European Commission

REGIONAL REPORT

EXTERNAL REPORT

MONITORING THE SDGs IN TR33 REGION

TÜRKİYE

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2023

Joint Research Centre

Cover image: Raffaella Manfredi

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ABSTRACT

The TR33 SDG Monitoring and Evaluation Report sheds light on the relationship between the TR33 Regional perspective and sustainable development goal by utilising regional data. It explainsthe progress and challenges the region faces in achieving the SDGs. The report includes recommendations for future improvements in terms of regional data platforms. It offers a comprehensive analysis of the TR33 Region's performance in critical areas related to sustainable development, including economic growth, social inclusion, environmental sustainability, and governance.

THis report will help policymakers, stakeholders and researchers gain a deeper understanding of the TR33 Region's specific context and identify areas for targeted interventions and policy adjustments. It has the potential to be a vital tool for monitoring and evaluating the region's progress towards sustainable development, ultimately guiding decision-making processes for a more prosperous and inclusive future in the TR33 Region.

The TR33 SDG Monitoring and Evaluation Report analyses 83 indicators offered by JRC and additional indicators to monitor and evaluate data used to measure the TR33 Region 2030 Agenda. IThe data sources are international, national and regional in origin.

FOREWORD

In an era of rapidly evolving global challenges, the need for sustainable development is more pressing than ever. The United Nations, in recognizing the urgency of addressing these issues, set forth the Sustainable Development Goals (SDGs) as a universal call to action to ensure a better and more sustainable future for all. It is within this context that the "REGIONS2030: monitoring the SDGs in the EU regions – filling the data gaps" project was conceived, with a specific focus on 10 regions from Europe including TR33 region in Türkiye consisting of Afyonkarahisar, Kütahya, Manisa, and Uşak provinces.

The TR33 region, with its diverse geographical and cultural landscape, holds immense potential for sustainable development. As an integral part of Türkiye, the TR33 region comprises a significant portion of the country's western provinces, characterized by its unique blend of history, natural resources, and thriving economic activities. However, it also faces its share of challenges, including environmental degradation, social inequalities, and economic disparities.

Recognizing the importance of addressing these challenges, and aligning with the global sustainable development agenda, the Zafer Development Agency took the initiative when it decided to participate in the REGIONS2030 project. Zafar isone of 26 development agencies in Türkiye functioning under the auspices of the General Directorate of Development Agencies of the Ministry of Industry and Technology.

This project aims to work with experts and partners to develop, test and improve indicators for monitoring the United Nations Sustainable Development Goals in Level-II regions across Europe. In doing so, it seeks to provide a comprehensive understanding of the current status of sustainable development in the related regions, paving the way for targeted interventions and policy frameworks.

This report serves as a significant milestone in the REGIONS2030 project, capturing the culmination of extensive research, consultation, and data analysis. It presents a detailed examination of the various SDGs in the context of the TR33 region, assessing the region's progress, challenges, and opportunities in achieving sustainable development targets. Furthermore, it highlights the importance of using SDG indicators as crucial tools for measuring and monitoring progress towards sustainable development.

The SDG indicators serve as quantifiable metrics that enable policymakers, stakeholders, and the wider community to assess the effectiveness of policies, initiatives, and interventions in driving sustainable development. These indicators provide a means to track progress, identify gaps, and prioritize areas that require immediate attention. By measuring and monitoring the SDG indicators, the REGIONS2030 project aims to generate data-driven insights that can inform evidence-based decision-making and shape future policies and actions.

Within this report, each SDG is examined in depth, highlighting the specific indicators relevant to the TR33 region. Indicators such as electricity production that comes from renewable sources, economic activity, employment, young people neither in employment nor in education and training, and municipal waste statistics, are among the many factors considered. By presenting these indicators and their importance, this report aims to foster greater awareness and understanding of the complex challenges faced by the TR33 region. It provides a comprehensive assessment of the region's current status in relation to the SDGs and offers recommendations for targeted interventions to accelerate progress towards sustainable development.

The success of the Region 2030 Project relies on the collective effort and commitment of all stakeholders involved. It is our hope that this report not only serves as a valuable resource but also inspires action and empowers individuals and organizations to take concrete steps towards sustainable development. By working together, we can build a more inclusive, resilient, and prosperous TR33 region that embodies the principles and aspirations of the Sustainable Development Goals.

I would like to express my sincere gratitude to all the individuals, institutions, and communities who have contributed to this endeavour. May this report serve as a catalyst for transformative change, paving the way for a brighter future for the TR33 Region and beyond.

Veli OĞUZ

Secretary General

Member of Board

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

POLICY CONTEXT

Sustainable Development Goals (SDGs) are a set of global targets adopted by United Nations member states to address key social, economic, and environmental challenges facing the world. These goals aim to eradicate poverty, promote sustainable development, and ensure the well-being of all people by 2030. While SDGs provide a universal framework, their implementation requires tailored approaches that take into consideration regional contexts and priorities. In this context, the Joint Research Centre – European Commission designed the REGIONS2030 Project. It aims to generate insights and understanding regarding the utilisation of monitoring frameworks for SDGs specifically at the regional level, taking advantage of the increased number of conducted and published Voluntary Local Reviews (VLRs).

Türkiye published Voluntary National reviews in 2016 and 2019 to adapt the 2030 Agenda accordingly. Under their SDG localization efforts, some cities and districts in Türkiye prepared their own Voluntary Local Reviews. The R33 Region comprising Afyonkarahisar, Uşak, Kütahya and Manisa provinces presents unique characteristics and challenges that must be taken into account when formulating SDG policies. It has a regional plan, innovation strategy and gender equality plan to ensure sustainability. The plan is essential to create a more holistic approach for a sustainability strategy and action plan.

The presence of consistent and reliable local outcome indicators that provide information for policy decision-making at various levels is essential for attaining sustainable development. The indicators also ensure inclusivity without leaving any individual or location behind.

KEY CONCLUSIONS

The TR33 SDG Monitoring and Evaluation Report provides a comprehensive assessment of the TR33 Region's progress towards the Sustainable Development Goals (SDGs). This report highlights the key findings and recommendations from the report, enabling stakeholders to grasp the main insights efficiently.

The report examines the relationship between the TR33 Regional perspective and the SDGs by analysing a wide range of regional data. It assesses the region's performance across various dimensions of sustainable development, including economic growth, social inclusion, environmental sustainability, and governance.

MAIN FINDINGS

The TR33 Region has combined its established sustainability perspective with an indicator and SDG-based monitoring and evaluation approach. Moreover, through this endeavour the region has enhanced the visibility of its sustainability strategy and efforts at the international level through systematic reporting.

RELATED AND FUTURE JRC WORK

Since the publication of the SDGs in 2015, the European Commission has been conducting and plans to continue its efforts on localizing the SDGs. The European Commission's JRC has been designing and implementing projects, and publications on localizing the SDGs. It has developed numerous sustainability projects, drawing strength from the framework texts created by the European Commission. Starting with the European Handbook, followed by URBAN2030, and building upon the foundation of REGIONS2030, which forms the basis of this report, the JRC is progressively advancing its work at the regional level. The REGIONS2030 project aims to enhance and systematise the knowledge of SDGs at the regional level.

1. INTRODUCTION

The TR33 Region located in the Northern Aegean part of Türkiye consists of 4 provinces: Afyonkarahisar, Kütahya, Manisa and Uşak. The region is governed by Zafer Development Agency (hereinafter ZAFER), one of 26 regional development agencies in Türkiye. The organizational structure of the agencies typically includes several key roles and positions responsible for managing and coordinating development efforts at different levels. Their coordination is carried out by the General Directorate of Development Agencies of the Ministry of Industry and Technology at the national level. The Executive Board of Development Agencies has a multi-stakeholder structure. The Development Board is the advisory body of the Development Agencies and consists of representatives of non-governmental organizations (NGOs), the private sector and public institutions. Their presence is intended to ensure a balanced representation of the provinces in order to ensure the development of sustainable, participatory policies. Overall, the organisational structure of Development Agencies is to ensure effective coordination and collaboration between different levels of government, businesses, and communities, and to ensure that development efforts are aligned with national priorities and goals.

TR33 is under the TR3 Region consisting of Southern Aegean Development Agency (GEKA), İzmir Development Agency (İZKA) and ZAFER. Comparisons between the individual regions is possible within the TR3 Region.

Figure 1. 26 Development Agencies in Türkiye

Source: Zafer Development Agency Presentations

The aims are to improve cooperation between public sector, private sector, and non-governmental organisations, whilst ensuring the appropriate and effective use of resources, including the acceleration of regional development. This is in accordance with the policies determined by the President of the Republic, which seek to reduce inter-regional and intra-regional development disparities.

Sustainability efforts accelerated in Türkiye after the announcement of Sustainable Development Goals (SDGs). Türkiye was one of the first countries to publish a Voluntary National Review (VNR), in 2016 and 2019 respectively. Türkiye's VNRs emphasized the government's commitment to contribute to a sustainable future through the adoption of the 2030 Agenda. The last six Development Plans in Türkiye were based on sustainable development. In particular, the green growth approach was mainstreamed in the 10th and 11th Development Plans, in addition to sectoral and thematic policy and strategy documents. Practically every ministry in Türkiye works to align the SDGs of its policy and strategies.

The Turkish Statistical Institute (herein after TURKSTAT) is the responsible body to monitor SDG data. TURKSTAT released the SDG Open Data Platform, which provides SDG targets and indicators at national levels. Although SDG indicators are typically shared at the national level, this platform improves the access to these indicators for different levels.

Regional sustainability efforts follow national vision goals in the TR33 Region. The TR33 Regional Plan (2024-2028) was prepared in alignment with SDGs for regional policy, with each strategy aiming to increase income in rural areas, improve the participation of disadvantaged groups and facilitate the transformation of green industry technology. On the other hand, ZAFER designed policies to ensure regional sustainability through not only the TR33 Regional Plan but also the TR33 Innovation Strategy (2013), Gender Equality Plan (2021), Local Economic Development Programs (YEGEP) (2015, 2016 and 2019), and TR33 Strategy & Action Plan for Entrepreneurship (2019).

In 2022, ZAFER applied to "REGIONS2030: monitoring the SDGs in the EU regions – filling the data gaps" to disclose its sustainability efforts at the international level. The TR33 Region stated its objectives for participating in the project, which included working alongside JRC experts to establish a framework of indicators aimed at monitoring the progress of SDGs at a regional level. The ultimate goal is to raise awareness about sustainable policies that are comparable and consistent with the 2030 Agenda, thereby supporting the implementation of sustainability measures across various regional territories.

Although the VLRs in the TR33 Region have not been published yet, the recent online kick-off meeting for the REGIONS2030 Project and Sustainable Development, organized by ZAFER in January 2023, included presentations on SDGs and VLRs that have raised awareness on the topic in the TR33 Region. These capacity building activities on SDGs and VLRs have the potential to create a positive synergy among regional stakeholders.

During the REGIONS2030 Project, TR33 Regional SDG Dataset was created in participation with regional stakeholders using publicly available data sources at international and national levels. Indicators prioritized for TR33 Region are analysed trends in alignment with regional policy and strategies. At the same time, indicators are compared with TR31 and TR32 Regions and Türkiye.

Table 1. Regional Investment with SDG alignment (2010-2022) disclosed the linkage between sectoral strategies and SDGs as well as financial support and total investment.

The Environment field was related to six SDGs (SDG-6, SDG-11, SDG-12, SDG-13, SDG-15) and had received €1.76 million in financial support and €5.54 million in total investment.

The Energy field was related to three SDGs (SDG-7, SDG-11, SDG-12) and had received €8.02 million in financial support and €12.41 million in total investment.

The Industry field was related to two SDGs (SDG-8, SDG-9) and had received €15.31 million in financial support and €31.84 million in total investment.

The Social field was related to three SDGs (SDG-1, SDG-5, SDG-10) and had received €6.67 million in financial support and €11.69 million in total investment.

The Education field was related to one SDG (SDG-4) and had received €1.59 million in financial support and €1.75 million in total investment.

The Tourism field was related to two SDGs (SDG-8, SDG-11) and had received €5.47 million in financial support and €13.42 million in total investment.

According to the Turkish Statistical Institute (TURKSTAT), as of December 2022, the total population of the TR33 region was around 3.2 million. The largest province in the TR33 Region is Manisa, with a population of almost 1.5 million, followed by Afyonkarahisar with around 700 thousand, Kütahyawith around 600 thousand, and Uşak with around 400 thousand.

Table 1. Regional Investment with SDG alignment (2010-2022)

Fields	Related SDGs	Financial Support (€)	Total Investment (€)
Environment	SDG-6, SDG-11, SDG-12, SDG-13, SDG-15	1.763.968	5.544.520
Energy	SDG-7, SDG-11, SDG-12	8.016.865	12.409.349
Industry	SDG-8, SDG-9	15.311.348	31.841.843
Social	SDG-1, SDG-5, SDG-10	6.673.913	11.690.820
Education	SDG-4	1.589.925	1.750.007
Tourism	SDG-8, SDG-11	5.465.809	13.417.764
TOTAL		38.821.830	76.654.303

Source: Zafer Development. Agency

Gender distribution in the TR33 Region is relatively balanced, with slightly more females than males. As of December 2022, the male population in the region was around 1.584 million, while the female population was around 1.587 million.

It is evident that the population of the TR33 Region is aging. A comparison between the population of the TR33 Region in 2007 and 2022 reveals a significant decline in the number of new borns. The data reveals an aging trend in the population. The older age groups (60-64, 65-69, 70-74, etc.) show significant increases in population, suggesting a larger proportion of the population falling into older age brackets.

Table 2. Population of the TR33 Region (2022)

	Afyonkarahisar	Kütahya	Manisa	Uşak
Total	747 555	580 701	1 468 279	375 454
Male	373 459	286 833	737 888	186 693
Female	374 096	293 868	730 391	188 761

Source: Turkish Statistic Institute

Figure 2. TR33 Population in 2007-2022 (age breakdown)
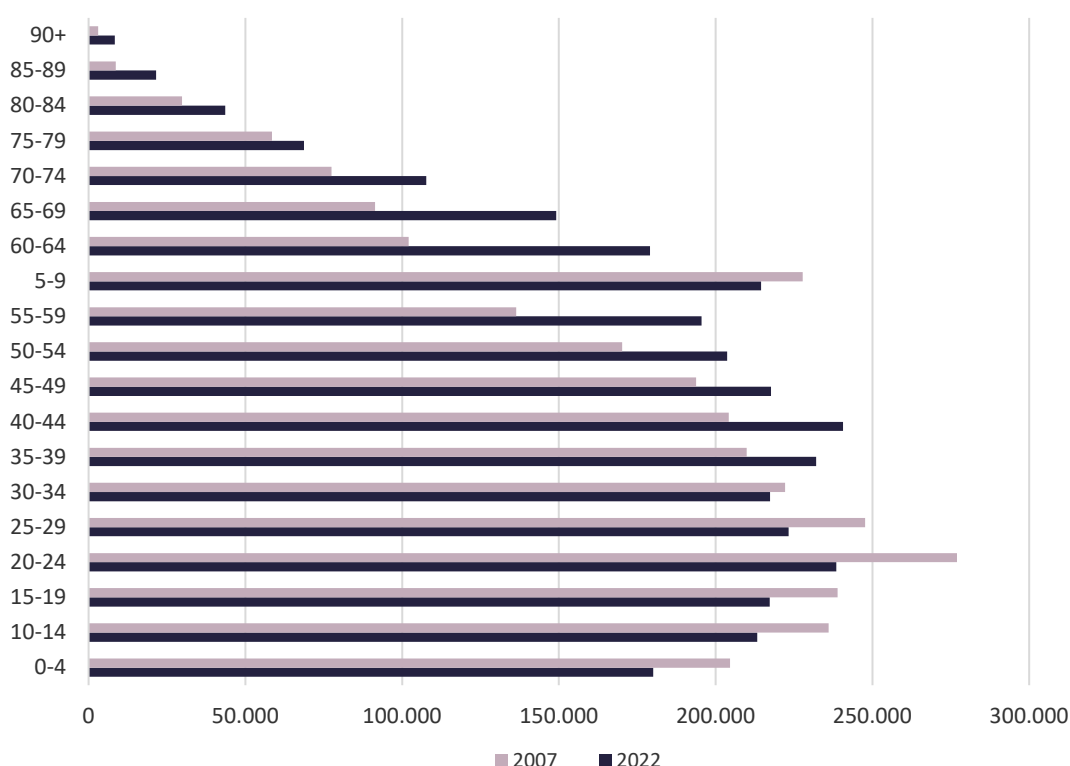
Source: TURKSTAT

The TR33 Region has a relatively high literacy percentage compared to the average of Türkiye. While the proportion of literate persons in the TR33 Region was 98% in 2021, in Türkiye it was 97% in the same year. The literacy percentage is increasing each year. The region has 6 universities, including AfyonKocatepe University (Afyonkarahisar), Afyonkarahisar Health Science University (Afyonkarahisar), Manisa Celal Bayar University (Manisa), Kütahya Dumlupınar University (Kütahya), Kütahya Health Science University (Kütahya), and Uşak University (Uşak).

The main sectors of employment in this region are agriculture, manufacturing and tourism. The manufacturing sector is based on C10-food products, C13-textiles, C23-non-metallic mineral products, C25-fabricated metal products, C28-machinery and equipment, and C29-motor vehicles and trailers. Tourism is a fundamental part of the service sector: there are 11 tourism centres, 18 museums, 12 five-star hotels, and 4 international designations. In addition, while ensuring sustainable production in agriculture and industry stands out, ensuring sustainability in tourism has also been included in the regional development area in the TR33 Regional Plan (2014-2023).

In conclusion, the Northern Aegean (TR33) Region in Türkiye is actively working towards regional development in accordance with national policies and goals, with a strong focus on sustainable development. Through the coordination and collaboration of different levels of government, businesses, and communities, the Zafer is implementing various strategies and action plans to improve the region's economy, environment, and social well-being while reducing development disparities. Their efforts align with the 2030 Agenda and the United Nations' Sustainable Development Goals, and they are taking steps to monitor and report on their progress. Overall, the TR33 Region's commitment to sustainable development, and their ongoing efforts towards this goal, are commendable; they have the potential to bring positive change to the region and beyond.

2. METHODOLOGY

This section outlines the methodology utilised to develop the TR33 Regional indicators proposed by JRC, as well as the additional indicators. The methodology consists of three phases: TR33 Region SDG Contextualization, TR33 Region SDG Analysis and TR33 Region Additional Indicators. These phases include deeper steps to achieve the final TR33 SDG Monitoring and Evaluation Report.

Figure 3. Methodology Chart
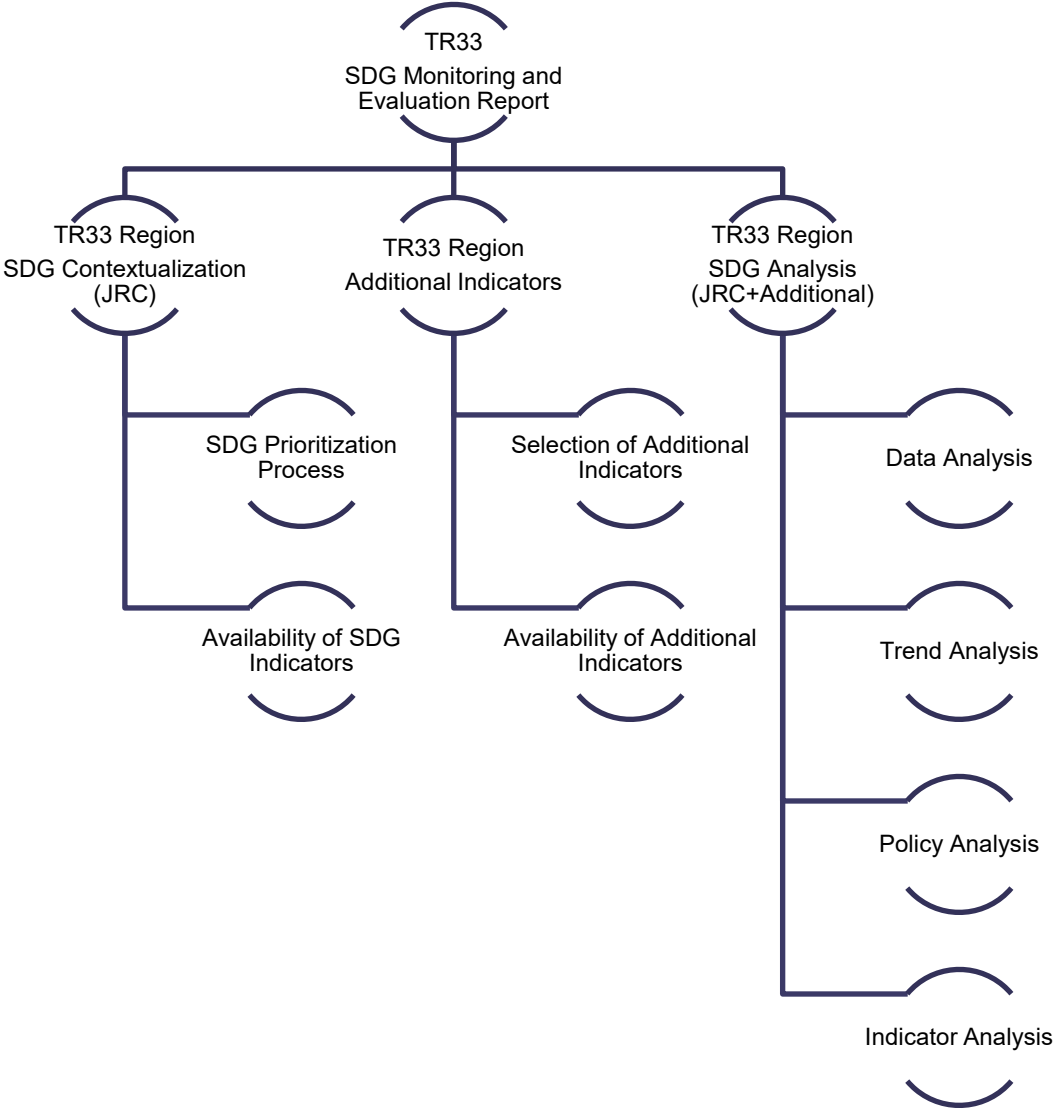
Source : Author's own elaboration

2.1 TR33 Region SDG Contextualization

This phase incorporates SDG Prioritization Process, Availability of the SDG Indicators for TR33 and Selection of Additional Indicators. It also involves adapting these indicators to the TR33 Region, identifying additional indicators, conducting data validation, and diversifying data sources.

2.1.1 SDG Prioritization Process

This process includes three steps. These are;

- Conducting desk research for indicators for TR33 Region

- Conducting surveys with TR33 regional stakeholders for prioritization

- Prioritizing SDGs for TR33 Region with ZAFER's experts

2.1.2 Availability of the SDG Indicators for TR33

Following the process of the importance of SDGs for the TR33 Region in the previous step, the data sources are examined for the prioritized SDGs and their sub-targets from the list proposed by JRC.

2.1.3 Data Verification

Firstly, international and national data sources recommended by JRC are reviewed. If the suggested sources contained data specifically for the TR33 Region, those sources are utilised.

Data from TURKSTAT (Turkish Statistical Institute) and official institutions of the Republic of Türkiye are examined for indicators where TR33-specific data is not available in the recommended sources proposed by JRC.

Especially, TURKSTAT indicators are generally given preference due to its standardised and consistent nature. Choosing TURKSTAT as the primary source also facilitates the comparison of calculation methods with the ones recommended by JRC, as TURKSTAT provides metadata for each dataset. The calculation method used in TURKSTAT is consistent, and the data is directly provided from the TURKSTAT source. In cases where the calculation method differed but the data still aligned with the relevant SDG indicator and could measure the sustainability of the TR33 Region, the metadata details are provided, and the data is included in the list.

2.2 TR33 Region SDG Analysis

Four primary analyses, namely indicator analysis, data analysis, trend analysis, and policy analysis, have been carried out to assess the indicators in the context of the region and sustainability in this phase. These analyses provide a comprehensive evaluation of the indicators, taking into account regional factors and their alignment with sustainability objectives.

2.2.1 Indicator Analysis

Indicator analysis is the section that follows the determination of TR33 regional indicators proposed by JRC in the previous phase, and it involves analysing the selected indicators based on their data source, type, and variety.

2.2.2 Data Analysis

The data for the selected TR33 JRC indicators and TR33 additional indicators are sourced from relevant databases which are OECDSTAT, EUROSTAT (other sources defined below). For the TR33 region, a preference is given to compare the indicators with TR31, TR32, and national-level data in Türkiye. The reason of the choice is the best comparison for TR33, which is within the TR3 region, is deemed to be with the neighbourhood regions of TR31 and TR32. Additionally, comparing the data at the national level provided a better understanding of

TR33's relationship and position within the country in terms of sustainability. When analysing the data comparatively over the years, any significant increases or decreases are explained in relation to regional dynamics.

2.2.3 Trend Analysis

For TR33 trend analysis, the normative values of the indicators are first determined. The indicators are analysed to identify their increasing or decreasing trends and interpret whether they are positive, negative, or stable. It is a prerequisite for the analysis to have data available for the year 2015 and earlier. Additionally, only indicators with regular data are evaluated. Indicators that lacked data for 2 years or more are not included in the trend analysis. Finally, indicators with significant deviations are excluded from the analysis.

Included in the Analysis:

- Indicators with annual data starting from 2015 or earlier

Excluded from the Analysis:

- Indicators with significant deviations

- Indicators with no data available for 2 years or more

Indicators with annual data starting

from 2015 or earlier

- Indicators with significant deviations
- Indicators with no data available
  for 2 years or more

2.2.4 Policy Analysis

In addition to data and trend analysis, the indicators are also analysed in the context of regional policies. The TR33 Regional Plan (2014-2023) and TR33 Innovation Strategy (2013), specifically developed for the TR33 region, are utilized for this analysis in order to evaluate the indicators. Furthermore, the Türkiye Voluntary National Review (VNR) 2019, prepared at the national level, serves as an input for key policy analysis.

2.3 TR33 Region Additional Indicators

In this phase, the methodology and trends of additional indicators are identified for monitoring and evaluating the SDGs are explained. The selection of additional indicators is based on sub-indicators of the SDGs and TR33 Regional Plan. It is preferred that regional data is derived from publicly available sources such as TUKSTAT as far as possible. Moreover, primarily utilises percentages, rates and ratios to obtain a set of indicators suitable for comparison. The process of identifying additional indicators consists of five steps, outlined as follows.

Step 1 – Prioritization of SDG sub indicators

Step 2 – Selection of Türkiye's SDG indicators through contextualising them

Step 3 – Selection of the TR33 Regional indicators

Step 4 - Harmonisation of selected indicators

(SDG sub indicators, Türkiye SDG indicators and TR33 Regional indicators)

Step 5- Evaluation indicators with experts of ZAFER

Step 6- Finalization of the TR33 Additional Indicator List

Step 1: Prioritization of SDG sub-indicators

In this step, the sub-indicators of the Sustainable Development Goals (SDGs) are prioritised. They are evaluated in terms of significance and relevance of each sub-indicator in relation to the goals and objectives of the TR33 Region. By assigning priorities, it is determined which sub-indicators require closer attention and monitoring.

Step 2: Selection of Türkiye's SDG indicators through contextualizing them

Selected SDG indicators that are most applicable and relevant to Türkiye are contextualised in TR33 Region. This contextualisation ensures that the selected indicators accurately reflect the sustainable development efforts between Türkiye and TR33 Region.

Step 3: Selection of the TR33 Regional indicators

In this step, the selected indicators from TR33 Regional Plan are specific to the TR33 Region. These indicators reflect the unique characteristics, needs, and development goals of the region.

Step 4: Harmonization of selected indicators

In this step, the selected indicators from the SDG sub-indicators, Türkiye's SDG indicators, and TR33 Regional indicators are brought together. They are aligned and harmonised with these indicators to establish consistency and comparability across the different levels. This harmonization enables effective monitoring and evaluation by providing a unified framework for measuring progress.

Step 5: Evaluation of indicators with experts of ZAFER

During this step, the selected indicators are evaluated in collaboration with experts from ZAFER. These experts possess the necessary knowledge and expertise to assess the relevance, reliability, and effectiveness of the indicators. Their insights and feedback contribute to the refinement and improvement of the indicator selection, ensuring that the indicators provide meaningful and accurate information for decision-making.

Step 6: Finalization of the TR33 Additional Indicator List

The final step involves the completion and finalization of the TR33 Additional Indicator List. This list comprises the indicators that have gone through the prioritization, selection, harmonization, and evaluation processes. It serves as a comprehensive and robust set of indicators for monitoring and evaluating the SDGs and national sustainability in the TR33 Region.

3. ANALYSIS OF INDICATORS IN THE JRC PROPOSED INDICATOR SET

In this section called "Analysis of Indicators in the JRC Proposed Indicator Set" it is whether the data identified by the JRC is available in the TR33 region, and it is analysed according to the relevant data sources and SDGs.

Table 3. Analysis of the JRC Proposed Indicator Set

SDG	Number of SDG Targets	Number of indicators
SDG 1 No Poverty	3	4
SDG 2 Zero Hunger	3	4
SDG 3 Good Health and Well-Being	4	5
SDG 4 Quality Education	5	7
SDG 5 Gender Equality	4	7
SDG 6 Clean Water and Sanitation	2	4
SDG 7 Affordable and Clean Energy	3	4
SDG 8 Decent Work and Economic Growth	6	10
SDG 9 Industry, Innovation, and Infrastructure	2	5
SDG 10 Reduced Inequalities	2	2
SDG 11 Sustainable Cities and Communities	4	9
SDG 12 Responsible Consumption and Production	3	3
SDG 13 Climate Action	1	4
SDG 14 Life Below Water	2	3
SDG 15 Life on Land	2	4
SDG 16 Peace and Justice	2	4
SDG 17 Partnership for Goals	4	4
TOTAL	**52**	**83**

Source: Author's own elaboration

The JRC indicators cover a total of 52 SDG targets, with a corresponding 83 indicators. SDG 8 (Decent Work and Economic Growth) has the highest number of targets, with 6 targets as well as the highest indicator numbers with 10 indicators.

SDG 11 (Sustainable Cities and Communities), SDG 4 (Quality Education), and SDG 5 (Gender Equality) have indicators 9, 7, and 7 respectively.

The JRC indicators cover a range of topics, including poverty reduction, education, healthcare, economic growth, sustainable cities and communities, climate action, and partnerships for the goals.

Overall, the JRC indicators cover a wide range of SDGs and targets, indicating a comprehensive approach to sustainable development. The high number of targets and indicators for SDG 8 (Decent Work and Economic Growth) and SDG 11 (Sustainable Cities and Communities) suggests that the JRC places particular importance on urban development and economic development in the context of sustainable development.

In conclusion, the analysis of the JRC indicators for the SDGs shows a robust and comprehensive approach to sustainable development, covering a range of topics and targets. The JRC indicators provide valuable insights into the progress made towards the SDGs and can help identify areas for improvement and intervention.

Table 4. Analysis of TR33 indicator set proposed by the JRC

SDG	SDG Target(s)	Number of indicators
SDG 1 No Poverty	1	1
SDG 2 Zero Hunger	2	2
SDG 3 Good Health and Well-Being	4	4
SDG 4 Quality Education	5	7
SDG 5 Gender Equality	2	3
SDG 6 Clean Water and Sanitation	2	2
SDG 7Affordable and Clean Energy	1	1
SDG 8 Decent Work and Economic Growth	4	7
SDG 9 Industry, Innovation, and Infrastructure	1	2
SDG 10 Reduced Inequalities	1	2
SDG 11 Sustainable Cities and Communities	4	7
SDG 13 Climate Action	1	3
SDG 16 Peace and Justice	1	1
SDG 17 Partnership for Goals	2	2
Total	**31**	**44**

Source: Author's own elaboration

The following is an analysis of the available number of SDG targets in the TR33 Region, based on the given data:

- The TR33 region has regional available indicators for 31 SDG targets, spread across the 17 Sustainable Development Goals (SDGs).

- SDG 14 is not prioritized due to there being no sea border.

- There are currently no available or alternative indicators for SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land).

- SDG 4 has the highest number of targets in the TR33 region with 5 targets and 7 indicators.

- SDG 8 and SDG 11 are tied for the second-highest number of targets with 4 targets, and 7 indicators.

- SDG 1, 7, 9, 10, 13 and 16 have 1 target and 1 indicator.

- In total, there are 44 indicators for the 31 targets in the TR33 region.

The available indicators disclose that the TR33 region is committed to achieving the SDGs and has established targets and indicators in line with the 2030 Agenda. The high number of targets and indicators for SDG 4 Quality Education suggests that the TR33 Region prioritizes education. Similarly, the presence of multiple targets for SDG 3 Good Health and Well-being and SDG 8 Decent Work and Economic Growth indicates the importance placed on healthcare and economic development in the region. Needless to say, number of indicators refer the availability of data for each SDGs.

In conclusion, the analysis of the available number of SDG targets in the TR33 region shows that the region is committed to achieving the SDGs and has established a comprehensive and integrated approach to sustainable development. The presence of targets and indicators across a range of SDGs highlights the importance of addressing multiple issues simultaneously for sustainable development in the region.

Table 5. Analysis of data availability in TR33 Region

SDG	SDG 1	SDG 2 Zero Hunger	SDG 3 Good Health and Well-	SDG 4 Quality Education	SDG 5 Gender Equality	SDG 6 Clean Water and Sanitation	SDG 7 Affordable and Clean Energy	SDG 8 Decent Work and Economic Growth	SDG 9 Industry, Innovation and Infrastructure	SDG 10 Reduced Inequalities	SDG 11 Sustainable Cities and Communities	SDG 12 Responsible Consumption and Production	SDG 13 Climate Action	SDG 14 Life Below Water	SDG 15 Life on Land	SDG 16 Peace and Justice	SDG 17 Partnership for Goals	Total
1.Fit for purpose	1	1	3	6	1	0	1	7	1	0	5	0	1	0	0	1	2	30
2.Fit- No data	3	3	2	1	6	4	2	3	4	2	4	3	3	0	2	3	2	47
3.1-to1 replacement with	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4.Alternative indicator	0	1	0	1	2	2	0	0	1	2	2	0	2	0	0	0	0	13
5.Non-fit for purpose	0	0	0	0	0	0	1	0	0	0	0	0	0	3	2	0	0	6
TR33 Final indicator number (1+3+4)	1	2	4	7	3	2	1	7	2	2	7	0	3	0	0	1	2	44
JRC Indicators (1+2+5)	4	4	5	7	7	4	4	10	5	2	9	3	4	3	4	4	4	83

This table shows an analysis of the fit-for-purpose of the Joint Research Centre (JRC) indicators for measuring progress towards the 17 SDGs. Each column represents:

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Box 1. Definition of the breakdowns

SDG: Sustainable Development Goals

JRC Indicators: The total number of indicators proposed by JRC for each SDG

Fit for purpose: The number of JRC indicators considered suitable for measuring progress towards the SDG. The region prioritizes these indicators based on their relevance and availability of regional-level data.

Fit – No data: The number of JRC indicators fit for purpose but currently lacking available data for the TR33 Region. The region prioritizes these indicators despite the unavailability of regional-level data.

1-to-1 replacement with: The number of JRC indicators that can be substituted with another indicator without affecting the fit for purpose count. The region refers to a different data source for the same indicator due to a lack of data in the initial source provided by JRC.
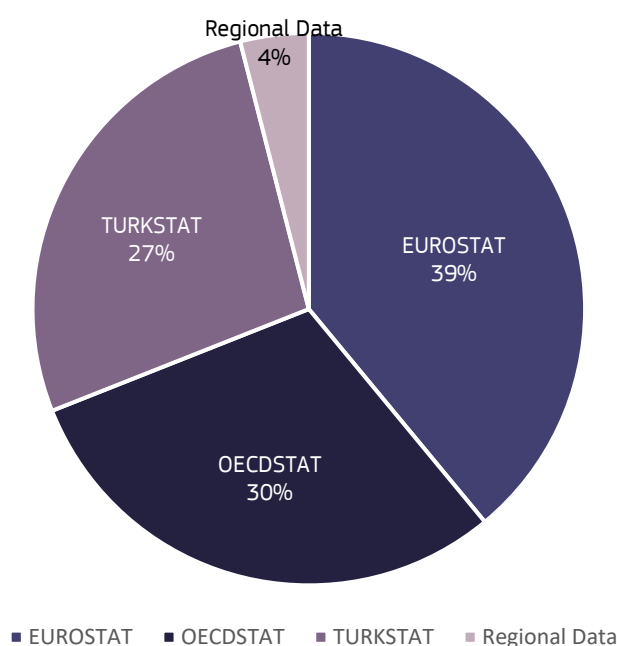
Alternative indicator: The number of alternative indicators used instead of JRC indicators to measure progress towards the SDG. The region utilizes different data sources to measure a similar aspect of the SDG due to data unavailability.

Non-fit for purpose: The number of JRC indicators not suitable for regional prioritization in measuring progress towards the SDG.

These breakdowns provide an understanding of how JRC indicators are utilized, adapted, and replaced to measure progress towards the SDGs in a specific region, such as the TR33 Region.

</div>

Out of the 83 indicators proposed by JRC for the TR33 region, only 30 were available and analysed based on relevant data sources and related SDGs. Although 44 indicators (more than 50%) are related to the TR33 region, data for these indicators is not available in international sources. One indicator was replaced with an SDG 3 representative. Additionally, 13 alternative indicators were suggested to monitor progress towards the SDGs. Six indicators were found to be non-relevant to the purpose of SDG 7, SDG 14, and SDG 15, such as energy production from nuclear power which is not related to TR33 or Türkiye. Moreover, the TR33 region does not have any border oceans or seas, and thus related indicators were not prioritized. Finally, two indicators, estimated soil erosion and land abandonment, were not prioritized for the TR33 region. Indicators related to SDG 15 are available at NUTS1 or NUTS3 level, while there is no available data for SDG 12 in the TR33 region. The final number of indicators for the TR33 region is 44, which do not cover SDG 12, 14, and 15.

Figure 4. Data Sources in TR33 Region

Regional Data
4%

TURKSTAT
27%

EUROSTAT
39%

OECDSTAT
30%

■ EUROSTAT ■ OECDSTAT ■ TURKSTAT ■ Regional Data

Source: Author's own elaboration

According to the data sources of 44 available indicators listed in the analysis refer to the percentage of data provided by each source in a particular dataset.

EUROSTAT is the statistical office of the European Union, and it provides a significant amount of statistical information on the EU and its member states, as well as some non-EU countries.

OECDSTAT is the statistics portal of the Organization for Economic Co-operation and Development (OECD), which provides data on a wide range of economic and social issues for its member countries.

TURKSTAT is the national statistical institute of Türkiye, responsible for collecting, compiling, and publishing statistical information on Türkiye and its population.

Finally, the "Regional Data" source likely refers to data collected by local or regional authorities, such as state or provincial governments, and it contributes only a small percentage of the overall dataset.

Overall, international sources provide a diverse range of data from different geographic regions and levels of government.

In Annex 4, the indicators determined by JRC were analysed aligned with the priorities, axes, and spirals of the TR33 Regional Plan (2014-2023). As seen in this alignment, although the TR33 region does not have a direct Sustainable Development Strategy, it has priorities and development axes that are directly compatible with sustainability indicators. As the quantity and quality of sustainability data in the region increase, it will allow for more comprehensive analysis to measure the priorities in the plans.

In this context, when we look at SDG 1, the indicator "Affected people due to disasters" from the JRC dataset was evaluated in the Regional Plan under the "Disaster Management and Human and Society" axis. Additionally, it directly aligns with the priorities of the Regional Plan (2014-2023), such as implementing effective measures for proactive disaster management, conducting efficient protection and recovery methods, implementing comprehensive and effective methods for combating poverty, and enhancing social services for widespread effectiveness.

On the other hand, SDG 7 is an important goal for the region. However, regional-level data on energy intensity or energy poverty is not available. The TR33 Regional Plan (2014-2023) prioritized increasing the use of renewable energy sources in TR33 and improving traditional energy generation and distribution infrastructure. When considering a nine-year period, improving traditional energy distribution lines was also of significant importance during those years. In our current evaluations, the increase in the share of energy derived from renewable energy sources is critically important. The indicator "Electricity production that comes from renewable

sources" in the TR33 Regional Plan (2014-2023) is evaluated under the livability, competitiveness spirals, and energy axis.

When evaluating the 17 SDGs, the indicators determined by JRC, which are available in the region, are in direct alignment with the TR33 Regional Plan (2014-2023). Consequently, the TR33 Regional Plan is created based on sustainability and has appropriate prioritization, axis, and spiral for monitoring and evaluation purposes.

Table 6. Trend Analysis for TR33

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend: Posit/Negat/Stable
1	Affected people due to disasters (Share of population exposed to at least one forest fire)	2001-2021	1.5 (exposure to vulnerability)	Decreasing	Not included in the trend.
2	Organic farming: areas with different crops/ Production area (Hectare)	2004-2021	2.4 (sustainable food production)	Increasing	Positive
2	Productivity (Gross Value Added per worker) in agriculture, forestry and fishing	2009-2015	2.3 (agricultural productivity)	Increasing	Stable
3	Deaths due to Covid-19	2020-2021	3.3 (epidemics and diseases)	Decreasing	Not included in the trend.
3	Health personnel	1993-2020	3.c (health financing and recruitment)	Increasing	Positive
3	Hospital beds	2002-2021	3.8 (universal health coverage)	Increasing	Positive
3	Infant mortality	2013-2017	3.2 (preventable death of newborns)	Decreasing	Not included in the trend.
4	Female and 30-34 and Universities And Other Higher Educational Institutions	2008-2021	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	Increasing	Positive
4	Students enrolled in tertiary education	2013-2020	4.3 (vocational and tertiary education)	Increasing	Positive
4	Participation in education	2013-2020	4.3 (vocational and tertiary education)	Increasing	Stable
4	Pupils enrolled in early childhood education	2013-2020	4.2 (access to early childhood education)	Increasing	Positive
4	Early leavers from education and training	2000-2021	4.6 (youth and adult literacy)	Decreasing	Positive

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend: Posit/Negat/Stable
4	Participation rates in selected education levels	2012-2020	4.1 (primary and secondary education)	Increasing	Stable
4	Distribution of pupils and students enrolled in general and vocational programmes	2013-2020	4.3 (vocational and tertiary education)	Increasing	Negative
5	Population not in labour force (1000) due to domestic work (Female/ 15-64 ages)	2014-2022	5.4 (unpaid work)	Decreasing	Stable
5	Parliamentary General Election - Number of female candidates	2011-2018	5.5 (women participation and leadership)	Increasing	Not included in the trend.
5	Gender gap in part-time employment incidence	2006-2019	5.4 (unpaid work)	Decreasing	Stable
6	Drinking water networks and water treatment plants : Rate of population served by water supply network in total municipal population (%)	1998-2020	6.1 (universal access to water)	Increasing	Not included in the trend.
6	Municipal wastewater statistics : Rate of municipal population served by sewerage system in total municipal population (%)	1998-2020	6.3 (water quality)	Increasing	Not included in the trend.
7	Electricity production that comes from renewable sources	2019	7.2 (share of renewable energy)	Increasing	Not included in the trend.
8	Economic activity	2017-2020	8.5 (productive employment)	Increasing	Positive
8	Unemployment	2017-2020	8.5 (productive employment)	Decreasing	Stable
8	Employment	2011-2021	8.5 (productive employment)	Increasing	Stable
8	GDP at current market prices	2013-2021	8.1 (economic growth)	Increasing	Stable

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend: Posit/Negat/Stable
8	GVA at basic prices	2017-2021	8.2 (economic productivity)	Increasing	Not included in the trend.
8	Long-term unemployment (12 months and more)	2012-2020	8.5 (productive employment)	Decreasing	Positive
8	Young people neither in employment nor in education and training	2006-2020	8.6 (youth not in employment, education or training)	Decreasing	Positive
9	R&D personnel and researchers	2018-2021	9.5 (promote innovation)	Increasing	Not included in the trend.
9	Employment in high-technology manufacturing as a percentage of total manufacturing employment	2009-2019	9.5 (promote innovation)	Increasing	Not included in the trend.
10	Unemployment of people with disabilities	2014-2022	10.2 (inclusion irrespective of status)	Decreasing	Stable
10	Gini coefficient by equivalised household disposable income : Gini coefficient	2014-2022	10.4 (greater equality)	Decreasing	Stable
11	Households expenses dedicated to housing costs	2003-2013	11.1 (access to housing)	Decreasing	Not included in the trend.
11	Transport performance (Number of motor vehicles: Minibus and bus)	1995-2022	11.2 (access to transport systems)	Increasing	Positive
11	Stock of vehicles (passenger cars)	2016-2020	11.2 (access to transport systems)	Decreasing	Negative
11	Land use (Land use: Arable land / Cultivated (hectare))	1995-2021	11.3 (sustainable urbanization)	Increasing	Stable
11	PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)	2001-2020	11.6 (environmental impact)	Decreasing	Stable

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend: Posit/Negat/Stable
11	Municipal waste statistics : Rate of population receiving waste services in total population (%) and in total municipal population (%)	1998-2020	11.6 (environmental impact)	Increasing	Stable
11	Victims in road accidents	1990-2020	11.2 (access to transport systems)	Decreasing	Negative
13	CO2 Emissions	2008	13.2 (climate change measures into policy)	Decreasing	Not included in the trend.
13	Greenhouse Gas Emissions	2001-2018	13.2 (climate change measures into policy)	Decreasing	Negative
13	Cooling and heating degree days	2001-2018	13.2 (climate change measures into policy)	-	Not included in the trend.
16	Participation in the last elections	2002-2015	16.6 (effective institutions)	Increasing	Not included in the trend.
17	Official Development Assistance	2010-2022	17.2 (development assistance commitments)	-	Not included in the trend.
17	PCT co-patent applications that are done with foreign regions	2001-2015	17.6 (regional and international cooperation)	-	Not included in the trend.

Source: Author's own elaboration

The methodology for including indicators in trend analysis has been explained in detail in section 2.2.3 the Trend Analysis. In this context, the indicators included in the analysis were initially assigned normative values of increasing, decreasing, or nothing (-). The term "nothing" implies that if the increase or decrease in value gains meaning when interpreted in relation to other variables, these indicators are considered as having a "nothing" value. For example, the Official Development Assistance can be evaluated differently depending on the sector, the beneficiary, timeline and so on. For instance, assistance provided to reduce high infrastructure costs in the renewable energy sector could be interpreted as "increasing." However, should an investment that continues to increase over a 10-year period still be considered "increasing"? Such debatable indicators that can vary within the concept are excluded from evaluation.

Subsequently, the data history was examined to determine whether it exhibited a positive, negative, or stable trend. If an indicator with an increasing normative value has a positive trend, it means that a significant increase in data has been observed over the years. Similarly, if an indicator with an increasing normative value has a negative trend, it means that a significant decrease has occurred over the years. However, stable trends indicate

that there have been slight fluctuations from the baseline year to the latest available data without any notable changes. In this context, for the indicator "Productivity (Gross Value Added per worker) in agriculture, forestry and fishing [USD per worker, constant prices, constant PPP, base year 2015. (Number)" disclosed in Figure 9, it is clear and evident that the data for the TR33 region is stable. Although there have been small increases and decreases over the years, it could be said that the trend is stable. On the other hand, it is expected that the productivity indicator in the TR33 region will increase, and its situation should be monitored over the years.

As stated in Section 2.2.3, indicators with significant deviations and indicators with no available data for 2 years or more were not included in the trend analysis. This situation is indicated by the phrase "Not included in the trend." For instance, in Figure 6, the indicator titled "Affected people due to disasters (Share of population exposed to at least one forest fire)" is expected to be decreasing. However, its excessive fluctuations over the years and the presence of missing data prevented trend analysis, so it was not included in the analysis.

In total, the normative trend of indicators was determined as 24 increasing, 17 decreasing and 3 nothing.

In total, trend analysis was determined as 11 positive, 4 negative, 13 stable, and 16 not included in the trend.

3.1 Statistical Analysis of Trends in TR33 Region

In this section, it is explained the trends of the SDG indicators selected by the JRC in the TR33 Region. It is the comparison of TR3 Regions including TR31, TR32 and TR33, and Türkiye through SDG indicators. The comparison of the TR33 is made with the regions located within a higher-level framework and Türkiye. Because it facilitates a deeper understanding for the TR33 Region. Additionally, comparisons are allowed the plausible interpretation at the national level with Türkiye especially in terms of ratio, rate and percentage. Indicators regarding numbers, Türkiye is presented using the clustered stacked column chart to enable the graphs a reader friendly.

Moreover, the indicators for the 17 Sustainable Development Goals (SDGs) in the TR33 Region have been alinged with TR33 policies and strategies. As a result, the points where regional policies correspond to indicators have been identified. Indicators proposed by the JRC are explained in the relevant section of the report if there is a lack of the regional data. For instance, SDG 5 indicators in TR33 Region just represents 3 indicators in spite of 7 indicators proposed by JRC.

3.1.1 SDG 1: No Poverty

Poverty prioritized in Regional Plan in TR33 Region (2014-2023) through the methods of fighting against poverty are made comprehensive and effective.

In the TR33 Region, SDG 1 encompasses one JRC indicator. Affected people due to disasters links SDG sub target 1.5 exposure to vulnerability.

Three indicators proposed by JRC which are "**persons living in households with very low work intensity**", "**material and social deprivation**" and "**persons at risk of poverty or social exclusion**" are not available at regional level. These three indicators link with SDG sub target 1.1 extreme poverty and 1.2 reduce poverty. However, 4 new indicators are proposed to measure SDG1 in TR33 Region. This data is not available at regional level.

Table 7. SDG 1 JRC Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
1	Affected people due to disasters	Organisation for Economic Cooperation and Development (OECD)	2001-2021	1.5 (exposure to vulnerability)		+			
1	Material and social deprivation	European Union Statistics on Income and Living Conditions (EU-SILC)	2014-2021	1.1 (extreme poverty)	-				
1	Persons at risk of poverty or social exclusion	Eurostat, Regional Statistics	2016-2020	1.2 (reduce poverty)	-				
					-				
1	Persons living in households with very low work intensity	Eurostat, Regional Statistics	2017-2021	1.2 (reduce poverty)	-				

Source: Author's own elaboration

Target 1.5 - Exposure to Vulnerability

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

Figure 5. Share of population exposed to at least one forest fire (Ratio)
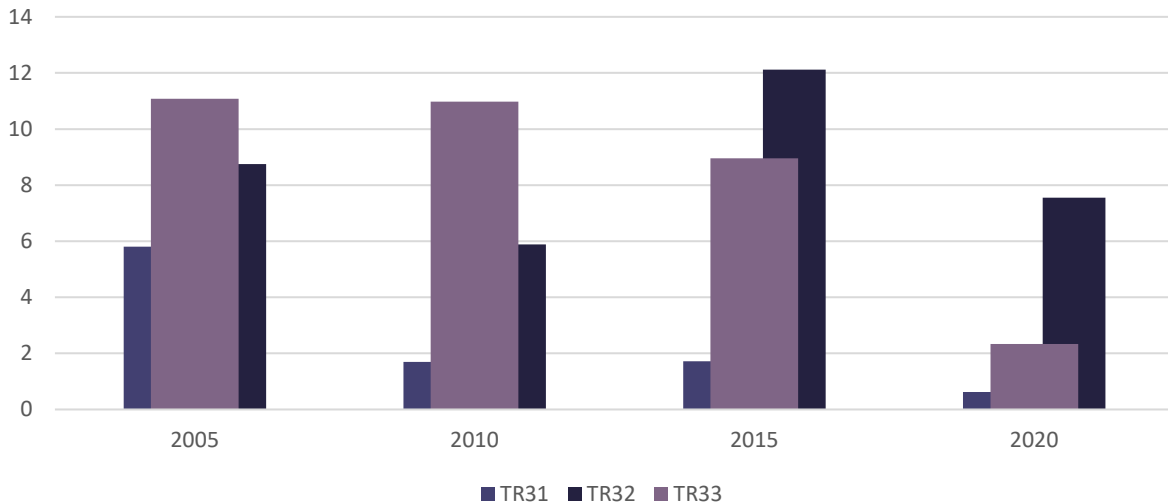
Source: OECDSTAT

Due to having 20 years of data, this indicator attempts to provide a comparison of three regions at intervals of 5 years. This presentation was chosen to enable the reader to easily select the data. It is possible to mention that the data is generally irregular. Specifically, in the Aegean Region, the number of forest fires increases during the summer months due to factors such as drought and climate change. However, the proportion of people affected by these fires shows a decreasing trend in the 5-year data of TR31 and TR33 regions. In TR32, however, it fluctuates.

Figure 6. Share of population exposed to at least one forest fire (Ratio) (TR33)

Source: OECDSTAT

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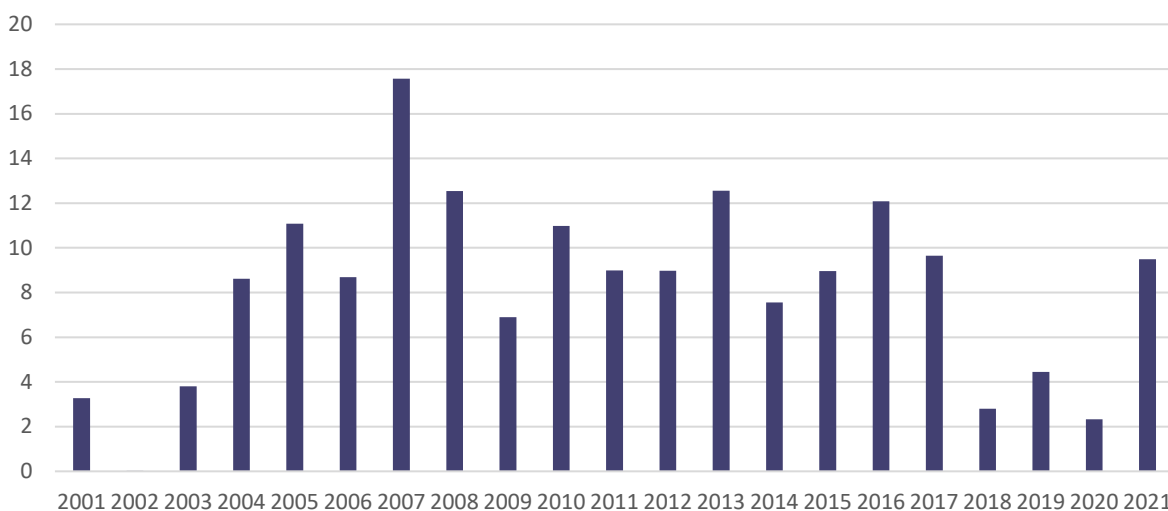
Figure 7 discloses that forest fires are an unpredictable threat to the population in the TR33 Region vary significantly from year to year and across regions.

Disaster Management is prioritized under the 11th Development Plan (2019– 2023) and TR33 Regional Plan (2014– 2023). The main objective of the 11th Development Plan on disaster management is to increase social awareness against disasters, to create safe settlements, and to minimize the loss of life and property that may be caused by disasters by conducting risk reduction programs through preparing provincial disaster risk reduction plans and developing local disaster prevention projects by improving implementation capacity. Besides, the TR33 Regional Plan (2014–2023) priorates disaster management through activating planned disaster response and implementing effective prevention methods. It is obvious that national and regional objectives are parallel with this indicator.

3.1.2 SDG 2: Zero Hunger

In the TR33 Region, SDG 2 encompasses one JRC indicator that is directly applicable, as well as one alternative indicator. These are "Productivity (Gross Value Added per worker) in agriculture, forestry and fishing" and "Organic farming: areas with different crops/ Production area (Hectare)". "Organic farming: areas with different crops" is related to SDG 2.4 "sustainable food production". This data is not available at regional level. But TURKSTAT has alternative indicator for organic farming production area.

Two indicators proposed by JRC which are "Gross Value Added (GVA) of agriculture, livestock and fishing" and "overweight rate" are not available at regional level. These two indicators link with SDG sub target 2.2 end malnutrition and 2.3 agricultural productivity. But 2 new indicators are proposed to measure SDG 2 in TR33 Region.

Table 8. SDG 2 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement	Alternative indicator	Non-fit for purpose
2	Organic farming: areas with different crops	Eurostat, Regional Statistics	2003-2013	2.4 (sustainable food production)	-				
2	Organic farming: areas with different crops/ Production area (Hectare)	TURKSTAT	2004-2021	2.4 (sustainable food production)				+	
2	Productivity (Gross Value Added per worker) in agriculture, forestry and fishing	Organisation for Economic Cooperation and Development (OECD)	2009-2015	2.3 (agricultural productivity)		+			
2	Overweight rate	Public Health Agency of Sweden	2004-2021	2.2 (end malnutrition)	-				
2	Gross Value Added (GVA) of agriculture, livestock and fishing	Eustat (Instituto Vasco de Estadistica)	1996-2019	2.3 (agricultural productivity)	-				

Source: Author's own elaboration

Target 2.4 Sustainable Food Production

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to

climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

Figure 7. Organic farming: production area (ha)(Number)
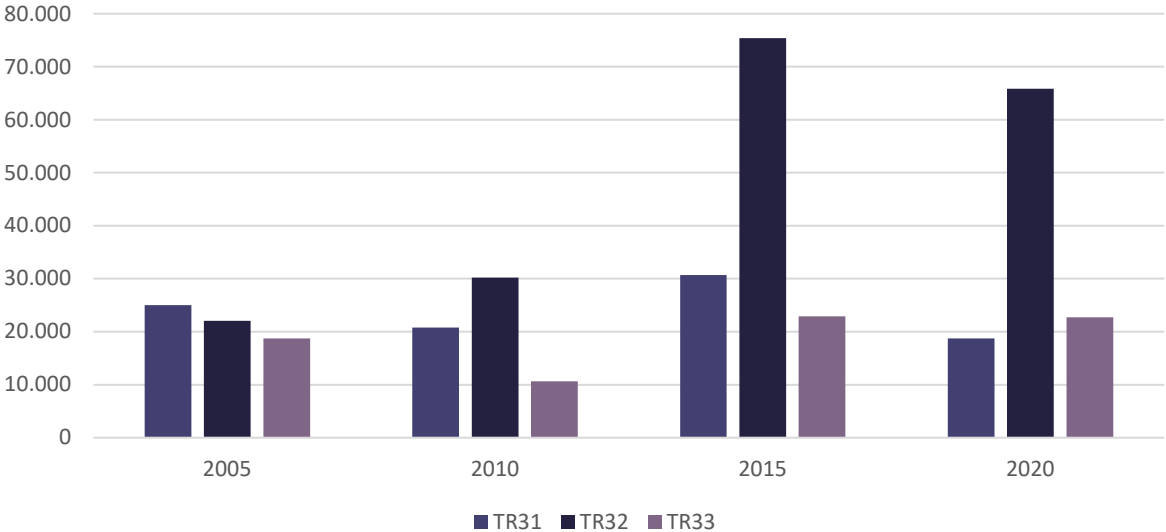
Source: TURKSTAT

With a dataset spanning 20 years, this indicator aims to compare three regions at 5-year intervals. This chosen format allows the reader to conveniently select the desired information. Especially, TR32 Region increased constantly. The consumer's tendency to consume organic products, which has been observed after 2010, has triggered these increases in the respective regions.

Figure 8. Organic farming: production area (ha)(Number)(TR33)
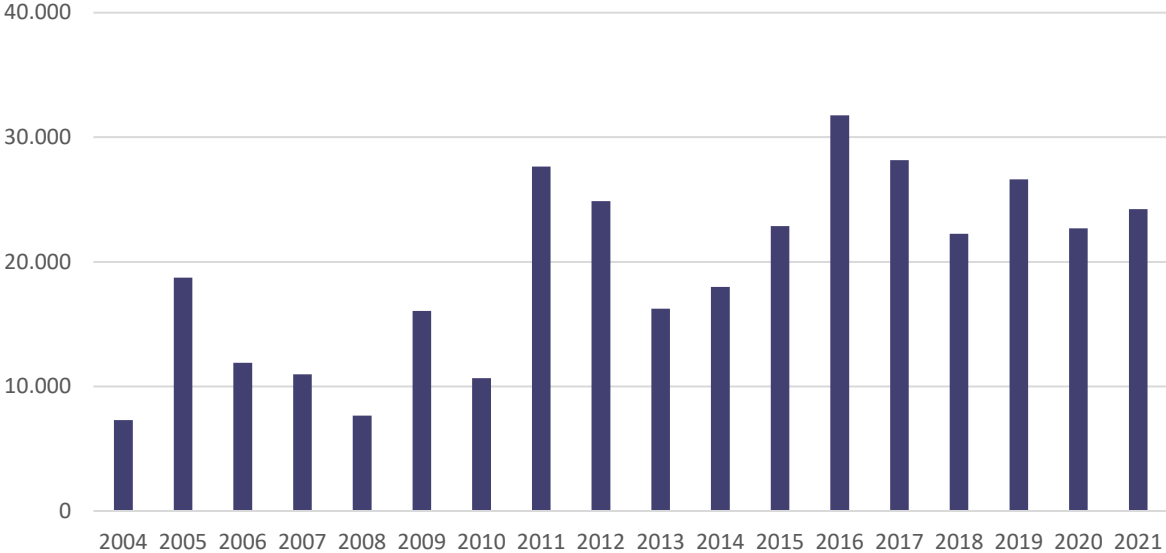
Source: TURKSTAT

The main agricultural objective in the 11th Development Plan is to create an efficient agricultural sector that is environmentally, socially and economically sustainable. has a production structure that takes care of the supply-demand balance as well as adequate and balanced nutrition of the people of the country through increasing its

international competitiveness, inventing advanced technology and solving infrastructure problems. In line with this national objective, the policy that supporting good agricultural practices, organic agriculture, contracted production, clustering, research, marketing and branding activities in order to increase product reliability, diversity and production, especially in high value-added medicinal and aromatic plants is prioritised. According to TR33 Regional Plan (2014-2023), in the TR33 Region, the land type that undergoes the most change in usage is agricultural land. In order to ensure the sustainability of the agricultural sector, which is one of the region's important economic resources, it is necessary to control the non-purposeful use of agricultural land.

Overall, the data suggests that the production area of organic farming in the TR33 region has been increasing and decreasing over the years, with some years showing significant growth while others show a decline. The fluctuations influenced by several factors such as irrigation challenges, decreasing topsoil, market demand, and environmental conditions. However, the overall trend shows that organic farming is becoming increasingly popular in the region, which could potentially have positive impacts on soil health and sustainability.

Target 2.3 Agricultural Productivity

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

Figure 9. Productivity (Gross Value Added per worker) in agriculture, forestry and fishing [USD per worker, constant prices, constant PPP, base year 2015. (Number)
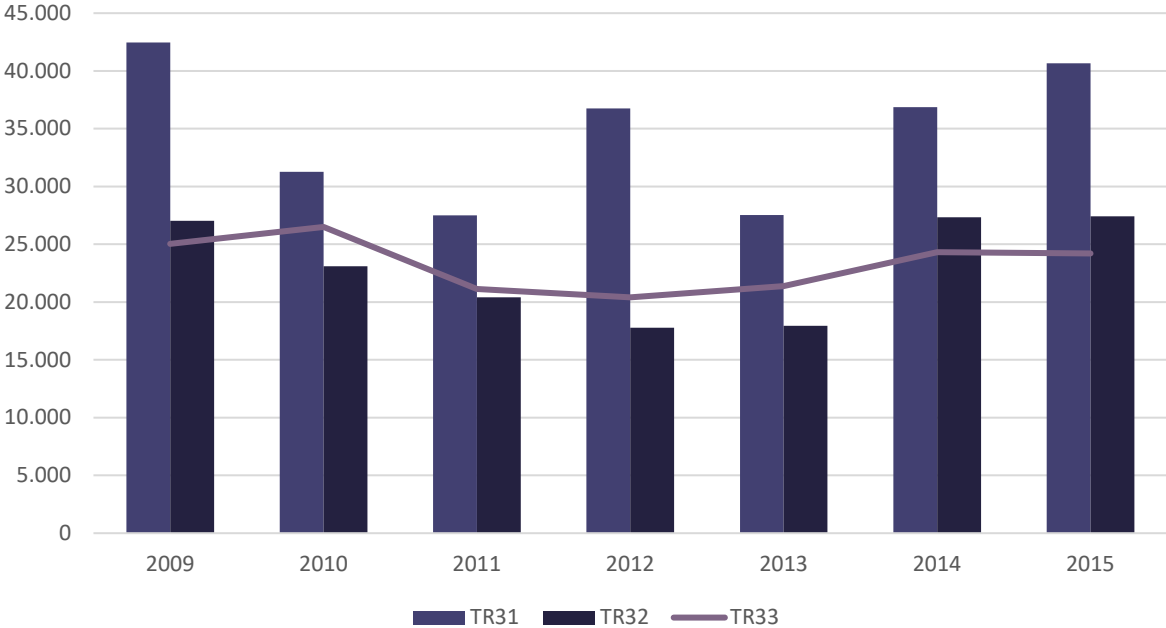
Source: OECDSTAT

Overall, the data suggests that the productivity in agriculture, forestry, and fishing in the TR33 region has been fluctuating over the years, with some years showing significant growth while others show a decline. The fluctuations may be influenced by several factors such as market demand, environmental conditions, and technological advancements. The data shows that there was a significant decline in productivity in 2011, which might need further investigation to understand the underlying factors. However, the overall trend shows a positive outlook for the sector, with productivity in the TR33 region showing an increasing trend from 2009 to 2014.

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3.1.3 SDG 3: Good Health and Well-Being

In the TR33 Region, SDG 3 encompasses four JRC indicator that is directly applicable. Only one indicator is no available.

According to TR33 Regional Plan (2014-2023), good and well-being prioritized under the enhancing of basic and socio-cultural services.

Table 9. SDG 3 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
3	Deaths due to Covid-19	CNE (National Centre of Epidemiology)	2019-2022	3.3 (epidemics and diseases)	+				
3	Deaths due to Covid-19	TURKSTAT	2020-2021	3.3 (epidemics and diseases)			+		
3	Health personnel	Eurostat, Regional Statistics	1993-2020	3.c (health financing and recruitment)		+			
3	Hospital beds	Eurostat, Regional Statistics	2002-2021	3.8 (universal health coverage)		+			
3	Infant mortality	Eurostat, Regional Statistics	2013-2017	3.2 (preventable death of newborns)		+			
3	Self reported unmet needs for medical examination	European Union Statistics on Income and Living Conditions (EU-SILC)	2008-2021	3.c (health financing and recruitment)	+				

Source: Author's own elaboration

Target 3.3 Epidemics and Diseases

By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases

Figure 10. Deaths due to Covid-19 (Number)
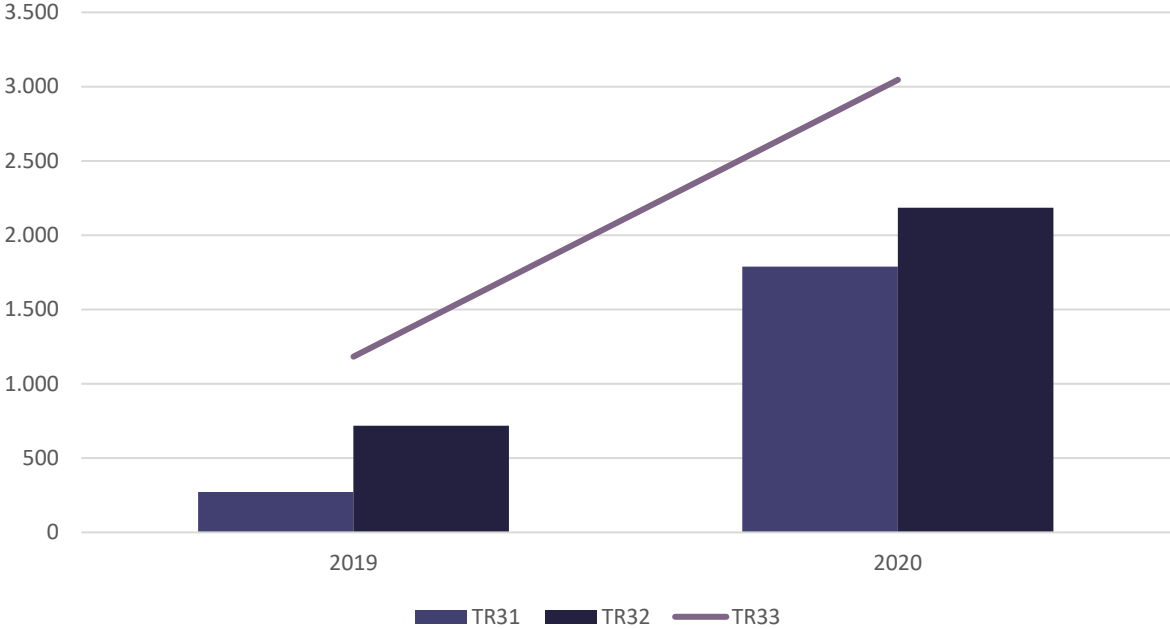
Source: TURKSTAT

It is not prioritised due to the decrease in the effects of COVID-19 in the TR33 Region. The table provides the number of deaths due to COVID-19 in the regions of TR31, TR32, and TR33 for the years 2019 and 2020.

It is important to note that COVID-19 did not exist in 2019, so it is possible that the data for 2019 refers to deaths due to other causes. The significant increase in deaths in 2020 compared to 2019 in all regions suggests that many of the deaths in 2020 were indeed due to COVID-19. However, it is also possible that other factors may have contributed to the increase in deaths. It's important to note that the test number and quality controlled by Ministry of Health.

Overall, the data highlights the importance of implementing effective preventive measures such as social distancing, wearing masks, and vaccination programs to mitigate the impact of the pandemic on public health.

Target 3.c Health Financing and Recruitment

Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

Figure 11. Health personnel (medical doctors) (Number)
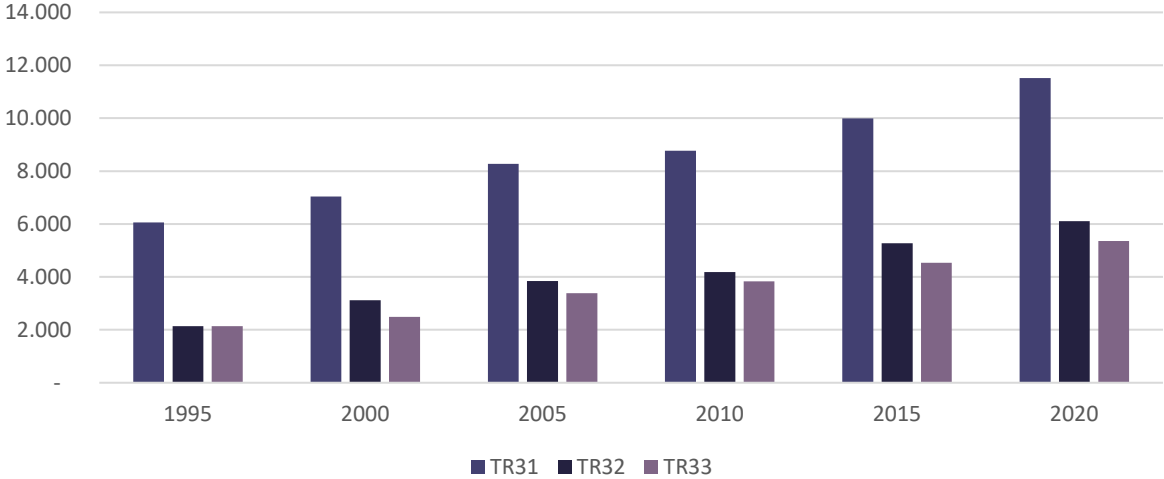
Source: TURKSTAT

The figure 12 shows that increasing the number of medical doctors in 3 regions. The increasing population and the rising number of doctors are positively correlated. With a dataset spanning 20 years, this indicator aims to compare three regions at 5-year intervals. This chosen format allows the reader to conveniently select the desired information.

Figure 12. Health personnel (medical doctors) (Number) (TR33)
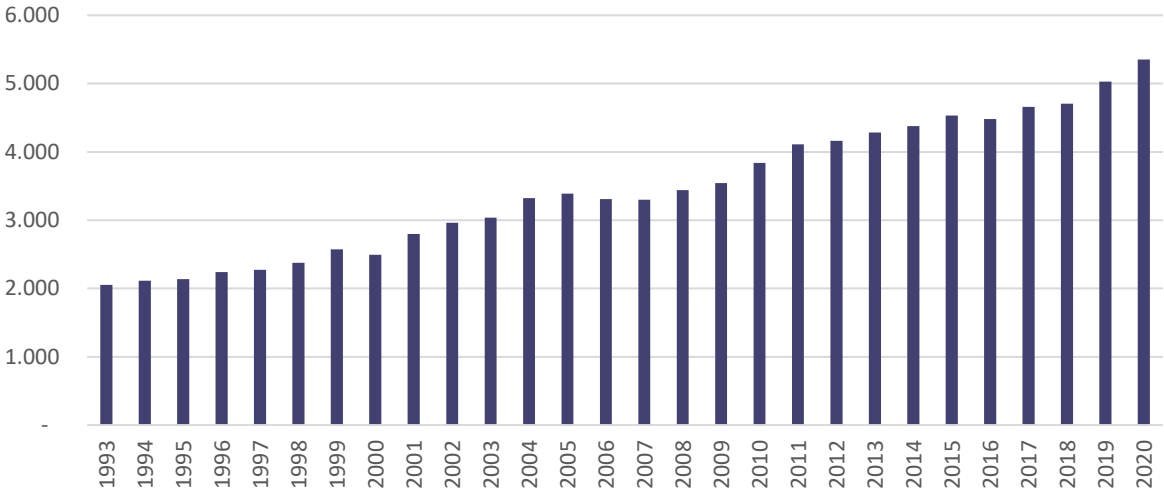
Source: TURKSTAT

The trend suggests that there has been a growing demand for healthcare services in the region, leading to an increase in the number of hospital personnel. The increase in hospital personnel is a positive development as it helps to ensure that the region has enough healthcare professionals to provide quality care to patients.

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Target 3.8 Universal Health Coverage

Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Figure 13. Hospital beds (Number)
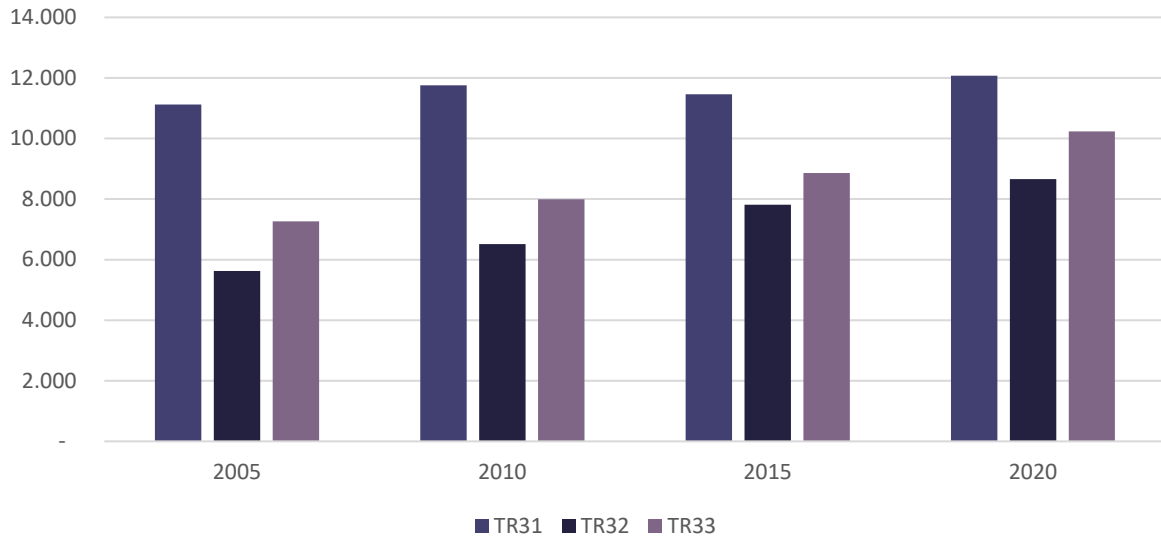
Source: EUROSTAT

Due to having 20 years of data, this indicator attempts to provide a comparison of three regions at intervals of 5 years. This presentation was chosen to enable the reader to easily select the data. The figure 14 shows that increasing the number of hospital beds in 3 regions. The increasing population and the rising number of hospital beds are positively correlated.

Figure 14. Hospital beds (Number) (TR33)
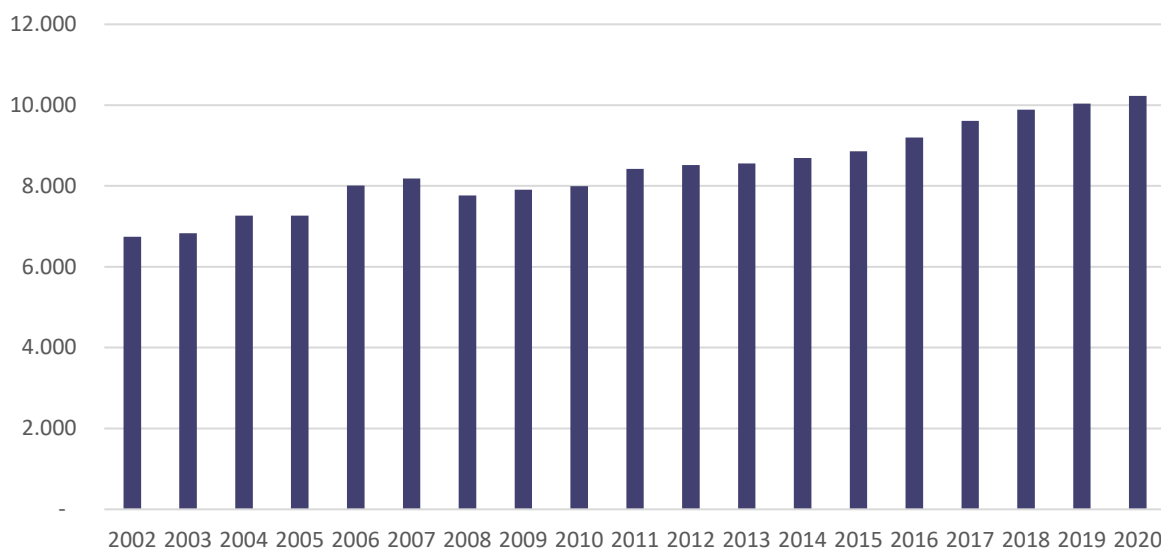
Source: EUROSTAT

The data represents the number of hospital beds in the TR3 Region over a period of 19 years from 2002 to 2020. The number of hospital beds has been increasing every year with some fluctuations.

The number of hospital beds in the TR33 Region increased from 6.743 in 2002 to 10.232 in 2020, a growth of 3.489 beds, or 51.7% overall. The largest increase occurred between 2016 and 2017, when the number of hospital beds increased by 414, or 4.5%.

The number of hospital beds saw some fluctuations during this period, with a slight decline in 2005 and 2008. However, the overall trend shows an increasing number of hospital beds in the TR33 region.

Overall, this data suggests that there has been a consistent increase in the number of hospital beds in the TR33 region over the past 19 years, indicating an improvement in the region's healthcare infrastructure.

Target 3.2 Preventable Death of Newborns

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

Figure 15. Infant Mortality (Number) in TR33
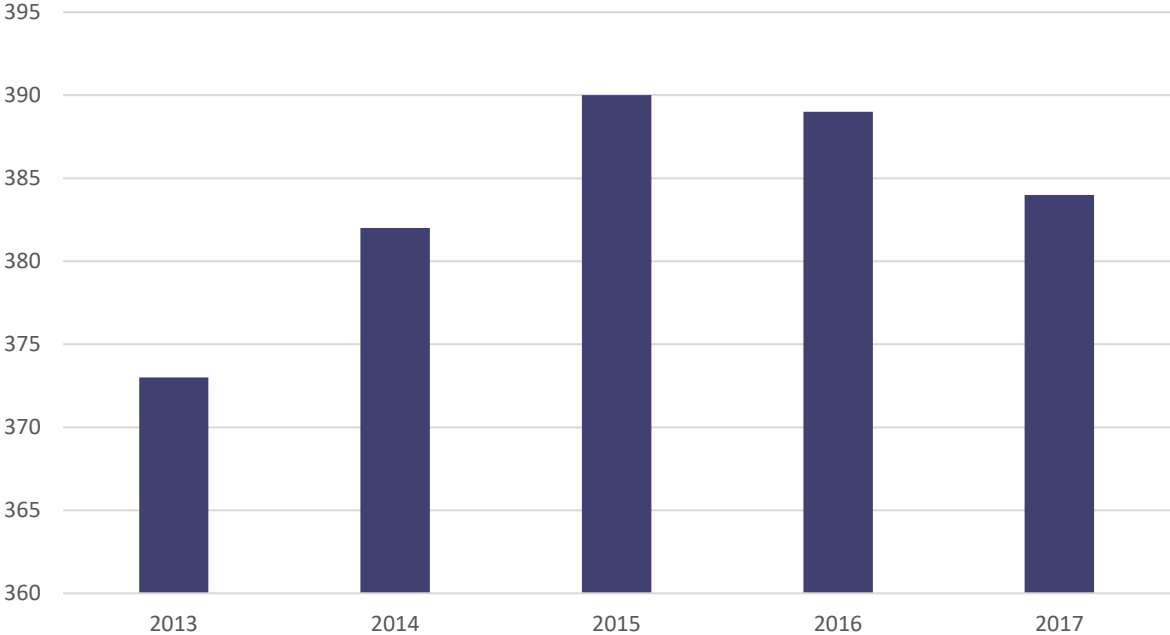
Source: EUROSTAT

This data suggests that there has been a slight improvement in the infant mortality rate in the TR33 region over the past five years. However, the number of infant mortalities is still relatively high, and more efforts are needed to further reduce this number. It's also worth noting that a single year's data cannot be used to draw definitive conclusions about trends, and long-term data would be needed to fully understand the situation.

3.1.4 SDG 4: Quality Education

The total number of indicators for SDG 4 in the TR33 Region is seven. Six JRC indicators are directly applicable, while one alternative indicator has been determined.

According to the TR33 Regional Plan (2014-2023), the enhancement of basic and socio-cultural services prioritizes SDG 4 quality education.

Table 10. SDG 4 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for
4	Women 30-34 years old with higher education level	Eustat (Instituto Vasco de Estadistica)	1994-2019	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	+				
4	Female and 30-34 and Universities And Other Higher Educational Institutions	TURKSTAT	2008-2021	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)				+	
4	Students enrolled in tertiary education	Eurostat, Regional Statistics	2013-2021	4.3 (vocational and tertiary education)		+			
4	Participation in education	Eurostat, Regional Statistics	2013-2021	4.3 (vocational and tertiary education)		+			
4	Pupils enrolled in early childhood education	Eurostat, Regional Statistics	2013-2021	4.2 (access to early childhood education)		+			
4	Early leavers from education and training	Eurostat, Regional Statistics	2000-2020	4.6 (youth and adult literacy)		+			
4	Participation rates in selected education levels (Primary and lower secondary education (levels 1 and 2))	Eurostat, Regional Statistics	2012-2021	4.1 (primary and secondary education)		+			
4	Distribution of pupils and students enrolled in general and vocational programmes (Upper secondary education – vocational)	Eurostat, Regional Statistics	2013-2021	4.3 (vocational and tertiary education)		+			

Source: Author's own elaboration

Target 4.5 Gender and Other Disparities in Education

By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

Target 4.6 Youth and Adult Literacy

By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
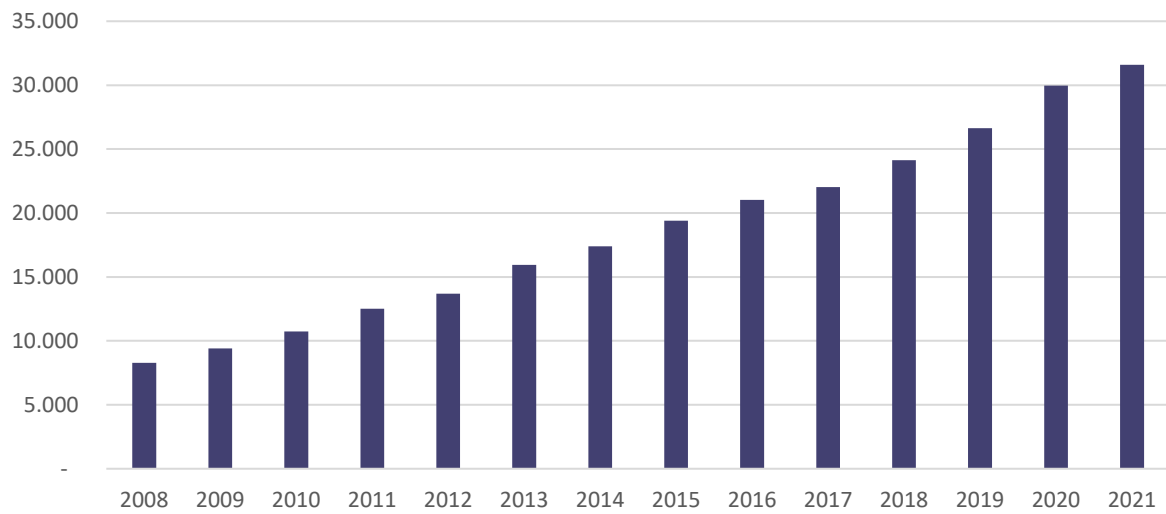
Figure 16. Female and 30-34 and Universities and Other Higher Educational Institutions (Number)
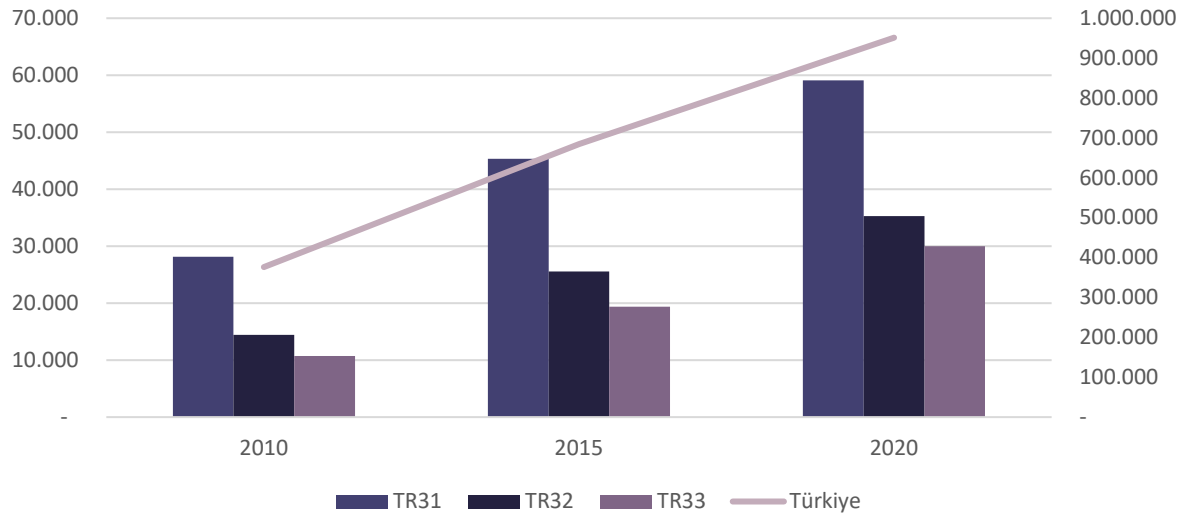
Source: TURKSTAT

When it is comparing "Female and 30-34 and Universities and Other Higher Educational Institutions" among regions, it is obvious to say that there is room for improvement in Figure 17.

Figure 17. Female and 30-34 and Universities and Other Higher Educational Institutions (Number) (TR33)

Source: TURKSTAT

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Overall, the data indicates that there has been a significant increase in the number of females aged 30-34 graduated in universities and other higher educational institutions in the TR33 region, indicating an increasing trend of higher education among women in this age group.

Target 4.3 Vocational and Tertiary Education

By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Figure 18. Students enrolled in tertiary education (Number)
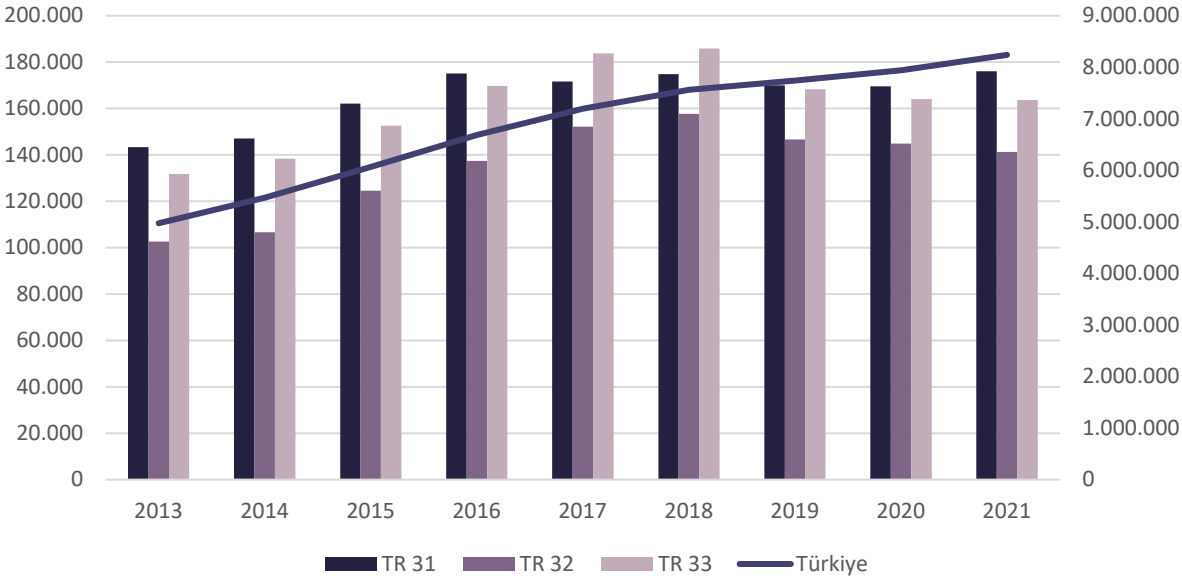
Source: EUROSTAT

The data indicates a general increasing trend in the number of students enrolled in tertiary education in the TR33 region, with a peak enrolment in 2018. However, there has been a steady decrease in enrolment since then, possibly influenced by the COVID-19 pandemic.

Figure 19. Rate of Participation in education (age from 20 to 24) (Rate)
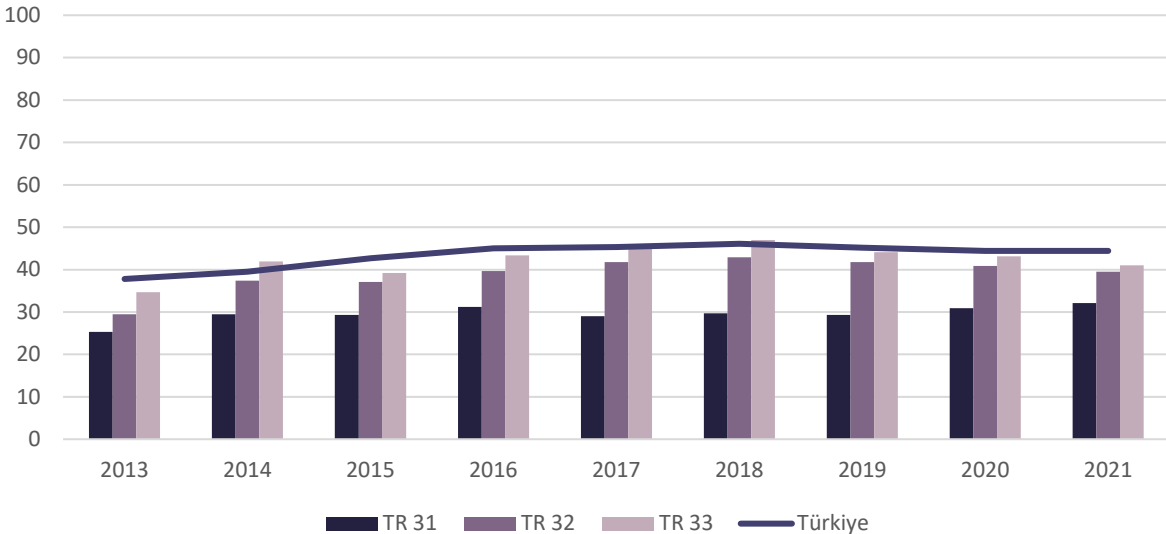
Source: EUROSTAT

The data indicates that there is some room for improvement in education participation rates in the TR33 region, but the stability of the rates over the 8-year period suggests that education is a relatively stable and consistent priority for the population in the region.

Target 4.2 Access To Early Childhood Education

By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

Figure 20. Pupils enrolled in early childhood education (Number)
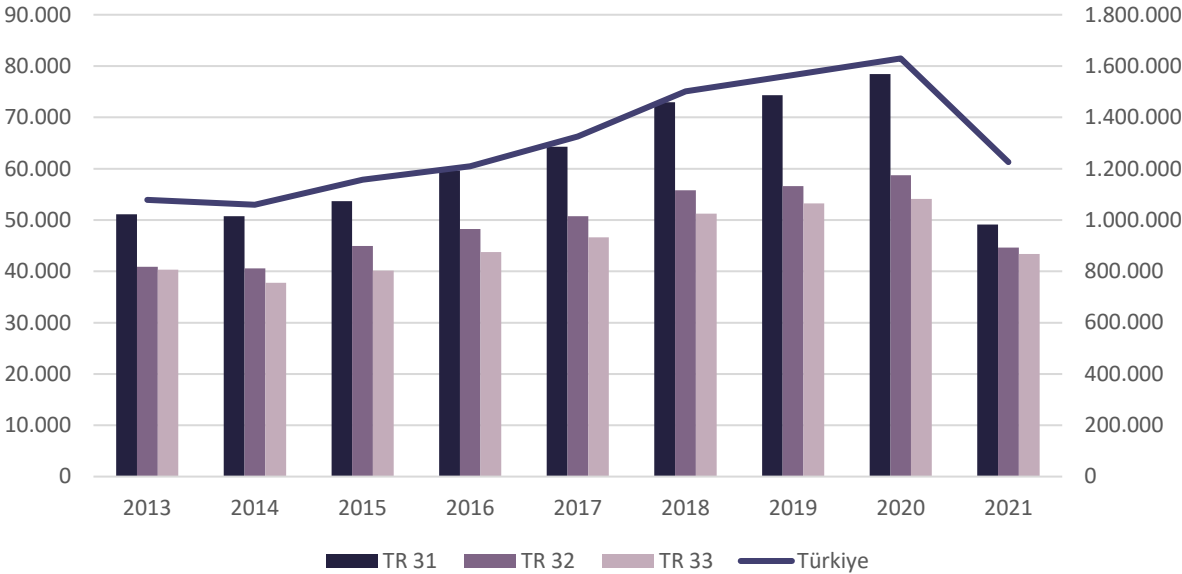
Source: EUROSTAT

The high number of pupils enrolled in early childhood education in 2020 is likely due in part to the COVID-19 pandemic, as parents may have chosen to keep their young children enrolled in early childhood education centres rather than have them stay at home.

Overall, the data suggests that there is a strong demand for early childhood education in the TR33 region, and that this demand has been growing over the past decade. This highlights the need for continued investment in early childhood education programs in the region to meet this demand and ensure that all children have access to high-quality early education.

Target 4.6 Youth and Adult Literacy

By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

Figure 21. Early leavers from education and train (From 18 to 24 years)(%)
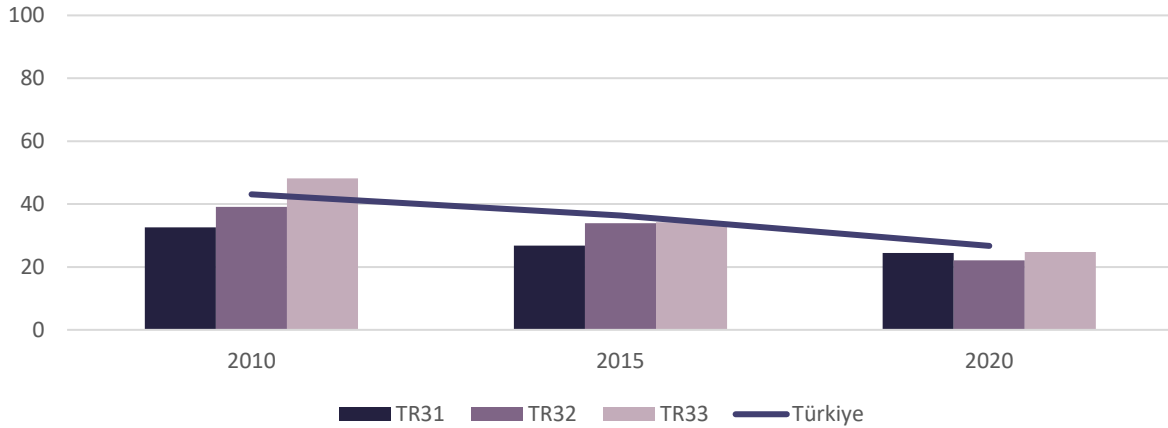
Source: EUROSTAT

Percentage of the early leavers from education and train from 18 to 24 years decrease in every 5 years in 3 regions and national level.

Figure 22. Early leavers from education and train (From 18 to 24 years) (Rate) (TR33)
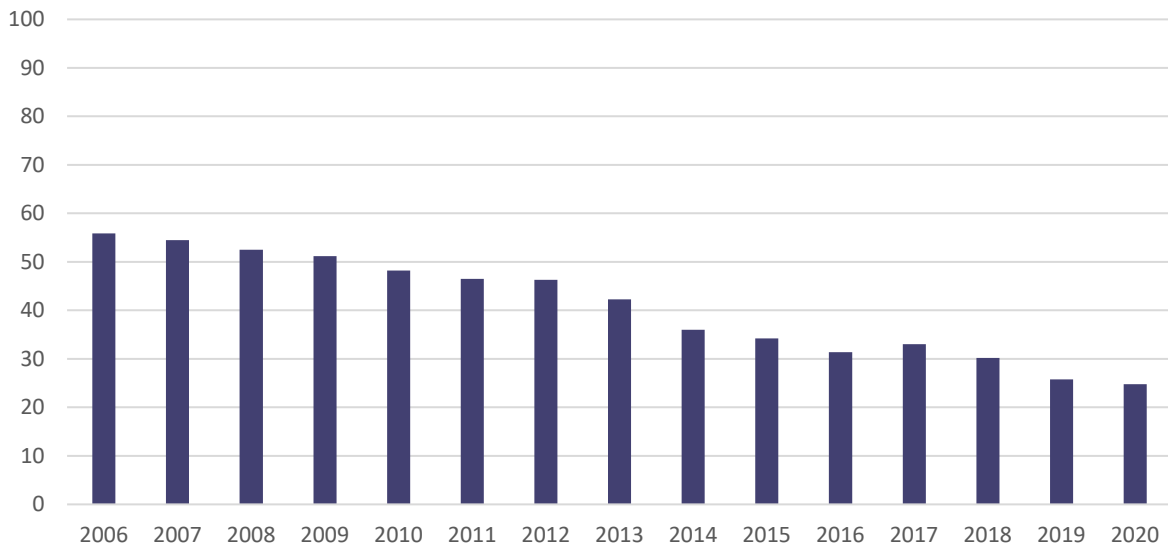
Source: EUROSTAT

The trend of decreasing early leavers continued between 2018 and 2019, with the percentage decreasing to 25.8%.

Between 2019 and 2020, the percentage of early leavers decreased only slightly, indicating that progress in reducing early leavers has slowed down.

Overall, the data suggests that efforts to reduce the percentage of early leavers from education and training in the TR33 region have been successful, but there is still work to be done to reach the EU target of a maximum

of 10% early leavers by 2020. Continued investment in education and training programs, as well as targeted interventions to address the root causes of early leaving, may be needed to achieve this goal.

Target 4.1 Primary and Secondary Education

By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Figure 23. Primary and lower secondary education (Rate)
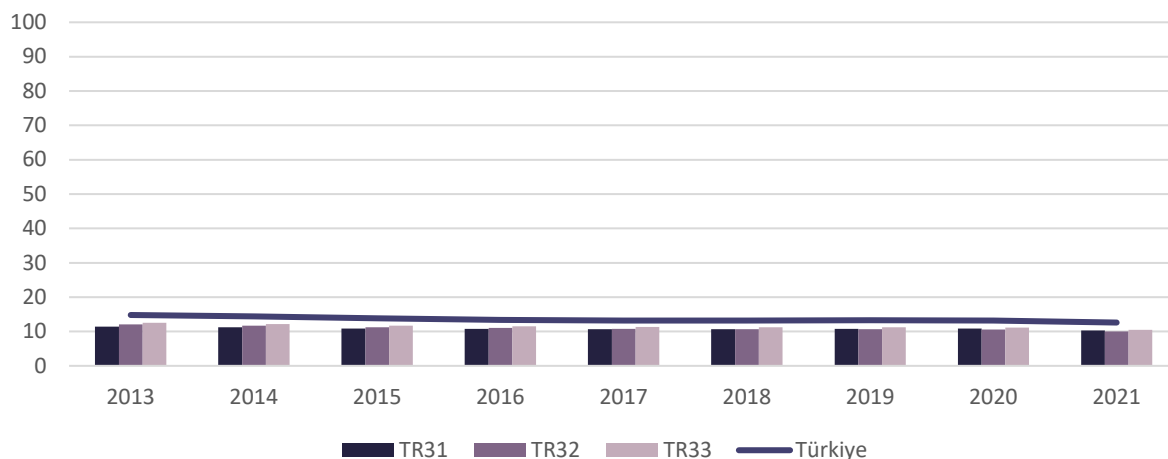
Source: EUROSTAT

Based on the data provided, the participation rates in selected education levels in the TR33 region have been fluctuating between 23.8% to 25.5% from 2013 to 2021. The highest participation rate was recorded in 2017, while the lowest was recorded in 2021.

Target 4.3 Vocational and Tertiary Education

By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Figure 24. Distribution of pupils and students enrolled in general and vocational programmes (Upper secondary education – vocational) (%)

Source: EUROSTAT

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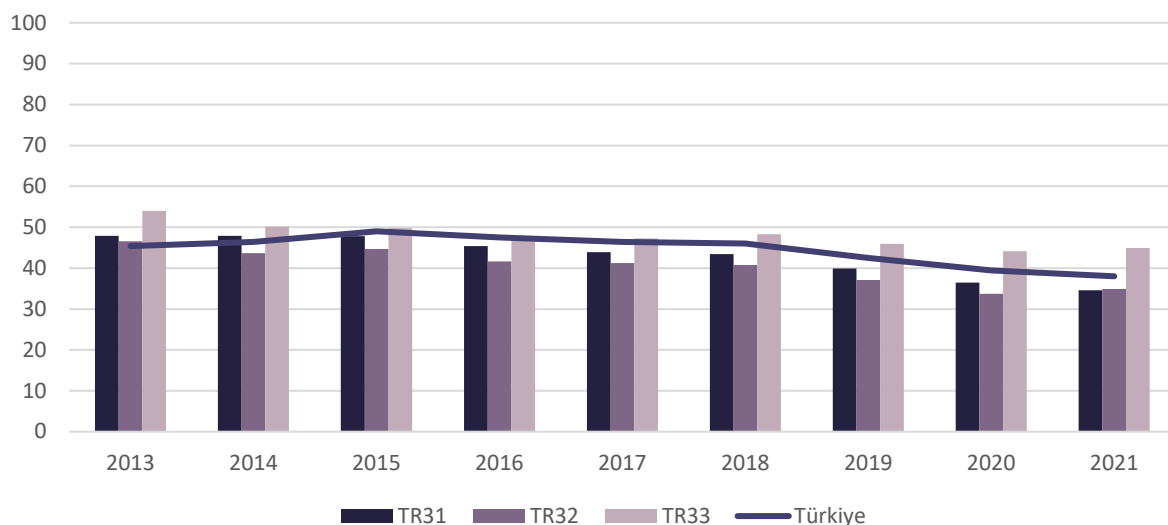
According to the TR33 Regional Plan (2014-2023), a measure has been developed to ensure the supply of labour force responsive to demand, under which education programs are created at the secondary and higher education levels that align with the priority sectors in the districts and are tailored to meet the demands. Additionally, vocational training programs are established to acquire new skills and competencies in line with the sector-specific demands, which are compatible with the priority sectors in the districts. Furthermore, efforts are made to strengthen applied training programs in vocational and technical education, which align with the priority sectors in the districts. These interventions aim to address the labour force needs and skills requirements in accordance with the regional priorities.

This is why, it is essential to monitor distribution of pupils and students enrolled in general and vocational programmes in TR33 Region.

3.1.5 SDG 5: Gender Equality

Within the TR33 Regional Plan (2014-2023), the human and society axis has been defined based on the principles of Applicability and Governance for Goal 5. In line with this, the following priorities have been adopted.

Priority 8.1 Implementation of active labour market policies (gender perspective)

Priority 8.4 Social services are enhanced for widespread effectiveness (gender perspective)

Table 11. SDG 5 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement with	Alternative indicator	Non–fit for purpose
5	Inactive population rate due to caregiving responsibilities	Institute of Statistics and Cartography	2007	5.4 (unpaid work)	+				
5	Population not in labour force (1000) due to domestic work (Female/ 15-64 ages)	TURKSTAT	2014-2022	5.4 (unpaid work)				+	
5	Women in parliament and government	INE (National Statistics Institute)	2006-2021	5.5 (women participation and leadership)	+				
5	Parliamentary General Election – Number of female candidates	TURKSTAT	2011-2018	5.5 (women participation and leadership)				+	
5	Female achievement/disadvantage index	European Commission, DG REGIO	2021	5.1 (gender discrimination)	+				
5	Gender gap in part-time employment incidence	Organisation for Economic Cooperation and Development (OECD)	2006-2019	5.4 (unpaid work)		+			
5	Fatal victims of gender–based violence at the hands of their partners or expartners	INE (National Statistics Institute)	1999-2021	5.2 (gender violence)	+				
5	Victims of violence against women	Ministry of Equality	2009-2021	5.2 (gender violence)	+				
5	Female research and development personnel	Organisation for Economic Cooperation and Development (OECD)	2011-2015	5.5 (women participation and leadership)	+				

Target 5.4 Unpaid Work

Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate

*Figure 25. Population not in labour force (1000) due to domestic work (Female/ 15-64 ages)(Thousand People)*
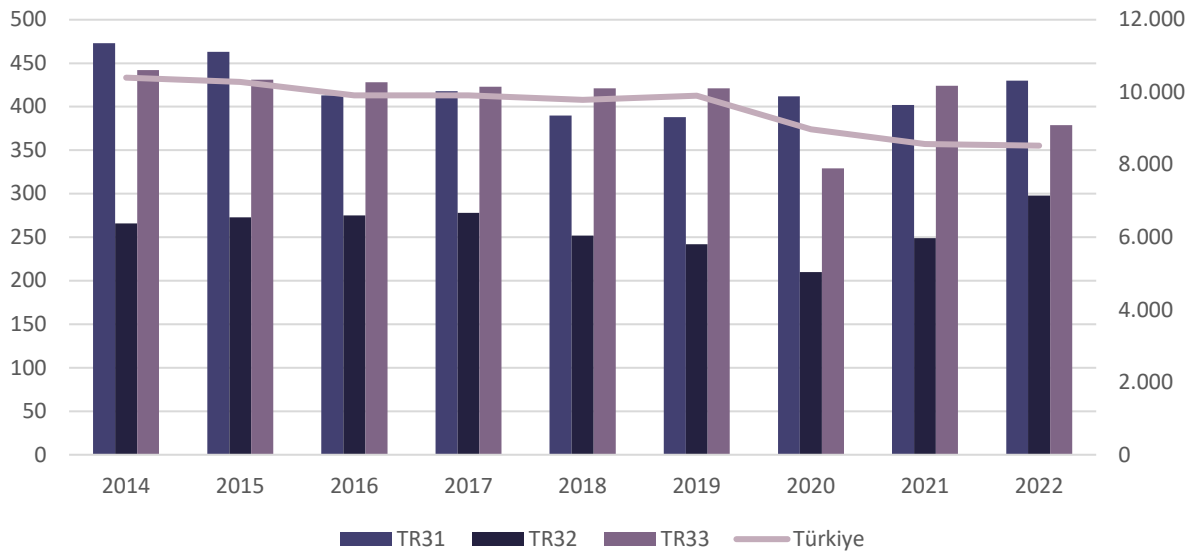
Based on the given data, the number of female individuals who are not in the labour force due to domestic work in the TR33 region has fluctuated between 329 000 to 442 000 from 2014 to 2021. The number decreased to a minimum in 2020 and then increased again in 2021.

Target 5.5 Women Participation and Leadership

Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Figure 26. Parliamentary General Election – Number of female candidates
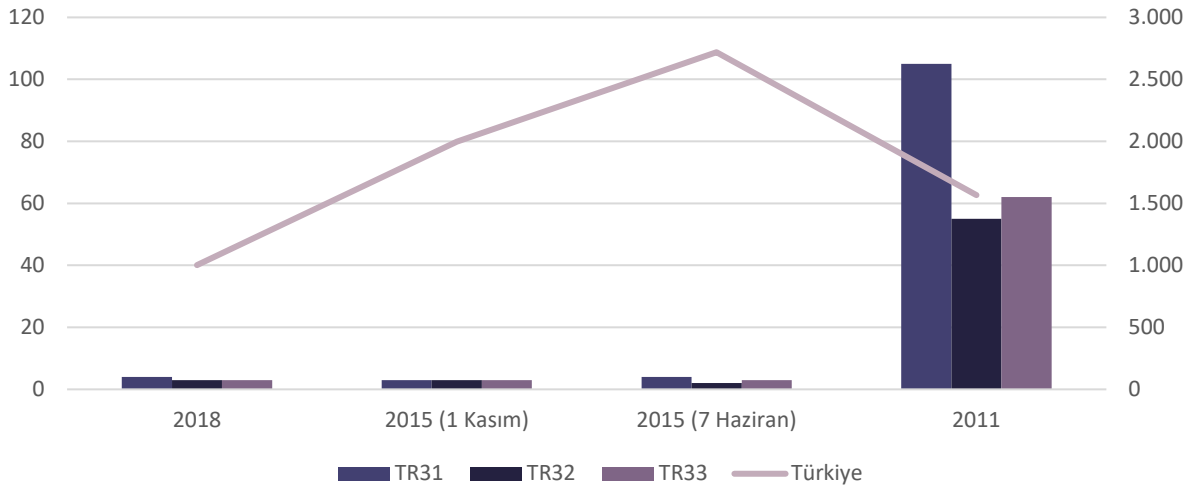
Source: TURKSTAT

The data only shows the number of female candidates in the parliamentary general elections for the TR33 region in the years 2011, 2015, and 2018. According to the data, there were only 3 female candidates in the 2015 (7 June) and 2015 (1 November) elections, and 62 female candidates in the 2011 and 2018 elections.

Target 5.4 Unpaid Work

Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate

Figure 27. Part-Time employment Incidence, 15-64 years old (% part-time employees over total employment) (Total)

Source: OECDSTAT

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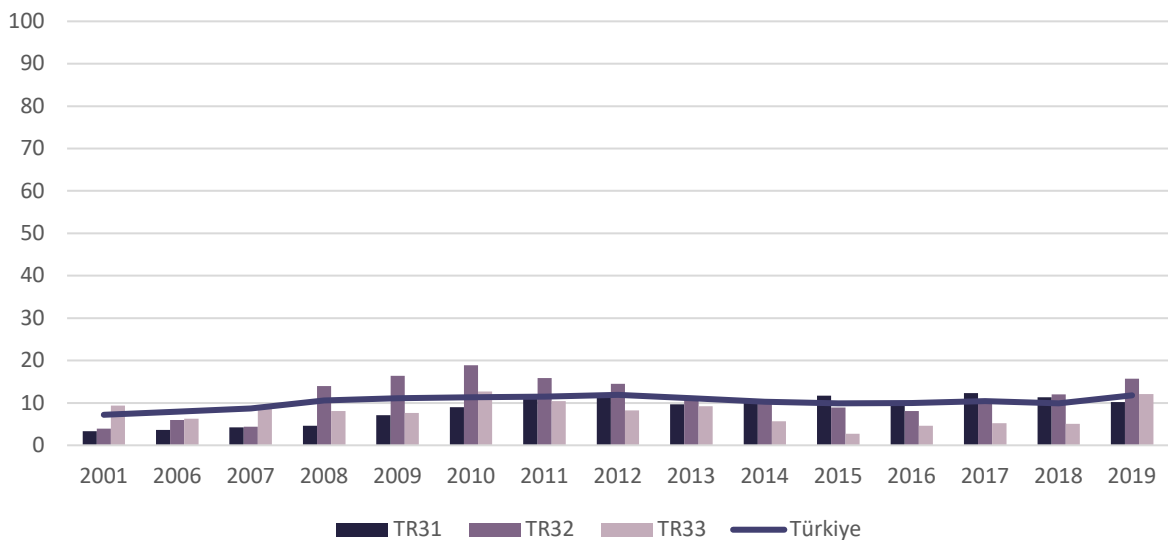
3.1.6 SDG 6: Clean Water and Sanitation

It is evident to say that SDG 6 is getting crucial for communities. TR33 Region pays close attention to environmental sources. Under Environment axis, it prioritizes reducing environmental pollution in settlements.

Table 12. SDG 6 JRC SDG Indicator Analysis

| SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement	Alternative indicator	Non–fit for purpose
6	Population served by safely managed drinking water supply services	Flanders Environment Agency	2012-2017	6.1 (universal access to water)	+				
6	Drinking water networks and water treatment plants: Rate of population served by water supply network in total municipal population (%)	TURKSTAT	1998-2020	6.1 (universal access to water)				+	
6	Population connected to wastewater with at least secondary treatment	NILSA (Navarra de Infraestucturas Locales)		6.3 (water quality)	+				
6	Municipal wastewater statistics: Rate of municipal population served by sewerage system in total municipal population (%)	TURKSTAT	1998-2020	6.3 (water quality)				+	
6	Water bodies that exceed a standardized quality rating	NILSA (Navarra de Infraestucturas Locales)		6.3 (water quality)	+				
6	Groundwater that exceed a standardized quality rating	NILSA (Navarra de Infraestucturas Locales)		6.3 (water quality)	+				

Source: Author's own elaboration

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Target 6.1 Universal Access to Water

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Figure 28. Drinking water networks and water treatment plants: Rate of population served by water supply network in total municipal population (%)
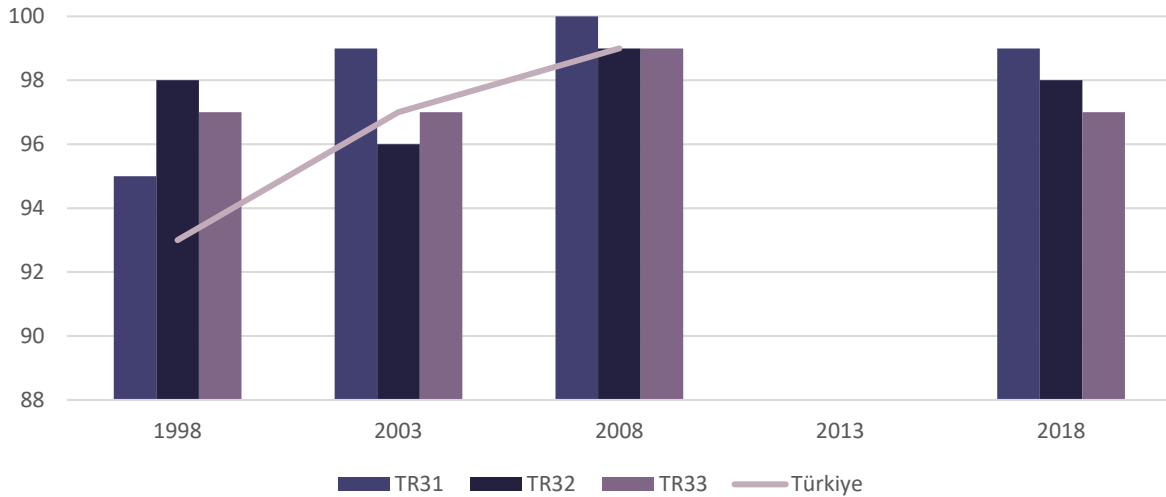
Source: TURKSTAT

Figure 29. Drinking water networks and water treatment plants: Rate of population served by water supply network in total municipal population (%) TR(33)
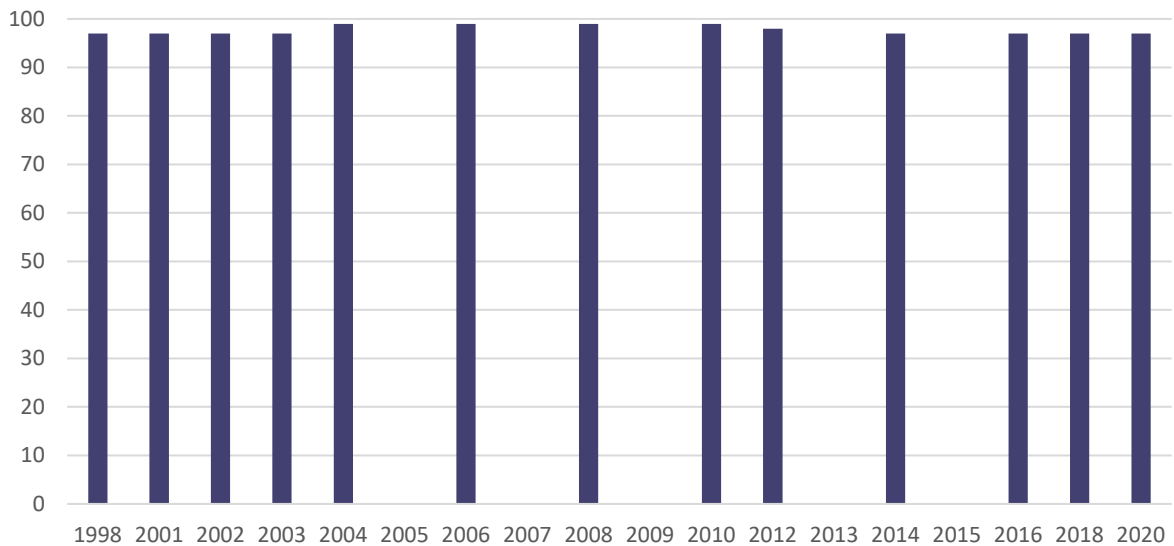
Source: TURKSTAT

The data represents the rate of the population served by drinking water networks and water treatment plants in the TR33 region. The data is provided for the years 1998, 2001, 2002, 2003, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2020. The rate has remained consistent at 97-99% over the years, except for 2004 and 2006, where it reached 99%.

Target 6.3 Water Quality

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Figure 30. Municipal wastewater statistics: Rate of municipal population served by sewerage system in total municipal population (%)
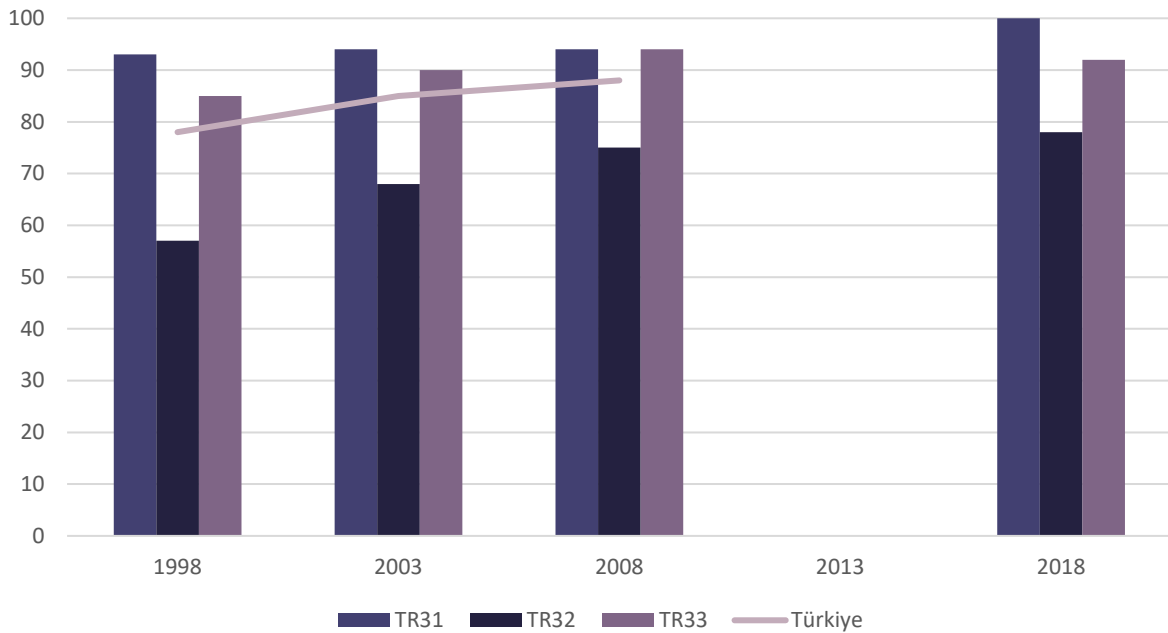
Source: TURKSTAT

Figure 31. Municipal wastewater statistics: Rate of municipal population served by sewerage system in total municipal population (%) (TR33)
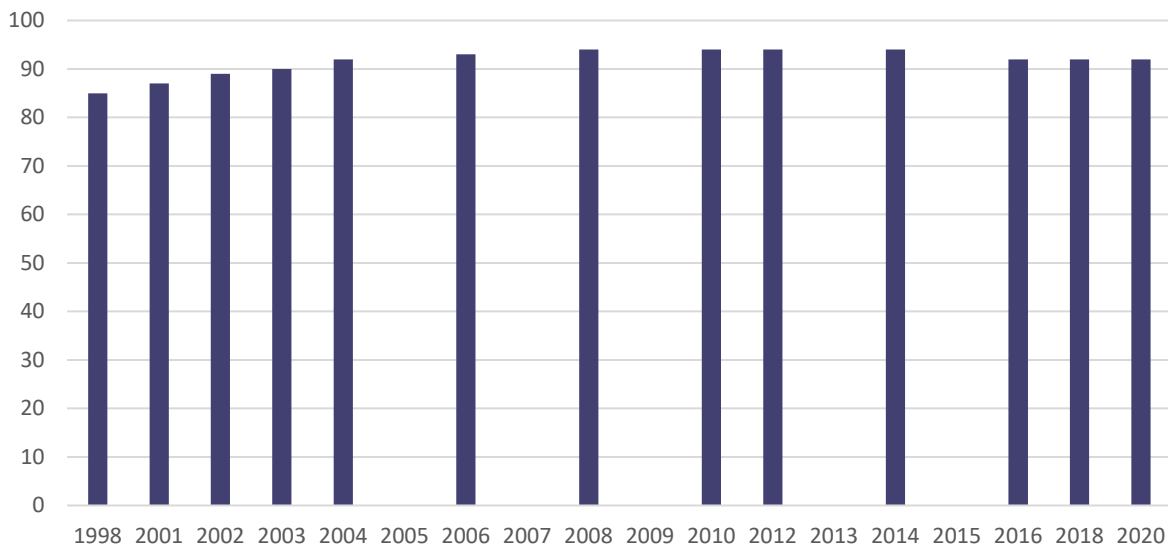
Source: TURKSTAT

The data provided shows the rate of municipal population served by sewerage system in total municipal population (%) from 1998 to 2020. The rate has steadily increased from 85% in 1998 to 92% in 2020. There was a slight dip in the rate from 2004 to 2006, but it has been steadily increasing since then. This indicates an improvement in the availability of sewerage systems and their reach over the years, leading to better sanitation and public health in the region.

3.1.7 SDG 7: Affordable and Clean Energy

Renewable energy sources continue to gain importance worldwide. Regions are prioritizing renewable energy sources in this regard. The TR33 Region has prioritized this issue in its regional plan under the Energy axis. In particular, it has planned for the development of solar and wind energy investments.

Priority 9.1 Increasing the use of renewable energy sources

Priority 9.2 Improvement of traditional energy generation and distribution infrastructure

Table 13. SDG 7 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for purpose
7	Electricity production that comes from nuclear power	Organisation for Economic Cooperation and Development (OECD)	2019	7.2 (share of renewable energy)					+
7	Electricity production that comes from renewable sources	Organisation for Economic Cooperation and Development (OECD)	2019	7.2 (share of renewable energy)		+			
7	Energy intensity	Euskadi Energia	2017-2020	7.3 (energy efficiency)	+				
7	People affected by energy poverty	Ministry for the Ecological Transition and the Demographic Challenge	2017-2020	7.1 (access to energy)	+				

Source: Author's own elaboration

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Target 7.2 Share of Renewable Energy

By 2030, increase substantially the share of renewable energy in the global energy mix

Figure 32. Share of renewable energy sources in electricity generation (2019)(%)
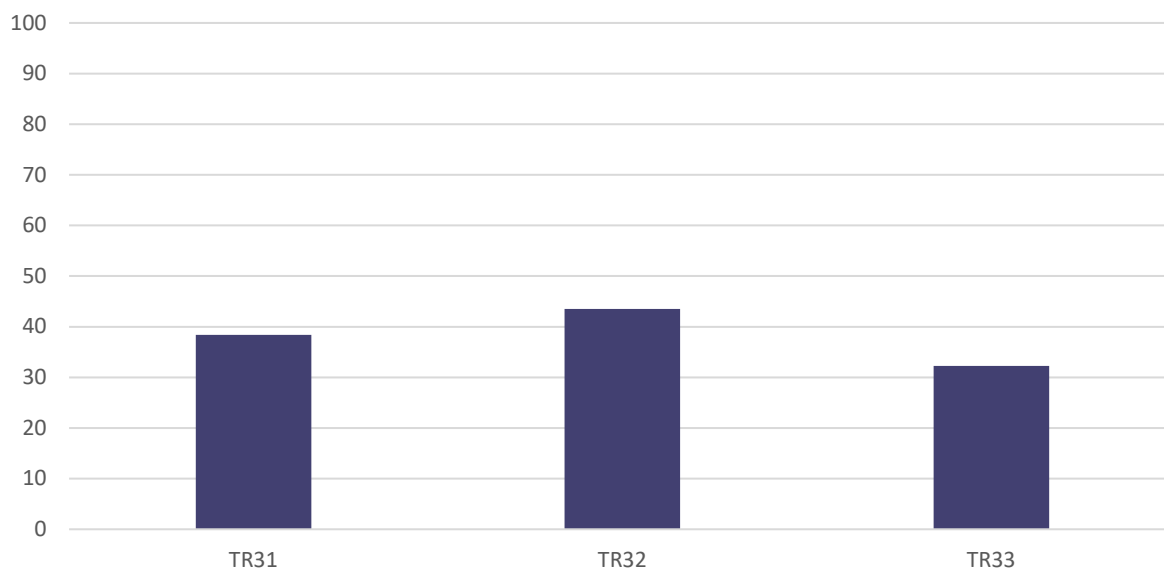
Source: OECDSTAT

Due to the availability of only one year's data, analysis could not be conducted.

3.1.8 SDG 8: Decent Work and Economic Growth

Unemployment, value-added products, and topics like NEET directly relate to SDG8. According to the TR33 Regional Report, this issue is supported in various aspects. In the TR33 region, which has a lower unemployment rate compared to the Turkish average, the tourism sector holds importance. The regional priorities are as follows:

Priority 3.1 Improving the physical conditions and service quality in existing tourism facilities.

Priority 3.2 Diversification and expansion of tourism activities.

Priority 3.3 Development of customer-oriented marketing activities.

Table 14. SDG 8 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
8	Economic activity (From 15 to 64 years) (Thousand persons)	Eurostat, regional statistics	2017-2020	8.5 (productive employment)		+			
8	Unemployment (From 15 to 64 years) (Thousand persons)	Eurostat, regional statistics	2017-2020	8.5 (productive employment)		+			
8	Employment (From 15 to 64 years) (Thousand persons)	Eurostat, Regional Statistics	2011-2021	8.5 (productive employment)		+			
8	GDP at current market prices (Euro per inhabitant in percentage of the EU27 (from 2020) average)	Eurostat, Regional Statistics	2013-2021	8.1 (economic growth)		+			
8	GVA at basic prices	Eurostat, Regional Statistics	2017-2021	8.2 (economic productivity)		+			
8	Long-term unemployment (12 months and more)	Eurostat, Regional Statistics	2012-2020	8.5 (productive employment)		+			

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
8	Young people neither in employment nor in education and training	Organisation for Economic Cooperation and Development (OECD)	2006-2020	8.6 (youth not in employment, education or training)		+			
8	Compensation of employees	Eurostat, regional statistics	1995-2020	8.5 (productive employment)	+				
8	Occupational accidents	National Institute for Occupational Safety and Health	2003-2021	8.8 (labour rights)	+				
8	Firm creation	Organisation for Economic Cooperation and Development (OECD)	2013-2016	8.3 (job creation)	+				

Source: Author's own elaboration

Figure 33. Economically active population (From 15 to 64 years) (Thousand persons)
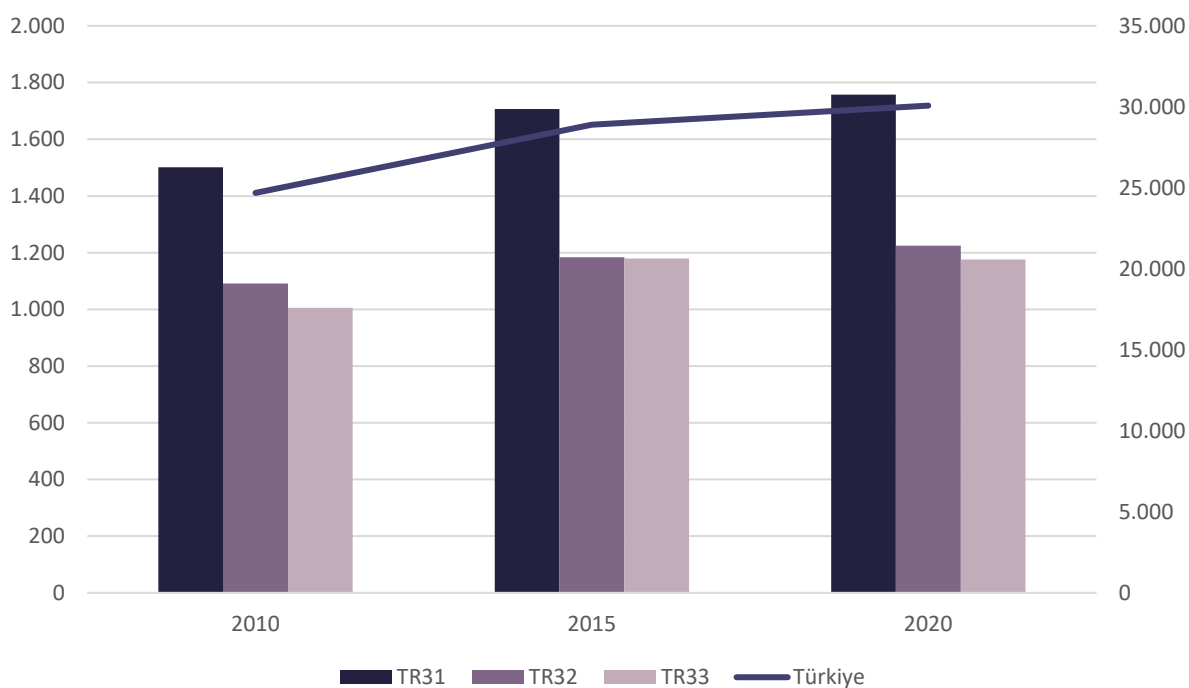
Source: Eurostat, Regional Statistics

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Figure 34. Economically active population (From 15 to 64 years) (Thousand persons) (TR33)
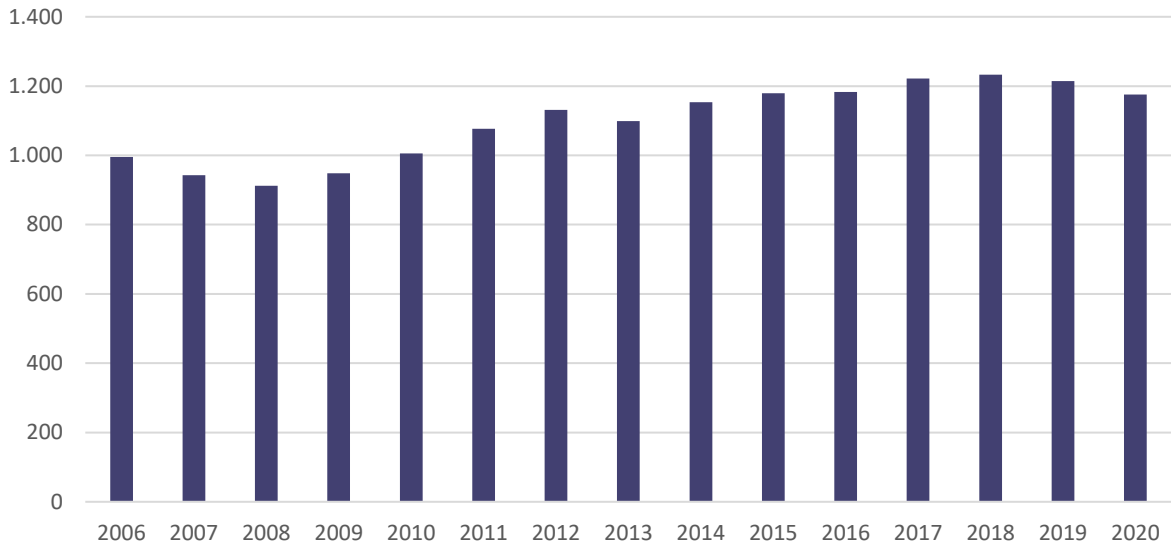
Figure 35. Employment (From 15 to 64 years) (Thousand persons)
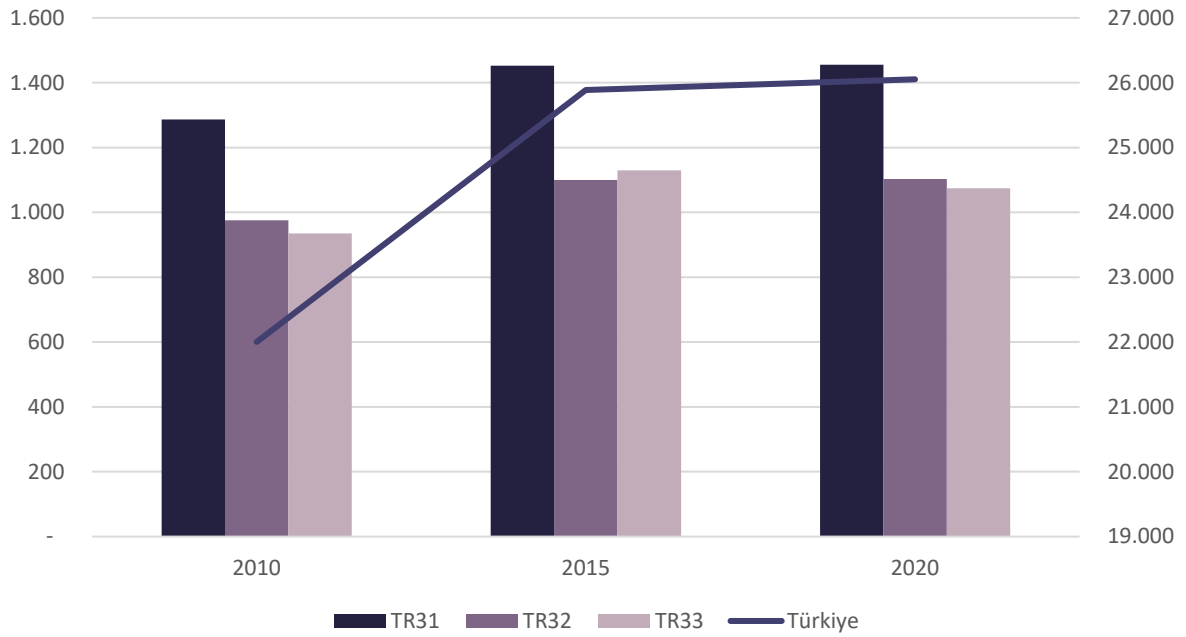
Figure 36. Employment (From 15 to 64 years) (Thousand persons) (TR33)
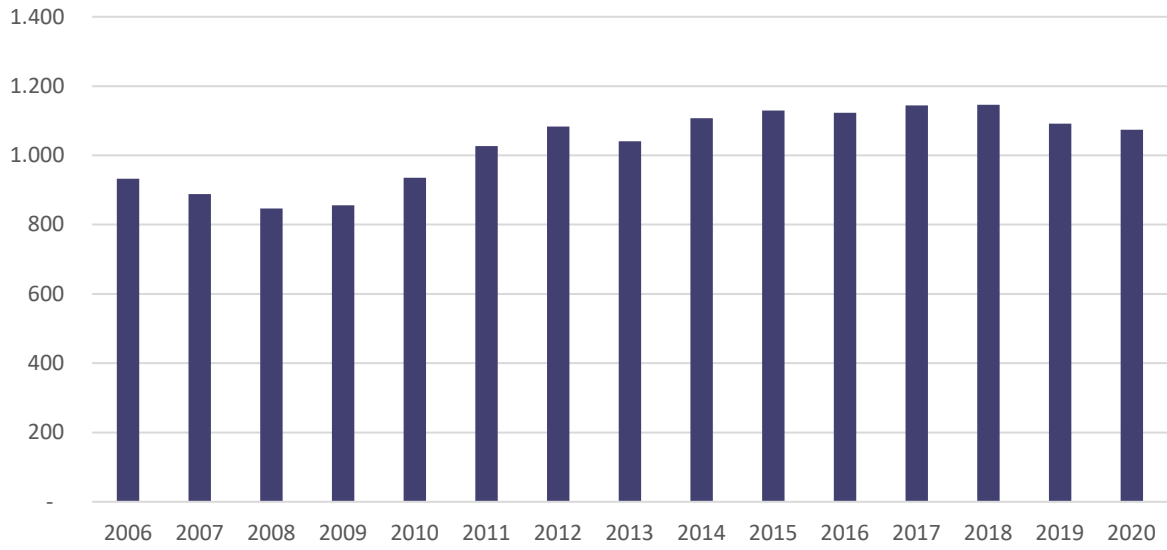
Source: EUROSTAT

Figure 37. GDP at current market prices (Euro per inhabitant in percentage of the EU27 (from 2020) average) (%)
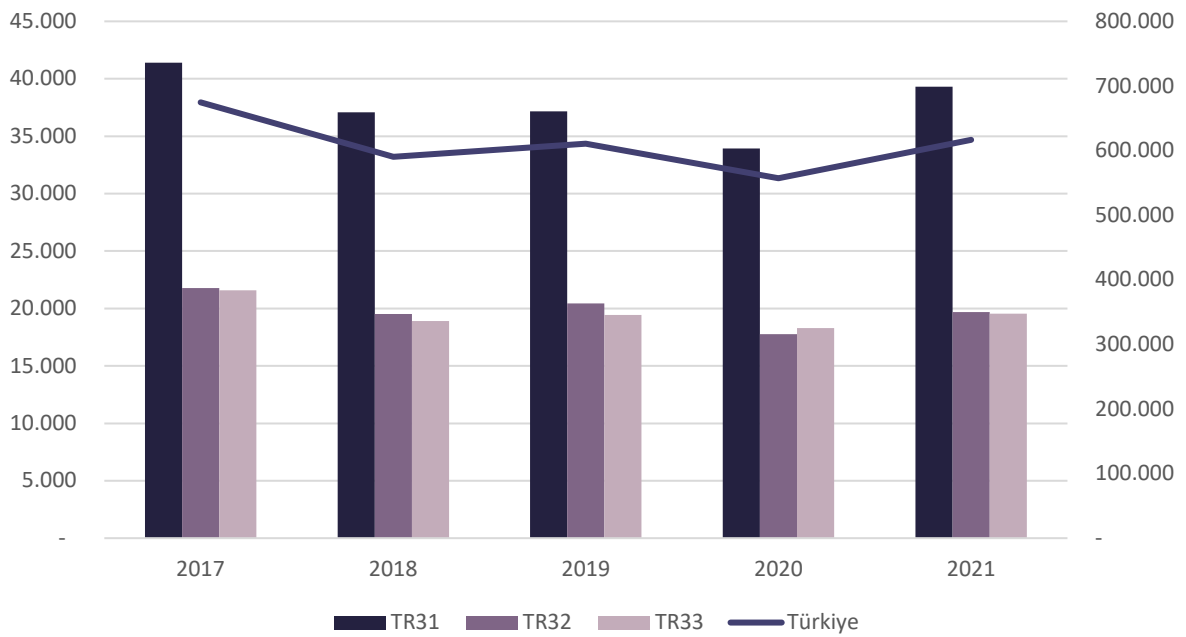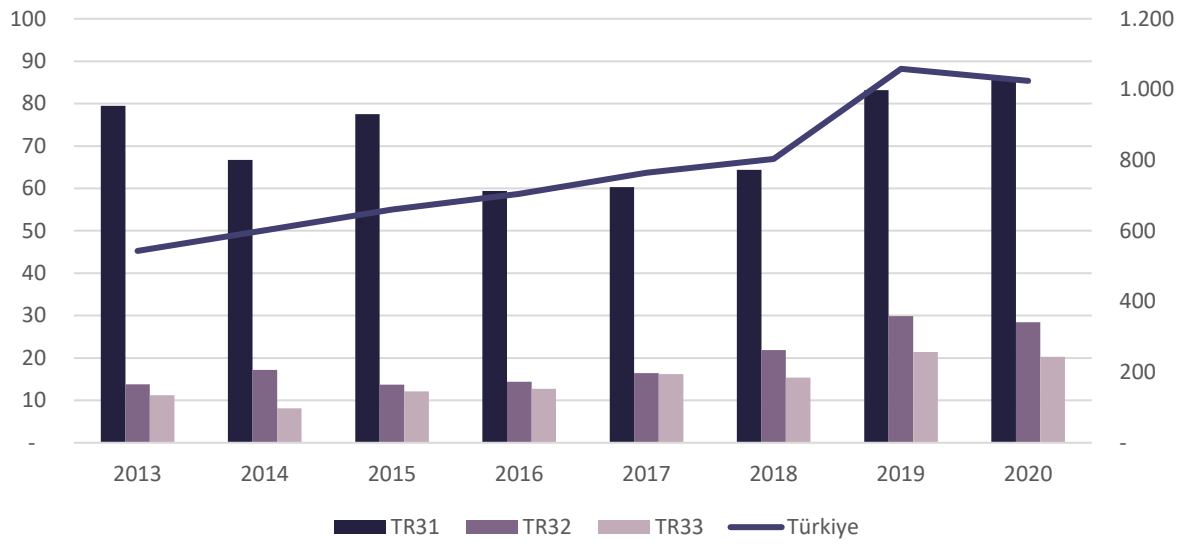

Source: EUROSTAT

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Figure 38. GDP at current market prices (Euro per inhabitant in percentage of the EU27 (from 2020) average) (TR33) (%)
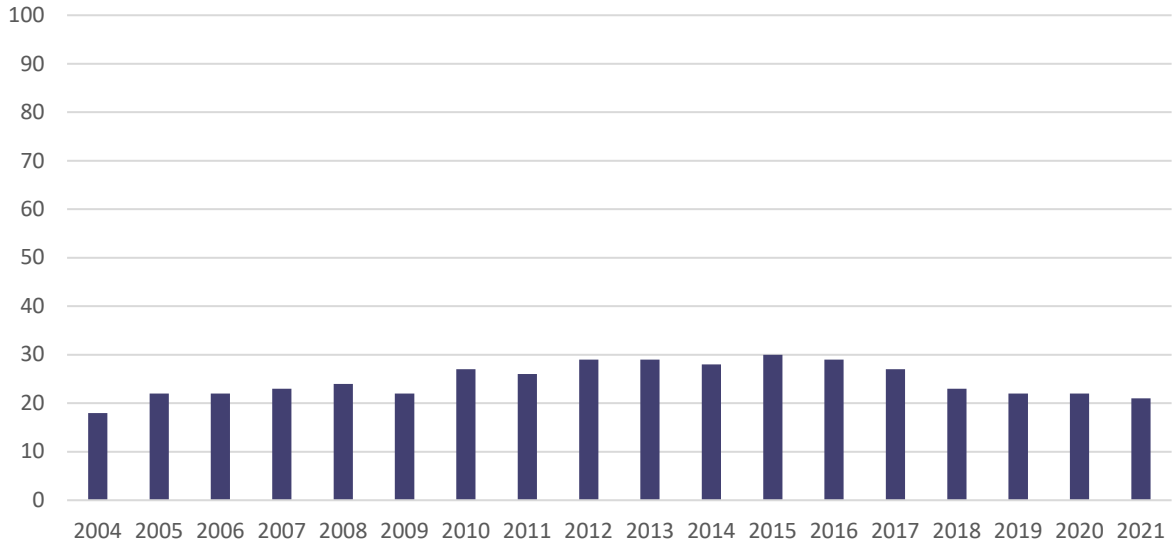
Figure 39. GVA at basic prices (Million euro)

Figure 40. Long-term unemployment (12 months and more) From (15 to 74 years) (Thousand persons)

Source: EUROSTAT

Figure 41. Share of 18–24-year-olds population not in education and unemployed or inactive (NEET) (%)
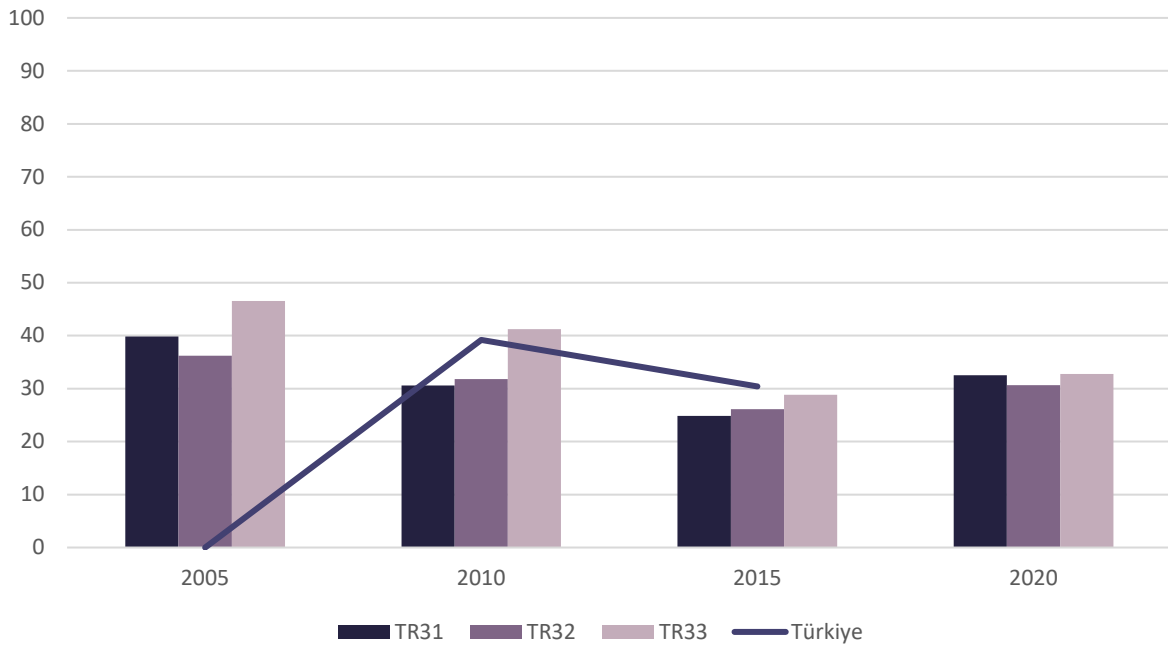
Source: OECDSTAT
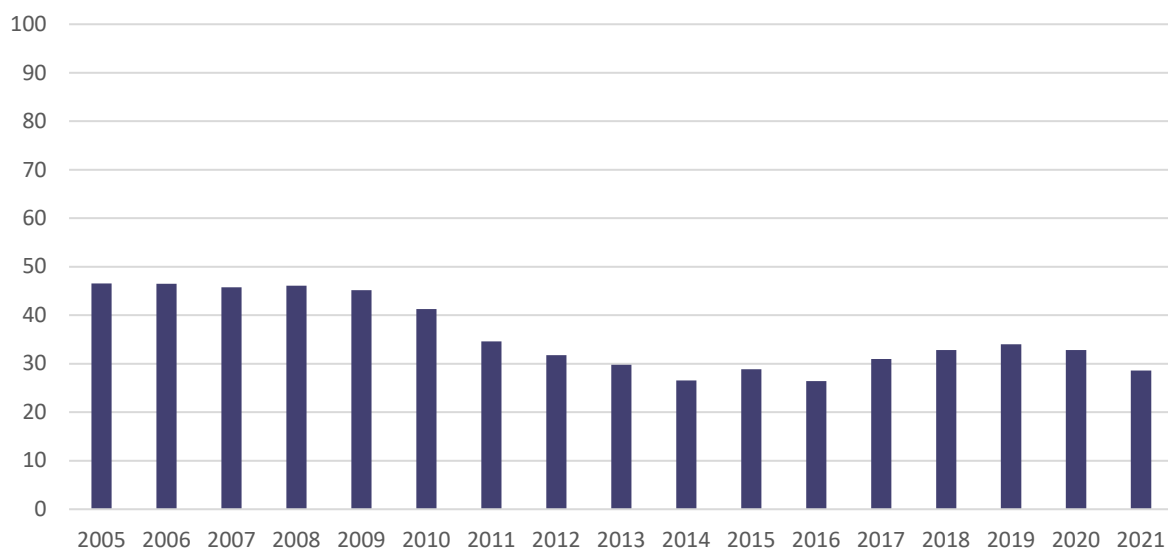
Source: OECDSTAT

The youth unemployment rate in TR33 has been volatile during the given period, with significant fluctuations between 9.4% and 23.6%. The highest rates were observed during the global financial crisis of 2008-09 and the COVID-19 pandemic in 2019-20. On the other hand, the lowest rates were observed in 2012 and 2011.

3.1.9 SDG 9: Industry, Innovation and Infrastructure

SDG 9 has crucial objectives and one of their indicators for the development and sustainability of the TR33 Region designed fundamental principles titled "Innovation and Stability". Within the TR33 Regional Plan (2014-2023), the industry axis has been defined based on the principles of Innovation and Stability for Goal 9. In line with this, the following priorities have been adopted.

Priority 1.1 Developing regional production infrastructure

Priority 1.2 Increasing the value of industrial products

Priority 1.3 Improving production processes in businesses and enhancing production capacity

Priority 1.4 Developing Intra-regional and inter-regional commercial networks

Table 15. SDG 9 JRC SDG Indicator Analysis

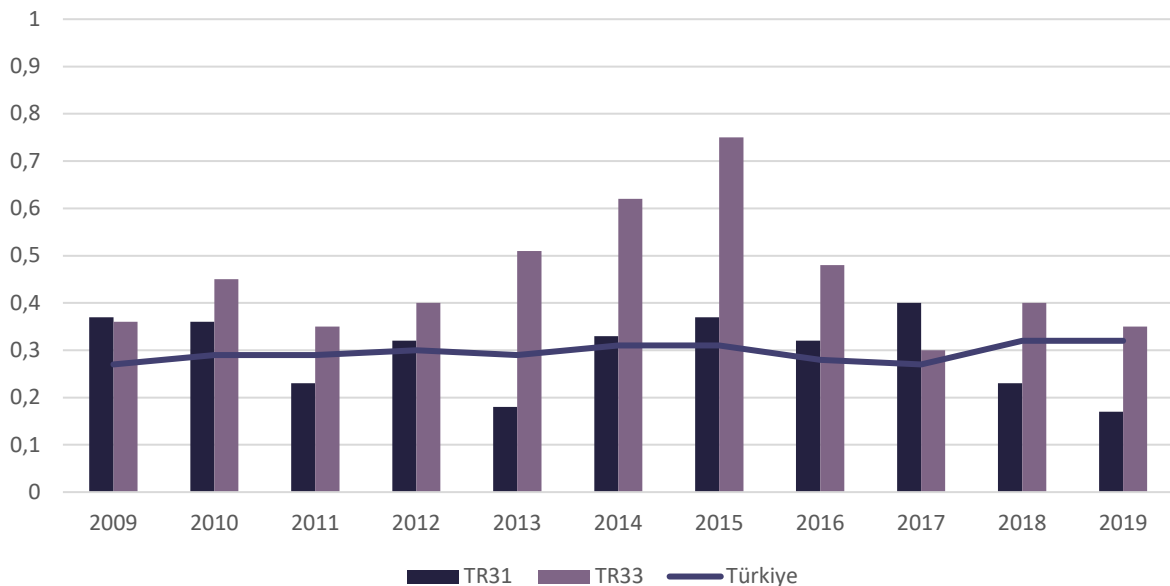| SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
9	GVA of the industry with respect to the GVA of the total sectors (current price)	INE (National Statistics Institute)	2016-2020	9.2 (sustainable industrialization)	+				
9	Gross Domestic Expenditure on R&D	Eurostat, Regional Statistics	1980-2020	9.5 (promote innovation)	+				
9	R&D personnel and researchers	Eurostat, Regional Statistics	1980-2020	9.5 (promote innovation)	+				
9	R&D personnel and researchers	TURKSTAT	2018-2021	9.5 (promote innovation)				+	
9	Employment in high-technology manufacturing as a percentage of total manufacturing employment	Organisation for Economic Cooperation and Development (OECD)	2009-2019	9.5 (promote innovation)		+			
9	Patent applications to the EPO	Eurostat, Regional Statistics	1977-2012	9.5 (promote innovation)	+				

Source: Author's own elaboration

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Figure 43. R&D personnel and researchers (Number)
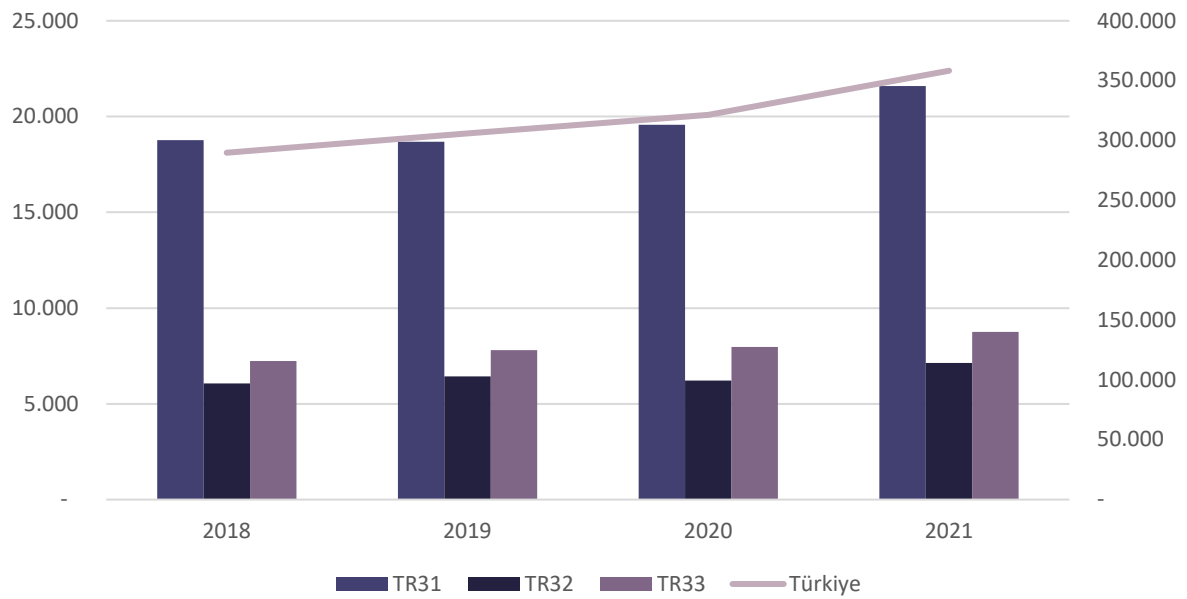
The data shows the number of R&D personnel in the TR33 region from 2018 to 2021. The number has been increasing each year, with 2019 having the highest number of R&D personnel. In 2021, there were 8753 R&D personnel in the TR33 region. This suggests that there is a growing focus on research and development in the region, which could have positive impacts on innovation and economic growth.
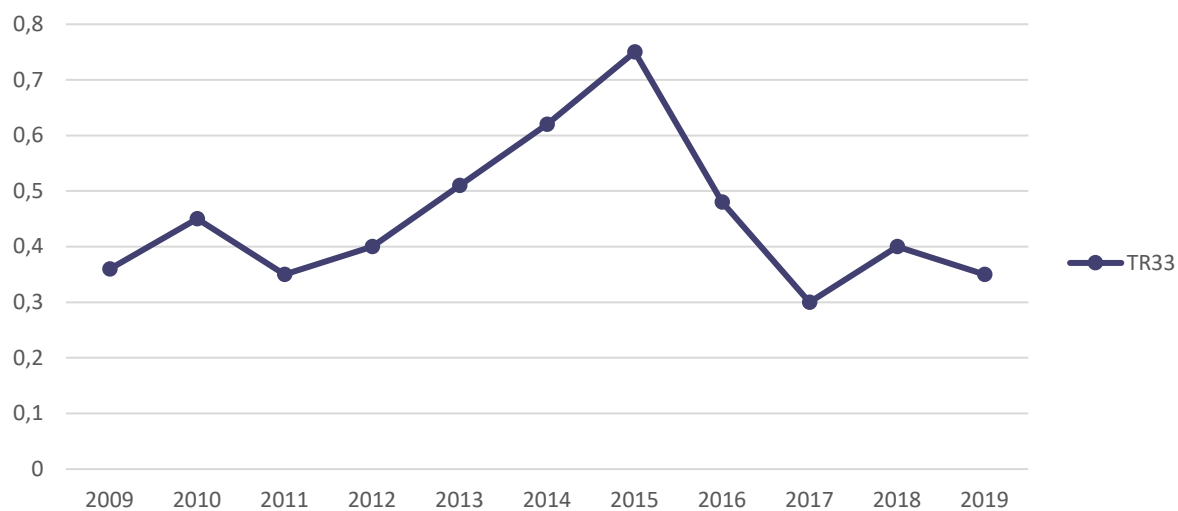
Figure 44. Employment in high-technology manufacturing as a percentage of total manufacturing employment (%)

The data illustrates the percentage of employment in high-technology manufacturing out of the total manufacturing employment in the TR33 region for the period of 2009 to 2019. The highest percentage was recorded in 2015.

Source: OECDSTAT

According to TR33 Innovation Strategy (2014-2023), TR33 aims to achieve increasement of qualified personnel employment. The indicator titled "Employment in high-technology manufacturing as a percentage of total manufacturing employment" disclose negative trend.

The majority of businesses in the region face a lack of qualified personnel. According to field surveys conducted in 29.8% of businesses in the region encounter a lack of qualified personnel for innovation. Other prominent issues include 11.7% facing challenges in accessing information and technology, 10.5% struggling with accessing finance, and inadequate incentives. From this perspective, it can be understood that infrastructure and financing deficiencies are among the systematic problems in the region.

### 3.1.10 SDG 10: Reduced Inequalities

To achieve a development perspective that leaves no one behind, it is necessary to address inequalities. In the TR33 Regional Plan, this issue is prioritized under the Human and Society axis. "Enhancing social services for widespread effectiveness" has been identified as a priority.

Table 16. SDG 10 JRC SDG Indicator Analysis

| SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement	Alternative indicator	Non–fit for purpose
10	Unemployment of people with disabilities	INE (National Statistics Institute)	2014-2020	10.2 (inclusion irrespective of status)	+				
10	Unemployment of people with disabilities	TURKSTAT	2014-2022	10.2 (inclusion irrespective of status)				+	
10	Gini index of disposable income (after taxes and transfers)	Organisation for Economic Cooperation and Development (OECD)	2010-2014	10.4 (greater equality)	+				
10	Gini coefficient by equivalised household disposable income: Gini coefficient	TURKSTAT		10.4 (greater equality)				+	

Source: Author's own elaboration
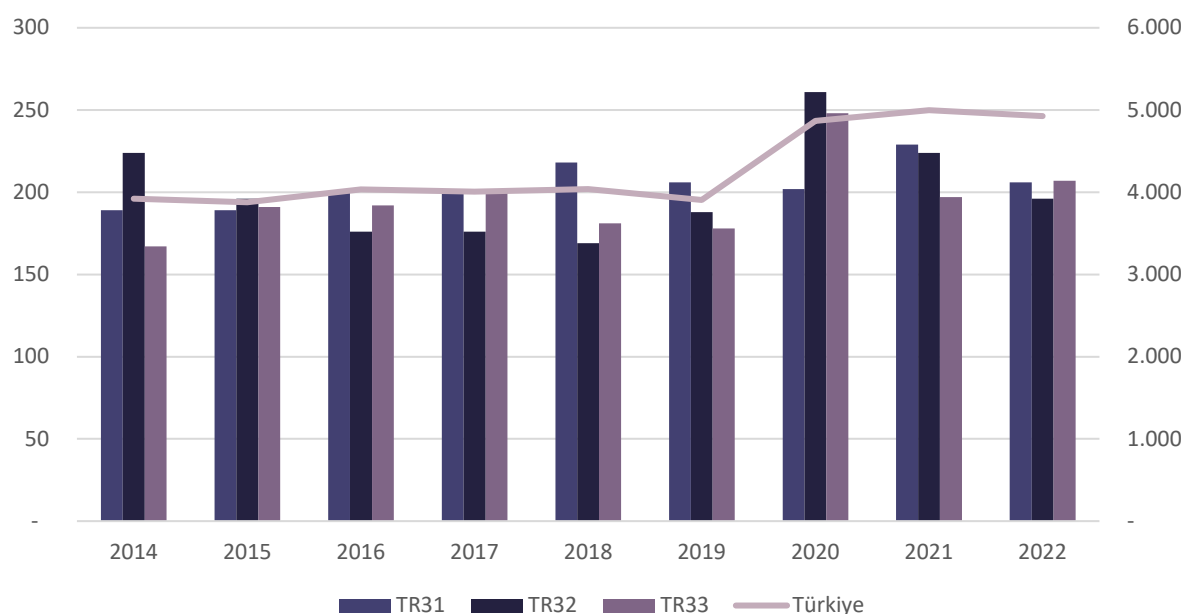
Source: TURKSTAT

The number of people who are not in the labour force varies over the years. In 2014, there were 54,000 people not in the labour force, which increased to 61,000 in 2015, before decreasing slightly to 60,000 in 2016. The number then increased to 64,000 in 2017 before decreasing again to 56,000 in 2018. In 2019, there were 51,000 people not in the labor force, which is the lowest number in this period. However, in 2020, this number sharply increased to 95,000 before decreasing again to 67,000 in 2021 and increasing slightly to 75,000 in 2022.

This fluctuation in the number of people not in the labor force could be due to various factors such as changes in the economic conditions of the region, changes in the retirement age, and changes in social welfare policies. Further analysis would be required to identify the underlying causes of these changes.

In the Household Labour Force Survey, new definitions and concepts have been used since 2021. The results for 2021 are calculated in line with these changes and the indicators for 2020 and previous years are given by taking into account the former definitions and concepts.

Figure 47. Gini coefficient based on equivalent disposable income per capita: Gini coefficient (Ratio)
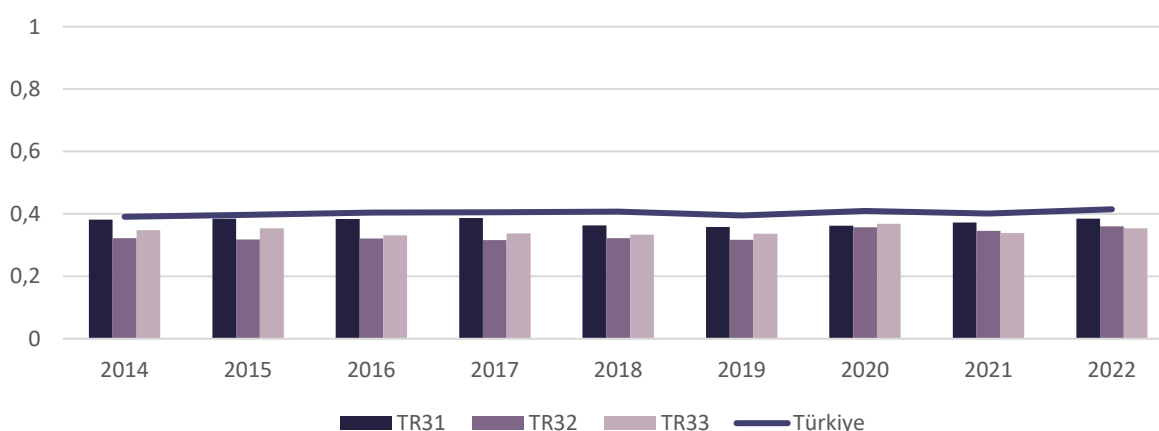
Source: TUKSTAT

3.1.11 SDG 11: Sustainable Cities and Communities

Increasingly, cities are becoming one of the fundamental investment areas for regional development. Ensuring the sustainability of cities and monitoring them based on data are priorities for TR33. The priorities of TR33 in this regard are as follows:

Priority 5.2 Reducing environmental pollution in settlements

Priority 6.1 Effective measures are implemented for proactive disaster management.

Priority 6.2 Efficient protection and recovery methods are conducted.

Priority 7.1 Improving urban environment

Priority 10.1 Increasing accessibility

Priority 10.2 Improving logistics infrastructure

Table 17. SDG 11 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement	Alternative indicator	Non–fit for purpose
11	Households expenses dedicated to housing costs	Organisation for Economic Cooperation and Development (OECD)	2003-2013	11.1 (access to housing)		+			
11	Transport performance (Number of motor vehicles : Minibus and bus)	TURKSTAT	1995-2022	11.2 (access to transport systems)		+			
11	Daily accessibility	European Commission, Joint Research Centre	2015-2050	11.2 (access to transport systems)	+				
11	Stock of vehicles (passenger cars)	Eurostat, Regional Statistics	2016-2020	11.2 (access to transport systems)		+			

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non-fit for purpose
11	Difference between built-up area growth rate and population growth rate	Organisation for Economic Cooperation and Development (OECD)	2014	11.3 (sustainable urbanization)	+				
11	Land use (Land use: Arable land / Cultivated (hectare))	TURKSTAT	1995-2021	11.3 (sustainable urbanization)		+			
11	PM2.5 Emissions	European Commission, Joint Research Centre	2015-2030	11.6 (environmental impact)	+				
11	PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)	Organisation for Economic Cooperation and Development (OECD)	2001-2020	11.6 (environmental impact)				+	
11	Household and commercial waste generation per inhabitant	Statistics Portugal	2009-2020	11.6 (environmental impact)	+				
11	Municipal waste statistics: Rate of population receiving waste services in total population (%) and in total municipal population (%)	TURKSTAT	1998-2020	11.6 (environmental impact)				+	
11	Victims in road accidents	Eurostat, Regional Statistics	1990-2020	11.2 (access to transport systems)		+			

Source: Author's own elaboration

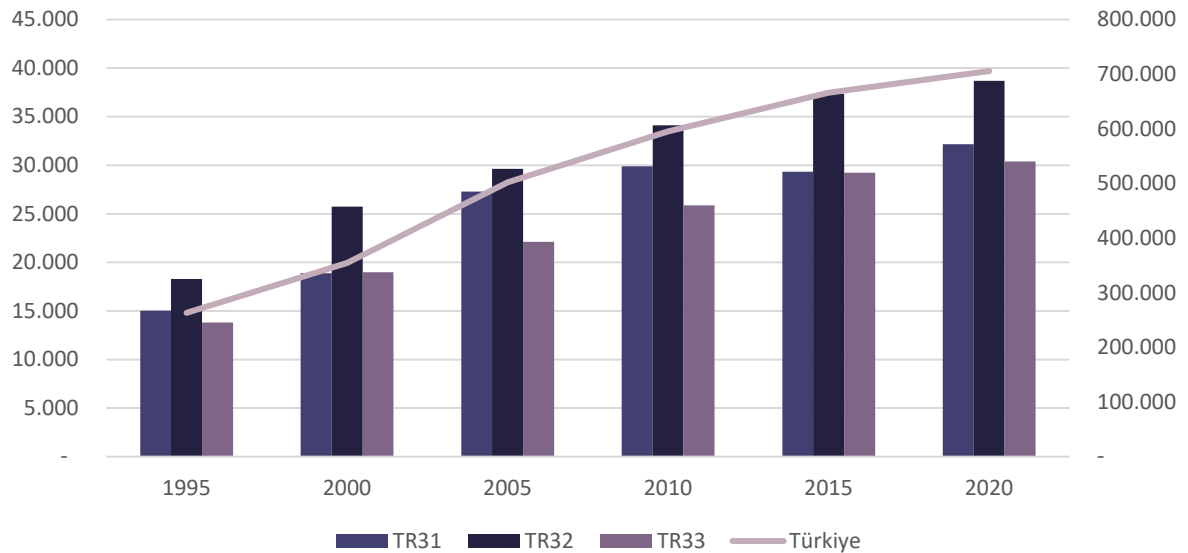*Figure 48. Disposable Household Income (Number)*

*Figure 48. Disposable Household Income (Number)*
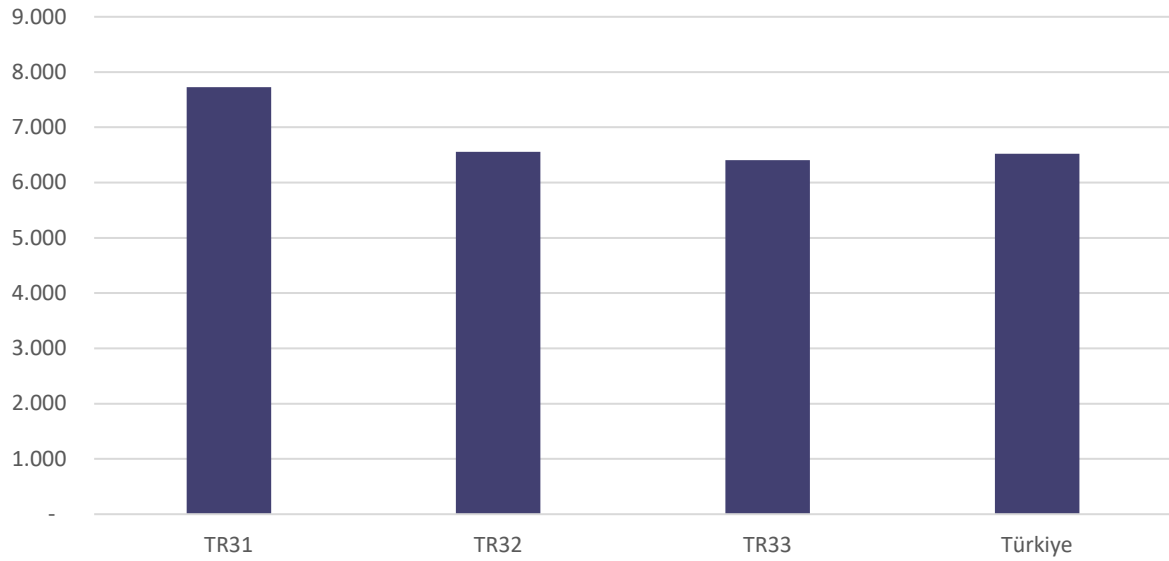
Source: OECDSTAT

It is important to monitor the share of housing costs in the region as it can have a significant impact on household disposable income and the overall cost of living in the area. High housing costs can put a strain on household budgets, making it more difficult for families to make ends meet. Encouraging policies and initiatives that promote affordable housing can help alleviate this burden on households and improve the overall economic well-being of the region.

Figure 49. Transport performance (Number of motor vehicles: Minibus and bus) (Number)

Source: TURKSTAT

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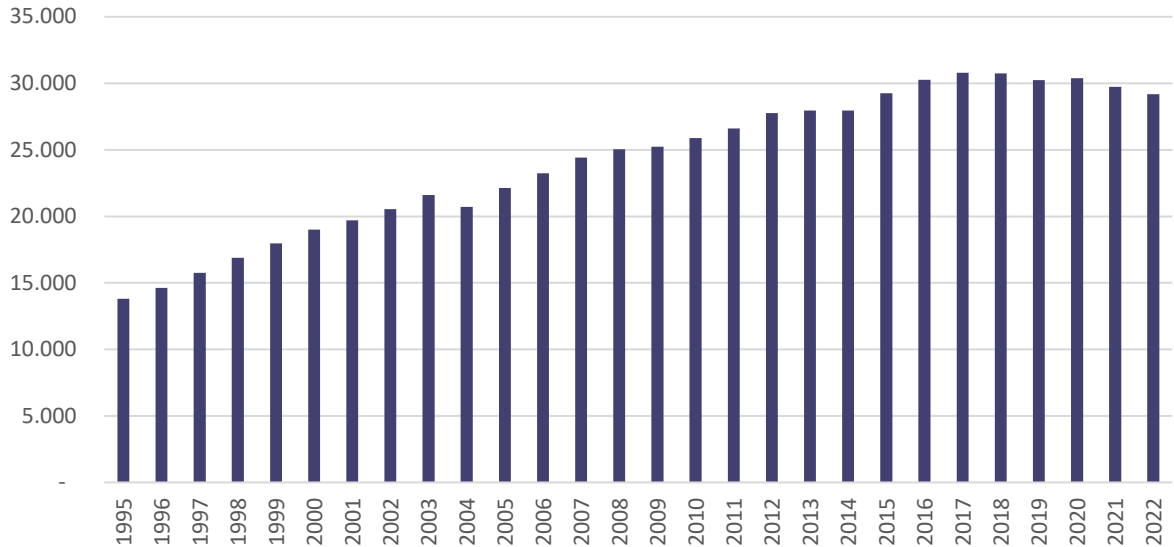
Source: TURKSTAT

The main public transportation vehicles in the TR33 Region are buses and minibuses. The given data shows the number of minibuses in the TR33 region from 1995 to 2022.

The number of minibuses has shown a gradual increase from 1995 to 2020, reaching its peak in 2020 at 18,604.

From 1995 to 2005, the number of minibuses increased significantly from 9,675 to 14,441, which was followed by a fluctuating trend in the following years.

From 2015 to 2020, the number of minibuses increased from 17,271 to 18,604, indicating a slight increase in demand for minibuses in the region.
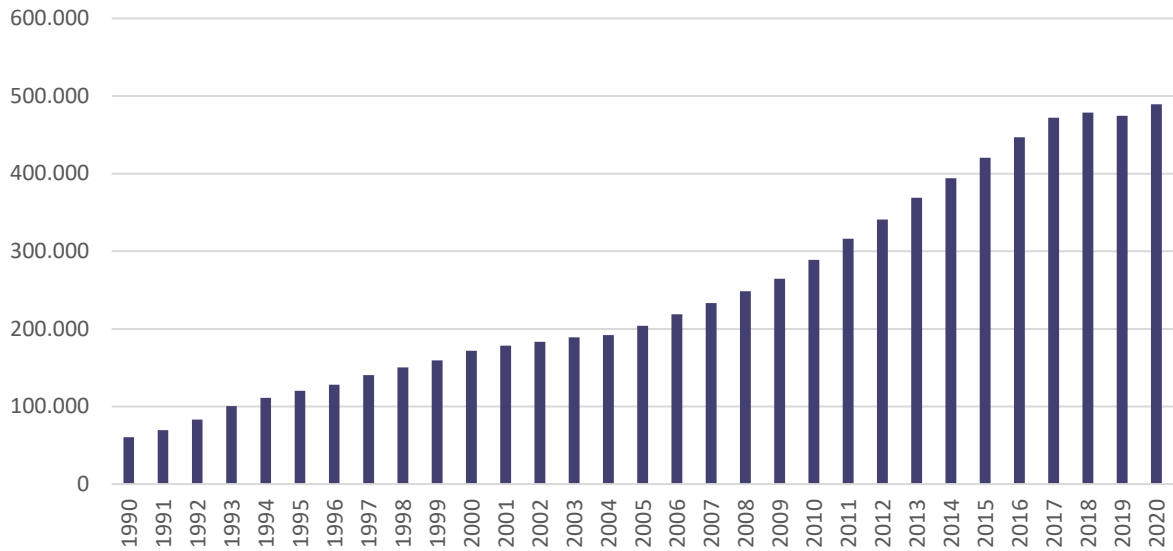
In 2021, the number of minibuses decreased to 18,054, followed by a further decrease to 17,739 in 2022.

Figure 51. Stock of vehicles (passenger cars) (Number)
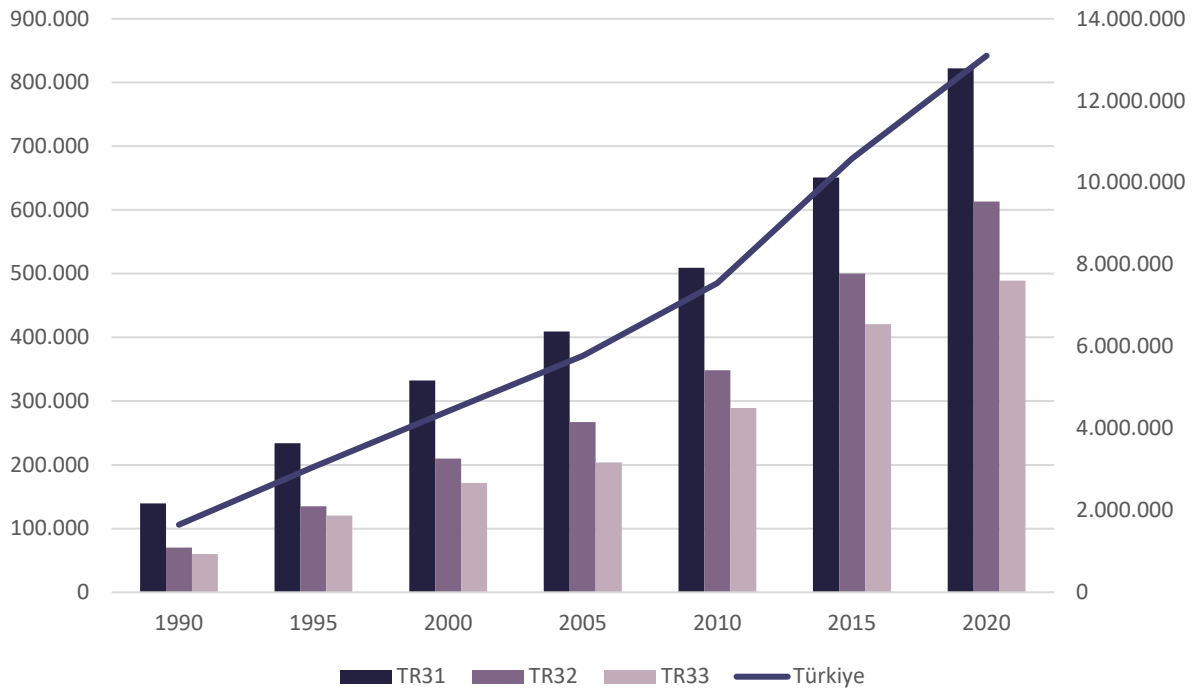
Source: EUROSTAT

Figure 52. Stock of vehicles (passenger cars) (Number) (TR33)

Source: EUROSTAT

The given data represents the stock of vehicles by category in the TR33 region from 2016 to 2020.

In 2016, the stock of vehicles in the TR33 region was 446,740.

From 2016 to 2020, there has been a gradual increase in the stock of vehicles by category in the TR33 region.

In 2020, the stock of vehicles reached the highest value at 489,206.

There has been a slight fluctuation in the stock of vehicles from year to year, but the overall trend seems to be increasing.

It is essential to monitor the stock of vehicles in the TR33 region, as an increase in the number of vehicles can lead to environmental and traffic problems. Encouraging the use of public transportation, carpooling, and promoting sustainable transportation practices can help reduce the negative impacts of vehicles on the environment and traffic congestion.

Figure 53. Land use (Land use: Arable land / Cultivated (hectare)) (Number)
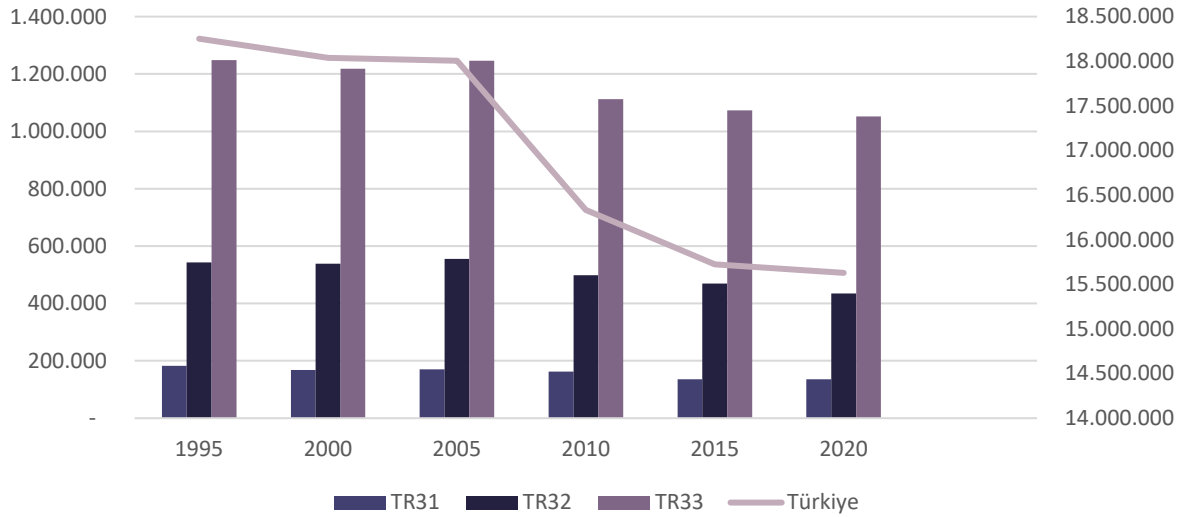
Source: TURKSTAT

Figure 54. Land use (Land use: Arable land / Cultivated (hectare)) (Number) (TR33)
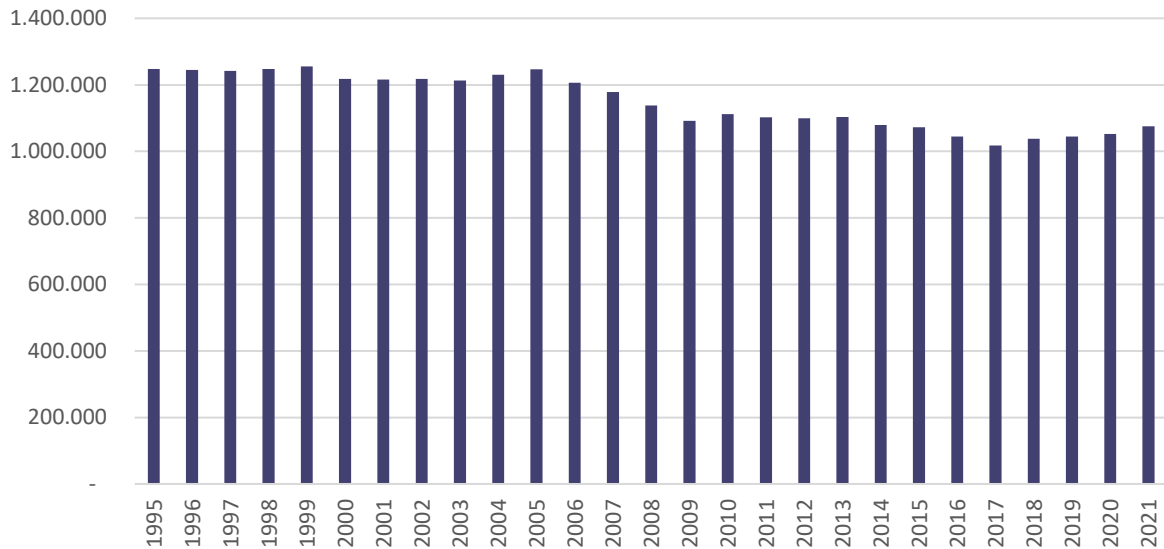
Source: TURKSTAT

The given data represents the arable land or cultivated land in the TR33 region from 1995 to 2021. Arable land refers to land that is used for crop production.

In 1995, the arable land in the TR33 region was 1,247,961 hectares, and it slightly decreased to 1,244,453 hectares in 1996.

In the following years, the arable land remained relatively stable, with occasional fluctuations. In recent years, there has been a slight increase in the arable land, reaching 1,075,189 hectares in 2021.

Overall, the given data shows that the arable land in the TR33 region has fluctuated over the years, with occasional significant decreases or increases. However, the overall trend seems to be stable or slightly decreasing, with occasional increases in recent years. It is essential to monitor the arable land and take measures to preserve it for sustainable agricultural practices and food security.

Box 2. Metadata

1. **Subject :** Agriculture statistics

2. **Subtitle:** Crop Production statistics

3. **Objective:** Compiling the crop production statistics

4. **Data Compiling Method:**

Crop production data have been compiled in magnetic form by Ministry of Agriculture and Forestry. After the form are due in TURKSTAT, and data have been analyzed by comparing with the previous year`s data. The results are revised once again together with the representative of the Ministry of Agriculture and Forestry. The data to be approved are presented to the "Agricultural Crop Estimate Committee. The final data are published at national levels after being approved by the committee.

5. **Period:** Annual

6. **Covered period:** 1995-2021

7. **Regional scope:** Regional level 1, 2 and 3.

8. **The last update:** 29/08/2022

9. **Units and institutions collecting the data:** Ministry of Agriculture and Forestry

10. **Classification system :** CPA 2002

13. **Data glossary (definitions of variables):**

Production: Estimates of production from total cultivated area in the year of production.

Total Cultivated area: This refers to field area that cultivated in Autumn-Winter and Spring-Summer.

Harvested area: This refers to area that suffer damaged after cultivating by aridity, affection disaster etc. but not harvested and removed from sown area.
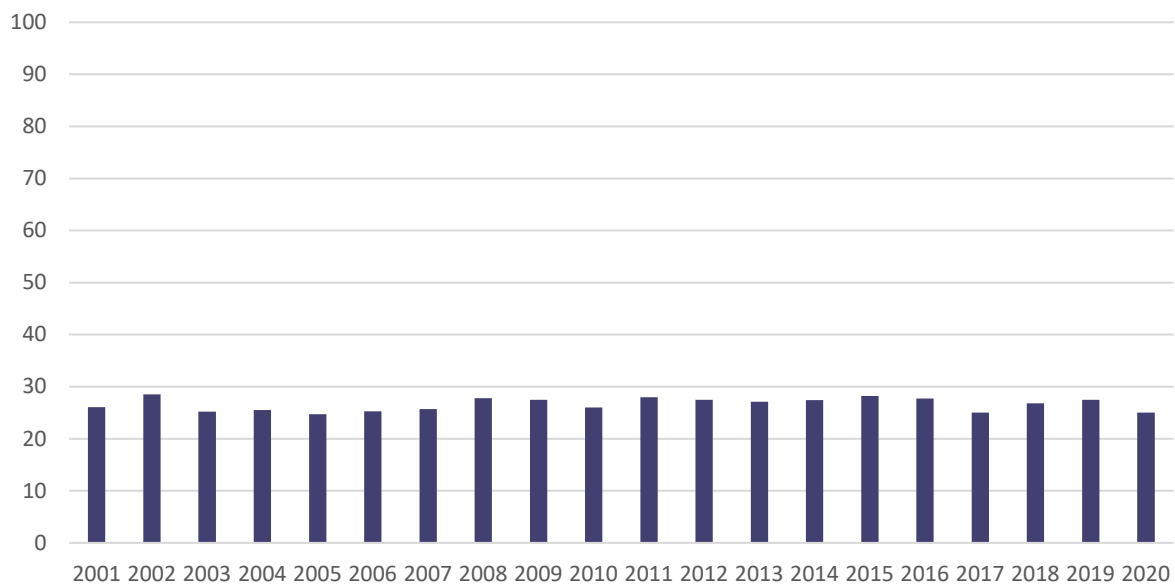
Fallow Land: This is land at rest for a period of time before recultivation and no yield can be gained.

Figure 55. PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)

Legend: ■ TR31 ■ TR32 ■ TR33
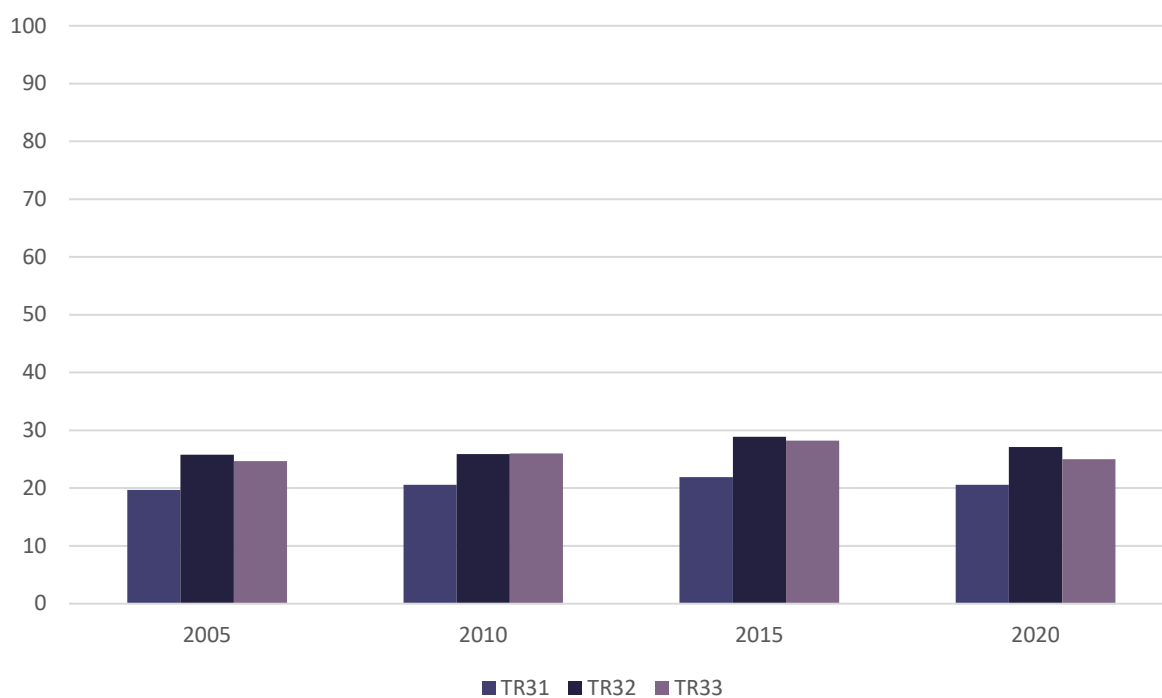
Figure 56. PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)(TR33)

Overall, the given data shows that there has been a fluctuation in the concentration of PM2.5 particles in the TR33 region from 2001 to 2020. The concentration increased between 2002 and 2009 and then remained relatively stable, with occasional spikes in the concentration. In recent years, there has been a slight decrease in the concentration, which is a positive trend. It is important to monitor the concentration of PM2.5 particles and take measures to reduce it further to maintain good air quality and promote public health.

Figure 57. Municipal waste statistics: Rate of population receiving waste services in total population (%)
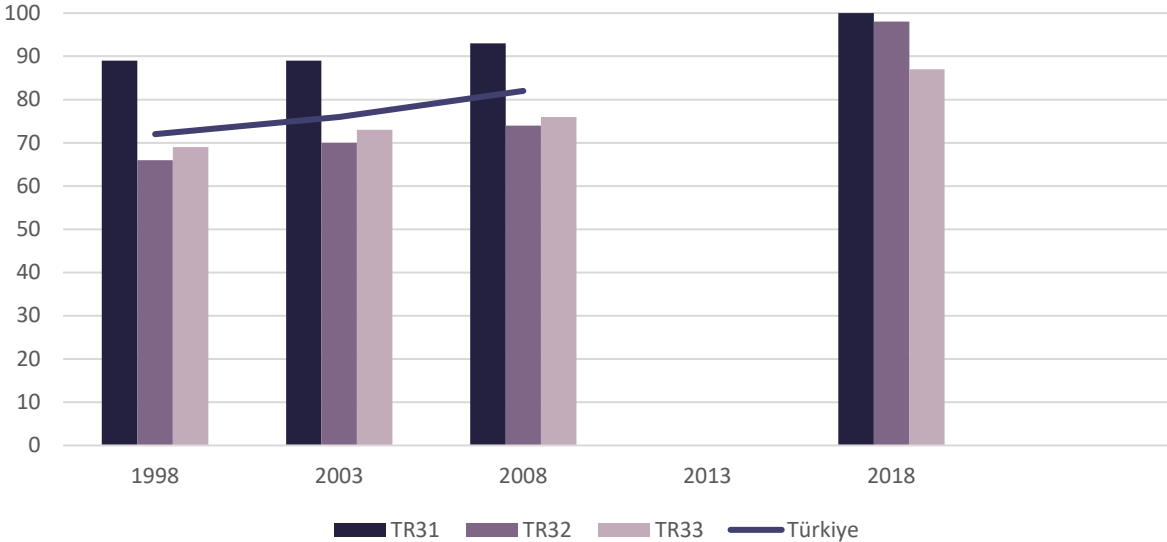
Source: TURKSTAT

Figure 58. Municipal waste statistics: Rate of population receiving waste services in total population (%) (TR33)
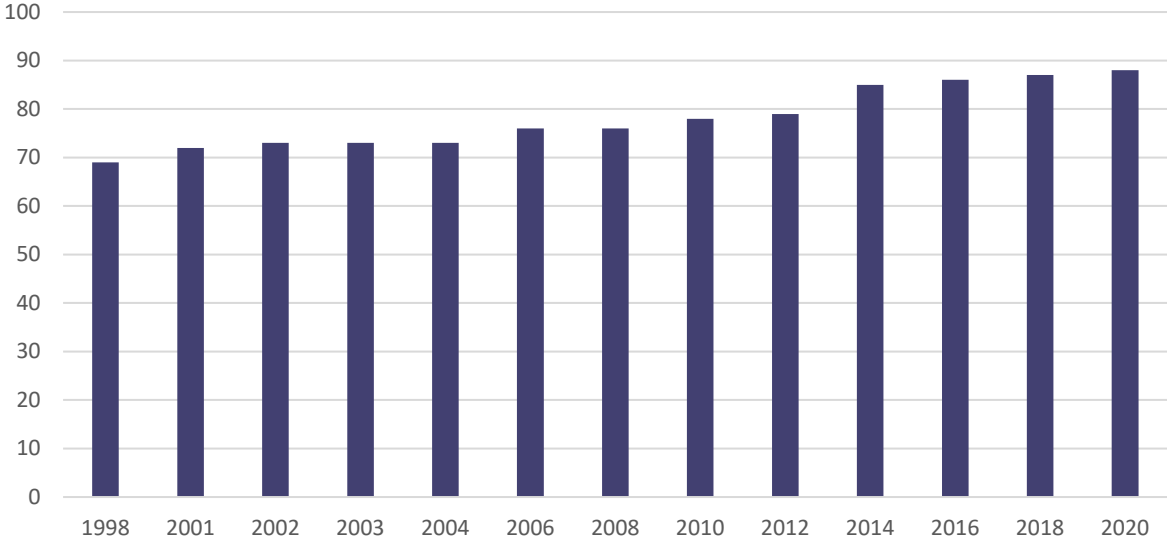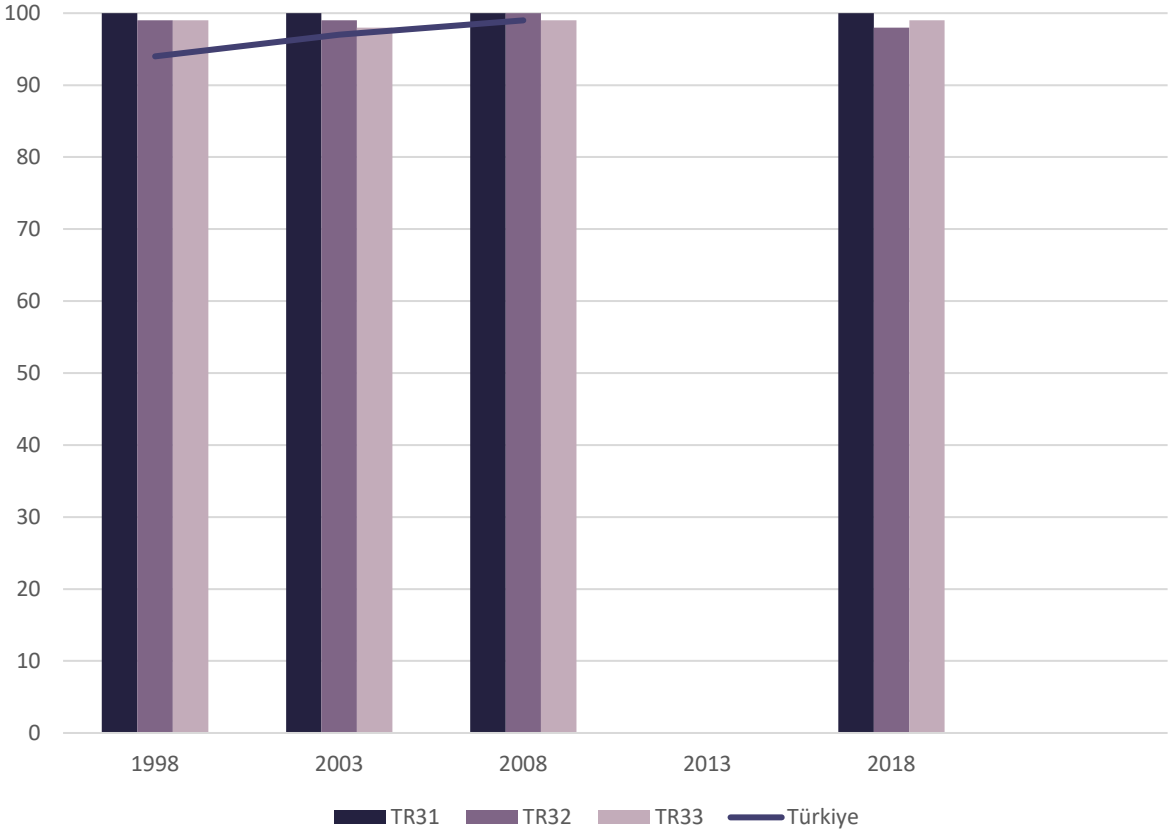

Source: TURKSTAT

In 2020, the rate increased to 88%, indicating that the waste management services in the TR33 region have improved significantly over the years.

Overall, the data shows a consistent improvement in the rate of population receiving waste services in the TR33 region from 1998 to 2020, with a significant increase in the past decade. This indicates that the local authorities

in the region have made efforts to improve waste management services, and this trend should continue to maintain a healthy environment in the future.

Figure 59. Municipal waste statistics : Rate of population receiving waste services in total municipal population (%)
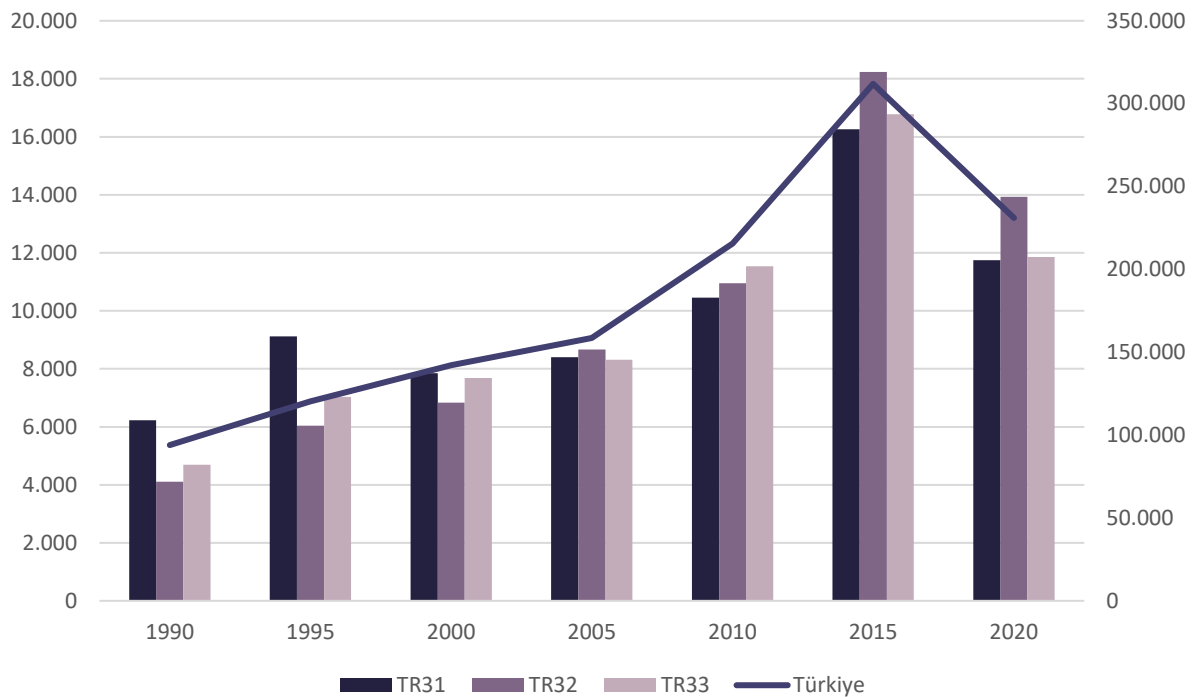

Source: TURKSTAT

Figure 60. Municipal waste statistics : Rate of population receiving waste services in total municipal population (%)(TR33)
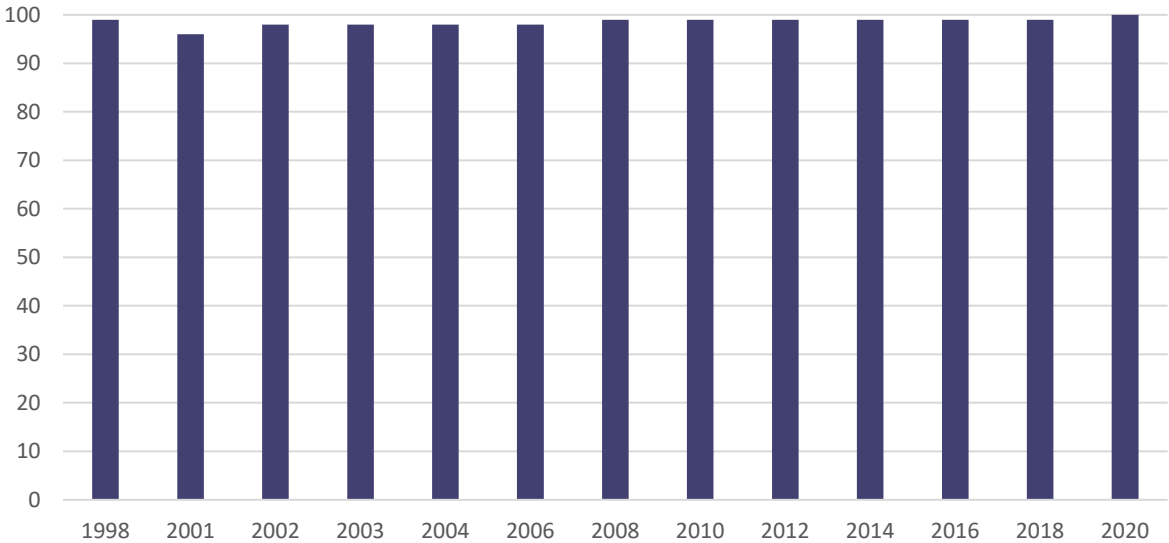
Source: TURKSTAT

Figure 61. Victims in road accidents (Number)

Source: EUROSTAT

Figure 62. Victims in road accidents (Number) (TR33)
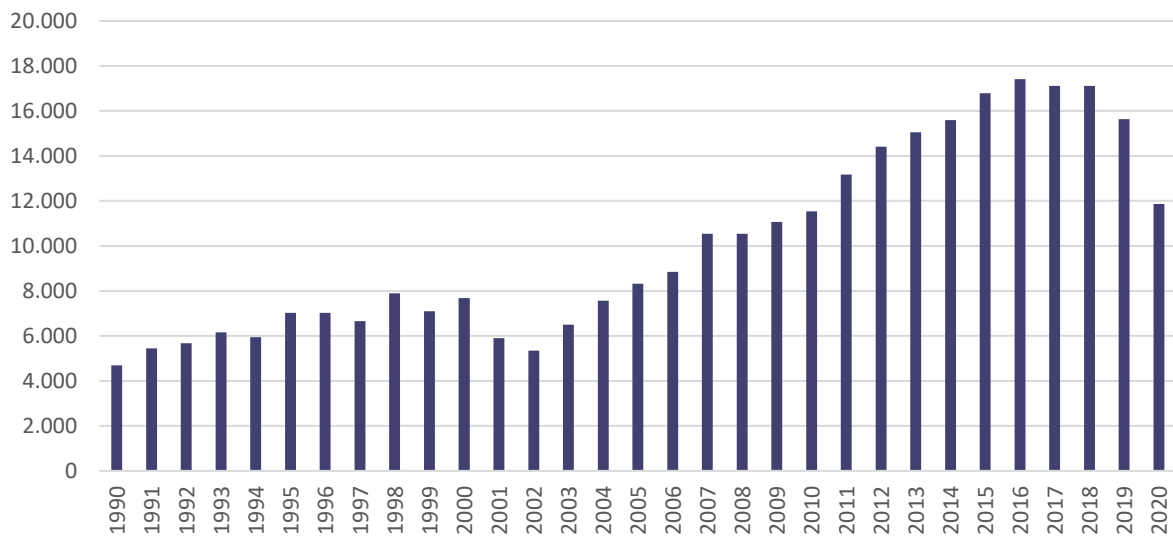
Source: EUROSTAT

Overall, there has been a decreasing trend in the number of victims in road accidents in the TR33 region from 2016 to 2020, with a significant decrease in 2019 and 2020. It is important to continue monitoring and analyzing these trends to identify potential causes and implement appropriate measures to improve road safety in the region.

3.1.12 SDG 12: Responsible Consumption and Production

At the regional level, the SDG 12 indicators proposed by JRC (Joint Research Centre) are not available. Additionally, the SDG 12 data cannot be accessed through other national data sources. However, these indicators and data are available at the national level.

Table 18. SDG 12 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1–to1 replacement with	Alternative indicator	Non–fit for purpose
12	Carbon footprint	Statistics Flanders	2010-2016	12.2 (management of natural resources)	+				
12	Food waste	Department of Environment of the Regional Government		12.3 (reduce food waste)	+				
12	Hazardous Waste	INE (National Statistics Institute)	2015-2019	12.4 (chemical management)	+				

Source: Author's own elaboration

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3.1.13 SDG 13: Climate Action

It is crucial to monitor the impacts of climate change, which has gained significant global attention and whose consequences we are increasingly witnessing. SDG 13, which is prominently featured in the 2019 Türkiye Voluntary National Review, is also a priority in the TR33 Regional Plan (2014-2023). Particularly, Priority 5.2 of reducing environmental pollution in settlements and Priority 7.1 of improving the urban environment are aligned with these priorities. However, it is not possible to establish a direct matching between indicators and their targets due to the lack of direct alignment at the indicator level.

Table 19. SDG 13 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for purpose
13	PM10 Emissions	European Commission, Joint Research Centre	2015-2030	13.2 (climate change measures into policy)	+				
13	CO2 Emissions	European Commission, Joint Research Centre	2015-2030	13.2 (climate change measures into policy)	+				
13	CO2 Emissions (in kilo tonnes)	Organisation for Economic Cooperation and Development (OECD)	2008	13.2 (climate change measures into policy)				+	
13	Greenhouse Gas Emissions (in Mt of CO2 equivalent)	Organisation for Economic Cooperation and Development (OECD)	2001-2018	13.2 (climate change measures into policy)		+			
13	Cooling and heating degree days	Organisation for Economic Cooperation and Development (OECD)	2001-2018	13.2 (climate change measures into policy)				+	
13	Cooling and heating degree days	Eurostat, Regional Statistics	1979-2021	13.2 (climate change measures into policy)	+				

Source: Author's own elaboration

13.2 Climate change measures into policy

Integrate climate change measures into national policies, strategies and planning

Figure 63. CO2 Emission (Number)
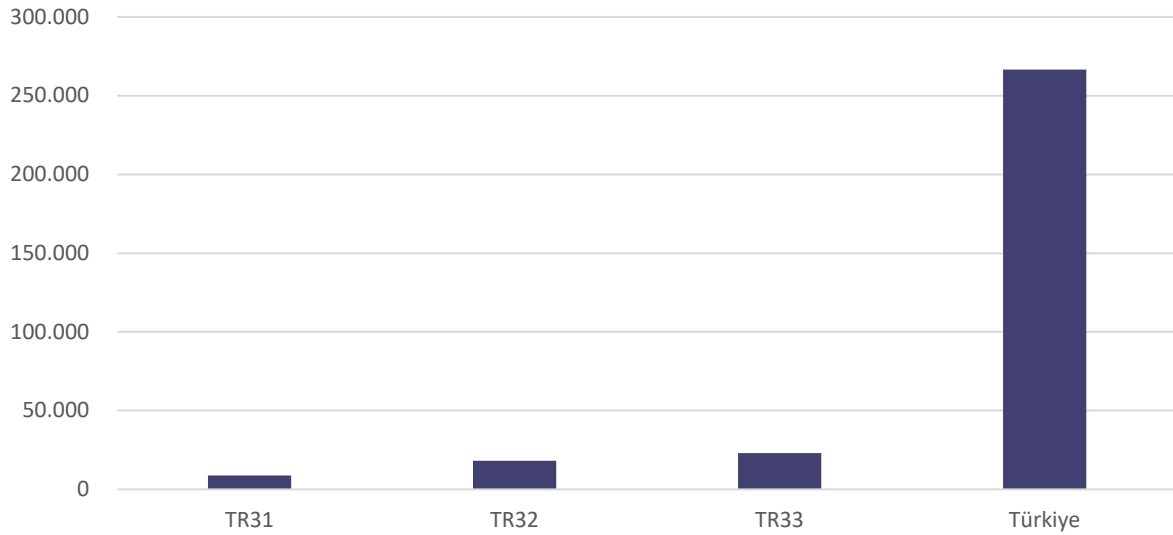
Source: OECDSTAT

There is no specific trend in this data. It only indicates that the TR33 region relatively generates higher carbon emissions compared to other regions. However, since population normalization is not performed, the comparison with Türkiye may not be very meaningful.

Figure 64. Greenhouse Gas Emissions (Rate)
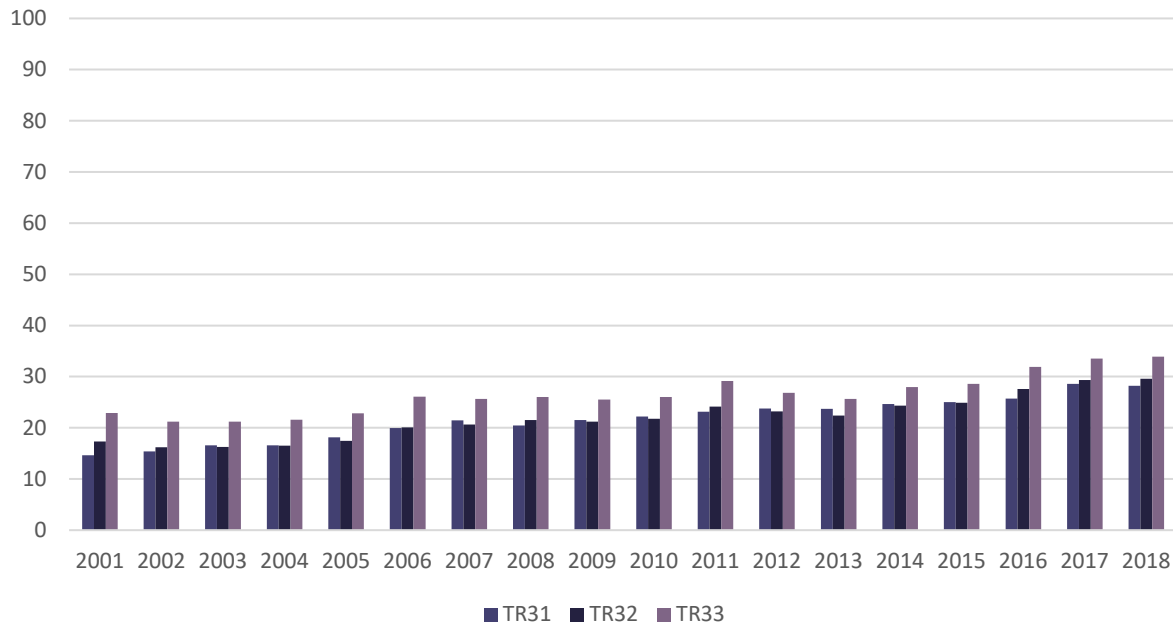
Source: OECDSTAT

Based on the given data, the rate of greenhouse gas emissions in the TR33 region has increased gradually from 2001 to 2018. Greenhouse gases, such as carbon dioxide, contribute to climate change and are often generated by human activities, such as burning fossil fuels for transportation or energy production. The rate of greenhouse gas emissions is an important metric for assessing a region's environmental impact and can serve as a guide for policies aimed at reducing emissions.

Figure 65. Cooling degree days (Number)
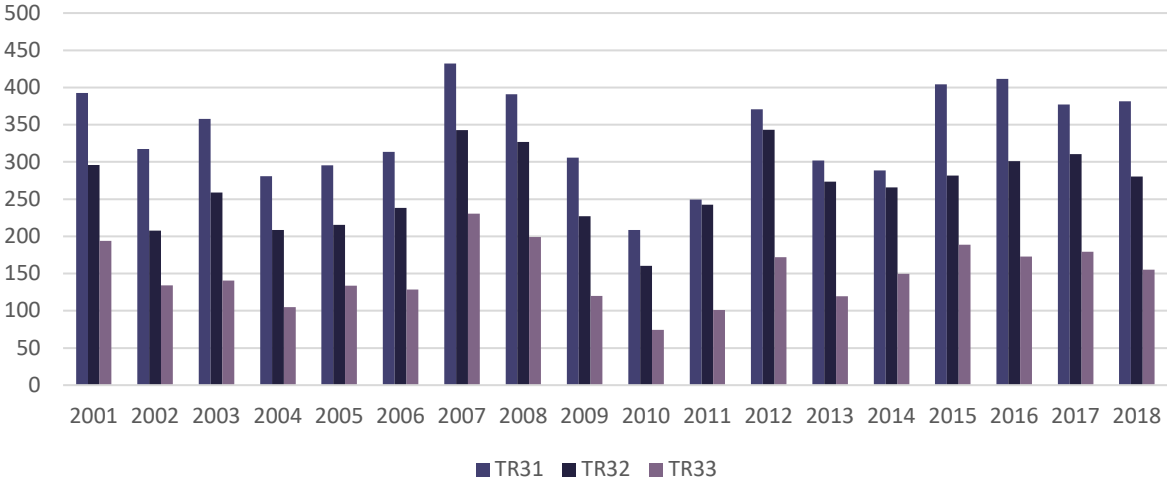
Source: OECDSTAT

Cooling degree days (CDD) is a metric used to quantify the demand for energy to cool buildings in a particular region during a specific period. It represents the number of degrees that a day's average temperature is above a certain threshold, known as the base temperature. The higher the CDD, the more energy is needed for cooling.

According to the given data, the cooling degree days (CDD) in TR33 region have varied over the years. The highest CDD was recorded in 2007 with a value of 230,407, while the lowest value was in 2010 with 74,203. The data suggests that there is a fluctuation in CDD, with some years having higher CDD values than others.

Conversely, heating degree days indicate the energy needed to heat a space or building to a comfortable level during the colder months. The analysis shows a significant decline in heating degree days from 2016 to 2018. It's important to consider that heating degree days are impacted by multiple factors, including the local climate, insulation quality of buildings, and efficiency of heating systems. Consequently, shifts in heating degree days over time in a given region can reveal changes in these factors."

Figure 66. Heating degree days (Number)
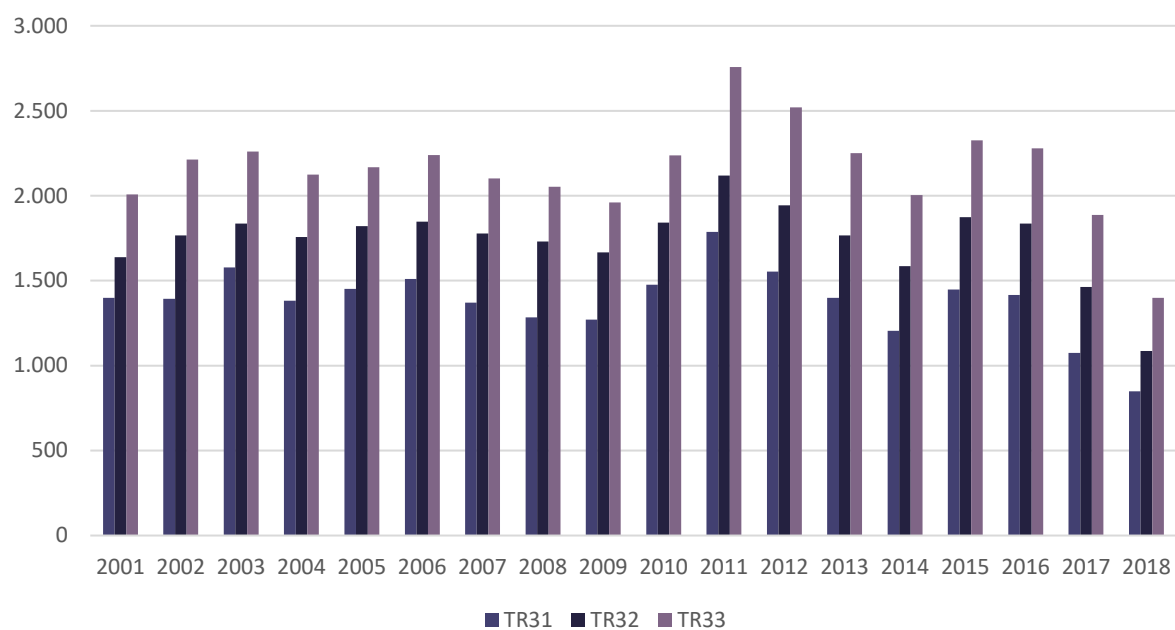
Source: OECDSTAT

3.1.14 SDG 14: Life Below Water

The TR33 Region does not have a sea or ocean, and as a result, SDG 14 is not prioritized.

Table 20. SDG 14 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit– No data	Fit for purpose	1-to1 replacement	Alternative indicator	Non–fit for purpose
14	Estuarine with high/very high water quality	URA (Basque Water Agency)	2014-2019	14.1 (reduce marine pollution)					+
14	Protected coastal area as a percentage of total coastal area	Organisation for Economic Cooperation and Development (OECD)	2017	14.5 (coastal and marine areas)					+
14	Coastal areas with good/very good water quality	URA (Basque Water Agency)	2015-2020	14.5 (coastal and marine areas)					+

Source: Author's own elaboration

3.1.15   SDG 15: Life on Land

There is no JRC indicator for SDG 15 at regional level in the TR33 Region as well as some indicators non-fit for purpose in terms of regional priorities. However, at the national level, data for SDG15 are available. SDG 15 is considered among the priorities at national level, especially 2019 Türkiye Voluntary National Review.

Table 21. SDG 15 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for purpose
15	Terrestrial protected areas as a percentage of total area	Organisation for Economic Cooperation and Development (OECD)	2017	15.5 (degradation of habitats)	+				
15	Estimated soil erosion	European Commission, Joint Research Centre	2000-2016	15.5 (degradation of habitats)					+
15	Land Abandonment	European Commission, Joint Research Centre	2015-2050	15.1 (restoration of ecosystems)					+
15	Forest area over total surface area	Ministry for the Ecological Transition and the Demographic Challenge	1965-2017	15.1 (restoration of ecosystems)	+				

Source: Author's own elaboration

3.1.16   SDG 16: Peace, Justice and Strong Institutions

There is one JRC indicator for SDG 16 in the TR33 Region. Data sources specified for SDG 16 are not available at the regional level. Some of the Europe-centric sources do not include Türkiye's regions in their studies. Türkiye's regions are not included in the following sources. Additionally, this topic is not among the priorities in the TR33 Regional Plan (2014-2023).

In the 11th Development Plan and the 2019 Türkiye Voluntary National Review (VNR), SDG 16, which focuses on good governance, occupies a larger space compared to regional resources. It is anticipated that the new regional plan would prioritize this target even more.

*Table 22. SDG 16 JRC SDG Indicator Analysis*

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for purpose
16	Transparency index	Transparency International		16.6 (effective institutions)	+				
16	Participation in the last elections	Organisation for Economic Cooperation and Development (OECD)	2002-2015	16.6 (effective institutions)		+			
16	Quality of Government Index	University of Gothenburg	2010-2021	16.6 (effective institutions)	+				
16	Extract from QGI an indicator on corruption	University of Gothenburg	2010-2021	16.5 (reduce corruption)	+				

Source: Author's own elaboration

Target 16.6 Effective Institutions

Develop effective, accountable and transparent institutions at all levels

Figure 67. Voters Turnout to General Elections (in % of registered voters who voted)
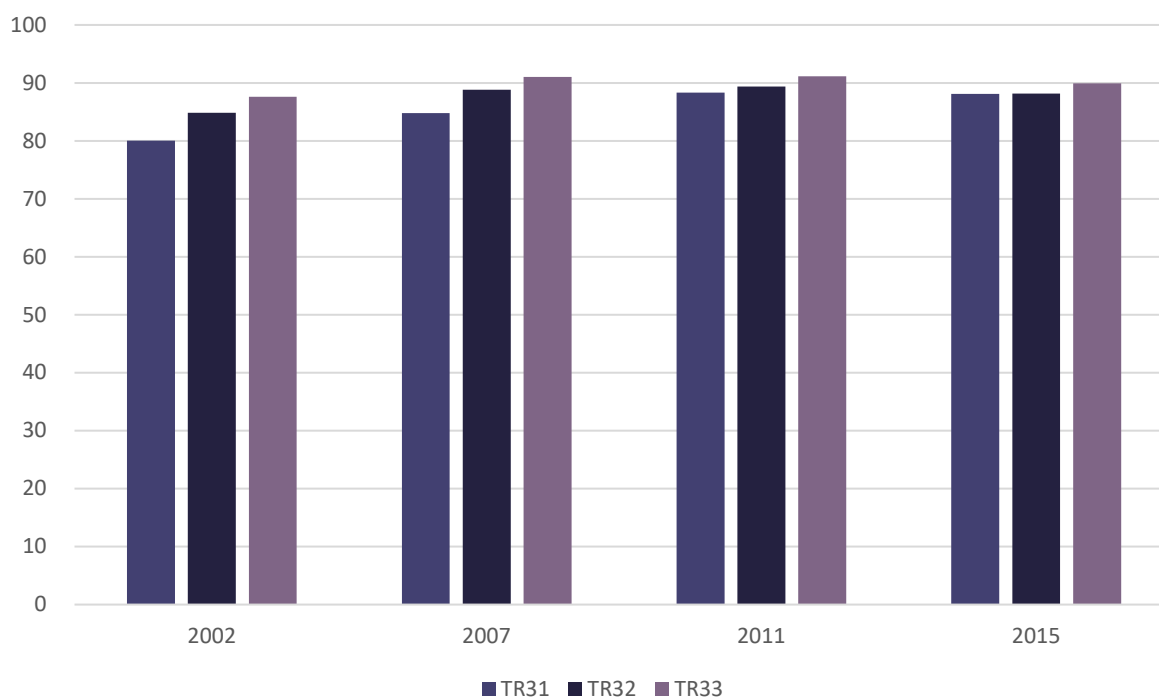
Source: OECDSTAT

This chart represents general election in Türkiye, respectively in 2002, 2007, 2011 and 2015. The indicator "Voters Turnout to General Elections (in % of registered voters who voted)" shows that the TR33 region is more participatory compared to other regions. Voter turnout is high across the region. Monitoring this indicator is important to observe whether the region is affected by the global trend of declining voter turnout in elections as well as across the Europe[1].

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[1] Voter Turnout Trends around the World, https://www.idea.int/sites/default/files/publications/voter-turnout-trends-around-the-world.pdf (Page 25)

3.1.17   SDG 17: Partnerships for The Goals

There is two JRC indicator for SDG 17 in the TR33 Region. The "Applicability and Governance" axis in the TR33 Regional Plan (2014-2023) emphasizes the importance of effective implementation and governance structures within the region. This axis aims to ensure that policies and strategies outlined in the plan are applicable, feasible, and aligned with good governance principles. It focuses on establishing mechanisms for monitoring, evaluation, and coordination to support the successful implementation of regional goals and objectives. By addressing issues related to governance, accountability, and institutional frameworks, this axis aims to enhance the region's capacity for sustainable development.

Table 23. SDG 17 JRC SDG Indicator Analysis

SDG	Indicator Name	Source	Time coverage	SDG Target(s)	Fit- No data	Fit for purpose	1-to1 replacement with	Alternative indicator	Non-fit for purpose
17	Official Development Assistance	Own elaboration (regional government)		17.2 (development assistance commitments)		+			
17	Imports from developing countries	Own elaboration (regional government)		17.12 (imports from least developed countries)	+				
17	PCT co-patent applications that are done with foreign regions	Organisation for Economic Cooperation and Development (OECD)	2001-2015	17.6 (regional and international cooperation)		+			
17	Individuals who used the internet for interaction with public authorities	Eurostat, Regional Statistics	2008-2021	17.8 (enabling technology)					

Source: Author's own elaboration

17.2 Development assistance commitments

Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

Figure 68. Regional Official Financial Support (TL) (Funding Amount– Total Budget)
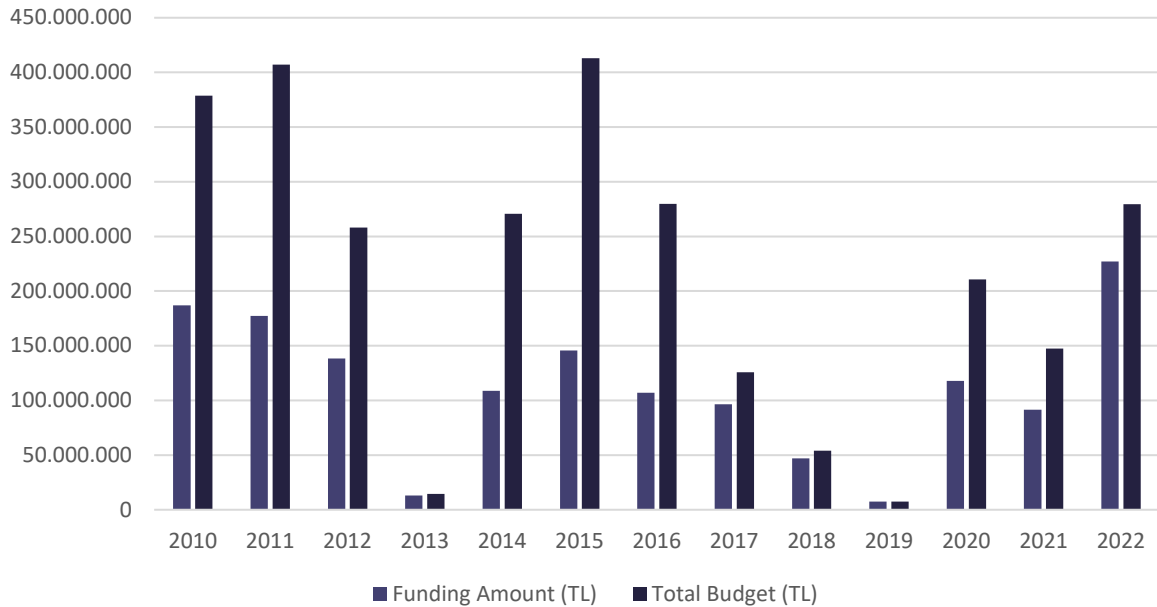
Source: Zafer Development Agency

Since its establishment, ZAFER has been supporting public institutions, private sector, and civil society organizations in line with the development axes of the region through various support mechanisms.

ZAFER has provided support to profit-oriented and non-profit organizations in two different types: financial support and technical support. Within the scope of technical support, the needs of applicants in various areas have been met through training and consultancy services. Under the framework of financial support, assistance has been provided in many areas, such as enhancing competitiveness, promoting innovation, increasing employment, and supporting R&D for businesses. For non-profit organizations, support has been extended to various areas including social infrastructure, environmental infrastructure, tourism, and education. In recent years, the agency has focused on topics such as youth employment, increasing production in the manufacturing industry, and promoting tourism and social development through the financial support it provides.

In the years 2020 and 2021, when the impact of COVID-19 was strongly felt, financial support calls were made to address the COVID-19 pandemic. Although the support levels were very low in 2013 and 2019, support has been maintained every year. The reason for the low support in these two years compared to others is that the preparation for project proposal calls took a long time, resulting in support being provided in the following year. In 2018, only a financial support call was made. Therefore, the support figures for the years 2013, 2018, and 2019 are lower compared to other years. This serves as an indicator that needs to be monitored for addressing regional inequalities through support mechanisms.

17.6 Regional and international cooperation

Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

Figure 69. Share of PCT co-patent applications that are done with foreign regions (in % of co-patent applications, total count)
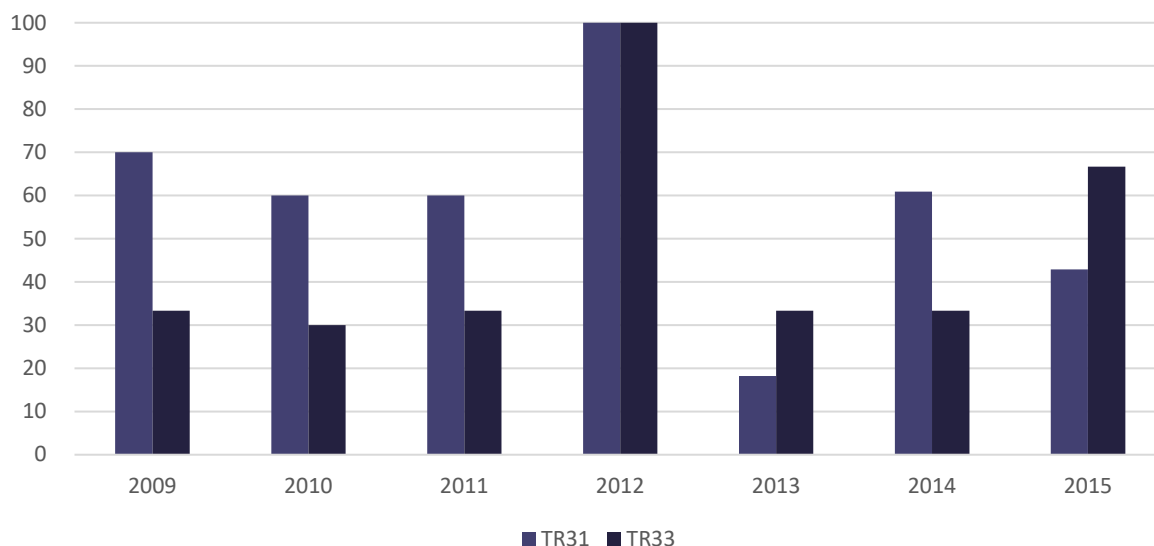
Source: OECDSTAT

When comparing this indicator, the data for Türkiye and the TR32 region is not available. Therefore, the data for the TR33 and TR31 regions are compared and presented.

It can be observed that the share of PCT co-patent applications with foreign regions in the TR33 region has slightly fluctuated. The highest share was recorded in 2012, while the lowest share was recorded in 2010. The increase in 2012 and 2015 is believed to be attributed to applications made for selling products abroad. However, it is not easily possible to track this from the export data of the regions.

According to TR33 Regional Plan (2014-2023), It is prioritized that supporting the production of products that do not have patents, are not produced in the country, or have very low production levels in the region, with a focus on Technology-Oriented Development Sub-Regions, and developing patent consultancy services.

Overall, the trend indicates an increasing share of co-patent applications with foreign regions, with a few exceptions of lower shares in certain years.

4. IDENTIFICATION OF SDGS AND SDGS TARGETS THAT REQUIRE CUSTOMIZED APPROACH

Additional indicators phase, the methodology and trend for identifying additional indicators for monitoring and evaluating the SDGs are explained. The selection of additional indicators is based on sub-indicators of the SDGs and TR33 Regional Plan. It is preferred that regional data is derived from publicly available sources such as TUKSTAT as far as possible. Moreover, primarily utilises percentages, rates and ratios to obtain a set of indicators suitable for comparison. The process of identifying additional indicators consists of six steps, outlined as follows.

Step 1 – Prioritization of SDG sub indicators

Step 2 – Selection of Türkiye's SDG indicators through contextualising them

Step 3 – Selection of the TR33 Regional indicators

Step 4- Harmonisation of selected indicators

(SDG sub indicators, Türkiye SDG indicators and TR33 Regional indicators)

Step 5- Evaluation indicators with experts of ZAFER

Step 6- Finalization of the TR33 Additional Indicator List

Please find more detailed in methodology section.

Table 24. Trend Analysis of TR33 Additional Indicators

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend
1	Number of the regional poor and regional poverty rate by equivalised household disposable income (Poverty Threshold (Tl)/ Risk of poverty:60%)	2014-2022	1.2 (reduce poverty)	Decreasing	Stable
1	Number of the regional poor and regional share of the poor by poverty thresholds and poverty thresholds adjusted by PPP for Türkiye	2014-2022	1.2 (reduce poverty)	Decreasing	Stable
1	S80/S20 ratio by household disposable income	2014-2021	1.2 (reduce poverty)	Decreasing	Stable
2	Organic farming: Number of holdings	2004-2021	2.4 (sustainable food production)	Increasing	Positive
2	Organic farming: Productions (Tons)	2004-2021	2.4 (sustainable food production)	Increasing	Positive
3	Under-five mortality rate	2009-2021	3.2 (preventable death of newborns)	Decreasing	Positive
3	Neonatal mortality rate	2009-2021	3.2 (preventable death of newborns)	Decreasing	Positive
3	Proportion of deaths due to respiratory diseases	2009-2021	3.4	Decreasing	Negative
3	Suicide mortality rate	2002-2021	3.4	Decreasing	Stable

SDG	Indicator Name	Time coverage	SDG Target(s)	Normative	Trend
4	Population by literacy status	2008-2021	4.6 (youth and adult literacy)	Increasing	Positive
5	Number of unpaid family worker	2004-2022	5.4 (unpaid work)	Decreasing	Positive
6	Rate Of Population Served By Wastewater Treatment Plants In Total Municipal Population (%)	1998-2020	6.a	Increasing	Not included in the trend.
6	Amount Of Wastewater Discharged Per Capita In Municipalities (Liters/Capita-Day)	1998-2020	6.4 (increase water-use efficiency)	Decreasing	Not included in the trend.
9	Share of micro-scale enterprises in total manufacturing industry value added	2009-2021	9.3 (access to financial services)	Increasing	Positive
9	R&D Expenditures in TR33 Region	2018-2021	9.5 (promote innovation)	Increasing	Positive
9	Number of Geographical Indication Applications and Registrations	2022	9.5 (promote innovation)	Increasing	Positive
9	Number of Utility Model Applications and Registrations	1995-2022	9.5 (promote innovation)	Increasing	Positive
9	Number of Trademark Applications and Registrations	1995-2022	9.5 (promote innovation)	Increasing	Positive
9	Number of Patent Applications and Patent Registrations	1995-2022	9.5 (promote innovation)	Increasing	Positive
9	Number of Design Applications	1995-2021	9.5 (promote innovation)	Increasing	Positive
9	Number of Design Registration	1996-2022	9.5 (promote innovation)	Increasing	Positive

Source: Author's own elaboration

Table 25. TR33 Additional Indicators (Final Version)

SDG	Indicator Name	Source	Time coverage	SDG Target(s)
1	Number of the regional poor and regional poverty rate by equivalised household disposable income (%)/(Poverty Threshold (Tl)/ Risk of poverty:60%	TurkStat (Turkish Statistical Institute)	2014-2022	1.2 (reduce poverty)
1	Number of the regional poor and regional share of the poor by poverty thresholds and poverty thresholds adjusted by PPP for Türkiye	TurkStat (Turkish Statistical Institute)	2014-2022	1.2 (reduce poverty)
1	S80/S20 ratio by household disposable income	TurkStat (Turkish Statistical Institute)	2014-2021	1.2 (reduce poverty)
2	Organic farming: Number of holdings	TurkStat (Turkish Statistical Institute)	2004-2021	2.4 (sustainable food production)
2	Organic farming: Productions (Tons) (Organik bitkisel üretim (geçiş süreci dahil) : Üretim (Ton))	TurkStat (Turkish Statistical Institute)	2004-2021	2.4 (sustainable food production)
3	Under-five mortality (number)	TurkStat (Turkish Statistical Institute)	2009-2021	3.2 (preventable death of newborns)
3	Neonatal mortality (number)	TurkStat (Turkish Statistical Institute)	2009-2021	3.2 (preventable death of newborns)
3	Proportion of deaths due to respiratory diseases (number)	TurkStat (Turkish Statistical Institute)	2009-2021	3.4
3	Suicide mortality (number)	TurkStat (Turkish Statistical Institute)	2002-2021	3.4
4	Population by literacy status (sex breakdown)	TurkStat (Turkish Statistical Institute)	2008-2021	4.6 (youth and adult literacy)
5	Number of unpaid family worker	TurkStat (Turkish Statistical Institute)	2004-2022	5.4 (unpaid work)

SDG	Indicator Name	Source	Time coverage	SDG Target(s)
6	Rate Of Population Served By Wastewater Treatment Plants In Total Municipal Population (%)	TurkStat (Turkish Statistical Institute)	1998-2020	6.a
6	Amount Of Wastewater Discharged Per Capita In Municipalities (Liters/Capita-Day)	TurkStat (Turkish Statistical Institute)	1998-2020	6.4 (increase water-use efficiency)
9	Share of micro-scale enterprises in total manufacturing industry value added	TurkStat (Turkish Statistical Institute)	2009-2021	9.3 (access to financial services)
9	R&D Expenditures (TL)	TurkStat (Turkish Statistical Institute)	2018-2021	9.5 (promote innovation)
9	Number of Geographical Indication Applications and Registrations	Turkish Patent and Trademark Office	2022	9.5 (promote innovation)
9	Number of Trademark Applications and Registrations	Turkish Patent and Trademark Office	1995-2022	9.5 (promote innovation)
9	Number of Patent Applications and Patent Registrations	Turkish Patent and Trademark Office	1995-2021	9.5 (promote innovation)
9	Number of Design Applications	Turkish Patent and Trademark Office	1995-2021	9.5 (promote innovation)
9	Number of Utility Model Applications and Registrations	Turkish Patent and Trademark Office	1995-2022	9.5 (promote innovation)
9	Number of Design Registration	Turkish Patent and Trademark Office	1996-2022	9.5 (promote innovation)

Source: Author's own elaboration

4.1 SDG 1: No Poverty

According to TR33 Regional Plan (2014-2023), it is stated that the priority in the establishment of active labour market policies is to improve the working conditions of those employed in the region, aiming to create a more qualified workforce and enhance individuals' personal and professional development. The priority of cooperation and solidarity culture includes measures that contribute to the formation of a stronger society through social solidarity and mutual assistance. Additionally, the axis includes various proposed solutions for combating poverty, targeting both employed and unemployed individuals. By making social services widespread and effective, measures will be taken to provide services to various groups within the society, particularly young people, women, the elderly, and people with disabilities, who require positive discrimination.

Figure 70. Number of the regional poor and regional poverty rate by equivalised household disposable income/ Poverty Threshold (Tl)/ Risk of poverty:60% (%)
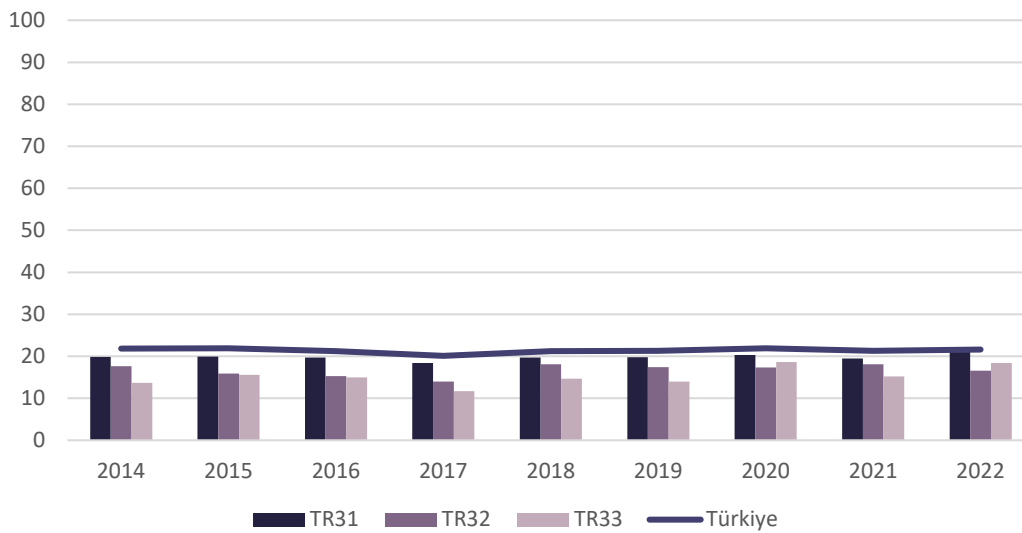
Source: TURKSTAT

Regionally, the data in three regions and Türkiye disclose parallel trends. The TR31 region has a poverty rate below the national average. Except for the TR33 region, which experienced lower poverty rates due to factors such as the 2020 pandemic period and increased food prices in 2022, all other regions have higher poverty rates. In these two years, it exceeded the national average by 1-2 percentage points. In 2020, there was a 60% increase in poverty rates across all regions and the country due to the impact of the pandemic. Following this increase, there was a decline in rates in 2021 as the impact of the pandemic weakened. However, the TR31 region has disrupted this trend.

Figure 71. Number of the regional poor and regional share of the poor by poverty thresholds and poverty thresholds adjusted by PPP for Türkiye
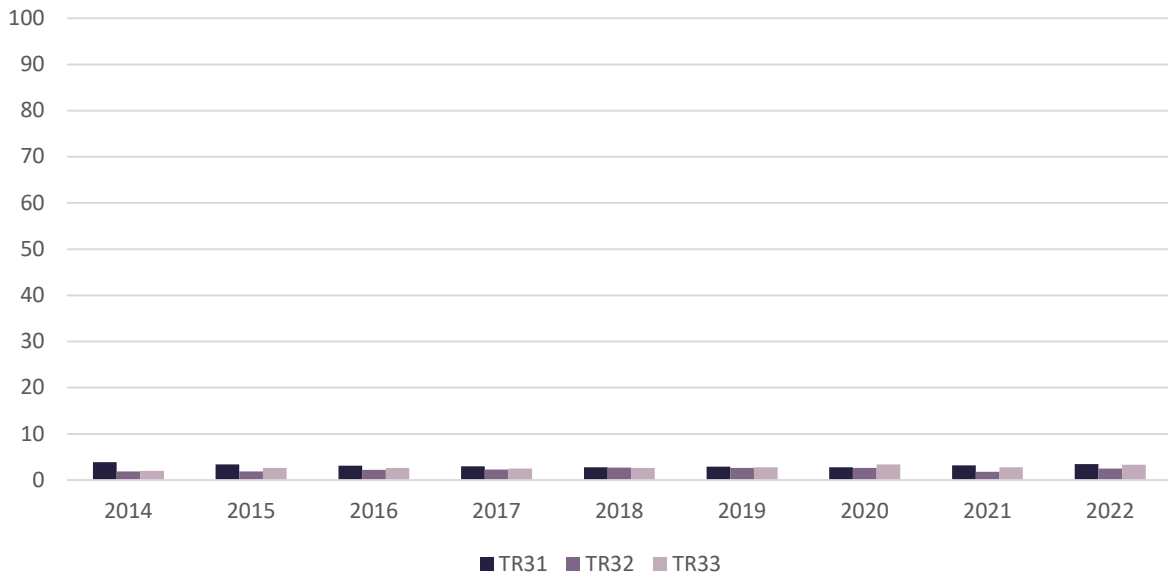
Source: TURKSTAT

This signifies the variations in the purchasing power of the Turkish Lira (TL) across different regions in Türkiye. It represents the adjustment factor that helps equalize the differences in price levels between regions, enabling the comparison of regional income data in real and meaningful terms. Moreover, PPPs are essential for accurately assessing and comparing economic data on a global scale. This indicator is essential to compare other contries' regions. Graph disclosed that TR3 Regions is close poverty for poverty thresholds adjusted by PPP for Türkiye. There were no significant changes observed between the years.

Figure 72. The P80/P20 ratio based on disposable income of households

Source: TURKSTAT

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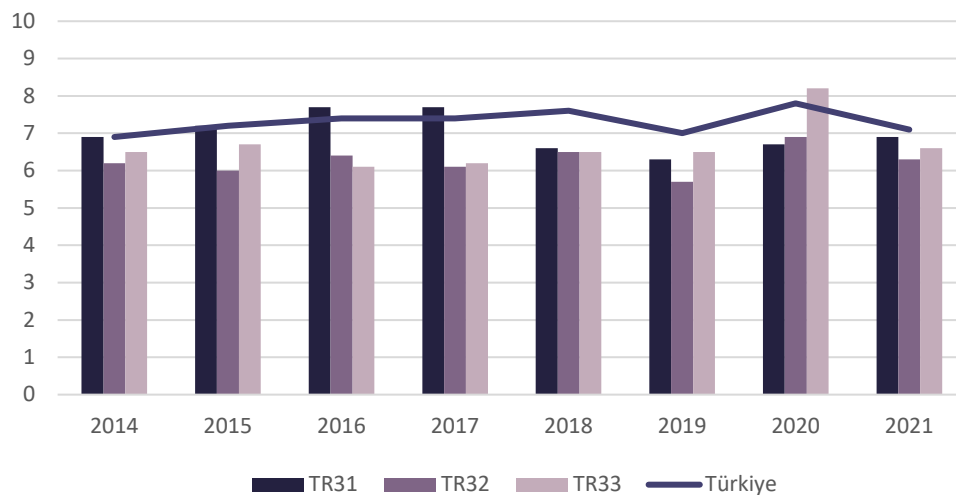
According to the findings of the TURKSTAT's latest research, the S80/S20 ratio was recorded the highest, even above the average of Türkiye, in TR33 Region in 2020 due to COVID-19 pandemic. However it is quite stable data when comparing TR31 and TR32 Regions.

This ratio represents the relationship between the total income of the top 20% highest-earning population and the bottom 20% lowest-earning population. A decrease in this ratio indicates a reduction in income inequality.

According to the Regional Plan, With a priority on Sub-Regions Dependent on Traditional Economy;

- Supporting the production, sales, and marketing of regional and traditional products,

- Supporting traditional industrial activities aimed at creating diverse income sources,

- Promoting collaborations and cooperatives to create different rural income sources,

- Supporting home-based women entrepreneurship in rural areas.

4.2 SDG 2: Zero Hunger

Figure 76-77-78 and 79 are explained together. Because it is directly related data. Although Figure 76 and 78 disclose comparison among regions and national data, Figure 77 and 79 show just TR33 data.

Organic farming encompasses agricultural activities that involve the production of organic crops, plant and animal products, aquaculture, and inputs in accordance with organic farming methods. It also includes all the processes, adhering to the law, applied to products obtained from forest areas or collected from nature until they reach the consumer.

The change in consumer behaviour after 2011 and 2012 has directly influenced the number of organic farming producers and the production quantity. The graph illustrates the increase in both the number of farmers and the production quantity over the years in response to the demand for organic product consumption. The TR33 region, in particular, exhibits a parallel trend between the number of farmers and the production quantity. However, during the pandemic period, a decrease can be observed in both the number of farmers and the production quantity.

In the TR31 region, the product quantity corresponding to the number of farmers is not as high as in the TR33 region.

Figure 73. Organic farming: Number of holdings (Number)
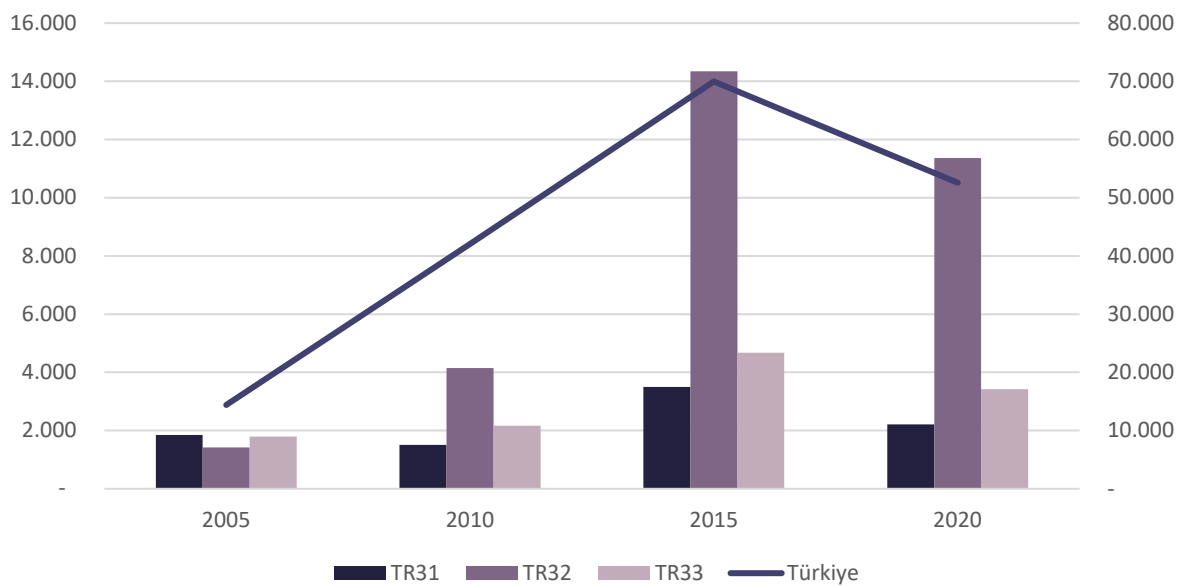
Source: TURKSTAT

Figure 74. Organic farming: Number of holdings (Number) (TR33)
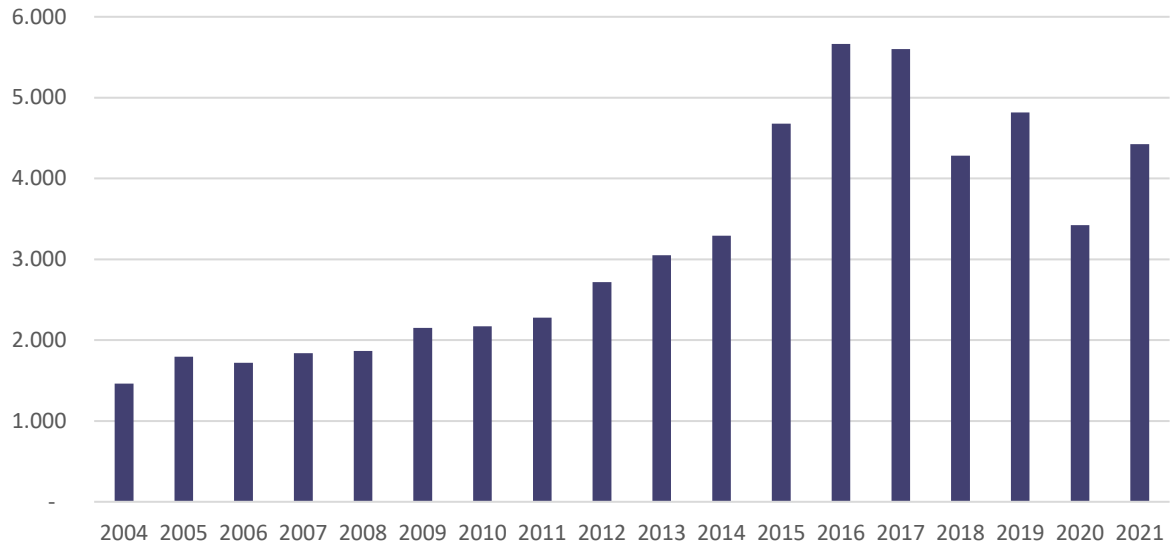
Source: TURKSTAT

Figure 75. Organic farming: Productions (Tons)
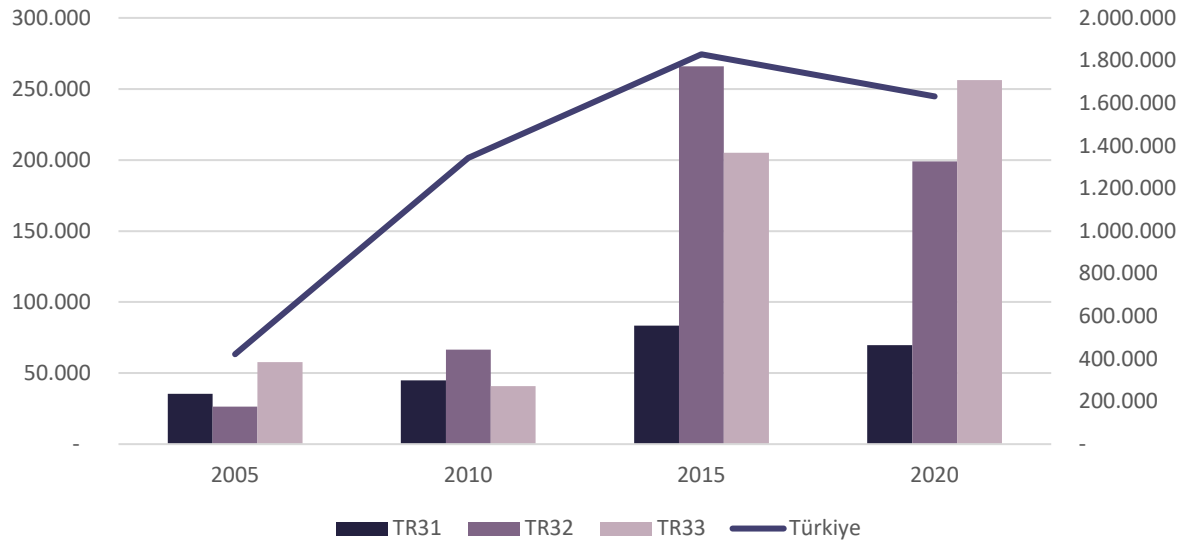
Source: TURKSTAT
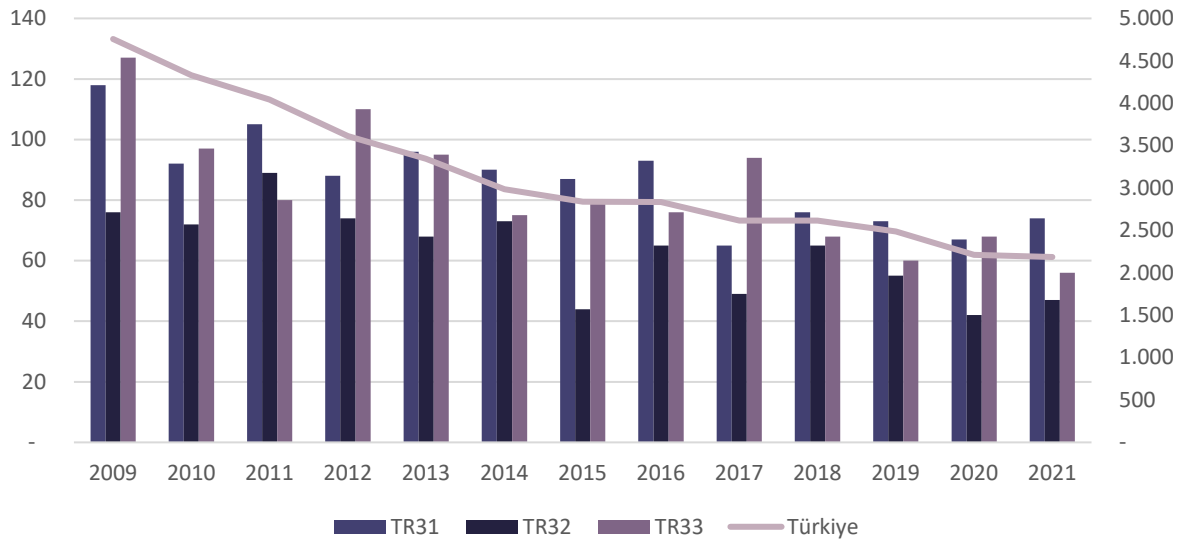
Figure 76. Organic farming: Productions (Tons) (TR33)
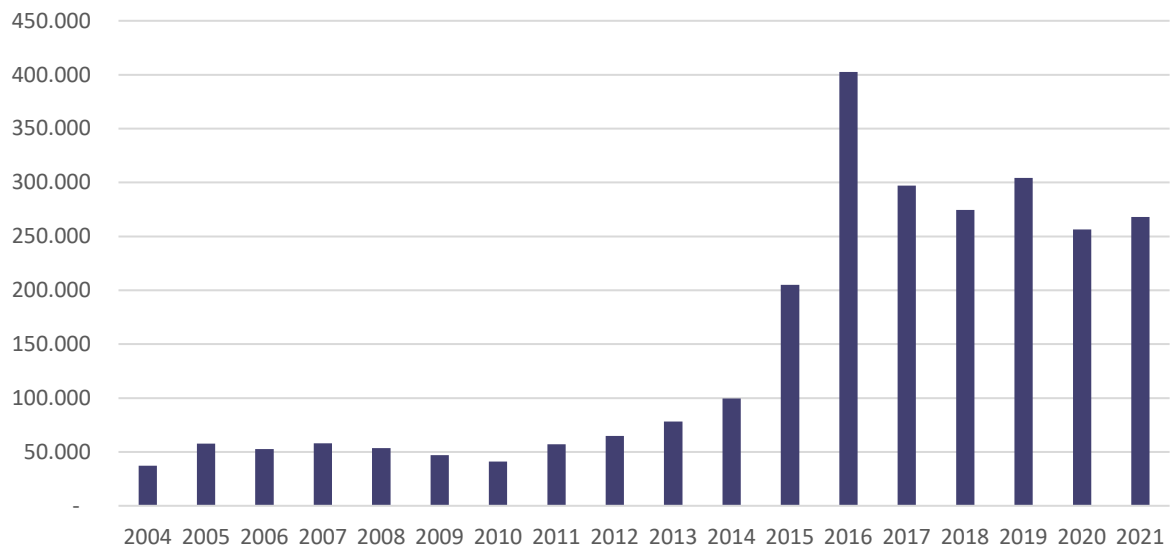
Source: TURKSTAT

4.3 SDG 3: Good Health and Well-Being

**3 GOOD HEALTH AND WELL-BEING**

Figure 77. Under-five mortality (number)

Source: TURKSTAT

Regional data is tracked in the left column, while national figures are presented in the right column. Generally, both at the national and regional levels, the number of under-five deaths shows a decreasing trend. However, this trend was disrupted in the TR33 region in the years 2012, 2015, and 2017. Scientific studies indicate a positive correlation between under-five child deaths and the number of births[2]. It is believed that this relationship may be the cause of the increases observed in the region. Additionally, there are only minimal numerical differences present.

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[2] https://dergipark.org.tr/tr/download/article-file/487785

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Figure 78. Birth Number (0-4)
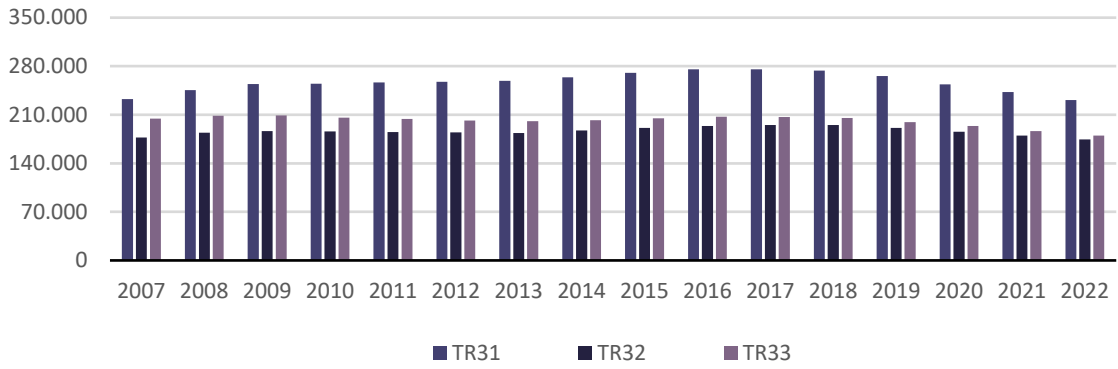
Source: TURKSTAT

Figure 79. Neonatal mortality (number)
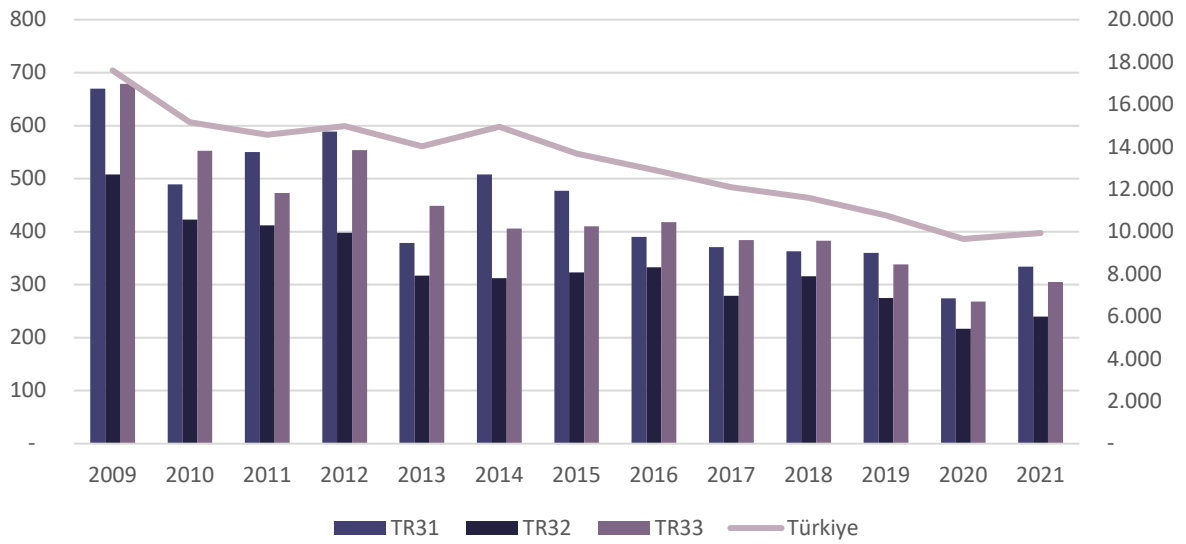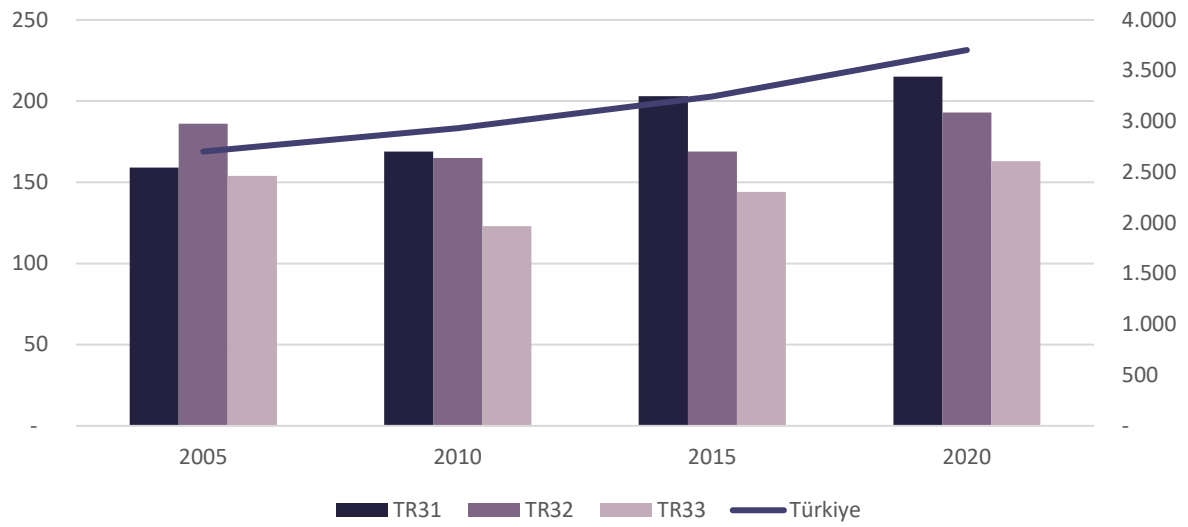

Source: TURKSTAT

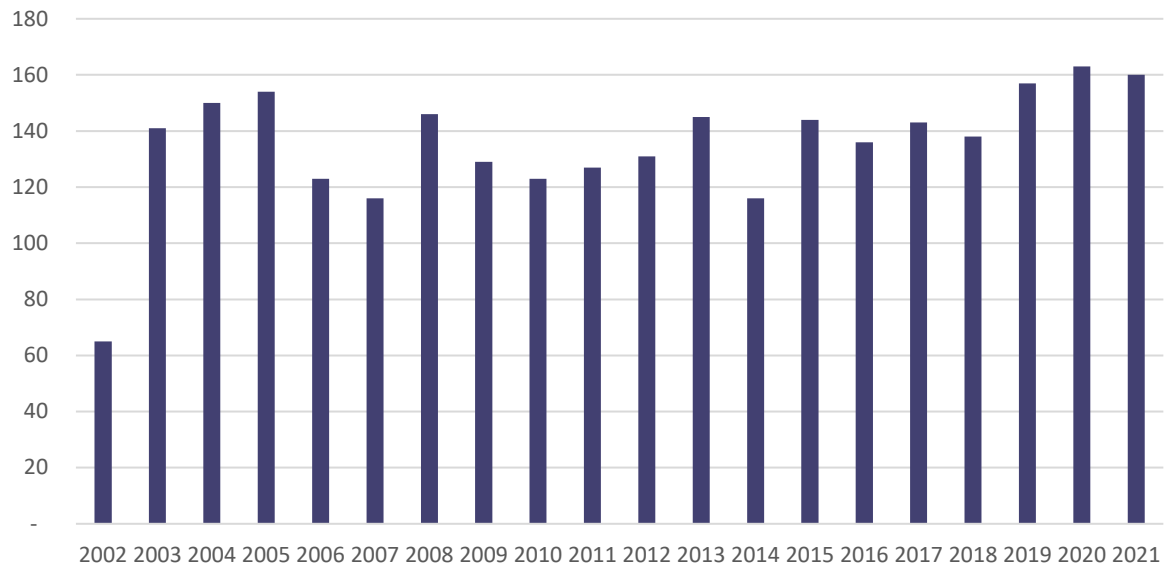*Figure 80. Proportion of deaths due to respiratory diseases (number)*
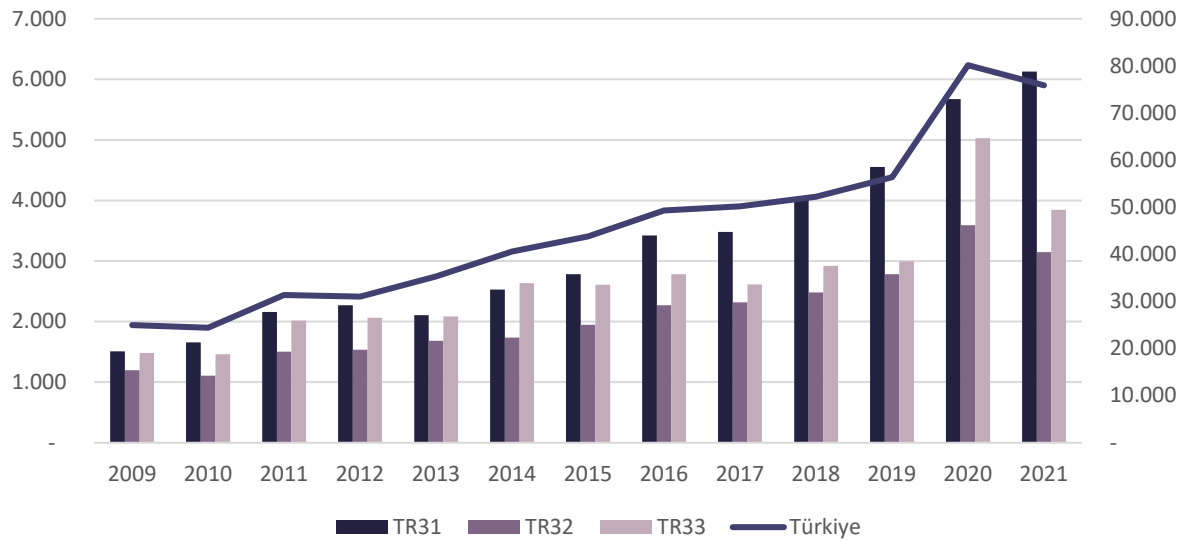
Source: TURKSTAT

Figure 81. Suicide mortality (number)

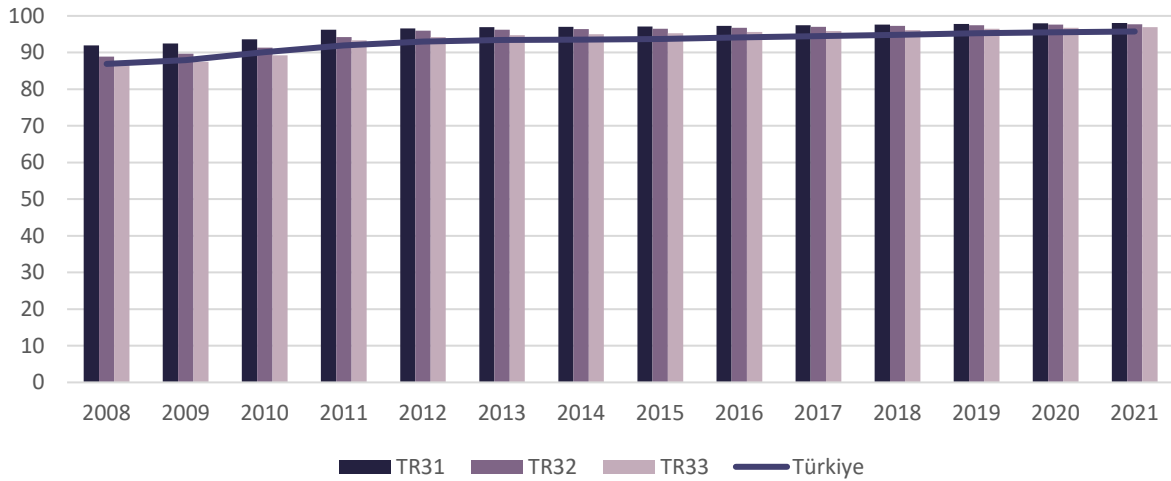Source: TURKSTAT

101

Figure 82. Suicide mortality (number) (TR33)
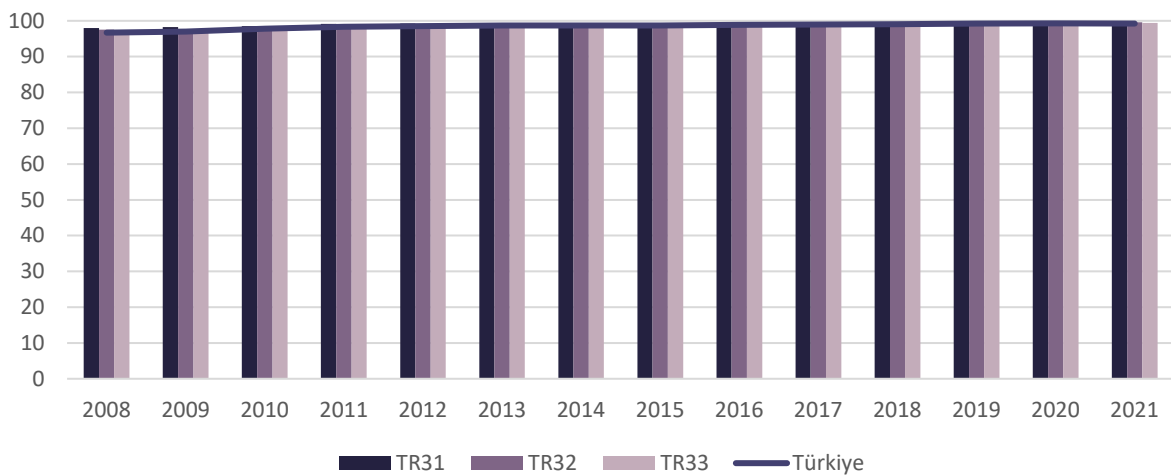

Source: TURKSTAT

4.4 SDG 4: Quality Education

Figure 83. Population by literacy status (Female) (%)


TR31 TR32 TR33 Türkiye

The three regions and the national average have very close values. When looking at the three figures 86-87-88, it is evident that the proportion of female reduces the overall rate. Efforts should be made to elevate women in order to increase this rate. It is important to strive for reaching 100% in this regard, which is why it is necessary to monitor this indicator.

Figure 84. Population by literacy status (Male) (%)

TR31 TR32 TR33 Türkiye

Figure 85. Population by literacy status (Total) (%)
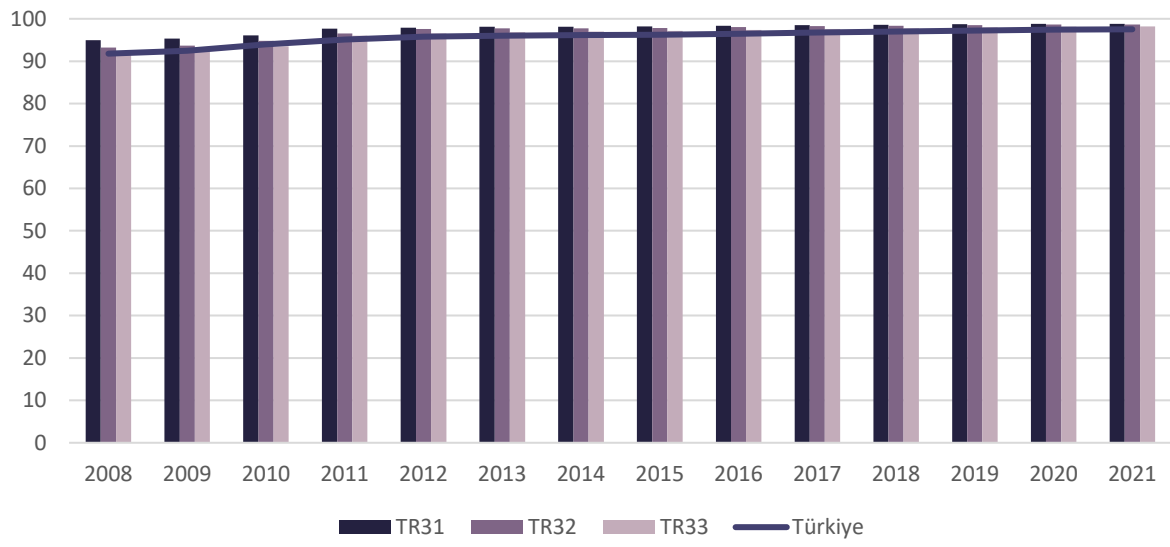
4.5 SDG 5: Gender Equality
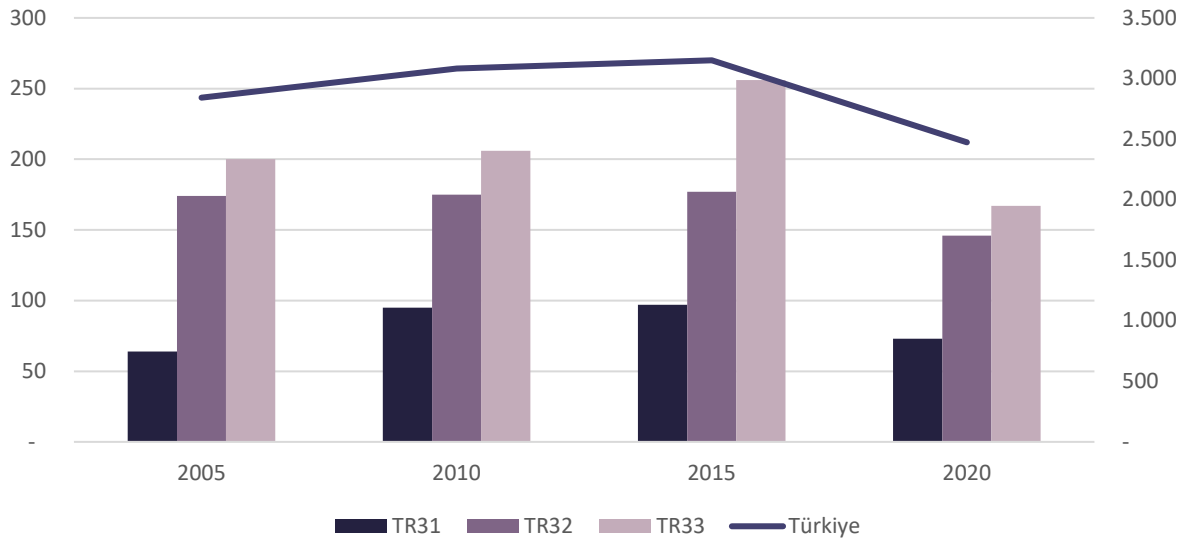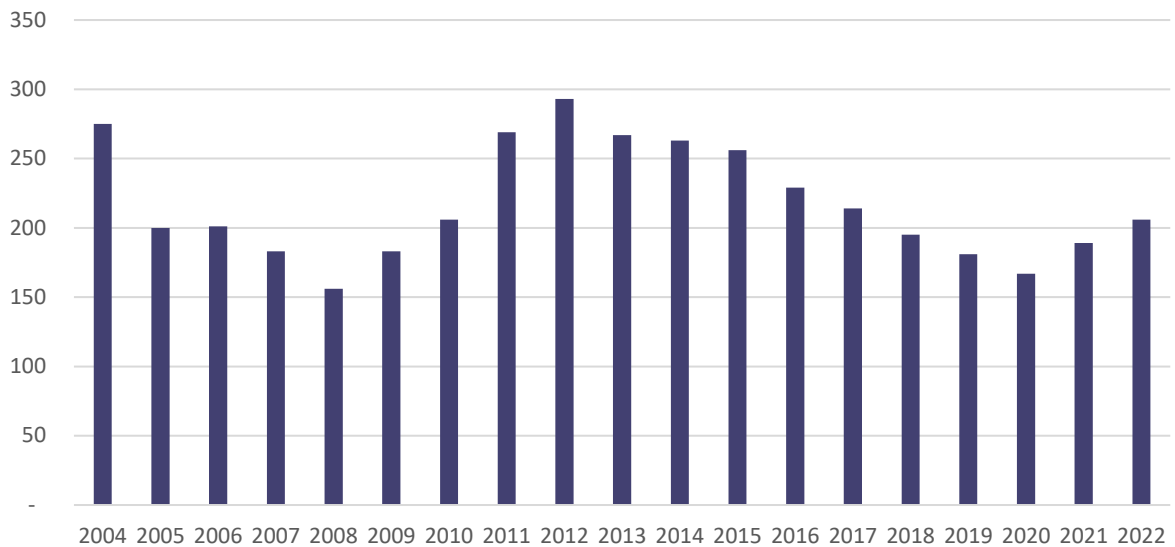
5 GENDER EQUALITY

Figure 86. Number of unpaid family worker

Source: TURKSTAT

Figure 87. Number of unpaid family worker (TR33)
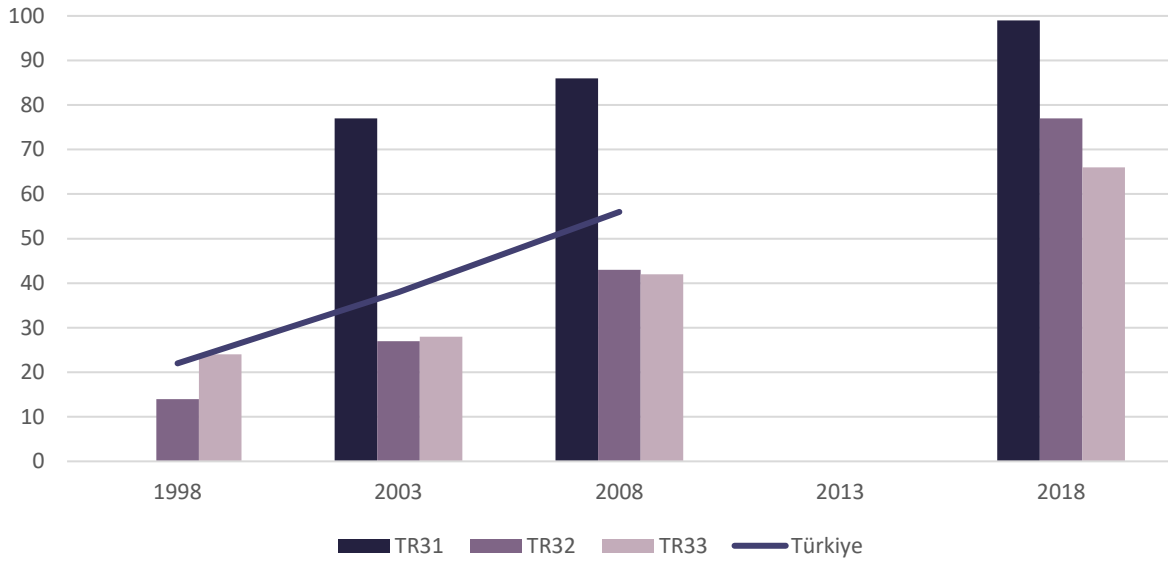

Source: TURKSTAT

4.6 SDG 6: Clean Water and Sanitation

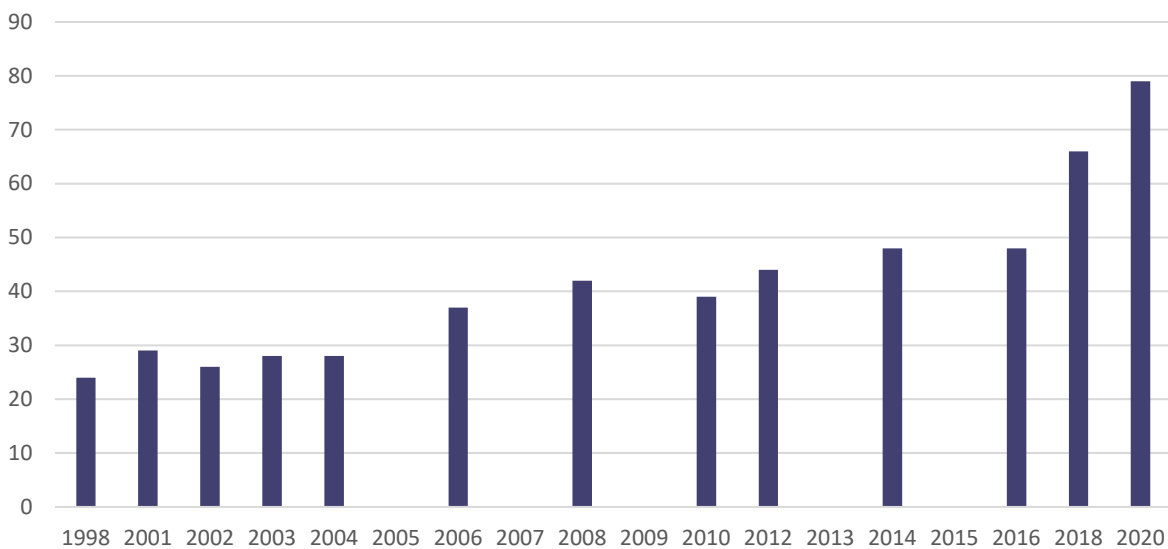**6 CLEAN WATER AND SANITATION**

Figure 88. Rate of Population Served by Wastewater Treatment Plants In Total Municipal Population (%)
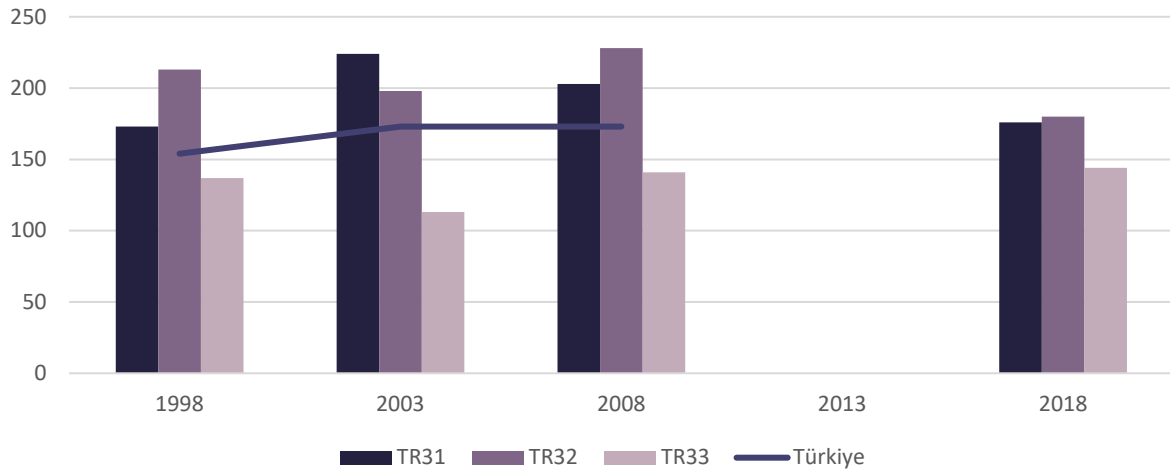

Source: TURKSTAT

Figure 89. Rate of Population Served by Wastewater Treatment Plants In Total Municipal Population (%) (TR33)

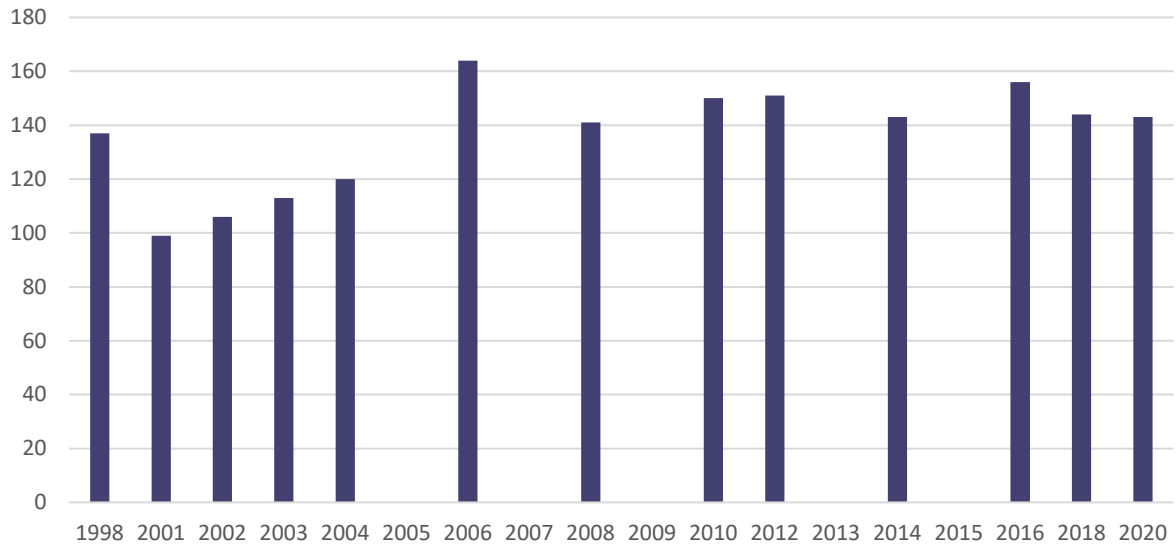Source: TURKSTAT

Figure 90. Amount of Wastewater Discharged Per Capita In Municipalities (Liters/Capita-Day)

Legend: TR31, TR32, TR33, Türkiye

Figure 91. Amount of Wastewater Discharged Per Capita In Municipalities (Liters/Capita-Day)(TR33)

4.7 SDG 9: Industry, Innovation and Infrastructure

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Figure 92. Share of micro-scale enterprises in total manufacturing industry value added (Number)
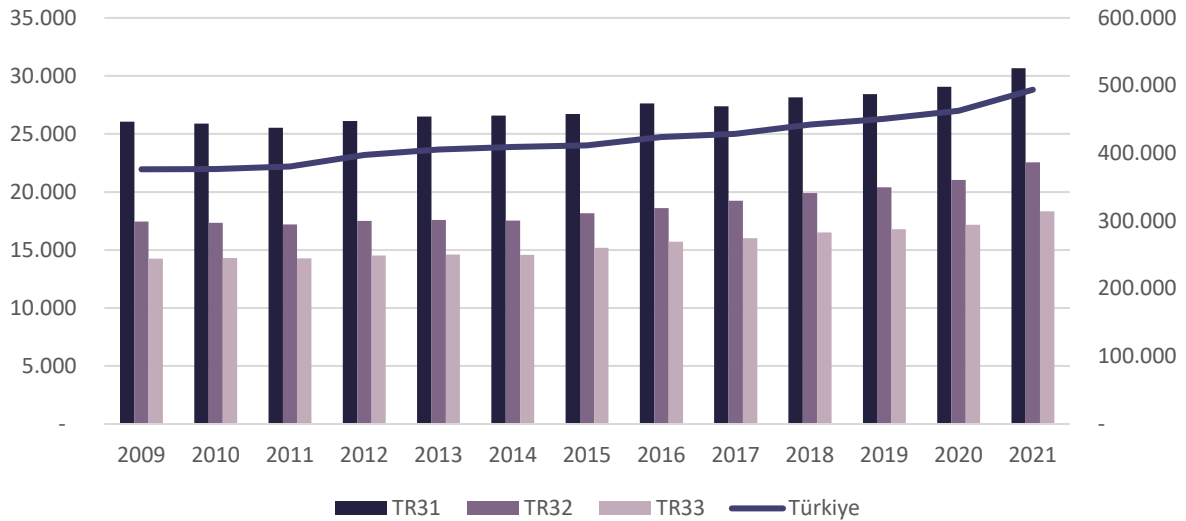
Source: TURKSTAT

Figure 93. R&D Expenditures (TL)
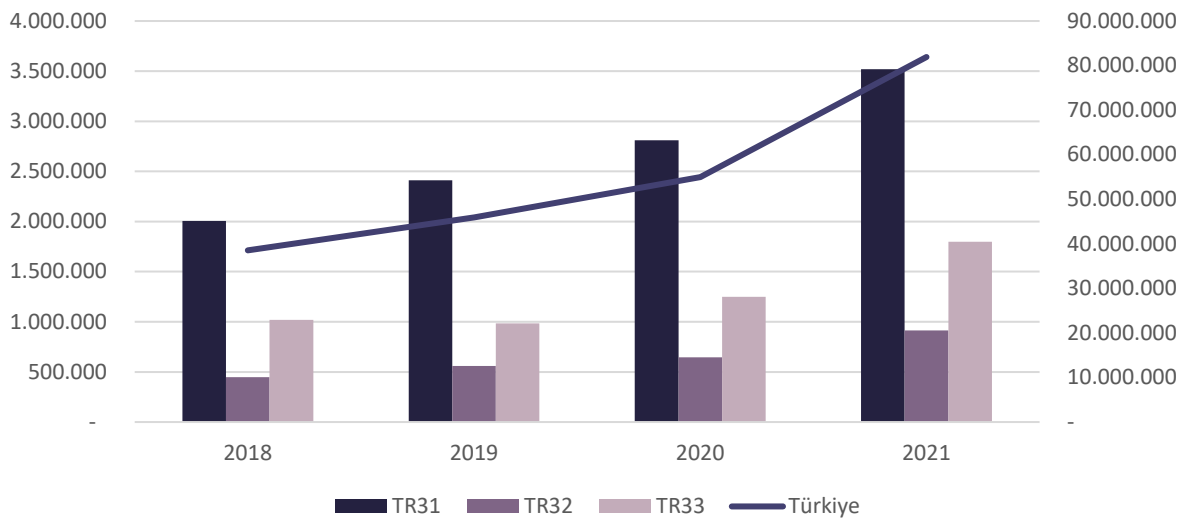
Source: TURKSTAT

Figure 94. Number of Geographical Indication Applications and Registrations (Number) (TR33)

Source: Turkish Patent and Trademark Office

Figure 95. Number of Patent Applications and Patent Registrations (Number) (TR33)

Source: Turkish Patent and Trademark Office

Figure 96. Number of Utility Model Applications and Registrations (Number) (TR33)
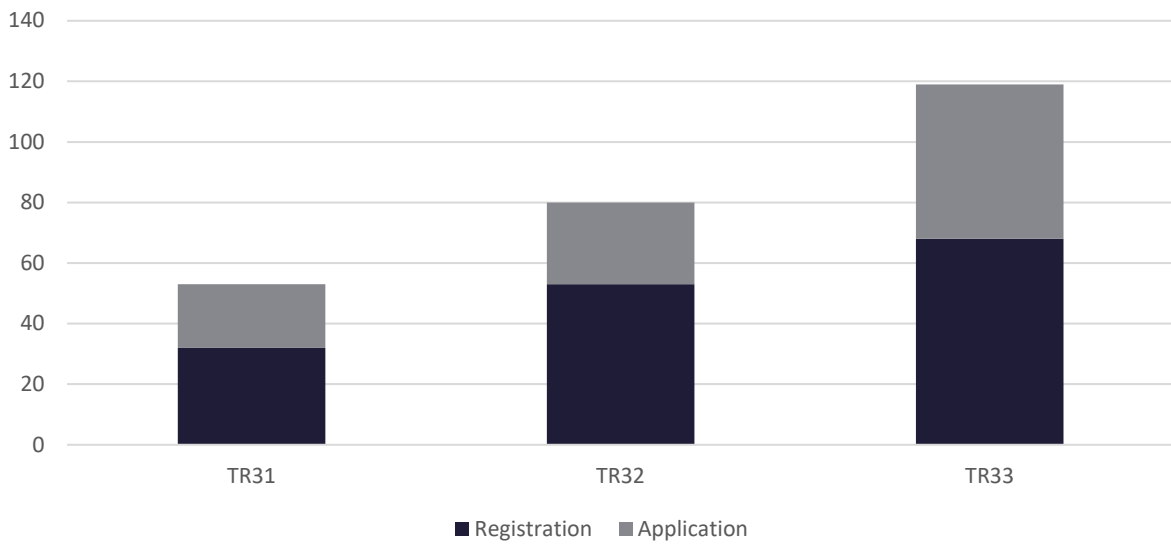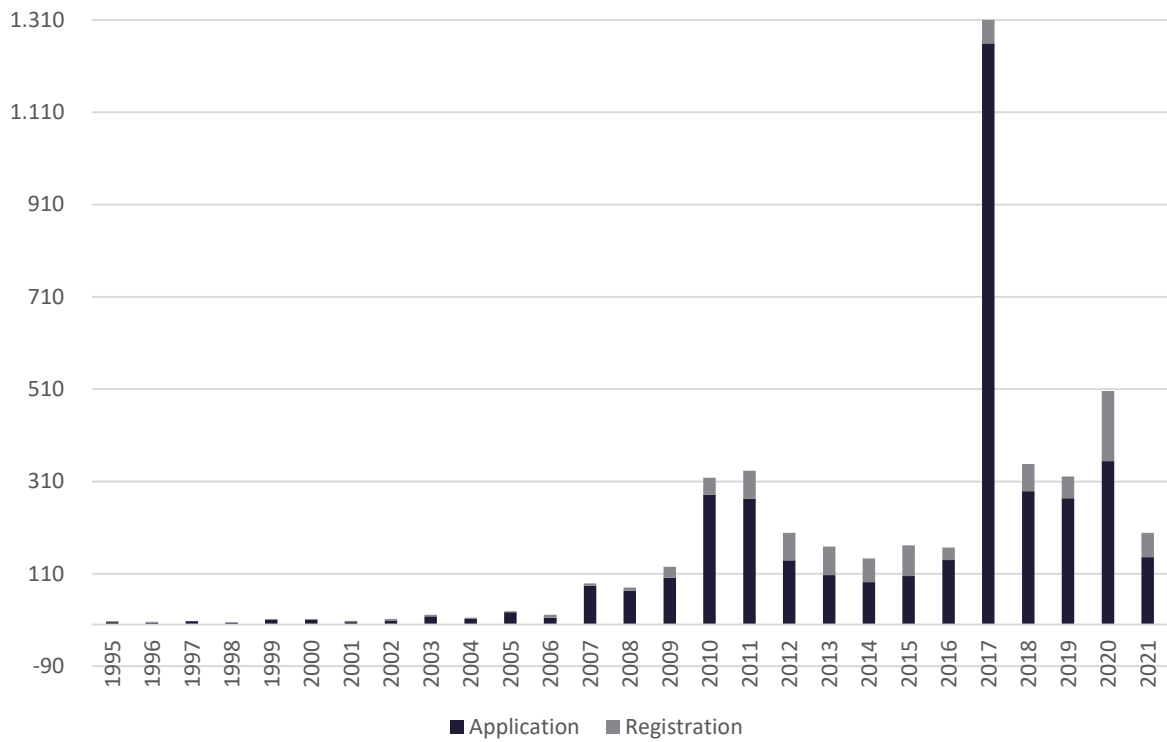

Source: Turkish Patent and Trademark Office

Figure 97. Number of Trademark Applications and Registrations (Number) (TR33)
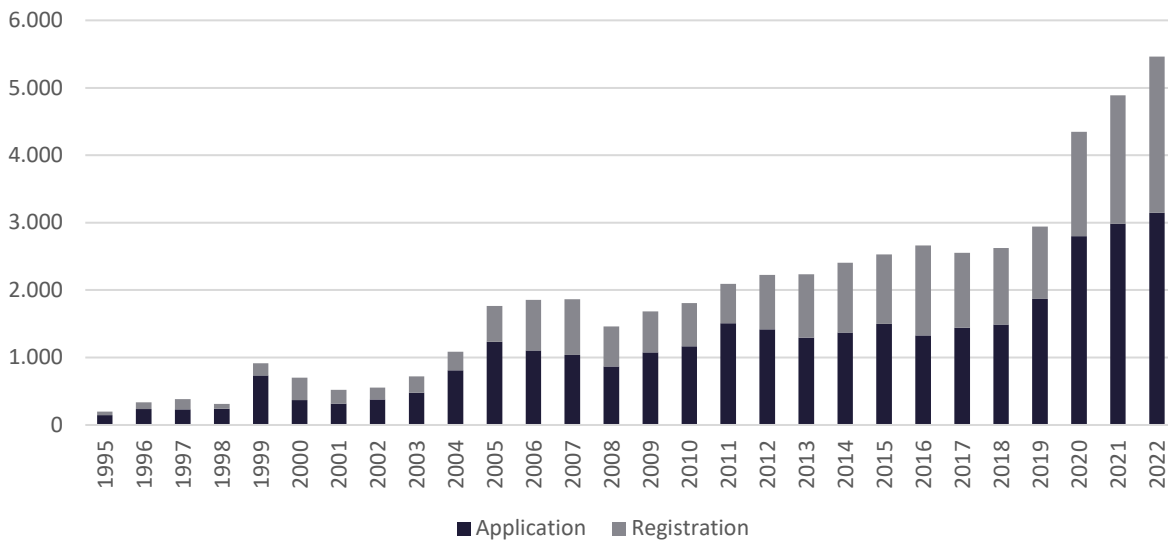
Source: Turkish Patent and Trademark Office

With the implementation of Law No. 6769 on Industrial Property in 2017, there were also regulations in the trademark registration process, resulting in shortened procedures. Especially from 2017 onwards, along with the introduction of new regulations, the number of trademark applications has significantly increased. This situation, which has arisen due to the increase in applications made without the support of experts or attorneys authorized by the Turkish Patent and Trademark Office, has also led to a significant increase in the percentage of untracked and unresolved applications.

The following factors contribute to this situation:

- Incorrect or incomplete filing of applications.

- Failure to track the process and conclude the proceedings.

- Inability to adequately prepare and submit necessary documents in response to objections, refusals, or partial refusals.

- As a result of these circumstances, while the number of applications has increased, the number of registered trademarks has not increased at the same rate.
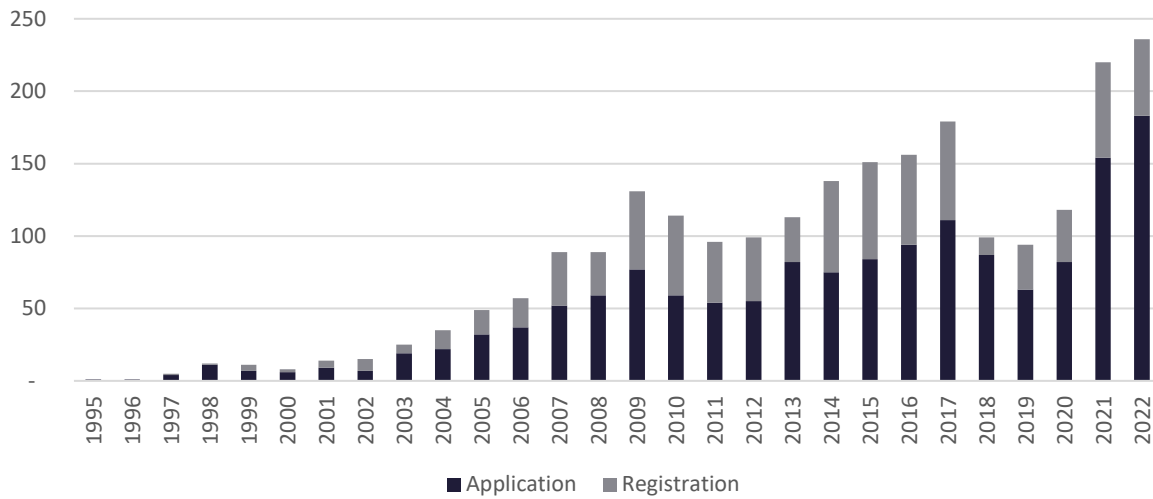
Figure 98. Number of Design Applications (Number) (TR33)

Source: Turkish Patent and Trademark Office

Figure 99. Number of Design Registrations (Number) (TR33)

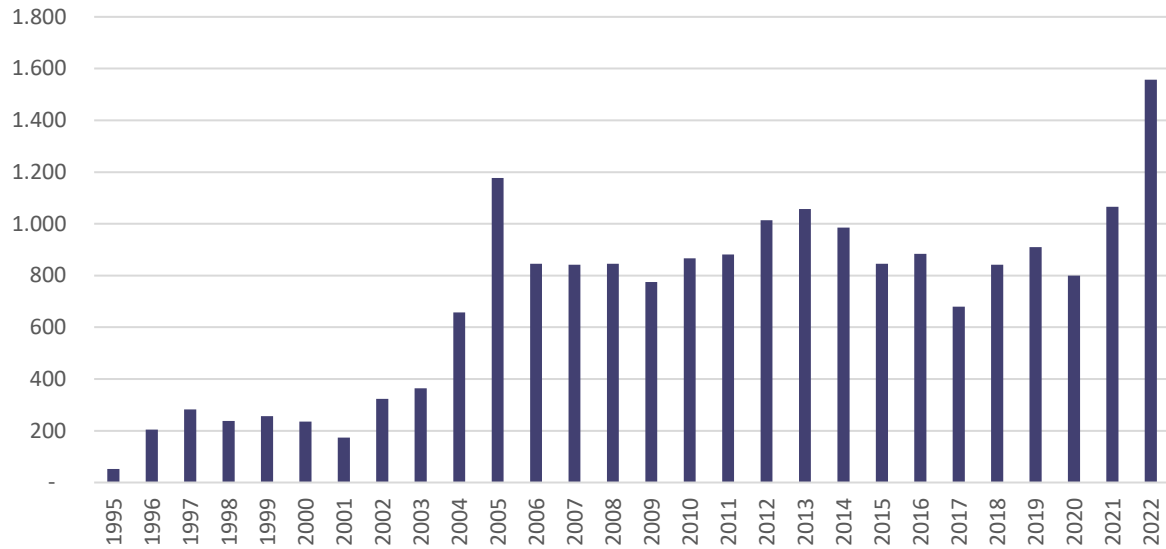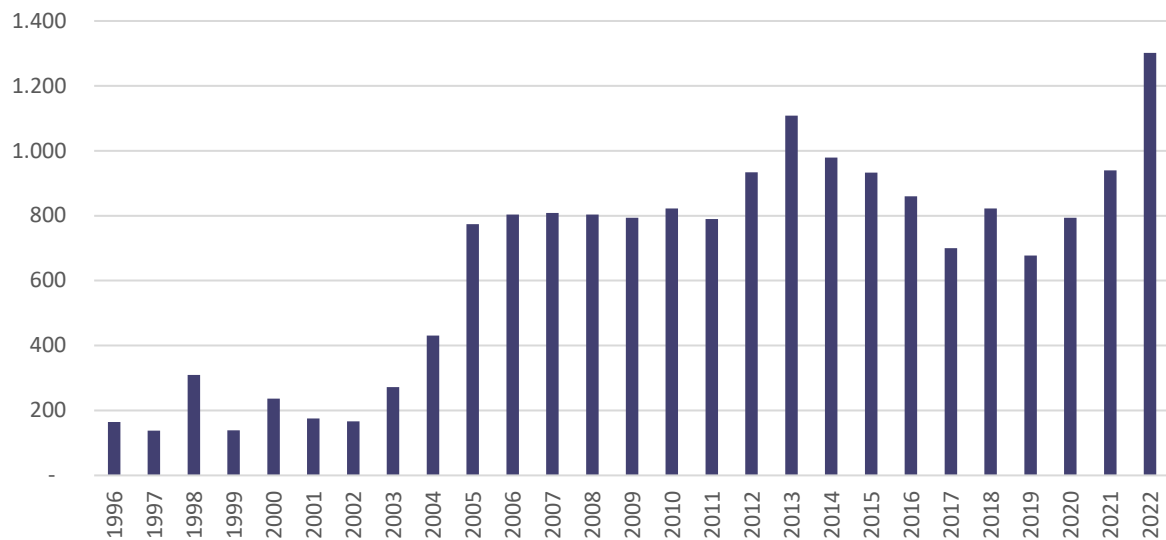Source: Turkish Patent and Trademark Office

5. CHALLENGES

This section explains the process of monitoring and evaluating SDGs in the TR33 Region. ISeveral challenges were encountered while preparing this report. These included identifying reliable data sources, managing data duplication, designing effective visualisations, reaching limited data and ensuring consistent definitions of data. Key challenges are identified and outlined below.

The first challenge was the timing of this evaluation. The TR33 Regional Plan (2014-2023), which is currently in its last year, is evaluated in this report. Although ZAFER has prepared in advance the TR33 Regional Plan (2024-2028), it evaluated the TR33 Regional Plan (2014-2023) in terms of monitoring and evaluating SDGs. Evaluating the progress of the SDGs based on previous policies and objectives can result in target inconsistencies. When assessing a new region with old policies and objectives, their proper alignment presents an obvious challenge. The objectives set in the previous plan may not be compatible with the new region, or they may no longer be valid. This presents difficulties in determining realistic and achievable priorities that accurately reflect the current situation.

One of the primary challenges was the identification of, and access to, reliable and comprehensive data sources. Although the Joint Research Centre (JRC) offers 26 international and national data sources, these sources primarily cover European regions. Obtaining data for Turkish regions is complex: the JRC Urban Data Platform Plus does not include regions for Türkiye. To address this omission, this report recommends prioritising the use of international data sources EUROSTAT and OECDSTAT if only because they typically offer a wider range of data and indicators. In the future, these sources should be utilized to obtain relevant indicators for the TR33 Region.

Figure 100. TR33 Indicator's Data Sources
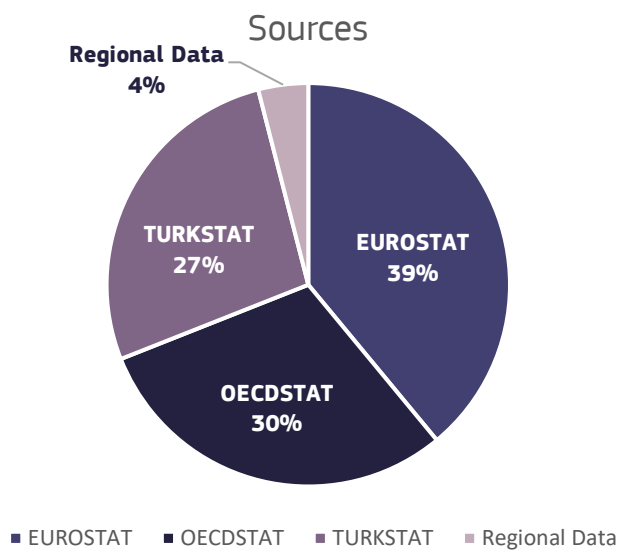
Source: TURKSTAT

Definition Consistency: Inconsistencies in the naming and definitions of indicators can create confusion and pose challenges in accurately interpreting the data. Different sources may use different names or definitions for indicators that represent the same concept. This makes it difficult to compare and analyse the data accurately, leading to potential inaccuracies in assessing progress towards the SDGs.

Ambiguous Indicators: Certain indicators, such as "Imports from developing countries" under SDG 17, present challenges in terms of defining specific terms like "developing countries." The definition of developing countries can vary across different international sources, resulting in ambiguity in data interpretation. This ambiguity can hinder accurate assessment and monitoring of progress.

Data Limitations: Data limitations can be a significant challenge in monitoring the SDGs. Some sources may provide data for a limited number of years, making it challenging to perform meaningful trend analysis. For example, certain indicators like "Stock of vehicles (passenger cars)" may have data for only a few years, while others like "CO2 emissions" may have data for only one year. This limitation restricts the ability to track long-term trends accurately.

Comparison Difficulties: Comparing indicators solely based on numerical values can be misleading without considering contextual factors. It is essential to take into account factors such as population size, land area, and other relevant variables to conduct a comprehensive analysis and derive meaningful conclusions. Ignoring these factors may lead to inaccurate comparisons and misinterpretations of progress.

Inaccessible indicators during the research: some indicators may not be measurable or relevant for the TR33 Region or Türkiye as a whole. For instance, the indicator "Electricity production that comes from nuclear power" is not applicable to TR33 since Türkiye does not have any nuclear power plants. Identifying and addressing such inaccessible indicators is crucial to ensure accurate monitoring and evaluation.

Addressing these challenges requires a comprehensive approach that involves careful consideration of data sources, ensuring consistent definitions, conducting contextual analysis, and prioritizing international data when regional data is limited. By acknowledging and actively addressing these challenges, the monitoring and evaluation process can become more robust, reliable, and effective in tracking progress towards the SDGs in the TR33 Region.

6. RECOMMENDATIONS

The REGIONS2030 Project has fundamental importance in supporting regions' sustainability-oriented efforts and making their sustainability agendas visible. Additionally, it facilitates the comparison of regions at the European level including Türkiye. As mentioned in the previous section, various data and conceptual challenges are encountered throughout this process. Considering these challenges, there are areas that need to be developed. These aspects should not only be part of the regional agenda but also be on the agenda of national governments.

To enhance regional awareness and improve monitoring and evaluation capacity, this report recommends initiating new projects similar to the REGIONS2030 Project. These projects would not only raise awareness but also elevate the visibility of regional sustainability. The TR33 Region needs to organise sustainability-training programs, workshops and seminars to increase stakeholder capacity about concept and philosophy of sustainability in order to ensure sustainable future in TR33.

TURKSTAT has already launched an open data platform[3] for monitoring the Sustainable Development Goals (SDGs) at the national level, providing ease in monitoring and evaluating SDG targets. It is advisable to implement a similar platform at the regional level in Türkiye. Engaging with decision-makers at the national level, such as the Ministry and TURKSTAT, is essential for accessing a wider range of publicly available SDG indicators at the regional/local level. This will allow the beneficiaries of regional SDG indicators to align their efforts with the 2030 Agenda through effective monitoring and evaluation. As part of the REGIONS2030 Project, idiscussions were held with TUKSTAT officials responsible for an open data platform to enhance Regional SDG Platform. However, Türkiye requires a wide range regional data set on sustainability as a first step. A Regional Data Platform and advance data collection capacity is first stage to achieving Regional SDG Platform.

The Türkiye government institution responsible for gathering and analysing statistics is TURKSTAT. TURKSTAT collects data at the national, regional, and local levels, establishes standards, and revises them when necessary. To create a regional data collection culture, a Regional Data Platform should be established under the umbrella of TURKSTAT. The awareness and knowledge levels of institutions need to be increased so that data standards are adopted by regional institutions and data is provided to TURKSTAT. Particularly, supporting the regional data production and sharing at the regional level, the Regional Data Platform will facilitate the SDG open data platform created by TURKSTAT.

In addition to establishing these structures, the process of regional institutions coming together at certain intervals (e.g., every 4 or 6 months) to share their sustainability efforts will play a role in accelerating the construction of a sustainability culture. Even if a Sustainability Centre is not established, task forces prioritised for the goals should be formed under the Development Agency with the participation of institutions and actors to trigger the sustainability process. This will not only increase regional awareness but also enhance the number and quality of VLRs in TR33 Region.

Additionally, it is vital to establish SDG Target 2030 for countries, regions, cities, and districts, which can be initiated at both national and local levels. This approach enables goal-oriented monitoring and enhances the visibility of progress, leading to more effective implementation of the SDGs.

To monitor the indicators identified in this report, revise the indicators as necessary, and add new indicators or remove some indicators, the SDG Centre should be established at the regional level. This centre can be established under the umbrella of the Development Agency or as an independent. The governance structure should be designed to involve multiple stakeholders, and it should include an executive board consisting of regional stakeholders. Interagency communication and collaboration should be well-developed under the umbrella of this centre for the collection of sustainability data. The inclusion of TURKSTAT representatives in this centre should contribute to standardizing regional sustainability data.

The SDG Centre should form task forces for relevant SDG targets. These task forces should consist of representatives from international, national, and local institutions, with a focus on regional representation. Additionally, a structure should be designed that includes representatives from the public sector, private sector, civil society, and academia. Unless necessary, the representatives participating in these task forces should not be changed, as continuity plays a key role in achieving solutions. Guest participants can be added to enrich the

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[3] https://sdg.tuik.gov.tr/en/

task forces if deemed necessary. SDG 7 is an important goal for the sustainability of Region TR33, but more indicators are needed in relation to this goal. You can find the indicators in Section 3 and 4 under SDG 7. Furthermore, these indicators need to be evaluated together with other indicators. In this context, alongside local and regional actors, representatives from energy and engineering sciences working in academia should be involved in interpreting the data and establishing correlations. A detailed workflow should be established for each task force.

A Sustainability Strategy should be prepared for the region. The regional plan is a plan built on sustainability principles. However, as seen in the REGIONS2030 Project, it is important for regions to construct their own sustainability strategies and implement them. Monitoring the indicators identified in this report and prioritising programs, projects, and activities will also be influenced by this strategy. The Sustainability Strategy should be prepared in line with the Regional Plan, based on the principle of participation.

This report, along with similar efforts, should play a role in revising regional-level strategies and plans. In light of the indicator set created in this report, certain SDGs need to be prioritized. This is a necessary step for more efficient resource utilization and identifying areas that require urgent intervention. Following the prioritisation analysis conducted by Agency experts in collaboration with regional stakeholders, a TR33 Sustainability Action Plan should be developed, and based on this plan, projects and activities should be identified. The Action Plan must include clearly defined objectives. Additionally, if there are national-level objectives, they should be aligned.

EUROSTAT and OECDSTAT are prominent databases that offer comprehensive statistical information on various countries and regions. These databases cover a wide range of indicators, including social, economic, environmental, and demographic aspects. Utilizing these databases provides a standardized approach to data collection, processing, and dissemination across multiple countries. By leveraging these resources, users can access and compare data across different countries without relying solely on individual country databases. This allows for a more consistent and coherent analysis of data, enabling the identification of patterns, trends, and potential areas for policy intervention. Researchers, policymakers, and stakeholders seeking a better understanding of social and economic developments at the national, regional, and global levels can greatly benefit from EUROSTAT and OECDSTAT.

Türkiye has made progress in addressing data security and privacy concerns by implementing initiatives to improve cybersecurity and strengthen data protection laws. There is an increasing awareness among businesses and individuals about the importance of safeguarding personal data.

Given this context, data security and privacy are important issues at the local level in Türkiye. While collecting SDG indicators at the regional level, it is relatively easy to access data for SDG 3 and SDG 4 from EUROSTAT, OECD Regional STAT, and TURKSTAT. This is because the field organizations of the Ministry of Health and the Ministry of National Education in Türkiye maintain data for these two SDGs. It is worth noting that national institutions possess a strong capacity for data collection and dissemination.

Other important aspects for the sustainability of the TR33 Region are culture, tourism, and, finally, sports.

Tourism should be developed based on sustainable tourism principles. The TR33 Region has tourism potential, but its current tourism revenues are not high. It is crucial to structure the TR33 Region's tourism sector based on sustainable tourism practices and maintain regular data collection and monitoring.

Furthermore, in today's era of rapid advancements in artificial intelligence technology, it is considered essential to include indicators related to technology in sustainable development goals. In the TR33 Region, the rate of technology adoption, the types of technologies being utilized, their sectoral distribution, and the level of technology accessibility in terms of gender and disadvantaged groups need to be monitored. Unfortunately, such data is currently not available.

Especially during the pandemic period, one of the topics that has gained significant importance is mental health. Regional data collection on this indispensable aspect for regional sustainability would be beneficial.

Ensuring the collection of regional data on these topics is crucial for effective planning and decision-making to enhance the sustainability of the TR33 Region.

Overall, by addressing data and conceptual challenges, implementing Regional Data Platform, Regional SDG Platform and Centre, establishing SDG targets, leveraging databases like EUROSTAT and OECDSTAT, increasing capacity of regional stakeholders on sustainability and prioritizing data security and privacy, Türkiye can enhance its sustainability efforts and contribute to the achievement of the 2030 Agenda.

REFERENCES

Bertozzi, C., Siragusa, A., Stamos, I., Proietti, P., Rainoldi, A., Espadas, J., Gallego Garcia, F., Dzurovčinová, P., Hakala, J., Iori, E. and Bertoft, A., European cities localising the SDGs: experiences and lessons learned, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-46206-4, doi:10.2760/74637, JRC127341.

Ciambra A., Siragusa A., Proietti P. and Stamos I. Monitoring SDG localisation: An evidence-based approach to standardised monitoring frameworks, Journal of Urban Ecology, Volume 9, Issue 1, 2023, juad013, https://doi.org/10.1093/jue/juad013

Ciambra A, Stamos I, Siragusa A. Localizing and Monitoring Climate Neutrality through the Sustainable Development Goals (SDGs) Framework: The Case of Madrid. Sustainability. 2023; 15(6):4819. https://doi.org/10.3390/su15064819

Eurostat, Regional Statistics,"Distribution of pupils and students enrolled in general and vocational programmes

(Lower secondary education – general) (Upper secondary education – general) (Upper secondary education – vocational) (Short-cycle tertiary education – vocational/professional)",https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_enra13/default/map?lang=en

11th Development Plan 2019-2023 (2019).

Democracy and Electoral Assistance, Sweden. https://www.idea.int/sites/default/files/publications/voter-turnout-trends-around-the-world.pdf (Page 25)

EuroStat Database "https://ec.europa.eu/eurostat/databrowser/explore/all/all_themes?lang=en&display=list&sort=category" Last Accessed 1 May 2023

Eurostat, Regional statistics by NUTS classification. Table: reg_hlth_care, code BDSRG,"Hospital beds",https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_bdsrg/default/map?lang=en

Eurostat, Regional statistics by NUTS classification. Table: reg_hlth_care, code PRSRG,"Health personnel",https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_prsrg/default/map?lang=en

Eurostat, Regional statistics by NUTS classification. Table: reg_hlth_cdeath, code YINFR,"Infant mortality",https://ec.europa.eu/eurostat/databrowser/view/hlth_cd_yinfr/default/map?lang=en

Eurostat, Regional Statistics,"Distribution of pupils and students enrolled in general and vocational programmes

Eurostat, Regional Statistics,"Early leavers from education and training (From 18 to 24 years)",https://ec.europa.eu/eurostat/databrowser/view/edat_lfse_16/default/map?lang=en

Eurostat, regional statistics,"Economic activity (Economically active population by sex, age and NUTS 2 regions (1 000)) From 15 to 64 years [Y15-64]",https://ec.europa.eu/eurostat/databrowser/view/lfst_r_lfp2act/default/map?lang=en

Eurostat, Regional Statistics,"Employment (From 15 to 64 years [Y15-64])",https://ec.europa.eu/eurostat/databrowser/view/lfst_r_lfe2emp/default/map?lang=en

Eurostat, Regional Statistics,"GDP at current market prices (Euro per inhabitant in percentage of the EU27 (from 2020) average)",https://ec.europa.eu/eurostat/databrowser/view/nama_10r_2gdp/default/map?lang=en

Eurostat, Regional Statistics,"GVA at basic prices",https://ec.europa.eu/eurostat/databrowser/view/nama_10r_3gva/default/map?lang=en

Eurostat, Regional Statistics,"Long-term unemployment (12 months and more)",https://ec.europa.eu/eurostat/databrowser/view/lfst_r_lfu2ltu/default/map?lang=en

Eurostat, Regional Statistics,"Participation in education (From 20 to 24 years)",https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRA14__custom_3868425/default/map?lang=en

Eurostat, Regional Statistics,"Participation rates in selected education levels (Pre-primary to tertiary education) (Primary and lower secondary education (levels 1 and 2)) (Tertiary education (levels 5-8))",https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_enra15/default/map?lang=en

Eurostat, Regional Statistics,"Pupils enrolled in early childhood education",https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_enrp03/default/map?lang=en

Eurostat, Regional Statistics,"Stock of vehicles (passenger cars)","https://ec.europa.eu/eurostat/databrowser/view/TRAN_R_VEHST__custom_3430576/default/map?lang=en"

Eurostat, Regional Statistics,"Students enrolled in tertiary education",https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_enrt06/default/map?lang=en

Eurostat, regional statistics,"Unemployment",https://ec.europa.eu/eurostat/databrowser/view/lfst_r_lfe2emp/default/map?lang=en

Eurostat, Regional Statistics,"Victims in road accidents (Killed [KIL]) (Injured [INJ]) (Total)",https://ec.europa.eu/eurostat/databrowser/view/tran_r_acci/default/map?lang=en

OECD Regional Database "https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR" Last Accessed 1 May 2023

Organisation for Economic Cooperation and Development (OECD),"Affected people due to disasters (Share of population exposed to at least one forest fire (%))",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"CO2 Emissions (CO2 Emissions (in kilo tonnes))","https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR","

Organisation for Economic Cooperation and Development (OECD),"Cooling and heating degree days",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Electricity production that comes from renewable sources (Share of renewable energy sources in electricity generation)",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Employment in high-technology manufacturing as a percentage of total manufacturing employment",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Gender gap in part-time employment incidence (Northern; Males/Females(Total) (TR31,TR32,TR33; Total),https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Greenhouse Gas Emissions (Total green house gas emissions (in Mt of CO2 equivalent))",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Households expenses dedicated to housing costs (Disposable Household Income (USD per head, constant prices, constant PPP, base year 2014))",https://stats.oecd.org/#

Organisation for Economic Cooperation and Development (OECD),"Participation in the last elections (Voters Turnout to General Elections (in % of registered voters who voted))",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"PCT co-patent applications that are done with foreign regions",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)",https://urban.jrc.ec.europa.eu/trends?lng=en&ctx=udp&ts=EU&pil=level-

indicator&is=Default&cl=default&tl=2&clc=009-environment-
climate&i=25&db=44&it=ranking&y=2020&tv=-1&cwt=line-chart

Organisation for Economic Cooperation and Development (OECD),"Productivity (Gross Value Added per worker)
in agriculture, forestry and fishing",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Organisation for Economic Cooperation and Development (OECD),"Young people neither in employment nor in
education and training (Share of 18-24 year-olds population not in education and unemployed or
inactive (NEET))",https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

Siragusa, A., Stamos, I., Bertozzi, C. and Proietti, P., European Handbook for SDG Voluntary Local Reviews –
2022 Edition, EUR 31111 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN
978-92-76-53390-0, doi:10.2760/218321, JRC129381.

TR33 Innovation Strategy (2013).

TR33 Regional Plan (2014-2023).

Turkish Patent and Trademark Office,"Number of Design Applications ",https://www.turkpatent.gov.tr/patent-
istatistik

Turkish Patent and Trademark Office,"Number of Design Registration ",https://www.turkpatent.gov.tr/patent-
istatistik

Turkish Patent and Trademark Office,"Number of Geographical Indication Applications and
Registrations",https://www.turkpatent.gov.tr/patent-istatistik

Turkish Patent and Trademark Office,"Number of Patent Applications and Patent
Registrations",https://www.turkpatent.gov.tr/patent-istatistik

Turkish Patent and Trademark Office,"Number of Trademark Applications and
Registrations",https://www.turkpatent.gov.tr/patent-istatistik

Turkish Patent and Trademark Office,"Number of Utility Model Applications and
Registrations",https://www.turkpatent.gov.tr/patent-istatistik

TurkStat (Turkish Statistical Institute)," Population not in labour force (1000) due to domestic work (Female/
15-64 ages)",https://biruni.tuik.gov.tr/medas/?kn=102&locale=tr

TurkStat (Turkish Statistical Institute),"Amount Of Wastewater Discharged Per Capita In Municipalities
(Liters/Capita-Day)",https://data.tuik.gov.tr/

TurkStat (Turkish Statistical Institute),"Deaths due to Covid-
19",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=yillariGetir&se
cilenDegiskenListesi=4132,

TurkStat (Turkish Statistical Institute),"Drinking water networks and water treatment plants : Rate of
population served by water supply network in total municipal population
(%)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#

TurkStat (Turkish Statistical Institute),"Female and 30-34 and Universities And Other Higher Educational
Institutions",https://biruni.tuik.gov.tr/medas/?kn=130&locale=en

TurkStat (Turkish Statistical Institute),"Gini coefficient by equivalised household disposable income : Gini
coefficient",https://biruni.tuik.gov.tr/medas/?kn=102&locale=tr

TurkStat (Turkish Statistical Institute),"Land use (Land use : Arable land / Cultivated
(hectare)),https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=acKapa
&menuNo=191&altMenuGoster=1&secilenDegiskenListesi=

TurkStat (Turkish Statistical Institute),"Municipal waste statistics : Rate of population receiving waste services
in total population (%) and in total municipal population
(%)","https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=acKapa&men
uNo=124&altMenuGoster=1&secilenDegiskenListesi="

TurkStat (Turkish Statistical Institute),"Municipal wastewater statistics : Rate of municipal population served by
sewerage system in total municipal population
(%)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#

TurkStat (Turkish Statistical Institute),"Neonatal mortality (number)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do

TurkStat (Turkish Statistical Institute),"Number of the regional poor and regional poverty rate by equivalised household disposable income (%)/(Poverty Threshold (Tl)/ Risk of poverty:60%","https://data.tuik.gov.tr/Kategori/GetKategori?p=gelir-yasam-tuketim-ve-yoksulluk-107&dil=2"

TurkStat (Turkish Statistical Institute),"Number of the regional poor and regional share of the poor by poverty thresholds and poverty thresholds adjusted by PPP for Türkiye",https://data.tuik.gov.tr/Kategori/GetKategori?p=gelir-yasam-tuketim-ve-yoksulluk-107&dil=2

TurkStat (Turkish Statistical Institute),"Number of unpaid family worker",https://biruni.tuik.gov.tr/secimdagitimapp/secimaday.zul

TurkStat (Turkish Statistical Institute),"Organic farming: areas with different crops/ Production area (Hectare)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=acKapa&menuNo=191&altMenuGoster=1&secilenDegiskenListesi=

TurkStat (Turkish Statistical Institute),"Organic farming: Number of holdings",https://data.tuik.gov.tr/Bulten/Index?p=Gelir-ve-Yasam-Kosullari-Arastirmasi-Bolgesel-Sonuclari-2021-45583

TurkStat (Turkish Statistical Institute),"Organic farming: Productions (Tons)",https://data.tuik.gov.tr/Bulten/Index?p=Gelir-ve-Yasam-Kosullari-Arastirmasi-Bolgesel-Sonuclari-2021-45584

TurkStat (Turkish Statistical Institute),"Parliamentary General Election – Number of female candidates",https://biruni.tuik.gov.tr/secimdagitimapp/secimaday.zul

TurkStat (Turkish Statistical Institute),"Population by literacy status (sex breakdown)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=acKapa&menuNo=210&altMenuGoster=1&secilenDegiskenListesi=

TurkStat (Turkish Statistical Institute),"Proportion of deaths due to respiratory diseases (number)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#

TurkStat (Turkish Statistical Institute),"R&D Expenditures (TL)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#

TurkStat (Turkish Statistical Institute),"R&D personnel and researchers",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do

TurkStat (Turkish Statistical Institute),"Rate Of Population Served By Wastewater Treatment Plants In Total Municipal Population (%)",https://data.tuik.gov.tr/

TurkStat (Turkish Statistical Institute),"S80/S20 ratio by household disposable income",https://data.tuik.gov.tr/Bulten/Index?p=Gelir-ve-Yasam-Kosullari-Arastirmasi-Bolgesel-Sonuclari-2021-45582

TurkStat (Turkish Statistical Institute),"Share of micro-scale enterprises in total manufacturing industry value added",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#

TurkStat (Turkish Statistical Institute),"Suicide mortality (number)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do#,

TurkStat (Turkish Statistical Institute),"Transport performance (Number of motor vehicles : Minibus and bus)","https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do?durum=acKapa&menuNo=108&altMenuGoster=1&secilenDegiskenListesi="

TurkStat (Turkish Statistical Institute),"Under-five mortality (number)",https://biruni.tuik.gov.tr/bolgeselistatistik/degiskenlerUzerindenSorgula.do

TurkStat (Turkish Statistical Institute),"Unemployment of people with disabilities",https://biruni.tuik.gov.tr/medas/?kn=102&locale=tr

Türkiye Voluntary National Report (2019).

Vega Rapun, M., Stamos, I., Siragusa, A. and Proietti, P. (2022). REGIONS2030 – European regional SDG indicators. Publications Office of the European Union, Luxembourg. doi:10.2760/850788, JRC131581.

Zafer Development Agency,"Official Development Assistance",https://zafer.gov.tr/tr-tr/Faaliyetler/Proje-Destekleme/Ge%C3%A7mi%C5%9F-Destek-Programlar%C4%B1/Sosyal-Geli%C5%9Fmeyi-Destekleme-Program%C4%B1

Siragusa, A., Stamos, I., Bertozzi, C. and Proietti, P., European Handbook for SDG Voluntary Local Reviews – 2022 Edition, EUR 31111 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-53390-0, doi:10.2760/218321, JRC129381

Vega Rapun, M., Stamos, I., Siragusa, A. and Proietti, P., REGIONS2030 - European regional SDG indicators, Publications Office of the European Union, Luxembourg, 2022, doi:10.2760/850788, JRC131581.

LIST OF ABBREVIATIONS AND DEFINITIONS

GEKA	Southern Aegean Development Agency
İZKA	İzmir Development Agency
JRC	Joint Research Centre
NGOs	Non-governmental organizations
SDGs	Sustainable Development Goals
TR3 Region	TR31, TR32 and TR33
TR31 Region	Izmir
TR32 Region	Southern Aegean/ 3 Provinces (Aydın, Denizli and Muğla)
TR33 Region	Northern Aegean/ 4 Provinces (Afyonkarahisar, Kütahya, Manisa and Uşak)
TURKSTAT	Turkish Statistic Institute
VLR	Voluntary Local Review
YEGEP	Local Economic Development Programs
ZAFER	Zafer Development Agency

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Annex 1. TR33 JRC INDICATORS

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
1	Persons living in households with very low work intensity	Official	EU-27 plus others	Eurostat, Regional Statistics	Percentage	2017-2021	Annual	1.2 (reduce poverty)	Fit- No data
1	Affected people due to disasters (Share of population exposed to at least one forest fire (%))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Ratio	2001-2021	Annual	1.5 (exposure to vulnerability)	Fit for purpose
1	Material and social deprivation	Official	EU-27 plus others	European Union Statistics on Income and Living Conditions (EU-SILC)	Rate	2014-2021	Annual	1.1 (extreme poverty)	Fit- No data
1	Persons at risk of poverty or social exclusion	Official	EU-27 plus others	Eurostat, Regional Statistics	Rate	2016-2020	Annual	1.2 (reduce poverty)	Fit- No data
2	Gross Value Added (GVA) of agriculture, livestock and fishing	Official	Basque county	Eustat (Instituto Vasco de Estadistica)	Number	1996-2019	Annual	2.3 (agricultural productivity)	Fit- No data
2	Organic farming: areas with different crops	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2003-2013	Triannual	2.4 (sustainable food production)	Fit- No data

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
2	Organic farming: areas with different crops/ Production area (Hectare)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2004-2021	Annual	2.4 (sustainable food production)	Alternative indicator
2	Productivity (Gross Value Added per worker) in agriculture, forestry and fishing	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2009-2015	Annual	2.3 (agricultural productivity)	Fit for purpose
2	Overweight rate	Official	Sweden	Public Health Agency of Sweden	Share	2004-2021	4 years	2.2 (end malnutrition)	Fit- No data
3	Deaths due to Covid-19	Official	Spain	CNE (National Centre of Epidemiology)	Number	2019-2022	Daily	3.3 (epidemics and diseases)	Fit- No data
3	Deaths due to Covid-19	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2020-2021	Annual	3.3 (epidemics and diseases)	1-to1 replacement with
3	Self reported unmet needs for medical examination	Official	EU-27 plus others	European Union Statistics on Income and Living Conditions (EU-SILC)	Percentage	2008-2021	Annual	3.c (health financing and recruitment)	Fit- No data
3	Health personnel	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1993-2020	Annual	3.c (health financing and recruitment)	Fit for purpose
3	Hospital beds	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2002-2021	Annual	3.8 (universal health coverage)	Fit for purpose
3	Infant mortality	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2013-2017	Annual	3.2 (preventable death of newborns)	Fit for purpose

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
4	Women 30-34 years old with higher education level	Official	Basque county	Eustat (Instituto Vasco de Estadistica)	Percentage	1994-2019	Annual	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	Fit- No data
4	Female and 30-34 and Universities And Other Higher Educational Institutions	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2008-2021	Annual	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	Alternative indicator
4	Students enrolled in tertiary education	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2013-2021	Annual	4.3 (vocational and tertiary education)	Fit for purpose
4	Participation in education (From 20 to 24 years)	Official	EU-27 plus others	Eurostat, Regional Statistics	Rate	2013-2021	Annual	4.3 (vocational and tertiary education)	Fit for purpose
4	Pupils enrolled in early childhood education	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2013-2021	Annual	4.2 (access to early childhood education)	Fit for purpose
4	Early leavers from education and training (From 18 to 24 years)	Official	EU-27 plus others	Eurostat, Regional Statistics	Percentage	2006-2020	Annual	4.6 (youth and adult literacy)	Fit for purpose
4	Participation rates in selected education levels (Pre-primary to tertiary education) (Primary and lower secondary education (levels 1 and 2)) (Tertiary education (levels 5-8))	Official	EU-27 plus others	Eurostat, Regional Statistics	Rate	2013-2021	Annual	4.1 (primary and secondary education)	Fit for purpose

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
4	Distribution of pupils and students enrolled in general and vocational programmes (Lower secondary education – general) (Upper secondary education – general) (Upper secondary education – vocational) (Short-cycle tertiary education – vocational/professional)	Official	EU-27 plus others	Eurostat, Regional Statistics	Percentage	2013-2021	Annual	4.3 (vocational and tertiary education)	Fit for purpose
5	Fatal victims of gender–based violence at the hands of their partners or expartners	Official	Spain	INE (National Statistics Institute)	Number	1999-2021	Annual	5.2 (gender violence)	Fit- No data
5	Victims of violence against women	Official	Spain	Ministry of Equality	Percentage	2009-2021	Monthly	5.2 (gender violence)	Fit- No data
5	Female research and development personnel	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2011-2015	Biennial	5.5 (women participation and leadership)	Fit- No data
5	Inactive population rate due to caregiving responsibilities	Official	Andalusia	Institute of Statistics and Cartography	Percentage	2007	-	5.4 (unpaid work)	Fit- No data
5	Population not in labour force (1000) due to domestic work (Female/ 15-64 ages)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number (Thousand)	2014-2022	Annual	5.4 (unpaid work)	Alternative indicator
5	Women in parliament and government	Official	Spain	INE (National Statistics Institute)	Percentage	2006-2021	Annual	5.5 (women participation and leadership)	Fit- No data
5	Parliamentary General Election – Number of female candidates	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2011-2018	Per election cycle	5.5 (women participation and leadership)	Alternative indicator

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
5	Female achievement/disadvantage index	Experimental	EU-27	European Commission, DG REGIO	Percentage	2021	-	5.1 (gender discrimination)	Fit- No data
5	Gender gap in part-time employment incidence (Northern; Males/Females(Total) (Tüm Bölgeler; Total)	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2001-2019	Annual	5.4 (unpaid work)	Fit for purpose
6	Water bodies that exceed a standardized quality rating	Official	Navarra	NILSA (Navarra de Infraestucturas Locales)	Rate			6.3 (water quality)	Fit- No data
6	Groundwater that exceed a standardized quality rating	Official	Navarra	NILSA (Navarra de Infraestucturas Locales)	Rate			6.3 (water quality)	Fit- No data
6	Population served by safely managed drinking water supply services	Official	Flanders	Flanders Environment Agency	Percentage	2012-2017	Biennial	6.1 (universal access to water)	Fit- No data
6	Drinking water networks and water treatment plants : Rate of population served by water supply network in total municipal population (%)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	1998-2020	Annual	6.1 (universal access to water)	Alternative indicator
6	Population connected to wastewater with at least secondary treatment	Official	Navarra	NILSA (Navarra de Infraestucturas Locales)	Percentage			6.3 (water quality)	Fit- No data
6	Municipal wastewater statistics : Rate of municipal population served by sewerage system in total municipal population (%)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	1998-2020	Annual	6.3 (water quality)	Alternative indicator

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
7	Electricity production that comes from nuclear power	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2019	-	7.2 (share of renewable energy)	Non-fit for purpose
7	Electricity production that comes from renewable sources (Share of renewable energy sources in electricity generation)	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2019	-	7.2 (share of renewable energy)	Fit for purpose
7	Energy intensity	Official	Basque county	Euskadi Energia	Index	2017-2020	Annual	7.3 (energy efficiency)	Fit- No data
7	People affected by energy poverty	Official	Spain	Ministry for the Ecological Transition and the Demographic Challenge	Percentage	2017-2020	Annual	7.1 (access to energy)	Fit- No data
8	Occupational accidents	Official	Spain	National Institute for Occupational Safety and Health	Rate	2003-2021	Annual	8.8 (labour rights)	Fit- No data
8	Economic activity (Economically active population by sex, age and NUTS 2 regions (1 000)) From 15 to 64 years [Y15-64]	Official	EU-27 plus others	Eurostat, regional statistics	Number	2006-2020	Annual	8.5 (productive employment)	Fit for purpose
8	Unemployment (From 15 to 64 years [Y15-64])	Official	EU-27 plus others	Eurostat, regional statistics	Number	2006-2020	Annual	8.5 (productive employment)	Fit for purpose

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
8	Firm creation	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Rate	2013-2016	Annual	8.3 (job creation)	Fit- No data
8	Employment (From 15 to 64 years [Y15-64])	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2006-2020	Annual	8.5 (productive employment)	Fit for purpose
8	GDP at current market prices (Euro per inhabitant in percentage of the EU27 (from 2020) average)	Official	EU-27 plus others	Eurostat, Regional Statistics	Percentage	2004-2021	Annual	8.1 (economic growth)	Fit for purpose
8	GVA at basic prices	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2017-2021	Annual	8.2 (economic productivity)	Fit for purpose
8	Long-term unemployment (12 months and more)	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	2013-2020	Annual	8.5 (productive employment)	Fit for purpose
8	Compensation of employees	Official	EU-27 plus others	Eurostat, regional statistics	Number	1995-2020	Annual	8.5 (productive employment)	Fit- No data
8	Young people neither in employment nor in education and training (Share of 18-24 year-olds population not in education and unemployed or inactive (NEET))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Rate	2005-2021	Annual	8.6 (youth not in employment, education or training)	Fit for purpose

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
9	GVA of the industry with respect to the GVA of the total sectors (current price)	Official	Spain	INE (National Statistics Institute)	Percentage	2016-2020	Annual	9.2 (sustainable industrialization)	Fit- No data
9	Gross Domestic Expenditure on R&D	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1980-2020	Annual	9.5 (promote innovation)	Fit- No data
9	R&D personnel and researchers	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1980-2020	Annual	9.5 (promote innovation)	Fit- No data
9	R&D personnel and researchers	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2018-2021	Annual	9.5 (promote innovation)	Alternative indicator
9	Employment in high-technology manufacturing as a percentage of total manufacturing employment	Official	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2008-2019	Annual	9.5 (promote innovation)	Fit for purpose
9	Patent applications to the EPO	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1977-2012	Annual	9.5 (promote innovation)	Fit- No data
10	Unemployment of people with disabilities	Official	Spain	INE (National Statistics Institute)	Rate	2014-2020	Annual	10.2 (inclusion irrespective of status)	Fit- No data
10	Unemployment of people with disabilities	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2014-2022	Annual	10.2 (inclusion irrespective of status)	Alternative indicator

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
10	Gini index of disposable income (after taxes and transfers)	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2010-2014	Annual	10.4 (greater equality)	Fit- No data
10	Gini coefficient by equivalised household disposable income : Gini coefficient	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	2014-2022	Annual	10.4 (greater equality)	Alternative indicator
11	Households expenses dedicated to housing costs (Disposable Household Income (USD per head, constant prices, constant PPP, base year 2014))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2003-2013	Annual	11.1 (access to housing)	Fit for purpose
11	Transport performance (Number of motor vehicles : Minibus and bus)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	1995-2021	Annual	11.2 (access to transport systems)	Fit for purpose
11	Daily accessibility	Experimental	EU-27	European Commission, Joint Research Centre	Number	2015-2050	Decade	11.2 (access to transport systems)	Fit- No data
11	Stock of vehicles (passenger cars)	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1990-2020	Annual	11.2 (access to transport systems)	Fit for purpose
11	Difference between built-up area growth rate and population growth rate	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2014	-	11.3 (sustainable urbanization)	Fit- No data

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
11	Land use (Land use : Arable land / Cultivated (hectare))	Experimental	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	1995-2021	Annual	11.3 (sustainable urbanization)	Fit for purpose
11	PM2.5 Emissions	Experimental	EU-27	European Commission, Joint Research Centre	Number	2015-2030	Decade	11.6 (environmental impact)	Fit- No data
11	PM2.5 Emissions (Air pollution in PM2.5 (average level in µg/m³ experienced by the population)	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2001-2020	Annual	11.6 (environmental impact)	Alternative indicator
11	Household and commercial waste generation per inhabitant	Official	Portugal	Statistics Portugal	Rate	2009-2020	Annual	11.6 (environmental impact)	Fit- No data
11	Municipal waste statistics : Rate of population receiving waste services in total population (%) and in total municipal population (%)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Rate	1998-2020	Annual	11.6 (environmental impact)	Alternative indicator
11	Victims in road accidents (Killed [KIL]), (Injured [INJ]), (Total)	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1990-2020	Annual	11.2 (access to transport systems)	Fit for purpose
12	Carbon footprint	Official	Flanders	Statistics Flanders	Rate	2010-2016	Annual	12.2 (management of natural resources)	Fit- No data
12	Food waste	Official		Department of Environment of the Regional Government				12.3 (reduce food waste)	Fit- No data
12	Hazardous Waste	Official	Spain	INE (National Statistics Institute)	Number	2015-2019	Annual	12.4 (chemical management)	Fit- No data

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
13	PM10 Emissions	Experimental	EU-27	European Commission, Joint Research Centre	Number	2015-2030	Decade	13.2 (climate change measures into policy)	Fit- No data
13	CO2 Emissions	Experimental	EU-27	European Commission, Joint Research Centre	Number	2015-2030	Decade	13.2 (climate change measures into policy)	Fit- No data
13	CO2 Emissions (CO2 Emissions (in kilo tonnes))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2008		13.2 (climate change measures into policy)	Alternative indicator
13	Greenhouse Gas Emissions (Total green house gas emissions (in Mt of CO2 equivalent))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Rate	2001-2018	Annual	13.2 (climate change measures into policy)	Fit for purpose
13	Cooling and heating degree days	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Number	2001-2018	Annual	13.2 (climate change measures into policy)	Alternative indicator
13	Cooling and heating degree days	Official	EU-27 plus others	Eurostat, Regional Statistics	Number	1979-2021	Annual	13.2 (climate change measures into policy)	Fit- No data
14	Estuarine with high/very high water quality	Official	Basque county	URA (Basque Water Agency)	Number	2014-2019	Annual	14.1 (reduce marine pollution)	Non-fit for purpose
14	Protected coastal area as a percentage of total coastal area	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2017	-	14.5 (coastal and marine areas)	Non-fit for purpose
14	Coastal areas with good/very good water quality	Official	Basque county	URA (Basque Water Agency)	Qualitative classification	2015-2020	annual	14.5 (coastal and marine areas)	Non-fit for purpose

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
15	Terrestrial protected areas as a percentage of total area	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2017	-	15.5 (degradation of habitats)	Fit- No data
15	Estimated soil erosion	Experimental	EU-27	European Commission, Joint Research Centre	Rate	2000-2016	Annual	15.5 (degradation of habitats)	Non-fit for purpose
15	Land Abandonment	Experimental	EU-27	European Commission, Joint Research Centre	Percentage	2015-2050	Decade	15.1 (restoration of ecosystems)	Non-fit for purpose
15	Forest area over total surface area	Official	Spain	Ministry for the Ecological Transition and the Demographic Challenge	Percentage	1965-2017	Decade	15.1 (restoration of ecosystems)	Fit- No data
16	Transparency index	Experimental	-	Transparency International	-	-	-	16.6 (effective institutions)	Fit- No data
16	Participation in the last elections (Voters Turnout to General Elections (in % of registered voters who voted))	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2002-2015	Per election cycle	16.6 (effective institutions)	Fit for purpose
16	Quality of Government Index	Experimental	-	University of Gothenburg	Index	2010-2021	Quinquennial	16.6 (effective institutions)	Fit- No data
16	Extract from QGI an indicator on corruption	Experimental	-	University of Gothenburg	Index	2010-2021	Quinquennial	16.5 (reduce corruption)	Fit- No data

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)	Availability
17	Official Development Assistance	Official	26 Regions in Türkiye	Own elaboration (regional government)	Number	2010-2022	Annual	17.2 (development assistance commitments)	Fit for purpose
17	Imports from developing countries	Official	-	Own elaboration (regional government)	-	-	-	17.12 (imports from least developed countries)	Fit- No data
17	PCT co-patent applications that are done with foreign regions	Experimental	OECD countries and other European countries	Organisation for Economic Cooperation and Development (OECD)	Percentage	2009-2015	Annual	17.6 (regional and international cooperation)	Fit for purpose
17	Individuals who used the internet for interaction with public authorities	Official	EU-27 plus others	Eurostat, Regional Statistics	Percentage	2008-2021	Annual	17.8 (enabling technology)	Fit- No data

Annex 2. TR33 ADDITIONAL INDICATORS

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)
1	Number of the regional poor and regional poverty rate by equivalised household disposable income (%)/(Poverty Threshold (Tl)/ Risk of poverty:60%	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	2014-2022	Annual	1.2 (reduce poverty)
1	Number of the regional poor and regional share of the poor by poverty thresholds and poverty thresholds adjusted by PPP for Türkiye	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Rate	2014-2022	Annual	1.2 (reduce poverty)
1	S80/S20 ratio by household disposable income	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Ratio	2014-2021	Annual	1.2 (reduce poverty)
2	Organic farming: Number of holdings	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2004-2021	Annual	2.4 (sustainable food production)
2	Organic farming: Productions (Tons)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2004-2021	Annual	2.4 (sustainable food production)
3	Under-five mortality (number)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2009-2021	Annual	3.2 (preventable death of newborns)
3	Neonatal mortality (number)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2009-2021	Annual	3.2 (preventable death of newborns)
3	Proportion of deaths due to respiratory diseases (number)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2009-2021	Annual	3.4
3	Suicide mortality (number)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2002-2021	Annual	3.4

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)
4	Population by literacy status (sex breakdown)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	2008-2021	Annual	4.6 (youth and adult literacy)
5	Number of unpaid family worker	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2004-2022	Annual	5.4 (unpaid work)
6	Rate Of Population Served By Wastewater Treatment Plants In Total Municipal Population (%)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Rate	1998-2020	Annual	6.a
6	Amount Of Wastewater Discharged Per Capita In Municipalities (Liters/Capita-Day)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Rate	1998-2020	Annual	6.4 (increase water-use efficiency)
9	Share of micro-scale enterprises in total manufacturing industry value added	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Percentage	2009-2021	Annual	9.3 (access to financial services)
9	R&D Expenditures (TL)	Official	26 Regions in Türkiye	TurkStat (Turkish Statistical Institute)	Number	2018-2021	Annual	9.5 (promote innovation)
9	Number of Geographical Indication Applications and Registrations	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	2022	Annual	9.5 (promote innovation)
9	Number of Trademark Applications and Registrations	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	1995-2022	Annual	9.5 (promote innovation)

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	Time coverage	Frequency	SDG Target(s)
9	Number of Patent Applications and Patent Registrations	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	1995-2021	Annual	9.5 (promote innovation)
9	Number of Design Applications	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	1995-2021	Annual	9.5 (promote innovation)
9	Number of Utility Model Applications and Registrations	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	1995-2022	Annual	9.5 (promote innovation)
9	Number of Design Registration	Experimental	81 Province in Türkiye	Turkish Patent and Trademark Office	Number	1996-2022	Annual	9.5 (promote innovation)

Annex 3. TR33 PROPOSED INDICATORS (NO AVAILABLE DATA)

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	SDG Target(s)
1	Proportion of the population living below the international poverty line by sex and age group (In-work at-risk-of-poverty rate)	Official	At national level	TurkStat (Turkish Statistical Institute)	Rate	1.1 (extreme poverty)
1	Proportion of people at risk of poverty or social exclusion, by sex and age group (0-15), (16-24), (25-54), (55+)	Official	At national level	TurkStat (Turkish Statistical Institute)	Rate	1.2 (reduce poverty)
1	Population covered by social protection floors/systems, by sex and age group (Total number of children under institutional care (children's shelter/children's shelter site etc.))	Official	At national level	TurkStat (Turkish Statistical Institute)	Number	1.3
1	Proportion of adult population owning land by sex	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	1.4
2	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	-	-	UN Global Indicators	Rate	2.3 (agricultural productivity)
2	Average income of small-scale food producers, by sex and indigenous status	-	-	UN Global Indicators	-	2.3 (agricultural productivity)
2	Number of plant and animal genetic resources secured in either medium or long-term conservation facilitiesProportion of local breeds classified as being at risk of extinction (Number of animal materials at gene banks)	Official	At national level	Ministry of Agriculture and Forest	Number	2.5
2	Number of plant and animal genetic resources secured in either medium or long-term conservation facilitiesProportion of local breeds classified as being at risk of extinction (Number of seed materials at gene banks)	Official	At national level	Ministry of Agriculture and Forest	Number	2.5

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	SDG Target(s)
2	Proportion of local breeds classified as being at risk of extinction	-	-	UN Global Indicators	-	2.5
2	Agricultural export subsidies	-	-	TurkStat (Turkish Statistical Institute)	-	2.b
2	Indicator of food price anomalies	-	At national level	TurkStat (Turkish Statistical Institute)	Number	2.c (proper functioning of food markets)
3	The percentage of smokers aged 15 and over (%)	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	3.a
4	Net schooling ratio in pre primary education, by sex and age group (3-5), (4-5), (5) (Five-year-old net enrollment rate by province)	Official	At national level	Ministry of National Education	Percentage	4.2 (access to early childhood education)
4	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill (Young people 16-24) (Adults 16-74)	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	4.4
5	Proportion of women (aged 15-59 years) subjected to physical, sexual and psychological violence by husband or intimate partner in the previous 12 months, by form of violence, age group and marital status (Sexual violance) (Physical Violance) (Psychological violance)		At national level	Hacettepe University	Percentage	5.2 (gender violence)

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	SDG Target(s)
5	Proportion of women (aged 15-59 years) subjected to sexual violence by persons other than husband or intimate partner by age group (%)		At national level	Hacettepe University	Percentage	5.2 (gender violence)
5	Proportion of women aged 20-24 years old who were married before age 18		At national level	Hacettepe University	Percentage	5.3
5	Proportion of women in managerial positions		At national level	TurkStat (Turkish Statistical Institute)	Percentage	5.5 (women participation and leadership)
5	Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care		At national level	Hacettepe University	Percentage	5.6
6	Proportion of domestic and industrial wastewater flows safely treated (b) Proportion of industrial wastewater safely treated)	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	6.3 (water quality)
6	Percentage of assessed water bodies with good quality	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	6.3 (water quality)
6	Change in water-use efficiency over time	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	6.4 (increase water-use efficiency)
6	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	-	-	TurkStat (Turkish Statistical Institute)	Percentage	6.4 (increase water-use efficiency)
7	Primary energy intensity	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	7.3 (energy efficiency)
8	Proportion of children aged 5–17 years engaged in child labour, by sex and age	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	8.7
8	Tourism revenue as a proportion of total GDP	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	8.9

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	SDG Target(s)
9	Domestic passenger and freight volumes by mode of transport	Official	At national level	TurkStat (Turkish Statistical Institute)	Ratio	9.1 (passenger volumes by mode)
9	Manufacturing employment as a proportion of total employment, by sex and age group	-	-	TurkStat (Turkish Statistical Institute)	Percentage	9.2 (sustainable industrialization)
9	a) CO2 emission per unit of value added	Official	At national level	TurkStat (Turkish Statistical Institute)	-	9.4 (upgrade infrastructure)
9	b) CO2 emissions from fuel combustion	Official	At national level	TurkStat (Turkish Statistical Institute)	-	9.4 (upgrade infrastructure)
9	c) CO2 emissions from manufacturing industries per unit of manufacturing value added (MVA)	Official	At national level	TurkStat (Turkish Statistical Institute)	-	9.4 (upgrade infrastructure)
9	Proportion of high and medium-high-tech manufacturing industry value added in total value added	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	9.b
11	Proportion of population that has convenient access to public transport	Official	At national level	TurkStat (Turkish Statistical Institute)	Percentage	11.2 (access to transport systems)
11	Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically	-	-	TurkStat (Turkish Statistical Institute)	Percentage	11.3 (sustainable urbanization)
12	Material footprint, material footprint per capita, and material footprint per GDP	-	-	TurkStat (Turkish Statistical Institute)	-	12.2 (management of natural resources)
12	(a) Food loss index and (b) food waste index	-	-	TurkStat (Turkish Statistical Institute)	-	12.3 (reduce food waste)
12	Hazardous waste generated per capita (excluding major mineral wastes)	Official	At national level	TurkStat (Turkish Statistical Institute)	-	12.4 (chemical management)
12	Number of companies publishing sustainability reports	-	-	TurkStat (Turkish Statistical Institute)	-	12.6

SDG	Indicator Name	Type	Coverage	Source	Unit of measurement	SDG Target(s)
13	Number of deaths, missing persons and directly affected persons attributed to disasters (Missing persons)	Official	At national level	TurkStat (Turkish Statistical Institute)	Number	13.1
13	Number of deaths, missing persons and directly affected persons attributed to disasters (Number of deaths)	Official	At national level	TurkStat (Turkish Statistical Institute)	Number	13.1
15	Forest area annual net change and net change rate	Official	At national level	Republic of Türkiye Ministry of Agriculture and Forestry/ Forest management	-	15.1 (restoration of ecosystems)
15	Progress towards sustainable forest management	Official	At national level	Republic of Türkiye Ministry of Agriculture and Forestry/ Forest management	Percentage	15.2
15	Proportion of land that is degraded over total land area	Official	At national level	TurkStat (Turkish Statistical Institute)	-	15.3
16	Proportion of children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month	-	-	TurkStat (Turkish Statistical Institute)	-	16.2
16	Number of victims of human trafficking by sex and age group	Official	At national level	TurkStat (Turkish Statistical Institute)	Number	16.2
16	Proportion of young women and men aged 18–29 years who experienced sexual violence by age 18	-	-	TurkStat (Turkish Statistical Institute)	-	16.2

Annex 4. Analysis of SDG Targets and TR33 Regional Plan

SDG	INDICATOR NAME	SDG TARGET(S)	SPIRALS OF TR33 REGIONAL PLAN	PRIORITIES OF TR33 REGIONAL PLAN	AXIS OF TR33 REGIONAL PLAN
1	Affected people due to disasters	1.5 (exposure to vulnerability)	LIVABILITY, COMPETITIVENESS	Priority 6.1 Planned disaster response will be made effective. Priority 6.2 Effective prevention and resuscitation methods will be applied. Priority 8.3 The methods of fighting against poverty will be made comprehensive and effective. Priority 8.4 Social services will be made widespread and effective.	6. Disaster Management 8. Human and Society
2	Organic farming: areas with different crops/ Production area (Hectare)	2.4 (sustainable food production)	COMPETITIVENESS	Priority 2.1 Productivity, added value, and quality will be increased in agricultural production. Priority 2.2 Agricultural infrastructure will be improved. Priority 2.3 Professional farming and collaborations in agricultural production will be developed. Priority 2.4 Marketing capability in agriculture will be enhanced.	2. Agriculture
2	Productivity (Gross Value Added per worker) in agriculture, forestry and fishing	2.3 (agricultural productivity)			
3	Deaths due to Covid-19	3.3 (epidemics and diseases)	LIVABILITY	Priority 7.2 Basic and socio-cultural services will be developed.	7. Urban Services
3	Health personnel	3.c (health financing and recruitment)			
3	Hospital beds	3.8 (universal health coverage)			
3	Infant mortality	3.2 (preventable death of newborns)			

SDG	INDICATOR NAME	SDG TARGET(S)	SPIRALS OF TR33 REGIONAL PLAN	PRIORITIES OF TR33 REGIONAL PLAN	AXIS OF TR33 REGIONAL PLAN
4	Female and 30-34 and Universities And Other Higher Educational Institutions	4.5 (gender and other disparities in education), 4.6 (youth and adult literacy)	LIVABILITY	Priority 7.2 Basic and socio-cultural services will be developed.	7. Urban Services
4	Students enrolled in tertiary education	4.3 (vocational and tertiary education)			
4	Participation in education	4.3 (vocational and tertiary education)			
4	Pupils enrolled in early childhood education	4.2 (access to early childhood education)			
4	Early leavers from education and training	4.6 (youth and adult literacy)			
4	Participation rates in selected education levels	4.1 (primary and secondary education)			
4	Distribution of pupils and students enrolled in general and vocational programmes	4.3 (vocational and tertiary education)			
5	Population not in labour force (1000) due to domestic work (Female/ 15-64 ages)	5.4 (unpaid work)	LIVABILITY, COMPETITIVENESS	Priority 8.1 Active labor market policies will be implemented. Priority 8.4 Social services will be made widespread and effective.	8. Human and Society
5	Parliamentary General Election – Number of female candidates	5.5 (women participation and leadership)			
5	Gender gap in part-time employment incidence	5.4 (unpaid work)			

SDG	INDICATOR NAME	SDG TARGET(S)	SPIRALS OF TR33 REGIONAL PLAN	PRIORITIES OF TR33 REGIONAL PLAN	AXIS OF TR33 REGIONAL PLAN
6	Drinking water networks and water treatment plants : Rate of population served by water supply network in total municipal population (%)	6.1 (universal access to water)	LIVABILITY	Priority 5.2 Environmental pollution in settlements will be reduced.	5. Environment
6	Municipal wastewater statistics : Rate of municipal population served by sewerage system in total municipal population (%)	6.3 (water quality)			
7	Electricity production that comes from renewable sources	7.2 (share of renewable energy)	LIVABILITY, COMPETITIVENESS	Priority 9.1 The use of renewable energy sources will be increased. Priority 9.2 Traditional energy generation and distribution infrastructure will be improved.	9. Energy
8	Economic activity	8.5 (productive employment)	LIVABILITY, COMPETITIVENESS	Priority 3.1 Physical conditions and service quality in existing tourism facilities will be improved. Priority 3.2 Tourism activities will be diversified and expanded. Priority 3.3 Customer-oriented marketing activities will be developed. Priority 8.1 Active labor market policies will be implemented.	3. Tourism 8. Human and Society
8	Unemployment	8.5 (productive employment)			
8	Employment	8.5 (productive employment)			
8	GDP at current market prices	8.1 (economic growth)			
8	GVA at basic prices	8.2 (economic productivity)			
8	Long-term unemployment (12 months and more)	8.5 (productive employment)			
8	Young people neither in employment nor in education and training	8.6 (youth not in employment, education or training)			

SDG	INDICATOR NAME	SDG TARGET(S)	SPIRALS OF TR33 REGIONAL PLAN	PRIORITIES OF TR33 REGIONAL PLAN	AXIS OF TR33 REGIONAL PLAN
9	R&D personnel and researchers	9.5 (promote innovation)	COMPETITIVENESS	Priority 1.1 Regional production infrastructure will be developed.	1. Industry
9	Employment in high-technology manufacturing as a percentage of total manufacturing employment	9.5 (promote innovation)		Priority 1.2 The value of industrial products will be increased. Priority 1.3 Production processes will be improved and production capacity will be increased in business Priority 1.4 Intraregional and interregional commercial networks will be developed.	
10	Unemployment of people with disabilities	10.2 (inclusion irrespective of status)	LIVABILITY, COMPETITIVENESS	Priority 8.4 Social services will be made widespread and effective.	8. Human and Society
10	Gini coefficient by equivalised household disposable income : Gini coefficient	10.4 (greater equality)	LIVABILITY, COMPETITIVENESS	Priority 8.4 Social services will be made widespread and effective.	8. Human and Society
11	Households expenses dedicated to housing costs	11.1 (access to housing)	LIVABILITY, COMPETITIVENESS	Priority 5.2 Environmental pollution in settlements will be reduced. Priority 6.1 Planned disaster response will be made effective. Priority 6.2 Effective prevention and resuscitation methods will be applied. Priority 7.1 The urban environment will be improved. Priority 10.1 Accessibility will be increased in the region. Priority 10.2 Logistics infrastructure will be improved.	5. Environment 6. Disaster Management 7. Urban Services 10. Transportation
11	Transport performance (Number of motor vehicles : Minibus and bus)	11.2 (access to transport systems)			
11	Stock of vehicles (passenger cars)	11.2 (access to transport systems)			
11	Land use (Land use : Arable land / Cultivated (hectare))	11.3 (sustainable urbanization)			
11	PM2.5 Emissions (Air pollution in PM2.5 (average level in μg/m³ experienced by the population)	11.6 (environmental impact)			
11	Municipal waste statistics : Rate of population receiving waste services	11.6 (environmental impact)			

SDG	INDICATOR NAME	SDG TARGET(S)			
	in total population (%) and in total municipal population (%)				
11	Victims in road accidents	11.2 (access to transport systems)			

SDG	INDICATOR NAME	SDG TARGET(S)	SPIRALS OF TR33 REGIONAL PLAN	PRIORITIES OF TR33 REGIONAL PLAN	AXIS OF TR33 REGIONAL PLAN
13	CO2 Emissions	13.2 (climate change measures into policy)	LIVABILITY	Priority 7.1 The urban environment will be improved.	7. Urban Services
13	Greenhouse Gas Emissions	13.2 (climate change measures into policy)			
13	Cooling and heating degree days	13.2 (climate change measures into policy)			
16	Participation in the last elections	16.6 (effective institutions)	Not among the priorities of the region		
17	Official Development Assistance	17.2 (development assistance commitments)	LIVABILITY, COMPETITIVENESS	Priority 8.2 A culture of collaboration and solidarity will be promoted.	8. Human and Society
17	PCT co-patent applications that are done with foreign regions	17.6 (regional and international cooperation)			

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