kazdağı Spring Festival, Bozcaada Grape Harvest Festival, Lapseki Cherry Festival, Kepsut Peach Festival, Bayramiç Trojan Beauty Contest, International Culture and Olive Festival, Eceabat Tomatoes Festival, September 6thBalıkesir's Independence Day, Ayvalık Culture and Arts Week, Ayvalık Olive Harvest Celebrations, Burhaniye International Olive and Olive Oil Festival, Altınoluk Antandros Festival of Respecting Life, Culture and Art, Gönen Lacing Festival, Susurluk Rahvan Horseracing and Yağcıbedir Carpet Festival.

4.4.2 Tangible Cultural Elements

Culture is inclusive of all tangible and intangible elements that constitute the identity of a society. Libraries, theatre halls, newspapers and periodicals are all tangible cultural elements and are deemed as development indicators. According to TurkStat 2012 data, the number of libraries in TR22 Region constitutes 3 percent of all libraries in Turkey while the number of books therein is around 3.4 percent of all books in Turkey's libraries. There are a total number of 33 libraries in the Region. 22 of them are located in Balıkesir and 11 of them are located in Çanakkale Province. The number of libraries both in the region and in the country was reduced compared to the previous year (2011). The ratio of using public libraries is 340 per thousand people which place the Region 9th among 26 Regions.

The Region has a total number of 36 movie theaters 27 of these are located in Balıkesir and 9 of these are located in Çanakkale Province. In this classification, the Region is 17th among 26 Regions. In terms of number of spectators, the Region is 15th. Even though the TR22 Region ranks higher in the lists concerning the number of halls and seats, the Region's total number of spectators lags behind even the Regions with less number of impressions. According to 2011 TurkStat data, TR22 Region is the only region without a state-owned theatre hall among 26 Regions. Nonetheless, the Region has multi-purpose halls where theatre shows are performed besides some particular theatre scenes. In terms of press media statistics, the

Region boasts 87 newspapers and 32 magazines. These figures correspond to 2.9 and 0.8 percent in national-wide figures, respectively. In the light of above-data, it is seen that the socio-cultural activities in the Region must be improved in both qualitative and quantitative scales. In order to achieve this end, it is needed to build structures where socio-cultural services and activities can be provided.

4.4.3 Sports

According to 2013 data, there are a total number of 353 sports clubs in TR22 Region; 231 of these are located in Balıkesir and 122 in Çanakkale.[20] This figure corresponds to approximately 3 percent of total sports clubs in Turkey.[21] Number of licensed athletes is: 30.235 in Balıkesir and 11.122 in Çanakkale and a total of 41.357 in the Region. Number of licensed athletes in Turkey is 4.028.811. About half of licensed athletes in Turkey are active while only about 23 percent of licensed athletes in the Region are still active. According to TurkStat figures for 2009-2010 Season there are a total number of 240.245 active amateur football players in Turkey. 5.269 of these are located in Balıkesir and 2.285 in Çanakkale. It is needed to improve the sportive infrastructure of the Region. It is also important to develop such areas and fields where the individuals are encouraged to regularly practice sports.

4.5 Income Distribution and Employment

Assessment of sectors in Turkey and in Region as of the period between the years 2004-2013, it is seen that about 49 percent of all employees in Turkey are working in services sectors. With a 44.4 percent, TR22 Region approached to the national average in recent years. In industrial sectors, TR22 Region is well below national average. Despite slight improvements compared to the situation in 2004, a reduction has been recorded in employment rates of these sectors in recent years due to effects of the economic crisis in the year 2009. On the other hand, the employment rates in agricultural sector recorded a significant reduction. In the year 2004, the employment rate in agricultural sector was around 47 percent in the TR22 Region which reduced to 36.3 percent by the year 2013. Despite these figures, the rate of employment in agricultural sector is well above the national average due to highly rural profile of Regional Population. Another issue that attracts attention is an increase in employment in services

[20]Data from Provincial Directorates of Youth and Sports, 2013
[21]**https://www.sgm.gov.tr/Sayfalar/default.aspx**, 24.05.2013

sectors in parallel to decrease in employment in agricultural sector. Employment shifts from agriculture to services sector. Agricultural sector lead the employment rates for long years and now it is second as it was replaced by services sector in recent years. This situation shows that the employment profile of the Region has changed.

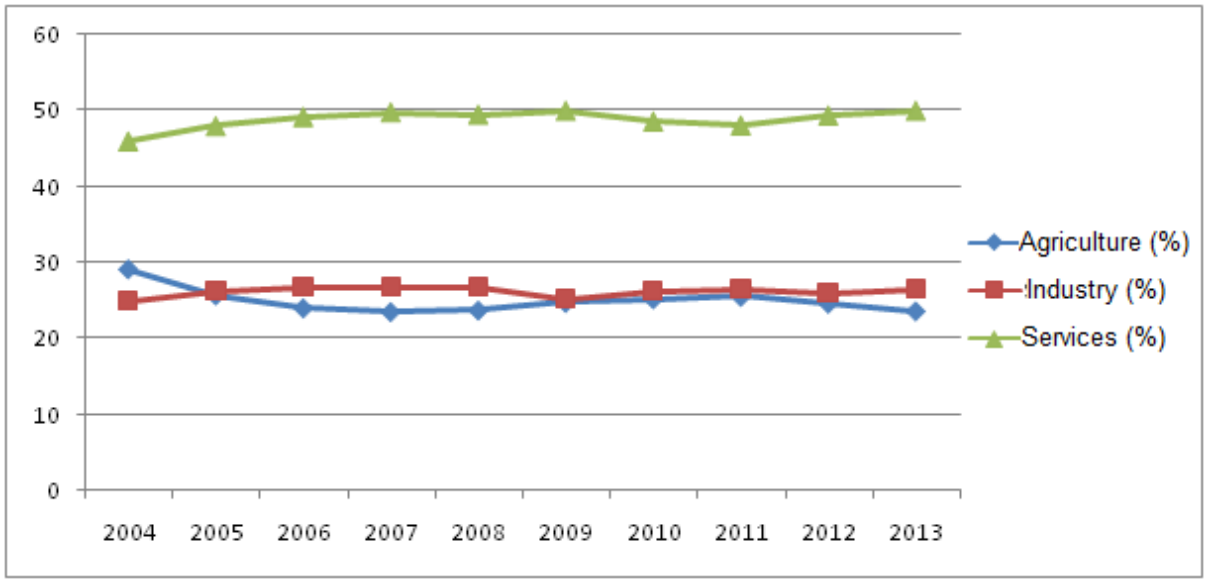

Figure 24: Employment in Turkey by Years and Sectors
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

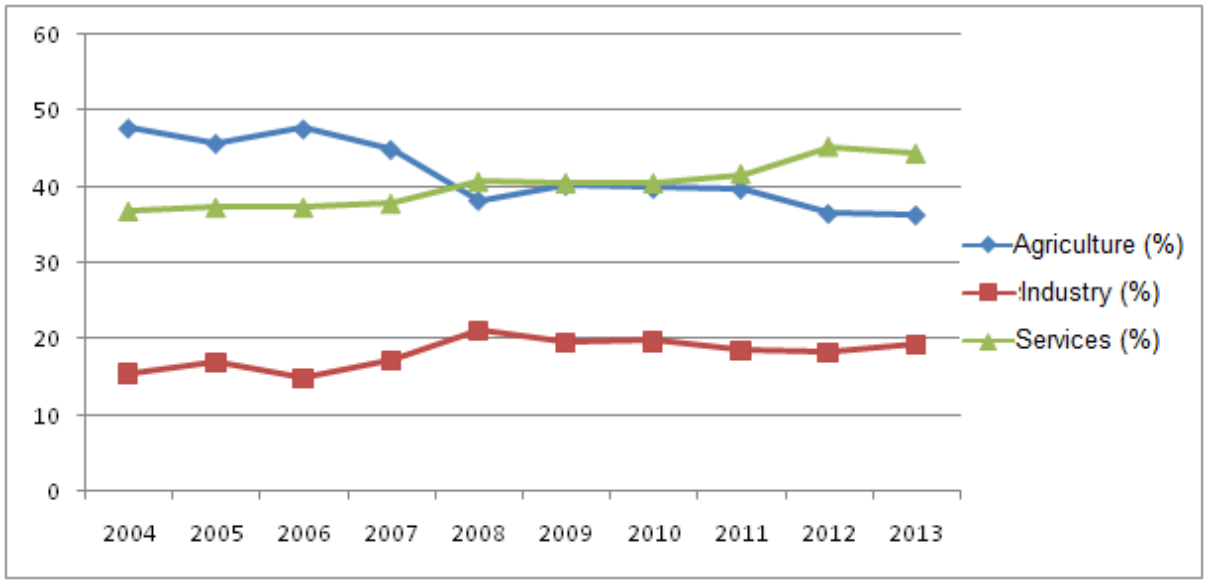

Figure 25: Employment in TR22 Region by Years and Sectors
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

The breakdown of the employment figures by employment status for period of 2004-2013 shows that in TR22 Region, 45 percent of all employees are wageworkers, salaried employees and casual employees, 33 percent are employers and self-employed and 22 percent are unpaid

family workers (Figure 26). Compared to national average, TR22 Region has more unpaid family workers as well as employers and self-employed persons.

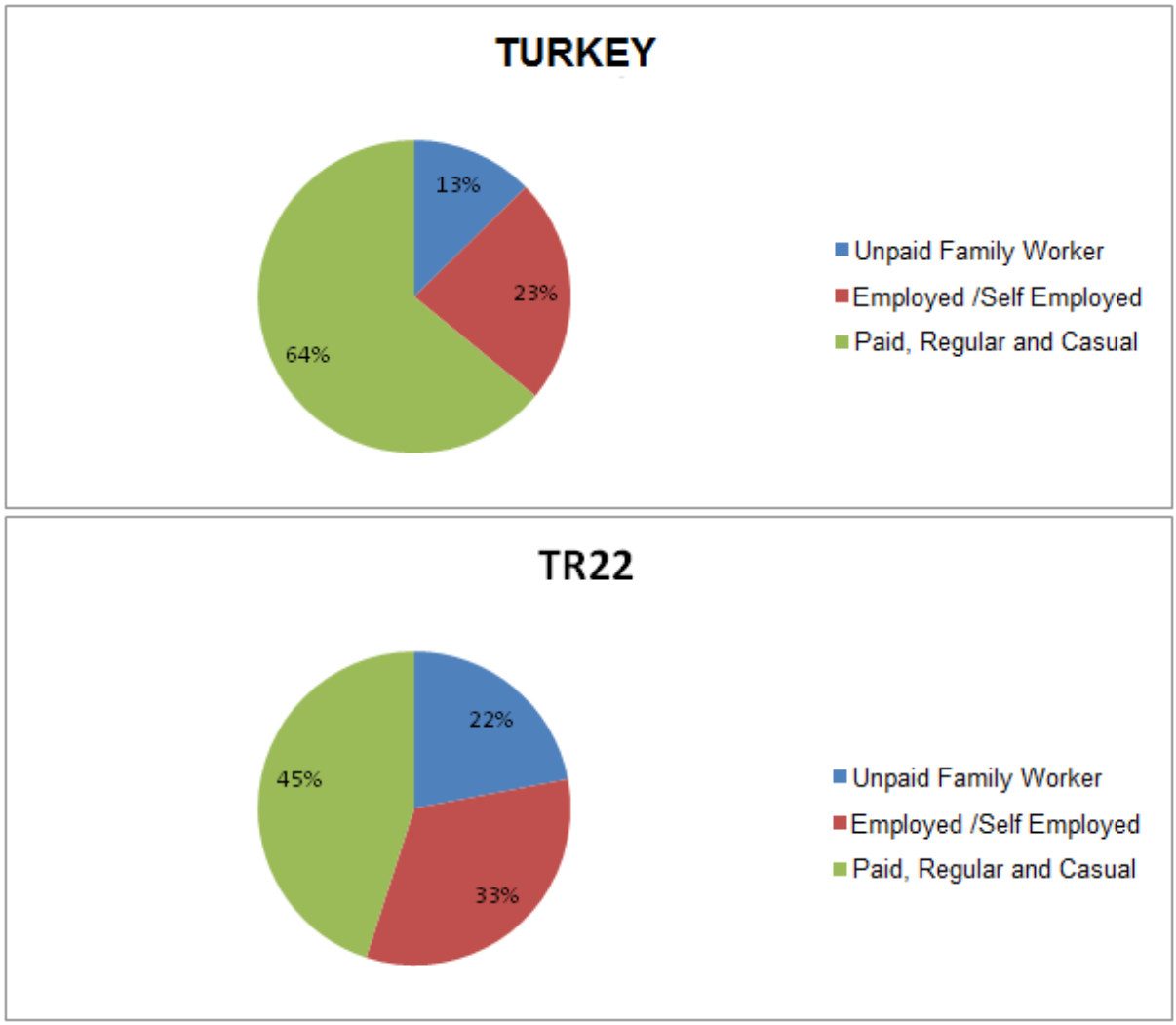

Figure 26: Status of Employees in Turkey and in the Region
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

The labor force participation rate is around 70 percent in OECD countries. According to 2013 TurkStat data, this rate is around 50.8 percent in Turkey. This shows that the market is insufficient for labor force participation. The labor force participation rate by gender, however, shows that women's labor force participation is even lower. According to same 2013 data of TurkStat, in Turkey, total labor force participation rate of women is 30.8 percent. In TR22 Region it is 30.4 percent. Furthermore, labor force participation rate of rural areas is higher than those of urban areas. The most significant reason of this is the fact that most of households participate into production processes as unpaid family workers. In urban life, however, especially women cannot participate in labor force due to such preoccupations like house chores and child caring. The fact that the professions in urban life require more

expertise and specialty than those in rural life also causes reduction of women's labor force participation rate.

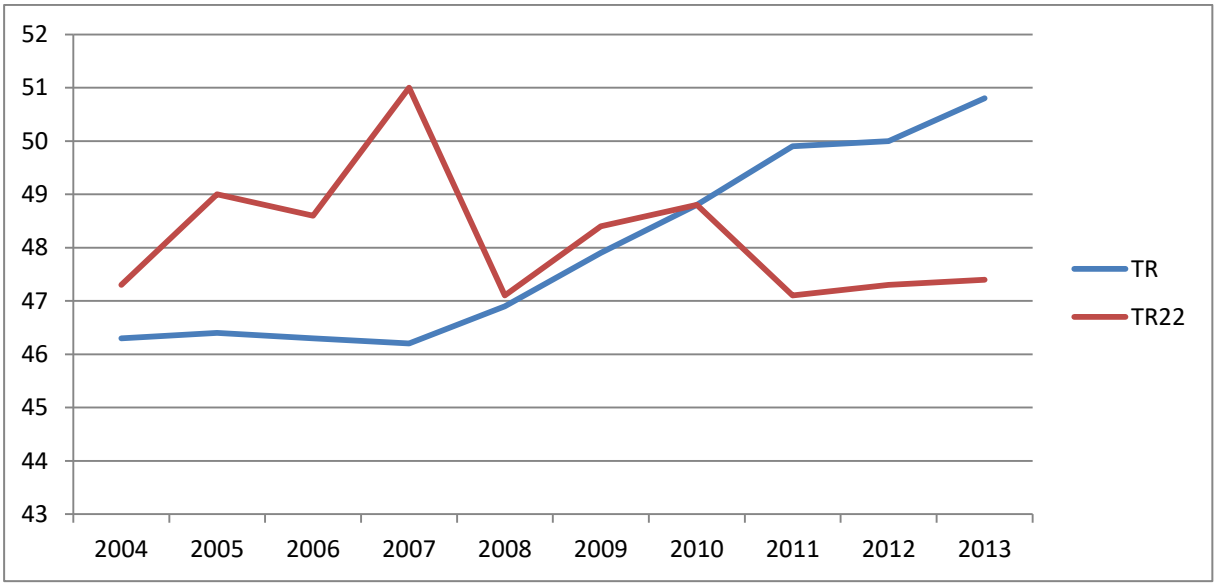

Figure 27: Labor force Participation Rates in Turkey and in TR22 Region
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

In TR22 Region, labor force participation rates of the period of 2004-2013are higher than national average (Figure 27). Starting from the year 2010, the rates of the Region remain under the national average. One of the most significant reasons for this is the change in the employment structure of the Region. Declination of agricultural employment rates in the Region brought a reduction in labor force participation of women who worked in this sector in previous years. Another reason is the fact that, according to TurkStat's 2012 data, labor force participation rate of those above 55 years of age (19.9 percent) is lower than the national average (23.5 percent) in the same subject. For this reason, in order to increase labor force participation in the Region, it is important to improve not only employment opportunities in general but also, specifically, labor force participation rates of women and those above 55 years of age.

Unemployment rate of Turkey and of TR22 Region have reduced after 2009 which was the year when the consequences of economic crisis were the worst (Figure 28). In the year 2009 the national unemployment rate was around 14 percent. The figure declined to 9.7 percent in the year 2013. In parallel to improvements in the country, the unemployment rate of the Region reduced from 8 percent to 6 percent. The unemployment rates of the Region have always been under the national average. High agro-production-dependent economy of the

region is also a reason for lower unemployment rates. According to 2013 TurkStat data, rate of employment in agriculture is 23.6 in Turkey. The same figure for the Region is 36.3. This is a significant element that explains lower unemployment rates in the Region compared to those of the nation.

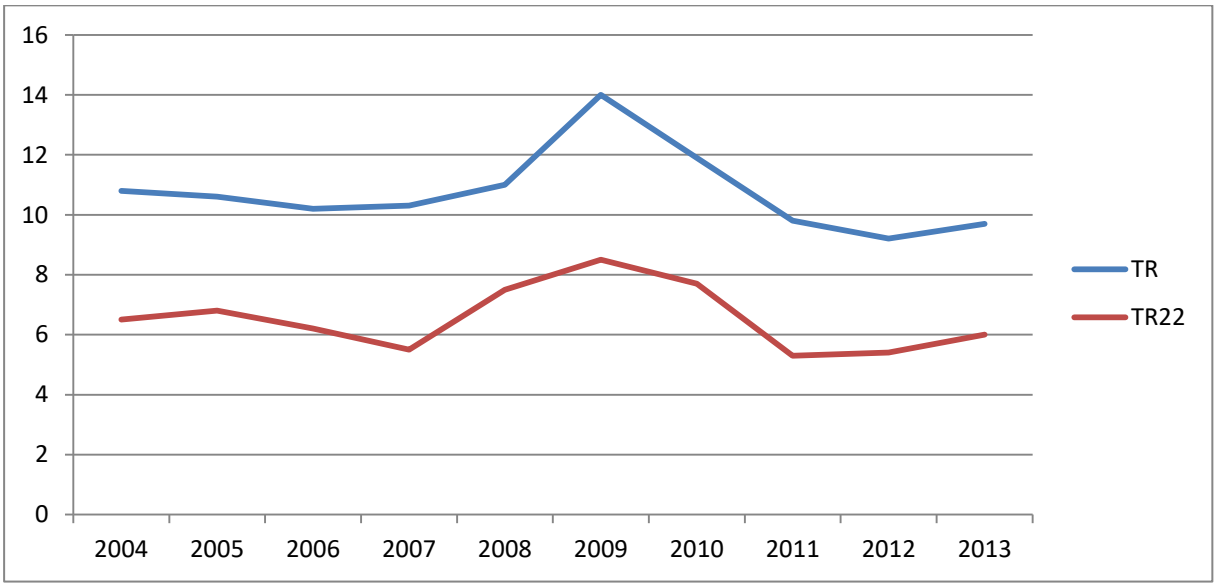

Figure 28: Unemployment Rates in Turkey and in TR22 Region (percent)
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

According to TurkStat data, with a 41.9 percent, the most significant reason for not participating in labor force is preoccupation with house chores. This is followed by education/training, retired and incapacity. In TR22 Region, the factor constituting most popular reason for not participating in labor force is house chores (38 percent). Education/training has a slightly lower share compared to Turkey. On the other hand, the average numbers of incapable people, retired people and the people not seeking an employment but ready to work are higher than those in Turkey. The fact that the average number of people occupied with house chores instead of employment is lower than those of Turkey indicates that the women labor force participation in the Region is higher than national average.

When the labor force participation rate of women population in Turkey in the period of 2004-2013 is examined, it is seen that the rate was around 23 percent in the year 2004 and then increased to around 40 percent in the year 2013 (Figure 29). The TurkStat data also shows that women's labor force participation rates gradually increased in urban areas from 2004 until 2013.

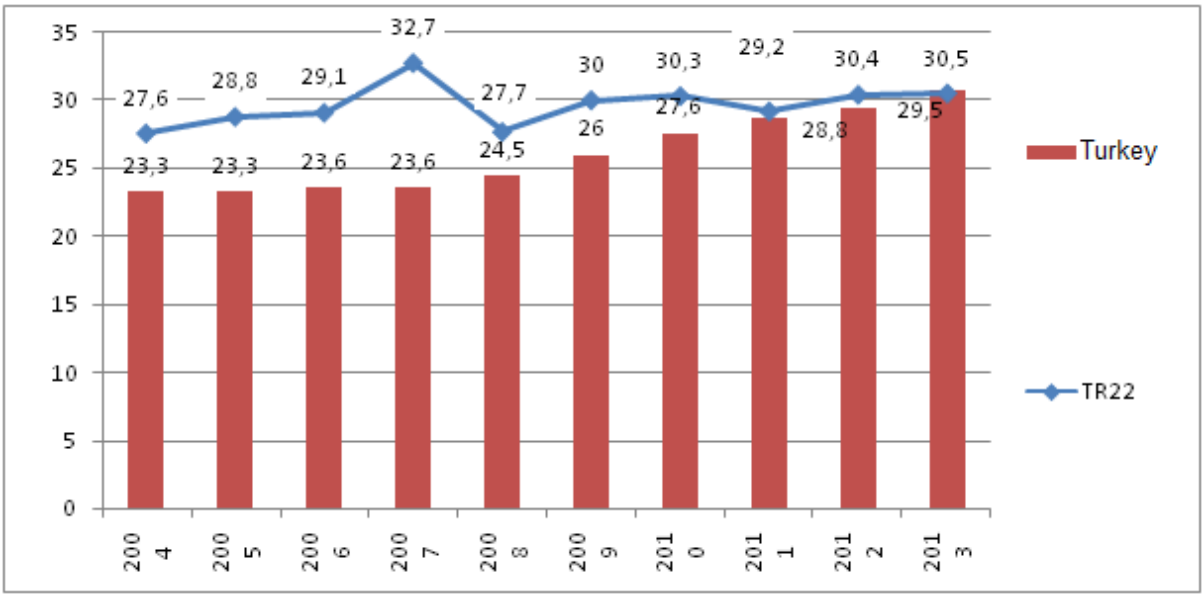

Figure 29: Women's Labor force Participation Rate
Source: TurkStat, Household Labor Force Survey Results, 2004-2013.

When women's labor force participation rates of Turkey and TR22 Region for the period of 2004-2013 are compared, it is seen that, with the higher agricultural production numbers, women's labor force participation rate of TR22 Region is always higher than those of Turkey (Figure 29).

According to TurkStat data, the first reason that prevents women's labor force participation in Turkey is house chores (58.7 percent) and the second is incapacity to work (12.1 percent). In TR22 Region, the most important obstacle preventing women from labor force participation is house chores (57.4 percent). In the region, the rate of people who are ready-to-work but forsook seeking employment is 8.7 percent which is higher than overall national average at 6.1 percent. In the year 2012, in Turkey, according to employment rate of women by education level results, women with an education lower than high school have the largest percentage (52 percent). Graduates from higher education take second place with a 22 percent. Surprisingly, illiterate women have an average rate of 11.1 percent. In 2012, 64,9 of employed women were those with an education lower than high school in TR22 Region which is very high compared to nation-wide figures. With a 17.6 percent, the average number of higher education graduates is lower than national average indicating that the women are mostly employed in agricultural sectors and in industrial sectors at such work that do not require qualification. Average number of illiterate women employees is well below national

average. This picture shows that the educational opportunities and education level of employees of the Region are at very good standing compared to national average.

5 ECONOMIC STRUCTURE

The ratio of agricultural sector within GVA is prominently higher than the national average while the shares of industrial and services sectors remain below national average. In recent years, the ratio of agricultural sector within GVA has been increasing in the Region but decreasing in the nation-wide scale. The ratio was 22 percent in 2006 in the Region. This figure increased to 22.3 percent in the year 2011. In the same period, the ratio reduced from 9.4 percent to 9 percent in the nation-wide scales. In said period, the industrial sector of the Region showed a slight increase from 20.2 percent to 22.2 percent while services sector reduced from 57.8 to 55.4 percent.

Table 3: Share of Sectors in Gross Value Added in TR22 Region and in Turkey

GVA 2006 - 2011	2006	2007	2008	2009	2010	2011
Agriculture TR22	22	20,6	20,1	20,5	22	22,3
Agriculture Turkey	9,4	8,5	8,5	9,1	9,5	9
Industry TR22	20,2	20,1	22,6	20,5	20,9	22,2
Industry Turkey	28,2	27,8	27,2	25,3	26,4	27,5
Services TR22	57,8	59,3	57,4	59	57,1	55,4
Services Turkey	62,4	63,7	64,3	65,6	64,1	63,5

Source: TurkStat, 2006-2011.

Services sector plays an important role in added value generated in the Region while industrial sector is slowly gaining weight. The efforts on industrialization have always been insufficient. Transition to an information society without first becoming an industrial society created a pressure upon the society. These two facts present certain risks concerning economy and social harmony yet they also created unique opportunity to develop the industry in an era where environmental and urban planning policies and practices are more effective. Around the Region there are cities that were rapidly industrialized and thus are now subjected to many significant problems like unplanned urbanization, quality of life and health. In the Region, however, it is anticipated that the transition will be completed with less problematic consequences; agricultural, industrial and services sectors, especially tourism sector, will be developed in harmony.

In this regard, it is important to invest and develop the Regional industry within OIZs in such a way that is sensitive to environment and is knowledge-intensive. The goals are: to increase productivity in agriculture without harming the environment and; to improve the livability of cities, access to services like tourism, education, health, financing, construction, etc and their quality to a level of international competitiveness. Furthermore, processing minerals in the Region to create products with higher added values is extremely important for governance of sustainable development.

In summary, the most important issue for this planning period in the Region is to ensure balanced development, therefore balanced growth of all sectors by supporting the transition process with socio-economic and socio-ecological policies that will facilitate improving the quality of life.

Table 4: GVA Per Capita in TR22 Region and in Turkey (TRY)

GVA per capita	2006	2007	2008	2009	2010	2011
TR22	8.246	9.624	11.528	11.773	12.993	15.013
Turkey	9.632	10.744	12.020	12.000	13.406	15.500

Source: TurkStat, 2006-2011.

In the Region, gross value added per capita is lower than the national average. However, between the years 2006- 2011 GVA in the Region increased by 82 percent from 8.246 TL to 15.013 TL. In overall Turkey, the increase was around 61 percent from 9.632 TL to 15.500 TL. Thus it is seen that the Region out-performed the national figures in the same period and approached the national average on GVA. It is estimated that, by specialization in knowledge-intensive sectors, the Region can exceed national average GVA per capita at a fast paced rate in this planning period.

5.1 Agriculture

Agriculture is a strategically important sector because it ensures food safety, produces raw material to industry, plays an important role in employment and economy and creates added value. Given the advancements in agricultural mechanization, that the use of biotechnology in agriculture opened a new era and that the food safety will play a vital role in human life in near future, the agricultural sector will maintain its significance. TR22 Region is one of the

most important regions of Turkey in terms of agricultural production. The Region has a large rural population with agriculture as main field of activity and a good part of working population is employed in agricultural sector. In the year 2010, the Region produced 7.8 percent of animal products produced in Turkey. The Region currently hosts 6.32 percent of livestock assets of Turkey (Figure 30). Animal production of the Region had showed an upward tendency until the year 2009. Starting from the year 2010, the animal production recorded decrease in the year 2010. Animal production values showed a 10.6 percent increase from 2009 to 2010 which corresponds from 2.7 Billion TRY to 3 Billion TRY. Yet its position within the country dropped. This situation may be a result of higher increases in other Regions in the same period. In the year 2010, the Region generated over 3.7 Billion TRY on plant production which constitute 4.62 percent of overall plant production. The ratio has been increasing ever since.

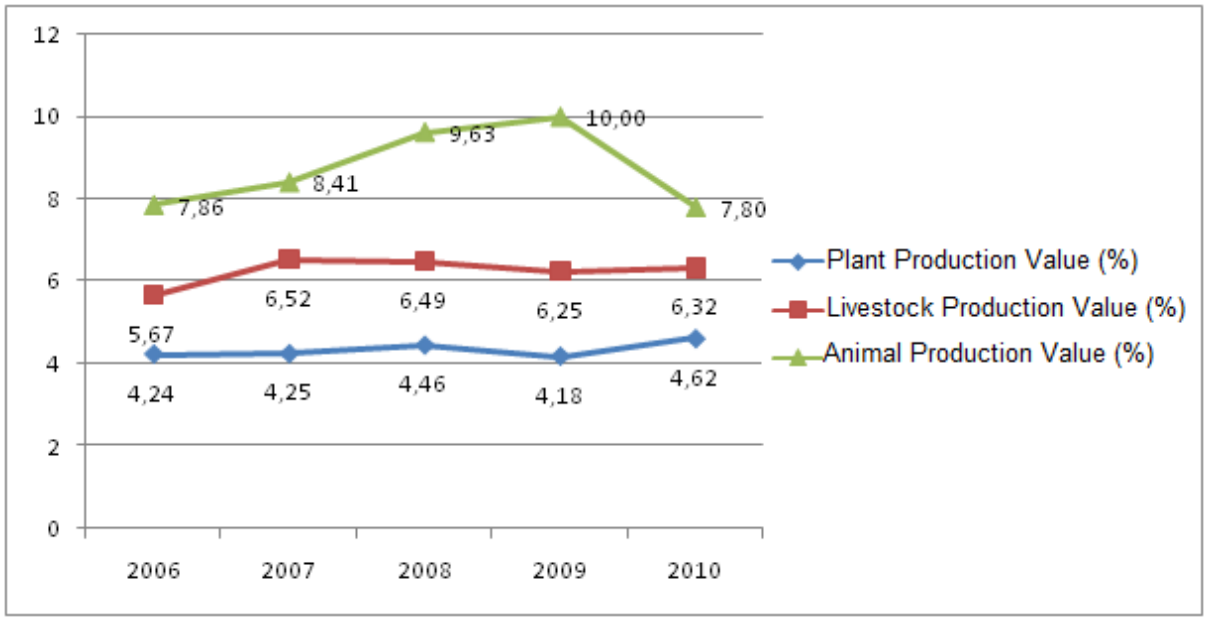

Figure 30: Proportion of Some Agricultural Production Values to Turkish Overall Production Values (%)
Source: TurkStat, 2006-2010.

As it is seen in the Figure 30 the Region exceeds national average in per capita agricultural production values. In terms of per capita animal production values, the Region is ranks the first with a total average value of 1.811 TRY. In per capita livestock values the Region is second with a total average value of 1.803 TL and third in plant production with 2.251 TRY.

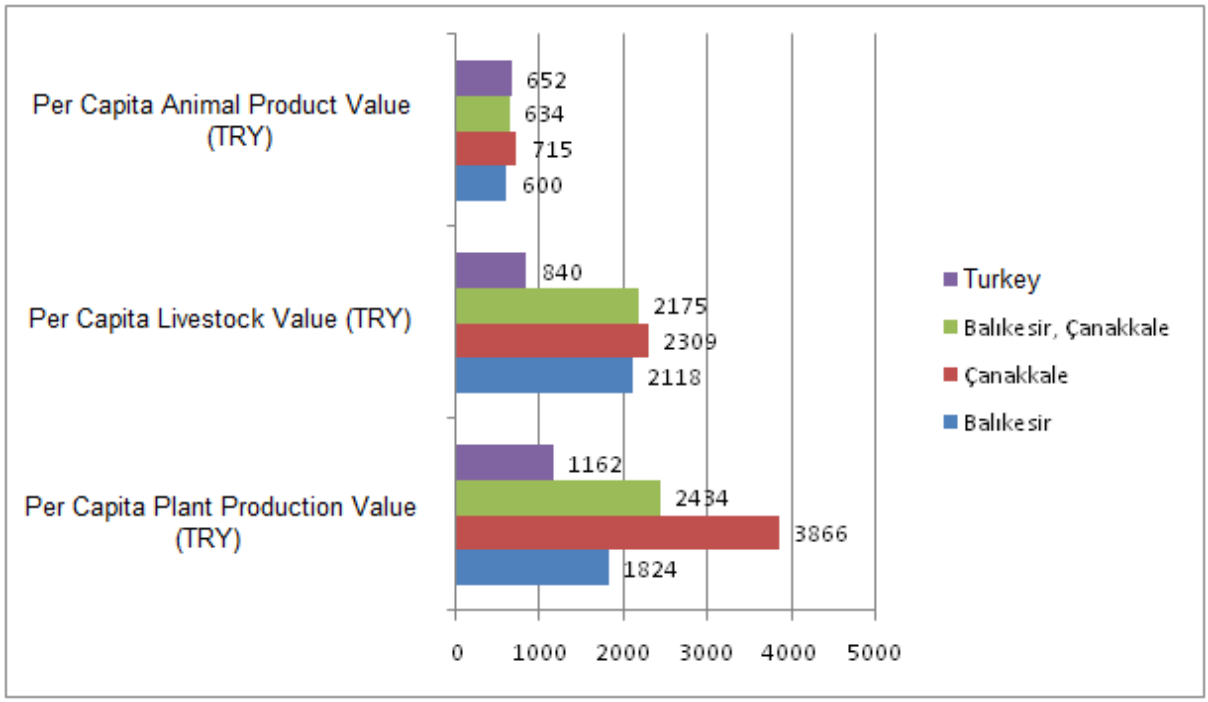

Figure 31: Per Capita Production Values of Certain Agricultural Products in Turkey and in TR22 Region (TRY)
Source: TurkStat, 2010.

The Region has a wide product range in animal and plant production fields. In terms of plant production, especially bay area leads the region in olives for olive oil. In animal production, milk production is widely practiced in all over the Region save for a few districts. Among other significant animal products, egg and white broiler production is focused around Bandırma- Balıkesir and Bandırma-Biga. Ezine and Manyas cheese are also well known animal products of the Region. Wheat production is accumulated in inner parts and paddy is mostly produced in Gönen and Manyas districts. Production of vegetable and fruit has become widespread in the Region over time. Çanakkale tomatoes, nectarine, paprika for paste and paprika are some of the products renowned throughout the country. Tomatoes and paprika are produced in Çanakkale; Gökçeada is known for its organic production; Balıkesir for seed and sapling production. Seed production is an economic field with higher added value and Balıkesir offers the appropriate climatic and soil characteristics for this activity.

5.1.1 Soil Structure and Water Resources

Total surface area of TR22 Region is 2.426.504 ha which corresponds to 3.1 percent of all Turkish lands. 25.7 percent of Region's lands are of 1st - 4th class soils (Table 5). In 1st to 4th

class soils, it is possible to conduct competitive agricultural production. Therefore at least 25.7 percent of the Region's lands are suitable for competitive agricultural production.

Table 5: Classification of Lands of Turkey and TR22 Region by Use Capabilities

Land Class	Balıkesir		Çanakkale		TR22 Region		Turkey	
	Area (ha)	Proportion (%)	Area (ha)	Proportion (%)	Area (ha)	Proportion (%)	Area (ha)	Proportion (%)
1st Class	46.141	3,18	39.164	4,02	85.305	3,52	4.825.442	6,19
2nd Class	124.953	8,6	107.006	10,98	231.959	9,56	6.040.590	7,75
3rd Class	80.595	5,55	63.976	6,57	144.571	5,96	6.036.224	7,75
4th Class	82.279	5,66	78.687	8,08	160.966	6,63	4.877.061	6,26
5th-8th Classes	1.118.846	77,01	684.857	70,32	1.803.703	74,33	56.120.383	72,04
Total	1.452.814	100	973.690	100	2.426.504	100	77.899.700	100

Source: Ministry of Environment and Urban Planning, Balıkesir Province Environmental Report 2012, Çanakkale Provincial Directorate of Food Agriculture and Livestock, 2013.

According to data from Table 6; 31.23 percent of all lands in the TR22 Region are arable lands. According to 2011 data, in TR22 Region 34.51 % of lands were arable lands. In 2013 the ratio reduced to 31.23 percent. According to 2011 proportion of settlement areas, non-arable lands and other lands to all of Region's lands was % 6.38 which increased to %14.83, according to 2013 data.

Table 6: Distribution of Balıkesir and Çanakkale Lands by Quality

LAND QUALITY	Balıkesir		Çanakkale	
	Area (ha)	Proportion (%)	Area (ha)	Proportion (%)
Arable Land	431.919	29,8	330.337	33,3
Grassland and meadows	81.006	5,6	29.495	3,0
Woodland and Shrubs	680.220	47,0	525.580	52,9
Settlement Areas, Non-Arable Lands and Other,	254.155	17,6	107.906	10,9
Total	1.447.300	100	993.318	100

Source: Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2013, Çanakkale Provincial Directorate of Food, Agriculture and Livestock, 2013.

Even though a total surface area of 282.328 ha (65.4 percent) out of 431.919 ha agricultural areas in Balıkesir is irrigable, only 132.087 ha (30.6 percent) of these lands is irrigated.

Among irrigated lands, 125.888 ha (95.3 percent) is irrigated by state and 6.199 ha (4.7 percent) is irrigated by private persons. Irrigated land corresponds to 46.8 percent of irrigable lands.[22] In Balıkesir 6 dams and 24 ponds serve for irrigation purposes. When Manyas and Havran Dams (which are under construction) are completed, 35.779 ha more lands in Manyas and 3.060 ha more lands in Havran will become irrigable. Furthermore, 5 ponds and 6 irritation facilities are under construction.[23]

In Çanakkale, 11.950 ha (33.9 percent) of 330.337 ha agricultural area is irrigable. Only 75.935 ha (23.0 percent) of these are actually irrigated. Among irrigated lands, 52.576 ha (69.2 percent) is irrigated by the state and 23.359 ha (30.8) percent by private persons. Only 67.8 percent of irrigable lands are irrigated.[24] There are 7 dams and 12 ponds in Çanakkale Province that serve for irrigation purposes. When Taşoluk and Bayramdere Dams are completed 9.352 ha and 1.050 ha more lands will be irrigated respectively. Furthermore, there are 9 ponds and 6 irrigation facilities under construction in Çanakkale Province.[25]

In the Region, Çanakkale Central District, Manyas, Gökçeada, Yenice, Bayramiç Districts are leading in terms of irrigable lands with over % 45. Balya and Marmara Districts, however, come last with irrigable lands less than %10 of total lands (Figure 32).

[22] Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2013
[23] General Directorate of State Hydraulic Works, **http://www2.dsi.gov.tr/bolge/dsi25/balikesir.htm**, **13.04.2013**.
[24] Çanakkale Provincial Directorate of Food, Agriculture and Livestock 2013.
[25] **http://www2.dsi.gov.tr/bolge/dsi25/canakkale.htm,13.04.2013.**

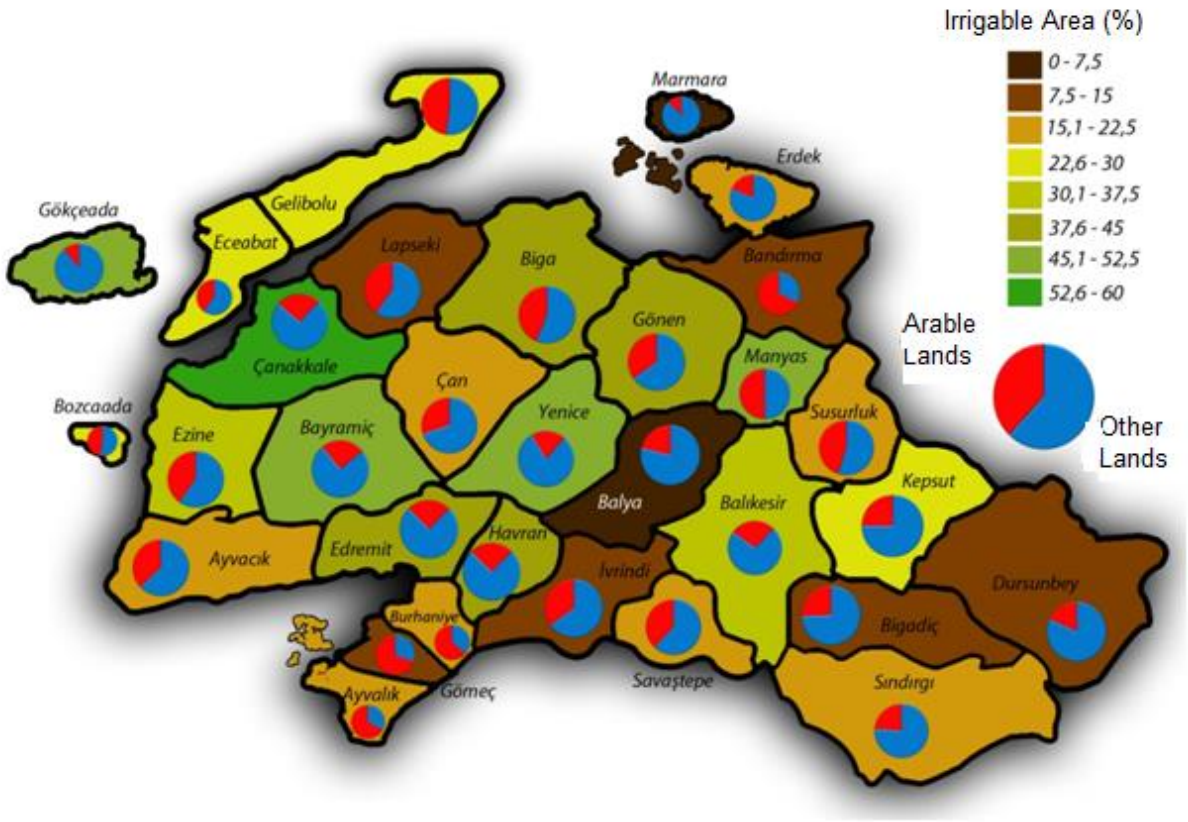

Figure 32: Irrigation and Land Arability Rations of Agricultural Lands in TR22 Region by Districts (%)
Source: Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2011; Çanakkale Provincial Directorate of Food, Agriculture and Livestock, gathered from 2011 data.

Global climate change scenarios are important factors that threaten agricultural supply safety.[26]The most important effect of climate change on Turkey and on TR22 Region is drought. In this respect, it is important to take necessary precautions with regards to the impacts of global warming and therefore of draught.

5.1.2 Plant Production

The average surface area of fields of agricultural enterprises in Turkey is low and the fields of enterprises are usually scattered to distant places. This is the reason why the efficiency as well as competitive strength of agricultural enterprises yet remains low. In the European Union, average field size is 12.7 ha, in Spain 24.0 ha and in France 53.9 ha.[27] In United States the

[26]MoFAL, **Strategic Plan 2013-2017**, 2013.
[27] Eurostat, **http://epp.eurostat.ec.europa.eu/statistics_explained/images/5/5a/Agricultural_holdings%2C_2000-2010.png**, 12.03.2013.

average field size is 180.5 ha.[28] In Turkey, however, the average fields' size of enterprises is 6.0 ha.[29] This figure drops even further in Balıkesir to an average enterprise size of 5.8 ha. Çanakkale exceeds the national average at an average of 7.1 ha. In both provinces, the small enterprises with an average size of field under 5 ha constitute over 50 percent of all agricultural enterprises. Enterprises with an average size of field above 20 ha, on the other hand, constitute lower than 5 percent (Table 7).

Table 7: Average Field Sizes of Agricultural Enterprises in Balıkesir and Çanakkale

FIELDS SIZE (ha)	Balıkesir		Çanakkale	
	Number of Enterprises	Proportion to Total Number of Enterprises (%)	Number of Enterprises	Proportion to Total Number of Enterprises (%)
0 - 1	2.940	7.2	980	4.8
1-2	6.436	15.8	2.618	12.8
2-5	16.133	39.6	7.184	35.0
5-10	9.872	24.3	5.746	28.0
10-20	3.873	9.5	2.988	14.6
> 20	1.441	3.5	992	4.8
Total	40.695	100	20.508	100

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0 - 1	2.940	7,2	980	4,8
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5-10	9.872	24,3	5.746	28,0
10-20	3.873	9,5	2.988	14,6
> 20	1.441	3,5	992	4,8
Total	40.695	100	20.508	100

Source: Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2013, Çanakkale Provincial Directorate of Food, Agriculture and Livestock, 2013.

[28] National Agricultural Statistics Service, **http://www.nass.usda.gov/Charts_and_Maps/Farms_and_Land_in_Farms/fncht6.asp**, 14.05.2013.
[29] European Commission, **http://ec.europa.eu/agriculture/enlargement/countries/turkey/profile_en.pdf** , 12.03.2013.

23.1 percent of all agricultural enterprises in Turkey consist over 5 pieces.[30]Land consolidation is deemed as an important tool for solving structural problems. In this respect, land consolidation works, especially for field farming purposes, will be accelerated. It is planned to consolidate over 1 million ha fields every year throughout Turkey.[31]

In the Region, a large part of agricultural fields is used for field crop production (Table 8). Also, olive groves cover large areas in both Provinces.

Table 8: Usage of Arable Agricultural Lands in Balıkesir and Çanakkale

Land Usage	Balıkesir		Çanakkale	
	Surface (ha)	Proportion (%)	Surface (ha)	Proportion (%)
Farm Field (Including fallowed fields)	311.359	72,1	257.655	78,0
Crop Field	28.340	6,6	20.122	6,1
Olive Groves	81.571	18,9	31.906	9,7
Orchards	8.290	1,9	15.848	4,8
Vineyards	2.359	0,5	4.806	1,5
Total	431.919	100	330.337	100

Source: Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2013, Çanakkale Provincial Directorate of Food, Agriculture and Livestock, 2013.

TR22 Region largely produces wheat, paddy and silage corn (Table 9). The Region produced a total amount of 528.609 tons of wheat and 60.391 tons of sunflowers in 2013 which correspond to respectively 2.94 percent and 4.38 percent of overall national production in the same period. Gönen Baldo is a variety of rice produced in Gönen, Manyas and Biga Districts and is famous with its quality in Turkey. In the year 2013 21.08 percent of all paddy in Turkey was produced in the Region. Silage corn is an important input as feed in animal husbandry sector which is one of the major sectors of the Region. 10.12 percent of national silage corn production took place in the Region.

[30]Ministry of Agriculture and Rural Affairs, **General Situation of Turkish Agricultural Enterprises and Determination of Appropriate Size for Enterprises with Sufficient Income**, 2010.
[31]MoFAL, **Strategic Plan 2013-2017**, 2013.

Table 9: Production Yields and Proportion to Overall National Production of Certain Field Crops in TR22 Region

Product	Years	Balıkesir		Çanakkale		TR22 Region		Turkey
		Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield (t)
Sunflower	2011	31.618	2,7	36.578	3,13	68.196	5,83	1.170.000
	2012	32.936	2,74	43.614	3,63	76.550	6,38	1.200.000
	2013*	27.837	2,02	32.554	2,36	60.391	4,38	1.380.000
Wheat	2011	356.222	1,98	266.829	1,49	623.051	3,47	17.950.000
	2012	310.657	1,85	253.706	1,51	564.363	3,36	16.800.000
	2013*	286.429	1,59	242.180	1,35	528.609	2,94	17.975.000
Paddy	2011	105.613	11,73	85.686	9,52	191.299	21,26	900.000
	2012	108.958	12,38	82.555	9,38	191.513	21,76	880.000
	2013*	99.467	11,05	90.295	10,03	189.762	21,08	900.000
Corn (For Silage)	2011	878.457	6,61	642.106	4,83	1.520.563	11,44	13.294.380
	2012	944.277	6,31	665.448	4,45	1.609.725	10,76	14.956.457
	2013*	1.090.983	6,12	713.290	4,00	1.804.273	10,12	17.835.115

Source: TurkStat, 2013.
*TurkStat 2013 data are provisional.

In the year 2013, the Region produced 23.88 percent of paprika for paste, 15.65 percent of parsley, 15.48 percent of tomatoes for paste and 12.04 percent of okra of national yield. In terms of vegetables produced, parsley, okra and tomatoes for paste are leading vegetables in Balıkesir and paprika for paste is the leader in Çanakkale Province (Table 10).

Table 10: Production Yields and Proportion to Overall National Production of Certain Vegetables in TR22 Region

Product	Years	Balıkesir		Çanakkale		TR22 Region		Turkey
		Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield rl(t)
Garlic (Fresh)	2011	816	3,81	525	2,45	1.341	6,25	21.445
	2012	895	3,47	612	2,38	1.507	5,85	25.768
	2013	789	2,82	660	2,36	1449	5,19	27.930
Tomatoes (Table)	2011	58.333	0,77	338.239	4,47	396.572	5,24	7.573.431
	2012	51.812	0,67	333.892	4,34	385.704	5,01	7.697.961
	2013	59.832	0,75	328.712	4,14	388.544	4,89	7.941.780
Tomatoes (For Paste)	2011	303.290	8,84	226.760	6,61	530.050	15,45	3.430.002
	2012	295.295	8,09	216.266	5,92	511.561	14,01	3.652.039
	2013	391.393	10,09	208.959	5,39	600.352	15,48	3.878.220
Paprika (For Paste)	2011	40.041	5,48	119.505	16,36	159.546	21,84	730.493
	2012	41.092	5,49	142.002	18,97	183.094	24,46	748.422
	2013	47.621	5,85	146.861	18,03	194.482	23,88	814.372
Eggplant	2011	28.500	3,47	5.138	0,63	33.638	4,09	821.770
	2012	26.774	3,35	5.278	0,66	32.052	4,01	799.285
	2013	27.062	3,27	5.248	0,63	32310	3,91	826.941
Melon	2011	110.467	6,70	23.086	1,40	133.553	8,10	1.647.988
	2012	102.217	6,05	25.659	1,52	127.876	7,57	1.688.687
	2013	95.033	5,59	24.998	1,47	120.031	7,06	1.699.550
Parsley	2011	9.071	16,51	832	1,51	9.903	18,02	54.956
	2012	8.925	15,76	749	1,32	9.674	17,09	56.614
	2013	8.575	14,88	445	0,77	9.020	15,65	57.619
Okra	2011	4.819	13,14	196	0,53	5.015	13,68	36.662
	2012	4.536	12,60	197	0,55	4.733	13,15	36.001
	2013	3.836	11,44	203	0,61	4.039	12,04	33.545
Cucumber (Pickling)	2011	14.428	10,03	372	0,26	14.800	10,29	143.855
	2012	13.053	9,41	264	0,19	13.317	9,60	138.768
	2013	13.678	9,71	248	0,18	13926	9,89	140.842

Source: TurkStat, 2013.
*TurkStat 2013 data are provisional.

In terms of fruit production, Çanakkale leads the Region. In 2013, 31.65 percent of nectarine, 31.65 percent of peaches, 6.33 percent of almond and 3.79 percent of apples yield of Turkey were produced in the Region (Table 11). In the gulf Kepsut and Dursunbey districts are leading satsuma and almond producers while Sındırgı is the leader producer of walnut in the Region.

Table 11: Production Yields and Proportion to Overall National Production of Certain Fruits in TR22 Region

Product	Years	Balıkesir		Çanakkale		TR22 Region		Turkey
		Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield (t)	Ratio (%)	Yield (t)
Peach	2011	9.026	1,83	50.534	10,26	59.560	12,09	492.504
	2012	8.900	1,64	80.757	14,85	89.657	16,48	543.924
	2013	6.190	1,10	89.887	15,95	96.077	17,04	563.686
Nectarine	2011	1.378	2,58	17.348	32,49	18.726	35,07	53.398
	2012	1.395	2,07	21.043	31,29	22.438	33,37	67.241
	2013	1.401	1,90	23.377	31,65	24.778	33,55	73.857
Almond	2011	2.502	3,58	3.667	5,25	6.169	8,83	69.838
	2012	2.682	3,34	4.091	5,10	6.773	8,44	80.261
	2013	2.856	3,45	5.246	6,33	8.102	9,78	82.850
Cherry	2011	4.481	1,02	15.055	3,43	19.536	4,45	438.550
	2012	5.655	1,20	18.477	3,92	24.132	5,12	470.887
	2013	5.642	1,14	17.837	3,61	23.479	4,75	494.325
Apple	2011	11.350	0,42	107.615	4,02	118.965	4,44	2.680.075
	2012	11.854	0,41	116.706	4,04	128.560	4,45	2.888.985
	2013	11.424	0,37	118.453	3,79	129.877	4,15	3.128.450
Satsuma	2011	26.378	5,02	457	0,09	26.835	5,1	525.685
	2012	26.003	5	506	0	26.509	5	536.544
	2013	22.225	3,80	549	0,09	22.774	3,89	585.259
Plum	2011	4.915	1,83	5.562	2,07	10.477	3,9	268.696
	2012	4.985	1,66	7.205	2,40	12.190	4,06	300.046
	2013	4.362	1,43	7.350	2,41	11.712	3,84	305.393
Walnut	2011	2.647	1,44	2.808	1,53	5.455	2,98	183.240
	2012	3.668	1,81	3.007	1,48	6.675	3,28	203.212
	2013	3.836	1,81	3.394	1,60	7.230	3,41	212.140

Source: TurkStat, 2013.
*TurkStat 2013 data are provisional.

About 93 percent of all the olive oil export of the world is realized by eight countries. European Union provided significant contributions to their member state producers through promotional campaigns and supports via EU Joint Agriculture Policy. EU Member States realized 69 percent of world olive oil export not including the trade within the EU in 2011/2012 season. Exports of Spain, Italy, Portugal and Greece to non-EU countries in 2011/12 season were, respectively, 248.0thousand tons, 233.2thousand tons, 51.5 thousand tons and 15.5 thousand tons. Exports of Tunisia, Syria, Argentina and Turkey in the same period were respectively 129.5 thousand tons, 25.0 thousand tons, 23.5 thousand tons and 20.0 thousand tons. The country that imported most olive oil with 300.0 in 2011/12 season was United States of America. EU Countries import olive oil from non-EU Countries in bulk to be packaged and re-exported. Other countries that stand out in import are Brazil, Japan, China, Canada, Australia and Russian Federation.[32]

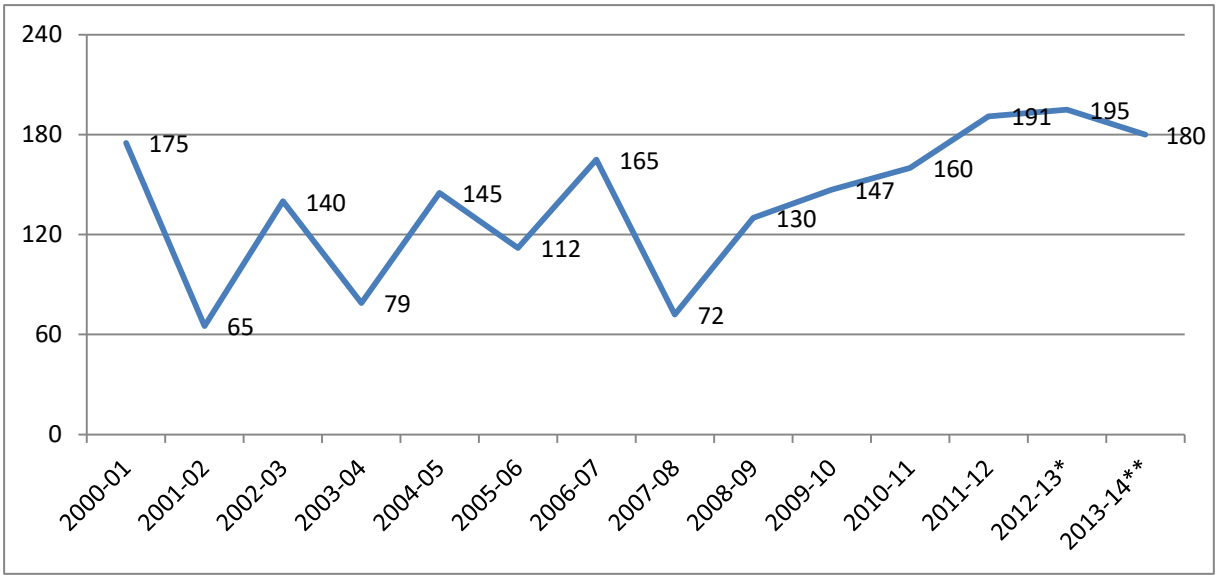

Figure 33: Olive Oil Production of Turkey between the Years of 2000-2013 (thousand tons)
Source: International Olive Council*: Estimations, **: Prediction.

In the year 2013, Turkey exported most olive oil to USA which was followed by Spain and Italy. Export to these three countries constitutes67 percent of total export.[33]China, Indian and Russian Federation are target markets also for Turkish olive oil.

[32]International Olive Council ,**http://www.internationaloliveoil.org/estaticos/view/131-world-olive-oil-figures,** 02.06.2014

[33] TÜİK, 2013

In Turkey's overall production, 20.89 percent of olives for oil and 7.52 percent of olives for table consumption were produced in the Region.[34] 99 percent of oil-type olive groves are located in Burhaniye, Ayvalık, Edremit, Gömeç and Havran which are all bay districts. In the year 2012, total production of olive for oil in Balıkesir is 150.710 tons. The highest production was recorded in Ayvalık. In Çanakkale, on the other hand, the total production of olive for oil was 129.221tons and the highest production in Ayvacık. Ezine and Bayramiç are districts with major oil-type olive production in Çanakkale. The quality of olive oils from the Region is well-acknowledged. Olive oils from Ayvalık and Gulf of Edremit also bear geographical indications.[35] Geographical indication of Gulf of Edremit Olive oils also include Ezine, Ayvacık, Edremit, Havran, Burhaniye, Gömeç, Ayvalık, Altınova, Dikili, Bergama, Zeytindağ and Aliağa localities. Gökçeada and Ayvacık, on the other hand, are leading organic olive oil producers. In Çanakkale, a total of 18.431,2 tons of organic olive were produced in the year 2011.

In terms of olives for table, Edremit is the leader with a total grove surface area of 43.705 da and followed by Erdek (41.950 da) and Bandırma (14.600 da). 2012 yield of Edremit, Erdek and Bandırma districts were 12.021, 8.798and 2.473 tons, respectively. Producing olives for both table consumption and for oils, Edremit stands out in all districts.

5.1.3 Animal Husbandry

TR22 Region plays an important role in Turkey both its animal stock and the value of animal products. The Region hosts 5.36 percent of all bovine stock of Turkey (Table 12). 77 percent of Region's bovine stock is constituted by high-yield culture races and 18 percent by hybrids and 5 percent by native races. The proportion of culture races to whole cattle stock in Balıkesir is 75percent and 84 percent in Çanakkale. In both Balıkesir and Çanakkale, number of culture race bovines increased continuously in the period of 2006-2013.[36] In all around the Region, dairy farming is widespread. Balıkesir Central District, Bigadiç, İvrindi, Gönen, Biga and Yenice are leading districts in dairy farming.

Ovine stock of the Region constitutes 4.25 percent of all sheep and goat stock of Turkey. 74 percent of all ovine is sheep and 26 percent is goat. The leading ovine producer districts are

[34]TÜİK, 2012
[35]Turkish Patent Institute, **http://www.tpe.gov.tr/portal/default2.jsp?sayfa=431**; 21.02.2013
[36] TÜİK, 2013

Balıkesir Central District, İvrindi, Sındırgı, Dursunbey, Ayvacık, Ezine, Gökçeada and Biga. In animal husbandry enterprises of the region crop production is usually included in the scope of works. The proportion of establishments where crop and animal production are held simultaneously, to the animal husbandry enterprises is 87 percent in Bigadiç which is an animal-husbandry-intensive district.[61]

Eggs and broiler farming are also other significant animal production activities of the Region. Region's production has a significant role in total production in Turkey. The Region recorded 15.31 percent of 2013 Turkish broiler production. Also the Region hosts 6.71 percent of all Turkish laying hens. Egg and broiler farming activities are intensively held in Balıkesir Central District, Bandırma, Biga, İvrindi and Manyas Districts.

The Region also hosts 3.08 percent of honeybee colonies of Turkey. South Marmara Region has one of the highest average wind velocities in Turkey especially during summer season. Since stiff breezes in summer seasons negatively affect the fly of the bees, the flora potential of the Region is not sufficiently utilized. Beekeeping is concentrated in Havran, İvrindi, Edremit and Çan Districts. Additionally, local honey variety and organic honey are produced in Gökçeada.

Table 12: Animal Stock in Turkey and in TR22 Region

Animal Type	Balıkesir	Çanakkale	TR22 Region	Proportion (%)	Turkey
Bovine					
Culture	421.919	177.020	598.939	10,06	5.954.333
Hybrid	115.108	20.896	136.004	2,23	6.112.437
Local	25.588	12.726	38.314	1,63	2.348.487
Total	562.615	210.642	773.257	5,36	14.415.257
Ovine					
Sheep	791.355	415.543	1.206.898	4,12	29.284.247
Goat	202.338	227.131	429.469	4,66	9.225.548
Total	993.693	642.674	1.636.367	4,25	38.509.795
Poultry					
Broiler	21.782.959	5.385.736	27.168.695	15,31	177.432.745
Laying Hen	5.710.346	240.528	5.950.874	6,71	88.720.709
Beehive	144.137	60.568	204.705	3,08	6.641.348

Source: TurkStat, 2013.

With an annual 1.022.877 tons of milk, TR22 Region provides 6.14 percent of annual cow milk yield of Turkey (Table 13). The Region's figures in daily milk yield for cow and goat milk is higher than national average. 3.87 percent of sheep milk and 5.91 percent of goat milk of Turkey is produced in the Region.

Table 13: Milk Production Amounts and Milk Yield per Animal in Turkey and TR22 Region

Terrestrial Unit	Animal Type	Number of Milch Animal	Milk Yield (Tons/year)	Daily Milk Yield per Animal (l/day)
Balıkesir	**Cow**	198.930	712.405	9,81
	Sheep	355.868	25.709	0,20
	Goat	89.265	11.069	0,34
Çanakkale	**Cow**	84.193	310.471	10,10
	Sheep	222.873	16.865	0,21
	Goat	126.202	13.377	0,29
TR22 Region	**Cow**	283.123	1.022.877	9,90
	Sheep	578.740	42.574	0,20
	Goat	215.466	24.446	0,31
Turkey	**Cow**	5.607.272	16.655.009	8,14
	Sheep	14.287.237	1.101.013	0,21
	Goat	3.943.318	413.444	0,29

Source: TurkStat, 2013.

Balıkesir realizes 13.38 percent of broiler and 7.74 percent of egg production of Turkey (Table 14). The Region recorded red meat production of 39.635 tons in 2008, 29.359 tons in 2011, 53.748 in 2012 and 56.244 tons in 2013.[37]

[37]Balıkesir Provincial Directorate of Food, Agriculture and Livestock, 2013; Çanakkale Provincial Directorate of Food, Agriculture and Livestock, 2013

Table 14: Production Figures for Certain Animal Products in Balıkesir and Çanakkale

Product Type	Balıkesir	Çanakkale	Turkey
Broiler (t)	235.258	69.482	1.758.363
Cheese (t)	126.917	17.567	600.266
Egg (piece)	1.279.117.504	37.246.210	16.496.751.178
Red Meat (t)	48.753	7.491	869.292
Butter (t)	6.346	967	41.515
Honey (t)	2.582	1.171	94.694
Hair-Wool-Fleece (t)	497	670	59.946

Source: Balıkesir Provincial Directorate of Food, Agriculture and Livestock 2013; Çanakkale Provincial Directorate of Food, Agriculture and Livestock 2013; TurkStat 2013

5.1.4 Fishery Products

Having coasts to Marmara and Aegean Seas, the Region offers a significant potential for fishery products. Gelibolu sardines are world famous and the first canned sardines factory of Turkey was established in this district.

Table 15: Aquaculture Production in Seas and Inland Waters of Balıkesir and Çanakkale Provinces (t)

Production Type	Balıkesir	Çanakkale	TR22 Region
Inland Waters Fish Production	1.811	268	2.079
Culture Fish Production	104	89	193
Total	1.915	357	2.272

Source: Ministry of Food, Agriculture and Livestock; General Directorate of Fisheries and Aquaculture, 2013

5.1.5 Organic Farming

World is becoming more and more aware of the importance of organic farming in protection of biodiversity and of natural resources as well as in sustainability of usage.[38] In the year 2013, in Balıkesir and Çanakkale, respectively 23 and 91 different types of organic products were produced. Total yields in Balıkesir and Çanakkale were, respectively, 860 and 15.164 tons (Table 16). 65 farmers in Balıkesir and 252 farmers in Çanakkale are conducting organic farming practices. The total surface area of organic farms in Balıkesir is 6.316 ha and 1.553 ha in Çanakkale.

[38] Ministry of Agriculture and Rural Affairs, **Urban Development Plan for 2010-2013**, 2009

Table 16: Number, Production Area and Production Amounts of Organic Farms in TR22 Region

TERRESTIAL UNIT	Number of Farmers	Production Area (ha)	Production Amount (t)
Balıkesir	65	6,316	860
Çanakkale	252	1,553	15,164
TR22 Region	317	7,869	16,024
Turkey	26,181	558,838	922,682

Source: Ministry of Food, Agriculture and Livestock; General Directorate of Plant Production, 2013.

The most important organic product of the Region is corn, followed by clover and olive (Table 17). Çanakkale's organic plant production amount is approximately 18 times larger than Balıkesir. In Turkey, overall organic plant production amount for the year 2013 is 922.682 tons. Çanakkale realized 1.64 percent and Balıkesir 0.09 percent of national yield. Especially animal fodders like corn, clover, vetch and hay are significant organic plants in Çanakkale. These plants are used as fodders for organic animal farming of the Region.

Table 17: Organic Plant Production Yield of TR22 Region (t)

PRODUCT	Çanakkale	Balıkesir
Corn	9.128,16	3,05
Clover	1.472,98	-
Olive	1.373,52	37,81
Vetch	1.115,39	17
Grape	413,63	-
Tomatoes	139,18	248,52
Pear	323,2	-
Hay	285,7	-
Almond	284,25	-
Wheat	8,25	265,86
Paprika	147,25	70,02

Source: MoFAL, General Directorate of Plant Production, 2013

Importance of Çanakkale in organic plant products is also reflected in organic animal products. Balıkesir had no organic animal production in the year 2013 while Çanakkale provided 379 tons of organic meat and 15.985 tons of organic milk with a total number of 70 farmers.

5.1.6 Greenhouse (Protected) Cultivation

Even though the investment and input material costs are high in greenhouse cultivation; so is the profit margin. In Balıkesir Province, greenhouse cultivation activities are concentrated especially in Central District, Susurluk and Burhaniye and in Çanakkale, in Lapseki and Ezine Districts. Cucumber and lettuce are the leading greenhouse products in the Region. Tomatoes, beans and paprika are also important products for greenhouse cultivation. In terms of vegetable cultivation, Balıkesir has approximately three times large surface area allocated to greenhouse cultivation activities compared to Çanakkale. Unfortunately greenhouse cultivation based on geothermal energy is not common in both provinces.

5.1.7 Forestry

TR22 South Marmara Region hosts 5.42 percent of all the forests in Turkey. 46.5 percent of Balıkesir's surface area and 53.8 percent of Çanakkale's surface area are covered by forests and scrubs.

In Balıkesir Province, 27 percent of all forestry area is classified as normal forest while 20 percent as degraded forests. For Çanakkale the same figures are 35 percent and 18 percent, respectively. In the year 2011 11.028 ha of forests in Balıkesir and 8.606 ha of forests in Çanakkale were rehabilitated to improve status of degraded forests.[39]

Figure 34: Forestry Situation in Balıkesir (a) and Çanakkale (b) Provinces
Source: Ministry of Forests and Water Affairs, General Directorate of Forests, 2013

[39]Ministry of Forests and Water Affairs, **2011 Forestry Statistics**, 2013

Productive forests of Balıkesir are located in Dursunbey, Bigadiç, Sındırgı, Kepsut and Balya Districts; and degraded forests are located in Bay Districts, İvrindi and Savaştepe Districts. Degraded forests are well spread nearly in all districts of Çanakkale. Productive forests of the Province, on the other hand, are located in Yenice, Bayramiç, Çan, Central and Lapseki districts.

There are 799 intra-forest and forest-adjacent villages in Balıkesir Province with a total population of 289.364 people. In Çanakkale, on the other hand, there are 552 intra-forest and forest-adjacent villages with a total population of 162.191 people. Forest villages constitute the least developed part of Turkey in socio-economic terms. Due to limited and harsh means of living and high unemployment rates, migration to cities is accelerated in these villages.[40] In terms of incentives for development and protection of forests, a total amount of 20.471.906 TRY loans was provided to 37 different projects between the years of 1974-2011.

Table 18: Forestry Protection and Development Supports in TR22 Region'

	Number of Cooperatives	Number of Projects Implemented	Loans Provided
Balıkesir	24	26	4.656.957
Çanakkale	13	15	15.814.949
TR22 Region	37	41	20.471.906
Turkey	499	523	348.748.997

Source: Ministry of Forests and Water Affairs, 2011 Forestry Statistics.

5.2 Industry

5.2.1 Structure of Industrial Sectors in TR22 Region

TR22 Region is very close to highly industrialized cities. Infrastructure investments to strengthen logistic connections are already planned. The region offers rich natural resources and the industry seeking alternatives to large cities around the Region wish to settle in the Region. All these reasons show that the Region offers a good development potential.

In Turkey the geographical terrestrial unit with highest industry accumulation is Marmara Region. 71 percent of all industrial plants in Turkey are concentrated on 12 Provinces lead by

[40]Ministry of Food, Agriculture and Livestock, IPARD 2007-2013

Istanbul.[41] Even though TR22 Region is located within Marmara Region, it did not benefit from the industrial developments therein. Within whole Marmara Region, the sub-region with the lowest share in industrial GVA is TR22 Region.[42]

Examination of industrial enterprises by the records of industrial registry in 2012 shows that Balıkesir Province hosts 3 percent of all industrial enterprises in Marmara Region and ranks fifth place after İstanbul, Bursa, Kocaeli and Tekirdağ provinces. Çanakkale, on the other hand, stands align with Kırklareli, Edirne, Bilecik and Yalova with a share of 1 percent (Figure 35).

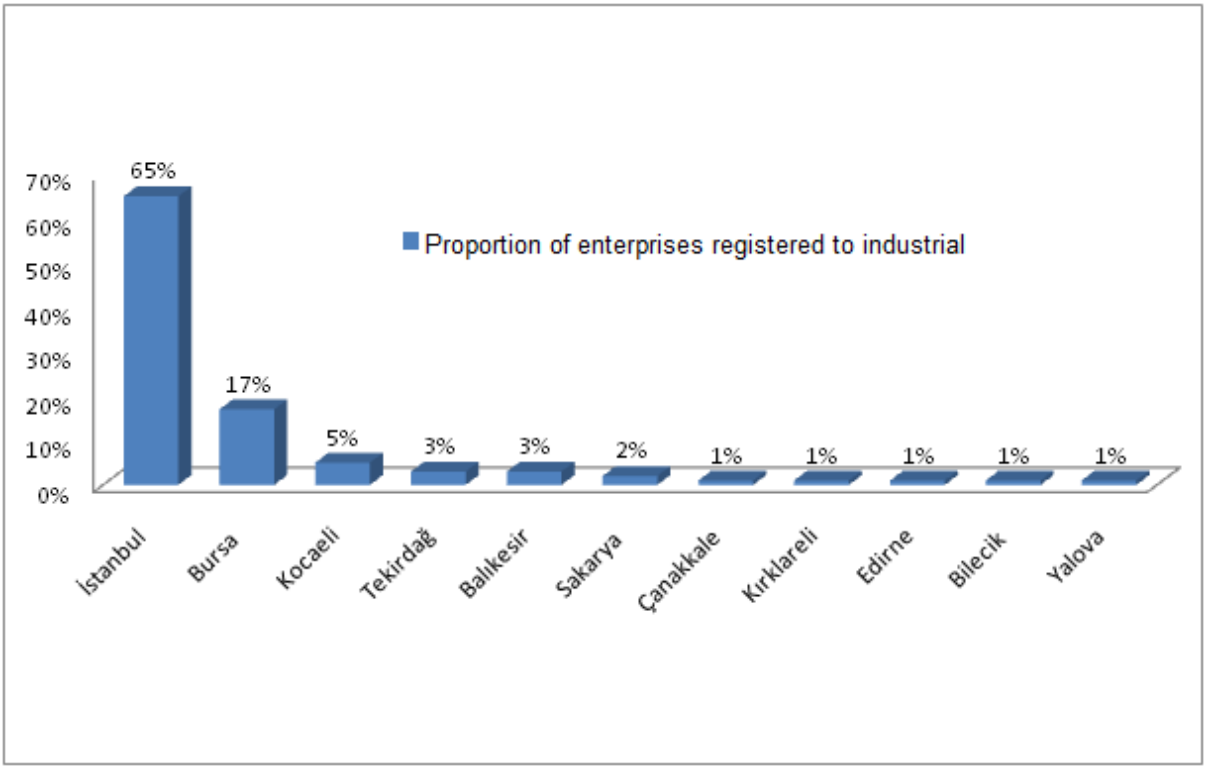

Figure 35: Distribution of Industrial Enterprises by Provinces in Marmara Region (%)
Source: Ministry of Science, Industry and Technology, Situation Report for 81 Provinces, 2013.

In TR22 Region, there are 1.416 enterprises registered to industrial registry.[43] 76 Percent of these enterprises are located in Balıkesir and 24 percent in Çanakkale. Due to relatively better transportation means, Balıkesir is much more developed in industry compared to Çanakkale.

[41]Ministry of Science, Industry and Technology, **Situation Report for 81 Provinces,** Ankara, 2013
[42]Ministry of Development,**National Strategy for Regional Development 2nd Draft**, Ankara, 2013
[43]Ministry of Science, Industry and Technology, **Situation Report for 81 Provinces**, Ankara, 2013

Çanakkale, however, is located on an area with more historical characteristics and could not show a development in parallel to that of Marmara Region.[44]

According to data from Industry Database of TOBB, there are 874 companies in Balıkesir Province. Total number of employees in these companies is 32.872. In Çanakkale, 20.751 people are employed in 347 companies registered in the database.[45] The figures show that 2 percent of all Turkish enterprises registered in the industrial sectors are located in TR22 Region. In Balıkesir Province, the industry is mostly concentrated in Central District, Bandırma and Gönen Districts; and in Biga and Central Districts of Çanakkale. Average number of employees per company is 44 in TR22 Region. This ratio is very close to national average. Average number of employees is 63 in Çanakkale and 37 in Balıkesir.

Table 19: Number of Companies and Employees by Districts

DISTRICT	Number of Companies	Number of Employees	Average Number of Employees
Balıkesir Central District	265	10220	39
Bandırma	118	8503	72
Gönen	107	2527	24
Edremit	79	1414	18
Biga	85	4993	59
Çanakkale Central District	84	1660	20
Ayvalık	57	901	16
Ezine	44	904	21
Marmara	39	891	23
Susurluk	33	2859	87
Havran	36	991	28
Burhaniye	32	418	13
Çan	27	10795	400
Dursunbey	24	664	28
Ayvacık	29	220	8
Bayramiç	22	419	19
Yenice	23	671	29
Gelibolu	23	441	19
Erdek	12	480	40

[44] Ministry of Environment and Urban Planning, **1/100.000 Scaled Environmental Master Plan Study Report on Balıkesir Çanakkale Planning Region**, 2012.
[45] TOBB Industrial Database, 11.06.2014

Manyas	16	999	62
Lapseki	9	457	51
Kepsut	14	305	22
Gömeç	17	233	14
Bigadiç	13	686	53
Balya	13	240	18
İvrindi	9	174	19
Gökçeada	7	32	5
Eceabat	7	109	16
Sındırgı	10	89	9
Bozcaada	9	54	6
Savaştepe	2	55	28

Source: TOBB Industrial Database, 11.06.2014.

In TR22 Region, industry is generally based on agriculture and on processing the natural resources. Leading industrial products of the Region are: flour, tomato paste, canned food, vegetable oil, fertilizer, margarine, processed fruits and vegetables, legumes, processed white-red meat, olive and olive oil, milk and dairy products, frozen and dried food, seafood, mineral products especially boron and marble, ceramic products, cement, rebar and construction steel.[46]Distributions of industrial enterprises by sectors show that food sector is the leader in both provinces [47](Figure 36).

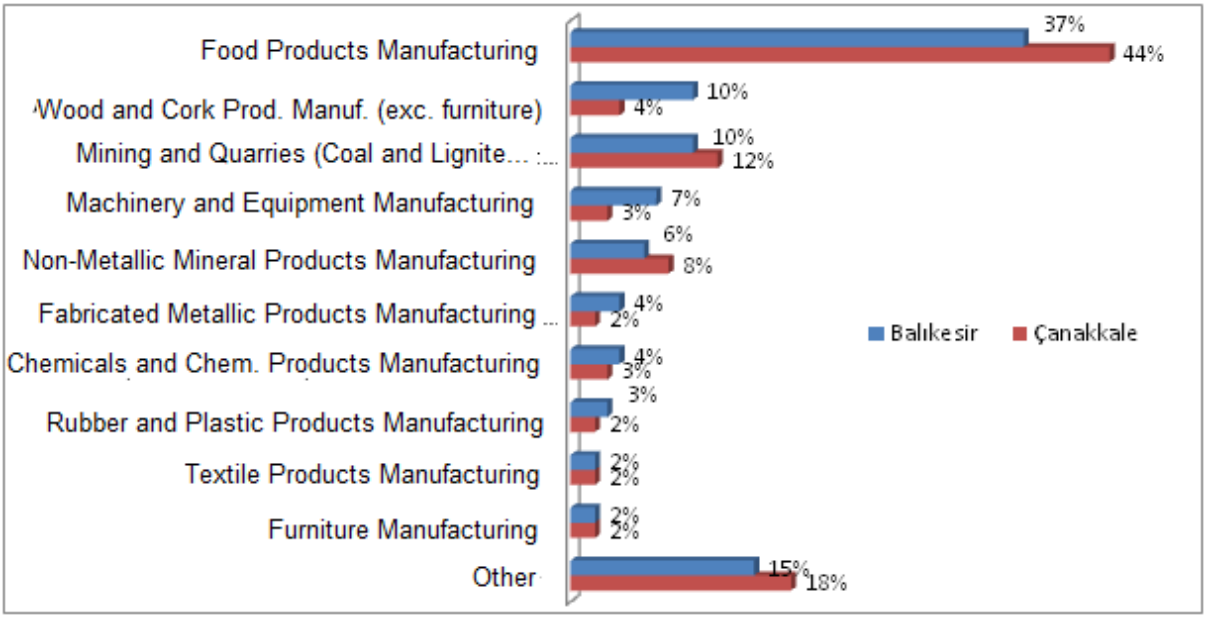

Figure 36: Distribution of Industrial Enterprises by Sectors in TR22 Region (%)
Source: Ministry of Science, Industry and Technology, Situation Report for 81 Provinces, 2013.

[46]Ministry of Environment and Urban Planning (EMP, 2012)
[47]Ministry of Science, Industry and Technology (2012)

Bandırma, Biga and Çan districts are more developed in industrial sectors than other districts and they constitute the center of the industrial axis spanning towards north of the Region. In Bandırma, poultry sector and fertilizers, in Biga iron-steel and furniture, in Çan ceramic, in Manyas milk and dairy products industries are developed. In Central District of Balıkesir, agricultural machinery, cement, synthetic bags, transformers, marble, flour and feed industries and in Central District of Çanakkale canned food industry are leading the sector. Gulf of Edremit districts; namely Edremit, Havran, Ayvalık, Burhaniye, Gömeç and Ayvacık as well as Erdek are important centers for olive and olive oil production. Forestry products are produced in Dursunbey and energy generation activities span all over the Region, especially in Balıkesir Central District, Susurluk, Bandırma, Biga, Gönen, Ezine, Ayvacık and Bozcaada Districts. Mineral reserves are widespread in all around the region.

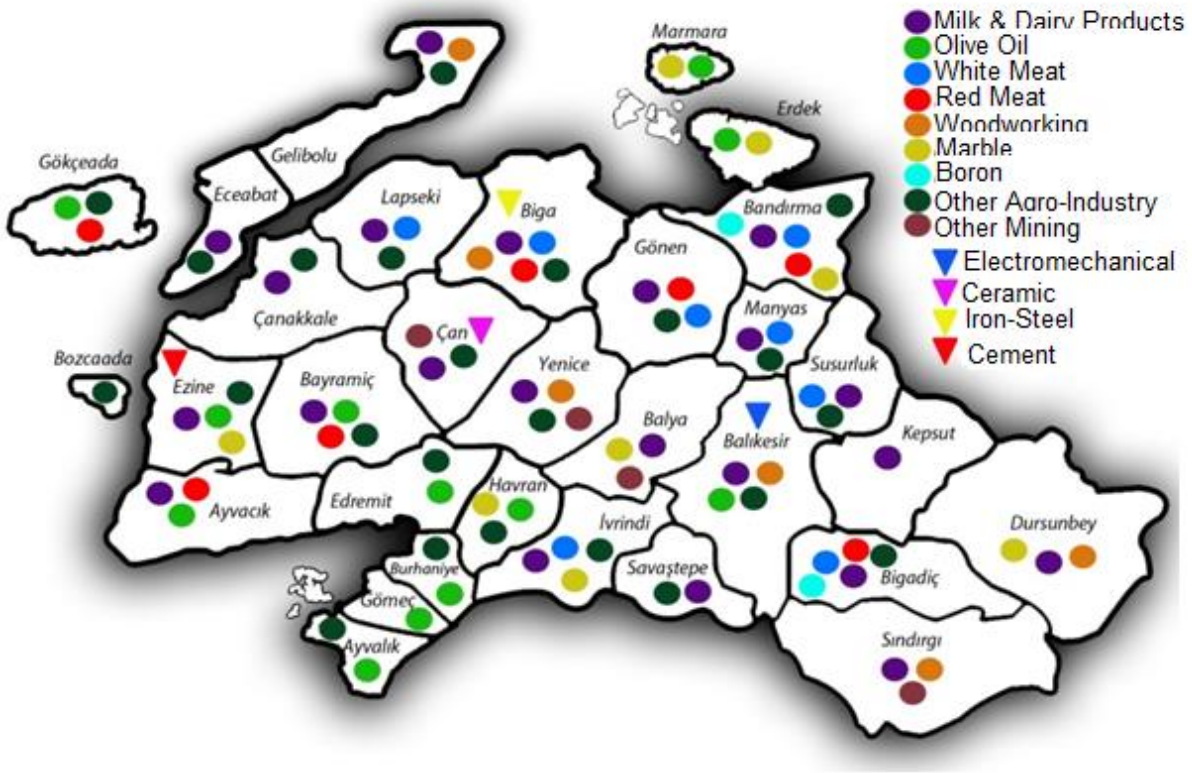

Figure 37: Distribution of Industrial Sectors by Districts in TR22 Region
Source: TurkStat, produced from 2012 data.

In TR22 Region, many large industrial facilities and enterprises are located like İÇDAŞ which is listed in 2012 top 500 companies list of İSO, Kastamonu Integrated Wood Industry, Akçansa Cement, Banvit, Kale Ceramic, Şeker Piliç, Yörsan, Turyağ, BEST Electro mechanics, Yarış Kabin, Bupiliç and Teksüt. However, most of the industrial enterprises in

the Region are classified as SMEs. Communication between the larger scaled facilities/enterprises and SMEs in the Region is very weak. The facts that entrepreneurship culture is not sufficiently developed in Region and that it is difficult to access the funding opportunities are some of the rather more significant problems of SMEs in the Region.[48]

5.2.2 Level of Competitiveness of Industrial Sector in TR22 Region

South Marmara Region is one of the leading regions of Turkey in olive-olive oil, milk and dairy products and poultry sectors. It is vital for the enterprises of the Region to develop such plans and activities to gain advantage in the international markets so as to increase export numbers in this sector. It is important for developing collaboration culture and for improving exportation to allow the food sector benefit from cluster programs like the Development of International Competitiveness program executed by Ministry of Economy.

Natural rocks and mining sectors of the Region are also play significant roles in national economy. In this sector, the minerals are usually sold as unprocessed/semi-products without becoming final products with higher added values. In order to increase the Regional added value of the sector and to develop creative industries, it is needed to ensure that these resources are processed within the region and are sold as end products.

Information-intensive industrial sectors did not go great lengths in the Region. Yet, in order to stand out in global competition and to accelerate the development, it is needed to invest in, develop and produce technology and high-tech products, which can easily be called the driving force of the development. In this respect, the Region must specialize in advanced technology sectors which can provide competitive edge for the Region. Renewable energy sector is the leader among such high-tech sectors. It is estimated that renewable energy sector will produce an added value of € 40 Billion until the year 2023. Medical electronics and pharmaceuticals sectors also present great opportunities as they are expected to improve rapidly due to aging population and increasing health problems arising thereof.

In order to understand the competitiveness structure of the Region, results of "Interprovincial Competitiveness Index" by International Competitiveness Researches Institute (URAK) between the years of 2007-2010 were examined. According to these results, levels of

[48]SMDA (Decentralization, 2012).

competitiveness of both Provinces are below average of Marmara Region and around the national average. Balıkesir escalated from 41st to 27th place in the Commercial Abilities and Production Potential Index during the period of 2008-2010. This indicates that the Province is developing in this area. Nonetheless, neither province showed any significant development in terms of branding abilities and innovation over the years.

Table 20: TR22 Region's Position in Interprovincial Competitiveness Index Rankings

COMPETITIVENESS INDICES	Balıkesir			Çanakkale		
	2007-2008	2008-2009	2009-2010	2007-2008	2008-2009	2009-2010
Main Index of Competitiveness	25	21	23	35	31	33
Branding Abilities and Enovation	19	18	19	35	35	35
Commercial Abilities and Production Potential	41	30	27	29	20	25

Source: URAK, 2007-2010.

Clustering is an important tool for improving competitiveness of the Regions. It also plays important role in strengthening the cooperation between the companies and in developing innovative capacities of companies. In certain parts of the Region, there are agglomerations of sectors which may lay the groundwork for realization of clustering. TR22 Region presents clustering potential for olive farming, milk and dairy products, poultry, red meat products, thermal tourism, marble and renewable energy sectors. When such clusters are realized, they are expected to bring competitiveness advantages and to escalate through developing and mature cluster stages.

Industrial power consumption is acknowledged as another important indicator of industrial development. Upon examination of industrial power consumption data over years, it is seen that the Region showed a development in parallel to national development levels. Çanakkale recorded a rapid increase in the industrial power consumption rates since from the year 2002. In the year 2001, industrial sector of the Region's provinces went through a recession period same as the all other sectors in Turkey due to economic crisis. During the rebound-period, Çanakkale showed a development in parallel to national development levels while Balıkesir lacked such a performance. Even though Balıkesir has higher numbers of enterprises the amount of electricity consumed by industry remains lower which indicates that the Province lags behind in capacity usage and in the level of technology used in industry.

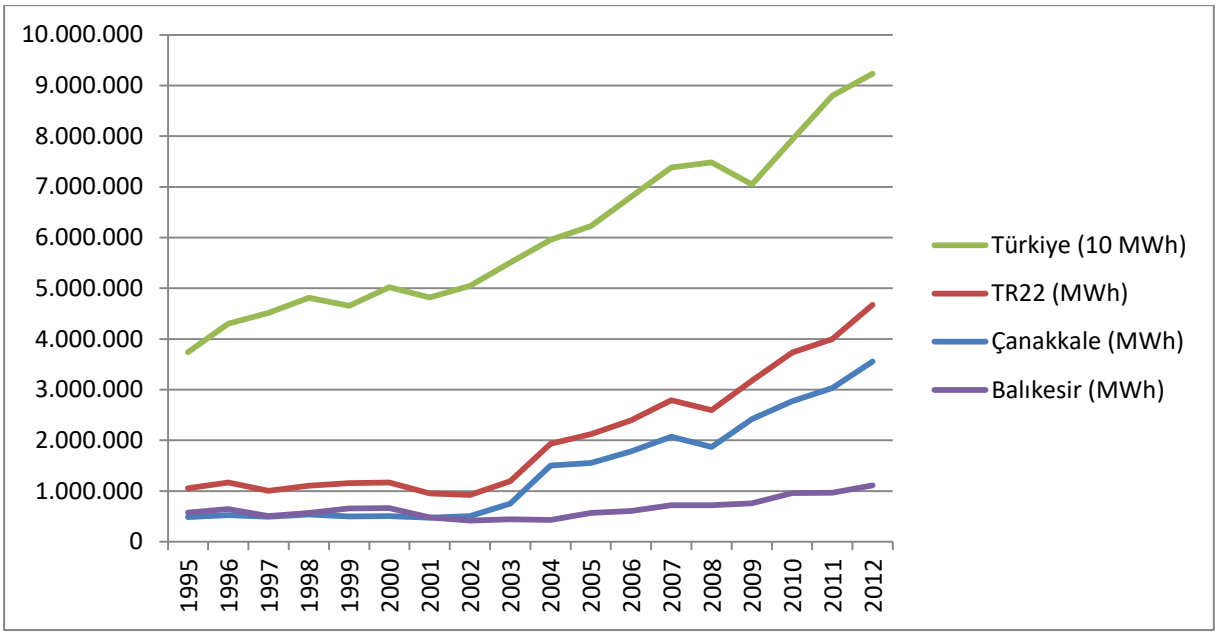

Figure 38: Electricity Consumption of Industrial Enterprises in Turkey and in TR22 Region (MW/Hours)
Source: TurkStat, 1995-2012

Since from mid 2000s, significant advancements were recorded in R&D and innovation throughout the country. As the larger cities led these sectors, other provinces also recorded significant improvements and advancements.[49] Parallel to this, increase in the number of patents and trademark registration occurred both in national and in regional levels. Especially in Balıkesir, number of trademark registration increased over three-fold between the years 2000 and 2013 (Figure 39).

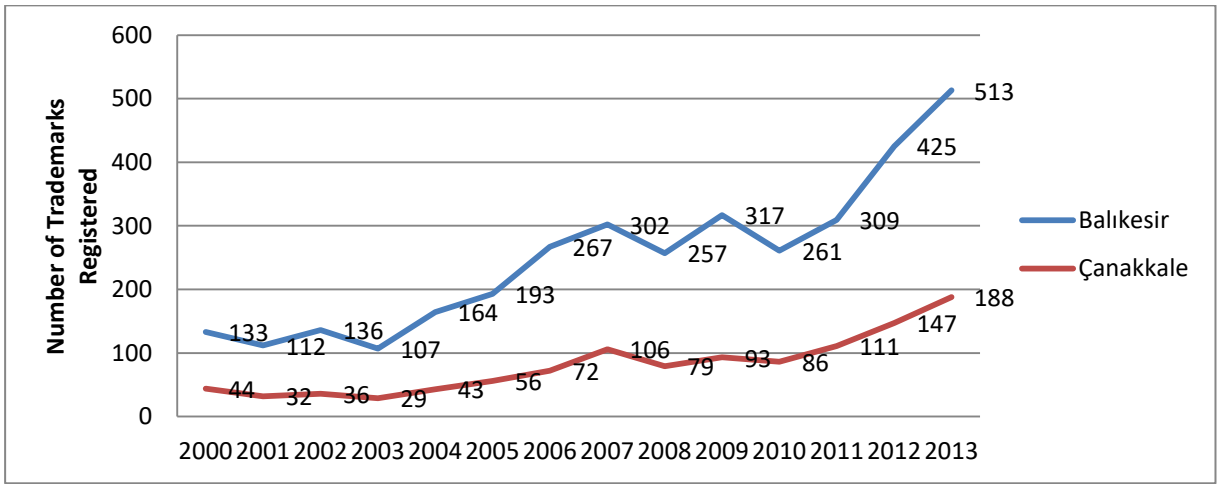

Figure 39: Number of Trademark Registrations in TR22 Region by Years
Source: TPI, 2000-2013.

[49]Ministry of Development (NSRD, 2012)

Between the years 1995 and 2001, the number of patents registered in the Region was only 1. During the period of 2002-2013, however, 16 patent applications in Balıkesir and 6 patent applications in Çanakkale were registered. Number of patent and trademark registrations per million people by the Regions show that Istanbul is well ahead of other provinces and that TR22 Region lags behind especially in the number of patents registered (Figure 40). Yet, the number of patent applications increased in the last 5 years. According to 2013 data, Balıkesir ranks 13th and Çanakkale rank 27th with respectively 13 and 9 patent applications. Same is observed for trademark applications as well. According to 2013 data Balıkesir ranks 15th with 748 applications and Çanakkale ranks 23rd with 364 applications. Recent increase in the number of applications show that the research and development activities improved in the Region.

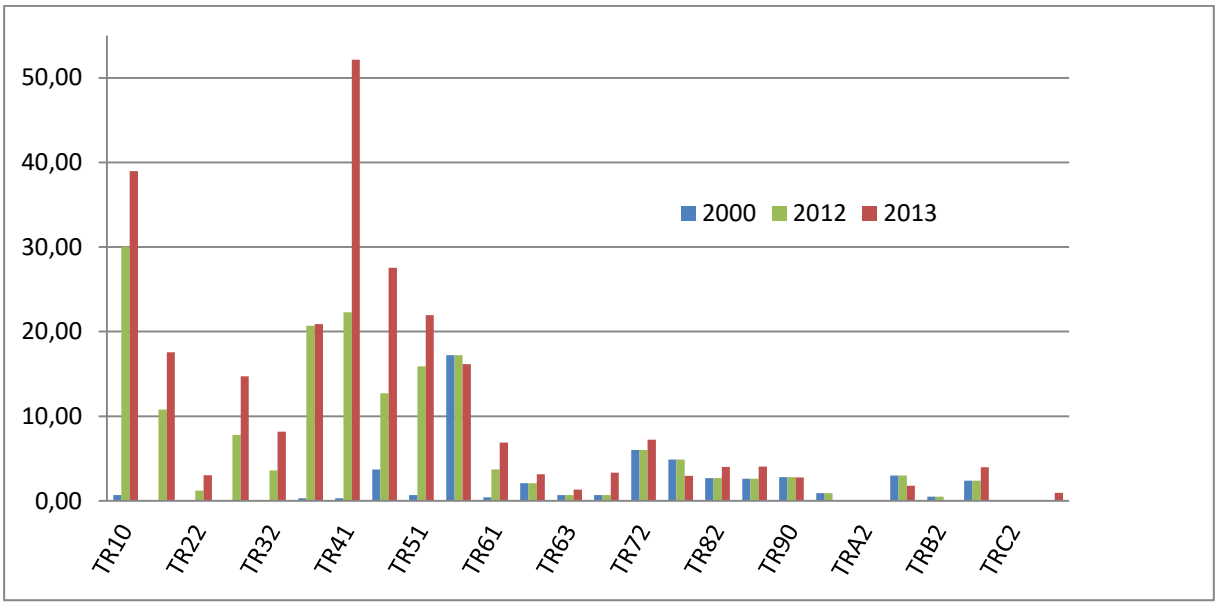

Figure 40: Number of Patent Registrations per Million People by Level 2 Regions
Source: TPI, 2000-2012-2013.

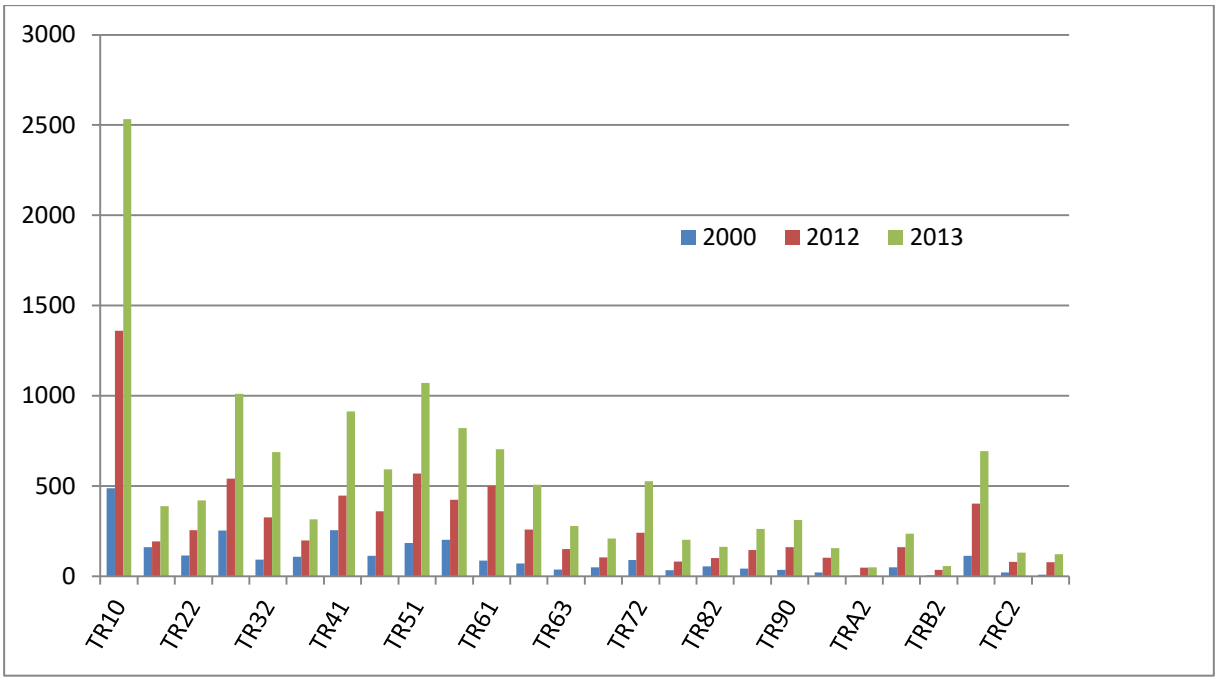

Figure 41: Number of Trademark Registrations per Million People in Level 2 Regions
Source: TPI, 2000-2012-2013.

Thanks to tax incentives, projects by the Ministry of Science, Industry and Technology, grant supports by TÜBİTAK, KOSGEB and Development Agencies for R&D efforts, R&D expenditure showed a tendency to increase in recent years.[50] When examined the distribution of R&D expenditure and the number of R&D employees by the region, it is seen that both figures are concentrated in industrialized cities. TR22 Region, however, lags behind the surrounding provinces in terms of R&D expenditures and the number of R&D employees (Figure 42). When the data for R&D and for patent and trademark registration are interpreted together, it is seen that the Region lag behind in R&D activities and commercialization of these activities and further that the Region is still in the beginning of branding processes. Lack of an active techno-park in the region is one of the reasons for insufficient efforts in R&D activities and in cooperation between university and industry. Signatures and feasibility works of Techno Park in Çanakkale are already finalized. Also, a protocol has been signed between the parties for establishment of a techno park in Balıkesir. It is vital for innovation in the industry of the Region to complete the infrastructure works for technology zones and to have them in service.

[50]Ministry of Development (NSRD, 2012)

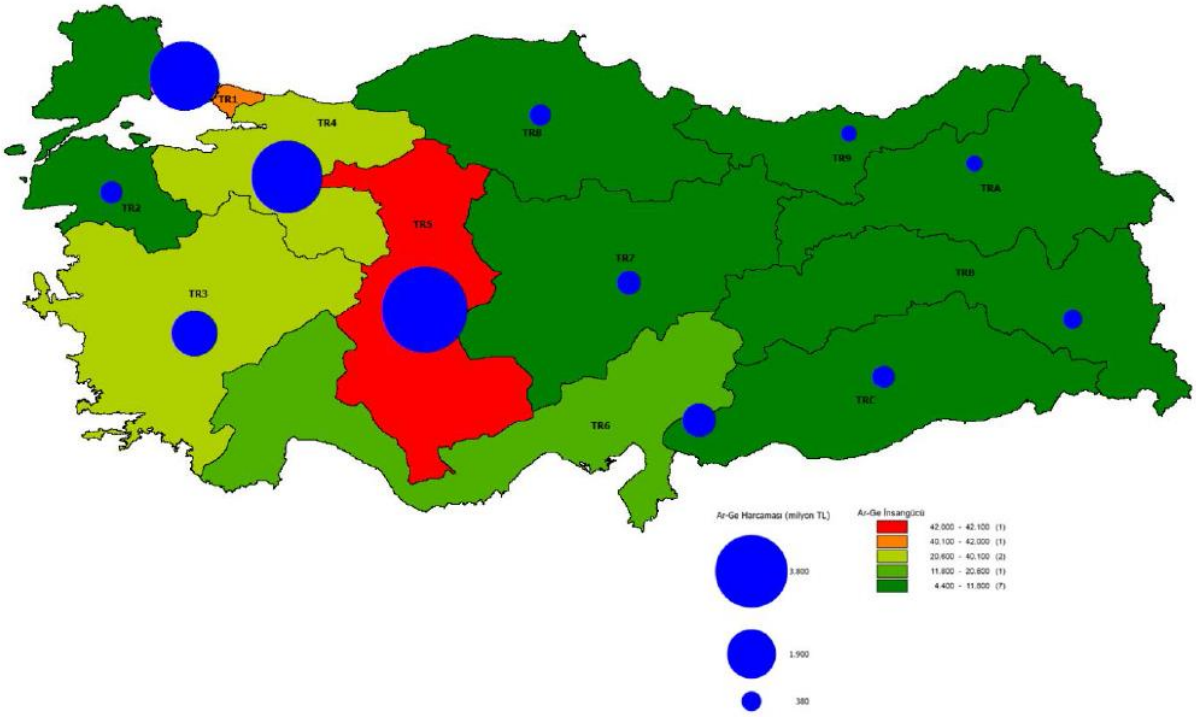

Figure 42: R&D Expenditures and Workforce by Level 1 regions
Source: NSRD, November 2013.

In order to improve the innovative profile of the Region, the stakeholders in the Region must gather around a common target for specializing in information- and technology-intensive sectors. The Region needs such innovative and research development focused enterprises that can produce products with high competitive strength in national and international markets. In order to increase the number of such innovative and R&D based companies, qualified workforce and better access to funding means are needed.

In the year 2002, the number of cooperatives or corporations opened per each cooperative or corporation closed was 8 in Turkey and 12 in the TR22 Region. Over the years, these rates declined to 4 in Turkey and 6 in the Region by the year 2009.[51] The Region is in a better standing than national average in terms of the number of cooperatives and corporations opened per each closed cooperation or company. When the figures concerning the number of companies, cooperatives and trade enterprises established and closed per thousand people by Regions are examined, it is seen that TR22 Region is one of 11 regions that exceed the 1 enterprise per thousand people threshold. In the period of 2012-2013, 9 enterprises were opened and 5 enterprises were closed per each ten thousand people (Figure 43).

[51] TÜİK, **Numbers of Closed Corporations and Cooperatives**, **http://tuikapp.tuik.gov.tr/Bolgesel/tabloYilSutunGetir.do?durum=yillariGetir&menuNo=491&altMenuGoster=0&tabloNo=177**, 11.06.2014.

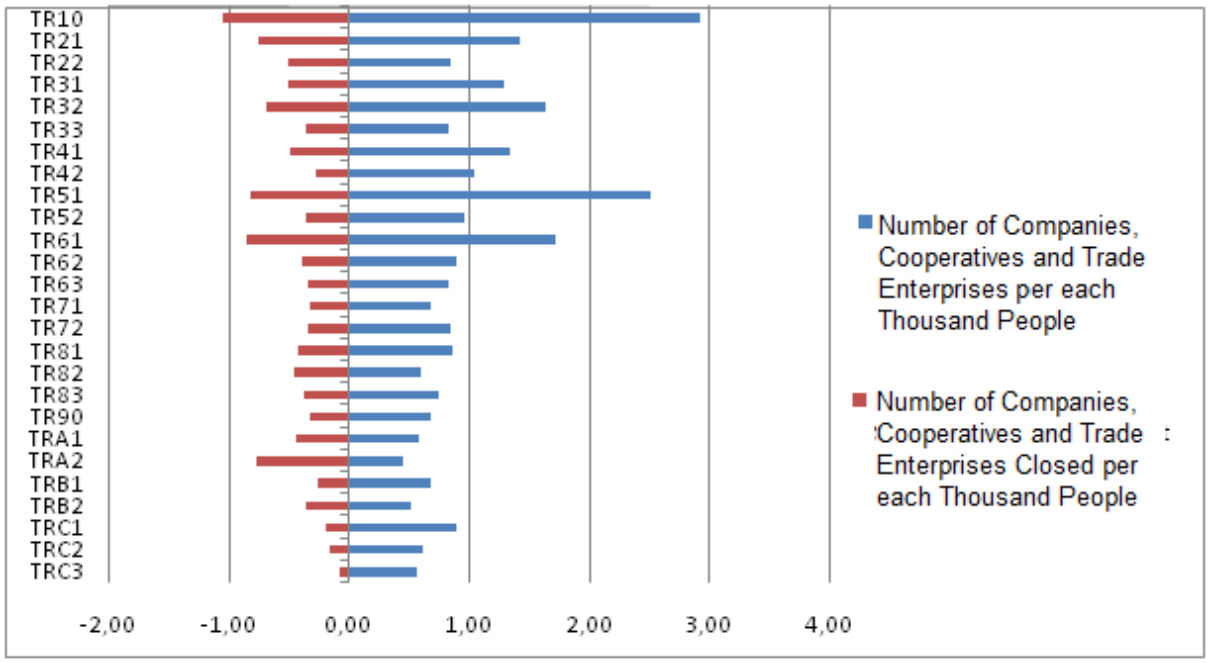

Figure 43: Number of Corporations, Cooperatives and Trade Enterprises Established and Closed per each Thousand People in Level 2 Regions in the Years of 2012-13 (Average)
Source: TOBB and TUİK 2012-2013 data

According to the new incentives system regulations published by the Ministry of Economy on 2012, Çanakkale Province is located on 2nd region while Balıkesir Province is in 3rd Region. Gökçeada and Bozcaada Districts, however, are located on 6th Region. Such incentives like income tax withholding allowance, social security premium support, tax exemption, tax immunity, land allocation and interest rate support will provide significant contributions for increasing investments in TR22.

In the year 2012, a total sum of $ 12.686 Million Dollars of direct international investment entered Turkey. In the last 3 years, the country has become one of top 30 countries that received the most direct international investment.[52] However, direct foreign capital investments are not at sufficient levels in the Region. According to industrial database of TOBB, only 1.72 percent of all of the foreign capital funded industrial enterprises are located in the TR22 Region.[53] The foreign capital investments in TR22 Region are mostly focused on mining, energy and food sectors (Figure 44). Nearly all of the foreign capital industrial enterprises in the Region are European origin companies. A large Chinese corporation, however, signed an agreement for textile investment in 1st OIZ of Balıkesir in the year 2013.

[52]Ministry of Economy, **Direct International Investment Data Bulletin**, 2013
[53]TOBB, **Distribution of Foreign Capital Companies by Provinces, http://sanayi.tobb.org.tr/yabanci_sermaye_il.php**, 11.06.2014

With this investment only, it is planned to create employment opportunities for 1.500 people in the Region.

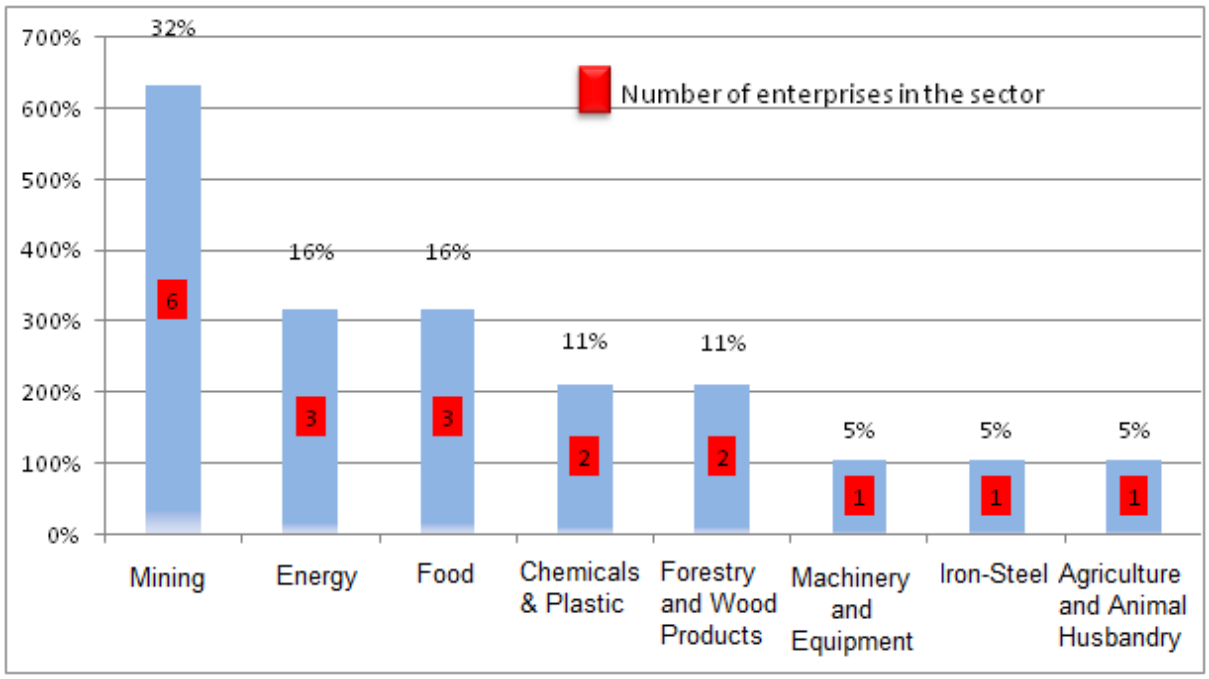

Figure 44: Distribution of the Foreign Capital Investments by Sectors in TR22 Region
Source: TOBB Industrial Database, 11.06.2014.

In Turkey, of all the investment incentive certificates issued within the period of 2001-2013, only 1.36 percent was issued to Balıkesir and 0.64 percent to Çanakkale.[54] Even though more incentive certificates for foreign capital investments were issued to Çanakkale, the monetary sum of investments in Balıkesir is approximately twice that of Çanakkale. In terms of domestic capital investments, Balıkesir received over twice the number of incentive certificates than those issued to Çanakkale. Balıkesir also outpaces Çanakkale in terms of the investments used incentives and in employment figures.

[54]Ministry of Economy, **Investment Incentive Statistics**, **http://www.ekonomi.gov.tr/index.cfm?sayfa=EE7EE7B1-D8D3-8566-45201CE77E5F0FDD**, 11.06.2014

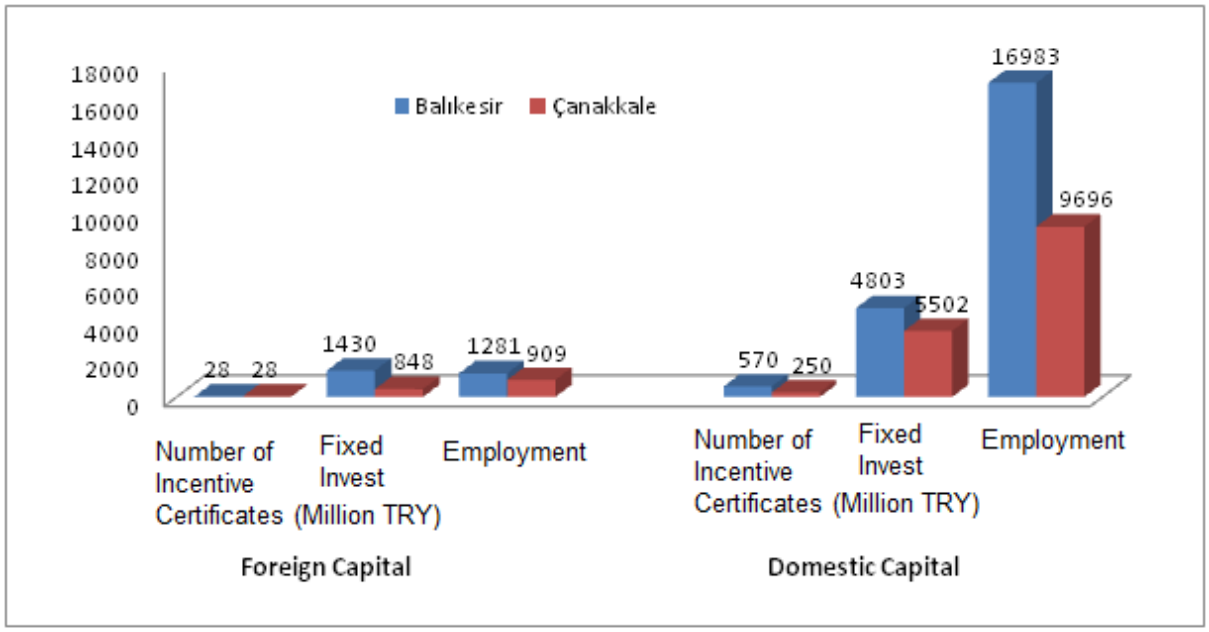

Figure 45: Investments with Incentive Certificates in TR22 Region
Source: Ministry of Economy, Investment Incentive Certificate Issued from 01.01.2001 until 31.12.2013.

5.2.3 Manufacturing Industry

In the last 50 years, manufacturing industry in Turkey developed very rapidly. The number of manufacturing industrial establishments has increased 100-fold while the employment figures have increased 10-fold.[55] For very long years, nearly half of the manufacturing industry was based in İstanbul. Beginning from the year 2001 other regions have increased their shares in the manufacturing industry.

When the structure of the manufacturing industry in Turkey is examined, it is seen that the employment and use of advanced technology are mostly concentrated in İstanbul, Ankara, İzmir, Bursa and Kocaeli Provinces. In TR22 Region, however, the employment created by the manufacturing industry is relatively lower compared to the surrounding regions. In the Region, mostly low- and medium-low technology based manufacturing industrial practices are common (Figure 46).

[55]Ministry of Development (NSRD, 2012).

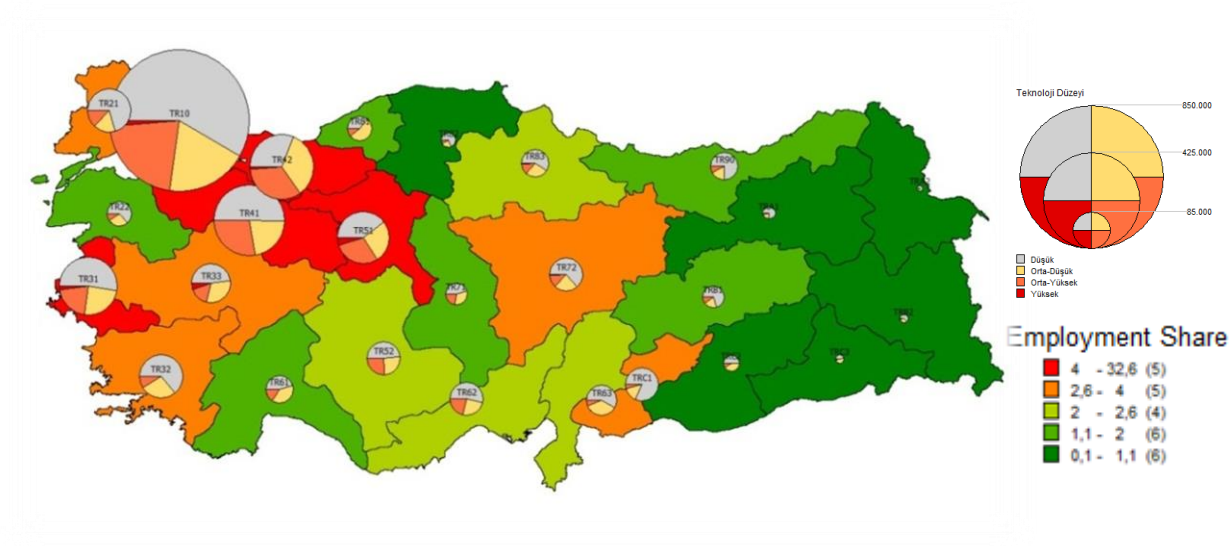

Figure 46: General Structure of Manufacturing Industry by Level 2 Regions
Source: NSRD, 2009.

When the economic activity sections in Nace Rev.2 are examined, it is seen that, as of 2010, % 9.80 of the local units in the TR22 Region are manufacturing industry units.[56] 22.92 percent of the labor force in the Region is employed in the manufacturing industry.[57] TR22 Region is one of the Level 2 Regions that exceed threshold of 200.000 TRY turnover yield per employee in manufacturing industry and ranks in 7th place among these regions.

Table 21: Turnover per Employee in Manufacturing Industry in Level 2 Regions between the Years 2006-2011 –Top 10 Regions (Thousand Turkish Liras)

LEVEL 2 REGIONS	2006	2007	2008	2009	2010	2011	AVERAGE
TR42	319,20	297,23	317,14	289,31	340,78	417,54	332,92
TR71	65,86	170,11	217,82	99,37	269,99	353,43	201,99
TR63	149,57	181,89	222,16	198,76	247,92	328,09	227,67
TR81	184,05	199,15	223,11	205,72	247,71	348,46	235,61
TR31	159,60	200,58	235,39	216,64	239,95	292,84	225,57
TRC3	410,95	200,91	203,57	175,68	224,25	290,02	246,72
TR22	130,12	148,99	196,69	222,34	218,50	280,02	201,26
TR62	148,22	172,48	168,94	193,53	208,16	235,33	189,60
TR41	131,45	155,79	165,95	164,98	198,97	240,83	177,67
TR21	170,39	128,56	152,77	192,24	191,17	215,42	175,78

Source: TurkStat, 2011.

[56] TÜİK, **Number of Local Units by Economic Activity Sectors**, **http://tuikapp.tuik.gov.tr/Bolgesel/tabloYilSutunGetir.do?durum=yillariGetir&menuNo=477&altMenuGoster=0&tabloNo=289**, 11.06.2014.
[57] TÜİK, **Number of Employees by Economic Activity Sectors**, **http://tuikapp.tuik.gov.tr/Bolgesel/tabloYilSutunGetir.do?durum=yillariGetir&menuNo=478&altMenuGoster=0&tabloNo=290**, 11.06.2014.

In Turkey, the manufacturing industry is mostly accumulated in agriculture and raw-material dependent low-technology based sectors that are commonly known as conventional sectors. In TR22 Region, manufacturing industry is concentrated in wood, food, base metal and other non-metallic minerals' sectors.[58]

When the spatial structure of the manufacturing industry in TR22 Region is analyzed through "3 Stars Analysis" it is seen that both food/beverages manufacturing sector and wood/cork products manufacturing sector get 3 stars.[59]

Table 22:TR22 Region Manufacturing Industry 3 Stars Analysis

Sector	Size[60]	Dominance[61]	Specialty[62]
Food and beverages manufacture	★	★	★
Wood and cork products	★	★	★
Plastic and rubber products		★	★
Mineral products (glass, ceramic, marble, cement, etc)		★	★
Metal commodities sector		★	
Other transport vehicles (except motorized land vehicles and trailers)		★	

Source: Development Bank, 2008.

Plastic-rubber products and mineral products sectors exceeded the threshold values in dominance and specialty thus receiving 2 stars. The metal products and other transport vehicles sectors, on the other hand, received one stars in dominance field by becoming prominent in the total employment rates of the Region.

[58]Ministry of Development (NSRD, 2012)
[59]Development Bank, **Analysis of Turkish Manufacturing Sector**, Ankara, 2012.
[60] Proportion of the sector's employment figures in the region to those of total employment in country
[61] Proportion of the sector's employment figures in the region to those of total employment in the region
[62] Proportion of sector's share in regional employment to its share in national employment

5.2.4 Organized Industrial Zones and Small Industrial Sites

In order to implement a planned industrialization, it is important to consider Organized Industrial Zones (OIZs) in TR22 Region. The Region hosts 7 OIZs including 5 in Balıkesir and 2 in Çanakkale (Figure 47). Gönen Leather Specialized Organized Industrial Zone and Burhaniye Olives and Olive Products Processing Specialized Organized Industrial Zone are located in Balıkesir but are inactive.

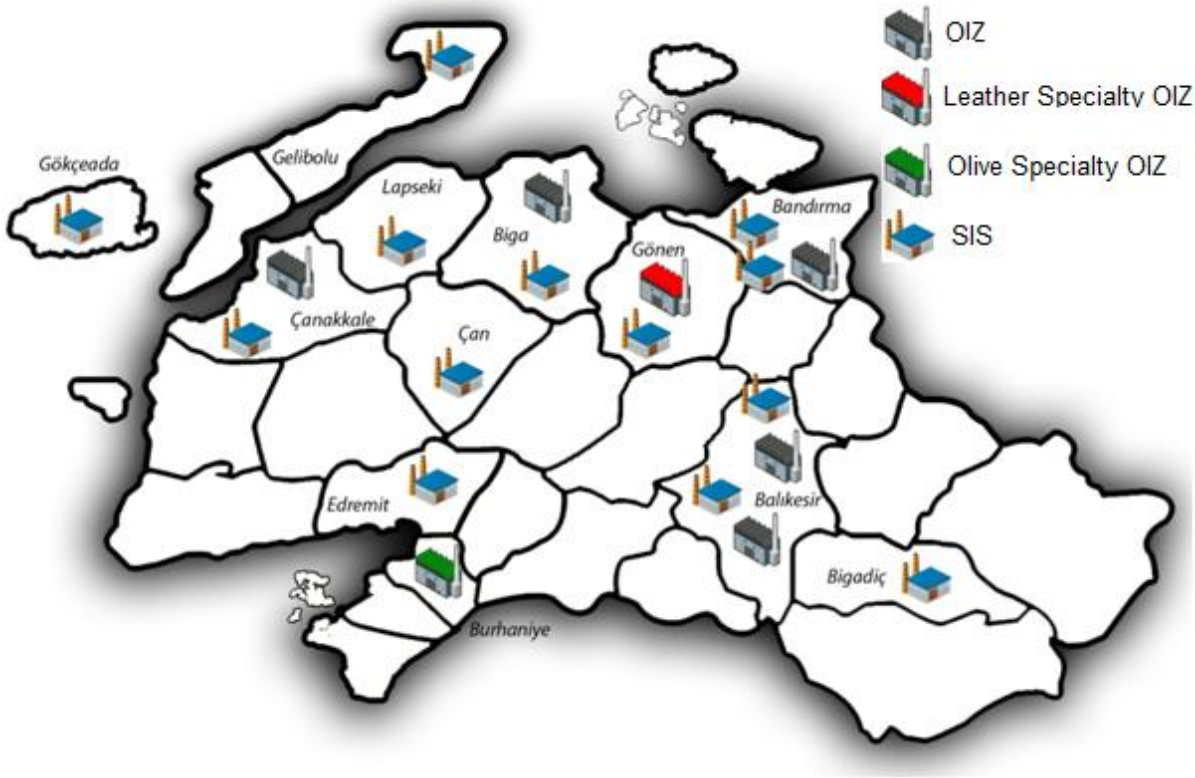

Figure 47: Organized Industrial Zones and Small Industrial Sites in TR22 Region
Source: OSBÜK, produced from 2013 data.

There are 13 Small Industrial Sites (SIS) in TR22 Region. 7 of these are located in Balıkesir and have a total capacity of 2.718 workshop units. Remaining 6 SISs are located in Çanakkale and have 826 workshop units. Average utilization rate of SISs located in Balıkesir is 91 percent and 95 percent in Çanakkale.[63]

[63]Ministry of Science, Industry and Technology (2012)

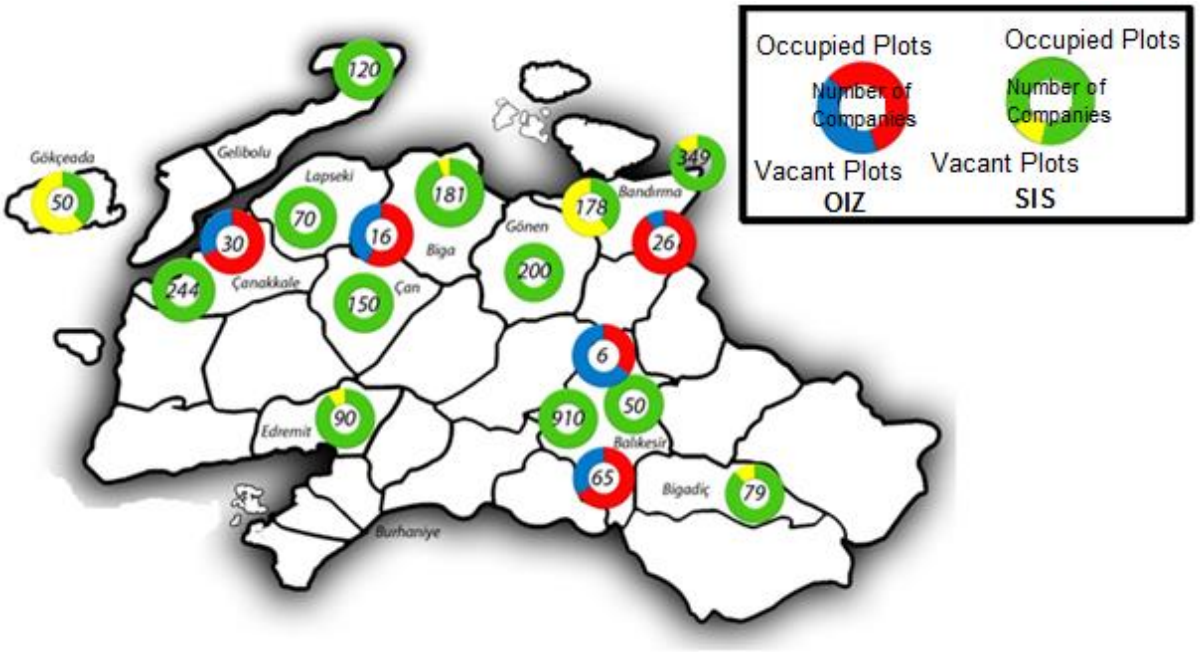

Figure 48: Occupation Rates of Organized Industrial Zones and Small Industrial sites in TR22 Region
Source: Provincial Directorates of Science, Industry and Technology, Produced from 2013 data.

There are 5 active OIZs in the Region that span over a total surface area of 1.045 hectares. These OIZs include 405 industrial parcels. Approximately 80 percent of these industrial parcels are already assigned. Total number of firms continuing their manufacturing activities in the OIZs is 143.[64] In all around the country, the occupancy rates of OIZs are very low except for those located in large cities like İstanbul and Ankara. Same applies to TR22 Region (Figure 48). Within the scope of new incentives system, the investments may benefit from lower level region supports if such investment is made on an organized industrial zone. The incentives will help in increasing the occupancy rates in the OIZs and will contribute in realization of a planned urbanization through planned industrialization and in minimization of negative impacts of the industry that cause environmental damage.

Region's OIZs are located in good positions regarding accessibility. Most of the infrastructure works have been completed in the OIZs. Yet, there still are works to be done in waste water disposal and natural gas utilization means. Balıkesir 1st OIZ and Çanakkale OIZ already has

[64] Balıkesir and Çanakkale Provincial Directorates of Science, Industry and Technology, **OIZParcel Information**, 2013

natural gas connections. For Çanakkale, it is needed to establish new organized industrial zones so as to ensure re-settlement of industrial plants to appropriate locations.

Results of the Organized Industry Zones study by SMDA show that half of the companies in the OIZs of the Region are working in good, feed and machinery equipment sectors[65] (Figure 49). The OIZ with the highest sector diversity is the 1st OIZ of Balıkesir.

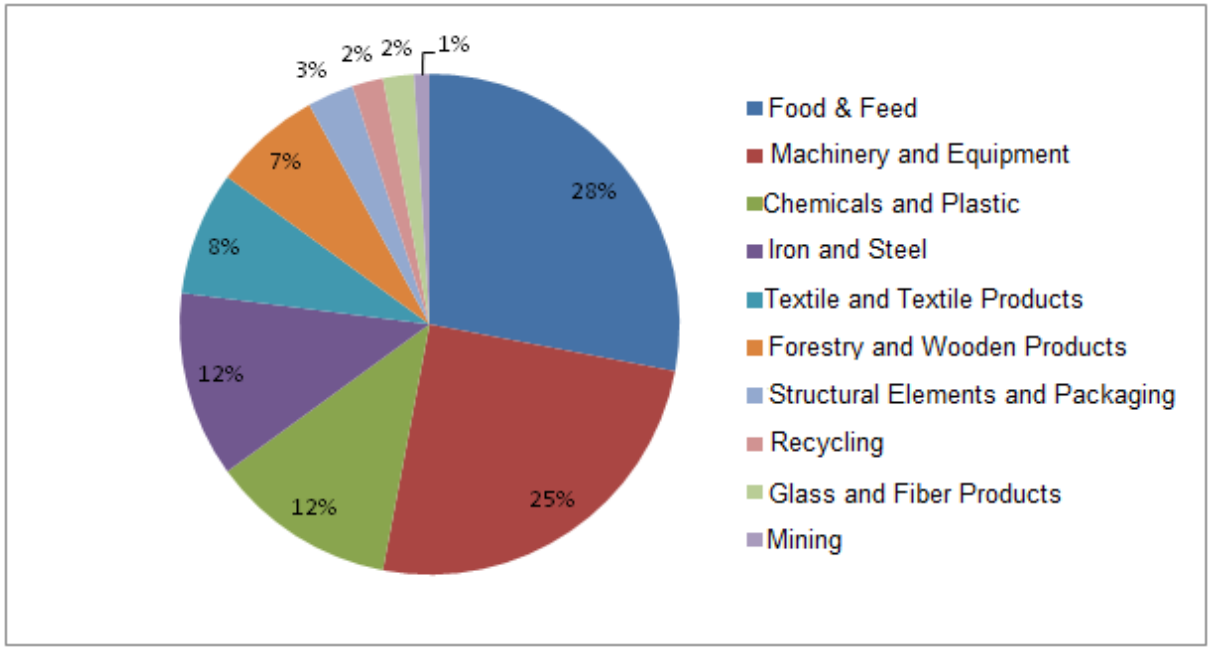

Figure 49: Distribution of the Companies by Sectors in the Organized Industrial Zones of TR22 Region
Source: TR22 South Marmara Organized Industrial Zones Study 2012.

The sectors represented in Balıkesir OIZs with the highest number of companies are food, feed, machinery and equipment, leather, plastic and chemicals. In Çanakkale, food and feed, leather, plastic and chemicals sectors are leading sectors. Differing from Çanakkale, the enterprises trading in mining and iron-steel sectors are located in Balıkesir OIZs. The enterprises in the OIZs continue their manufacturing activities on an average of 10 hours per day. 60 percent of these enterprises operate in shifts. Average number of workers is mostly between 11-25 people. Female workers are mostly employed in packaging, food and feed

[65] South Marmara Development Agency, **TR22 South Marmara Organized Industrial Zones Study**, Balıkesir, 2012.

sectors. Male workers, on the other hand, are mostly employed in manufacturing, distribution, iron-steel and machinery-equipment sectors.[66]

In the OIZs of the Region there are only 2 enterprises with number of workers over 250. When the turnovers of the enterprises are considered, it is seen that most of these enterprises are classified as SMEs.[67] In terms of operation costs, the leading item is personnel cost with 21 percent which is higher than energy costs at 12 percent. In OIZs of the Region mostly labor-intensive sectors are found. 16 percent of all enterprises are conducting only exports, 18 percent only imports and 21 percent both import and export while 45 percent of the enterprises do not conduct any foreign trade. In the last 1 year period, the enterprises used an average of 53 percent of their full capacity. High financing costs, recession in domestic markets, lack of qualified workforce and problems occurring in raw material supplies are some of the main reasons for low capacity use of the companies.[68]

About 56 percent of all the enterprises in Region's OIZs hold a quality certification. Additionally, 72 percent of the enterprises conduct product development and product-diversification practices.[69] This shows that the enterprises in OIZs prioritize quality, innovation and R&D aspects. Ratio of the enterprises that maintain cooperation with universities is 15 percent.[70] Weak cooperation between university and industry is a general problem for the Region which is also reflected in OIZs.

5.2.5 Mining

Thanks to its rich underground resources, Turkey has a significant mining potential and 77 minerals out of 90 globally commercial minerals are found within Turkey's national reserves. Turkey ranks 28th in mineral production and 10th in mineral diversity in global scale. Therefore, Turkey is one of the countries that can sustain a significant part of its raw material needs.[71]

[66]SMDA (OIZ, 2012).
[67]SMDA (OIZ, 2012).
[68]SMDA (OIZ, 2012).
[69]SMDA (OIZ, 2012).
[70]SMDA (OIZ, 2012).
[71]**http://www.enerji.gov.tr/index.php?dil=tr&sf=webpages&b=tabiikaynaklar&bn=216&hn=12&nm=390&id=390**, 15.04.2013.

According to TurkStat figures, Turkey's mineral export was $ 1.1 Billion in 2006 which then increased to $ 3.2 Billion by the year 2012. Mineral export constitutes 2.1 percent of national export. Marble, natural stones, copper, zinc, chrome, feldspar and boron are important export inputs.[72] TR22 Region is rich in mineral reserves and diversity. The Region provides a significant contribution to national minerals export. The Region's most notable minerals are industrial minerals and natural stones. Boron, marble, kaolin, bentonite, halloysite, magnesite, clay, perlite, talc, wollastonite, gold, silver, copper, zinc, antimony, manganese, iron, chromium, mercury, zeolite and lignite are important underground resources of the Region..

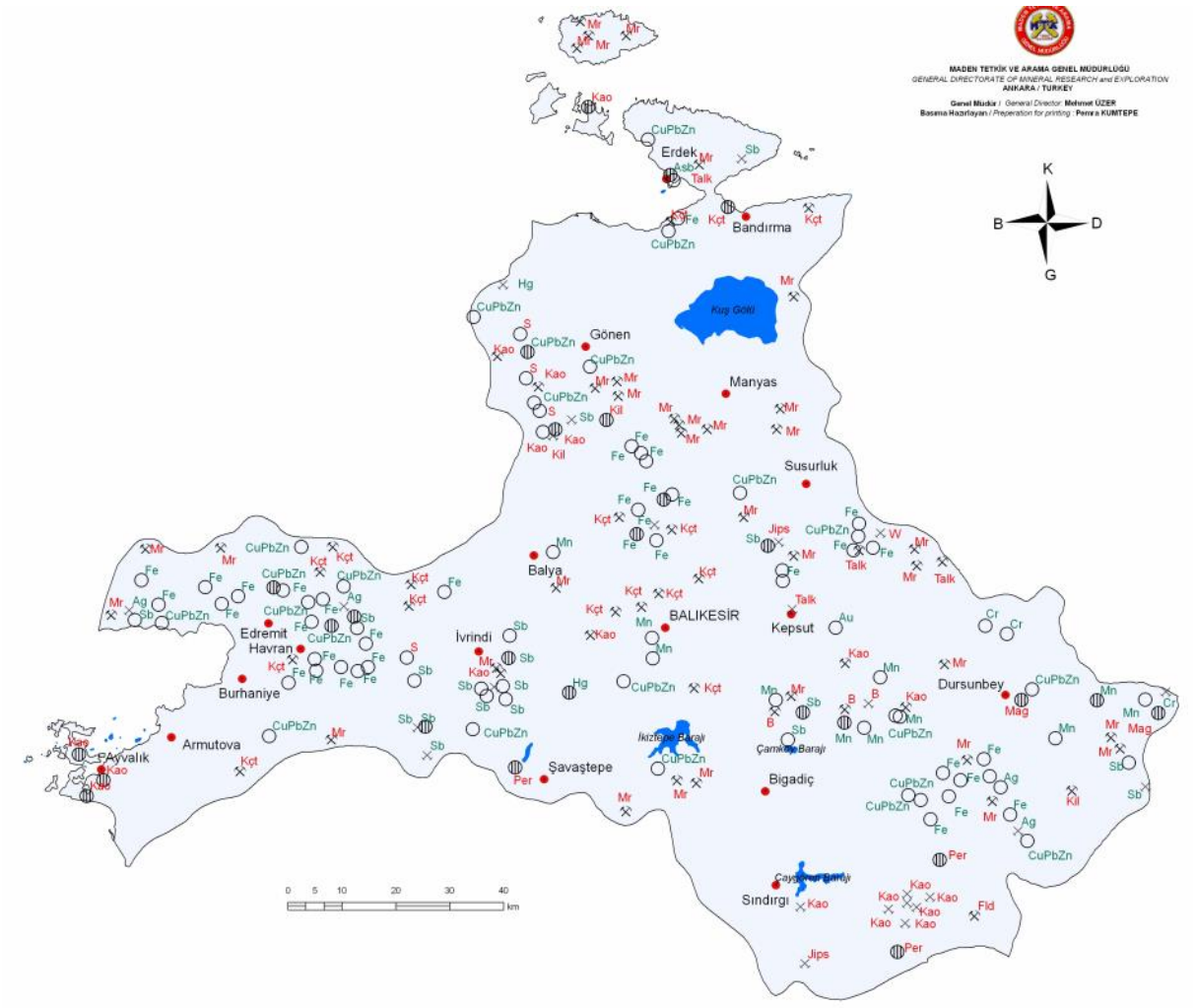

Figure 50: Mineral Potential of Balıkesir Province
Source: General Directorate of Mineral Exploration and Research, 2013.

[72] Ministry of Economy, General Directorate of Exports, **Mining Sector Report**, 2012

Due to its characteristics, Balıkesir Province constitutes a suitable environment for formation of different mineral reserves. Balıkesir Province is well acknowledged with its rich underground resources. Bigadiç district hosts the World's largest boron bed in terms of colemanite mineral reserves. Marble, on the other hand, is called "mermer" in Turkish language which was derived from Marmara after the Island. Since it is located within metallogenic area, Balıkesir has significant reserves of gold, silver, antimony, mercury, copper, lead, zinc, iron, manganese, chromium, boron salts, clays, zeolites, marble-natural stones, building stones, ornamental stones, semi-precious stones and lignite coals; for this reason, the Province has always been the center of uninterrupted mining activities throughout the history. Within a 15 km radius of Balıkesir Province such construction raw materials like sand, gravel, limestone, natural stones like Ayvatlar andesite and Üçpınar tuff as well as limestone are found. Balıkesir is also a leading producer of boron, antimony, bentonite clays, and kaolin and amethyst crystals.

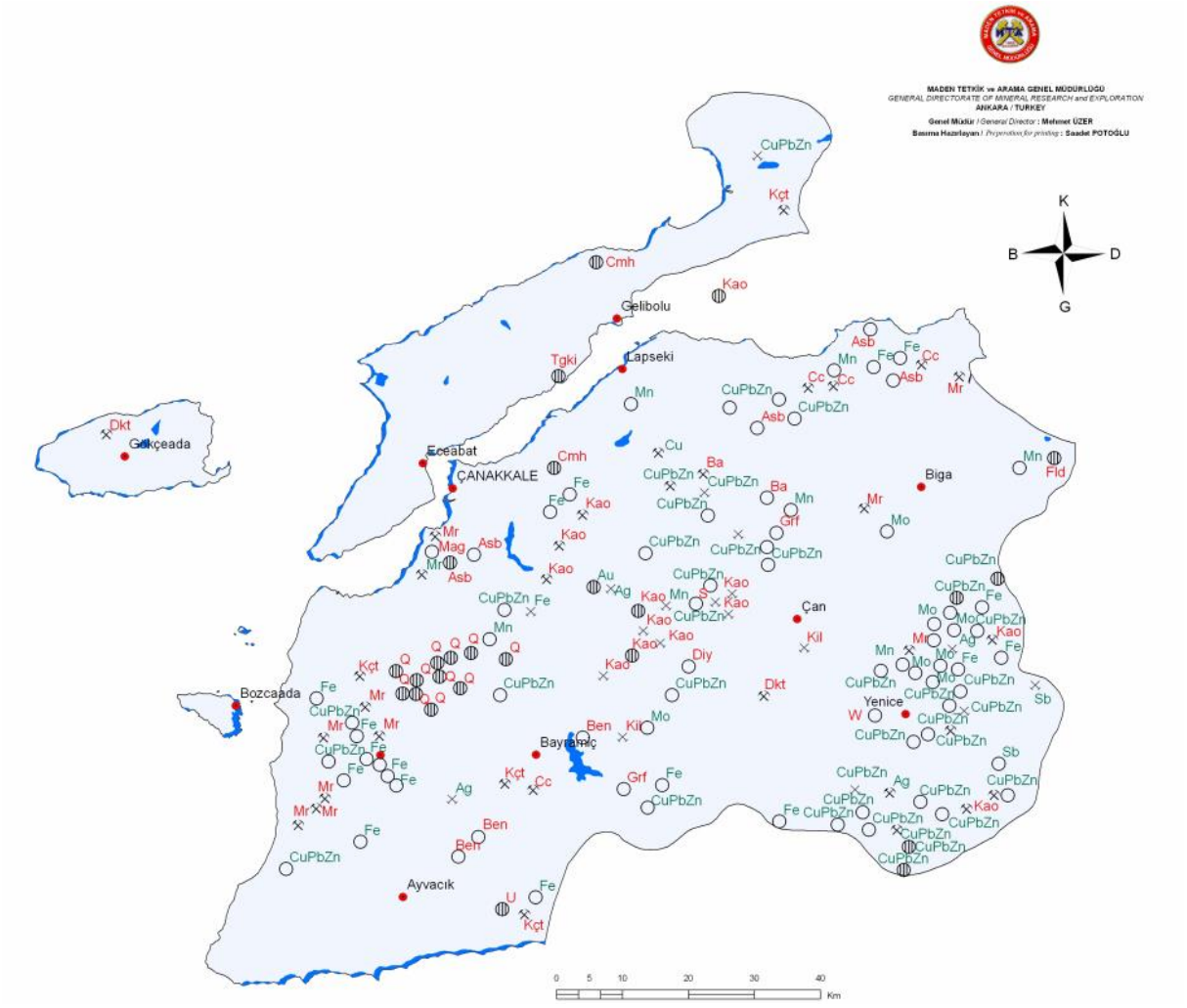

Figure 51: Mineral Potential of Çanakkale Province
Source: General Directorate of Mineral Exploration and Research, 2013.

Located on south-west part of Marmara Region, Çanakkale Province offers a suitable environment for formation of various ore deposit thanks to the geological region its located. Çanakkale is a very rich province in terms of both reserve sizes and mineral diversity. Biga peninsula, hosting a large part of Çanakkale Province, is very rich region with basic and precious metal deposits. Major copper, lead-zinc mineralizations are located in Biga, Yenice, Bayramiç, Çan and Lapseki districts. Other most important metallic mineralization of the Region is gold reserves. As a result of recent mineral exploration works around Çanakkale-Bayramiç, Bayramiç-Kısacık-Alakeçili-Baharlar Gold Mine was found.

5.2.5.1 Metallic Minerals

Large part of Balıkesir and Çanakkale Provinces is located in Biga Peninsula which is very rich in especially basic metallic mineralization thanks to its geological structure. 204 metallic mineral deposits and proven reserves are known to exist in Biga Peninsula. Lead, zinc, copper, gold, antimony, mercury, iron, chromium, manganese, tungsten mineralization are the leading metallic minerals of the Region.

The most significant copper-lead-zinc mineralization of the Region is located in Balya, Dursunbey, Edremit (Altınoluk), Biga, Yenice, Bayramiç, Çan and Lapseki districts. In a deposit in Balya District, there exist silver and cadmium reserves which are economically feasible. Pb-Zn deposits in Dursunbey, Lapseki and Kalkım are still under exploitation.[73] In Havran-Tepeoba site, a Cu-Mo deposit was determined. The deposit's reserve volume is 20 million tons which equals to Turkey's annual copper consumption. This reserve also has a copper equivalence grade of 1 percent (copper-molybdenum).[74]

Another important metallic mineralization in the Region is gold mineralization. Gold deposits are found around Bayramiç and Lapseki Districts of Çanakkale and in Gömeç, Havran, Kepsut and Ayvalık districts of Balıkesir. Havran-Küçükdere gold deposit is the only gold mine being exploited in the Region. The minerals obtained from the deposit are upgraded in Bergama-Ovacık facilities.[75] The issue that must be considered for gold mining is the concerns of the stakeholders regarding gold exploration, drilling and processing activities on Mount Ida which are also among the most important natural assets of the Region.

[73] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=metalik_madenler&m=4**, 18.04.2013.
[74] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=metalik_madenler&m=4**, 18.04.2013.
[75] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=metalik_madenler&m=4**, 18.04.2013.

Gönen and Savaştepe districts have significant mercury mineralization. However, due to the ban on mercury production, the sites are not currently operated. Especially Havran and Ayvalık, but also Edremit, Burhaniye, Balya, Dursunbey and Bigadiç have many iron deposits. The iron deposits under operation are located in Balıkesir-Şamlı, Havran-Eğmir, Ayvalık-Ayazmant.[76]

5.2.5.2 Industrial Raw Materials

The Region is very rich in industrial raw materials. The most significant industrial raw materials of the Region are: boron, clay, zeolite, halloysite and kaolin. These minerals are partially processed within the Region and are usually exported as unprocessed raw materials. No end product with higher added value is produced in the Region. In the year 2012, total boron reserve of the world was 1.3 billion tons in B_2O_3 type. Turkey was the leader in boron production in the same period with 73 percent of total production. With 8 percent of total production Russia and with 6 percent of total production USA were second and third largest boron producers respectively of the period. It is estimated that Eti Mine Works General Management (state owned mining enterprise of Turkey) provided 46 percent, RT Borax 23 percent and other producers 31 percent of global boron demand in the year 2012. Eti Mine Works has operations around Bigadiç and Bandırma and is considered to be leader of the global boron market in terms of production and market share.[77] It is estimated that national boron export will be doubled by the year 2018 and will reach around $ 1.5 billion USD.[78]

Sultançayırı is the first boron deposit exploited in Turkey and Bigadiç boron site is one of the significant boron deposits in Turkey. Both of these are located in Balıkesir. Over 70 percent of all boron reserves in the World are located in Turkey. A large part of these reserves are located in the Region. The boron extracted from the Region does not contain arsenic thus provides easy refining therefore the regional deposits have advantage in the market.

The boron mine in Balıkesir-Bigadiç is currently exploited. Combined with the boron deposit in Kütahya-Emet, these two sites constitute approximately 2/3 of total boron reserves of Turkey. General Directorate of Mineral Exploration and Research as well as the Eti Mine Works General Management carry out intensive drilling and site surveys to develop these

[76] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=metalik_madenler&m=4**, 18.04.2013.
[77] Eti Mine Works General Management, **Boron Sector Report**, 2013
[78] MOD, TDP **(2014-2018)**, 2013.

reserves and to constrict license areas.[79] Furthermore, in 2012-2013, Eti Mine Works made new investments that will ensure capacity building for boron chemicals and equivalent products. As a part of these investments, Borax and Boric Acid Plants of Eti Mine Works in Bandırma were modernized and 8.000 tons/year capacity Vitreous Boric Oxide and Powder Boric Oxide Production Plant was commissioned. Thus the boron chemicals and equivalent products capacity which had been 1.780 thousand tons in 2011 was increased to 2.125 thousand tons in the year 2012.[80] The borax pent hydrate and boric acid produced in the plants established to process boron minerals to obtain high-value, refined boron products, have the highest share in boron products' exports. Additionally, sulfuric acid is produced in Bandırma Boron and Acid Factory's 240 thousand tons/year capacity plants. Furthermore, products of other Boron Works are sent abroad from the port in Bandırma.[81]

Bigadiç Boron Work is an affiliate of Eti Mine Works General Management and is located in the Region. In addition to completed investments, Eti Mine Works continues working on new projects. In this respect, the works on establishment of a 500 thousand tons/year capacity calcined colemanite plant within the compound of Bigadiç Boron Work reached final phase.

Balıkesir also has a significant marble potential. Marbles from Marmara Island (Marmara white), Manyas (Manyas white), Bigadiç (feather, onyx), Ayvalık (Ayvalık granite) are the most important marble sites. In addition to marble quarries in Marmara Island, important marble reserves are found in Manyas, İvrindi, Kapıdağ Peninsula of Balıkesir and Ezine district of Çanakkale.

Erdek-Kapıdağ, Ayvalık-Bağyüzü, Susurluk-Çatal Dağ, Havran-Eybek Mountain and Ezine Kestanbol have important granite reserves. Grey, small-particle granites obtained from quarries in Ocaklar Village nearby Kapıdağ Peninsula and in Tavşan Island are also used for pavement stones.[82]

Other industrial raw material resources of the Region are clay, talc, perlite, wollastonite and magnesite. The biggest kaolin site of the country is located in Sındırgı-Düvertepe. Furthermore, there are many kaolin deposits in İvrindi, Gönen and Ayvalık districts of

[79] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=end%FCstriyel_hammaddeler&m=4**, 19.04.2013.
[80] Eti Mine Works General Management, **Boron Sector Report**, 2013.
[81] SMDA (Mining Potential, 2011)
[82] SMDA (Mining Potential, 2011)

Balıkesir and Çan and Bayramiç districts of Çanakkale. The clay quarries in Balya-Bengiler produce clay suitable for using in refractory industry and are currently exploited. Kaolin is used in ceramics and cement sector and in porcelain and insulator industries. The largest ceramic production facility of the country is located in Çan district of Çanakkale. Wollastonite formations in Susurluk and Kepsut districts and magnesite, gypsum and sulfur formations in respectively Dursunbey, Susurluk and Gönen districts are found.

Turkey is one of four countries that produce halloysite though at low amounts. Total amount of reserves in Turkey is about 50 thousand tons most of which are located in Balıkesir and Çanakkale. Approximately 3-4 thousand tons of halloysite is produced each year and exported to foreign countries especially to England. This material is used for manufacturing high quality ceramic and porcelain products. Halloysite is produced in Gönen and Balya districts of Balıkesir.

5.2.5.3 Semi-Precious Minerals

Semi-precious ornamental stones like quartz, amethyst, opal, agate and garnet are found around Balıkesir in significant amounts. In Çanakkale, approximately 23 tons of possible quartz reserves were found in Ezine-Ahlatoba, Çamlıca and Kemerdere sites. The amethysts in Balıkesir-Dursunbey-Güğü Village are deemed as the most beautiful amethysts in the world in terms of appearance, pattern and quality, even though the deposit in this site is smaller compared to its counterpart in Brazil.[83]

In Balya-Değirmendere, Gönen-Fındıklı quartz crystals; in Balya-Bengiler, Gönen-Çakmak localities opal; in Havran-Kalabak-Fazlıca, Bayramiç-Karaköy localities garnet; in Balya-Çarmıh, Dursunbey-Eynik-Gökçeler localities onyx, in Bandırma chalcedony, in Simav-Şenköy, Kaklım-Handeresi, Lâpseki-Şahinler-Adatepe localities amethyst; in Ezine-Çamlıca milk quartz crystals; in Biga- Dikmenchrysoprase are found.[84]

5.2.5.4 Other

There are significant lignite formations known in the Region. These are located in; Dursunbey, Balya and Gönen districts of Balıkesir and; Yenice and Çan districts of

[83] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=yari_kiymetli_mineraller&m=4**, 19.04.2013
[84] **http://www.mta.gov.tr/v2.0/bolgeler/balikesir/index.php?id=yari_kiymetli_mineraller&m=4** 16.06.2013

Çanakkale. The most significant coal mines in the province are located in Dursunbey where approximately 35 million tons proven lignite reserves are found.[85] In Çan the screening-sorting facility has a capacity of 750 tons/hour and in Seyitömer, 3.600 tons/hour. Spanning over a surface area of approximately 2.4 thousand hectares, the lignite production site in Çan is currently under operation. This site has a 77 million tons lignite reserve with a lower calorific value of 3 thousand kcal/kg and all of this reserve can be extracted through quarry mining. The coal demand of 2x160 MW fluidized bed-type Çan Thermal Power Plant, which was commissioned in 2004, is supplied from this site.[86]

It is the highest priority to process the minerals of the Region in the Region to turn them into high added value products. In this respect, such works that will expand the application fields in the industry and that will support and develop mining technologies must be carried out. The fact that the boron is used for many different industrial applications and that its use has been increased due to increase of consumption fields (LCD, fuel cell production, etc) provide a significant advantage for Regional economy. It is also considered that the expansion of insulation sector due to ever-increasing petroleum and energy costs will further increase the demand for boron products. Development of substitute products and such non-boron production technologies like non-boron glass fibers are the threats against boron market and against realization of Region's potential. On the other hand, it is anticipated that use of natural stones will increase depending on movements in the construction markets. It is aimed to seize new opportunities in mining sector so as to provide significant contributions to Regional development and to create new employment opportunities. A more competitive structure can be obtained by supporting R&D efforts to develop boron mineral and its derivatives and the products created.[87]

On the other hand, in order to ensure implementation of sustainable development and to bring the mineral resources into economy without damaging the ecological balance, the protection-utilization balance must be maintained and the investments important to the Regional economy must be realized in such a way that will consider the sensitivities of stakeholders. In

[85]General Directorate of Mineral Exploration and Research, Northwest Anatolia Regional Directorate, **Mineral and Energy Resources of Balıkesir and Çanakkale,** 2012
[86]**http://www.tki.gov.tr/TKI/YillikFaaliyetler/c1e327f0-e193-471b-a216-bb07243c3f8bfaal_2011.pdf**, 19.04.2013.
[87] Burhan Aydemir, Economy of Balıkesir: Developments in Sectors, Suitable Investment Areas, Suggestions for Development" (in Turkish), **Balıkesir Symposium**, Balıkesir, 2005

order to avoid environmental negative impacts of mining activities, it is needed to employ ISO14001 Environmental Management System and to follow the requirements of environmental and occupational safety legislation.

5.2.6 Energy

Per capita energy consumption is one of the important indicators of prosperity. Due to the increase in demand for generation and social needs, the energy generation is rapidly increasing a global level. Energy consumption of Turkey was around 19 Million tons of oil equivalent (TOE) in the year 1970. This rate continuously increased each year with the exception of certain extraordinary years. The energy consumption exceeded 98 million TOE in 2006 and approximately 126 Million TOE in 2012.[88] In the year 2012, Turkey imported approximately 99 million TOE energy and for energy import paid $ 60.1 Billion USD which corresponds to 25.4 percent of all import.[89] Turkey is a foreign-dependent country since approximately 78.5 percent of the energy demand is imported. This dependency brings a series of economic and strategic negative impacts including current deficit and energy supply safety. Therefore, domestic energy generation is one of the most vital topics for the country.

In the year 2012 a total of 239.497 GWh of electricity was generated in Turkey. 43.6 Percent of this is natural gas, 28.4 percent coal 24.2 hydraulic, 3.1 percent renewable, 0.7 percent liquid fuel based.[90] Most of the natural gas and coal used for electricity generation purposes are imported from abroad. Therefore, only hydraulic and renewable resources are contributing energy generation in Turkey. In order to ensure energy supply safety and resource diversity, it is needed to generalize use of renewable energy resources which also provide minimum negative environmental impact.

In today's world, where the domestic energy resources are vital, South Marmara Region constitutes a significant position for Turkey. According to July 2013 data, 30.6 percent of all the installed wind power capacity of Turkey (2.619 MWh) is located in the Region (Balıkesir

[88]Ministry of Energy and Natural Resources, Primary Energy Resources Consumption 1970 – 2006, General Energy Balance 2007 - 2012
[89] TÜİK, Imports by Standard International Trade Classification, 1996 - 2013
[90]Ministry of Energy and Natural Resources, General Energy Balance 2012

666 MWh and Çanakkale 133 MWh, totaling 800 MWh). South Marmara Region is the leader of wind power based electricity generation market in Turkey.[91]

Turkey itself is the largest wind power energy market of Europe with a total licensed/to be licensed wind power capacity over 11.000 MWh. According to Strategy Report by the Ministry of Energy and Natural Resources, target value for the year 2023 is 20.000 MWh. Furthermore, according to data from General Directorate of Renewable Energy, Turkey has a total techno-economic wind power installed capacity potential of 48.000 MWh. When the WPPs under construction (a total of 970 MWh) and those WPPS which are already licensed but yet to be constructed (a total of 6.160 MWh) are taken into service, the installed capacity of wind power is expected to increase to 9.750 MWh and at least 18.8 percent of this capacity (equal to 1.834 MWh) will be generated in the Region. So, the Region will continue to be the leader of the market. As a result, it is expected to increase the installed wind power capacity of the Region by 1.200 MWh to 2.000 MWh by the year 2019. In the same period, Marmara and Aegean Regions' capacity will be increased by 4.800 MWh and to a 6.808 MWh installed power which will correspond to 70 percent of total national installed capacity. South Marmara Region, along with its economic and geographical hinterland, constitutes the point of intersection between Marmara and Aegean Regions and will become the focal point of Turkey's wind power market.

As the license-free power generation was allowed under legislation in the year 2008, the number of enterprises that generate electricity has increased in the Region. As secondary legislation concerning license-free power generation has been regulated in October 2013, it is expected that the license-free electricity generation market will become more active and that the Region will get the largest share in this market as well. For this reason, important opportunities have arisen for SMEs that are intended to engage in license-free power generation technologies.

[91]Turkey Wind Energy Association, Turkey's Wind Energy Statistical Report, July 2013

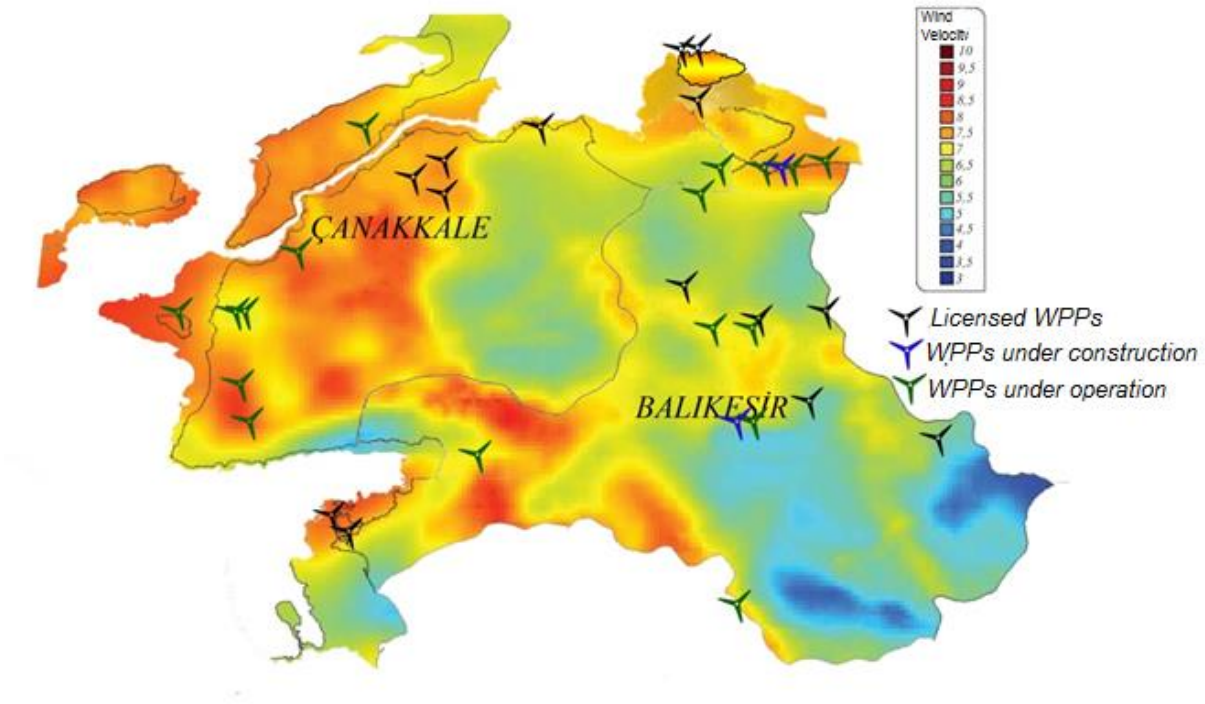

Figure 52: Distribution of Wind Velocities and the Locations of Wind Power Plants in TR22 Region
Source: General Directorate of Renewable Energy, 2013; TUREB, generated from 2012 data.

During 26th meeting of Supreme Council for Science and Technology it has been decided to obtain 20.000 MWh wind power energy generation target shall be reached through 80 percent domestic technology. Accordingly, 4 Billion Euros, out of 5 Billion Euros added value to be generated through planned 5.000 MWh capacity turbine production in Marmara and Aegean Regions by the year 2019 will be channelized to domestic resources. It is expected that South Marmara Region will be specialized as the region where renewable energy technologies are developed and will take the lion's share from this added value. In order to raise the human resource for this purpose, energy institute and energy systems' engineering schools must be established in the universities of the Region to generalize a multidisciplinary approach on renewable energy researches. Efforts on training and educating intermediary staff for the sector have already begun in vocational high schools and vocational schools of higher education. Renewable energy departments were established in four vocational high schools in the region. During the planning period, it is needed to improve the efforts on these aspects in both quality and quantity. For the development of the sector, it is important to produce the added value generating from such items like machinery and equipment production, maintenance and repair, logistics, construction, design, engineering, consultancy, R&D and

human resources through Regional resources. In this respect, it would be beneficial to create a renewable energy cluster in the Region which will include all stakeholders especially the enterprises engaged in various sections of the sector. Since the South Marmara Region is a very Rich region not only in wind power but also in other renewable energy resources, it is a suitable ground for specialization in this area.

It is estimated that up to 5.9-11.6 percent of national energy demand can be supplied by biogas facilities through processing the manures of bovine, ovine and poultry farming, other organic waste and waste from food industry which are common in Turkey. . With high concentration of agriculture and animal husbandry, the South Marmara Region is a potential candidate for being the most important biogas/biomass production center of Turkey. This especially applies to Bandırma Planning Sub-Region (Figure 53). A 2.2 MWh capacity biogas/biomass power plant was already constructed and commissioned in Gönen. Another biogas/biomass power plant with a capacity of 2.16 MWh is currently under construction in Bandırma Edincik.

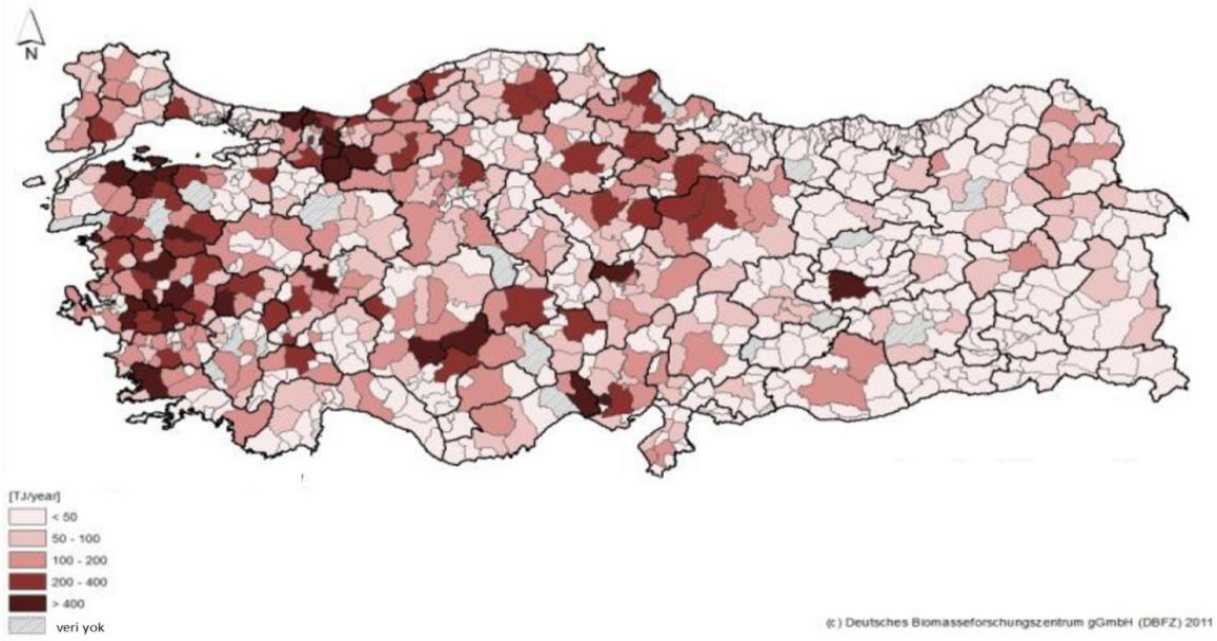

Figure 53: Annual Biogas-based Energy Generation Potential of Turkey (Terajoule)
Source:German Biogas Research Center, 2011.

Furthermore, having the highest number of geothermal resources in Turkey, the Region also presents a geothermal power generation potential. In Ayvacık District, a geothermal power plant with a 7.5 MWh installed capacity operates in Tuzla. Geothermal resources is well

spread throughout the Region, most notably in Güre, Pamukçu, Hisaralan, Hisarköy, Gönen, Kepekler, Hızırlar, Tuzla, Kestanbol, Çan and Biga. Geothermal household heating works are already being carried out in Gönen, Bigadiç and Sındırgı Districts. Settlements with geothermal heating potential include 65.000 housing units in Balıkesir and 35.000 housing units in Çanakkale.[92]

The license applications that do not meet the lower limit value of total annual sun radiation on horizontal surface in Turkey (1.620 kWh/m2-year) are not accepted.[93] This rule, in practice, resulted in concentration of solar power generation license application in southern regions. This is why the Region is excluded from the list of regions that can receive a license for solar energy generation even though the Region annually receives an average of 2.430 sunshine hours which is 1.5 times more solar radiation than Germany, the world leader in solar power generation practices. In order to improve the use of solar energy throughout the country, it is needed to improve the legislation concerning investment locations of market actors.

Region's power generation facilities other than renewable resources based plants include natural gas, solid and liquid fueled cycle power plants and include an installed power of 968 MWh. Among these plants, Enerjisa A.Ş.'s power plant is the most notable with an installed generation of 930 MWh. Also, two more hydroelectric power plants are located in Gönen and Sındırgı with combined installed capacity of 15.2 MWh. In Çanakkale, there are three thermal power plants based on coal technology with a combined installed capacity of 1.325 MWh. Among these, two thermal power plants belonging to İÇDAŞ A.Ş. are using import coals while 18 Mart Çan Thermal Power Plant uses the coal from Çan District. Combined capacities of all these enterprises generated a total of 340.107 MWh in 2011 and 369.599 MWh in 2012 (

Figure 54). For the same period, total installed capacity of Turkey was 52.911 MWh which generated a total of 229.4 Billion kWh of energy.

[92] EİE, 2013
[93] EMRA decision dated 24/05/2012 and numbered 3842

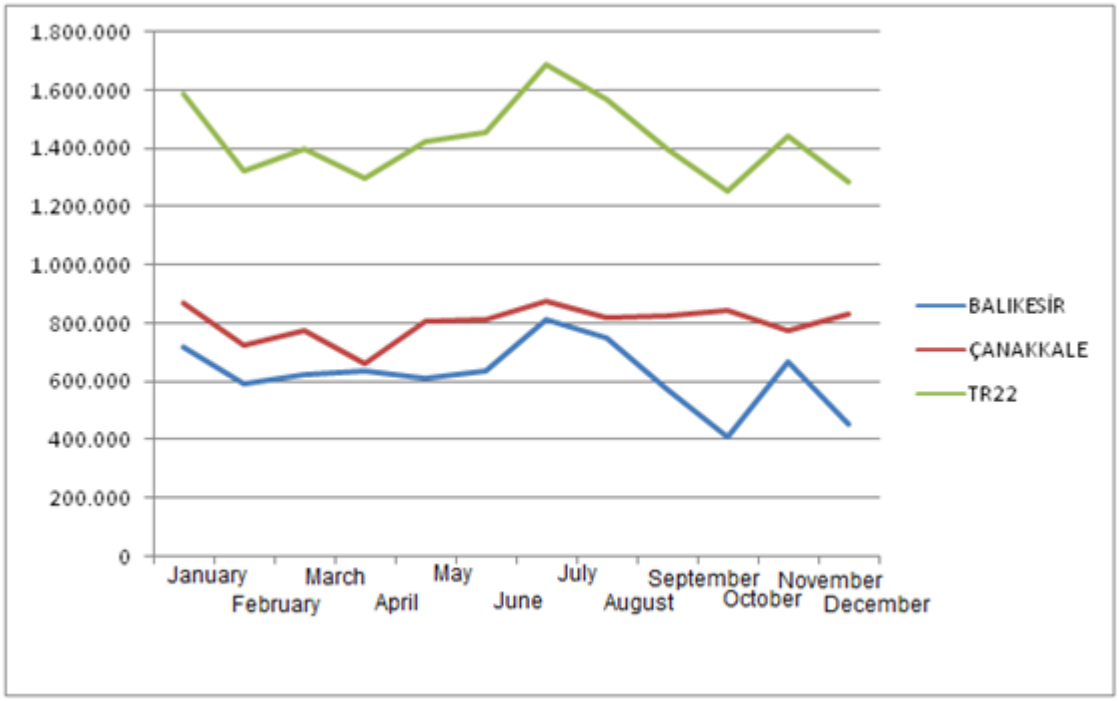

Figure 54: TR22 Region's Total Energy Generation (MWh)
Source: TEİAŞ, 2013.

5.3 Services

5.3.1 Construction

Construction sector has an important power on increasing the competitive strength of economy. However, the fluctuations in this sector have significant effects on GDP rates (

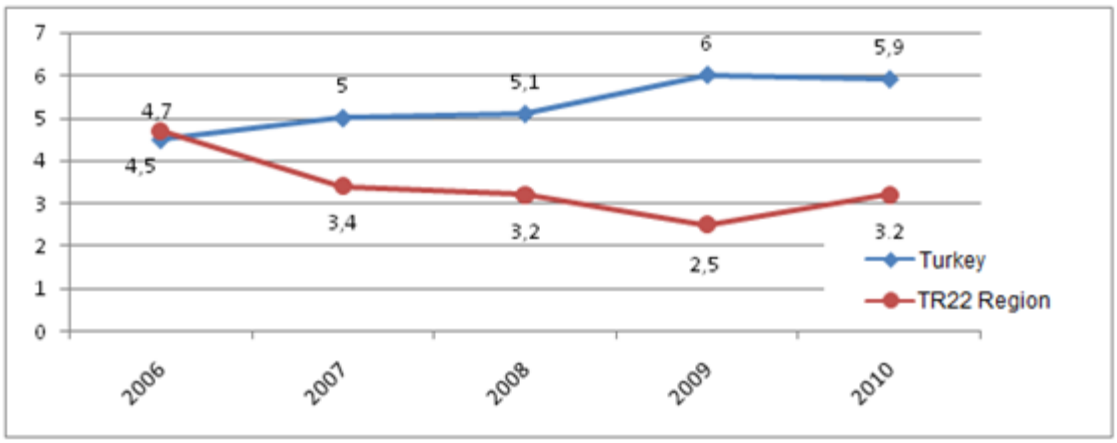

Figure 55). In the year 2012 the growth rate of construction sector was 0.6 percent and its share in the GDP was 6.5 percent and in the total employment was 7 percent.[94] In the year 2006, the share of construction sector's turnover was 4.7 percent in the economy of the Region which then declined to 3.2 percent in the year 2010. However, especially in the last two year, the share of turnover generated in the construction sector has been increasing in parallel to the national and Regional developments.

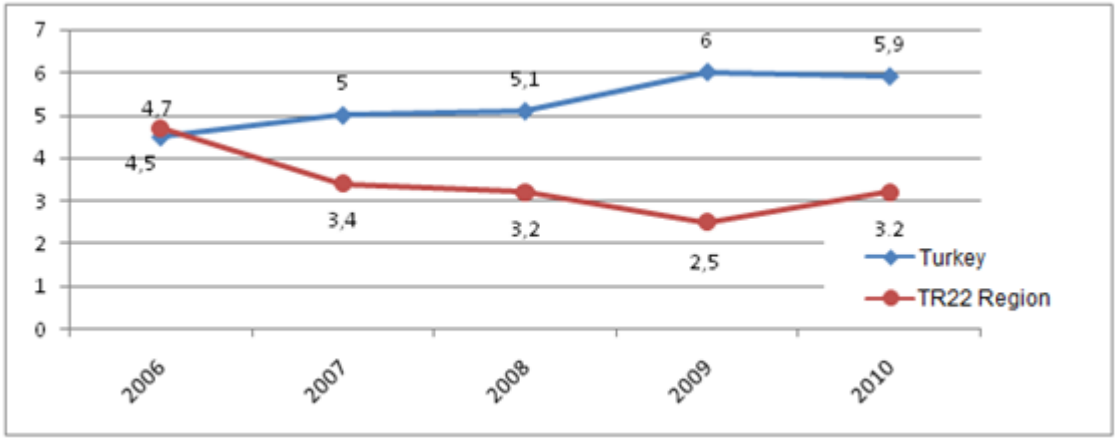

Figure 55: Share of Turnover Generated by Construction Sector in National Economy (%)
Source: TurkStat, 2010.

According to 2010 data, 8.5 percent of Turkish workforce was employed in construction sector. In the same year, 6.9 percent of workforce in the TR22 Region was employed in this sector. In terms of total workforce costs, the share of construction sector was 6.6 percent in overall Turkey and was 5.6 percent in the Region. The fact that salaries of employees in the construction sector of TR22 Region remain below the national average indicates that the construction workers in the Region are working against lower salaries and wages (Figure 56). In the year 2012, share of construction sector within total employment in Turkey had reached 6.5 percent.[95] The rate of construction sector employees of TR22 Region has increased dramatically in 2012 and now is in parallel with the nation-wide percentages.[96]

[94] MOD, TDP **2014-2018**, 2013
[95] MOD, TDP **2014-2018**, 2013
[96] Turkish Employment Organization's Offices in Çanakkale and Balıkesir, **2012 Labour Market Analysis Report**, 2013

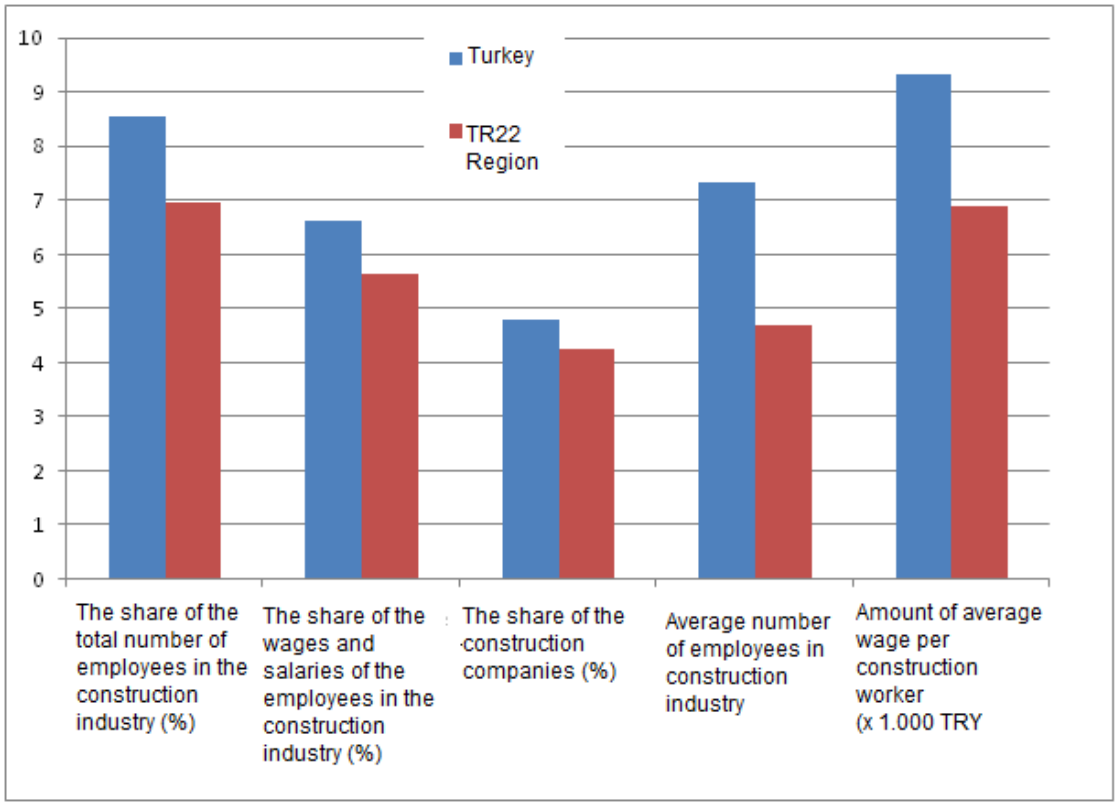

Figure 56: Comparison of Construction Sector Data for TR22 Region and Turkey
Source: TurkStat, 2012.

Average number of employees in construction companies was 7.3 in Turkey and 4.7 in the Region. This is a result of the fact that Region's construction companies are small to medium sized companies. However, in recent years, there has been an actual increase in the number of employees in the construction sector.

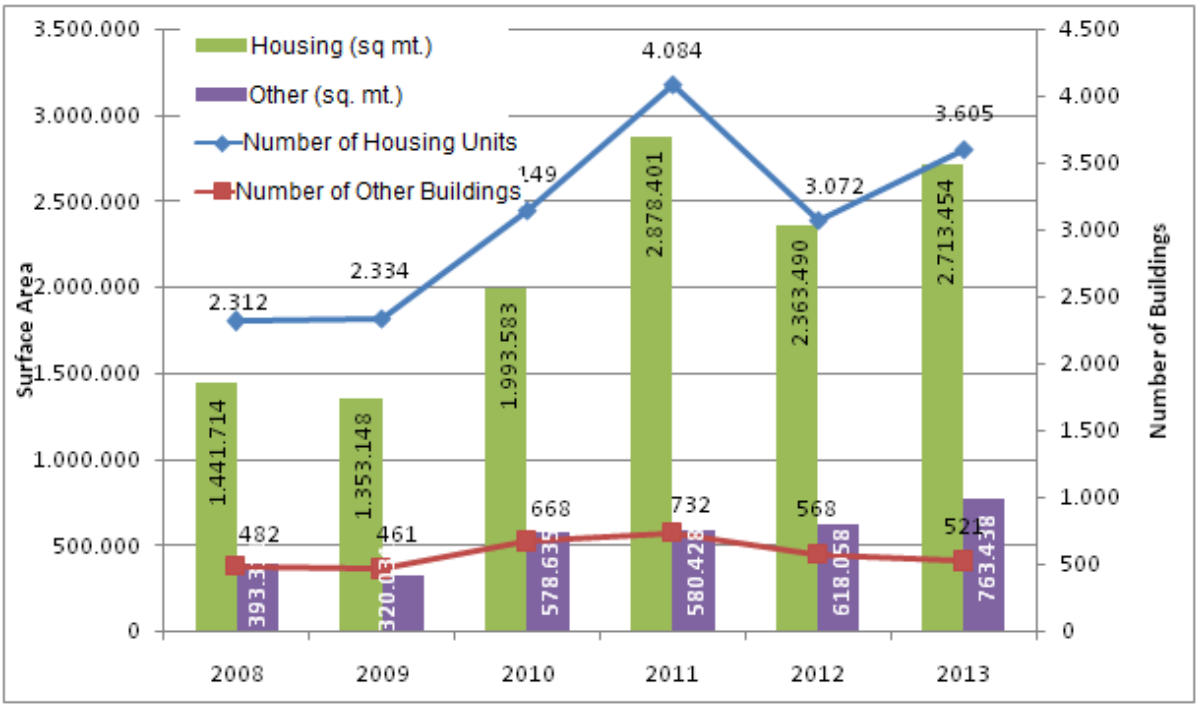

Figure 57: Comparison of Types of Buildings Constructed in TR22 Region in Terms of Units and Surface Areas (According to Construction Permits)
Source: TurkStat, 2013.

Comparison of building types by surface areas according to construction permits shows that housing units have an important role in the construction sector of the Region. By the surface areas, there is a general increase in the last six years. Except for the year 2012, the housing areas increased more than non-housing areas. The same tendency is also seen in the number of housing units.

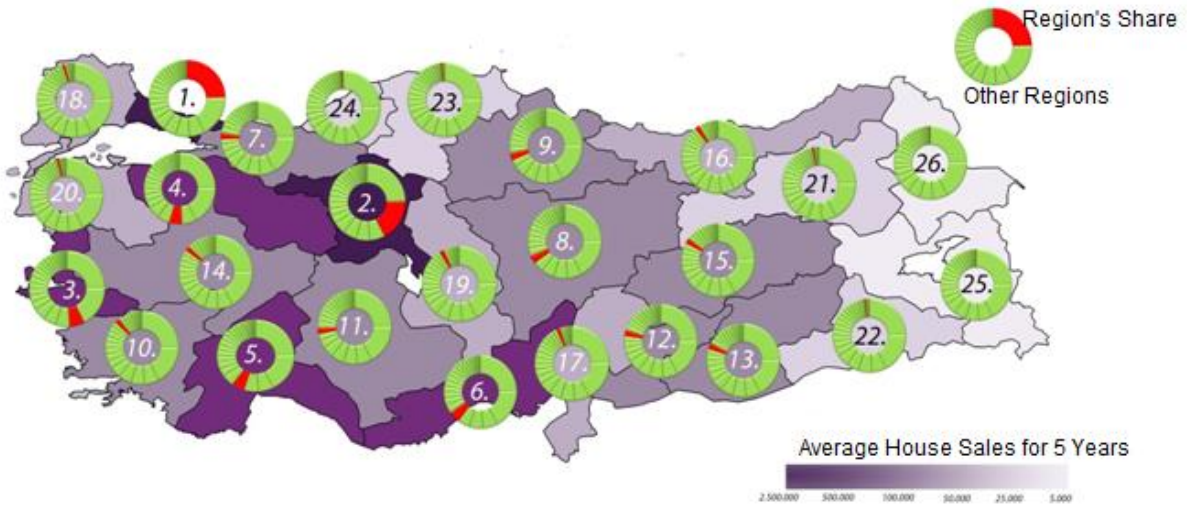

Figure 58: House Sales Statistics for Turkey and Level-2 Regions (Average of last 5 years)
Source: TurkStat, generated from 2009-2013 data.

In TR22 Region house sales and annual fluctuations in house constructions are parallel to each other (Figure 59).According to house sales averages for the years 2009-2013 the Region ranks 20th place among all other Level 2 Regions. The fact that Balıkesir is among the three provinces that has the lowest rate regarding households in buildings aged 10 years or less supports these data.[97] Located on a 1st degree earthquake zone, the Region's provinces need urban renewal projects for improvement of the existing building stock which presents opportunities for the construction sector.

[97]TÜİK, **Population and Housing Study**, 2011.

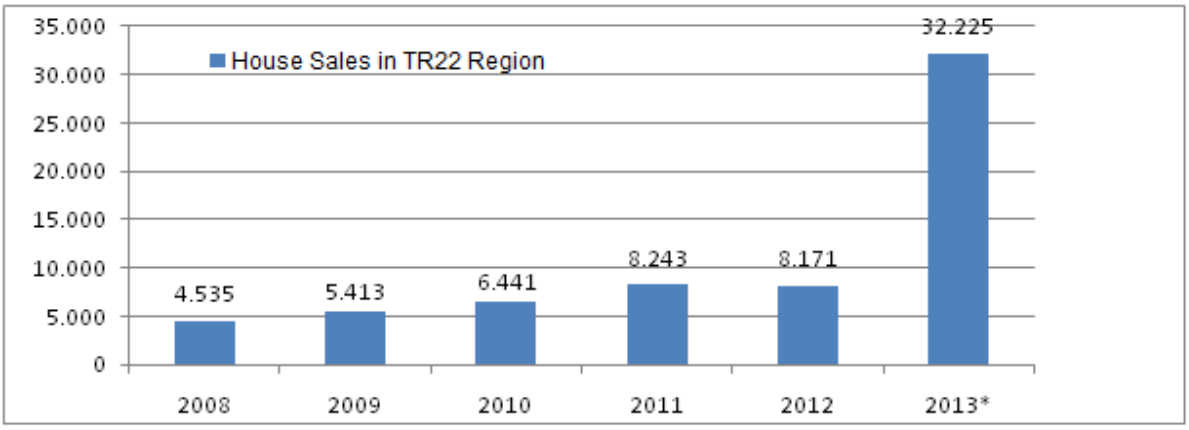

Figure 59: TR22 Region House Sales
Source: TurkStat, 2013.
*As of the year 2013, data publication methods have been changed. Data on the years 2008-2012 only includes the provincial centers and central districts.

The demand for housing in inner parts, most notably in Balya, Bigadiç, Sındırgı, Manyas Districts of Balıkesir and in Bayramiç, Ezine and Yenice Districts of Çanakkale is not satisfied and this affects the sector. Also, the existing housing units' quality is insufficient which aggravates the situation. In these districts, it is needed to realize such housing projects that are suitable for economic and social needs and that are environmentally friendly. When the population starts to reside where they work, this will also contribute the economy of the district. On the other hand, there is an apparent lack of construction technicians in all over the Region.[98] It is needed to open occupational training courses on such professions needed and difficult to be provided and such courses shall provide appropriate training on qualities and skills most needed in labor market. Furthermore, standards must be developed to ensure construction of user-oriented, environmentally sensitive, well designed buildings. It is anticipated that new financing resources will be provided, new residence areas will be opened and works on non-housing building projects and infrastructure will be increased when Balıkesir becomes a metropolitan city. On the other hand, people coming to region after retirement as well as the urbanization rates are increasing which is expected to further increase the need for housing and quality buildings.[99] These prospects constitute advantages for the construction sector.

[98] İŞKUR, **Labor Market Research Final Report on Balıkesir and Çanakkale Provinces**, 2011
[99] SMDA (Population Dynamics, 2012)

5.3.2 Tourism

Tourism is one of the fastest growing sectors in the world thanks to its continuous expansion, development and diversification in the last sixty years. Despite stagnancies during global economic crises, number of tourists increased in global scale over years. In the year 1980, number of tourists received was around 277 million in the world. This figure increased to 530 million in 1995 and 1 Billion 87 Million in 2013. Tourism trends show that the global number of tourists received will reach to 1.8 Billion by the year 2030.[100]

Turkey is a country that benefits from tourism markets ever-increasingly. With a total number of 35.7 Million tourists in the year 2012, Turkey ranks 12th in tourism revenues in the World.[101] In the year 2013, revenues generated in tourism reached 32.3 Billion TRY.[102] 42 million foreign tourists for the year 2018[103]; and 63 million foreign tourists for the year 2023[104] are expected to visit Turkey.

In the year 2012, approximately 402 thousand tourists visited[105] TR22 South Marmara Region. In line with 2023 tourism goals of Turkey, approximately 1.1 Million tourists for the year 2018 and 1.7 Million tourists for the year 2023 are expected to visit the Region. It is considered that the memorial program for 100th anniversary of Çanakkale Battle (Battle of Dardanelles), which will be held in 2015 and the fact that international transport routes are active will increase the number of incoming tourists. Turkey aims to become one of the top five countries in the world that attract most number of tourists and generate highest revenues from tourism by the year 2023. The Region is planning to contribute this goal by increasing the share of the Region and of the Country in tourism by means of developing alternatives for tourism in line with 2023 Tourism Strategy of Turkey and in consideration with the protection-utilization balance on natural, cultural, historical and geographical assets of the country.[106]

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[100] United Nations, World Tourism Organization (UNWTO), **World Tourism Barometer**, 2014.
[101] UNWTO, (Tourism Highlights, 2013)
[102] Turkish Statistical Institute, **Tourism Statistics News Bulletin**, 2014, issue:15885
[103] MoD, **TDP (2014-2018)**, 2013, p.130-131
[104] Ministry of Culture and Tourism, Tourism Strategy of Turkey for 2023**http://www.ktbyatirimisletmeler.gov.tr/TR,11699/turkiye-turizm-stratejisi.html**, 15.11.2013
[105] TurkStat, **Number of Foreign Tourists Received in Tourism Enterprises and Facilities Certified by Municipalities in 2011, http://tuikapp.tuik.gov.tr/Bolgesel/degiskenlerUzerindenSorgula.do**, 22.05.2014.
[106] South Marmara Development Agency, **Tourism in Balıkesir Today and in Future: Balıkesir Tourism Workshop Report**, Balıkesir, 2012

TR22 Region has natural beaches that contribute promotion of coastal tourism in Aegean and Marmara Seas, geothermal resources, historical and cultural assets combined values of which present a high potential for tourism. Aegean Sea also hosts two largest islands of Turkey: Gökçeada and Bozcaada which, due to their geopolitical positions, have national strategic importance. Since these two islands were classified as priority areas for investment incentives they play a significant role in Regional tourism.

In the field of Tourism, a total amount of 76.477.000 TRY public investment had been deployed in the Region between the years 2006-2012. In 2013 alone, a public investment totaling 43.292.000 TRY was deployed (Figure 60). In the year 2012, Çanakkale took 3rd place and Balıkesir 14th place among 81 provinces regarding public investments.[107] For the year 2013, the Region obtained 15 tourism incentives certificates 7 of which were given in Çanakkale and 8 in Balıkesir.[108]

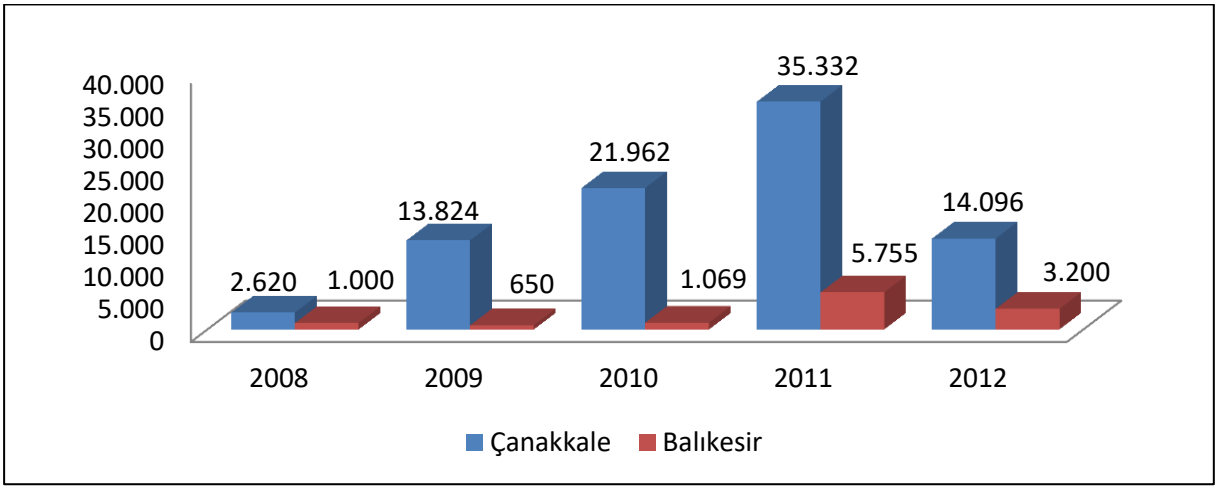


Figure 60: Public Tourism Investments by Years (Thousand TRY)
Source: Investment Programs, 2008 - 2012

In order to protect the touristic assets of South Marmara and to ensure its existence in a livable area as well as to achieve above specified targets, new investments and planned development for such projects like re-location of Istanbul's industry, must be carried out. One of the very first practices to support this approach is the determination of Regions to be declared as "Culture and Tourism Protection and Development Areas (CTPDA) and/or

[107]Ministry of Development, **Distribution of Public Investments by Sectors and Provinces,** 2012
[108]Ministry of Economy, **Number of Incentive Certificates by Provinces**, **http://www.ekonomi.gov.tr/index.cfm?sayfa=EE7EE7B1-D8D3-8566-45201CE77E5F0FDD**, 25.10.2013

Tourism Centers (TC). There are 16 Tourism Centers in TR22 Region, 8 of which are in Çanakkale and 8 in Balıkesir. This figure corresponds to 7 percent of a total number of 227 Tourism Centers of Turkey. Also, Erdek-Marmara in Balıkesir hosts 1 CTPDA.[109]

Table 23: CTPDAs and TCs in TR22 Region

	Province	District	Theme	Area (ha)
Balıkesir Balya Şifa Thermal TC	Balıkesir	Balya	Thermal	5748*
Balıkesir Bigadiç-Hisarköy Thermal TC	Balıkesir	Bigadiç	Thermal	6800
Balıkesir Edremit Güre Thermal TC	Balıkesir	Edremit	Thermal	99
Balıkesir Gönen Thermal TC	Balıkesir	Gönen	Thermal	73
Balıkesir Gönen-Ekşidere Thermal TC	Balıkesir	Gönen	Thermal	5200
Balıkesir Manyas-Kızık Thermal TC	Balıkesir	Manyas	Thermal	7000
Balıkesir Sındırgı Hisaralan Thermal TC	Balıkesir	Sındırgı	Thermal	15500*
Balıkesir Susurluk Kepekler Thermal TC	Balıkesir	Susurluk	Thermal	5100
Balıkesir-Marmara South Islands CTPDA	Balıkesir	Erdek, Marmara	Coast	28160
Çanakkale Ayvacık-Tuzla Thermal TC	Çanakkale	Ayvacık	Thermal	9200
Çanakkale Çan-Etili-Tepeköy Thermal TC	Çanakkale	Çan	Thermal	5900
Çanakkale Ezine Kestanbol Thermal TC	Çanakkale	Ezine	Thermal	4500
Çanakkale Yenice-Hıdırlar Thermal TC	Çanakkale	Yenice	Thermal	7200
Çanakkale Yenice TM	Çanakkale	Yenice	Nature	290
Çanakkale Behramkale Kadırga Koyu TM	Çanakkale	Ayvacık	Coast	1300
Çanakkale Geyikli TM	Çanakkale	Ezine	Coast	950
Çanakkale Küçükkuyu TM	Çanakkale	Ayvacık	Coast	580

Source: CTPDA and TC List of the Ministry of Culture and Tourism
* These areas were limited upon Decision numbered 2012/4153.[110]

It is anticipated that the Region's tourism will be developed on an axis starting from the Gulf of Saros to North and towards Gelibolu Peninsula, Ezine, Bozcaada, Gökçeada, Gulf of Edremit, Ayvalık and Erdek-Marmara containing 1 CTPDA and 1 TC. The areas to be protected must be determined in co-operation with the respective authorities. It is planned to establish collaborations to determine appropriate areas so as to increase the CTPDAs and TCs within these limitations.

[109] Ministry of Culture and Tourism, **List of Effective CTPDAs and TCs** **http://www.ktbyatirimisletmeler.gov.tr/TR,47820/yururlukte-olan-ktkgb-ve-tm-listesi.html**, 25.10.2013
[110] See:**http://www.resmigazete.gov.tr/eskiler/2013/01/20130120-9-1.pdf**, 21.07.2013

Primary obstacles that prevent appropriate utilization of tourism for economic contribution are as follows: Even though the TR22 Region was one of the very first centers of tourism boom, the coastal areas are covered with secondary residences instead of touristic facilities and there is an evident lack of qualified facilities and staff as well as appropriate promotion and marketing activities. In order to provide a more competitive and more sustainable tourism performance, it is important to carry out such efforts like effective use of secondary residences in tourism; improving the quality in each component of touristic value chain by means of extending the occupational certification system to include all employees of the sector; effective use of advertising activities abroad through continuous monitoring of developments in the market and in the clientele and diversification of touristic products and services in the Region for high-income groups.[111]

5.3.2.1 Tourism Accommodation Infrastructure

TR22 Region is one of the regions that receive rather high numbers of tourist compared to other regions in Turkey. In terms of the number of domestic tourists received in municipality certified establishments in 2012, Balıkesir took 2nd place and Çanakkale 10th place in Turkey. In terms of the number of foreign tourists received in municipality certified establishments in the same year, however, Balıkesir ranked 12th and Çanakkale 9th place in Turkey.[112]

[111] MOD, TDP **(2014-2018)**, 2013, p. 130-131.
[112] TurkStat, Regional Statistics, **http://tuikapp.tuik.gov.tr/Bolgesel/tabloOlustur.do**, 23.05.2014.

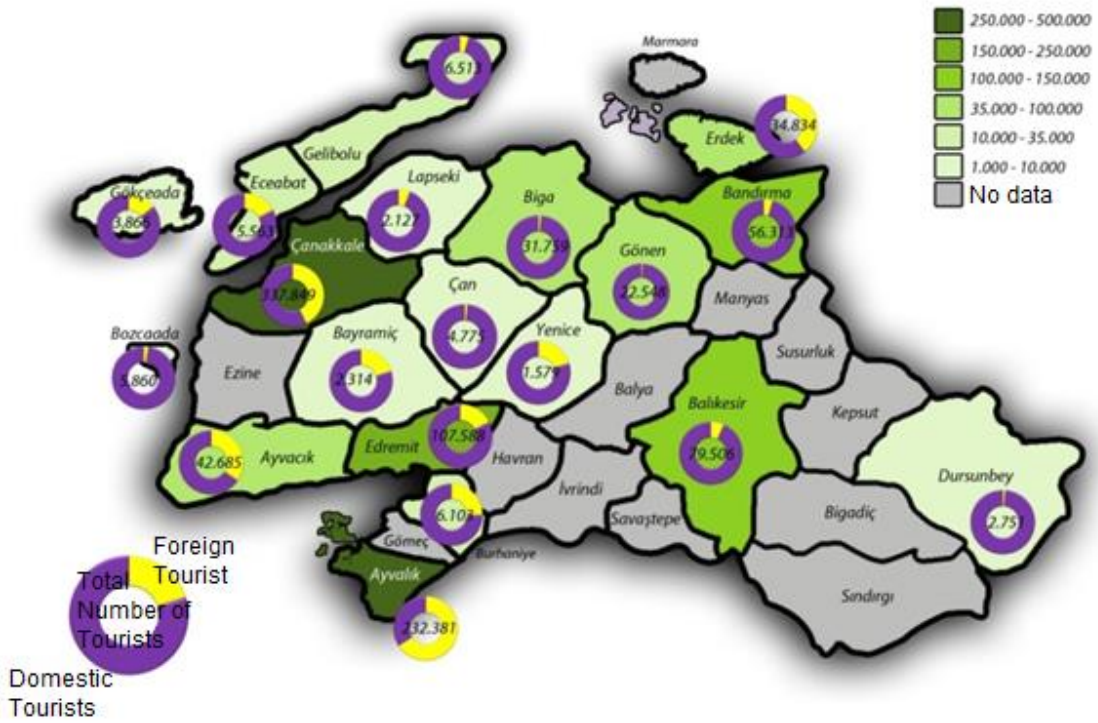


Figure 61: Number of Arrivals and Overnight Stays in Tourism Licenced Premises by Districts

Source: Ministry of Culture and Tourism, Produced from 2013 data.

The Region ranks in top 10 in Turkey in terms of tourist arrivals yet remains below national average on overnight stays. According to accommodation statistics, a total number of 491.119 tourists, 25 percent of which were foreign, arrived to Tourism Licensed Premises in Balıkesir in 2013. In Çanakkale, a total number of 439.757 tourists, 41 percent of which were foreign, arrived to Tourism Licensed Premises in Çanakkale in the same year. In Turkey, average duration of stay was 3.3 nights for the year 2013. The average time of stay in the Region, however, was lower the national average as it was 2.1 nights in Balıkesir and 1.4 nights in Çanakkale. In Turkey, average time of stay for foreign tourists was 4.4 in the same year. However, the same figure was well below the national average in the region as it was 1.9 nights in Balıkesir and 1.1 nights in Çanakkale. Regarding the overnight stays of domestic tourists, the national average time was 1.9 nights while it was 2.1 in Balıkesir and 1.5 in Çanakkale.[113] The districts with the highest average of overnight stays in the Region are Ayvalık in Balıkesir and Central District in Çanakkale.

[113] Ministry of Culture and Tourism, **http://www.ktbyatirimisletmeler.gov.tr/TR,9857/isletme-belgeli-tesisler.html**, 27.05.2014

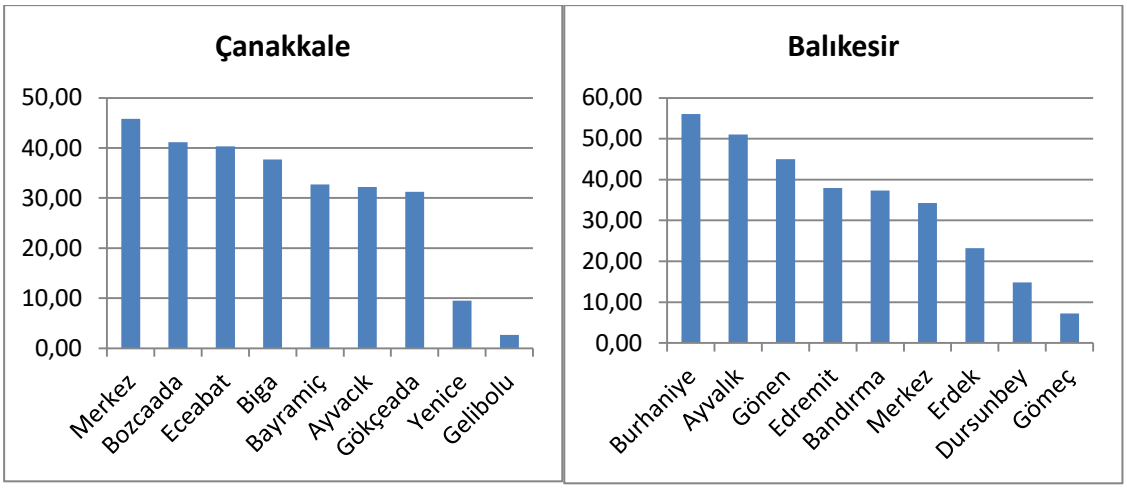


Figure 62: Occupancy Rates of Tourism Licensed Premises in TR22 Region by Districts (%)

Source: Ministry of Culture and Tourism, 2013.

An important indicator of existing tourism facilities' effectiveness is the occupancy rates. Occupancy rates of tourism licensed premises were 40.90 percent in Balıkesir and 39.84 percent in Çanakkale which are well below the national average at 54.34 percent. 142 out of 3.830 operation- and investment-licensed tourism premises in Turkey are located in the TR22 Region (Table 24). This figure corresponds to approximately 4 percent of total number of facilities in Turkey.[114] On the other hand, 9.6 percent of municipality licensed establishments in Turkey are located in TR22 Region.

Table 24: Statistics on Tourism Operation Licensed, Tourism Investment Licensed and Municipality Licensed Touristic Establishments

	Tourism Operation and Investment Licensed			Municipality-Licensed		
	Number of Facilities	**Number of Rooms**	**Number of Beds**	**Number of Facilities**	**Number of Rooms**	**Number of Beds**
Balıkesir	79	4.543	9.248	518	10.776	25.622
Çanakkale	63	3.223	6.628	344	5.923	14.165
TR22 Region	142	7.766	15.876	862	16.699	39.787
Turkey	3.830	463.039	979.896	8.988	226.594	512.462

Source: Ministry of Culture and Tourism, 2014

The Region has the advantage of proximity to such tourist attraction areas like İstanbul, İzmir and Bursa. Yet, considering the stay rates in facility, it is evident that the Region constitutes a

[114]Ministry of Culture and Tourism, **Investment and Operation Licensed Facilities' Statistics, Municipal Certified Accomodation Facilities' Statistics, http://sgb.kulturturizm.gov.tr/TR,50930/istatistikler.html**, 30.05.2014.

passageway instead of a destination. The accommodation infrastructure of the TR22 Region has such problems like the lack of quality accommodation, entertainment and catering facilities oriented to mid-upper income groups and secondary residence issue. It is important to establish new, environmentally friendly accommodation facilities in consideration with sustainable tourism principle as well as the factors that increase the touristic competitive strength of the Region like coastal, thermal, and natural or health tourism. As the Region's coastal areas are covered with secondary residences instead of touristic facilities, the projects in the Region must be realized in co-operation with tourism components and in such a way that will consider these secondary residences along with the needs and demands of foreign and domestic mid-upper income tourists.

5.3.2.2 Touristic Diversity of TR22 Region

In addition to a rich heritage full of historical and cultural assets, the TR22 Region bears the characteristics of an important tourism center with its location and nature. The Region presents a significant potential for alternative touristic activities thanks to its diversity (Figure 63).

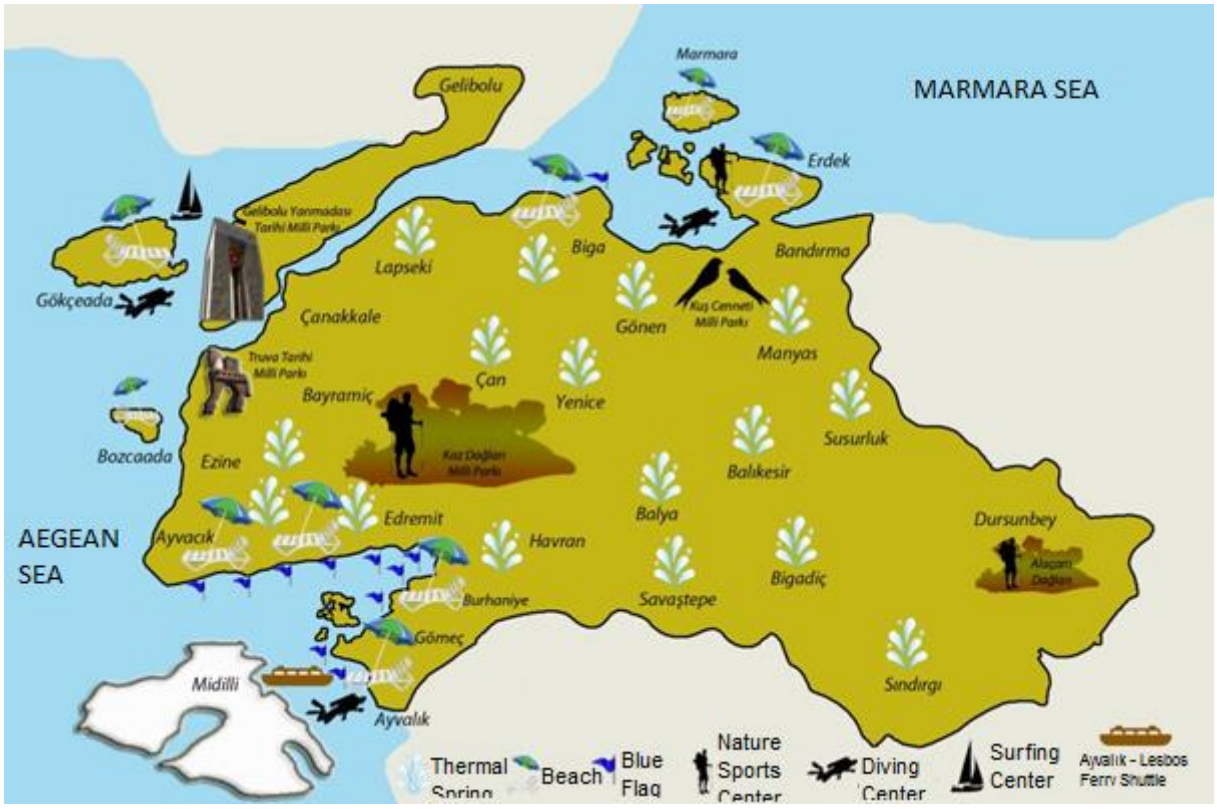


Figure 63: TR22 Region Tourism Potentials Map
Source: SMDA Office Work, 2013.

The touristic towns of the Region generally serve to summer tourism and only meet the domestic touristic demands. Development of touristic alternatives will certainly contribute in increasing the demand for winter season and thus spreading the tourism season throughout the year.

5.3.2.2.1 Coastal and Sea Tourism

Having coasts to Marmara and Aegean Seas, large part of the touristic activities of the Region is constituted by the coastal tourism in Ayvalık, Gömeç, Burhaniye, Edremit, Ayvacık, Ezine, Bozcaada, Gökçeada, Erdek and Marmara Districts. The Region has a total number of 24 blue-flagged beaches; 6 in Çanakkale and 18 in Balıkesir.[115] In terms of the number of blue-flagged beaches Balıkesir ranks 5th after Antalya, Muğla, İzmir and Aydın.

Ayvalık Marina and Burhaniye Yacht Marina in Gulf of Edremit are suitable for yacht tourism;[116] Çanakkale also presents an important potential for cruise and yacht tourism. However, the fact that marine tourism is not developed enough prevents the contribution of the tourists to provincial economy at desired levels.[117] According to 2013 data, a total number of 41 cruises docked at Çanakkale ports and brought 9.691 passengers in the year 2012.[118] The Region's ports' sizes are significant, yet the Region needs such works towards amending deficits in the infrastructure and promotional activities.

Table 25: Number of Cruise Passengers Visiting Ports

	2011		2012		2013*	
	Number of Transit Passengers	**Number of Arrivals**	**Number of Transit Passengers**	**Number of Arrivals**	**Number of Transit Passengers**	**Number of Arrivals**
KUŞADASI	634.687	10.038	545.148	6.255	503.287	12.974
İSTANBUL	461.123	80.947	498.717	46.920	493.137	70.803
İZMİR	459.350	18.003	492.398	28.311	440.389	4.880
MARMARİS	111.775	29.701	56.922	27.089	85.989	28.521
ANTALYA	56.154	16.220	12.553	72.552	8.238	72.312
BODRUM	45.448	300	49.861	1.557	23.064	752

[115] Environmental Education Foundation of Turkey, **Number of Beaches with Blue-Flags**, **www.mavibayrak.org.tr/tr/Default/aspx** 27.05.2014.
[116] SMDA (Balıkesir Tourism Workshop, 2012)
[117] South Marmara Development Agency, **Balıkesir Tourism Workshop Report**, Balıkesir, 2011
[118] Ministry of Transport, Maritime Affairs and Communications, **Maritime Trade Statistics**, **www.kugm.gov.tr/BLSM_WIYS/DTGM/tr/Kitaplar/20130514_102843_64032_1_64480.pdf**, 27.05.2014

ALANYA	22.276	11	25.674	23	33.505	23
DİKİLİ	17.346	50	4.476	328	4.375	650
TRABZON	5.631	635	7.643	349	7.438	346
ÇANAKKALE	4.366	1	4.177	5	7.465	2
SİNOP	4.088	0	3.708	0	7.451	9
ÇEŞME	88	1	4.393	187	7.602	27.473

Source: General Directorate of Maritime Trade2013.
* Inclusive of first 10 months' data

TR22 South Marmara Region has maritime borders with Northern Aegean Region of Greece. Balıkesir accesses to this Region through sea border entry points between Ayvalık and Lesbos Island; and Çanakkale through sea border entry points between Gökçeada and Samothrace. Despite the fact that both Regions have international airports, no air route connects these two Regions. These islands are much closer to Turkey than Greek mainland. In order to improve the competitive strength of the Region in international tourism, it is important to maximize the touristic cooperation with these islands which are in demand in international markets. The recent economic bottleneck experienced in Greece caused Greece to approach such co-operation increasing policies[119] which encourages maneuvers to increase international experience and quality and capacity in each link of tourism chain in TR22 Region. Cooperation between the islands of the Region and Greek islands which are renowned for cruise tourism will ensure the diversification of tourist profile of the Region and its competitiveness in tourism through promotion in international markets.

Coasts of TR22 South Marmara Region host suitable bays and coves for diving, paragliding and surf. Gulf of Edremit, Saros Bay, Ayvalık Islands, Marmara Islands and Gökçeada coasts are convenient centers for diving sports. Especially Ayvalık has near 60 diving points including coral communities.[120] Gökçeada, on the other hand, has been attracting tourists, especially from Balkans as a center of wind surf. Scuba-diving allows shipwreck tourism which is an alternative touristic attraction aiming to seek, explore and research on sunken ships and submarines. There are many shipwrecks at various points offshore Çanakkale

[119] Greece allowed visa-free entry to green-passport-holder Turkish citizens in 2010 and then, thanks to a project developed under the leadership of Northern Aegean Regional Administration, granted visa-on-the-entry for 5 Greek Islands (Lesbos, Chios, Rhodes, Kos, Samos) starting from the summer 2012. Finally entry point visa application included Meis island in 2013 and the number of days were increased to 2 days and also the visa fee was reduced from 60 € to 35 €. Furthermore, in the year 2013, additional personnel were assigned to these ports and infrastructure improved to solve problems which had been occurring. See:**http://www.yunanistankonsoloslugu.com/**, 15.11.2013.

[120] Burhaniye District Governor's Office, **Edremit Bay Master Development Plan**, SMDA DFD Program Output, Balıkesir, 2012

coasts. These are the wrecks of ships and submarines sunken during Battles of Dardanelles and are considered to contribute in shipwreck tourism.

5.3.2.2.2 Health and Thermal Tourism

TR22 Region is renowned in Turkey for its geothermal resources. There are 27 geothermal sites covering a surface area of 67.100 ha[121] in the Region. The Region also has 12 thermal tourism centers: 8 in Balıkesir and 4 in Çanakkale.[122]

The Regions thermal resources are very rich in temperature and flow rate.[123] Balya, Bigadiç, Edremit, Gönen, Manyas, Sındırgı and Susurluk Districts of Balıkesir and Ayvacık, Çan, Ezine and Yenice Districts of Çanakkale are leading thermal tourism centers.[124]

Thermal facilities of the Region are well scattered throughout the Region. There are thermal facilities in both coastal areas and in forestry areas. This feature must be underlined in promotions. The boundaries of thermal areas must be preserved and the number of quality facilities in these areas must be increased. Thermal tourism creates a year-long tourism opportunity which provides a continuous employment opportunity, high investment and operational returns and high domestic tourism demand. Proximity to European Populations, which are aging and to Middle Eastern markets, must be used as an advantage to realize the potential of the Region. It is needed to draw-up the inventory of thermal tourism assets and medical tourism infrastructure of the Region and to assess and evaluate SPAs and such similar facilities for wellness along with the health infrastructure to expand the utilization of thermal hotels within the health tourism. [125]

5.3.2.2.3 Cultural Tourism

TR22 Region is a potential candidate as a center for culture tourism thanks to its memorials, monasteries, museums and ancient cities. It would be beneficial to support such efforts to

[121] Ministry of Culture and Tourism, General Directorate of Investment and Enterprises, **Thermal Tourism Master Plan**, Ankara, 2007.
[122]Ministry of Culture and Tourism, **Thermal Tourism Centers** **http://www.ktbyatirimisletmeler.gov.tr/TR,47820/yururlukte-olan-ktkgb-ve-tm-listesi.html**, 30.05.2013
[123] MTA, **Application Map of Distribution of Turkish Geothermal Resources,** 2013
[124] For detailed information on these centers, which also are Tourism Centers, please refer to Table 20, CTPDAs and TMs in the TR22 Region
[125] Ministry of Development, **TDP**, p. 130-131.

bring cultural heritage in the tourism, to increase the share of the Region in the cultural tourism and so create an alternative to coastal tourism.

There are many ancient cities and ruins in the Region. Excavation and restoration works are already continuing in most of them. The Region boasts with many ancient cities and ruins, most notably Troy and Assos, Chryse, Dardanos, Antandros, Daskyleion, Kizikos, Adramyttion, Güre Ancient Thermal Springs, Parion, Priapos, Neandria, Sigeon, Maydos, Zeus' Altar and Cairns in Uğurlu Village and Yeni Bademli. Furthermore, many museums like Kuvayi Milliye Museum, Çanakkale Martyrs Memorial Museum, Kabatepe Promotion Center Museum, Kilitbahir Castle, Ottoman Fortress of Seddülbahir Bozcaada Castle, the Archaeological Museum, the Maritime Museum, Bigalı Atatürk's House Museum, Tahtakuşlar Ethnography Gallery, Sıdıka Erker Ethnography Gallery, Banda Archaeological Museum, Bigadic Museum and Culture House, Gönen Mosaic Museum and the Saraylar Village Open Air Museum are open for visitors in the Region. In addition to all these, Cunda (Alibey) Island Houses are noteworthy cultural assets with their unique architecture.

As of the end of 2012, 4 of 40 National Parks of Turkey are located in the Region.[126] These parks constitute the most significant cultural tourism potential of the Region. These parks are already pushing their visitor capacities even at their current state. Their fabric must be protected, infrastructure and competitive strength improved through promotional efforts. On the other hand, there are construction applications for areas rich in flora and fauna species which create a risk of extinction on protected areas.

Table 26: National Parks in the Region

National Park	Province	Announcement Date	Area (ha)	Features
Bird Paradise National Park	Balıkesir	1959	24.047	Rich in bird species and flora species, bird watch
Kazdağı (Mount Ida) National Park	Balıkesir	1994	21.300	Rich in flora and fauna species, bio-diversity, camping, hiking and photography.
Gelibolu (Gallipoli) Peninsula Historical National Park	Çanakkale	1973	33.000	Turkish and World history of wars, martyrs' memorials, natural flora and fauna species.

[126] General Directorate of Natural Protection and National Parks, **National Parks Information**, **http://www.milliparklar.gov.tr/mp/index.htm**, 19.12.2012.

Troy Historical National Park	Çanakkale	1996	13.350	Ancient ruins, history of war and geopolitical structure, tourism, education, cultural assets.

Source: General Directorate of National Parks, 2012.

The Region's immediate needs are: protection of cultural heritage and increasing the number of Region's assets listed in world heritage assets lists; establishment of new culture centers, theatres and museums; increasing the attraction of museums and ruins by improving the methods of exhibit and design; broader inclusion of cultural assets and products of the Region like Kurtdereli wrestling championship, Gelibolu Mevlevi Lodge, Yağcıbedir Carpets, etc in promotional and marketing areas like cinema movies, TV series, festivals, exhibits and fairs.

Natural Tourism and Eco-Tourism

Lately, a tendency towards alternatives for sea-beach-sun tourism has emerged. TR22 Region's fabric is extremely suitable for such alternative tourism types like natural tourism and eco-tourism which is an important opportunity. In this regard, many alternative tourism types like village tourism, hiking and trekking, river tourism, cycling tours, cave tourism, sportive line fishing, bird watching, botanical tourism and hunting tourism can be practiced in the Region.

Mount Ida is a notable candidate as an eco-tourism center with its rich biodiversity, flora and fauna. Another important ecological asset for Region's tourism is Alaçam Mountains in Dursunbey, which are very suitable for camping. Also, hunting tourism can be practiced in such parts of Mount Ida that are not included in national park and in Alaçam Mountains.

In addition to coastal tourism, Gökçeada and Bozcaada have significant potential for alternative tourism. With vineyards and thyme fields, Bozcaada presents a rich ecosystem for eco-tourism. Recently, boutique hotels in authentic buildings have become popular in these islands which provide good service for tourists and also prevent concretization in these beautiful islands. Additionally, rich cuisine of the islands combines Turkish and Anatolian Greek gourmet traditions and is an important value to be presented to the World.[127] Furthermore, Virgin Mary Masses also attract many tourists as a faith tourism activity.

[127]SMDA, (Islands, 2012).

TR22 Region is known for many alternative tourism types. Tourism belt includes cultural tourism development area and health and thermal tourism areas.[128] Instead of short-term profits from tourism, the potential of the Region must be evaluated through appropriate use of natural resources and in due consideration with sustainability principle.

5.3.3 Financial Structure and Banking

The volume of deposits, number of bank branches and employment figures in the banking sector are important indicators of Region's financial activity. According to Provincial Financial Development Index of 2010 Balıkesir took 25th and Çanakkale took 28th places. In 2012, however, Balıkesir ranked 12th and Çanakkale 26th in Financial Development Index.[129] The most important reason for Balıkesir's performance in achieving 12th place from 25th is the increase in the number of bank branches and in the deposits in this Province.

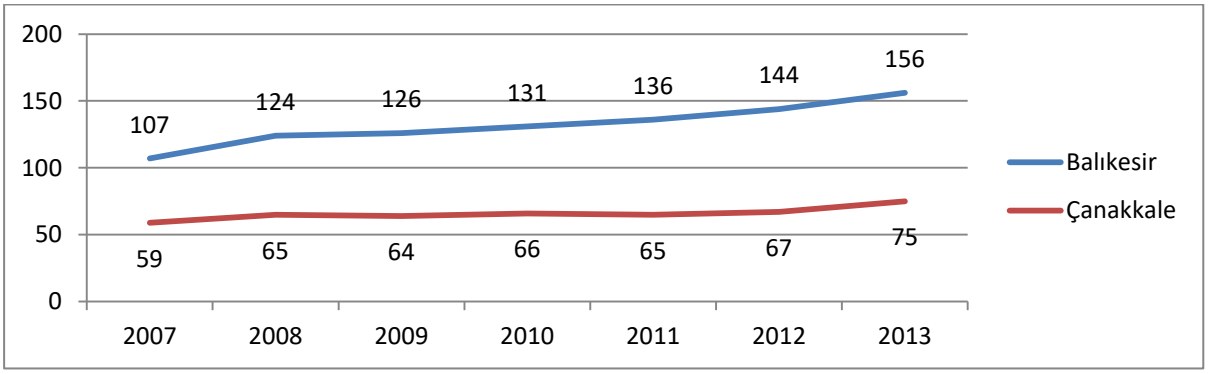


Figure 64: Number of Bank Branch Offices in TR22 Region
Source: The Banks Association of Turkey, 2009-2013.

In TR22 Region, 90 out of 143 banks operating in Turkey was present in Balıkesir and 53 in Çanakkale. In the year 2012, respectively 144 and 67 banks are operating in these Provinces.

[128] Ministry of Development (NSRD Draft, 2012)
[129] Türkiye İş Bank, **A Study on Development Levels of Turkey's Provinces According to 2010 and 2012 Data (Turkish) http://ekonomi.isbank.com.tr/UserFiles/pdf/ar_03_2012.pdf**, 27.05.2014

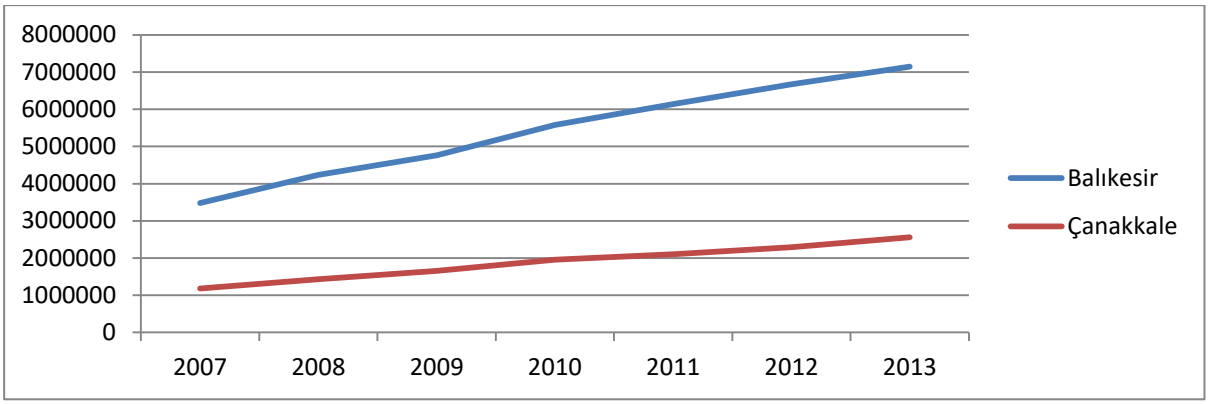


Figure 65: Total Volume of Deposits in TR22 Region (x1000)
Source: Generated From Data Inquiry System of the Banks Association of Turkey, 2007-2013.

Total volume of deposits in the Region was around 9 Billion TRY in the year 2012. 74 percent of this was in Balıkesir and 26 percent in Çanakkale. It is seen that between the years 2005 – 2012, the total volume of deposits had continuously increased especially in Balıkesir Province.

According to 2012 data by the Banks Union of Turkey, the bank loans were used in non-specialty areas with respectively 86 percent and 88 percent in both provinces. The agricultural loans used in Balıkesir were 9.8 percent and were 12.8 percent in Çanakkale. The loan use rate in other areas such as real estates, professional, maritime, tourism was around 2 percent. The same situation is also seen in nation-wide figures. In Turkey, non-specialty loan use is around 87 percent. Most of the loans used are consumer loans and credit cards which are followed by export loans and investment loans. Agricultural loans, on the other hand, constitute 8 percent of all loans used, which again, is in parallel with the Region's figures. Despite the size of the agricultural sector of the Region, the rate of loans used in agriculture is at the same level with Turkey, which indicates that the population engaged in agriculture does not benefit from these loans in a suitable manner and that awareness raising activities are needed in this subject.

5.3.4 Commerce

One of the most important factors in increasing the trade volume of the Region is establishment of logistics networks. Upon completion of establishment of logistics networks to districts within the region, these networks will be integrated with nearby larger commercial centers like Bursa, İzmir and İstanbul thus contributing stirring up the trade in the Region.

In order to animate the intra-regional commerce, it is important to strengthen the railway and highroads between Balıkesir and Çanakkale. Additionally, it is equally important to improve the co-operation between the Chambers of Industry and Commerce in both provinces.

Foreign trade volumes of Balıkesir and Çanakkale do not represent the potentials and current situation in the provinces. The problem regarding the current situation arises from the fact that a certain part of the export companies in the Region maintain their headquarters and book records in İstanbul. This causes the export figures to be recorded in İstanbul rather than the provinces of the Region. This situation also causes the result that the tax revenues are not reflected to the Region at desired levels. The problem concerning the potential of the Region arises from the low level of international branding, competitiveness and foreign-demand-oriented production.

In the last decade, the import of the Region increased by 3.6 times and export by 3.6 times. According to TurkStat 2013 data, in TR22 Region, 659.323.950 $ import and 797.868.889$ export occurred in the year. Breakdown of this figure shows that Balıkesir recorded 564.033.278$ import and 598.828.940$ export while Çanakkale recorded a 95.290.672$ import and 199.039.949$ export. Differing from the national economy, the import and export figures of the Region are close and this indicates a high export capability that can meet the import. This also shows that the Regional economy is less sensitive to foreign impacts (global crises, foreign demand bottlenecks, economic recessions in international trade partners, etc).

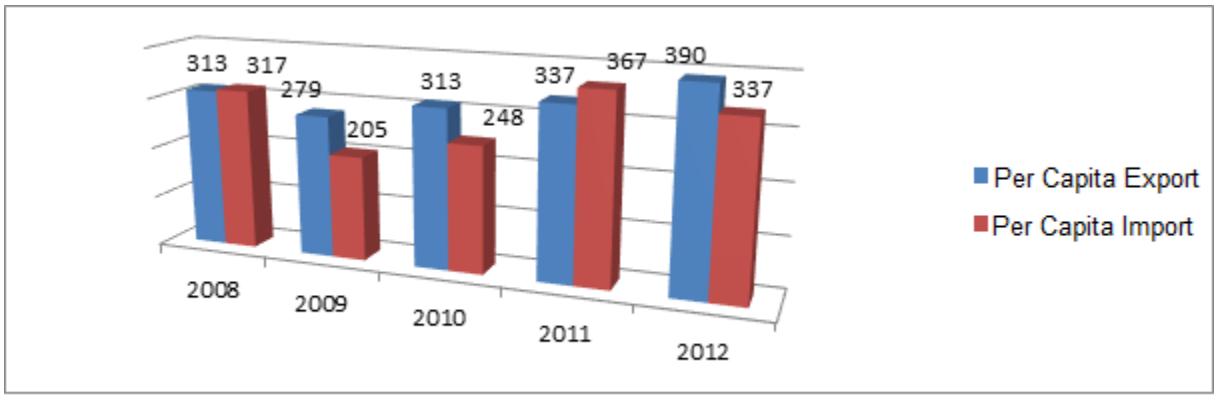


Figure 66: Import and Export per Capita in TR22 Region ($)
Source: TurkStat, 2013.

Per capita foreign trade data for 2008-2012 period shows that the economic crisis in the year 2009 affected the Region as well. In the year 2009 per capita import showed a faster decrease

than per capita export. In the year 2010, however, a faster increase was recorded in the per capita import. During recovery after 2009, the per capita import showed a faster development than per capita export. The import volume, which conventionally remained below the export, exceeded the export value by the year 2011. According to TUİK 2011 data, per capita export in Turkey was 2.016 $ and import was 3.128 $. This shows that the per capita foreign trade figures of the Region are lower than those of Turkey.

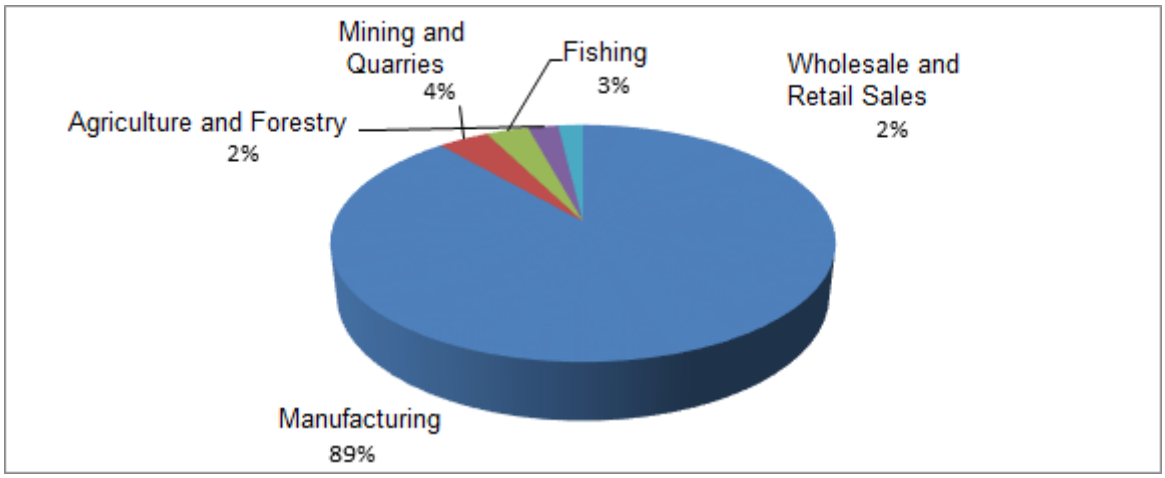


Figure 67: Distribution of Export by Sectors in TR22 Region
Source: TurkStat, 2013.

Distribution of the Region's export shows that the leading sector was the manufacturing industry with 89 percent of all exports in the year 2012. Mining and quarry operations took 2nd place with a 4 percent in the same year. Considering the mining resources potential of the Region, it is important to mobilize this potential so as to increase the export. Furthermore, the agriculture has a low share with only 2 percent of all exports. Having the agriculture as one of the leading sectors, the Region needs to improve its international competitive strength in manufacturing branded, high-added value agricultural products.

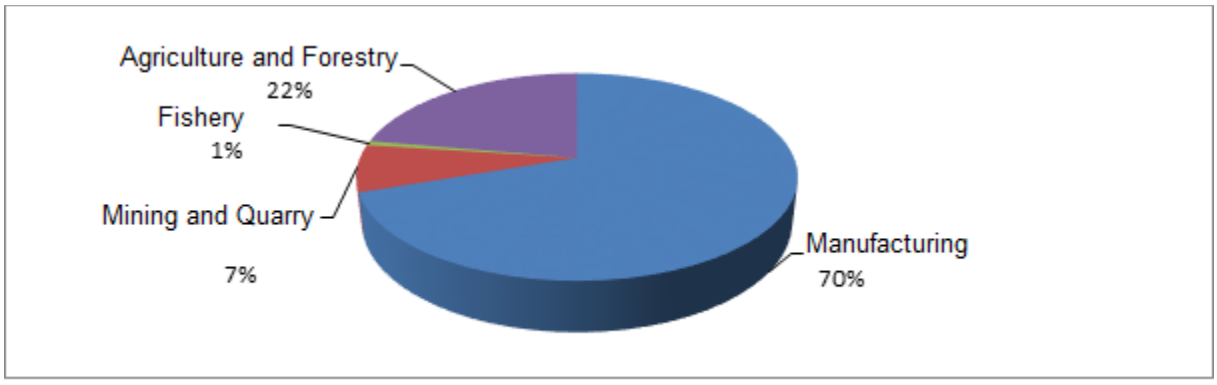


Figure 68: Distribution of Import by Sectors in TR22 Region
Source: TurkStat, 2013.

Distribution of import by sectors in the Region shows that the manufacturing industry took the first place with 70 percent of all imports in the year 2012 (Figure 68). Second place was taken by agricultural and forestry sectors with 22 percent. Share of mining and quarry operating sector in the Region's import was 7 percent.

6 SETTLEMENT SYSTEM AND INFRASTRUCTURE

6.1 Infrastructure

6.1.1 Power Distribution Infrastructure

Power distribution services of Balıkesir and Çanakkale Provinces were privatized on the date of 01.09.2010. There are 3 operators in the Balıkesir Province which are located in Central District, Bandırma and Edremit Districts. All villages and towns in the Region are connected to the transmission system. Nonetheless, the electricity grids especially in the villages of Balıkesir province were established in the 80s and since their economic life is around 30 years, the distribution system of these villages must be replaced. Additionally, given the increase in the number of milking, milk collection and cooling plants in the villages, the electricity consumption of the rural areas has significantly increased. The works on meeting this increased demand have already begun.

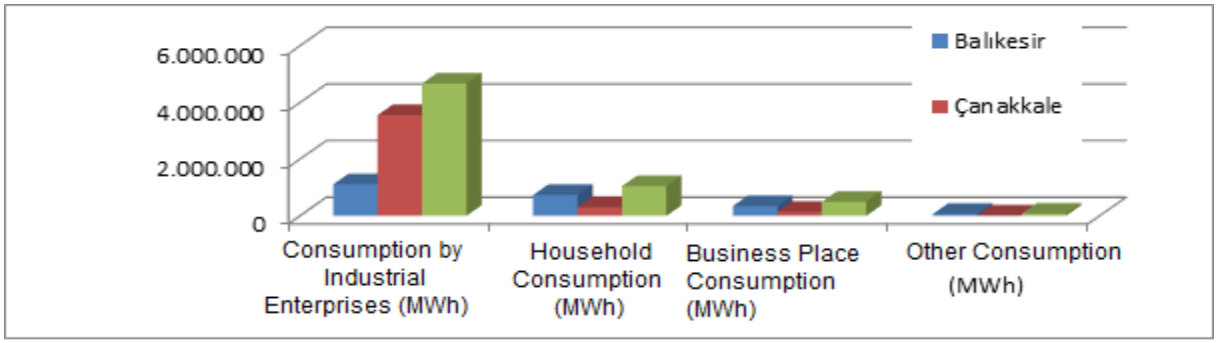


Figure 69: Electricity Consumption amounts (MWh)
Source: UEDAŞ, 2013.

According to electricity consumption data of Balıkesir and Çanakkale Provinces as given in Figure 69 the industrial areas are the biggest electricity consumers in these provinces. 74 percent of total electricity consumption in TR22 Region was consumed by industrial enterprises.

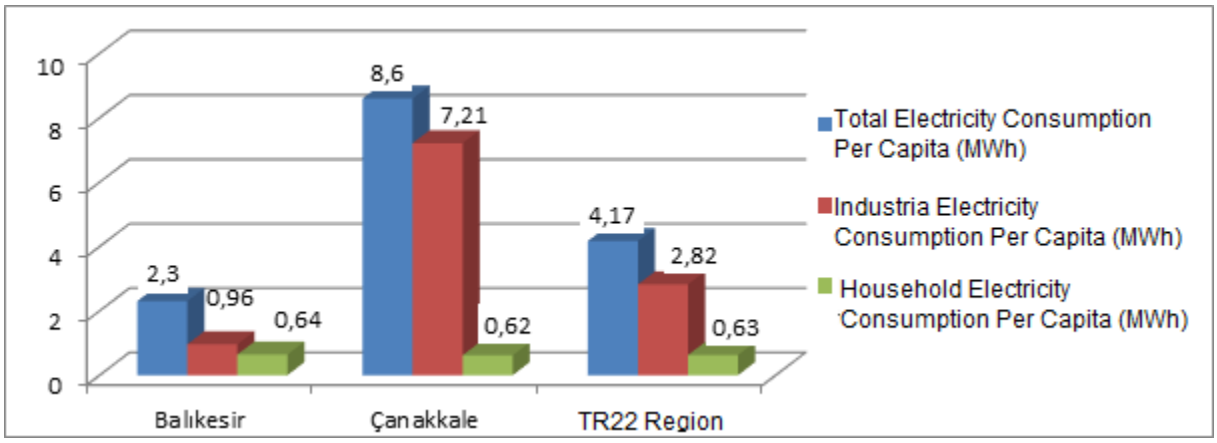


Figure 70: Per Capita Electricity Consumption (MWh)
Source: UEDAŞ, 2013.

Considering the Region's provinces, the total number of subscribers and the household electricity consumption amount of Balıkesir are twice as much of those of Çanakkale. In terms of total electricity consumption and per capita electricity consumption amounts, Çanakkale exceeds Balıkesir. This is a result of the fact that such energy-intensive industrial activities like iron-steel, cement, ceramic, etc, are practiced in Çanakkale. This also causes the per capita electricity consumption rates to exceed national average figures.

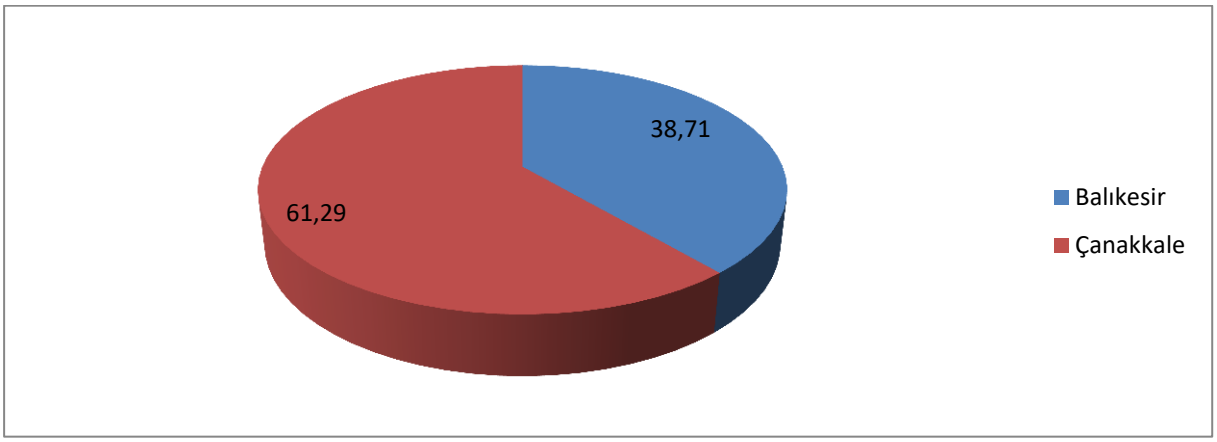


Figure 71: Distribution of Total Electricity Generation
Source: TUİK, 2013.

In the TR22 Region, % 61.29 of total electricity consumption belongs to Çanakkale while remaining % 39.71 belongs to Balıkesir. This is the result of accumulation of energy-intensive industrial facilities in Çanakkale province. In the year 2013, 42 percent of Balıkesir's electricity was consumed by industry and 28 by households. In Çanakkale, on the other hand, 84 percent of electricity was consumed by the industry and 7 percent by the households in the same year.

6.1.2 Natural Gas Infrastructure

The most important features of the natural gas are its cleaner emissions and lower costs compared to other fossil fuels. Natural gas is commonly used in Europe and started to be used in Turkey, firstly in larger cities like İstanbul, Ankara, Bursa, Eskişehir and İzmit in 1990s.

In the year 2004, the natural gas distribution license for Balıkesir Province was given to Balıkesir Natural Gas Distribution Inc. and the license for Bandırma District to Bandırma Natural Gas Distribution Inc by the Energy Market Regulatory Authority. In the Year 2006, natural gas distribution license for Çanakkale, was given to Çanakkale Natural Gas Distribution Inc. All licenses are given for a period of 30 years. As required by law, the municipalities within the license area, own 10 percent of company shares of natural gas distribution companies.

Balıkesir hosts national and international natural gas pipelines. Main pipelines of Botaş and of Nabucco pass through the Province. Furthermore, Balıkesir will serve as an important transit point and Çanakkale will serve as a distribution center for Trans-Anatolian Natural Gas Pipeline Project (TANAP). Although two significant natural gas pipelines pass through Balıkesir, only Central District, Susurluk, Bandırma and Gönen Districts can benefit from the natural gas.[130] In Çanakkale, natural gas is used in Central District, Biga, Çan, Ezine and Bayramiç Districts.

[130] Ministry of Environment and Urban Planning (EP, 2012)

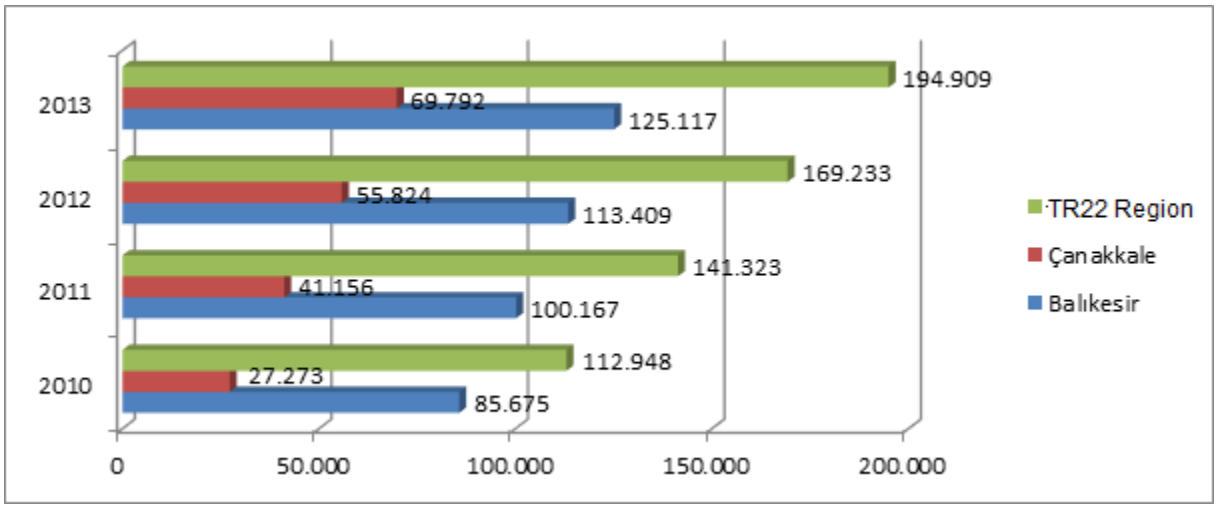


Figure 72: Number of Natural Gas Subscribers
Source: Aksa Natural Gas Distribution Inc. 2013.

In terms of natural gas subscribers, Balıkesir has more subscribers than Çanakkale. Between the years 2010 and 2013, the number of subscribers increased by %50 in Balıkesir and %155 in Çanakkale.

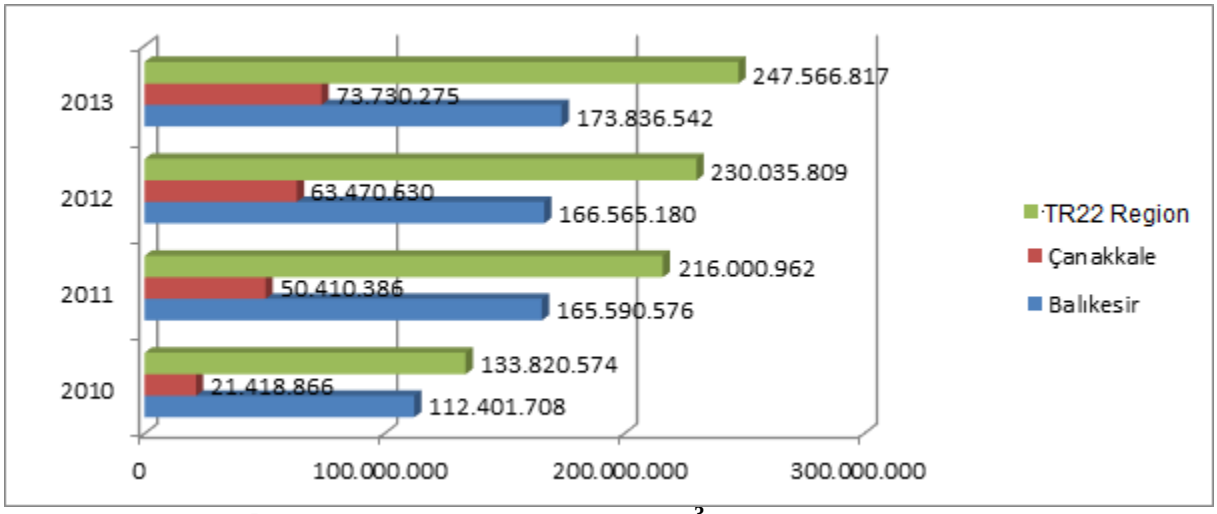


Figure 73: Natural Gas Consumption Amounts sm^3
Source: Aksa Natural Gas Distribution Inc. [131]

In natural gas consumption amounts, Balıkesir far-exceeds Çanakkale. Between the years 2010 and 2013, natural gas consumption amount of Balıkesir increased by approximately %50 while that of Çanakkale province increased by %250.

[131] Çanakkale data are inclusive of Central District, Biga, Çan, Ezine, Bayramiç & Gönen Districts.

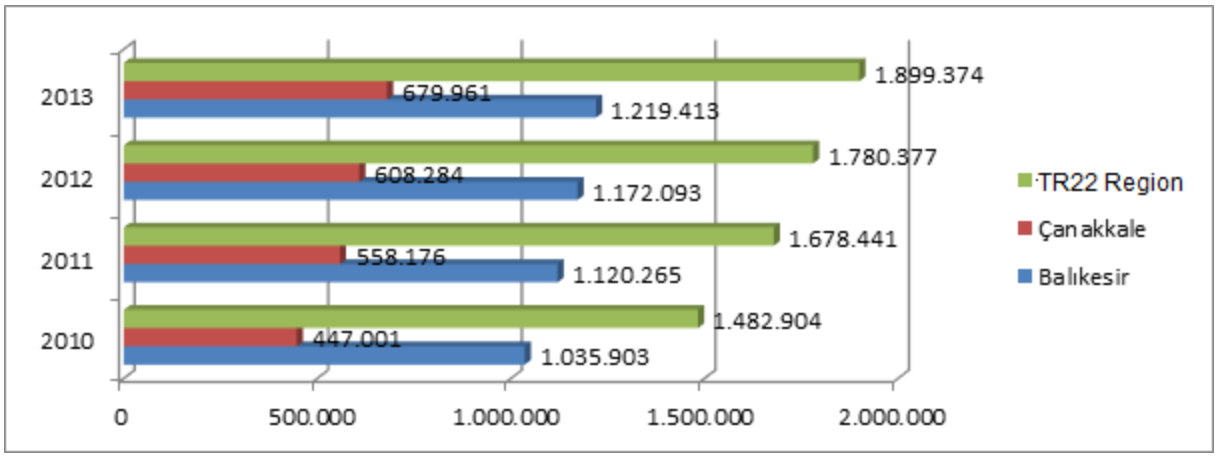


Figure 74: Length of Natural Gas Lines (m)
Source: Aksa Natural Gas Distribution Inc. [132]

In the Region, the number of total natural gas subscribers is increased by 72.57 percent, the natural gas consumption amounts increased by 85 percent and the length of natural gas pipelines by 28.08 percent in the year 2013, compared to the year 2010. Especially in 2011, a significant increase in natural gas consumption amounts is observed. This increase is a result of the more frequent audits in generation facilities on necessary measures and of the infrastructure investment projects realized by local governments. Natural gas utilization rate is especially high in Balıkesir, which is considered as an industry-transition province.

6.1.3 Communications

The communications infrastructure of the Region is well developed. There are 3 communication networks that connect İstanbul and İzmir and all these networks pass through the Region thus ensuring the communication safety thanks to these alternatives. Balya is located on the conjunction point of main lines thus constituting an important point for Region's communication networks.

In recent years, significant investments were made on fiber cable lines. Fiber lines are preferred especially for the wind power plants' connection with their headquarters. The total length of fiber cables increased by 102 percent in Turkey and 80 percent in the TR22 Region in the year 2013 compared to the year 2008. As of the year 2013, 3.33 percent of a total of 227.413 km cables of Turkey is located in the TR22 Region.

[132] Çanakkale data are inclusive of Central District, Biga, Çan, Ezine, Bayramiç & Gönen Districts.

Table 27: Length of Fiber Optical Cables (km)

Years	2008	2009	2010	2011	2012	2013
Balıkesir	2.422	2.402	2.685	3.000	3.118	4.368
Çanakkale	1.775	1.880	1.893	2.355	2.525	3.201
TR22	4.197	4.282	4.578	5.355	5.643	7.569
Turkey	112.420	127.296	126.518	150.128	167.921	227.413

Source: ICTA, 2014.

* Data until 2012 are only those obtained from Türk Telekom Company. The total fiber cable length of alternative operators, as of the 4th quarter of 2012, is 42.364 km in all around Turkey.

In the year 2013, the number of internet communication subscribers increased by 139 percent in Turkey and 77 percent in the TR22 Region compared to the year 2011. There were no fiber internet users in the Region in the year 2011. By the year 2013, the number of fiber internet users reached 8.133. This figure corresponds to 5 in thousandth of the population. In the year 2013, number of users connecting to internet via their mobile devices increased by 275 percent in Turkey and 170 percent in the Region compared to the year 2011.

Table 28: Number of Broadband Internet Subscribers

Years	Unit	xDSL	Fiber	Cable	Mobile	Other	Total
2011	Balıkesir	120.813	0	5.607	114.815	52	241.287
	Çanakkale	60.828	0	0	57.808	27	118.663
	TR22	181.641	0	5.607	172.623	79	359.949
	Turkey	6.776.036	267.144	460.451	6.454.801	159.383	14.117.815
2012	Balıkesir	118.134	2.532	6.215	160.231	61	287.173
	Çanakkale	60.103	2.234	0	70.595	32	132.964
	TR22	178.237	4.766	6.215	230.826	93	420.137
	Turkey	6.643.299	645.092	500.658	12.161.900	139.665	20.090.614
2013	Balıkesir	126.277	4.325	6.022	325.263	95	474.984
	Çanakkale	64.226	3.808	0	140.597	34	208.665
	TR22	190.503	8.133	6.022	465.860	129	683.649
	Turkey	6.644.543	1.193.704	486.497	24.173.143	68.647	33.679.794

Source: ICTA, 2013.

Number of mobile telephone users in TR22 Region increased by 4.33 percent in the year 2013, compared to 2011. In recent years, the number of pre-paid subscribers has decreased in the Region while the number of postpaid subscribers has increased. As of December 2013, there are a total number of 69.661.108 mobile subscribers in Turkey. The number of mobile

subscribers in TR22 Region corresponds to 2.05 percent of the national figure. As it has been in Turkey, the number of landline subscribers has decreased in the TR22 Region in the last 5 years.

6.1.4 Transport and Logistics

6.1.4.1 Highways

Thanks to its geographical location, TR22 Region presents a strategic importance regarding transportation networks. State highway connecting İzmir to Bursa and İstanbul as well as the Ayvalık-Edremit section of the highway connecting İzmir and Çanakkale Provinces are located within the administrative boundaries of Balıkesir Province. Çanakkale is connected to Thrace through Gelibolu Peninsula, Edirne and Tekirdağ and has a land road connection to Anatolia through Biga Peninsula and Balıkesir.

The highways transportation of the Region is partially suitable yet requires additional arrangements and investments to improve the accessibility of the Region. Especially Çanakkale requires improvements on intra-regional and inter-regional land roads. The Region also has certain highways with technical infrastructural deficits thus lacking appropriate quality and safety. Furthermore, considering the ever-increasing vehicle traffic and added loads during tourism seasons, Balıkesir's land roads also need improvements. Lack of land road connection between Asian and European parts through Çanakkale is a significant problem concerning accessibility of the Province.

Table 29: Types and Lengths of Land roads (km)

Unit	State Highway	Provincial Land road	Motorway	Total	Divided Highway	Village Roads
Balıkesir	637	607	-	1.244	467	5.011
Çanakkale	508	546	-	1.054	255	3.470
TR22	1.145	1.153	-	2.298	722	8.481
Turkey	31.375	31.880	2.236	65.491	22.253	305.227

Source: GDH, 2013.

In TR22 South Marmara Region, the land roads include 1.145 km state highways and 1.153 km provincial highways. There are no motorways in the land road network of the Region. 722 km out of a total length of 2.298 km land road, is divided highway. Furthermore, the Region

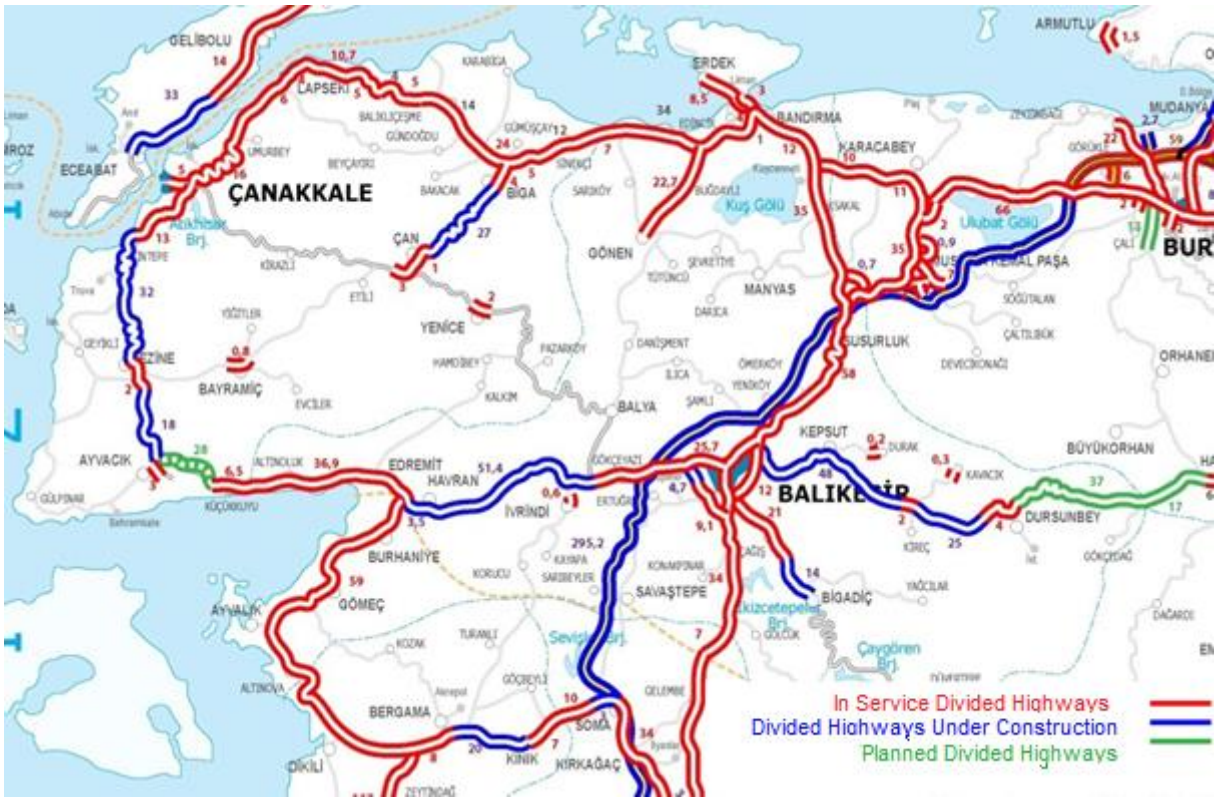
has a total of 8.481 km village roads, 5.011 km of which is in Balıkesir and 3.470 km in Çanakkale. Among 892 villages of Balıkesir, 684 villages' roads are asphalt. The land roads of especially mountain villages must be renewed within the scope of a plan. Among 565 villages of Çanakkale, 544 villages' roads are asphalt.[133]

Table 30: Lengths of State and Provincial Highways by Surface Types (km)

Unit	Asphalt Roads			Parquet	Stabilized	unpaved	impassable	Total
	Asphalt Concrete	Surface Treatment	Total					
Balıkesir	267	968	1.235	5	-	-	4	1.244
Çanakkale	249	799	1.048	7	-	-	-	1.054
TR22	516	1.767	2.283	12	-	-	4	2.298
Turkey	15.386	46.462	61.848	256	1.069	666	1.652	65.491

Source: GDH, 2013.

In TR22 Region, nearly all of 2.298 km state and provincial highways are asphalt. 3.4 percent of all asphalt roads of Turkey (15.386 km) is in the Region.



[133] Provincial Special Administrations of Balıkesir and Çanakkale, 2013.

Figure 75: Divided Highway Network of the Region
Source: GDH, 2013.

The divided highways are vital for improving the land road network of the Region. In Turkey, proportion of the divided highways to over all land roads is approximately 34 percent. In the same proportion was at lower levels in TR22 Region yet thanks to recent works, the proportion was increased to 31 percent in the Region.

Balıkesir-Havran divided highway project is planned to be completed in the year 2014 and is vital for easing the land road access to Gulf of Edremit. Additionally, Çanakkale-Ezine-Ayvacık, Biga-Çan, Balıkesir-Bigadiç and Gelibolu-Eceabat road works are planned to be completed by the end of the year 2014 and Balıkesir-Dursunbey-Harmancık-Tavşanlı-Kütahya road works are planned to be completed by the end of 2015.

Figure 76: International European Highway Network in the Region
Source: GDH, 2013.

The Declaration on the Construction of Main International Traffic Arteries (AGR) was prepared by the United Nations European Economic Commission. Two main arteries enter to Turkey, from Southeastern European extents of AGR International Road Network. These two arteries are E-80 artery, which enters Turkey from Bulgarian border (Kapıkule) and E-90 artery, which enters Turkey from Greek border (Ipsala).[134] These two main routes access to Middle Eastern and Asian international road networks through Anatolia on south and east borders of Turkey. Gelibolu, Eceabat, Lapseki Districts of Çanakkale are located on E-90 Artery. Additionally E-87 and E-881 arteries are also passing through the Region.

Figure 77: Turkish TEM Road Network in the Region
Source: GDH, 2013.

[134]General Directorate of Highways,
http://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Kurumsal/UluslararasiProjeler/EYollar.aspx,28.05.2014

Trans European Motorway (TEM) Project was a sub-regional co-operation project established on 1977 by technical and administrative support of United Nations European Economic Commission (UN/ECE) and is one of the oldest and most advanced regional infrastructure projects of Europe. Most of the motorways of TEM also constitute a part of the International European Road Network.[135] Bursa-Balıkesir-İzmir road is a part of Turkey TEM network and passes through the Region.

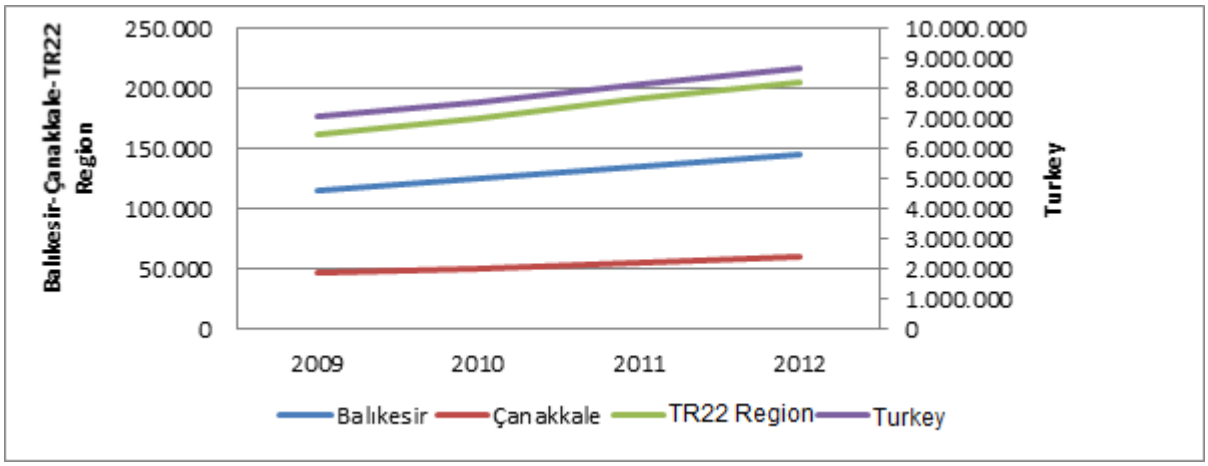


Figure 78: Number of Automobiles (pieces)
Source: TurkStat, 2013.

Between the years 2009 and 2012, the number of cars increased by % 26.06 in Balıkesir, %27.98 in Çanakkale and % 21.92 in Turkey. The increase in the Region exceeds the increase in the national figures. Within the Region, the level of increase is parallel among the Provinces.

[135] General Directorate of Highways, **http://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Kurumsal/UluslararasiProjeler/Tem.aspx,28.05.2014.**

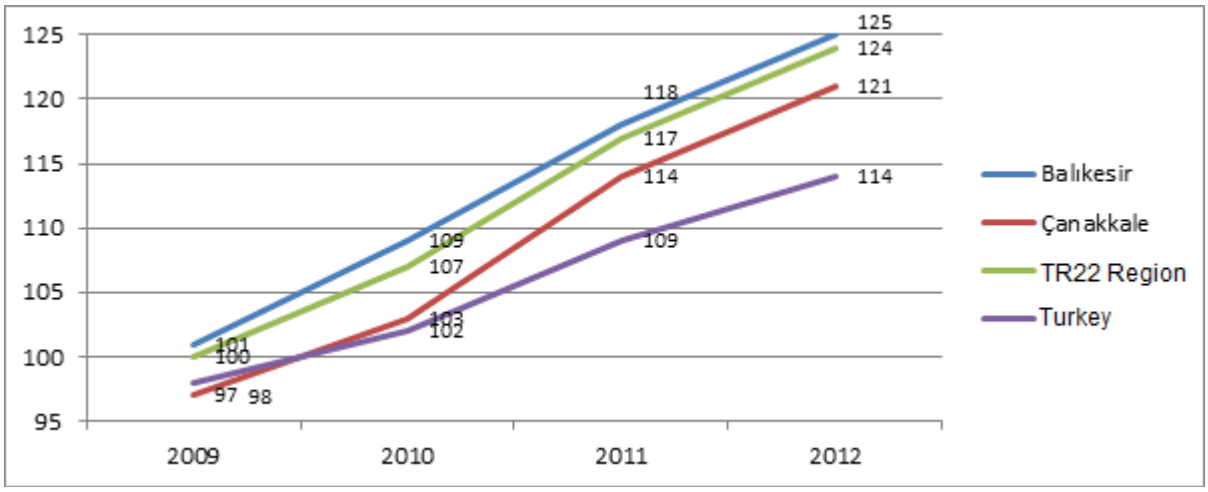


Figure 79: Number of Automobiles per Thousand People
Source: TurkStat, 2013.

The number of cars per capita increased by 16 percent in Turkey and by 24 percent in the TR22 Region between the years 2009 and 2012. According to 2012 data, the average number of cars per thousand people in the Region is higher than national average.

6.1.4.1.1 Gebze-Orhangazi-İzmir Motorway Project

As of the year 2012, total length of motorways under operation in Turkey is 2.236 km. However, there is no motorway in TR22 Level 2 Region. Balıkesir Province is located on the route of Gebze-Orhangazi-İzmir motorway project. The contract of the project was signed on the date of 27.09.2010.

The Project stipulates construction of 421 km of land roads including 44 km of access roads and 377 km motorway. The start point of the Project is Gebze. The motorway will pass over the Gulf of İzmit via a Suspension Bridge to be constructed between Dilovası and Hersek Cape and viaducts on both sides and continue to Orhangazi and Gemlik to connect to Bursa Highway on Ovaakça Intersection. After exiting the Bursa Highway, the further part of the motorway to be constructed will start after Bursa – Karacabey crossing intersection and pass through north of Susurluk to Balıkesir. Afterwards, the motorway will bear to south to pass nearby Savaştepe, Soma, and Kırkağaç Districts and to west after Turgutlu from where it will trail along İzmir – Uşak state highway to reach Anadolu Lisesi Intersection on İzmir Highway.

It is expected that the motorway will ease the increasing vehicle traffic pressure on the existing highways and to reduce travel time significantly. This will provide a significant saving on labor, fuel consumption and travel time and will reduce the traffic in the cities therefore making the transportation safer and the economy more effective. Pre-construction works started on 2011 along with expropriations on all sections. Gebze-İznik South Intersection part of the motorway is aimed to be completed within 3.5 years or less and whole of the motorway construction is planned to be completed within 7 years. The body of the motorway is designed to have 6 lanes (3 on each direction) suitable for an average car speed of 120 km/hour.[136]

The route between İstanbul and İzmir is important for trade and domestic tourism. When the project is completed, travel time for accessing İstanbul or İzmir from Balıkesir will be significantly reduced. This will increase the attractiveness of Balıkesir for investors in tourism and industrial areas.

6.1.4.1.2 Kınalı-Tekirdağ-Çanakkale-Savaştepe Motorway Project

Kınalı-Tekirdağ-Çanakkale-Savaştepe Motorway Project is designed to be a part of solution for İstanbul's traffic problem. The project will allow the traffic from Europe to Aegean and Mediterranean Regions to pass through Çanakkale. The motorway is planned to connect both shores of Çanakkale Strait through a suspension bridge and to join "Gebze-Orhangazi-İzmir Motorway on Savaştepe District of Balıkesir. The motorway will also be integrated with "North Marmara Motorway and 3rd Bosporus Bridge" project. This project will reduce the travel time between Çanakkale and Balıkesir Provinces of TR22 Region and will provide easiness for transportation between the Region and the surrounding Provinces. This project will turn Çanakkale into an alternative to İstanbul as a route connecting Europe to Asia.

[136]Gebze – Orhangazi –İzmir Motorway (GOIM) Project, **Project Introduction Brochure,** 2012

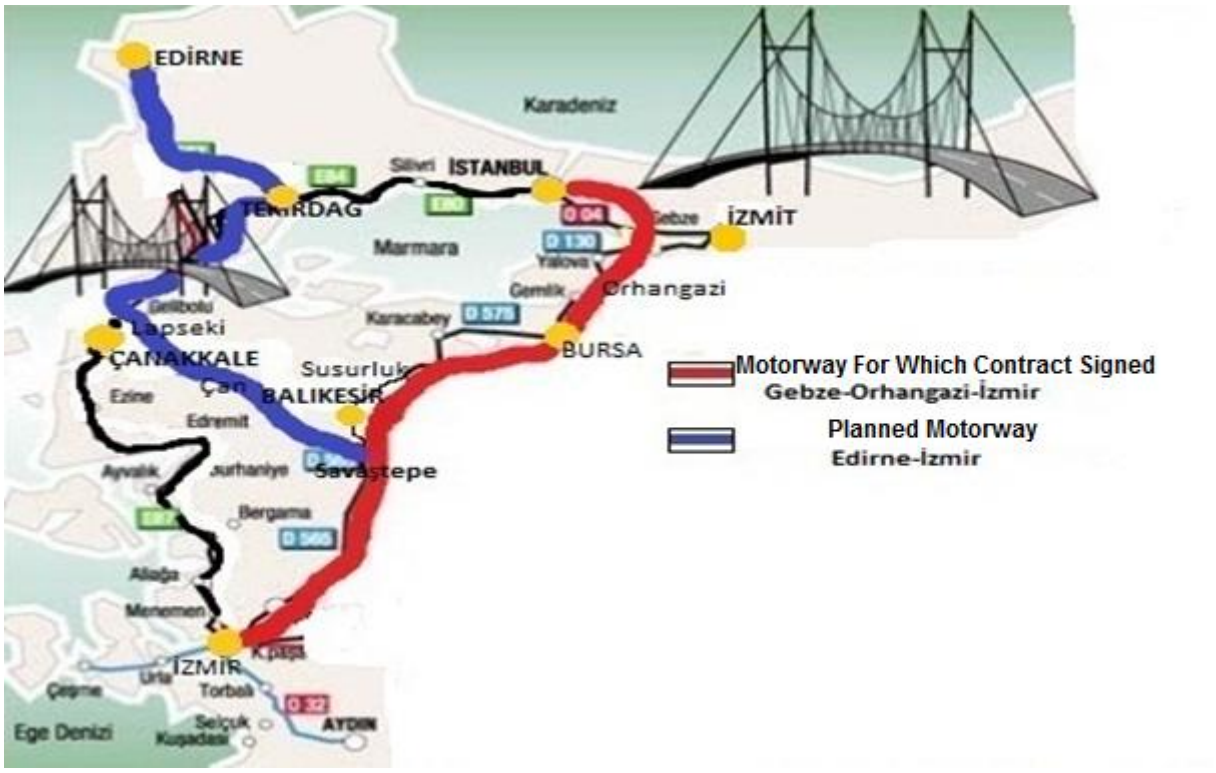


Figure 80: Motorway Projects Concerning the Region
Source: General Directorate of Highways, 2013.

6.1.4.2 Maritime Ways

TR22 South Marmara Region has importance for national and international passenger and freight carriage since it has coasts to Aegean and Marmara Seas. Length of coasts of Balıkesir is 291 km and Çanakkale is 671 km. However, the existing maritime infrastructure level is well below the passenger and freight carriage potential of the Region. Compared to the number of ships arriving at the ports of the Region, the material handling amounts are at very low levels. It is important to increase the passenger capacity and the number of cities accessible for maritime lines through necessary infrastructural investments. On freight carriages, the infrastructure of the ports must be improved to reach modern logistic applications.

Due to its geography, Çanakkale is a province with high maritime transportation use rates. Çanakkale strait has a vital role in national and international maritime transportation. Docks and ports in the Province are already used for passenger and freight transportation yet the infrastructure of these ports and docks need to be improved for international purposes.

In terms of maritime transportation, Bandırma has a great potential. Thanks to its advanced and well-equipped port, the District is the maritime gateway of Marmara Region. The

distance between Bandırma and İstanbul is 64 miles. Started on 1998, fast ferry and sea bus services between İstanbul and Bandırma, provided great easiness for transportation. The service enables arrival to İstanbul within two hours and has an intensive carriage program up to six hours per day during week days and weekends in summer season. Also, there is daily Ro-Ro service from Bandırma to Tekirdağ and İstanbul. Furthermore, daily passenger shuttles are available to Marmara Island, Paşalimanı Island and Türkeli (Avşa) Island.

Figure 81: Map of Region's Ports
Source: MoTMAC, generated from 2013 data

Approximately 45.000-50.000 ships pass through and create an intensive maritime traffic in Çanakkale Strait every year. The most intensive traffic in the Strait occurs in summer seasons. Maritime transport is used for both freight and passenger services in Çanakkale. Daily passenger carriage is intensively held between Çanakkale Central District-Kilitbahir, Central District-Eceabat, Lapseki-Gelibolu and Çardak-Gelibolu. Furthermore, scheduled ferry services are provided for Gökçeada and Bozcaada Islands.

Çanakkale Central District has a small port with 7 meters sea depth and 90 meter length. This port serves to ships up to 3000 gross tons. The ships docked in this port usually conduct single-day operations. Kepez Port, however, is one of the important export centers of the Region. Additionally a loading-unloading wharf belonging to Akçansa Cement Plant is

located in Mahmudiye Town of Ezine District and has a loading-unloading capacity of 350 thousand tons of mixed freight (cement products and all types of raw materials used in the plant) or 6 million tons of cement in bulk. İÇDAŞ A.Ş., has two wharfs in Değirmencik Village of Biga District which can serve the ships over 1.350 DWT.

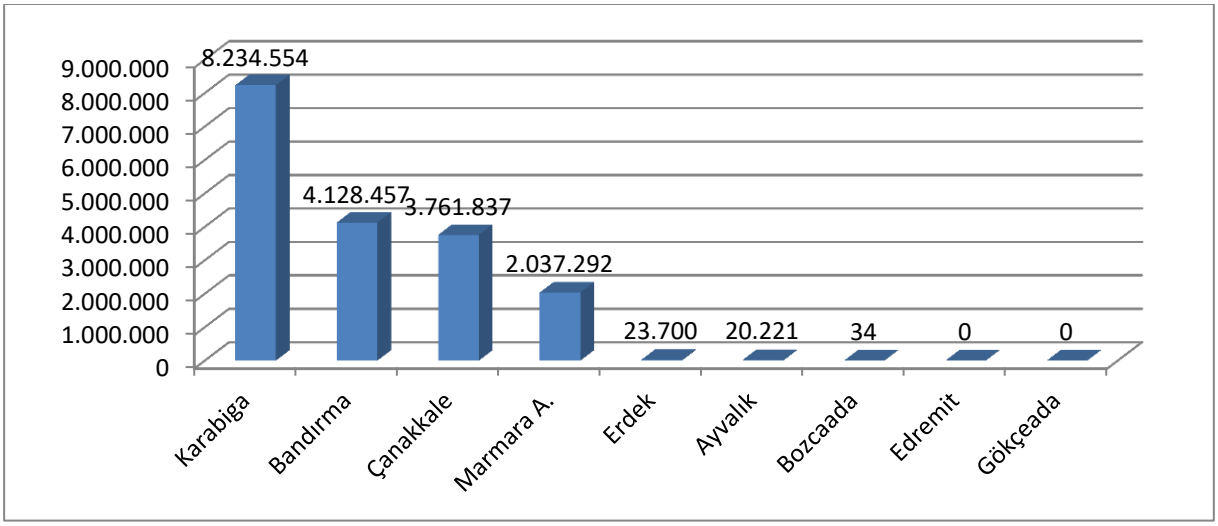


Figure 82: Total Amount of Material Handling in Region's Ports (Tons)
Source: MOTMAC General Directorate of Maritime Trade, 2013*.
*2013 data is not inclusive of data for November and December.

According to 2013 data, total amount of material handling is distributed to Karabiga (% 45.23), Bandırma (% 22.68), Çanakkale (% 20.66) and Marmara Island (% 11.19) Ports. Material handling amounts of Erdek, Ayvalık and Bozcaada Ports remained very low while no material handling took place in Edremit and Gökçeada Ports. Only 5.67 percent of 321 million tons overall national material handling amount took place in the Region.[137]

[137] Ministry of Transport, Maritime Affairs and Communications General Directorate of Maritime Trade, **https://atlantis.denizcilik.gov.tr/istatistik/istatistik_yuk.aspx,** 2013

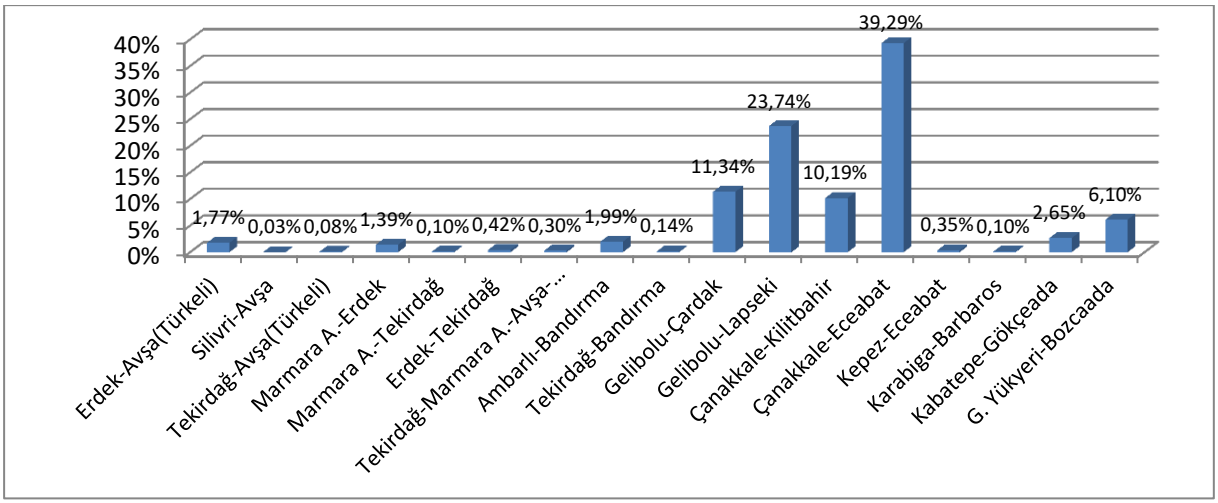


Figure 83: Number of Passengers Transported via Cabotage
Source: Ministry of Transport, Maritime Affairs and Communications, G.D. of Maritime Trade, 2011.

In the Region, 39.29 percent of all passenger transports took place on Çanakkale-Eceabat line, 23.74 percent on Gelibolu-Lapseki line, 11.34 percent on Gelibolu-Çardak line and 10.19 on Çanakkale-Kilitbahir line. In the year 2011, approximately 9.5 million passengers, corresponding 6.04 percent of all maritime passengers in Turkey, used the ports and docks of TR22 Region.

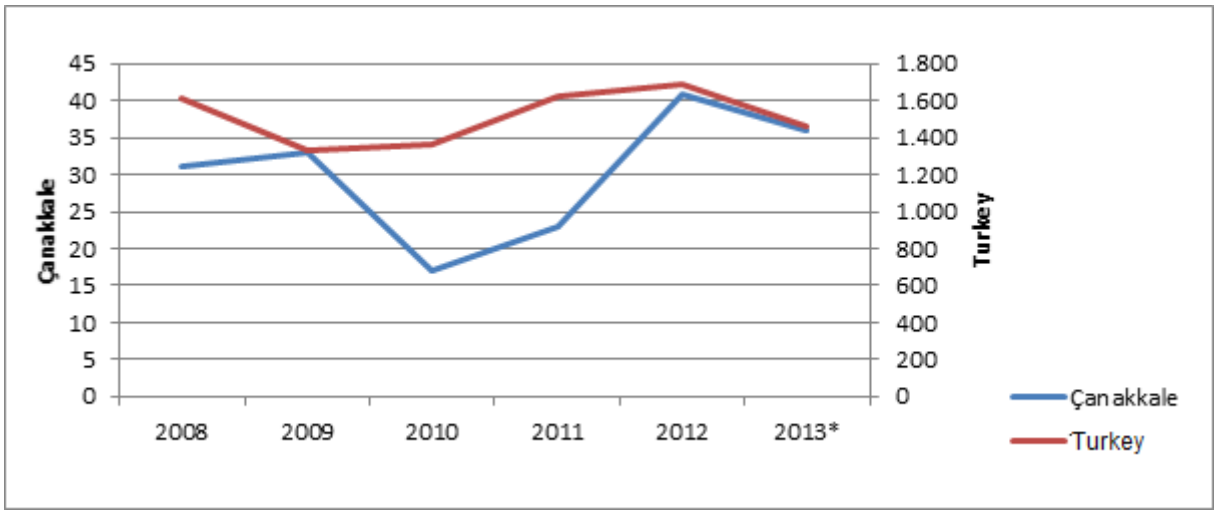


Figure 84: Number of Cruisers
Source: MoTMAC General Directorate of Maritime Trade, 2013*.
*Exclusive of November and December 2012 data.

According to Turkey Tourism Strategy 2023 prepared by the Ministry of Culture and Tourism it is planned to rapidly complete infrastructure and superstructure works for cruises on regions with high tourism potentials and to open cruise ports to increase the stay times and the number of higher-class tourist arrivals in these regions. In this regard, improvement of the

existing capacity of Çanakkale cruise port will ensure a significant increase in the tourist arrivals.[138]

Deficits in the transportation means are some of the rather more significant problems of TR22 Region's tourism. Despite their coasts, Balıkesir and Çanakkale do not sufficiently benefit from maritime transportation. Maritime connections between the districts of the Region are also weak. Especially the long travel times to the islands and lack of suitable number of shuttle rounds causes problems of education, health and commerce in the islands.

6.1.4.3 Railway

Balıkesir is included in the railway communication network of Turkey and serves as a transit center on the railway line connecting Ankara to İzmir. Balıkesir has a total length of 280 km of railway lines which corresponds to 2.9 percent of all railway lines in Turkey (9.642 km). All of the existing railway lines in the Region are located in Balıkesir Province. In order to improve intra-regional and inter-regional accessibility, it is needed to include Çanakkale Province within the railway networks and to complete infrastructure works in Balıkesir.

On north-south axis, Balıkesir has a railway line that starts from Bandırma Station, which operates integrated with Bandırma Port, and passes through Balıkesir-Soma-Manisa and finally reaches to İzmir. East-oriented railway line branches from Alanyurt station and reaches to Eskişehir-Ankara and Afyon-Konya provinces.[139] Existing railway network is used mostly for freight carriage and does not fulfill the province's potential in terms of capacity and number of flights. It is needed to encourage the passenger carriage and to modernize the existing railway network.

[138] **http://www.kugm.gov.tr/BLSM_WIYS/DLH/tr/DOKUMAN_SOL_MENU/Master_Plan_Calismalari/20110527_122423_10288_1_10315.pdf,** 14.06.2013

[139] General Directorate of State Railways, **2010-2014 Strategic Plan**, 2009

Figure 85: Existing and Planned Railway Networks of Turkey
Source: MoTMAC, 2013

The railway carriage sector will be formed upon strategies and targets defined. It is anticipated that Turkish Railways will be fully integrated with other modes of transport and well spread over the country with a total 30.000 km railway network to fulfill an important role in freight carriage both in the country and in the international freight corridors by the year 2023. High-speed railway lines to be constructed will provide comfortable and fast travel opportunities and the railway transport will be more preferable for the clients. It is aimed to construct a total length of 10.000 km high-speed railways across east-west and north-south transport corridors of Turkey to provide a comfortable, reliable and fast means of transport that connect especially largest cities and tourism regions by the year 2023.[140] One of such planned high-speed railway lines is Bursa-Balıkesir-İzmir high-speed railway line which directly concerns the Region. This project will play a vital role for both passenger carriage and transport of inputs of Regional economy as well as products manufactured in the Region to both domestic and international markets. Addition of Bandırma-Biga-Çanakkale extension to this line will also play a critical role in improving accessibility of Çanakkale province.

"Bandırma-Bursa-Ayazma-Osmaneli High-Speed Railway Line" is another such project that closely relates to the Region. With this Project, it is aimed to facilitate the transportation and to reduce the travel time between metropolises like Ankara, İzmir, İstanbul and Bursa. When

[140] MoTMAC, **Transport and Communications Strategy of Turkey: Target 2023**, 2013

the Project is completed, the existing operational problems on the main line are expected to be eliminated and a direct connection between Asia and Europe be established on same level of standards. Another objective is to reduce such problems like traffic accidents due to intensive land road transportation or air pollution and to ensure a safe and comfortable transportation. As the very first step of the Project, a tender for infrastructure works of Bursa-Yenişehir High-Speed Railway Project was finalized and said works has commenced. Furthermore, a tender is planned for Yenişehir-Osmaneli-Bilecik section which will connect Yenişehir to Ankara-İstanbul High-Speed Railway as its extension.[141]

Site survey studies have been completed on 245 km-long, dual lane railway between Bandırma and İzmir. It is planned to provide access to Çandarlı Port and Aliağa through Bandırma-Susurluk-Balıkesir-Soma-Bergama line of this railway.[142]

6.1.4.4 Airlines

TR22 South Marmara Region has four airports used for civil aviation purposes. These are: Balıkesir Central District airport, Balıkesir Koca Seyit Airport, Çanakkale Airport and Gökçeada Airport. Commissioned on 1995, Çanakkale Airport was the first civil airport of the Region. The airport was expanded on 2008 with a new terminal and apron to provide more effective services for passengers and aircrafts. Construction works of the Airport Rescue and Fire Fighting (ARFF) started on the date of July 26th 2010 and the building commissioned on July 2011. On the date of Mart 20th 2013, runway extension and expansion works started thus the Airport was temporarily out of service. Airport is currently serving for domestic fights as well as small amount of non-scheduled international flights. With an annual passenger capacity of 300.000, Çanakkale Airport serves for civil and military aviation and is located approximately 10 km from the city center.[143]

Another civil airport is located in Gökçeada district of Çanakkale. Commissioned on 2010, the airport generally serves for flights concerning humanitarian aids and tourism purposes only during summer seasons.

[141] **http://hizlitren.tcdd.gov.tr/home/detail/?id=22,** 11.05.2013
[142] **http://www.aygm.gov.tr/BLSM_WIYS/DLH/tr/DOKUMAN_SOL_MENU/Demiryollari/Demiryolu_Yeni/20130625_113924_10288_1_10315.html,** 11.05.2013.
[143] State Airports Administration data, 2013

Another important airline contact point of the Region is Balıkesir Koca Seyit Airport located in Edremit District of Balıkesir. Thanks to expansion works completed on 2010, the Airport now meets the international flight standards.[144] With an annual passenger capacity of 120.000 passengers, the airport serves only for civil aviation purposes as it is very close to holiday destinations like Ayvalık, Altınoluk, Akçay, Burhaniye, Küçükkuyu and Dikili. The airport is very active during high vacation season in summer. It is anticipated that the number of foreign tourist arrivals will increase as the airport will be open for international direct flights in near future.

Located 5 km from the city center, the Balıkesir Central District Airport serves for military and civil aviation purposes. There are scheduled flights to Ankara 3 days a week from the airport. However, due to ongoing runway expansion works, no other scheduled flights are carried out.

According to 2013 data, the number of domestic flights via the airports of the Region constitutes 0.89 percent of all domestic flights in Turkey. Balıkesir Koca Seyit Airport has the largest air and passenger traffic in the Region. Only Balıkesir Koca Seyit Airport is open for international passenger flights in the Region. The number of domestic flight passengers carried in the Region constitutes 0.14 of all domestic passengers of Turkey. Since the Region has approximately 2 percent of national population, these figures are deemed as insufficient and therefore the number of scheduled flights must be increased.

Only domestic scheduled flights arriving at or taking off from the Region's airports are to Ankara and İstanbul. The frequency of these flights is very low. These two facts significantly limit the communication capabilities of the Region. For the development of the Region, it is vital to improve the airport capabilities to international aviation standards and to integrate them to other means of transportation.

6.1.4.5 Logistics

21st Century is the venue where all those changes and developments borne from the technological revolutions and globalization took footing on all aspects of the life. The enterprises face the dilemma where they needed to gain the upper hand in international

[144] **http://www.korfez.dhmi.gov.tr/havaalanlari/sayfa.aspx?hv=16&mnu=1953,** 11.05.2013.

competition and to maximize the customer satisfaction. In order to achieve competitive prices and sufficient profits, special management practices must be applied to transportation and administrative expenses which are in fact, the highest items in the checks and balances. This is why the logistics management and supply chain management practices affect all of the operations of any enterprise.

Logistics centers are planned to be established on 19 points which offer the highest freight potentials due to their proximity to organized industrial zones.[145]

Figure 86: Logistics Centers in Turkey
Source: MoTMAC, 2013.

Construction and establishment works on Balıkesir "TCDD Gökköy Logistics Village" are ongoing. It is anticipated that the Logistics Village will become one of the most important freight centers of Aegean and Marmara Regions. % 70 of construction works of the logistics center was completed. The center is planned to be put into service on 2014. The logistics village to be established right across the Balıkesir OIZ on a surface area of 200 decares will be integrated with not only existing transportation options but also with future projects like Tekirdağ-Bandırma Train-Ferry Project (transportation of trains over sea via ferries) and Baku-Tiflis-Kars Railway Project. This will provide uninterrupted transport of any freight to Europe and Middle East. Vehicles, containers, particle boards, marble, synthetic materials, coal, military cargos, iron-steel, industrial products as well as food like meat, milk, dried

[145] **http://www.MoTMAC.gov.tr/BLSM_WIYS/MOTMAC/tr/dokuman_ust_menu/projeler_faaliyetler/20130319_101534_204_1_64.pdf, 13.05.2013,** 15.06.2013.

food, beverages will be carried to domestic and international destinations from the logistics village in Balıkesir.

In order to ensure smooth transportation between Gökköy Logistics Village and Balıkesir Train Station, the existing railway line will be turned into double lane railway line. Due to pollution caused by mineral freights, their transportation is currently not allowed from within the city center. When the logistics village is commissioned, this problem will be eliminated and passenger transportation from the train station will continue uninterruptedly.[146]

Another important project for the communication networks of the Region is the Great Anatolian Logistics Organization Project (BALO). This project is led by TOBB and supported by the Ministry of Transportation. With this project, it is planned to merge the railway line from Kayseri-Ankara direction with the railway line from Adana at Kütahya and to merge this new railway with the railway line from İzmir-Manisa at Balıkesir so as to accelerate the export operations and to reduce logistics costs. This way, the delivery time of the export goods to Europe will be reduced by half and their burden on İstanbul's traffic will be remedied. The project stipulates that the freights in the containers collected in the freight collection points in all around Turkey will be carried to cargo consolidation centers in the Anatolian and European parts and dispatched to logistics cities in Europe after being sorted by their destinations. Bandırma district will be the cargo consolidation center in Anatolia. The freights collected in this center will be delivered to Tekirdağ via maritime transportation from Bandırma Port to be dispatched to Europe.[147] It is evident that, Balıkesir and especially Bandırma District, will be strategically more important than today once the project is realized.

6.2 Settlement and Urbanization

6.2.1 Urbanization Rate in the Region

Ninth and Tenth Development Plans underline the importance of improving the life standards in the cities and providing sustainable development. The cities provide suitable accommodations for accelerating the development and the environment for improvement of industrial and services sectors. This shows the strong relationship between urbanization and development. The urbanization process of the Region is somewhat slower compared to

[146] TCDD, **Situation Report on Construction Works of Balıkesir Gökköy Logistics Center (Village)**, 2012
[147] Great Anatolian Logistics Organization, **www.balo.tc,** 15.04.2013.

national dynamics. TR22 Region has a village population rate higher than national average. Rural concentration shows that the Region's main characteristics are dominated by rural qualities. In this regard infrastructure and services for rural parts need to be improved. In order to increase the value added to the economy by the rural population, it is important to ensure diversification of means of living and to provide new employment opportunities in the rural areas. The population of cities also increases due to migration from rural areas to cities. In order to prevent the problems that may be caused by intraregional migration, urban awareness raising activities must be paced up.

In general, urbanization rate is continuously increasing in Turkey. According to data by United Nations Department of Economic and Social Affairs[148] the urbanization rate in Turkey was 24.8 percent in 1950 which increased to 52.4 percent in 1985 and to 70.5 percent in 2010. The data depicts the urban and rural population tendencies for the period of 1950-2030 and projects an urbanization rate of 81.2 percent for the year 2025 and 83.1 percent for the year 2030.[149]

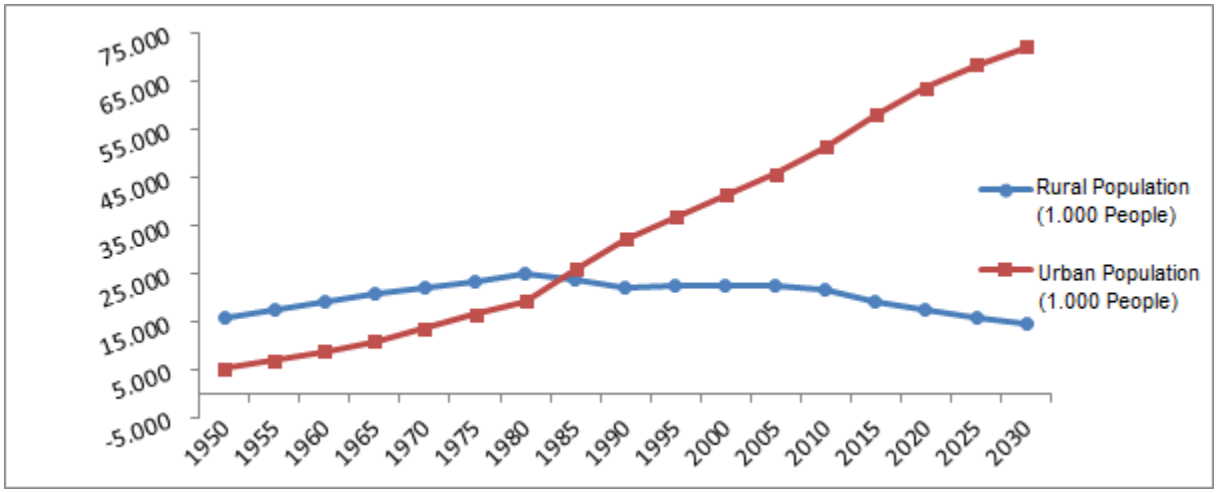


Figure 87: Urban and Rural Population Projections in Turkey for 2030 (x1000)
Source: United Nations Department of Economic and Social Affairs, 2011

According to TurkStat data indicated on Figure 88, ratio of urban population among general population has been increasing both in the Region and in the country since from 1980. Even though well below the national average, urbanization rates of Balıkesir and Çanakkale present

[148] United Nations Department of Economic and Social Affairs, **World Population Prospects: The 2010 and World Urbanization Prospects: The 2011 Revision**. (**http://esa.un.org/unpd/wup/index.htm** 12.12.2012)
[149] United Nations Department of Economic and Social Affairs, **http://esa.un.org/unpd/wup/Country-Profiles/country-profiles_1.htm** 24.12.2012

a similar tendency. According to TurkStat figures for 1980, 43.9 percent of national population lived in provincial and district centers. This ratio increased to 77.2 percent in the year 2012.[150] In TR22 Region, however, the urban population rate was 37.8 percent in 1980 which increased to approximately 60 percent in 2012.[151]

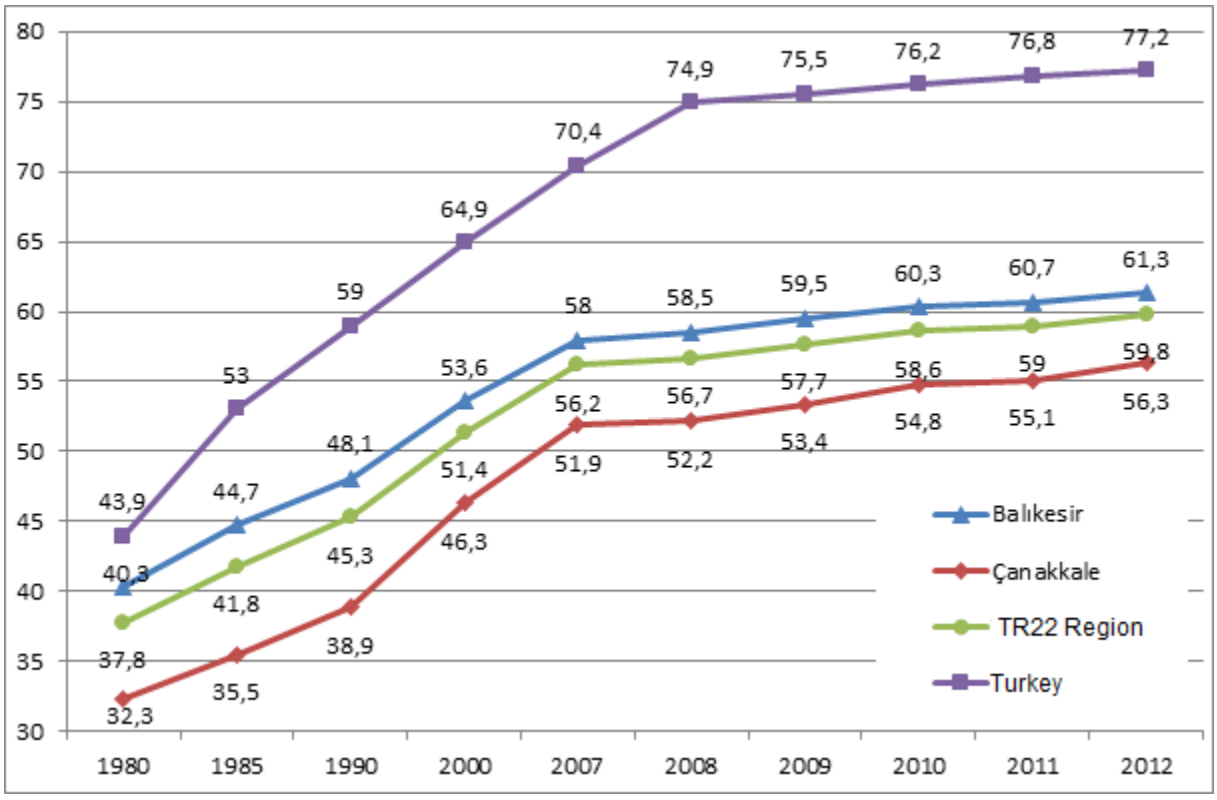


Figure 88: National and Regional Urban Population* Rates in 1980 - 2012 (%)
Source: TurkStat, 2012.
*The urban population includes the provinces and districts while rural population includes the villages and small towns.
For the period after 2007, ABPRS data and for the previous periods, general census data were used.

Based on population criteria (i.e. 20.000 and more) the Tenth Development Plan records an urbanization rate of 72.3 percent for Turkey and approximately 49.9 percent for TR22 Region. According to the population criteria, Balya, Savaştepe, Marmara, Gömeç, Bozcaada and Gökçeada districts were excluded in this plan.

There was no significant increase in the population of the Region by 2011 yet the urbanization rates increased, which is indicative of an intraregional migration from rural to urban areas. In the year 2012, there was an increase in both total urban population and total

[150] SMDA (Population Dynamics, 2012), 2013
[151] SMDA (Population Dynamics, 2011), 2012

rural population of the Region which indicates the increase in inter-regional immigration. Village population rates of Balıkesir and Çanakkale are above the national average. This indicates rural characteristics of the Region. On the other hand, slow urbanization rates provide a unique planning opportunity for urban infrastructure and superstructure. Planning works are important to remedy and/or to prevent urban capacity deficits in the Region and problems in accessing urban services. Another urban planning opportunity arises from the fact that the Region's provinces do not receive excessive amounts of migration.

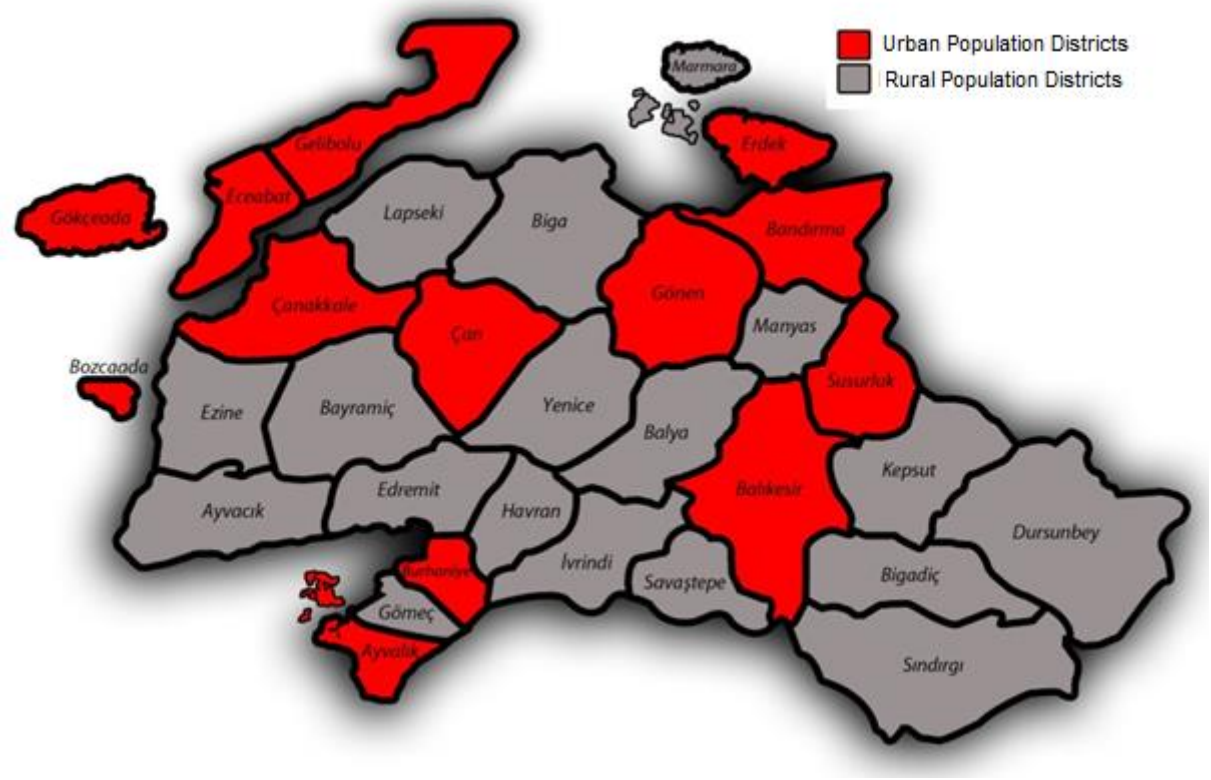


Figure 89: Comparison of Urban and Rural Populations of the Region's Districts
Source: Generated from 2012 TurkStat data.

In Balıkesir, Central District, Gönen, Bandırma, Erdek, Susurluk, Ayvalık and Burhaniye; in Çanakkale, Central District, Çan, Eceabat, Gelibolu, Gökçeada and Bozcaada districts have relatively higher urban population rates (Figure 89). In general, the centers with bigger industries are the districts with higher urban population rates while the districts with higher agriculture rates have less urban population. This being said, Edremit features not only agricultural activities but also tourism especially in its small towns and villages. On the other hand, given that the Region's industrial development is based on agriculture, agricultural activities are also practiced in the districts with relatively higher urban population rates.

Similarly, Biga District, which is known for its agricultural activities, also hosts large industrial plants. Existence of protection areas in Gelibolu Peninsula, i.e. spatial decisions, plays a role in increased urban population rate in the area.

A study has been executed based on ABPRS-2008 database, to generate population projections at provincial, district, urban/rural levels. This study indicates that the urban population rates will be increased in general on 2023. The study shows that the urban population rate of TR2 Western Marmara Supra-Region, which includes TR22 Region, will increase to 75.47 percent on 2023[152] (Table 31).

Table 31: Basic Assumptions for Regional Demographical Projections

TERRESTIAL UNITS	Total Fertility Rate (2008)	Total Fertility Rate Assumption (2023)	Urban (2008) (%)	Urban (2023) (%)
TR1 İstanbul	1,77	1,48	98,78	99,42
TR2 Western Marmara	1,4	1,4	65,39	75,47
TR3 Aegean	1,89	1,6	65,23	76,05
TR4 Eastern Marmara	1,78	1,49	78,89	90,69

Source: TurkStat, Proceedings Book of 19th Statistics Research Symposium, 2010.

Urbanization is important for the economic advantages brought by the cities and also for the prosperity level of the region. Transfer of the individuals with reduced marginal productivity in agricultural areas from the villages through creation of job opportunities outside the agriculture, will increase the productivity of the workforce as well as the rate of development.

6.2.2 Urban Consciousness and Elements of Urban Fabric

6.2.2.1 Urban Consciousness

The amount of migration received by the provinces of the Region increases every year. However, this increase is slower compared to national dynamics. The very fact that the Region does not receive excessive amount of migration provides a unique advantage in terms

[152] Mehmet Doğu Karakaya, Ahmet Sinan Türkyılmaz, "Population Projections on Provincial and Regional Levels for Hundredth Anniversary of Turkish Republic", **TÜİK Proceedings Book of 19th Statistics Research Symposium,** Ankara**,** 6-7 May 2010 (in Turkish).

of management and planning for urbanization, industrialization and management of urban services processes. Unplanned settlement, infrastructure problems, lack of sufficient social and cultural areas, insufficient provisions for urban needs are some of the problems that cause social and cultural erosion in the cities and delay formation of collective urban culture and consciousness. It is planned that the Region's potential for receiving migration will be increased by the gravitational strength to be achieved by becoming a metropolis. In order to provide a better protection for the established urban culture and social fabric, it is needed to develop a participatory urban management approach.

In order to implement participatory and local administration principle, City Councils were established. The works done by City Councils give clues about urban consciousness. Çanakkale City Council is one of the first 9 partners in the "Local Agenda in Turkey: Encouragement and Development of 21s" Project which started on 1997. Balıkesir City Council was established on 2005 within the scope of institutionalization of YG21 mechanisms at national level, which was a third phase target of this project. The process currently relies on volunteer leadership by the municipalities. However, in order to achieve full urban governance, the councils must be gradually taken over by the civil society. Thanks to its experiences, the structure of Çanakkale City Council appears to complete the civil-transition at large part. Balıkesir City Council, on the other hand, has already made good progress on this aspect. In order to ensure direct participation of different local groups in the government of the city, Women's Committee and Youth's Committee under Balıkesir City Council[153] and Youth's Committee, Women's Committee, Handicapped' Committee, Environmental Committee, Children's Committee and Fevzipaşa Neighborhood Committee under Çanakkale City Council[154] are already functioning.

Social activities on urban consciousness carried out by municipalities contribute in improving awareness. On the other hand, the opportunities presented by the urban environment play the most important role in social development of urbanization. In this regard there still are many needs yet to be satisfied. Elimination of infrastructure deficiencies, improvement and increase of services and spatial quality, enrichment of social and cultural life, ensuring participation in decision making processes, protection of historical and cultural values and so on; fulfillment of these needs will allow individuals to embrace and to fit in their environment as well as

[153]Balıkesir City Council, **http://www.balikesirkentkonseyi.org.tr/,** 16.01.2013
[154]Çanakkale City Council, **http://www.canakkalekentkonseyi.org/,**16.01.2013

their responsibilities towards that environment. Therefore, it is utmost important to ensure the local administrations of the Region work closely in collaboration with civil society especially the City Councils.

6.2.2.2 Urban Fabric

During Ottoman Era, especially in 17th and 18th Centuries, Balıkesir was an important manufacturing and Commerce City. Railway, as a connection and contact between important commercial centers, played a significant role in development of trade profile of the city.[155]. Milli Kuvvetler Avenue, which is still one of the most important axes of the City, was established on 1916.[156] Establishment of this avenue was a part of many urban renovation works. Thanks to Bandırma-İzmir railway line, which was commissioned on 1912, the city was integrated to İzmir and İstanbul thus the economy of the city bloomed.

In terms of urban planning, the very first effort was the Egli Plan which entered into force on 1944 during early Republic Period.[157] It is seen that the Plan stipulates organized structural islands in an orderly fashion. The Plan's disclosure report expresses that the city must be developed towards north and east and underlines the potential of the city for development as it is located on a railway route.

[155] Gaye Birol, "A Shopping Complex from 1950s: Balıkesir Butchery and Vegetable Market" (Turkish) **Balıkesir Chamber of Architects Periodical, Megaron**, Balıkesir, 2007.
[156] **http://www.balikesir-bld.gov.tr/tarihtebazi.html**, 16.03.2013.
[157] **http://www.balikesir-bld.gov.tr/tarihtebazi.html**, 16.03.2013.

Figure 90: Urban Fabric of Balıkesir

The historical center of Balıkesir Province host many architectural assets like Zağnos Paşa Mosque, Karesi Tomb and Kuva-yi Milliye Museum from many different periods. Additionally, despite many urban problems developed in time, the spatial organization still bears the traces of the historical fabric of the city.

Çanakkale, on the other hand, is a very special city since it is the first city established by Ottoman Empire.[158] The first building in the city was Çimenlik Castle constructed by Ottoman Empire.

[158]Çanakkale City Council, **Urban Development Areas Workgroup, Relationship between the Physical Development of Çanakkale Province (1406-2006) and Physical Geography**, (Turkish) City Council Publications Book Series, No.2, Çanakkale, 2006.

The very first development plan of Çanakkale was drawn in 1949. This plan determines the main usage areas of the city in consideration with new development areas and historical fabric of the city. By mid 1950s, new development areas started to emerge and the flow of vehicle traffic started to shape the main axes and fabric of the City. In time, the buildings in the city got higher at the cost of degradation of organic fabric of the city. Because of a development plan drawn in 1970s, the old buildings in the city center were replaced with large and massive buildings. This resulted in a patched appearance in the city center which interweaves organic fabric with grid fabric. In 80s many mass housing projects were constructed by housing cooperatives which provided a grid pattern on these areas.

Figure 91: Urban Fabric of Çanakkale

Ayvalık district is a real life open air museum with fingerprints of many cultures on it. Starting from 1800s, the district developed rapidly and become an industrial and commercial town. Olive and olive oil based economy developed rapidly to transform the district into one of the largest industrial and commercial cities of Aegean Region. The buildings that constitute the historical urban fabric of Ayvalık District were constructed mostly in this period. Bearing the Mediterranean urban characteristics, Ayvalık, is a unique settlement with narrow, cobblestone paved streets, masonry houses rowed on these narrow streets and façades of these houses facing the social life.

The historical urban fabric of Ayvalık consist of houses, educational buildings, commercial buildings, olive oil plants, warehouses, soap-workshops and religious buildings and its architectural fabric is mostly preserved. A large part of the religious buildings were churches converted into mosques after population exchange between Greece and Turkey and some churches demolished later in time. Some of such religious buildings that still serve are Çınarlı Mosque, Saatli Mosque, Ayışığı Monastery, St. Nicholas (Aya Nikola) Church and Kato Panagia (Panaya) Church.

In general a grid pattern is prominent over the city. Organic fabric is more dominant around the historical center and linear fabric is evident closer to hills. Given its flat topography, the grid fabric was able to develop without deformation. Climate was the main reason for grid system design of the city. Olive oil plants were the development points of the city throughout the history. These plants are rowed along the coast. The position of thus plants along the coast is relevant to logistics and the development of commercial relations.

Figure 92: Urban Fabric of Ayvalık

The city has abundant natural and artificial benchmarks. İlk Kurşun Hill in Ayvalık is one such natural benchmark. It is the highest hill of the district and can be seen from everywhere thus making all buildings on it a benchmark. Also, the chimneys of olive oil plants are benchmarks that can be seen from within or out of the city.[159] The plants and their chimneys indicate that the city once had a strong industrial identity.

The urban fabric of Alibey (Cunda) Island right across the Ayvalık District is in coherence with the urban fabric of Ayvalık. The settlement on Cunda Island is gradual from coasts to hills and presents a rich urban architecture. Many buildings from Anatolian Greeks' Era are still in service on the Island. Unique masonry houses adorning the entire island, fishermen's cafes, soap-workshops, windmills, churches and monasteries constitute the special historical fabric of the city.

[159]Alev Doğan, "Impacts of Urban Fabric, Traditional Local and Cultural Characteristics on the Tourism Space and Type; Example of Ayvalık" (Turkish), Yıldız Technical University, İstanbul, 2006. http://www.belgeler.com/blg/kzo/kentsel-doku-geleneksel-yerel-ve-kltrel-zelliklerin-turizm-mekanina-ve-trne-etkileri-ayvalik-rnei-urban-frame-effects-of-traditional-local-and-cultural-features-on-tourism-environment-and-types-the-sample-of-ayvalik,25.03.2012.

Protection of urban fabrics in South Marmara Region is both easier and more important than other regions of Turkey given that the region is partially untouched. New planning works must be carried out without causing any harm to the existing urban fabric so that the tourism value of the Region can be increased. In this regard, it is possible that added value can be created for the Region by the new works to be carried out in such touristic towns and especially in Balıkesir Central District, Çanakkale Central District and Ayvalık without harming the urban fabric.

6.2.3 Physical Development of Provinces of the Region

The urban superstructure (macro form) of the provinces in the Region was shaped by topographical elements and historical process. According to TurkStat 2011 data, the administrative boundaries of 87 municipalities in the Region cover a total surface area of 260.885 ha. The Region has a total number of 51 contiguous areas which cover a total surface area of 78.827 ha. However, as a metropolitan municipality will be established on the provincial territorial boundaries of Balıkesir by the end of 2012, this area is expanded and the municipalities of small towns were annexed by municipalities of respective districts. Estimations show that the expansion of municipality boundaries and the establishment of a metropolitan municipality will create an attraction potential which will cause expansion of urban settlement areas. This expansion must be balanced against the population growth rate and urban planning practices must take these data into consideration.

The City Center of Balıkesir is surrounded by hills at north, west and south and spans towards Balıkesir Plains from the outskirts of these hills. The city settlement reaches to belt highway on Çayırhisar Village to south and Halalca Village to east and up to Ayşebacı and Üçpınar Villages to north. Services sector is the leading sector in Balıkesir Province. This is a result of the facts that the city is also the central district and that the public facilities and administrative facilities cover a large part of the central district.

Forestry and agricultural areas cover large part of both provinces[160] therefore it is utmost important to protect these areas in both provinces and to ensure that urban development does not breach these areas. In this regard, it is important not to allow expansion of urban spread

[160] Ministry of Agriculture and Rural Affairs, **TR2 Western Marmara Region Agricultural Master Plan**, 2007

pattern of Balıkesir-Bursa axis over fertile agricultural lands. The risk of landslide in Balıkesir Central District, Sındırgı, Dursunbey, Susurluk, İvrindi and surrounding areas shall also be considered.[161] Furthermore, unplanned areas, the areas whose economic life has been expired as well as urban decay areas filled with old and worn building stock must be renewed within the scope of urban transformation.

In terms of soil structure, Çanakkale resembles Adapazarı Province which was largely destructed by 1999 Earthquake. Çanakkale province is settled on an area which is largely located around low coasts. The city is located on 1st degree earthquake zone and has large agricultural lands. These two facts are important aspects to be considered for urban planning practices. Furthermore, the urban settlement areas are located on fill lands and the groundwater levels are too high close to the surface. These two facts threaten the settlement areas.[162] Moreover, Karacaören Plains and surrounding area are the venue for new settlement developments and are located on alluvial soil layers with weak ground characteristics thus constituting a danger for the city.[163]

Macro form of Çanakkale city features a development with two aspects. First aspect is the linear city form towards south of the city along Çanakkale-İzmir highway. The second is the section that looks like an oil stain at north of the city. Southern parts present orderly and clustered residence areas while north present unplanned development.

Çanakkale is a strategic city. Therefore protection areas and military zones play an important role on spatial development axes. The development plans of Çanakkale take account of the distribution of existing settlement areas. Nonetheless there are some areas zoned for construction that do not contain any settlement. Natural and administrative limitations applied to the development of the city. Some of such major limitations are: Çanakkale Strait, Sarıçay River, airport and geographical formations. During 80s, the city expanded to Esenler, Jandarma and Tutukevi localities and the coastal line covering Barbaros, Kepez, Dardanos and Güzelyalı neighborhoods. During 1993-1995 planning period the area between Esenler and Karacaören Plains and locality around Çanakkale Onsekiz Mart University Terzioğlu

[161]Ministry of Environment and Urban Planning (EP, 2012)
[162] Disaster Response, **http://www.afetlemucadele.com/,** 01.01.2013
[163]Ministry of Environment and Urban Planning (EP, 2012)

Campus were zoned for development which resulted in an accelerated expansion of the city towards these areas.[164]

The Eco² Cities: Ecological Cities as Economic Cities Program by World Bank underlines the importance of effective use of resources, protection of natural resources and integrated planning as requirements for sustainable development.[165] In this perspective it is important to avoid any application that will allow construction on fertile agricultural lands and water basins and to ensure connection between the water basins, green belts and air corridors that nurture the city and the city itself. The planning must ensure prevention of houses spreading at outskirts of the city like an oil stain and provide a suitable urban spreading pattern. On the other hand, it is still more important to ensure that planning processes are handled in a way that considers the balance between rural and urban areas and ensure implementation of participatory principle.

6.2.4 Settlement Pattern and Spatial Hierarchy

6.2.5 Settlement Pattern of the Region

The Region covers a surface area of 24.423,16 km² (24.232,25 km² without the lake surface) a total number of 87 municipalities 53 of which are located in Balıkesir and 34 in Çanakkale; 56 town municipalities 34 of which are located in Balıkesir and 22 in Çanakkale and 31 districts 19 of which are located in Balıkesir and 12 in Çanakkale. Among a total number of 1457 villages in the Region, 892 villages are within the administrative boundaries of Balıkesir and 565 in Çanakkale.

As the Metropolitan Municipalities Law numbered 6360 entered into force, a metropolitan municipality has been established within the administrative boundaries of Balıkesir Province and the villages located within the boundaries of the metropolitan municipality were transformed into neighborhoods.[166] This will result in emergence of many neighborhoods with

[164] Çanakkale City Council, **Urban Development Areas Workgroup, Relationship between the Physical Development of Çanakkale Province (1406-2006) and Physical Geography**, (Turkish) City Council Publications Book Series, No.2, Çanakkale, 2006
[165] The World Bank, **Urban Development Ecological Cities as Economic Cities** **http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/0,,contentMDK:22643153~pagePK:148956~piPK:216618~theSitePK:337178,00.html,** 10.01.2013
[166] **Official Gazette of Turkey**, Issue: 28489, 06.12.2012.

very low population figures in Balıkesir. Size of rural population must be considered regarding the settlement system and local services of the metropolitan municipality.

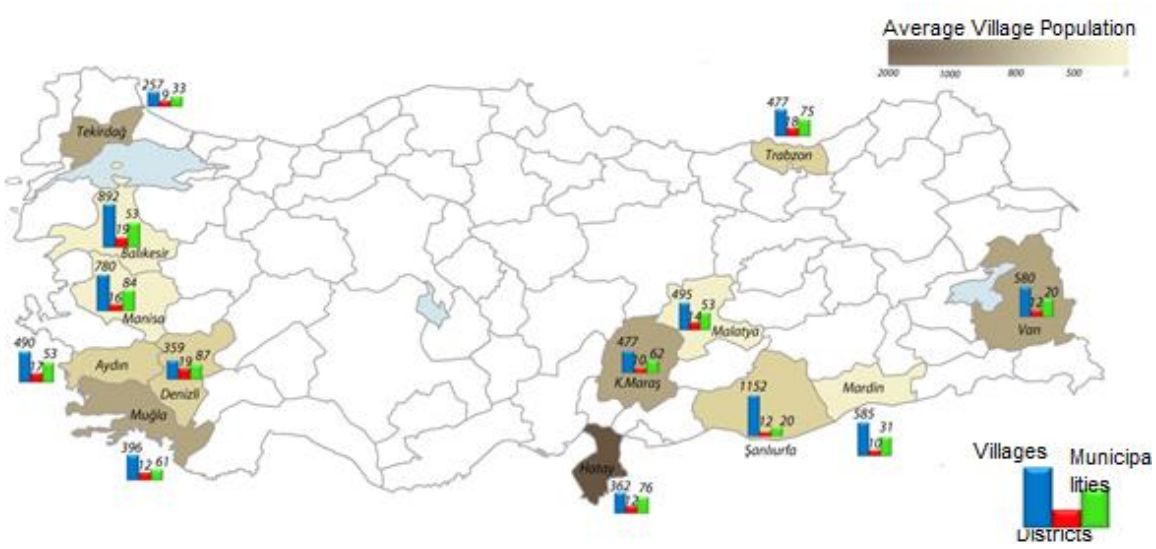


Figure 93: Comparison of the Provinces Becoming Metropolises in terms of Surface Areas, Number of Municipalities, Districts, Villages and Average Village Populations
Source: TurkStat, Generated from 2011 data.

When 13 Provinces to become metropolises as per the Law numbered 6360 are compared by 2011 data, it is seen that Balıkesir ranks 3rd place with a surface area of 14.472,73 km², 1st in terms of the number of districts and 2nd in terms of the number of villages. %39.3 of Balıkesir's population lives in villages and towns. This situation brings the quality of the services for the settlements in rural areas into question. On the other hand, Balıkesir is the last among 13 provinces in terms of the average village population which indicates that Balıkesir has many villages with rather lower populations and that the rural settlement units are scattered.[167] The metropolitan municipality must be in an effort to serve the villages that will be undertaken from the special provincial administration and must build its capacity at an accelerated pace. Also, urban services must be delivered to the "village-neighborhoods" to be annexed by Balıkesir Metropolis and strategies to improve the spatial qualities of these areas must be deployed.

[167] South Marmara Development Agency, **A City Becoming Metropolis: Balıkesir, SMDA Assessment Report**, Balıkesir, 2012

6.2.6 Urban Spatial Hierarchy and Impact Areas

TR22 Region's gradualism system and central impact areas are similar to the Study on Spatial Hierarchy of the Settlements by SPO on 1982. Since from this date, there has been one change in administrative division of the Region. As Gömeç have become a district on 1992, the number of districts in the Region increased.

Within the scope of preparation works for Regional Plan, a series of district workshops were organized and urban spatial hierarchy study for TR22 Region were carried out along with these workshops. The study considered the socio-economic development levels and potentials of the settlements. Development was assessed in Regional level and the settlements were classified by their functions to determine their spheres of influence.

In this perspective, it was determined that the changes were resulted from administrative organization and that mostly 2nd and 3rd level settlements' spheres of influence were changed. The settlements of the Region are classified into 5 levels. On 6th level, the Region is located within the sphere of influence of İzmir, Bursa and Tekirdağ; on 7th in that of İstanbul.

On 3rd Level: Balıkesir's Dursunbey and Sındırgı Districts are within the sphere of influence of Bigadiç; Savaştepe and Dursunbey districts are influenced by Soma District of Manisa Province; Kepsut District influenced by Bigadiç and Susurluk; Dursunbey District of Balıkesir by Tavşanlı District of Kütahya Province; Sındırgı District by Akhisar District of Manisa Province; Balya District by İvrindi; Marmara District by Erdek; Yenice and Bayramiç Districts of Çanakkale by Çan; Eceabat and Gelibolu Districts by Lapseki.

On 4th Level; Balıkesir's Balya, Erdek and Manyas Districts are within the sphere of influence of Gönen; Gömeç District is influenced by Ayvalık and Burhaniye; Havran District by Burhaniye; Susurluk District by Mustafakemalpaşa District of Bursa Province and Lapseki, Çan, Yenice Districts of Çanakkale by Biga.

On 5th Level; Sındırgı, Dursunbey, Bigadiç, Kepsut, Savaştepe, İvrindi, Balya and Susurluk Districts of Balıkesir are influenced by Balıkesir; Marmara, Erdek, Gönen, Manyas Districts and Lapseki and Biga Districts of Çanakkale by Bandırma; Gelibolu, Eceabat, Gökçeada, Bozcaada, Ezine, Bayramiç, Yenice and Çan Districts of Çanakkale by Çanakkale; Gömeç,

Havran, Ayvalık and Burhaniye Districts of Balıkesir and Ayvacık District of Çanakkale are within the sphere of influence of Edremit.

On 6th Level; Balya, Savaştepe, Kepsut, Dursunbey, Sındırgı, Bigadiç and Susurluk Districts of Balıkesir are within the sphere of influence of Bursa; Bandırma, Erdek and Gönen Districts are influenced equally by İstanbul and Bursa; Marmara District by İstanbul and Tekirdağ; Lapseki, Biga, Gelibolu and Eceabat Districts of Çanakkale are influenced by İstanbul; Ayvalık, Gömeç, Burhaniye, Havran and Edremit Districts of Balıkesir as well as Ayvacık District of Çanakkale are within the sphere of influence of İzmir.

On 7th Level; Çanakkale, Balıkesir, Bandırma and Edremit are located within the sphere of influence of İstanbul.

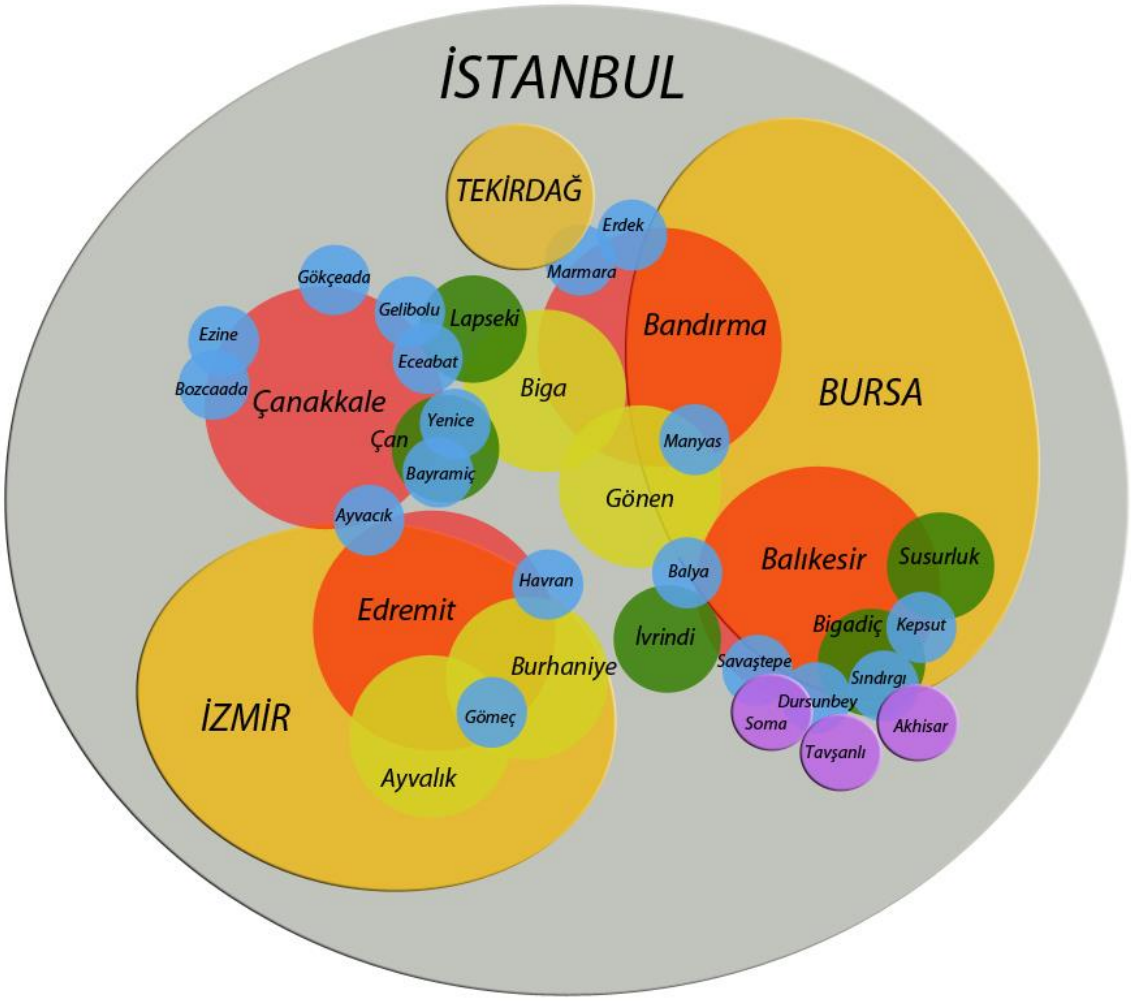


Figure 94: Spatial Hierarchy and Spheres of Influence in the TR22 Region
Source: SMDA Office work, 2013

6.3 Disaster Risk and Seismicity

TR22 South Marmara Region is affected by many risk factors. Located on a 1st degree earthquake zone, the Region may face earthquakes any minute. On the other hand, the Region is a rugged area located beside the sea thus under constant risk of landslides and floods. Large forests of the Region gives rise to the risk of fire. Furthermore there are many mining operations in the Region which increases the risk of mining accidents.

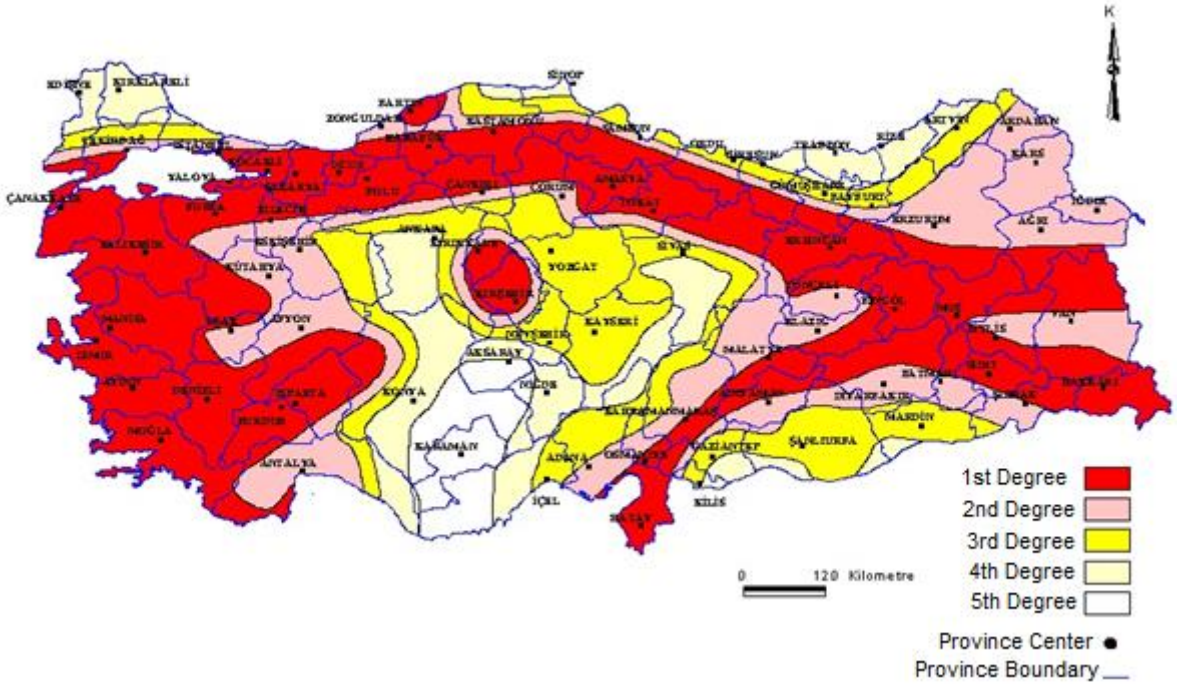


Figure 95: Seismicity Map of Turkey
Source: General Directorate of Mineral Exploration and Research, 2013.

Upon examination of past disasters, it is seen that the most damaging type of disaster that occurred in the Region was earthquakes. (Table 32)

Table 32: Disasters Occurred in TR22 Region 1900 - 2003

Disaster Type	Center	Year	Losses / Damages
EARTHQUAKE			
Earthquake	Yenice Gönen	1953	265 dead, 336 injured and excessive material loss
Earthquake	Erdek	1935	5 dead, 30 injured and excessive material loss
Earthquake	Bigadiç	1942	7 dead, material loss
Earthquake	Edremit	1944	27 dead, material loss
Earthquake	Manyas	1964	23 dead, material loss

Earthquake	Gönen	1969	1 dead, small material loss
Earthquake	Gelibolu	1975	7 dead, material loss
Earthquake	Biga	1983	3 dead, material loss
FLOODS-DELUGES-LANDSLIDES			
Flood	Burhaniye	2012	1 dead, small material loss
Flood	Biga	2012	1 dead, small material loss
Flood-Landslide	South Marmara Region	1900-2013	No casualties, material loss
MINING ACCIDENTS			
Mining Accident	Balıkesir	2006	17 dead
Mining Accident	Dursunbey	2010	13 dead, 18 injured
FOREST FIRES	South Marmara Region	1900-2013	191 forest fires occurred; No casualties, large scale forest fire

Source: Generated from AFAD Turkey National Disaster Archive data.

Figure 96 shows that nearly whole body of the Region is located on 1st degree earthquake zone. This requires the Region's population to raise awareness on earthquakes and seismicity. A good reminder of measures to be taken is the frequency of earthquakes that occur in the Region.

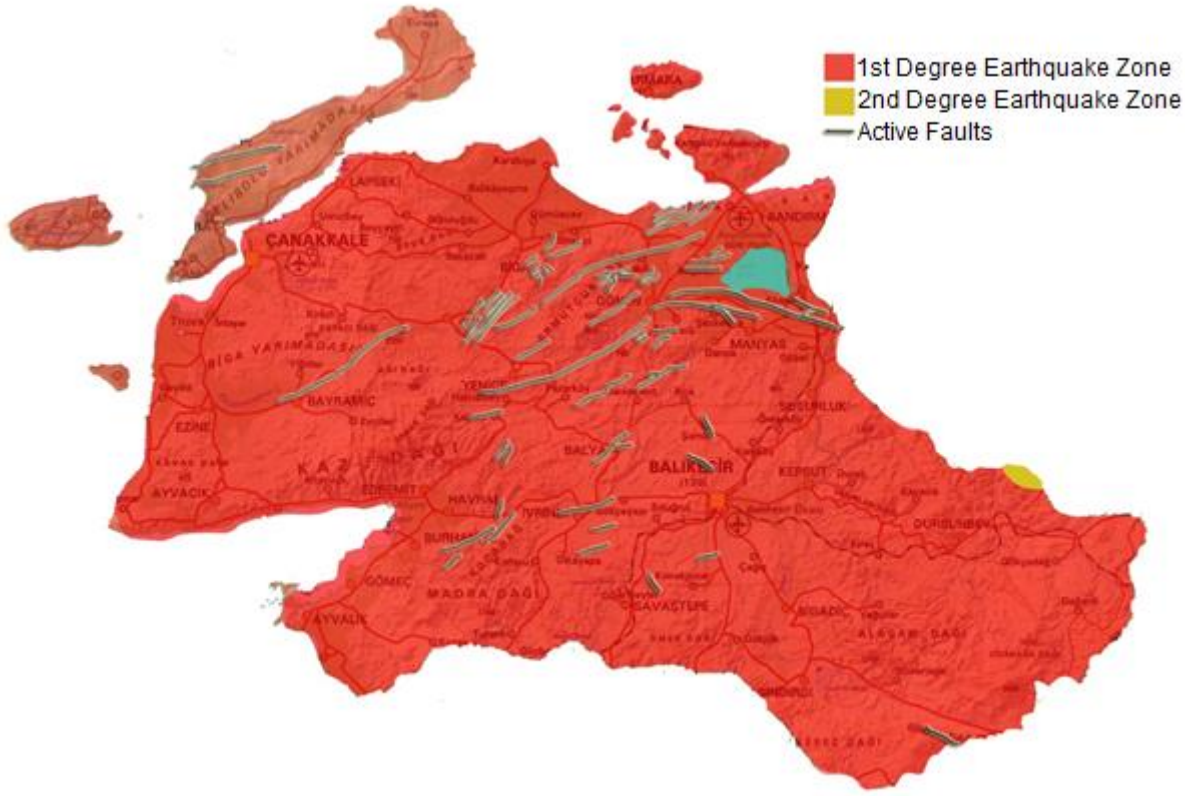


Figure 96: Seismicity Map of TR22 Region
Source: Generated from MTA data.

The fact that the Region is located close to the sea and receives high volume of annual precipitation results in occasional storms and floods and landslides caused by such storms. The map on floods, overflows and heavy rainfalls that occurred in Turkey in the period of 1940-2010 shows that especially Balıkesir is one of the provinces that receive high amounts of floods and overflows.

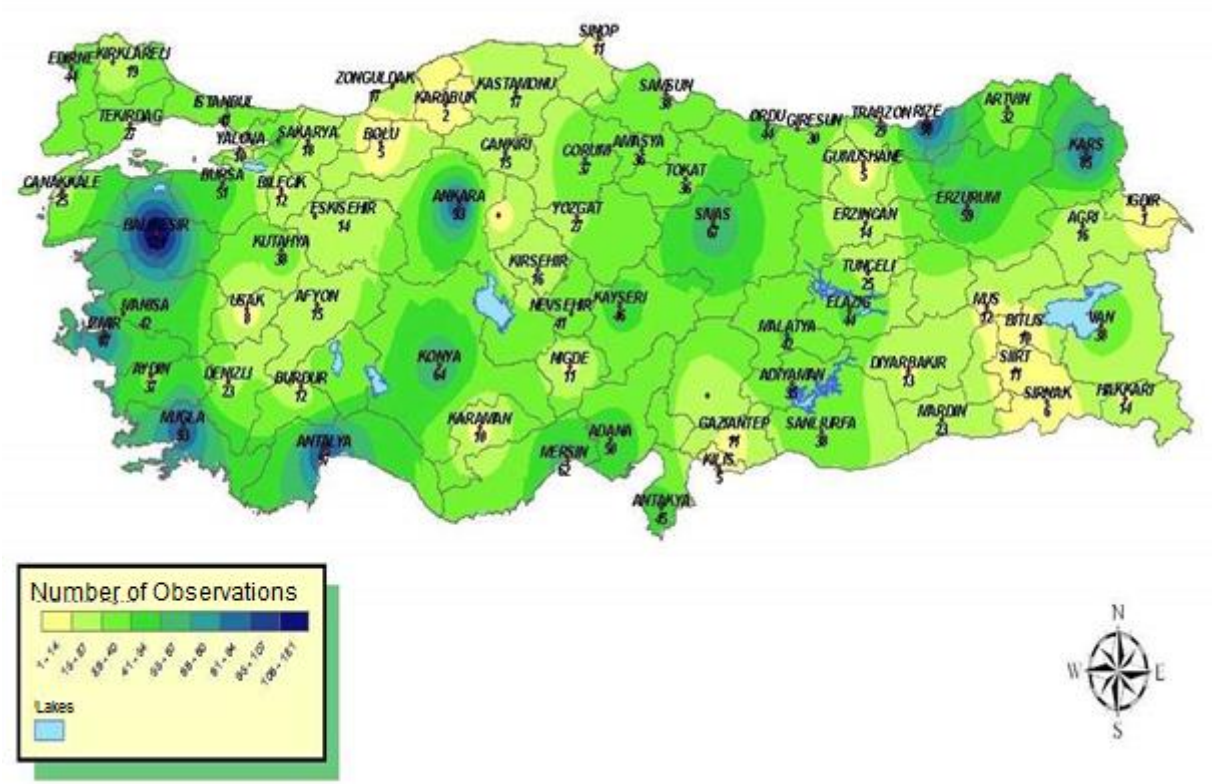


Figure 97: Pilot Chart on Floods-Overflows-Heavy Rainfalls
Source: General Directorate of Meteorology, 1940-2010.

Another disaster that frequently occurs in the Region, especially in Çanakkale Province, is forest fires. Approximately %50 of the Region's lands is forestry areas and these areas are also sensitive regions. Combined effect of these two facts results in high number of forest fires. In general, the forests of the Region are classified as the most sensitive against fires.

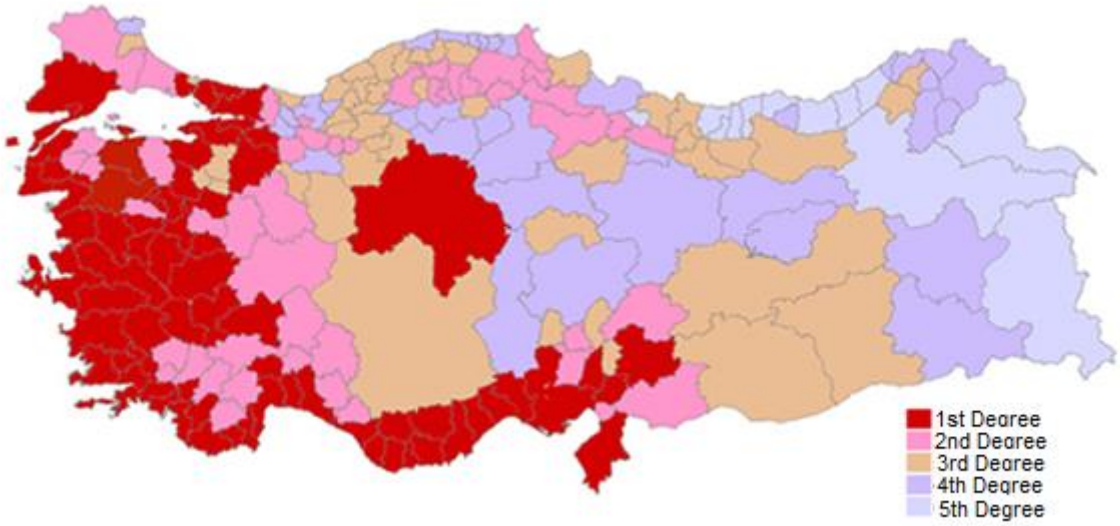


Figure 98: Map on Distribution of Fire Sensitivity Classes by Forestry Departments
Source: General Directorate of Forestry, Fire Operations Center, 2013

As shown in the Figure 98 nearly whole of the TR22 Region is located on 1st degree fire sensitivity class. As it was shown on the Table 32, approximately 191 large scale forest fires occurred in the Region since from 1900 which is a clear indication of need for measures to be taken.

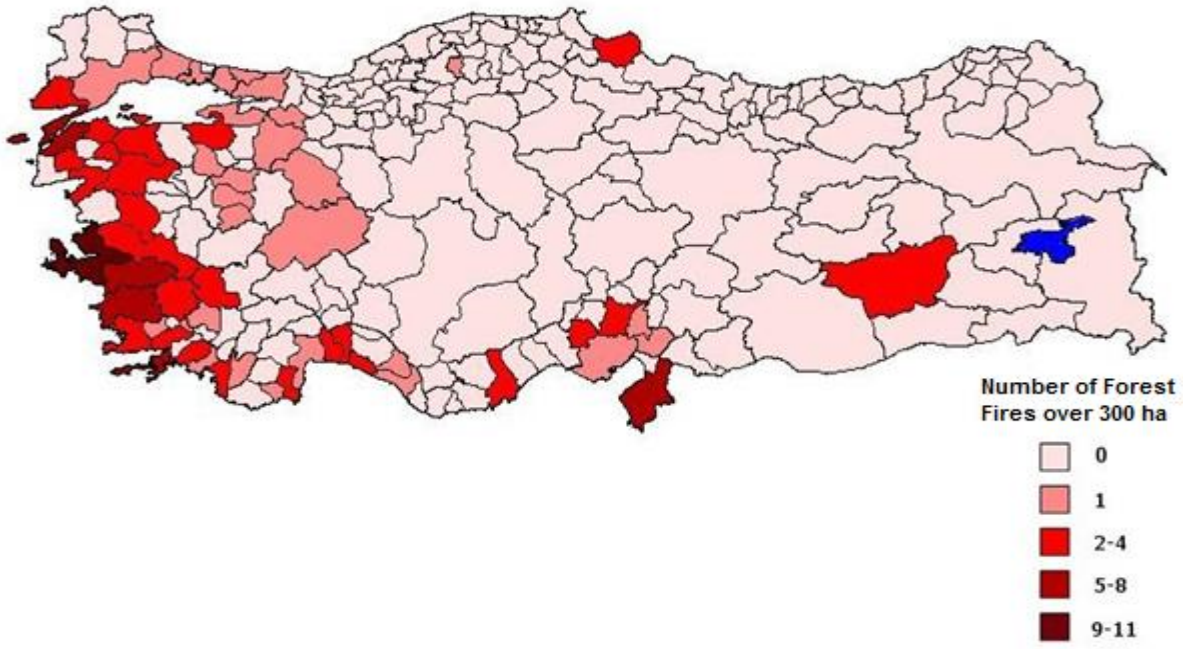


Figure 99: Distribution of Forestry Fires on a Surface Area over 300 Ha
Source: General Directorate of Forestry, 2013

As it was indicated above, the Region has a tendency for disasters which urges employment of disaster planning efforts. Facing many and frequent risk of disasters, TR22 South Marmara Region requires a plan for pre-disaster period. Furthermore, establishment of settlements must be prevented on agricultural areas which severely vibrate during earthquakes thus presenting a very low load-bearing capability.

The Region receives excessive precipitation and is very rich in surface water resources. This is why the Region is constantly under risk of flood and landslide disasters and it is most important to prevent any construction on stream beds or to prevent construction of multi-storey buildings on slopes.

In order to strengthen the disaster management, it is needed to prepare urban risk analyses and risk management studies as well as a Region Conservation Plan. The disaster policies must be defined and mitigation measures must be implemented within the scope of this plan.

Additionally, resistant development plan, as the most excessive disaster plan, must be prepared to strengthen the disaster-resistance of the Region.

7 ENVIRONMENT

South Marmara Region is one of the Regions with well preserved natural and cultural environment. It is estimated that the interest in the natural resources and in the natural environment will increase in the future due to climate change. Therefore, the environment will constitute an important component for 2014-2023 development process of TR22 Region. This component is not only one of the main titles but also considered under different titles within the Plan.

Sustainable development based on natural and economic resources is threatened by continuous growth of the Centers and by the fact that growing intra- and inter-regional population causes socio-economic development differences. İstanbul is a metropolitan city that suffers most from these threats. One of the discussions concerning a solution strategy for this problem speculates re-location of Istanbul's industry. For this re-location operation, the Region presents many advantages. In order to improve the competitiveness as well as labor force and the social life, it would be suitable to attract the industrial centers to the Region. This would also improve the strength of the local economy and will provide commercial integration with international markets. In order to utilize the current situation constituting a threat to İstanbul, as an oppurtunity for the Region, control points on the subjects of spatial development, employment and sustainable development should be created in the Region which has ample natural resources, fertile lands and tourism potential.[168]

One of the important elements of the Region's vision is environmentally friendly and sustainable development.That's why the Region should focus on not only strengthening its competitiveness but also on protection of the natural and cultural assets for the sake of posterity. Regarding relocation of İstanbul's industry to the Region, these two aspects must be balanced during implementation. In other words, decentralization of İstanbul's industry is critical for the future of the Region. Planning is required to mitigate the negative environmental impacts of the industry which will possibly come to the Region. On the other hand, On the other hand, it is important to implement mining activities in accordance with environmental protection policies and to be saved natural sources by the economy without causing any harm to the ecological balance in TR22 region which has significant mineral reserves, mineral exploration and exploitation.

[168] SMDA, (The Decentralization, 2012).

7.1.1 Natural Environment

The Region hosts many assets like Kazdağı National Park, Ayvalık Islands Natural Park, Gelibolu Peninsula Historical National Park, Troy Historical National Park and Bird Paradise National Park (Manyas Lake) which is listed in Ramsar Convention List.[169] The Region has a distinguished place in Turkey regarding its natural resources and biological diversity. Therefore, it is important to preserve the biodiversity and to utilize it in a sustainable manner.

The Region hosts many ecosystems in its forestry areas, hunting areas and wild life protection and preservation sites. Such areas include Dursunbey-Alaçam Mountain, Bigadiç-Ulus Mountain, Bandırma-Kapıdağ Mountain, Burhaniye-Madra Mountain, Yenice-Kalkım Forests, Mount Ida,[170] Kınalı Keklik Örnek Hunting Grounds, Narlı Örnek Hunting Grounds.[171] Mount Ida Fir is an endemic species to the Region. Manyas Bird Paradise, on the other hand is very rich in planktons and benthos. Dalmatian Pelicans and the Pygmy Cormorants are two endangered species according to the latest European lists. These two species are populated in Manyas Bird Paradise at significant numbers.[172]

The ecological and biological diversity of the Region is threatened by a series of problems and deficiencies including: urbanization pressure, scattered distribution of settlements due to high number of villages, increase in touristic activities, excessive hunting, wind power plants and power transmission lines established on migration routes of birds, unplanned industrialization and such other problems that occur in the monitoring and control mechanisms.[173]

It is needed to raise awareness and consciousness on preservation of biodiversity and sustainable utilization of biological resources. Studies and inventory works within the scope of the National Biodiversity Strategy and Action Plan will contribute in protection and preservation of the nature in the Region.

[169] Internationally Important Wetlands List (Ramsar List), **http://www.ramsar.org/pdf/sitelist.pdf**., 06.06.2013.
[170] Ministry of Environment and Urban Planning, **Environmental Situation Report**, 2011
[171] Ministry of Environment and Urban Planning (EP, 2012)
[172] Ministry of Environment and Urban Planning, **Environmental Situation Report**, 2011
[173] Ministry of Environment and Urban Planning (EP, 2012)

7.1.2 Waters

Sustainable utilization of drinking water and access to water with appropriate hygiene are two prioritized targets at national level. Balıkesir and Çanakkale Provinces of TR22 Region receive sufficient volumes of precipitation and are rich with ground and surface water resources therefore does not suffer from any water shortage. However, the water pollution is the number 1 environmental problem of the Region.[174] (Figure 100)

Figure 100: Major Environmental Problems of Provinces
Source: MoEUP, generated from 2012 data.

Volume of available water assets of Turkey is 112 Billion m^3. TR22 Region, on the other hand, has a combined potential volume of 5.87 billion m^3. 332 Million m^3 of this potential is ground water while 5.54 Billion m^3 is surface water.[175] As of the year 2013, amount of per capita water was 3.546 m^3. Turkey, however, is classified as a water shortage country with a per capita water volume of 1.480 m^3. This underlines the importance of the water resources of the Region and their effective utilization.

Among 53 municipalities under Balıkesir Province, Central District, Burhaniye, Altınoluk, Edremit, Güre, Pelitköy, Karaağaç, Ocaklar and Gömeç districts; among 34 municipalities under Çanakkale Province, Mahmudiye, Ayvacık, Kepez, Eceabat, Umurbey, Geyikli

[174] Ministry of Environment and Urban Planning, **Marmara Bölgesi Öncelikli Çevre Sorunları**, Ankara, 2012 (**http://www.csb.gov.tr/db/ced/webicerik/webicerik272.pdf**, 04.06.2013.)
[175] DSİ 25. Bölge Müdürlüğü, **http://www2.dsi.gov.tr/bolge/dsi25/topraksu.htm**, 30.10.2013.

districts' municipalities[176] have waste water treatment facilities for physical and biological treatment. Edremit waste water treatment facility is used jointly by Edremit, Akçay, Kadıköy and Zeytinli Municipalities. Furthermore, a water treatment facility which will allow turning sea water into drinkable water is already under construction in Avşa Island for the first time in Turkey.[177] In addition to municipal water treatment facilities, the enterprises are obliged to treat their industrial waste therefore there are treatment plants in the industry. Treated waters are usually discharged to nearby streams. Waters from some of these plants are used for agricultural irrigation purposes. However, regarding management of industrial waste water, there still are some establishments without a waste water treatment plant in the Region. Municipalities and/or private enterprises without waste water treatment plants discharge their waste waters to streams or to sea on the grounds of such excuses like infrastructural deficiencies and/or financial problems.[178] In line with the circular notice by the Ministry of Environment and Urban Planning ordering the local administrative units to establish waste water treatment plants, it is planned to complete all waste water treatment facility investments in the Region by the year 2017.[179]

[176] Ministry of Environment and Urban Planning, **Environmental Situation Report**, 2011
[177] Ministry of Environment and Urban Planning (EP, 2012)
[178] Ministry of Environment and Urban Planning(EP, 2012)
[179] Ministry of Environment and Urban Planning, **Waste Water Treatment Action Plan (2008-2012)** (**http://www.cygm.gov.tr/CYGM/Files/EylemPlan/aateylemplani.pdf**, 05.06.2013)

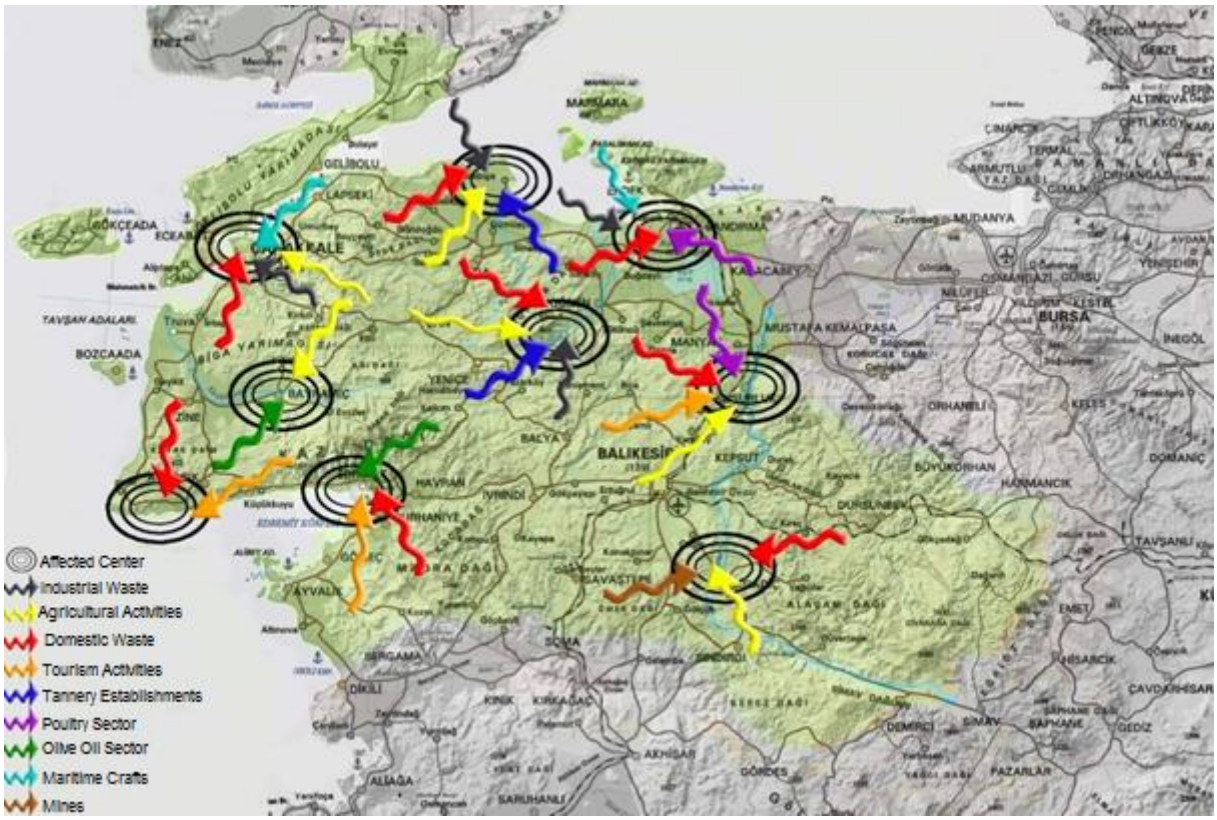


Figure 101: Polluted Water Resources and Reasons of Pollution
Source: TÜBİTAK MRC Environmental Institute, Generated from 2010 data.

Gönen River and a part of the Biga River on downstream towards Marmara Sea in Marmara Basin as well as Havran River in Northern Aegean Basin are gravely polluted with organic matters and ammonium nitrogen. Nilüfer River, in Susurluk Basin, is also intensively polluted especially at such parts after Bursa, where it joins the main Susurluk River until flows in the Marmara Sea. The streams around Balıkesir are also affected by domestic and industrial discharges from Balıkesir Province before they flow into Simav River. Simav and Susurluk Rivers have high quality water classes before Bigadiç but are polluted in this district by boron exploitations and boron reserves around Susurluk. Furthermore, Karaağaç Stream around Ayvalık is categorized as an extremely polluted stream.[180]

Water pollution in the Region is caused by many reasons. These include, discharge of untreated or partially treated sewages to surface waters, pollution of ground waters by leachates from sewages or unsanitary solid waste storages, excessive and unplanned use of agrochemicals and fertilizers due to intensive agricultural activities, discharge of olive mill

[180]TÜBİTAK MRC Environmental Institute, **Preparation of Basin Protection Action Plans -Susurluk Basin**, December 2010

wastes to the sea, bilge discharge, unlicensed vacuum truck discharges, pressure by secondary houses at coastal areas, and so on. In Balıkesir and Çanakkale Provinces, in order to protect the water quality, local administrations must take drastic measures on disposal of waste waters generated in settlement areas. Good agricultural practices that aim minimization of irrigation water from agricultural activities are also important for control of agricultural waste waters. In order to determine the utilization capacities and pollution levels of the basins it would be beneficial for water management to establish source management and monitoring systems. In order to mitigate the pollution pressure on streams and ground waters, it is important to employ sanitary landfills for solid wastes; to replace the landfills economic lives of which are expired; to improve controlled disposal of industrial waste water and to employ more effective monitoring and administration practices.[181]

Works are already carried out for mitigating the negative impacts of the iron-steel industry and energy generation facilities of the Region on the environment. On the other hand 58 tanneries in Gönen District will be re-located to Gönen Leather Organized Industrial Zone [182] which will play an important role in reducing pollution. In order to prevent pollution, the private sector must be encouraged and more effective strategies must be developed. In all around the Region, drinking and utility waters are generally supplied from ground water resources. Excessive ground water draw-off and unconscious consumption of water resources causes salinization. Works on raising awareness on controlled utilization of ground waters would be beneficial for the Region.

It is anticipated that the water resources in the Region will fail to satisfy added demands and economic activities resulting from increasing urbanization and population. The pollution stress on the water resources and decrease of ground waters urge more effective use of water. In this perspective, at national level, it is prioritized to expand water resources management as a co-operation between institutions/organizations on the basin basis and to establish appropriate treatment and control centers. Protection action plans for 11 basins were completed within the scope of Basin Protection Action Plans Project which was launched to determine integrated protection and controlled utilization principles.[183] Protection Action

[181]TÜBİTAK MRC Environmental Institute, **Preparation of Basin Protection Action Plans –Northern Aegean Basin,** December 2010
[182] Gönen District Governorate, **Gönen District Briefing,** 2012
[183]KB, **NSRD 2013-2023**, 2012

Plans for Marmara, Northern Aegean and Susurluk Basins, which cover TR22 Region, have been completed and this is an advantage for the Region.

7.1.3 Air

The second most important problem in TR22 Region is the air pollution.[184] In order to determine and employ necessary measures against air pollution, sulfur dioxide (SO2) ratio and dust particulate matter (PM10) are measured in the Region.[185] According to 2009 measurement results, Balıkesir is classified as good and Çanakkale as medium in terms of SO2; in terms of particulate matter, on the other hand, Balıkesir is categorized as medium and Çanakkale very bad. In order to prevent any further threats by existing air pollution load, necessary measures must be taken in due time.

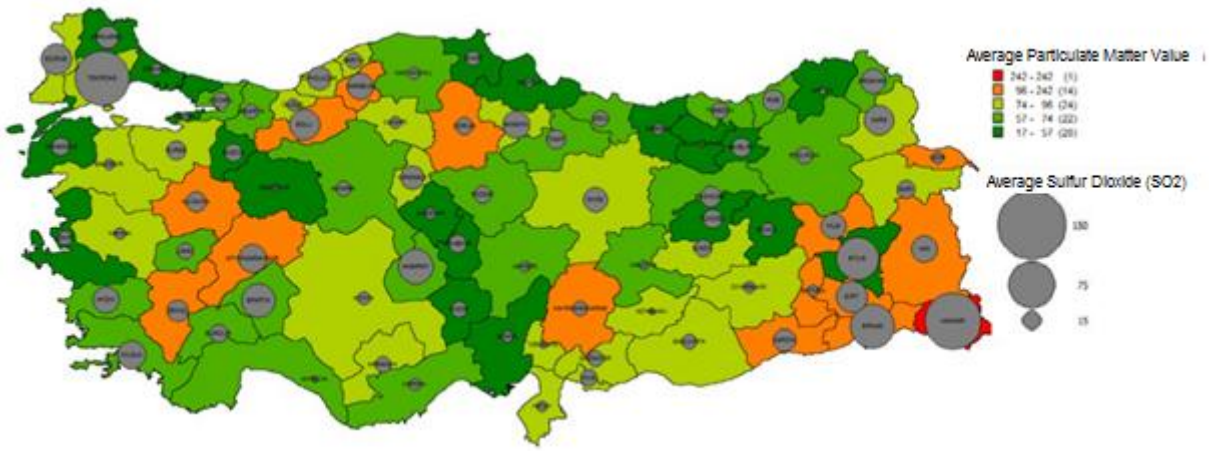


Figure 102: Average Values of SO2 and Particulate Matter
Source: Ministry of Development, NSRD (2013-2023), 2009.

In Balıkesir Province of the Region air pollution based on house heating is one of the leading reasons. Especially during winter seasons, such reasons like reduced winds, frequent foggy days and increase in the city traffic result in increase of pollution impact. In Bigadiç, Gönen, Edremit and Sındırgı district, geothermal heating is used which decreases the air pollution. Air pollution is a serious problem in Bandırma which has higher industry and population compared to other districts. Industrial facilities that produce chemicals or those that generate

[184] Ministry of Environment and Urban Planning, **Major Environmental Problems of Marmara Region**, Ankara, 2012 (**http://www.csb.gov.tr/db/ced/webicerik/webicerik272.pdf**, 07.06.2013)
[185]MoEUP, (Environmental Report, 2011).

waste gas have negative impacts on the air quality. Additionally, especially vehicle traffic and poultry production-related industrial activities increase the air pollution in Bandırma, Susurluk and Gönen.[186] Furthermore, topographical factors and paddy-farming-related air pollution also negatively affect the local population in Gönen. Especially during summer seasons, agrochemicals used in paddy farming vaporize and contaminate the air and then settle on such settlement areas with lower altitudes.

The air pollution sources in Çanakkale are similar to those in Balıkesir. Lack of large scale industrial areas in the Region, industrial emissions do not constitute a significant environmental problem. SO_2 rates in Çan and Biga districts reach critical levels and negatively impact human health especially during winter seasons due to existence of industrial facilities, topographical reasons and climate characteristics.[187] In Çanakkale Central District, multi-storey buildings are mostly built against the prevailing wind direction and no wind air corridor was envisaged in the layout plan. These two factors contribute in increasing air pollution. In terms of pollution levels, Balıkesir Central District, Bandırma, Çanakkale Central District, Biga, Çan and Gelibolu Districts are in the 1st Group and Eceabat, Gökçeada, Lapseki, Ezine, Ayvacık, Yenice, Bozcaada, Bayramiç and Balıkesir's all districts save for Central District and Bandırma are in the 2nd Group.[188]

A positive development for the fight against air pollution is the gradual increase in utilization of natural gas in urban areas. Total number of natural gas subscribers in TR22 Region was 112.948 in the year 2010 which increased to 169.233 by 2012. In order to mitigate the negative impacts of the pollution, this number must be increased. On the other hand, in order to minimize and eliminate pollutant sources, it is important to prevent use of inappropriate fuels; to accelerate natural gas infrastructure works; to consider air corridors for planning new settlements and to encourage utilization of renewable energy resources and environmentally friendly fuels instead of fossil fuels. Mitigating the air pollution is also important for the fight against the respiratory diseases which occur very frequently in the Region. In this regard, the social awareness and consciousness on the measures to be taken shall be increased. In order to achieve a cleaner and healthier air quality, in buildings with central heating arrangements,

[186] Ministry of Environment and Urban Planning, **Turkey Environmental Situation Report**, 2011
[187] Ministry of Environment and Urban Planning (EP, 2012)
[188] Provincial Directorates of Environment and Urban Planning of Balıkesir and Çanakkale, **Provincial Environmental Situation Report**, 2011, 2007

building managers and stokers must be trained in use and storage of appropriate fuels, and the chimneys and boilers must be periodically maintained.

7.1.4 Waste

Waste is the 3rd most important problem of Balıkesir and Çanakkale Provinces.[189] According to 2010 TurkStat data, proportion of the people receiving waste management services within the general population is 83 percent in Turkey. This figure is around 72 percent in Balıkesir and 66 percent in Çanakkale. Transition from unsanitary solid waste landfills to sanitary practices is an ongoing process in Turkey. The number of people receiving sanitary landfill and waste treatment services for solid waste is increasing every year.[190]

Among 53 municipalities under Balıkesir Province, solid waste is stored in sanitary landfills by 3 municipalities (Balıkesir, Gönen, Altınoluk) and by 7 municipalities among 34 municipalities under Çanakkale Province. The wastes are stocked in unsanitary landfills in all other municipalities. Furthermore, Gelibolu solid waste disposal facility has been recently put into service in Çanakkale. In Balıkesir, municipalities under three unions presented work schedules to dispose their wastes. Moreover, Balıkesir, Kepsut and Zeytinli Municipalities in Balıkesir Province, are carrying out source-separation and recycling works for recyclable waste. The Province also has waste sorting, burning and composting facilities.

Balıkesir, Central District and surrounding municipalities are also carrying out "Balıkesir Solid Waste Management Project" under EU grants within the scope of Pre-accession Financial Assistance Tool of European Union. The project concerns disposal of domestic, industrial-based domestic, commercial and institutional solid waste generated in these municipalities. The project had a total fund of 25.511.900 Euro and the facility already been completed and commissioned. Solid wastes generated in 7 municipalities which are members of Balıkesir Sustainable Environmental Management Union (BSEMU) will be stored in sanitary landfill site of Balıkesir Municipality, located on Savaştepe road. Within the scope of this project, waste dump sites will be decommissioned in Balıkesir Central District, nearby Susurluk, Kepsut and İvrindi Rivers, in Pamukçu Plains and in Savaştepe and Bigadiç

[189] Ministry of Environment and Urban Planning, **Major Environmental Problems of Marmara Region,** Ankara, 2012 (**http://www.csb.gov.tr/db/ced/webicerik/webicerik272.pdf**, 04.06.2013)
[190] General Directorate of Environmental Management, Environmental Indicators of 2011, 2012 (**http://www.csb.gov.tr/turkce/dosya/ced/gosterge2011_tr.pdf**, 10.06.2013)

Forestry lands covering a total surface area of 937.500 m².[191] Solid wastes in Pamukçu and Kepsut sites will be carried to the site in Balıkesir Central District while the dump sites not convenient for relocation in Susurluk, Bigadiç, İvrindi and Savaştepewill be rehabilitated. The project also envisages establishment of transfer stations in Bigadiç and Susurluk districts. After decommissioning, these sites will be afforested. Within the scope of the project, a recycling plant, a medical waste sterilization plant, a composting plant and a leachate collection and treatment plant will be established.[192] The project aims to ensure recycling of the waste, treatment of the leachate and re-use of organic waste for agricultural afforestation, parks and recreation purposes.

In Çanakkale Province, a solid waste sanitary landfill, packaging waste sorting plant and leachate plant was established under "Gelibolu Solid Waste Disposal Facility Project" and "Çanakkale Regional Solid Waste Management Project". Total volume of the sanitary landfills established on different locations is 397.197 m3.[193] Decommissioning and rehabilitation of old dump sites was another component of these projects. For this purpose, five old dumpsites were decommissioned and rehabilitated in Çanakkale Kuruçeşme Locality, Lapseki Milletçiftliği Locality, Lapseki Topraklı Locality, Çardak Kadıbayırı Locality and Çardak Lake. Also, within the scope of the Project, 3 recyclable waste collection centers were established in Çanakkale, Umurbey and Kumkale Districts.[194] On the other hand, Union of Balıkesir Bay Municipalities and Biga, Çan, Yenice and Surrounding Areas Solid Waste Management Union (SWMU) are still working on establishing a new sanitary landfill.[195]

Efforts on separate collection of packaging waste at the source are already carried out in the Region. There are two licensed collection-sorting facilities in Çanakkale. As of the year 2010, separate collection of packaging waste has commenced in pilot areas.[196] ÇEVKO and three licensed companies are collaborating to recycle packaging waste in Balıkesir. The packaging waste generated in governmental offices, schools, workplaces and 18 different neighborhoods in Balıkesir Central District are separately collected by licensed companies at the source and

[191] Balıkesir Municipality, **Balıkesir Solid Waste Management Project Notice, http://www.baceyob.gov.tr/icon/katiatik.pdf**, 10.06.2013
[192] Balıkesir Municipality, **Balıkesir Solid Waste Management Project Notice, http://www.baceyob.gov.tr/icon/katiatik.pdf**, 10.06.2013
[193] **http://www.gelibolu.bel.tr/bpi.asp?caid=171&cid=1042**, 15.06.2013.
[194] 2009 ÇAKAB Annual Report, 2010
[195] **http://www.burhaniye.bel.tr/detail.aspx?did=2542**, **http://www.can.bel.tr/**, 10.06.2013
[196] Ministry of Environment and Urban Planning, **Turkey Environmental Situation Report**, 2011

sorted in the sorting plant before delivered to recycling facilities. Furthermore, works on collecting and recycling waste vegetable oils, used engine oils, hazardous waste, end-of-life tires and electronic waste as well as waste batteries are ongoing.[197]

In Turkey, scantiness of sanitary landfills and abundance of unsanitary landfills have negative impacts on environmental sustainability. It is important to include all municipalities within the efforts for employment of effective waste management in the Region and on source-reduction, recycling and finally disposal of waste. On the other hand, the fact that Balıkesir is now a metropolitan municipality provides an administrative advantage for ensuring coordination in waste management.

Local Administrations Union is a management model suggested for providing effectiveness in solid waste management services and for providing appropriate resources and technologies on these services.[198] In order to employ an integrated waste management system throughout the Region, it is important to ensure that experiences are shared and a collaboration culture s established between the local administrations unions of the Region; to carry out such works that will provide effective operation for these unions; to periodically inform these unions about support/grant programs available and to provide necessary technical assistance for preparing projects. Waste management can only function if the users of the services are included within the system. It is a priority to develop user-friendly systems to which the users can easily adept. Furthermore, it is estimated that the effectiveness, activity and yield of these efforts can be increased by conducting awareness raising campaigns for stakeholders in the Region on such subjects like at-source reduction and separation as well as recycling of the waste.

[197] Balıkesir and Çanakkale Municipalities, **2012 Annual Reports,** 2013
[198] Ministry of Environment and Urban Planning, Waste Management Action Plan (2008-2012), **http://www.cygm.gov.tr/CYGM/Files/EylemPlan/atikeylemplani.pdf**, 10.06.2013

8 LARGEST ISLANDS OF TURKEY: GÖKÇEADA, BOZCAADA and MARMARA ISLAND

TR22 Region has three largest islands of Turkey. Reduction of differences in intraregional development levels is one of the major targets of Regional Planning practices. In this perspective, it is important to address specific problems of these islands and to provide suggestions. In terms of administrative purposes, Gökçeada, Bozcaada and Marmara Islands are also district governments. Marmara District is tied to Balıkesir Province and Gökçeada and Bozcaada Districts are tied to Çanakkale Province.

Gökçeada is the largest island of Turkey. According to 2013 TurkStat data, the island hosts a population of 8.830 people. The shortest contact point between the Island and the mainland is between Kabatepe Port of Gelibolu Peninsula and Gökçeada Kuzu Port. The island is very rich in water resources. Additionally, approximately %75 of the Island's surface area is agricultural lands. This ratio is well above the national average. Different cultures are mingled on the Island which therefore, reflects a very rich social and cultural life. Thanks to its geography, Gökçeada offers a significant domestic tourism potential. Locals of the island aim to develop this potential and this effort is also supported by the government. Traditionally the tourism high-season is summer on the Islands. However, as the surfing developed on the island in recent years, the high-season has been extended. Thanks to surfing, the interest is high among foreign tourists, especially from Bulgaria, on the Island. This situation resulted in activation of Gökçeada Airport. It would be beneficial to implement a promotion strategy aimed at Balkans to further improve surf tourism. Turkish Marine Research Foundation (TMRF) has announced the coastal area between Kaleköy and Kuzu Port as marine protection area due to submarine wonders therein. This indicates that Gökçeada has a significant potential for diving tourism. On the other hand, the Ministry of Food, Agriculture and Livestock has chosen Gökçeada as a pilot center for ecologic farming. Gökçeada is also a "cittaslow".

Marmara Island is the 2nd largest island of Turkey and has a population of 9.310 people. The Island is accessed through ferry from Erdek District of Balıkesir. Number of scheduled shuttles increases during summer seasons due to tourism activities. Additionally marine transportation is provided to the Island from İstanbul and Tekirdağ. Marmara Island hosts the most important marble reserves of Turkey. Also, the first marble quarries of the world are

located in the Island. Ancient Greek term "Màrmoros" means marble. This term has become Marmara in time and the island was named after the famous rock.[199] The power infrastructure of the Island must be strengthened to satisfy new investments in marble industry. Tourism is one of the rather more significant means of livelihood in Marmara Island. The island also has some smaller and touristic islands like Avşa and Ekinlik. Other means of livelihood in the island are agriculture and animal husbandry. One of the main problems of the Island is transport. The transport between the mainland and the island is not effective. Long transportation time negatively affects access to services like health, education, etc.

Bozcaada has a population of 2.643 people. Scheduled ferry from Geyikli town of Çanakkale and the scheduled sea bus from Çanakkale connect the island and the mainland. The population of the island rises fourfold.[200] Traces of Anatolian Greek culture is seen on the Island. Fertile lands and ever-present winds make the viticulture one of the most important dynamics of the Island. Starting from 90s, the tourism sector has become a major means of livelihood on the Island. With its unique historical and architectural fabric, natural pattern and co-existence of different cultures as well as its clean environment make that island a center of attraction for domestic and international tourists. Thanks to its location, another important sector on the Island is fishing. Located on the migration routes of fishes, the Island hosts many fishermen boats coming from surrounding coasts.

The main problem of the island is the changes on the population by the seasons. Planning works on the island usually consider the residents of the island. However, the population rises during summer seasons causes certain infrastructural problems. Similarly health services on the island fail to satisfy needs during high season. There is no hospital in Bozcaada which further obstacles access to health services. Despite high interest shown by domestic and international tourists due to historical, natural and cultural beauty of the Islands, they lack quality tourism facilities which result in dissatisfaction of the tourists. This prevents full realization of tourism potential of the Islands. Due to insufficient marketing and promotion, the added value obtained from viticulture, fishery, apiculture or olive farming products is very low. Some of such insufficient marketing efforts relate to inappropriate packaging of the food, lack of branding and promotion efforts.

[199]SMDA (Mining Potential, 2011)
[200]SMDA, **Gökçeada and Bozcaada Assessment Report**, 2012

First of all, the infrastructure of the Islands must be improved to satisfy the current needs. It is equally important to increase the number of quality tourism facilities and to improve the institutional capacities of existing facilities to realize the tourism potential of the Islands. Bozcaada and Gökçeada Islands can easily establish contact with Greek Islands which may contribute to diversify the tourist profile and to improve competitiveness of these islands. In order to obtain higher added value from the products produced in the Islands, awareness raising campaigns must be organized on branding and boutique manufacturing. 1/25.000 Scaled Environmental Plan of Bozcaada for 2025 was approved in the year 2013. This plan will provide planned development for settlement and investment areas. On the other hand, as a 6^{th} Region area according to new incentives system, the Islands provide new opportunities for investors.

9 RELATIONSHIP BETWEEN TR22 SOUTH MARMARA REGION AND SURROUNDING CITIES

The concept of Regional Development includes a wider area in economic, social, cultural and geographical aspects. Therefore the development strategies must be implemented in collaboration and co-operation with surrounding cities. Furthermore it would be beneficial to establish collaboration between the Region and distant regions to allow sharing of good practices and experiences.

Balıkesir and Çanakkale Provinces of the Region constitute a bridge connecting Aegean and Marmara Regions therefore they share many common features with surrounding provinces. Eastern parts of the Region, which cover Balıkesir Province, are located between İstanbul and İzmir. These parts are also direct neighbor to Bursa Province. On western front, Çanakkale has lands on Thrace and therefore is a neighbor to Tekirdağ and Edirne Provinces.

Balıkesir and Çanakkale present significant similarities with the surrounding provinces in terms of climate, vegetation, soil structure and products. Bay Olive Oils and Southern Aegean Olive Oils hold geographical indications and play important role in the economy of the Region and of the surrounding provinces and therefore present new opportunities to develop regional economy. In this perspective it is important to develop new strategies and to provide a more effective role for producer unions. It is important to establish co-marketing networks for various Level 2 Regions' products with geographical indications and to encourage branding activities. Prina is the waste of olive oil industry and is used as raw material for various sectors as cosmetics, fuel, etc. In the future, new collaboration fields to develop new uses for prina will be assessed.

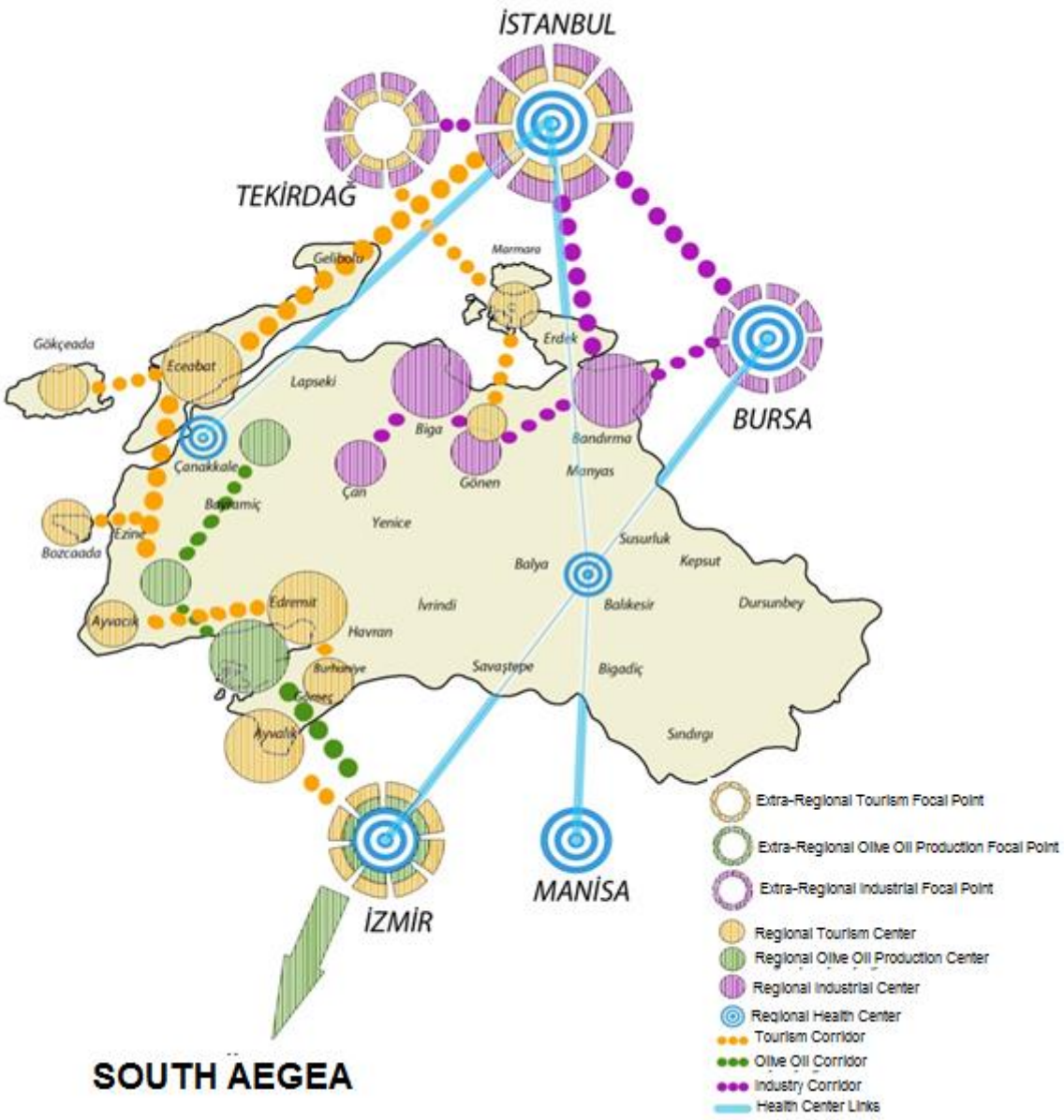


Figure 103: Relationship between TR22 Region and Surrounding Cities
Source: SMDA Office Work, 2013

Along with the surrounding provinces, the Region witnessed important civilizations. Expedition Road of Alexander the Great from Troy in Çanakkale towards Ephesus İzmir, ruins of Ephesus and Assos ancient cities of the same civilization, Ancient Smyrna (İzmir, Pergamon (Bergama), Phokaia (Foça) and Troy cities that share a common mythological history, travel routes starting from İzmir or İstanbul and reaching the Region are all clear indicators of the interaction between the Region and surrounding provinces. The common historical and cultural heritage the Region shares with surrounding provinces creates an opportunity to develop tourism potential of the Region. In this perspective works on

promoting cultural and touristic assets will be accelerated in cooperation with relevant agencies and organizations. Sharing good practices on alternative tourism and exchanging experience with the tourism personnel in important tourism centers like İzmir and Antalya are important to mobilize alternative tourism potential. The collaboration mechanisms shall be strengthened at locations with high tourism potential to establish qualified and high quality service facilities. Furthermore, it is needed to establish the infrastructure required to carry out projects in collaboration with archeology departments of the universities to reveal historical routes. Finally, in order to realize the potential of Çanakkale Ceramics, strategies on collaboration with leading ceramic sector representatives from İznik, Kütahya and Eskişehir must be developed and inventory of form and patterns of Çanakkale Ceramics must be prepared.

The Region presents a significant potential for renewable energy resources. Priorities on this subject includes: propagation of use of renewable energy resources; development of joint projects to ensure most effective use of these resources and awareness raising campaigns for public. Additionally, it is anticipated that national and international collaboration strategies will provide significant contributions for propagation of use of renewable energy resources.

Another notable reflection of the relationship between the Region and its surrounding areas is the field of health. Regarding health services, Manisa, İzmir, Bursa and İstanbul are important centers for the Region. In this regard, it is needed to strengthen primary healthcare services especially preventive health services in Balıkesir and Çanakkale. On the other hand, it is also needed to develop joint projects oriented to facilitate access to the health services.

Proximity of the Region to large industrial centers like İstanbul, Bursa and İzmir provides an important advantage in access to the resources especially in economic sectors and others. On the other hand; thanks to its geographical location, proximity to the centers and development potentials, TR22 Level 2 Region constitutes a good alternative to these hypertrophic centers which are under constant stress of rapid population growth and unplanned urbanization.

Another important aspect for improving competitive capacity is strengthening the transportation and logistics infrastructure. Completion of such projects like Gebze-Orhangazi-İzmir Highway and Kınalı-Tekirdağ-Çanakkale-Balıkesir Highway Projects will strengthen the transportation and logistics capacity of the Region. Another point that will improve the

interaction and dynamism will be establishment of contact with the international markets through ports in Bandırma as well as the Region's status as a transit center for İstanbul-İzmir Highway and Ankara-İzmir Railway. Rapid completion of Bursa-Bandırma-Balıkesir-İzmir line section of Ankara-Bursa-Bandırma-Balıkesir-İzmir High-speed Railway is important for developing inter-regional collaboration.

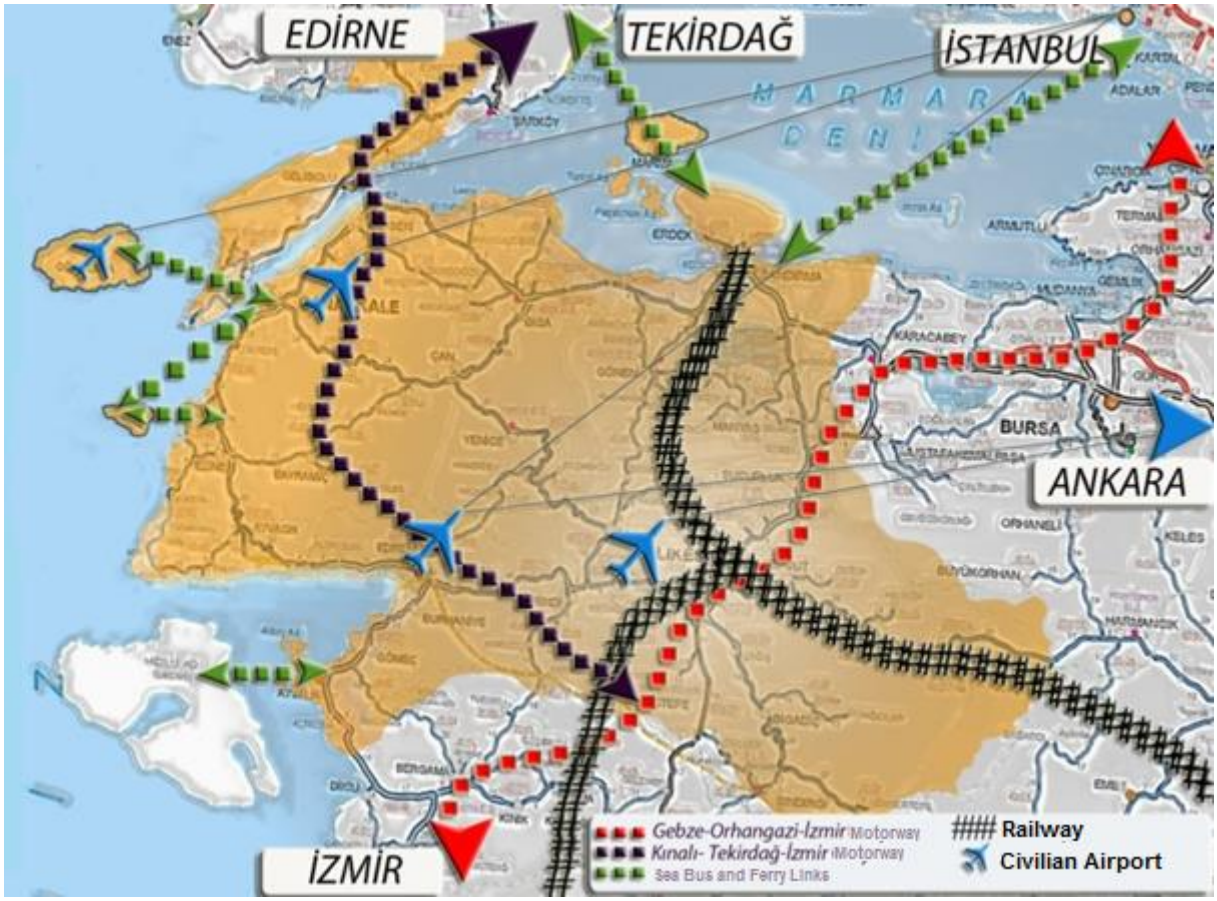


Figure 104: Transportation Networks of TR22 Region
Source: SMDA Office Work, 2013

Taking measures against domestic and industrial wastes accumulated on the basins is important for sustainable environment. Susurluk and Marmara Basins cover the large part of the Region's population and the fertile agricultural lands, natural protection areas and industrial areas at different scales co-exist in these basins. It is important to establish disposal facilities for recycling, re-using and recovery of municipal and industrial waste to serve multiple cities and to conduct awareness raising campaigns on this subject. Establishment of co-operation and collaboration mechanisms between municipalities, unions of municipalities, business associations and chambers of industry and commerce is a priority.

Industrial symbiosis approach allows co-existence of competitiveness and healthy industry for manufacturing practices. Implementation of this approach will contribute to regional economy. Symbiosis is a biological term used to define the collaboration and co-existence of different species. Application of this approach to the establishments creates industrial symbiosis which results in exchange or re-use of materials and/or water between two establishments. In circular economy the industrial symbiosis turns the wastes into assets. In this model the waste of an establishment goes to another establishment to continue its life circle. Industrial symbiosis approach exceeds the material aspects and includes such vast collaboration opportunities like joint procurement, share of knowledge technologies, collaboration in marketing and supply processes. It is anticipated that implementation of this approach to establishment of a common platform with the surrounding provinces will provide a significant economic superiority for the Region. Biogas potential of the Region is one example of important opportunities. Yet, it is important to support feasibility works to establish and diversify a suitable infrastructure for industrial symbiosis. Given that the physical proximity is a preference motive in symbiotic life, different collaborations with surrounding provinces like İstanbul, İzmir, Bursa and Tekirdağ will provide competitive strength.

10 SWOT ANALYSIS

In order to determine the existing situation and to develop a strategy with the available means, strengths, weaknesses, opportunities and threats (SWOT) analysis was carried out for the Region within the perspective of regional development and in consideration with the internal and external factors. SWOT Analysis was carried out to provide plans and strategies to maximize the utilization of strengths and opportunities and to minimize the impacts of weaknesses and threats. SWOT Analysis was realized as an agenda item for the Shared Wisdom Meeting which was organized to form the future of the Region in common. The analysis aims to spread the development processes to the population and to collect the opinions and views of the stakeholders. Agency assumed a facilitating role to collect the opinions of stakeholders for SWOT analysis works. Experts from the agency did not join the discussions. Within the scope of this study, common problems and possible obstacles, solution and application suggestions were considered. Within the Scope of SWOT Study such strategies that will best serve to the 2023 Scenario of the Regional Plan were identified by determination of strengths, weaknesses, opportunities and threats concerning the Region

STRENGTHS
• Proximity to large centers like İstanbul, İzmir and Bursa • Long coast line and access to two seas • Çanakkale Strait • The relatively untouched status of Region's provinces compared to other cities • Existence of suitable areas for planned urbanization-industrialization • The Region's status as a transit point for different means of transport • Existence of airports on both provinces • 100th Anniversary of Çanakkale (Dardanelles) Battles • Lower unemployment rates compared to national average • Existence of university hospitals in both provinces • Low maternal mortality rates • Existence of alternative tourism opportunities • Existence of many blue-flagged beaches on the long coast line of the Region • Diversity of assets and culture of the Region that enriches the socio-cultural structure • Existence of many islands with high tourism and organic farming potentials

- Suitable conditions for agriculture and animal husbandry practices
- High competitive strength in agriculture and animal husbandry
- Access to healthy and fresh food
- Well organized and high number of agricultural organizations
- Rich water resources
- Rich forestry existence in the Region
- Rich biodiversity of the Region
- Existence of medicinal and aromatic plants
- Developed food industry
- Existence of products with high export and branding potentials
- Rich renewable energy resources like geothermal, wind and biomass
- Rich and diverse mineral reserves led by boron and marble
- Good practices in waste management
- Existence of international maritime borders

WEAKNESSES

- Under developed social facilities and cultural life
- Constant risk of natural disasters like earthquakes and floods
- Shortage of qualified intermediary personnel
- Insufficient maritime lines, airlines, land road and railway connections
- Lack of quality and safety on intra-regional roads
- Insufficient capacities and infrastructure of ports and airports
- Fewer number of specialist physicians per capita compared to national average
- Difficulties in health service access on Islands and distant rural areas
- Lower school enrollment rate for pre-school education compared to developed countries
- Existence of only 1 university on both provinces
- Short sea season for tourism
- Shortage of qualified tourism facilities
- Ineffectiveness created by secondary houses on the coast line
- Scattered and small sized agricultural fields
- Limited irrigation facilities
- Small size of animal husbandry establishments

- Use of agricultural areas and meadows outside their assignment purposes
- Need for development of collaboration between universities-industry-public sector-civil society
- Deficiencies in international co-operation capabilities
- Insufficient high-tech manufacturing capabilities in industry
- Insufficient institutional capacities of SMEs
- Lagging behind in R&D, renovation, entrepreneurship, branding, patenting, marketing and promotion
- Inappropriate existing building stock against natural disasters
- Deficiencies in urban and environmental infrastructure

OPPORTUNUTIES

- Relatively lesser migration pressure from outside the Region
- Metropolitan Municipality Status of Balıkesir
- Increase in bed capacity thanks to City Hospital to be established
- Status of 3rd Region for Balıkesir and 6th Region for Gökçeada and Bozcaada in the new incentives system
- Increase in the alternative tourism demands
- Decentralization of Istanbul's Industry
- Infrastructural projects to strengthen the logistics and transportation network
- Expansion of utilization fields of boron products
- Planned irrigation pond and dam investments
- Acceleration of land expropriations
- Expansion of organic food market in Turkey and in the World
- Supports for renewable energy by EU and national energy policies
- Cross-border collaboration opportunities with Greece

THREATS

- Status of Çanakkale as 2nd Region Province in incentives system
- Environmental and social problems to be caused by industrial investments from strong industrial areas
- Risk of using agricultural areas outside their intended purposes due to unplanned realization of tourism, industrial and energy investments

- Salinization risk due to incorrect irrigation and fertilizer use techniques
- Pollution risk and marine accidents caused by maritime traffic and especially petroleum and hazardous waste discharged to sea
- Environmental damage risk associated with mining activities

SECTION THREE

1 VISION, DEVELOPMENT AXES, PRIORITIES AND MEASURES

2023 vision of the Region is;

"A SOUTH MARMARA with more qualified labor, competitiveness and viability"

This vision was determined by contribution of stakeholders during excessive meetings, shared wisdom meeting, sector workshops and district workshops.

In order to achieve this vision, the development axes of the plan were divided into three sub-titles to harmonize with the main titles of the Tenth Development Plan. These are:

- Quality Social Life and Qualified People
- Livable Environment and Spaces
- Strong Economy and Competitive Sectors.

The general approach applied in determining priorities and measures considered the effective use of the potential of the Region; maximum utilization of opportunities that occur in the rest of the world and effective management of possible risks; further strengthening the strengths of the Region and mitigating the deficiencies caused by weaknesses. It is thus aimed to improve the life quality and sector expertise through integrated and co-ordinated interventions so as to improve the competitive strength of the Region at national and international scale which will then be transferred into prosperity and happiness of the Regional population through improvement of revenues, prosperity and life quality.

DEVELOPMENT AXIS 1: QUALITY SOCIAL LIFE AND QUALIFIED PEOPLE

The essential target of development is to improve individual and social prosperity. Policies towards individual and social development have direct and indirect effects in improving prosperity. Improvement of job and entrepreneurship opportunities, human resources and strengthening social solidarity and resources provides the individuals with an opportunity to realize their expectations, desires and targets thus provides a direct input for happiness. At the same time such policies result in more effective resources assigned to individuals and society to create value and lay down the path for economic development through improving the effectiveness of local economy and maintaining social balance.

This approach addresses and stimulates the improvement of labor force qualities as well as a culture of entrepreneurship. This ensures individuals and society become the main dynamic for determination of one's own future and for regional development as well as improvement of qualities as the main source of economic development. The human resources of the Region are relatively in good standing in primary and secondary education levels. More emphasis will be put on improvement of the success of human resources especially in leading sectors and on intensification of employment increase and entrepreneurship as a way of success and of participation in the economic and social life.

Despite the fact that the Region's education and health services are relatively in good standing in Turkey, it is needed to eliminate certain specific deficiencies in these fields and to improve the quality of these services as well as to improve the access to these services from rural areas and Islands and to diversify the educational and health services for women, children and elderly.

Furthermore, such measures to facilitate the participation of disadvantaged people to economic and social life, to strengthen the social and family integrity, to improve the urban life and social facilities will be implemented to observe and maintain the balance between social sections.

Priority 1.1: Improvement of Human Resources

Measure1.1.1: Vocational training programs will be designed to satisfy the needs of labor force market upon determination of such needs. To this end, collaborations will be established between public agencies, local administrations, educational institutions and business organizations.

Measure1.1.2: In order to provide the human resources needed to raise the food sector up to the global competitive levels, life-long learning and on-the-job trainings will be accelerated and high school and university level occupational and academic curriculums and education programs will be re-structured in collaboration with the private sector.

Measure 1.1.3: The collaboration between universities and private sector organizations will be improved to establish tourism-related departments in secondary educational institutions and universities in such districts with advancing tourism and to improve the quality of

education therein. This collaboration will also aim at providing specialization and expertise to the personnel by these institutions as required in the Region.

Measure 1.1.4: Occupational training capacity of the Region will be improved in such high-tech sectors especially the renewable energy technologies in which the Region presents a specialization capacity. Departments, institutes and research centers will be established in universities especially for such sectors.

Measure 1.1.5: Training and awareness raising activities on modern agricultural techniques will be provided to the farmers to maintain sustainability and to improve effectiveness in agricultural production.

Measure 1.1.6: Occupational training programs will be developed to improve the personnel qualities in manufacturing industry and logistics sectors, especially for such sectors that engage in processing mineral and natural stone products within the Region.

Priority 1.2: Improvement of Entrepreneurship

Measure 1.2.1: National entrepreneurship policies and strategies will be followed to contribute in monitoring system as stipulated in the Entrepreneurship Strategy and Action Plan of Turkey.

Measure 1.2.2: Trainings on entrepreneurship skills, business and project management will be provided in collaboration with NGOs as informative activities for artisans and micro-enterprises as well as entrepreneurs fresh in business to stipulate and expand the culture of entrepreneurship as a means for facilitating business development.

Measure 1.2.3: In order to support the initiatives and to provide accelerated development for existing enterprises, alternative mechanisms like incubation centers, acceleration programs, idea banks and entrepreneurship camps will be implemented in consideration with local conditions and needs.

Measure 1.2.4: Women's entrepreneurship, social entrepreneurship and entrepreneurship of disadvantaged will be supported as a means to provide services and products for different social sections and to facilitate access of disadvantaged people to products and services.

Priority 1.3: Enhancement of Employment and Improvement of Income Distribution

Measure 1.3.1: Participation by women, youth and handicapped to labor force will be improved; their access to employment opportunities will be facilitated and public opinion on employment registration will be mold. Local projects and activities to support central policies will be implemented in collaboration with respective organizations and authorities.

Measure 1.3.2: Supports will be provided for such efforts by non-governmental organizations that aim at improving the human resources as well as employment facilities and employability and at fight against the poverty.

Measure 1.3.3: Employability of the workforce that leave the agricultural sector or that desires to work on a second job or those workers that had to switch the line of work due to various sector bottlenecks will be improved.

Priority 1.4: Social Cohesion and Social Facilities

Measure 1.4.1: Participation by such disadvantaged groups like handicapped, elderly, women and poor into social life will be facilitated within the framework of equality of opportunity and principle of fairness; services oriented to these groups will be diversified and generalized.

Measure 1.4.2: Service capacities of the public, private and non-governmental organizations taking part in the activities for such disadvantaged groups will be improved and inter-organizational collaboration will be enhanced to encourage development and implementation of reform models.

Measure 1.4.3: Social and environmental conditions will be developed to facilitate the handicapped participation in economic and social life and effectiveness of education, employment and care services will be improved.

Measure 1.4.4: Social projects towards prosperity of the elderly, healthy aging and enhancing the solidarity between other groups and elderly will be realized.

Measure 1.4.5: Education and guidance activities will be carried out to consolidate the family bonds and sustainability of family union. Such activities aimed at women's protection will be disseminated.

Measure 1.4.6: Awareness raising campaigns will be carried out so as to accelerate the adaptation of migrants to urban life and to improve the quality of urban life for all groups.

Measure 1.4.7: In order to mobilize social life, social and urban facilities like cinemas, theatres, libraries, parks will be established and existing facilities will be improved.

Priority 1.5: Improvement of the Quality of Education and Health Services

Measure 1.5.1: Clinics that require advanced specialty will be generalized and the number of specialist physicians and hospital bed capacities will be increased. Diagnosis and treatment services will be improved in such clinical fields like plastic surgery, in vitro fertilization, nuclear medicine that are needed in the Region.

Measure 1.5.2: Effective provision of health services to those that face difficulties in accessing health centers especially to the rural population is a priority. Preventive health services will be generalized.

Measure 1.5.3: Home-care services and geriatric services will be generalized for the elderly and dependant people and the capacity of nursery centers will be improved.

Measure 1.5.4: Supportive services like ambulance boats and helicopter ambulances will be improved to provide effective health service transfer between the islands and the mainland.

Measure 1.5.5: Such efforts that will provide transition to a single-school day education format instead of double shift education will be supported in formal education institutions

Measure 1.5.6: Physical infrastructure will be developed in educational institutions to facilitate innovative educational works for education of gifted children.

Measure 1.5.7: Collaborations will be established with public education centers to increase the participation to life-long-education activities and the courses will be diversified upon request.

Measure1.5.8: Efforts will be carried out to establish new universities to meet the demand on higher education and to improve and generalize the educational quality in existing universities.

Measure 1.5.9: Establishment of informative technologies and distant-education centers will be encouraged to develop an information society. Such efforts to improve computer literacy and use of e-state applications will be supported.

DEVELOPMENT AXIS 2: LIVEABLE ENVIRONMENT AND SPACE

Preservation and improvement of environment and spatial quality is especially important for South Marmara Region whose economy, social life and development dynamics largely rely on the natural and cultural assets. On the other hand, location of the Region between Çanakkale Strait, Marmara and Aegean Seas and its proximity to important centers such as İstanbul, Bursa and İzmir underlines the importance of spatial developments and inter-provincial interactions for development of the Region.

One of the most fundamental aspects of the approach adopted in this plan is to ensure the sustainability of the natural resources. Reduction of environmental pollution, sustainable use of natural resources, elimination of environmental infrastructure deficiencies, management of risks arising from industrial and urban development through planned approach are main priorities on this subject.

Spatial development is designed to support the economic and social development and the sustainability. In this regard, main priority drivers of the spatial development are: a quality urbanization process, establishment of quality and safe professional and living spaces, utilization of concentrations to provide pace to economic development, enhancement of logistics, transport and communication infrastructure that will strengthen the functional connections between the outside and the settlements. One of the main forecasts for the spatial development of the Region is the principle of multi-centered development.

Priority 2.1: Planned Structure for the Industry at Suitable Areas

Measure 2.1.1: Industrial areas will not pose a risk to the spatial and life quality of the cities or to the development of agricultural or tourism sectors of the Region. These areas will be developed in a planned manner and the priority will be to develop the industry outside the fertile agricultural lands, tourism areas and meadows.

Measure 2.1.2: Instead of such districts with tourism development potential like Ayvalık, Gömeç, Burhaniye, Edremit and Ayvacık Districts in Gulf of Edremit Planning Sub-Region and Ezine, Çanakkale and Gelibolu Peninsula, Marmara and Erdek line and Gökçeada and Bozcaada Islands in Çanakkale Planning Sub-Region the industrial investments will be directed to Biga, Çan and Bandırma-Balıkesir line which are deemed as industrial development areas.

Measure 2.1.3: The polluting and dispersed industry's environmental impacts will be eliminated or the industry will be re-located outside urban settlement. The industry stocked in the settlement area will be re-located to appropriate places where it can be developed. The areas that become vacant or that changed the qualities will be transformed in a planned manner.

Measure 2.1.4: Any spatial arrangements on this account will be realized in collaboration with the industry, environmental and urban planning agencies, local administrations, chambers of industry, commerce, artisans and craftsmen and universities; the technical studies and strategy action plan studies will be carried out to serve as a basis for these works.

Measure 2.1.5: Small industrial sites that are located in city centers do not present any essential structural problem and do not need large-scaled environmental infrastructure and thus will be insulated from the city with smaller investments like green protection band which will ensure their compliance with environmental standards.

Priority 2.2: Protection of Environmental Assets and Improvement of the Infrastructure

Measure 2.2.1: Institutional capacities of local administrations on planning, project preparation and operation for infrastructure facilities that significantly reduce environmental damage like waste water treatment plants, sanitary landfills and sewage and planning works will be carried out.

Measure 2.2.2: Alternative solutions will be developed to obtain a more functional waste collection, logistics and waste exchange through collaboration with relevant authorities. R&D works on evaluation and recycling of waste will be encouraged.

Measure 2.2.3: Co-operations between chambers, exchanges, businessmen associations, organized industrial zone administrations, enterprises and universities will be strengthened to develop preliminary studies for industrial symbiosis applications which ensures sustainability and cost efficiency for the industry.

Measure 2.2.4: Auditing and monitoring works on industrial standards of enterprises will be carried out in an effective way. Such initiatives that promote environmentally friendly and economic products and production processes in developed markets will be supported to encourage volunteer environmental standards compliance by enterprises.

Measure 2.2.5: Organization and infrastructure development works to improve the waste water infrastructure of the tourism facilities that are located outside the settlements and thus do not have sewage connection will be realized to ensure such facilities satisfy the requirements of legal standards.

Measure 2.2.6: Collaborations will be established with local administrations and industrial site administrations so as to construct waste water treatment plants on sources of pollution like settlements and SISs.

Measure 2.2.7: In order to minimize waste water pollution generated by olive oil production common solutions will be developed jointly in cooperation with companies, producer associations, Edremit Olive Farming Institute and local administrations.

Measure 2.2.8: In order to ensure that the mining activities are held without damaging the ecological balance in consideration with the social sensitivities such efforts on urging the enterprises to adopt the standards set forth in the environmental and occupational health legislation as well as in environmental management systems like ISO 14001 will be encouraged. Also, monitoring and auditing activities on this sector will be carried out in a more effective manner.

Measure 2.2.9: Fight against industrial air pollution as well as mitigating measures for emissions generated by combustion systems and production processes will be generalized in cities especially in Bandırma, Çan and Biga districts. Use of unsuitable fuels will be reduced especially in Çan, Gelibolu, Çanakkale and Balıkesir Central Districts to fight against heating-based air pollution, use of renewable energy resources and environmentally friendly fuels will

be propagated and settlement areas will be designed to allow air flows in a healthy way. Awareness raising and educational programs targeting operations, building managements and stokers will be provided.

Measure 2.2.10: Farmers will be informed about sustainable agriculture applications to prevent agriculture-based pollution. In such districts like Bandırma and Gönen where the animal husbandry operations generate high amount of biomass waste, the farmers and enterprises will be encouraged to generate their own energy.

Measure 2.2.11: Universities and relevant stakeholders will collaborate to study, protect and evaluate the biodiversity and genetic resources.

Measure 2.2.12: The co-operation between field offices of central government, local administrations and universities will be enhanced so as to improve and effectively implement sustainable management for water basins, to minimize water pollution and to improve and employ National Monitoring Network and Database on Water Resources and new strategies in line with the basin protection action plans will be created and implemented.

Priority 2.3: Increasing Energy Efficiency and Disseminating Cleaner Production Applications

Measure 2.3.1: Environmentally friendly, heat insulated and high energy effective building systems will be generalized starting from the public buildings. Construction of green buildings will be encouraged based on feasibility principle.

Measure 2.3.2: Awareness raising and information dissemination campaigns will be organized for cleaner production, energy efficiency and industrial ecology in cooperation with NGOs, local administrations, universities, public agencies and organizations as well as other concerned parties.

Measure 2.3.3: Efforts aimed at reduction of water and energy consumption in enterprises, transition to cleaner production technologies that ensure recycling of bi-products and dissemination of co-generation, micro-generation and trigeneration applications by means of power generation based on waste heat in the industry will be supported and the facilities will be encouraged to generate their own license-free electricity on renewable resources.

Measure 2.3.4: Researches will be carried out on developing cleaner production and energy efficiency methods applicable for sub-sectors that are intensive with industrial enterprises and innovative approaches will be supported.

Priority 2.4: Management of Natural Risk Factors

Measure 2.4.1: Capacities of local administrations will be improved and co-operation and common platforms will be established between relevant organizations and authorities for preparation and implementation of preservation plans.

Measure 2.4.2: Education programs will be organized in collaboration with relevant organization to improve individual awareness and consciousness of disasters.

Measure 2.4.3: Capacities of the local administrations, relevant organizations and authorities will be improved and co-operation initiatives will be supported to ensure correct planning and implementation of land use decisions to minimize earthquake-related risks, to improve earthquake resistance of the buildings and to prevent settlements in risk zones.

Measure2.4.4: Dam construction and stream rehabilitation works will be investigated and settlement in stream beds and other risk zones will be prevented to avoid floods and overflows.

Measure 2.4.5: Afforestation and erosion control activities will be accelerated.

Measure 2.4.6: Coordination between relevant organizations will be strengthened to ensure that necessary measures are taken and trainings are given to the employees so as to avoid occupational accidents.

Priority 2.5: Improvement of Physical and Social Environment in Urban Areas

Measure 2.5.1: Spatial development and urbanization will be addressed in line with the development priorities of the Region as set forth in this plan. Urban planning will be handled in accordance with participatory and integrated planning approach as appropriate for the urbanization principles. Studies towards improvement of urban infrastructure will be carried out in accordance with urban development plans.

Measure 2.5.2: Rehabilitation and urban renewal works will be implemented to ensure improvement of qualities of existing residence and business zones and mobilization and rehabilitation of urban decay areas. The works on this subject will be executed in strong participation by the residents and will highlight the functional and design values and will preserve and protect the natural and cultural assets in consideration with local characteristics, urban aesthetics and profile.

Measure 2.5.3: Capacity of local administrations as well as coordination and collaboration between the organizations will be improved on the subjects of environmental development, urban rehabilitation and renewal.

Measure 2.5.4: Mass housing projects will be realized in a user-oriented, environmentally friendly manner that addresses economic and social needs. Islands and districts in inner parts of the Region will be prioritized for such projects.

Priority 2.6: Strengthening Logistics, Transportation and Communication Networks

Measure 2.6.1: Logistics and transportation infrastructure will be handled as a main item for spatial and urban development. The infrastructure will be designed in consideration with national policies and large-scaled investments.

Measure 2.6.2: Possible impacts of large-scaled transportation investments on traffic flow, industrial and urban development of the Region will be investigated in collaboration with investors, municipalities and universities. To this end, analysis, planning and project preparation capacities of local administrations will be improved.

Measure 2.6.3: Coordination between central and local administrative departments will be strengthened to ensure a better integration of Balıkesir Gökköy Logistics Village with various means of transportation.

Measure2.6.4: Land road connections between Balıkesir and Çanakkale and between the districts and city centers will be strengthened through motorway investments.

Measure 2.6.5: The land road connection between Gulf of Edremit Planning Sub-Region and Bandırma Planning Sub-Region will be improved and road quality on Gönen-Yenice-Edremit axis will be enhanced.

Measure 2.6.6: Inter-agencies coordination will be strengthened so as to improve the maritime transportation between coastal cities, including those surrounding the Region and especially transportation to Gökçeada, Bozcaada and Marmara Islands.

DEVELOPMENT AXIS 3: STRONG ECONOMY AND COMPETITIVE SECTORS

In order to achieve a more effective and competitive regional economy, not only the companies but also the regional economy itself shall obtain a more innovative, highly qualified, effective structure that has strong links with international markets. From the viewpoint of this approach, in order to accelerate development of priority sectors and those with specialization potential the focus will be on increase of R&D and innovative capacity, branding and standardization, development of industrial infrastructure and strengthening the contacts with foreign markets. Clustering approach will be taken for development of said sectors. Thus, in consideration with the conditions of the public sector and demand, the R&D institutions and other supportive services along with other various links of the production chain, as well as the strategies for strengthening competitive capacity and for improving the collaboration between the sectors shall be addressed on a cluster basis.

Another focal point of the economic development is to achieve a more appropriately proportioned production structure. The region hosts many small scaled family enterprises surrounding some large scale facilities. There are relatively few medium-sized enterprises which indeed constitute important organs for intra-sectoral and inter-sectoral integration. On the other hand, as a nation-wide problem, small-scaled agricultural establishments dominate the region as it presents rural characteristics. In order to improve the institutional capacity of the local enterprises and to enjoy the benefits of the economy of scale, enlargement and institutionalization of the companies as well as clustering of small-sized agricultural land titles into larger lots will be encouraged and special focus will be put on strengthening collaborations between the companies and producers.

Economic development policies are based on certain sectoral preferences. In agriculture, it is aimed to increase the yield and the quality as this sector is one of the leading economic activity fields. Integrated development of tourism will be prioritized in consideration with alternative sub-types and diverse regional varieties. Another important planning targets of this period is to develop rich natural stone and mineral resources of the region and to market value-added products instead of raw materials. Southern Marmara Region has the largest renewable energy potential and installed power in Turkey. The region presents a clear specialization capacity in renewable energy technologies sector. Therefore, one of the main regional targets is to ensure a total development in this sector through cooperation between universities-industry-public and civil society so as to ensure conversion to high-tech sectors.

It is expected that the industrial development of the Region will be affected by entrepreneurship from both extra- and intra-regional sources. When the necessary infrastructural works, especially transportation works completed, the Region will become a center of attraction for investors and will become a major target for decentralization of İstanbul's industry. In order to preserve and protect the rich natural and cultural values of the Region, the industrial investments must be realized in an environmentally sensitive manner. In this respect, most significant industrial policy concerns that the investments be channelized towards the industrial development axis of the Region and located on planned areas like OIZs. In order to maintain the profile of the Region as a livable environment and space environmental sustainability will be observed during all efforts related to attracting investors to the Region and supporting entrepreneurship. Also, high-tech environmentally friendly investments will always have priority.

Priority 3.1: Improvement of Efficiency and Quality in the Agricultural Sector

Measure 3.1.1: In order to facilitate the agricultural enterprises' transition to appropriate scales land consolidation activities will be coordinated and the animal husbandry enterprises will be encouraged to expand their sizes. Furthermore awareness raising activities will be organized for agricultural stakeholders.

Measure 3.1.2: Transition from open irrigation systems to closed pressurized systems will be encouraged and awareness raising activities on modern irrigation techniques will be organized.

Measure 3.1.3: Use of certified seed, seedlings and animal materials with high breeding value will be increased. The varieties that are/can be well adapted to the Region will be promoted and disseminated. Furthermore, use of domestic seeds will be encouraged. Climatic advantages of the Region will be utilized to further develop vegetable seed production.

Measure 3.1.4: Greenhouse cultivation will be disseminated and especially the greenhouses based on geothermal energy resources will be encouraged. Feasibilities will be prepared for geothermal greenhouse activities.

Measure 3.1.5: Inter-agencies coordination will be strengthened to rehabilitate and develop pasturelands.

Measure 3.1.6: The cooperation between farmers' organizations, commodity exchanges and food enterprises will be strengthened to disseminate the contracted production model.

Measure 3.1.7: Licensed livestock markets will be established in optimum numbers in such districts with intensive animal production in consideration with the size of the market and accessibility to the market by the producers.

Measure 3.1.8: Licensed storage applications and cold storage houses will be disseminated and the existing storages will be improved.

Measure 3.1.9: In order to preserve and protect the environment and natural resources and to ensure sustainable production, farmers' knowledge on organic production and good farming practices will be increased. Suitable locations for organic farming will be determined and encouraged in the Region.

Measure 3.1.10: The food enterprises will be informed about international quality and production standards and will be encouraged to obtain such certifications so as to improve their competitive strength in international markets. Action plans will be prepared to increase the exportation of such products that present competitive superiority in international markets. The orchards of such fruits with high export capacities like cherries, apples or almonds will be improved to satisfy the export standards.

Measure 3.1.11: Necessary steps will be taken to establish a joint accredited laboratory in the Region so as to conduct quality controls of agricultural and animal products within the Region.

Measure 3.1.12: The animal husbandry enterprises will be encouraged to generate their own electricity. For this purpose, the stakeholders will be informed about establishment of biogas facilities that provide efficiency and profitability.

Measure 3.1.13: Processing and packaging of the agricultural goods within the production center will be encouraged. Specialty organized industrial zones will be established for agriculture based industry.

Measure 3.1.14: Marketing strategies will be developed for leading products like olives and olive oils. Support will be provided for Bay Olive Oil to improve added value through packaging and branding applications. Coordination will be ensured between promotion groups so as to provide national and international promotion for the olive oil.

Measure 3.1.15: Works will be carried out on collection and cultivation of medicinal and aromatic plants, extraction of their essential oils, drying, packaging and marketing.

Measure 3.1.16: Market places for local agricultural products located on the roads frequently used by tourists and in villages and districts will be made more attractive and registered and under monitoring.

Priority 3.2: Improvement of Tourism Sector

Measure 3.2.1: Priority areas for tourism development are as follows: Ayvalık, Gömeç, Burhaniye, Edremit, Ayvacık in Gulf of Edremit Planning Sub-Region; Ezine, Çanakkale and Gelibolu Peninsula in Çanakkale Planning Sub-Region; Marmara and Erdek line and Gökçeada and Bozcaada Islands. The cooperation will be established and/or strengthened between ministries, field offices, local administrations and actors from tourism sector to minimize the negative impacts of the industry on these areas and the boundaries of the areas with protection status will be determined on maps and GIS (Geographical Information Systems) infrastructure to prevent uses outside the intended purposes.

Measure 3.2.2: Furthermore, efforts will be made to announce appropriate locations within tourism priority areas as "Tourism Centers" or "Culture and Tourism Preservation and Development Regions".

Measure 3.2.3: Quality facility investments that do not harm the natural and cultural characteristics of the Region will be prioritized.

Measure 3.2.4: Domestic and international promotional activities will be carried out. These efforts will focus on region/city/product images and brands within the scope of diverse strategies developed in cooperation with relevant institutions and organizations. The promotional activities will also be diversified according to tourist profiles and target markets.

Measure 3.2.5: The works on improving the physical condition of the Gelibolu Peninsula Historical National Park will be prioritized and awareness raising campaigns will be organized for protection of historical fabric of the Park.

Measure 3.2.6: Within the scope of 100th Anniversary of Çanakkale (Dardanelles) Battles, works will be carried out in coordination with relevant authorities/agencies especially with Çanakkale 2015 Coordination Center to promote the Region at international scale.

Measure 3.2.7: Researches and promotion activities will be carried out to become a leading region in thermal tourism. Investments on this field will also be supported.

Measure 3.2.8: Local collaborations and initiatives including private sectors and NGOs will be realized to develop a series of tourism initiatives: establishment of hiking and mountain biking routes and camping facilities on Kazdağları (Ida) Mountain, Alaçam Mountain and other appropriate areas; development of village tourism activities and hunting tourism in licensed areas to provide income generation opportunities for mountain villages; development of diving and water sports facilities in coastal areas; windsurf in Gökçeada, diving activities to shipwrecks in Çanakkale Strait, development of ornithology in Manyas Bird Paradise.

Measure 3.2.9: Feasibility works will be carried out for developing health tourism in such areas with climate advantages like Mount Ida, Alaçam Mountains and Gökçeada Island. Main objective is to establish treatment, rehabilitation and long-term care centers on these areas to attract the increasing demand of aging and unhealthy population at global level.

Measure 3.2.10: Infrastructure works for sports tourism will be completed and further activities to develop this type of tourism will be realized.

Measure 3.2.11: The number of tourists will be increased by way of re-arranging the natural, historical and cultural heritages as well as historical sites, restoring and improving their landscaping and then opening them to tourism in cooperation with provincial directorates of culture and tourism.

Measure 3.2.12: Furthermore studies will be conducted to bring secondary houses to the tourism when they are not used by proprietors.

Measure 3.2.13: Further studies will be encouraged to turn such cultural and historical assets like Kurtdereli Wrestling Championship, Yağcıbedir Carpets, Gelibolu Mevlevi Lodge and Barana Conversation Meetings into touristic values.

Measure 3.2.14: Alternative agricultural activities like Agro-tourism and rural tourism will be introduced to farmers and other relevant stakeholders. In this respect, thematic villages featuring local lifestyle and products will be established.

Measure 3.2.15: Such efforts that aims at increasing the tourist flow between Greek Islands and Turkish Islands in Aegean Sea and mainland in consideration with foreign affairs and culture-tourism policies, changing the profile of the tourists to ensure practice of high-quality and value added tourism activities, creating international cooperation to increase institutional and workforce capacity in the field tourism and developing entry point applications will be encouraged.

Priority 3.3: Improvement of Institutional Infrastructure of Enterprises

Measure 3.3.1: The information technologies infrastructure will be improved and disseminated among enterprises and business organizations to allow enterprises' access to national and international markets and knowledge.

Measure 3.3.2: Clustering studies and activities will be carried out in collaboration with relevant agencies to improve co-operation culture as well as the competitive strength between

the companies. Furthermore, necessary steps to ensure that these clusters and the companies therein are supported by national and international incentives and support mechanisms.

Measure 3.3.3: Relationship and co-operation between universities-industry-public sector-civil societies will be strengthened to carry out joint projects for development of the Region or sectors.

Measure 3.3.4: Technical support will be provided to improve the organization structure and human resources policies of the enterprises in parallel with their capacity increase in renovation and export.

Measure 3.3.5: The enterprises' national and international product, services and quality certifications will be encouraged to improve their access to markets and competitive strength.

Priority 3.4: Improvement of R&D, Renovation and Branding

Measure 3.4.1: High-tech sectors with extensive international markets in which the Region can obtain competitive advantages will be determined and R&D activities on these sectors will be generalized. R&D, renovation and branding activities will be accelerated especially in renewable energy based technology sectors.

Measure 3.4.2: In order to improve the R&D potential and technology creation capabilities of the Region, techno parks will be put into action and R&D and renovation centers will be developed through execution of feasibility and project preparation works.

Measure 3.4.3: Direct capital investments with high level of technology will be attracted to the Region.

Measure 3.4.4: Training courses on renovation, branding and patenting will be provided and generalized by public and civil organizations.

Measure 3.4.5: SME activities will be encouraged for branding and original designing activities as well as for the improvement of R&D and renovation capacities.

Measure 3.4.6: Such efforts to present traditional products with export potentials like dairy products, olive and olive oil to international markets through R&D, geographical indications,

production of new products bearing marks and branding will be encouraged. Unions of producers will be mobilized to create joint marketing networks.

Measure 3.4.7: In order to turn minerals into high value added products R&D studies aimed at expanding their usage area in the industry will be carried out.

Measure 3.4.8: R&D and renovation activities that address green growth opportunities which observe environmentally friendly production with improved competitive strength will be employed to develop new business opportunities.

Priority 3.5: Improvement of Foreign Trade

Measure 3.5.1: Effective information on opportunities, market conditions and foreign trade legislation of specific countries will be provided to entrepreneurs seeking opportunities to do investment and business in external markets.

Measure 3.5.2: Standardization and certification practices will be disseminated to support initiatives of companies towards compliance with standards of external markets.

Measure 3.5.3: Branding and marketing strategies will be created for products that present a potential to increase demand in global markets.

Measure 3.5.4: International co-operation, promotion and marketing capacities of the companies will be improved and participation to international exhibitions and fairs will be supported. In order to achieve stability in these activities, development of cooperation organizations will be supported.

Measure 3.5.5: Support will be provided for efforts to establish free zones with neighboring other countries to increase cross-border commerce and investments.

Priority 3.6: Improvement of OIZs to Satisfy Needs of the Industry

Measure 3.6.1: Industrial agglomerations within the city centers and tourism centers will be re-located to OIZs and OIZs will be expanded where necessary. Support will be provided for assignment of appropriate locations to investors in accordance with the nature of investment in such places where OIZs cannot be established.

Measure 3.6.2: Deficiencies of OIZs in terms of natural gas and telecommunication infrastructure, waste disposal facilities, water distribution grids, storm water installations, fire water, sewage, road infrastructures and superstructures will be rapidly eliminated.

Measure 3.6.3: Investors will be firstly directed to OIZs to increase the occupancy rates in OIZs especially in specialty OIZs.

Measure 3.6.4: Establishment of new specialty OIZs like agriculture-based industry, animal production or renewable energy will be encouraged and researches will be conducted on this subject.

Measure 3.6.5: Infrastructure works for Gönen Leather Specialty OIZ and Burhaniye Olive and Olive Products Processing Specialty OIZ will be rapidly completed to ensure fast commissioning of these areas.

Priority 3.7: Improvement of Renewable Energy Sector

Measure 3.7.1: Awareness raising activities will be organized in public and industrial organizations on the subjects of energy efficiency and cleaner generation to encourage energy saving.

Measure 3.7.2: Feasibility studies will be carried on use of renewable energy resources like wind, geothermal and biomass by institutions, enterprises and residences and use of renewable energy will be encouraged.

Measure 3.7.3: Works will be carried out to increase and improve the companies engaged in production of renewable energy systems. New investments will be attracted to Region and a cluster will be established for this sector.

Measure 3.7.4: Cooperation will be established with the universities and provincial directorates of national education to establish departments and a research institute providing education on renewable energy in higher education and secondary education institutions.

2 SPATIAL DEVELOPMENT SCHEME

Contrary to general tendency in other Level 2 Regions, the TR22 Region presents a multi-centric growth tendency in which the human and economic capital is not concentrated in a single center but dispersed to different locations of the Region. This situation is perfectly in line with the "Multicentric Spatial Development and a New Urban-Rural Relationship" main priority of the "European Spatial Development Perspective" (ESDP), which was published with the subtitle "Towards Balanced and Sustainable Development of the Territory of the EU" on 1999. Multicentric spatial development is also a policy highly stressed in NSRD. Even though there are a high number of districts which can be qualified as rural settlement in terms of population size and services provided, this tendency of the Region provides a great advantage for balanced development.

TR22 Region's Planning Sub-Regions were determined within the scope of district workshops as a part of preparations for Regional Plan. This study considered spatial re-distribution of the population, migration status, flow of commodities, services and capital between settlements and mobility between the business life and living spaces. Only a certain part of variables that represent the development dynamism of districts was obtained which affected and limited the results of this study. However, the multi-centric growth tendency of the Region was also proved by the survey results.

The settlement areas in the Region were handled in terms of functionality on the basis of social and economic relationships. As a result, TR22 South Marmara Region has been divided into four Planning Sub-Regions which are; Bandırma Planning Sub-Region, Çanakkale Planning Sub-Region, Balıkesir Planning Sub-Region and Gulf of Edremit Planning Sub-Region.

Figure 105: Planning Sub-Regions of TR22 Region
Source: SMDA Office Work, 2013

Bandırma Planning Sub-Region; this section includes Bandırma, Biga, Lapseki, Gönen, Manyas, Erdek and Marmara districts. In geographical terms, the most advantaged city of the Region is Bandırma. Having a population around 140.000, Bandırma constitutes a sectional center since it is located on coastal line and has large ports which provide constant interaction with İstanbul and Bursa. Biga and Gönen, on the other hand, constitute lower centers and Lapseki constitutes a local center within this Sub-Region. Bandırma and Karabiga ports are important ports for the Region and are located in this Planning Sub-Region. Bandırma is also a notable industrial center in Turkey. Biga is also a district with improved industry and constitutes a center of attraction for industry. It is expected that İstanbul's industry will move to this Sub-Region. Gönen is a notable district for its dairy and leather industry and thermal tourism while Erdek and Marmara Districts are known for seasonal tourism. It is planned that Gönen will follow a dual development both in industry (by attaching to Bandırma-Biga axis) and in tourism (by strengthening connections with Erdek and Marmara Districts).

Figure 106: Bandırma Planning Sub-Region
Source: SMDA Office Work, 2013

Gulf of Edremit Planning Sub-Region; This Sub-Region includes Edremit, Ayvalık, Burhaniye, Havran, Ayvacık and Gömeç districts. Edremit will serve as the regional center while Ayvalık and Burhaniye will constitute the sub-centers. Edremit is not only an important center for the Region but also a tourism focal point in Turkey. Other districts of the Sub-Region are known for their touristic profiles. Furthermore, all of the districts in the Sub-Region host enterprises that produce significant amounts of olive and olive oils. In this respect, Gulf of Edremit Planning Sub-Region is very suitable for agro-industrial and tourism investments. Pollutant industries, however, constitute a threat against natural, historical and cultural values of the Sub-Region. This planning section is the hearth of tourism which is a major sector for the Region. Located on the tourism corridor that starts from Thrace and extends to İzmir through Gelibolu Peninsula and Çanakkale, the Gulf will become an important touristic destination through efforts to be carried out within this planning period.

Figure 107: Gulf of Edremit Planning Sub-Region
Source: SMDA Office Work, 2013

Çanakkale Planning Sub-Region; This section includes Çanakkale Central District, Çan, Yenice, Bayramiç, Ezine, Eceabat, Gelibolu, Gökçeada and Bozcaada Districts. Çanakkale is the main center of this Sub-Region as well as services center for the Region. Çan is a local center for this Sub-Region and also known for its ceramic industry. Other cities of the Sub-Region feature agriculture and agro-industry sectors while fishery and tourism activities are main means of livelihood in Çanakkale, Gökçeada, Bozcaada and Ezine Districts. Çanakkale is located on a tourism corridor that includes Gökçeada and Bozcaada and is planned to develop as tourism and services city through strengthening its transport connections within this planning period.

Figure 108: Çanakkale Planning Sub-Region
Source: SMDA Office Work, 2013.

Balıkesir Planning Sub-Region; the Sub-Region includes Balıkesir, Susurluk, Bigadiç, Sındırgı, Dursunbey, Kepsut, İvrindi, Balya and Savaştepe districts. Balıkesir serves as the sectional center while Susurluk, Bigadiç and İvrindi are local centers. Being a transition city with industrial potential, Balıkesir is a services center at both levels. In the districts of the Sub-Region, most notably in Susurluk, poultry sector and milk and dairy products production are very advanced. Balya, Bigadiç, Sındırgı and Dursunbey districts of the Sub-Region also host the most significant mineral reserves of the Region. On the other hand forestry sector in Balıkesir and Dursunbey is also noteworthy. The Sub-Region intensively interacts with Soma and Akhisar Districts of Manisa Province and Tavşanlı District of Kütahya Province. When Gebze-Orhangazi-İzmir motorway is completed, industrial development in Balıkesir will be affected and the development of this Sub-Region will be triggered.

Figure 109: Balıkesir Planning Sub-Region
Source: SMDA Office Work, 2013.

Upon spatial examination of the Region, it is seen that geography plays an important role in socio-economic development of the cities. Nonetheless, it is equally evident that the cities may present very different development patterns despite geographical similarities. On the other hand, large part of the cities on the coastal line of the Region present a much advanced development compared to inner parts. Bandırma, Biga, Gönen, Edremit, Ayvalık, Burhaniye and Gelibolu are located on the coastal line and have the highest level of socio-economic development within the Region. Contrary to this, Eceabat, Erdek, Ezine, Lapseki, Ayvacık and Gömeç are also located in the coastal line yet have higher rural population and lower development compared to other cities in the Region. It is considered that this difference in development levels despite geographical similarities is a result of differences in interaction with other cities and deficiencies in realization of internal potential. Level of development of districts located in inner parts of the Region such as Dursunbey, Sındırgı, Bigadiç, Balya, Kepsut, İvrindi, Havran, Savaştepe, Manyas, Bayramiç and Yenice are relatively lower than the rest of the Region. Susurluk and Çan, however, are exemptions with concentrated industry despite having high rural populations. Another characteristic that separates the Region from all other regions is the fact that the 3 largest islands (i.e. Gökçeada, Marmara and Bozcaada

Islands) of Turkey are also districts of the Region. Due to their special location, these islands were addressed separately and defined as regions with specific strategies in the situation analysis.

The Region is located on the main development corridor of Turkey in between Bursa and İzmir which are large focal points for industrial development.[201] Located on the hinterland of İstanbul and İzmir, the Region's connection to İstanbul and surrounding area will be further strengthened when the North Marmara Highway is put into service. Kınalı- Tekirdağ- İzmir Motorway, on the other hand, will strengthen the connection between the Region and Thrace thus facilitating Region's access to the rest of the world. For this reason, the Region is located on international land road corridor according to NSRD schemes. On the other hand, Balıkesir is an important transit point of high-speed railway network which is planned to be completed by 2023. With this railway network, access to the Region will become very easy from İstanbul, Ankara and İzmir. Existence of high number of secondary houses in the Region results in hindering the tourism potential of the Region. According to national spatial development schemes, TR22 Region is classified as "Middle Income Level Transformation Region" which indicates that the Region has a low socio-economic development level compared to other regions west of Ankara.

The spatial development scenario of the Region was designed in consideration with the following:

1) The Region has four developed cities. These are: Balıkesir and Çanakkale Central Districts, which have developed services sectors as central districts, Bandırma, which is the focal point of industry and services in north and Edremit, which is a touristic focal point in southern coast of the Region.
2) Two road projects will play important roles in forming the spatial organization of the Region. These are: North Marmara Highway Project, which is expected to be commissioned soon and which will reach İstanbul through Karacabey-Gebze axis and Kınalı-Tekirdağ-İzmir Motorway, which is planned to be completed before the end of the planning period.

[201]NSRD Draf, Spatial Development Scheme

3) The Region is very rich in natural and historical beauties. Large part of the Region's lands are located on nature-sensitive areas and host four national parks and many other natural and historical protection areas.

In this planning period, it is expected that the Region will start to employ modern methods in agriculture and industry to obtain high added value products. Also, it is assumed that the Region will be one of the regions that will be affected most by decentralization of İstanbul's industry. During this transformation period, instead of allowing the industrial facilities to choose random locations on industrial development axes which will not provide any effective, sustainable and planned operation, the investments will be channelized to OIZs to increase their occupancy rates which are still low.

TR22 Region is located right between the cities with excessively developed industry which now presents an outwards tendency. The Region stands out with its geographical location and easy access for the research of the industry for a new location. During the planning period, the industry that will come to the Region must be channelized to appropriate locations so as to ensure sustainable industrial development without harming livability of the Region.

Gelibolu Peninsula, Çanakkale, Ezine, Ayvacık, Gökçeada, Bozcaada, Edremit, Burhaniye, Gömeç, Ayvalık coastal line and Marmara, Erdek line will be the centers of development for tourism. It is also anticipated that among these districts, Ayvacık, Edremit, Burhaniye, Gömeç, Ayvalık line will also be center of olive and olive oil-based agro-industry.

The prior development area of the industry in TR22 Region will be Bandırma, Biga, Çan, Gönen line and the OIZ and surrounding areas in Balıkesir Central District. OIZ infrastructure will be completed in these development areas to provide suitable investment sites for the investors. In order to provide suitable places for industrial development, surface areas of OIZs in these locations will be expanded and new OIZs will be established when needed. Special attention will be paid to establishment of specialty OIZs among new OIZs. Clustering principle will be applied for all aspects of these works. Another important effort for industrial development during the planning period will ensure relocation of unplanned industrial areas within the residential areas to planned locations outside the residence settlements and especially to OIZs and surrounding areas in the central districts. Industrial investments planned in tourism-intensive areas will be channelized by relevant organizations to OIZs or

other suitable locations for industrial development. Any new investment on agro-industry will be reviewed by relevant authorities in detail and only be realized upon review. Utmost attention will be paid to the measures to be taken to avoid any damage to environment by the industry.

Necessary steps will be taken to declare such tourism development areas of the Region with high tourism potential like Gulf of Edremit Coastal Line, Gelibolu, Bozcaada, Gökçeada, Ezine Coastal Line and Ayvacık District's Coastal Line as "Culture and Tourism Preservation and Development Centers". When the Culture and Tourism Preservation and Development Centers are identified, the planning works will be finalized to preserve and protect the historical fabric and natural assets of the Region. Pollution of the Region by the industry will be strictly avoided and urban planning will be based on a planned and tourism-prioritized approach.

This plan is the very first long term study for the Region and therefore bears a special importance. During this planning period the environmental impacts of economic and social developments will be considered to protect the qualities of the natural resources. Furthermore, efforts will be put forth to coordinate this Regional Plan with the plans of other agencies as well as those of other institutions and organizations in the Region.

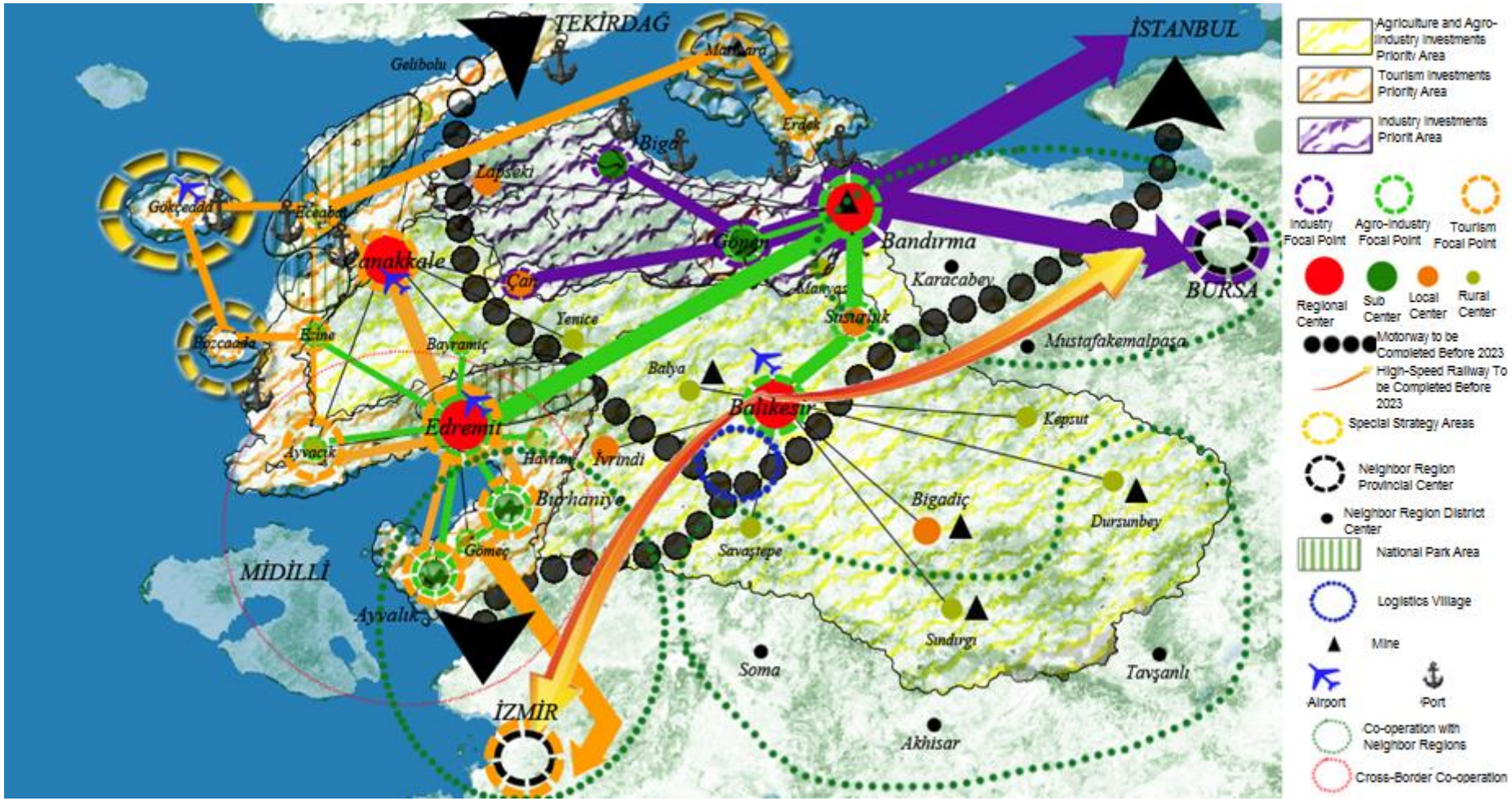


Figure 110: TR22 Region Spatial Development Scheme

Source: SMDA Office Work, 2013.

3 FINANCING

In order to achieve the targets and objectives identified in the Regional Plan, various financing resources will be mobilized. Such financing resources to be mobilized during implementation of the Regional Plan include: public investments, supports and loans provided by central public institutions, investment incentives, resources of local administrations, private sector and civil society investments and co-financing, support programs to be implemented in the Region and funds, grants and loans to be provided by EU and other international organizations.

Effectiveness in using financial resources is a principle that will apply to all processes. Resources and supports to be provided at regional and local levels will be used as supplementary to the resources to be provided by central governmental agencies. Duplications in supports and practices will be avoided at the maximum extent.

4 PERFORMANCE INDICATORS

AXIS – 1 QUALITY SOCIAL LIFE AND QUALIFIED PEOPLE	
Priority 1.1. Improvement of Human Resources	• Number of education programs on priority sectors opened in vocational education institutions and universities (quantity) • Number of vocational courses opened (quantity) • Number of people trained in vocational courses (number of people) • Number of certificates issued in vocational courses (quantity)
Priority 1.2. Improvement of Entrepreneurship	• Number of training activities on entrepreneurship (quantity) • Number of female entrepreneurs in the Region (number of people) • Mentorship activities towards entrepreneurs (quantity) • Number of centers engaged in entrepreneurship activities (quantity) • Number of enterprises came into operation (quantity)
Priority 1.3. Improvement of Employment and Income Distribution	• Workforce participation rate (%) • Non-agricultural employment rate (%) • Unemployment rate (%) • Women's participation to workforce (%) • Change of Gini Coefficient (%) • Number of employees registered in social security system (number of people) • Number of sector associations opened (quantity) • Flexible employment rate (%)
Priority 1.4. Social Cohesion and Social Facilities	• Number of project supports oriented for disadvantaged groups (quantity) • Total amount of the project supports for disadvantaged groups (TRY) • Number of activities organized for disadvantaged groups

	(quantity) • Number of service centers opened for disadvantaged groups (quantity) • Number of trainings provided for disadvantaged groups (quantity) • Number of urban arrangements for disadvantaged groups (quantity) • Number of cultural centers in the Region (quantity)
Priority 1.5. Improvement of the Quality of Education and Health Services	• Pre-school education enrollment rate (%) • The number of pre-school institutions (quantity) • Participation rate in lifelong learning activities (%) • The number of lifelong learning courses opened (quantity) • The number of certificates issued in lifelong learning courses (quantity) • Proportion of the population per University (%) • Number of hospital beds per ten thousand people (quantity) • Number of advanced specialty policlinics (quantity) • Number of specialist physicians per ten thousand people (number of people) • The number of sea ambulance and helicopter ambulances (quantity) • The number of schools devolve on single-shift-school day from double-shift school day (quantity) • Number of specific activity areas opened in schools (quantity)
AXIS – 2	
LIVABLE ENVIRONMENT AND SPACES	
Priority 2.1. Planned Structure for the Industry at Suitable Areas	• Surface area of new Organized Industrial Zones (m^2) • The number of enterprises established in the Organized Industrial Zones (quantity) • The number of enterprises moved to Organized Industrial Zones (quantity)

	• The green protection belts used around the industrial areas (m^2)
Priority 2.2. Protection of Environmental Assets and Improvement of the Infrastructure	• The ratio of total population served by waste water treatment plants (%) • Rate of connection to waste water treatment plants by OIZs (%) • The amount of waste taken to sanitary landfills (tons) • The ratio of total population receiving solid waste disposal services from local administrations (%) • Number of trainings to create awareness on the subject of environment (quantity) • The number of natural gas subscribers (quantity) • The number of enterprises with Environmental Management System certifications (quantity) • Investments on environmental protection infrastructures in SISs and OIZs (TRY)
Priority 2.3. Increasing Energy Efficiency and Disseminating Cleaner Production Applications	• The number of buildings constructed with high energy efficiency (quantity) • Number of enterprises employing cogeneration, micro generation and trigeneration applications (quantity) • Number of researches for determining cleaner production and energy efficiency methods (quantity) • The amount of investment in cleaner production and energy efficiency applications (TRY)
Priority 2.4. Management of Natural Risk Factors	• Afforestation areas (m^2) • Number of awareness-raising activities carried out under Disaster Response efforts (quantity) • The number of participants who will attend the awareness-raising meetings to be held (quantity) • Number of researches for determining disaster risks in the Region (quantity) • The amount of investments for preventing the negative effects of

	disasters (TRY) • Number of houses and workplaces under compulsory earthquake insurance policies (quantity)
Priority 2.5. Improvement of Physical and Social Environment in Urban Areas	• The amount of space subject to urban renewal (ha) • Number of approved development plans (quantity) • Number of social and cultural areas created (quantity) • The amount of green space per capita (m^2) • The number of environmentally conscious housing (m^2)
Priority 2.6. Strengthening Logistics, Transportation and Communication Networks	• The number of Internet subscribers (quantity) • The amount of investments in transport infrastructure (TRY) • The total length of divided highways (km) • The total length of motorways (km) • The total length of asphalt covered village roads (km) • The number of airway passengers transported (number of people) • Number of airway destinations (quantity) • The number of maritime passengers transported (number of people) • The number of cruise passengers (number of people) • The amount of freight moved by rail (tons) • The number of railway passengers transported (number of people) • The amount of cargo handled at ports (ton, TEU)
AXIS – 3	
STRONG ECONOMY AND COMPETITIVE SECTORS	
Priority 3.1. Improvement of Efficiency and Quality in the Agricultural Sector	• Amount of revenues generated from sales of agricultural and agro-industrial products (TRY) • Amount of export revenues generated from sales of agricultural and agro-industrial products (TRY) • Number of product varieties exported (quantity) • Total surface area of consolidated lands (ha)

	• The number of enterprises using pressurized irrigation systems (quantity) • Usage rate of domestic and certified seeds (%) • Irrigated lands (m^2) • Green housing lands (m^2) • Treated pasture lands (ha) • Number of licensed warehouses and cold storage facilities established (quantity) • Number of accredited quality control laboratories established (quantity) • Amount of energy generated in biogas plants (MWh) • Total surface area of organic farming fields (m^2) • Number of promotional activities on agriculture and agro-industry (quantity)
Priority 3.2. Improvement of Tourism Sector	• The number of foreign tourists visiting the Region (number of people) • The average occupancy rate of the accommodation facilities (%) • Average overnight stay times (quantity) • The number of 4 and 5 stars hotels established in the Region (quantity) • The number of thermal tourism accommodation facilities established in the Region (quantity) • The number of secondary houses brought to the tourism (quantity) • The number of alternative tourism projects (quantity) • The number of activities for promotion of the Region (quantity) • Amount of investments in cultural assets for tourism purposes (TRY) • The number of tourism centers (quantity) • Region's share in tourism investments (TRY) • The number of tourism incentive certificates obtained (quantity)

	• Amount of investments in health tourism (TRY)
Priority 3.3. Improvement of Institutional Infrastructure of Enterprises	• The number of enterprises who are members of national and international cooperation networks (quantity) • Amount of investments in information and communication technology use (TRY) • The number of white collar employees in enterprises (number of people) • The number of researches about clustering (quantity) • The number of clusters established (quantity) • The amount of support received by Clusters (TRY) • The number of projects carried out on cooperation between university-industry-government-civil society (quantity) • Number of joint-stock companies established (quantity) • The number of quality and production certificates received (quantity)
Priority 3.4. Improvement of R&D, Renovation and Branding	• The amount of R & D spending (TRY) • Number of technological parks established in the Region (quantity) • The number of enterprises operating in the Techno parks (quantity) • Number of R & D staff (number of people) • The number of high- and medium -tech enterprises (quantity) • The number of trainings organized in the subjects of R&D, renovation and branding (quantity) • Number of trademark registrations per each million people (quantity) • Number of patents per each million people (quantity) • Number of products with geographical indications (quantity) • The number of R & D activities for environmentally friendly

	production (quantity)
Priority 3.5. Improvement of Foreign Trade	• Export amount (TRY) • The number of enterprises engaged in export (TRY) • Direct foreign investments (TRY) • Number of market researches carried out (quantity) • Number of training programs on foreign markets and international standards (quantity) • The ratio of exports to imports (%) • The number of specific action plans for products (quantity) • The number of sectoral fairs attended (quantity) • The number of free zones (quantity)
Priority 3.6. Improvement of OIZs to Satisfy Needs of the Industry	• Occupancy rate of OIZs (%) • The number OIZs in the Region (quantity) • The number specialty OIZs in the Region (quantity) • The number of companies engaged in production in OIZs (quantity) • The number of projects aimed at improving infrastructure in OIZs (quantity)
Priority 3.7. Improvement of Renewable Energy Sector	• The number of companies operating in the renewable energy technology sector (quantity) • Installed renewable power capacity (MWh) • The number of houses heated with geothermal resources (quantity) • The number of geothermal heated greenhouses (decares) • The number enterprises producing biogas / biomass energy (quantity) • The number of studies on renewable energy (quantity) • Number of renewable energy departments opened in secondary and higher education institutions

5 COORDINATION, MONITORING AND EVALUATION

Participation principle was considered as the most essential priority during preparation of 2014-2023 Regional Plan for TR22 Region. Opinions of all stakeholders were represented in the plan. The Plan addresses to the whole body of the Region and determines the development trail for the Region. All stakeholders must assume responsibilities for the implementation of the Plan. Coordination of the Plan at Regional level, however, falls into the responsibility of SMDA as the agency prepared the plan.

Timely implementation of development plans is as important as its comprehensiveness and integrity. This plan approaches various aspects of the development of the Region and needs to be monitored, evaluated and, in line with the transparency principle, reported to all of the stakeholders within the framework of development axes, priorities and strategies identified therein.

Monitoring activities include analysis of the realization ratios of the strategies set forth in the plan by collection of accurate data and determination and reporting of any deviations. The data collected shall be examined from the view point of effectiveness, efficiency, applicability and sustainability which are deemed as the essential aspects of evaluation. The results of evaluation will be reported to all stakeholders.

The plan covers 10 years of implementation period which is in fact a very long for planning purposes. If revision of the plan is needed or when the plan for next planning period is prepared, the results of the monitoring and evaluation activities will be used to determine and eliminate any possible deficiencies. Furthermore, the results will also be used by Decision Makers for determining the development policies and designing the implementation programs for the Region.

By means of effective announcement mechanisms, the results of continuous monitoring and evaluation activities will be publicly announced by the agencies and institutions responsible for implementation of these strategies.

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