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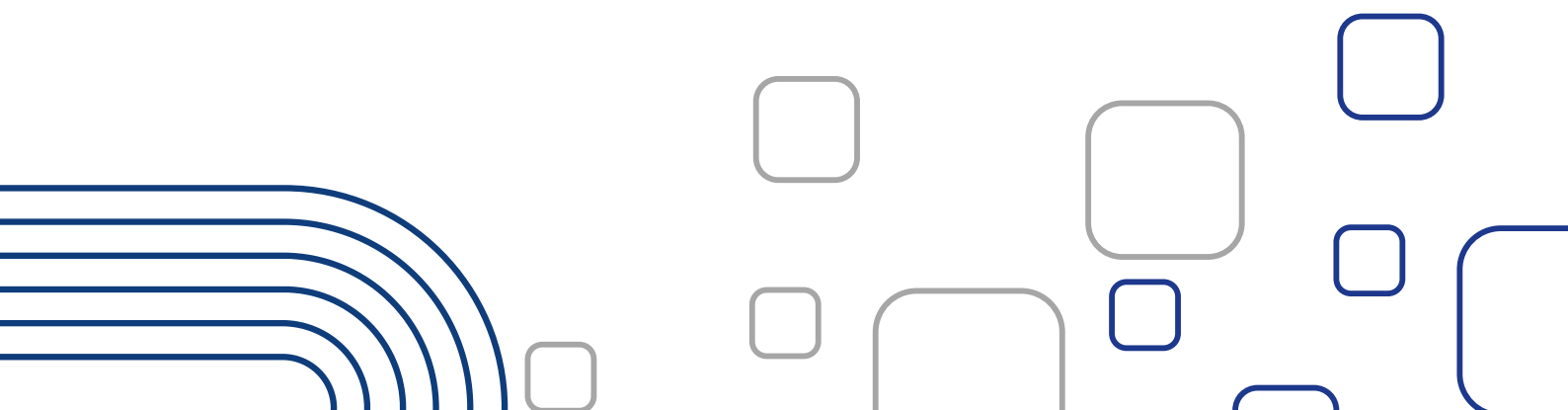
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NEXT Black Sea Basin

**ASSESSING COUNTRY AND REGION-
SPECIFIC NEEDS:
SUSTAINABILITY AND BLUE GROWTH
PERSPECTIVES**

OVERDEVELOPMENT

**AS A CHALLENGE TO BLUE GROWTH
FOR BLACK SEA TOURISM**



Interreg



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NEXT Black Sea Basin

INTERSMARTS

This material was developed by the research team of the Moldova State University (Republic of Moldova). The primary research data was also contributed by the teams of the Varna University of Management (Bulgaria), International Hellenic University (Greece), and the Istanbul Development Agency (Republic of Türkiye).

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Contents

Introduction.....	2
I. Methodology	5
II. General overview of tourism and related services in the Black Sea Basin and INTERSMARTS Countries.....	7
III. Needs Assessment	9
Evolution of the concept of Overtourism.....	9
Overdevelopment: from economic development to ecological and social collapse.....	11
Analysis of the determinants of overtourism and overdevelopment.....	11
Assessing the impacts of overtourism and overdevelopment.	12
Strategies and policies to manage overtourism and overdevelopment.	13
Research methods used to measure overtourism.....	14
Future perspectives on Overtourism and Overdevelopment.....	15
IV. Effects of seasonality on the overdevelopment of tourism in the INTERSMARTS countries	16
V. Policy Recommendations.....	47
Annex 1: Survey Questions	49
Annex 2: Respondents Profiles.....	51
Annex 2.1. Respondents Profiles GENERAL SURVEY	51
Annex 2.2. Respondents Profiles FOCUS GROUPS	56
Annex 2.3. Respondents Profiles IN-DEPTH INTERVIEWS.....	57
Annex 3: General Survey	58
Bibliography.....	62

Introduction

The Black Sea basin has considerable potential for the development of the blue economy and tourism, favoured by favourable climatic conditions and a unique mix of natural and man-made resources. However, the sustainability of tourism in the region is seriously affected by phenomena such as overdevelopment, which generate significant pressures on the environment, infrastructure and local communities.

Tourism overdevelopment is the result of uncontrolled growth of tourism infrastructure and accelerated urbanization without strategic planning for sustainability. In the Black Sea Basin, this phenomenon manifests itself in an over-expansion of tourism facilities in coastal areas, leading to degradation of natural habitats, overexploitation of water resources and alteration of the traditional landscape. In addition, the process of overdevelopment creates economic and social imbalances, favouring the dependence of local communities on seasonal activities, with a negative impact on the stability of the labour market.

Seasonality exacerbates the effects of overdevelopment, contributing to inefficient use of infrastructure and overuse of natural resources during peak periods. In many of the region's destinations, tourism development has been predominantly geared towards attracting as many visitors as possible, to the detriment of a sustainable pattern of growth that balances economic exploitation and environmental conservation.

Studies carried out for this report show that public perceptions of overdevelopment vary according to local experiences and the direct impact on communities. In some regions, tourism development has been received positively, contributing to economic growth and infrastructure modernization. In others, however, the accelerated pace of development has been perceived as a threat to cultural identity and social cohesion. For example, in some tourist areas in Bulgaria, Greece and Türkiye, locals have reported an increase in the prices of basic goods, difficulties in access to housing and an increase in pollution as a direct effect of uncontrolled tourism.

In Moldova, the impact of overdevelopment on tourism is less pronounced, but infrastructure and economic sustainability challenges are relevant. Although the country has a developing tourism sector, investments in tourism infrastructure need to be directed towards sustainable solutions that avoid the problems associated with overdevelopment in other regions of the Black Sea Basin.

In order to mitigate the negative impacts of overdevelopment and support a sustainable pattern of tourism growth, integrated policies that promote seasonal diversification, efficient use of resources and the involvement of local communities in decision-making processes are needed. Also, the implementation of responsible tourism practices, based on reducing the ecological footprint and preserving cultural heritage, is essential to ensure the long-term viability of the tourism sector in the Black Sea Basin.

From a blue economy perspective, the development of tourism in the Black Sea basin has generated both economic opportunities and significant challenges. One of the phenomena that has attracted increasing attention is overdevelopment, i.e. the uncontrolled expansion of tourism infrastructure and excessive urbanization of coastal and maritime areas. Although tourism expansion is often seen as a factor of progress, the accelerated pace of development can lead to degradation of natural resources, loss of cultural identity and increased social pressures on local communities (OECD, 2024; European Commission, 2024).

This dynamic is particularly relevant in the context of the Black Sea Basin, where tourism development has been driven by increased interest in the coastline, cruises and water activities. However, the impact of overdevelopment goes beyond purely economic aspects and affects the ecological balance, creating tensions between economic growth and sustainability (World Bank, 2020). Over time, accelerated urbanization and extensive tourism infrastructure have altered natural landscapes and intensified challenges related to resource management, pollution and habitat transformation.

In this context, the project INTERSMARTS: Interdisciplinary Solutions for Smart Sustainable Tourism and Services for Blue Growth in the Black Sea Basin addresses the impact of overdevelopment on tourism in the region, analysing its implications for the sustainability of the blue economy. This report explores the dimensions of this phenomenon and highlights the need to adopt balanced strategies to ensure sustainable tourism capable of supporting economic development without compromising the environment and local communities.

This needs assessment report analyses the challenges of overdevelopment in tourism and its implications for the blue economy and sustainability in the Black Sea basin. The phenomenon of overdevelopment is increasingly present in regions with rapidly growing tourism infrastructure, leading to pressures on natural resources, habitat fragmentation and socio-economic transformations that affect the balance between economic growth and environmental protection.

The needs assessment was carried out using a mixed methodology, including primary and desk research, and covered four BSB countries: Bulgaria, Greece, Moldova and the Istanbul region of Türkiye. Within this research, several data collection tools were used, including focus groups, in-depth interviews and a general survey, each with a specific set of questions to explore perceptions of tourism overdevelopment.

Questions asked in the focus groups focused on the effectiveness of development control practices, challenges in implementing sustainable infrastructure and innovative solutions for resource management. Participants were encouraged to share their experiences on the barriers they face in preventing overdevelopment and the measures they consider essential to reduce the negative impacts of overdevelopment.

In in-depth interviews, tourism and sustainability experts were asked about the impact of overdevelopment on natural resources, collaboration between authorities and the private

sector to manage infrastructure and difficulties in implementing environmental protection measures. They emphasized the importance of a clear legislative framework and the adoption of smart technologies to prevent the negative impacts of tourism expansion.

The general survey was used to understand the perceptions of the general public and tourism industry stakeholders on the sustainability of tourism infrastructure, analysing the extent to which current development supports or affects resource management. Respondents were also asked about the main challenges caused by overdevelopment, such as overcrowding, pollution, rising cost of living and degradation of natural resources.

The report provides a detailed insight into the impact of overdevelopment on tourism, highlighting the need for sustainable policies and innovative solutions to balance economic growth with environmental protection. By integrating research findings, it outlines strategic directions for the sustainable management of tourism development in the Black Sea basin.

Abbreviations

BSO – Business-support organisation

EC - European Commission

EU - European Union

GDP - Gross Domestic Product

NAR – Needs Assessment Report

NGO – Non-governmental organization

UNTWO - United Nations World Tourism Organization

PPPs - Public-Private Partnerships

I. Methodology

Needs assessment is a critical planning tool used to identify problems and develop effective, goal-oriented solutions to improve policies and coordinated actions. By clearly defining challenges, it ensures that resources are effectively directed toward feasible interventions that enhance performance and desired outcomes. In the INTERSMARTS project, needs assessments focus on four key sustainability challenges that are studied by the project partners based on their research interests and complementary expertise, defined also as a task-force domains of the INTERSMARTS Network, and namely: (i) overdevelopment – by the Moldova State University; (ii) seasonality – by the Varna University of Management, (iii) pollution and waste – by the International Hellenic University and low innovation absorption – by the Istanbul Development Agency. The resulting Needs Assessment Reports are to propose state-of art strategies for addressing these challenges, leveraging state-of-the-art research from project partners and empirical data collected with civic researchers, all aimed at fostering blue growth.

The needs methodology in INTERSMARTS comprises three key phases that were implemented continuously and in parallel on all four sustainability challenges identified by the project: (1) literature review and desk research, (2) field research, and (3) development of a needs assessment report. The process integrates collaborative contributions from all partners, focusing on sustainability in blue tourism, coastal/riverside resource management, and innovation promotion.

The literature review was aimed to review how the project problem issues are explored in academic research, strategies, and policies related to blue tourism sustainability at international, national, and regional levels. The main policy-related determinants of the needs assessment, including six research perspectives or lens for field research, namely the challenges, current state, adopted solutions in business and communities, effectiveness of policies and regulations, local communities' perspective, and future needs were outlined based on the literature review and desk research. Accordingly, field research questionnaires for focus groups, in-depth interviews and general survey of the public opinion were elaborated.

The literature review was completed simultaneously in the period October 1st to 31st, 2024 by all INTERSMARTS partner institutions.

The field research gathered primary data from the INTERSMARTS project target groups, including higher education institutions, SMEs, public authorities, NGOs, and other relevant interest groups. It was necessary to explore the local context, practical insights, and interpretation of the project problems. In addition, it gave out valuable interpretations and independent comments that add to the quality of the project analyses and recommendations.

The field research included three types of activities– focus groups, in-depth interviews and on-line survey for the general public. The general public survey was performed via the distribution an on-line questionnaire with 20 closed questions (5 per theme) (please see Annex 1.1) in parallel in all project countries from November 1st, 2024, to January 15th, 2025. It was completed by 322 persons in Bulgaria, Greece, the Republic of Moldova and Türkiye (please see Annex 2.1.).

The focus groups were organized on a national basis – one event per project partner country – and presented guided discussions with the interested participants on 12 main (through the lens challenges, adopted solutions and effectiveness) and 8 optional (through the lens future needs and local communities) or on sets of 3 main and 2 optional questions per challenge (please see Annex 1.2.). The focus groups were held on 12.12.2025 in the Moldova State University with 10 participants, on 18.12.2024 in the Varna University of Management with 15 participants, on 26.12.2024 at the Istanbul Development Agency with 12 participants and on December,2024 in the International Hellenic University with 8 participants.

The in-depth interview gathered the insights of established experts from academia and practice on all four project problems and along the six research dimensions following a 24-

question template (please see Annex 1.3.). The interviews were conducted in parallel in all project countries from November 1st, 2024, to January 15th, 2025. In Bulgaria, 17 experts were interviewed, including 1 representative of the academia, 1 public-authority representative, 1 NGO-representative and 14 representatives of hotels, restaurants, guesthouses and special-interest attractions. In the Republic of Moldova, 15 experts were interviewed, representing various sectors relevant to sustainable tourism and the blue economy. Of these, 3 are representatives of public authorities, 5 are representatives of non-governmental organizations (NGOs), 1 represents a business support organization (BSO), and 6 are representatives of the private sector. One respondent also comes from academia, working both as an administrator and university lecturer. In Turkey, 16 experts from a variety of fields relevant to sustainable tourism and the blue economy were interviewed. Of these, 7 are representatives of the public sector, 3 are from the private sector, 2 represent non-governmental organizations (NGOs), 1 expert works in an international organization, 1 is a researcher in a research institute, and 1 is from academia. In Greece, 19 experts from various fields relevant to sustainable tourism and the blue economy were interviewed. Of these, 2 are representatives of public authorities, 1 is a representative of a professional association and 16 come from the private sector, including hotels of different categories, travel agencies, tour operators, airlines and shipping companies.

The approach and reporting process on the survey data collection included that each partner conducted surveys on four key themes within their country, summarized the results, and shared their findings. All partners ensured a diverse representation of target groups without strict proportional adherence to avoid bias. Next, task force leaders consolidated the data for their respective themes into specialized Needs Assessment Reports (NARs), which include summarized findings from literature reviews, focus groups, interviews, and surveys. Finally, the final reports underwent a collaborative review by all partners to validate the accuracy and completeness of the information.

As leader of the working group dedicated to solutions for overdevelopment within the INTERSMARTS network, the State University of Moldova is conducting a needs assessment on overdevelopment, analysing its impact on the blue growth of tourism in the Black Sea basin. The study aims to identify the main challenges posed by the overdevelopment of tourism infrastructure, as well as to outline sustainable solutions that balance economic expansion with environmental protection and the well-being of local communities.

II. General overview of tourism and related services in the Black Sea Basin and INTERSMARTS Countries

The Black Sea region is home to approximately 17.5 million permanent residents, with an annual influx of 6–8 million tourists in the years preceding the pandemic. In recent times, tourism numbers have been recovering, in some cases even surpassing pre-pandemic levels. The region encompasses both well-established and emerging tourism destinations, each

progressing at different rates in terms of infrastructure, connectivity, and international recognition. Over nearly two decades, international arrivals to the region experienced a steady annual growth rate, surpassing the European and global averages. However, this positive trajectory was disrupted by the COVID-19 crisis and geopolitical instability, leading to profound social, economic, and environmental challenges.

The coastal areas of the Black Sea littoral states form a complex and dynamic socio-ecological system, shaped by an interplay of political, social, environmental, economic, and cultural factors. The development of coastal communities is closely tied to the sustainable management of natural resources, including land, water, and their mineral, biological, and recreational assets. Furthermore, the well-being of these communities is strongly influenced by broader socio-economic trends at both national and international levels.

Concretely, tourism and related services in the countries, represented in the INTERSMARTS Project are marked with the following main features:

Bulgaria

Bulgaria's tourism industry is a vital part of its economy, benefiting from its strategic location between Europe and Asia. The country offers diverse attractions, from Black Sea beach resorts to historic countryside towns, drawing visitors interested in cultural experiences, local cuisine, and historical sites. Sustainable tourism is on the rise, with growing interest in eco-friendly accommodations and outdoor activities like hiking and skiing. Digital booking platforms have made travel planning more convenient, while government initiatives to promote year-round tourism have increased off-season visits, especially for winter sports. The market is projected to grow at a consistent pace, with a compound annual growth rate of 3.77% between 2025 and 2029. The Package Holidays segment is anticipated to be the largest, reaching in revenue by 2025 as the number of users in this segment is forecasted to grow with from 56.9% in 2025 to 63.4% in 2029 (Statista, 2024).

Greece

Greece's rich ancient cultural heritage, renowned archaeological sites, and numerous beaches and islands make it one of the world's top tourist destinations. Like many Mediterranean countries, Greece's economy is heavily dependent on tourism, with the sector contributing over 19 percent to the country's GDP in 2023—the third-highest share among EU nations, following Portugal and Croatia. In terms of employment, the combined direct, indirect, and induced effects of travel and tourism supported over 800,000 jobs in Greece that year, with projections indicating this number could surpass one million by 2034. While international tourist arrivals have exceeded pre-pandemic levels, outbound tourism from Greece has been slower to recover, with the number of Greek travellers going abroad in 2023 still about 20 percent lower than in 2019 (Statista, 2024).

Republic of Moldova

The Republic of Moldova reaffirms its commitment to the sustainable development of the tourism sector and the valorisation of its unique natural and man-made resources. Priority is given to rural, wine and cultural tourism (including festival tourism), given their potential to contribute to local development and to diversify the tourism offer. However, the growth of the tourism sector has been strongly affected by recent crises, including the pandemic and the military conflict in Ukraine, which directly affect the country's border. These challenges pose security, environmental and economic resilience risks, putting pressure on tourism infrastructure and the sustainability of the sector.

After a period of steady growth between 2010 and 2019, the average number of international and domestic visitors per inhabitant fell sharply in 2020 and 2021, reaching 2015 levels. This trend reflects the vulnerabilities of the Moldovan tourism sector to external factors and the need for adaptive strategies to ensure balanced and sustainable development in the future.

Türkiye

Türkiye's unique geographical position, bridging Europe and Asia, has long made it a cultural crossroads where diverse civilizations have flourished. Its rich heritage, combined with vibrant cities, stunning landscapes, and remarkable archaeological sites, makes it a compelling destination for travellers seeking a blend of Eastern and Western influences. In recent years, there has been a noticeable shift in tourist preferences, with visitors increasingly seeking authentic and immersive experiences beyond traditional attractions. This trend has driven interest in off-the-beaten-path destinations that offer deeper cultural connections. The sustainability drive entails a rise in green hotels, sustainable tour operators, and initiatives to protect natural and cultural heritage. Additionally, strong government support and investment in infrastructure—such as improved transportation networks and upgraded accommodations—are enhancing the overall visitor experience and driving growth in the sector (Statista, 2024). Considering Türkiye's diverse geographical and economic scale, the INTERSMARTS project primarily concentrates on Istanbul and its neighbouring regions that are connected to the Black Sea.

III. Needs Assessment

Tourism, throughout its modern history, has been predominantly perceived as a driver of economic development and international mobility, bringing significant benefits to host communities. However, in recent decades, the uncontrolled expansion of tourism and the exponential growth in the number of tourists have generated side effects that have led to the emergence of two key concepts: overtourism and overdevelopment. These concepts not only reflect changes in the perception of tourism, but also highlight the need to rethink strategies for managing tourism flows, taking into account the economic, social, cultural and environmental dimensions of this phenomenon.

Evolution of the concept of Overtourism.

From overcrowding to a systemic crisis. In the literature, overtourism has been defined and redefined over time, evolving from a concept centered on overcrowding and congestion to a more nuanced approach that takes into account the sustainability of destinations and the quality of life of residents.

Initial stage: Overtourism as an overcrowding problem. The first approaches to overtourism focused on the problem of overcrowding in tourist destinations, based on the carrying capacity model. Harold Goodwin (2017) is one of the first researchers to conceptualize overtourism, arguing that the phenomenon arises when hosts or visitors perceive that the number of tourists is too high, negatively affecting the tourist experience and local quality of life.

In the same year, McKinsey & Company and the World Travel & Tourism Council (2017) extended this perspective, pointing out that overtourism is characterized not only by overcrowding, but also by alienation of residents, infrastructure degradation, environmental pressures and threats to cultural heritage. This multidimensional approach has laid the foundations for a new understanding of the phenomenon, marking a shift from a localized problem to a global challenge in tourism management.

Academic formalization of the concept and recognition of the multiple dimensions. In 2018, the World Tourism Organization (UNWTO) provided an institutionalized definition of overtourism, highlighting that overtourism occurs when tourism impacts negatively influence citizens' quality of life perceptions and/or the visitor experience. At the same time, the European Parliament (2018) introduced a more comprehensive approach, emphasizing that overtourism can cross the physical, environmental, social, economic and psychological thresholds of a destination. This shift in perspective has led policy makers to realize that the phenomenon is not only a result of increasing tourism flows, but also of ineffective management of these flows.

Another important step in formalizing the concept was the contribution of Richard Butler (2018), who distinguished between overtourism and overcrowding, emphasizing that the problem is not only the large number of tourists, but also the way in which they are managed and the ability of the destination to accommodate them sustainably.

As the analysis of overtourism has become more sophisticated, Claudio Milano (2019) introduced the seasonal and temporal dimension of the phenomenon, arguing that the negative impact is not always constant but fluctuates according to seasonal peaks. This idea was also taken up by Fabian Weber et al. (2019), who emphasized that overtourism affects not only host communities but also the overall sustainability of the destination, with environmental, economic and social consequences.

Overtourism in the era of sustainability: Solutions and new approaches. In the 2020s, research has begun to explore strategies to manage overtourism, aiming to balance economic benefits with social and environmental impacts. Mihalič (2020) analyzed overtourism from a

sustainability perspective , suggesting that the problem stems from a destination's overcapacity and the negative impacts of overtourism.

During this period, solutions proposed to combat overtourism included tourism education, smart cities technology and economic mechanisms. For example, Séraphin & Yallop (2021) emphasized the role of education in promoting responsible tourism, and Mohanty et al. (2022) proposed the use of smart tourism technologies to manage tourist flows.

Another significant evolution of the concept is the use of tourist taxes as a method to control overtourism. Cities such as Venice, Barcelona and Amsterdam have implemented tax measures to discourage overtourism, as documented by Gary J. (2024).

Overdevelopment: from economic development to ecological and social collapse.

If overtourism refers to the impact of tourism flows on destinations, overdevelopment describes the unsustainable expansion of tourism infrastructure, which compromises the ecological balance and the quality of life of local residents.

Origins of the concept and early concerns. The concept of overdevelopment originally emerged in the work of John Urry (1995), who argued that excessive development of tourism infrastructure can negatively affect the ecosystems and socio-economic structures of a destination. This perspective was reinforced by Weaver (2006), who emphasized that investments in tourism need to be made with strategic planning, avoiding overdevelopment that may exceed the carrying capacity of a destination.

Unsustainable tourism expansion and resource impacts. In the 2010s, overdevelopment was analyzed in more detail in terms of its impacts on natural resources and the degradation of the quality of life of local residents. Peeters et al. (2018) showed that tourism overdevelopment leads to pressure on urban infrastructure, reduction of living space and deterioration of cultural heritage.

Overdevelopment and overtourism: An interdependent relationship. Today, overdevelopment and overtourism are recognized as two sides of the same problem, both rooted in poor management of tourism growth. Modern solutions include limiting the expansion of tourism infrastructure, implementing responsible tourism policies and conserving local resources to prevent irreversible deterioration of destinations.

The evolution of the concepts of overtourism and overdevelopment reflects the transition from a pro-growth to a sustainability-oriented approach, emphasizing the need for integrated management of tourism flows and infrastructure development.

Analysis of the determinants of overtourism and overdevelopment.

The phenomenon of overtourism and overdevelopment is the result of a complex combination of economic, social, technological and political factors that directly influence the

way tourist destinations are perceived and used. The exponential growth in tourism flows is not only a consequence of the sector's development, but also of global structural changes that have facilitated access to travel for ever larger segments of the population.

One of the most important drivers of overtourism is the increase in global tourism demand, fuelled by the democratization of tourism, the reduction of transport costs and the emergence of digital platforms that simplify access to personalized bookings and services (Vagena, 2021). This dynamic has been accentuated by public policies and tourism marketing strategies, which have aggressively promoted certain destinations without implementing appropriate control and regulatory measures (Peeters et al., 2018).

Another significant factor is the expansion of the sharing economy, represented by platforms such as Airbnb, which have transformed the tourism infrastructure of cities and led to significant side effects, including rising housing prices and urban gentrification (Higgins-Desbiolles, 2020). In addition to these economic aspects, there are also cultural and social factors, such as the changing preferences of tourists, who are increasingly seeking authentic experiences, thus contributing to pressures on local communities (Weber et al., 2019).

In addition, the effects of globalization have facilitated increased mobility of tourists, attracting significant numbers of visitors from emerging markets and generating an uneven distribution of tourism flows globally (Arndt, 2024). These factors, analyzed through the lens of existing theoretical models, contribute to a deeper understanding of the dynamics of overtourism and underline the need for more effective policies and management strategies to ensure the sustainability of tourism in the future. A conceptual analysis is not sufficient to understand these phenomena in depth, and it is necessary to investigate the causes of their emergence and intensification.

Assessing the impacts of overtourism and overdevelopment.

The impact of overtourism and overdevelopment is profound and multidimensional, significantly affecting the environment, the socio-cultural structure of local communities and the economic dynamics of tourist destinations. These phenomena are interrelated and contribute to a cycle of overstressing natural and urban resources, generating complex imbalances.

Environmental impacts. One of the most visible and pressing impacts of overtourism is the degradation of fragile ecosystems. The most affected tourist destinations are those with sensitive natural resources, such as coral reefs, rainforests and natural parks, which are exposed to excessive pressures due to the continuous flow of visitors (Peeters et al., 2018). Similarly, pollution and poor waste management are major challenges in densely populated tourist regions, where infrastructure cannot cope with the increased volume of waste and carbon emissions (Weber et al., 2019). Excessive consumption of natural resources such as

water and energy also exacerbates water stress problems in areas with limited infrastructure, putting pressure on local residents (Arndt, 2024).

Social impacts. Overtourism contributes to significant changes in the social structure of local communities. In many popular destinations, the displacement of residents caused by the artificially rising cost of living and the conversion of residential spaces into tourist establishments has generated a phenomenon of social exclusion (Higgins-Desbiolles, 2020). This trend, accompanied by increasing tensions between tourists and locals, has led to the alteration of cultural identity and the emergence of movements opposing excessive tourism. In addition, the social and cultural behaviors of residents are influenced by constant contact with tourists, which can lead to an erosion of local traditions and cultural standardization of the targeted regions (Vagena, 2021).

Economic impacts. Although tourism generates considerable economic benefits, their distribution is often uneven. In many cases, large businesses and international corporations benefit the most from tourism growth, while local businesses and resident communities bear externalized costs, such as pollution and infrastructure damage (Weber et al., 2019). The phenomenon of overtourism can also create an unhealthy economic dependence on tourism, a phenomenon referred to as the 'boomerang effect' - a vulnerability exacerbated in times of global crisis, such as the COVID-19 pandemic (Arndt, 2024). The external costs generated by overtourism are largely borne by communities, local governments and ecosystems, emphasizing the need for sustainable planning and stricter regulations (Higgins-Desbiolles, 2020).

Thus, the impacts of overtourism and overdevelopment are profound and multidimensional, requiring a reassessment of how tourism is managed to prevent negative impacts on the environment, communities and local economies.

Strategies and policies to manage overtourism and overdevelopment.

Managing the phenomena of overtourism and overdevelopment requires an integrated and multidimensional approach, combining public policy interventions with technological innovations and sustainable tourism development strategies. The challenges posed by these phenomena are complex, involving not only economic and infrastructural factors, but also issues related to the well-being of local communities and the protection of natural and cultural heritage.

Public policies and tourism governance. Careful regulation of tourism infrastructure is one of the central pillars of an effective strategy to manage overtourism. In many destinations, uncontrolled growth in accommodation capacity and the expansion of tourism facilities have put unbearable pressure on local resources. Thus, it is necessary to limit hotel construction in ecologically vulnerable and over-urbanized areas (Weber et al., 2019).

Another effective control mechanism is tourist tax schemes, successfully implemented in cities such as Venice, Amsterdam and Bhutan, which have allowed a better distribution of tourism-generated revenues towards environmental and infrastructure projects (Peeters et al., 2018). Also, the implementation of restrictions on the number of visitors in areas with protected cultural and ecological heritage is a key solution to avoid their degradation (Arndt, 2024).

Technological innovations and digital solutions. In the context of digitization, the use of big data and artificial intelligence technologies can significantly contribute to monitoring tourism flows and optimizing visitor distribution in real time (Vagena, 2021). Smart tourism applications enable authorities to manage congestion more effectively and promote lesser-known alternatives of tourist destinations, thus redistributing the pressure on overcrowded places (Mohanty et al., 2022).

Promoting sustainable tourism. The development of alternative forms of tourism, such as ecotourism and regenerative tourism, is a key element in reducing the negative impacts of mass tourism (Higgins-Desbiolles, 2020). These approaches emphasize the conservation of natural resources and the active involvement of local communities in tourism activities, thus ensuring a balance between economic development and environmental protection.

Another viable strategy is the promotion of alternative tourist destinations to disperse visitor flows and reduce pressure on traditional ones. In this regard, partnerships between public authorities, the private sector and local communities are essential to implement sustainable tourism management policies (Weber et al., 2019).

Thus, effective strategies to manage overtourism need to integrate preventive measures, regulatory policies and innovative solutions aimed at maintaining a balance between tourism development and the protection of natural and cultural resources.

Research methods used to measure overtourism.

Assessing the phenomenon of overtourism requires a rigorous methodological approach, integrating quantitative and qualitative methods to analyze the impact on the environment, the economy and local communities. The complexity of this phenomenon requires the use of specific indicators, data collection tools and advanced analysis techniques to provide a detailed and objective picture of how tourist destinations are affected by overtourism.

One of the fundamental methods used in this field is the Overtourism Index, which provides a standardized framework for assessing the level of tourism saturation by aggregating variables such as tourist density, impact on local infrastructure and residents' perception of tourism (Peeters et al., 2018). Similarly, Tourism Carrying Capacity is a key tool that quantifies the maximum number of tourists a destination can support without compromising its environmental, social and economic sustainability (Weber et al., 2019).

For a detailed assessment of the spatial distribution of tourism flows, advanced technologies such as remote sensing and Geographic Information Systems (GIS) analysis are used. These methods allow precise mapping of tourist concentrations, facilitating the identification of areas of high stress on the urban environment and infrastructure (Arndt, 2024). At the same time, satellite data can be integrated with information from social networks and navigation applications to analyze in real time the dynamics of tourism flows and predict overcrowding.

In parallel, qualitative methods play an essential role in complementing quantitative analysis. Semi-structured interviews and focus groups conducted with residents and representatives of the tourism industry provide valuable insights into local perceptions of overtourism, highlighting aspects related to the social acceptability of tourism and changes in the lifestyle of host communities (Vagena, 2021). Likewise, analyzing tourist sentiment by processing data from online reviews and social networks provides insight into how tourists experience destinations and the impact on their satisfaction (Mohanty et al., 2022).

In comparative research, econometric models can be used to assess the relationship between tourist numbers and indicators of economic and social sustainability, thus facilitating a forecast of the long-term effects of overtourism (Higgins-Desbiolles, 2020). Such analyses allow decision-makers to adopt effective preventive measures based on scientific evidence, contributing to the development of responsible tourism policies.

Therefore, a combination of quantitative and qualitative methods, together with the use of emerging technologies, is essential for monitoring and managing overtourism, providing a comprehensive framework for analysing its impacts and developing sustainable solutions.

Future perspectives on Overtourism and Overdevelopment.

The future of global tourism is marked by significant challenges, driven by the impact of climate change, accelerated digitalization and the need to redefine tourism development strategies in a sustainable manner. Overtourism and overdevelopment, in their current forms, can no longer be considered as isolated phenomena, but need to be considered in a broader context, including the interaction between human mobility, environmental sustainability and adaptation strategies to new economic and social realities.

Impact of climate change on tourism and destination adaptation. Climate change will profoundly influence tourism destinations, forcing the sector to rethink its business models. Coastal destinations and tropical regions are among the most vulnerable to rising sea levels, extreme weather events and ecosystem degradation (Peeters et al., 2018). In this regard, future strategies should include measures to mitigate climate impacts by limiting the ecological footprint of tourism and adapting tourism infrastructures to new climatic conditions. Using renewable energies, reducing carbon emissions from air transportation and promoting responsible tourism are imperative for long-term sustainability.

Regenerative tourism - an alternative paradigm for sustainable development. An emerging concept in managing overtourism is regenerative tourism, which not only seeks to reduce negative impacts on destinations, but actively seeks to improve them by involving tourists and industry in ecological restoration and community development projects (Higgins-Desbiolles, 2020). This paradigm shift requires greater involvement of visitors in environmental conservation actions, integrating tourism into sustainable development strategies and promoting tourism experiences that generate a positive impact on host communities.

Emerging trends in tourism and the impact of digitalization. The digitization of the tourism sector has the potential to contribute to a more balanced distribution of tourism flows, through the development of intelligent visitor management systems and the use of virtual reality to reduce the need for physical visits in overcrowded destinations (Vagena, 2021). The use of big data and artificial intelligence can facilitate predictions of tourist behavior, thus enabling the implementation of proactive measures to manage visitor flows.

Strategies to balance tourism and local well-being. In the future, tourism policies will need to be more centered on the needs of local communities, promoting a balance between economic benefits and the preservation of cultural and natural heritage (Weber et al., 2019). Increasing community participation in tourism decision-making will be essential to prevent social tensions and alienation of residents from mass tourism.

In conclusion, the future of global tourism must be shaped by principles of sustainability, innovation and balance between economic interests and the protection of natural and cultural resources. Overtourism and overdevelopment can only be effectively managed through an integrated approach, based on responsible public policies, innovative technologies and the active involvement of all stakeholders in the tourism industry.

IV. Effects of overdevelopment on the sustainability of tourism in the INTERSMARTS countries

Bulgaria

The general public perception regarding tourism overdevelopment in Bulgaria reveals key perceptions and concerns about sustainability in infrastructure and resource management within tourist destinations. Respondents expressed a variety of opinions on how tourism development has contributed to sustainability. The majority (37%) believe that tourism has been mostly supportive of sustainability, indicating the presence of some positive initiatives. However, a significant proportion (27%) view the situation as balanced between supportive and unsupportive, suggesting limited progress or mixed effects (please see Fig. 1 from Annex 3). Meanwhile, 20% consider tourism mostly unsupportive, and 4% believe it is completely unsupportive. On the positive side, 12% see tourism as fully supportive of sustainability, possibly reflecting successful local initiatives. Survey results highlight several key challenges associated with excessive tourism development. The most commonly reported issue is

overcrowding and pollution, mentioned by 36% of respondents. This suggests concerns about unchecked visitor growth negatively affecting quality of life and the environment. Environmental degradation and depletion of natural resources follow closely, with 29% recognizing long-term ecological impacts. Increased cost of living and loss of cultural identity were identified by 20%, reflecting economic pressures on locals due to high demand for services and housing. Additionally, conflicts between tourists and residents were noted by 13%, pointing to social tensions caused by adapting to large tourist flows (please see Fig. 2 from Annex 3). Regarding the visibility of sustainable tourism practices, the majority of respondents (50%) reported observing such initiatives occasionally, suggesting sporadic rather than systematic efforts. Meanwhile, 22% stated that these practices are rarely visible, and only 2% constantly observe them (please see Fig. 3 from Annex 3). These findings indicate a clear need for broader implementation of eco-friendly solutions, such as sustainable transport and energy efficiency measures. Respondents showed strong support for stricter tourism regulations to enhance sustainability. 40% consider regulation essential for sustainable development, while 37% deem it very important. Only 19% rated it moderately important, and the percentage of those who see regulation as unimportant is minimal (3% slightly important, 1% not important at all) (please see Fig. 4 from Annex 3). This suggests a strong consensus on the necessity of implementing effective public policies to manage tourism in Bulgaria.

The findings indicate a growing awareness of tourism's impact on the environment and infrastructure. While there is considerable support for sustainability measures, tourism development also presents significant challenges, particularly concerning pollution, overcrowding, and environmental degradation. The relatively low visibility of sustainable practices suggests room for improvement, and the strong support for regulating tourist numbers and infrastructure highlights the need for more effective policies.

The focus group participants recognized that Varna's tourism infrastructure currently faces significant deficiencies, particularly due to the pressures of overdevelopment. The rapid expansion of tourism-related construction has led to the loss of green spaces, with small recreational parks, playgrounds, and open areas becoming increasingly scarce. The inadequate maintenance of existing infrastructure further exacerbates these challenges, negatively impacting both residents and visitors. The city's capacity to accommodate rising tourism demand is significantly constrained. Limited parking availability creates considerable inconvenience, while the lack of pedestrian-friendly infrastructure, including absent sidewalks and disconnected cycling lanes, hinders mobility and safety. Moreover, pedestrian underpasses remain outdated, with non-functional elevators and insufficient lighting contributing to accessibility and security concerns, particularly for individuals with disabilities and parents with young children. In addition to these infrastructural issues, environmental risks pose serious threats. Inefficient wastewater treatment facilities compromise local ecosystems, and an outdated water supply system struggles to meet the needs of an expanding population. These structural shortcomings highlight that Varna's current tourism

infrastructure is insufficient to mitigate the adverse effects of overdevelopment and to sustain long-term growth in the region's tourism sector.

The implementation of sustainable infrastructure projects in Varna faces multiple systemic barriers. A primary issue is the lack of effective oversight and insufficient institutional engagement, which results in unclear regulations, weak monitoring mechanisms, and a general lack of accountability. Slow and inefficient administrative processes further hinder progress, largely due to a lack of digitalization that could otherwise improve coordination and project execution. Another critical challenge is the strained relationship between local institutions and the community. Poor communication and a lack of mutual trust often lead to opposition from residents, reducing support for infrastructure initiatives. Additionally, the absence of professional training for municipal staff and inconsistent ethical standards in public administration further complicate implementation efforts. To address these barriers, several solutions are necessary. Strengthening regulatory oversight through independent monitoring bodies and accelerating project approvals via digital transformation are crucial steps. Enhancing the skills of municipal employees, promoting ethical governance, and fostering transparent communication between stakeholders are also essential. Finally, increased citizen engagement in the planning and execution of projects will create a more cooperative and sustainable framework for infrastructure development. Despite the growing emphasis on sustainable infrastructure, Varna still lacks widespread adoption of innovative technologies for resource management and urban development. The integration of smart technologies is essential to enhance efficiency and environmental sustainability in tourism infrastructure. Key areas for technological advancement include:

- **Digitalization of Administrative Services:** Improved digital competencies among municipal staff will allow for more efficient governance and streamlined approval processes for infrastructure projects.
- **Smart Mobility Solutions:** The implementation of smart parking systems, integrated cycling infrastructure, and sustainable public transport solutions can alleviate congestion and improve urban mobility.
- **Advanced Water and Waste Management Systems:** The modernization of wastewater treatment facilities and the adoption of smart water monitoring systems can mitigate environmental risks associated with overdevelopment.

To facilitate regional progress, these innovations should be shared across the Black Sea Basin through collaborative initiatives, training programs, and experience exchange forums. By fostering international partnerships, Varna and other coastal cities can implement best practices in sustainable resource management and modern infrastructure development.

Effective collaboration between local public authorities and private organizations is crucial in addressing the sustainability challenges associated with overdevelopment. At present, fragmented efforts and inconsistent policy implementation hinder progress in pollution

control and resource management. A key area of concern is the degradation of natural resources, including water, soil, and energy reserves. The expansion of tourism infrastructure has increased water consumption and placed additional strain on the city's energy grid. Soil erosion and pollution from construction projects have further exacerbated environmental concerns. To counteract these effects, a multi-pronged strategy is necessary:

- **Regulatory Strengthening:** Establishing stricter environmental impact assessments and enforcing compliance with sustainability standards.
- **Public-Private Partnerships (PPPs):** Encouraging collaboration between local governments, businesses, and NGOs to finance and implement eco-friendly infrastructure projects.
- **Community-Based Conservation Initiatives:** Empowering local communities to take an active role in sustainable resource management through educational campaigns and participatory planning processes.

The engagement of local communities in sustainable resource management is a crucial factor in ensuring the long-term viability of infrastructure projects. Several best practices have been implemented in Varna that could serve as models for replication in other regions of the Black Sea Basin. These include:

- **Eco-certification programs** for businesses operating in the tourism sector to incentivize sustainable practices.
- **Green urban planning initiatives** aimed at preserving natural landscapes and integrating green spaces within city development plans.
- **Citizen-led environmental monitoring programs**, allowing residents to report and track issues related to pollution and resource management.

Scaling these initiatives requires regional cooperation and knowledge-sharing platforms. Establishing transnational working groups dedicated to sustainable tourism can enhance policy harmonization and promote cross-border investment in green infrastructure.

Varna's tourism infrastructure is currently facing significant sustainability challenges due to overdevelopment, inefficient planning, and environmental degradation. The research findings underscore the need for enhanced regulatory oversight, improved stakeholder collaboration, and the adoption of smart technologies to foster a more sustainable urban environment.

By addressing these structural and policy-related barriers, local authorities can create a more resilient and sustainable tourism framework that not only preserves Varna's environmental assets but also enhances the quality of life for both residents and visitors. Cross-border collaboration with other Black Sea Basin regions will further enable the exchange of best practices, facilitating the successful implementation of sustainable infrastructure projects on a broader scale.

The interviewed experts representatives from Bulgaria's coastal regions provided differing perspectives on overdevelopment. While 41% of respondents reported no such issues in their areas, 59% believe the Bulgarian Black Sea coast is severely overdeveloped.

Major resorts such as Albena, Golden Sands, and Sunny Beach have well-developed infrastructure, but larger coastal cities face significant challenges. The Dobrich region, for example, experiences depopulation, whereas Varna and Burgas have seen rapid population growth, driving increased residential and hotel construction. The rapid expansion of hotel complexes in Varna and Burgas has transformed former villa zones into densely built resorts, often lacking proper transport infrastructure, green spaces, or public services. Many developments are located in landslide-prone areas or too close to the beach, such as Kabakum Beach. Key issues include insufficient parking, inadequate public transport, and a lack of social infrastructure. The southern Black Sea region faces even greater challenges. In areas such as Tsarevo, poor road connectivity and unpaved beach access routes hinder tourism development. Seasonal overcrowding strains local resources, increases pollution, and negatively impacts residents' quality of life. Wild camping on remote beaches, though regulated, contributes to environmental degradation due to the lack of waste collection and essential utilities. Respondents emphasize the need for strict construction regulations and increased public oversight to ensure compliance with territorial development plans and sustainable infrastructure development.

While major tourist resorts have seen recent improvements in sewage and wastewater treatment systems, the rapid expansion of hotels in Varna and Burgas has outpaced infrastructure development. Smaller towns, such as Nessebar, Sozopol, and Primorsko, often experience overloaded utility networks, while locations like Sinemorets lack wastewater treatment facilities, leading to direct discharge into the Black Sea. Overdevelopment has intensified soil erosion, water pollution, and energy grid strain, significantly impacting environmental sustainability.

Established resorts incorporate green spaces and energy-efficient measures into their developments. However, in newer tourism areas, green infrastructure is often neglected in favor of parking facilities. All respondents reported implementing energy-saving technologies, including smart lighting, climate control, and water conservation systems. Resorts such as Albena and Golden Sands have restricted vehicle access, promoting electric shuttles and alternative transport solutions. Despite these efforts, overdevelopment continues to degrade the living conditions of coastal residents.

The Bulgarian Black Sea coast is rich in mineral resources, which are increasingly used for spa tourism, eco-friendly heating, and new tourist attractions. Solar energy adoption is widespread in newly developed hotels, powering hot water systems and electric vehicle charging stations. "Smart hotels" have gained popularity, integrating digitalized services for automated check-ins, climate control, and resource management. Other innovations include

AI-driven food waste reduction software that optimizes inventory management and consumption.

All coastal municipalities have adopted Integrated Development Plans for 2021–2027, incorporating environmental protection and sustainable resource management strategies. Regulations, including Natura 2000 directives and the Black Sea Coast Spatial Development Act, set clear construction guidelines. However, respondents highlight weak enforcement of these regulations. Private investors often influence decision-making, sidelining public interest and limiting cooperation between authorities and environmental organizations.

The primary obstacles to sustainable infrastructure include inadequate water supply, poor sewage systems, and significant potable water losses (over 80% as of 2024). Overdevelopment has reduced available space for green areas and public recreational zones while causing seasonal water and electricity shortages. Coastal overdevelopment negatively affects both urban and rural environments, contributing to persistent pollution and infrastructural deficiencies. Respondents stress the need for stricter construction regulations, public transport investments, and resource conservation measures to balance tourism growth with environmental sustainability. The main findings about the evaluation of the effects of overdevelopment on the sustainability of tourism in the Bulgarian Black Sea region, performed in the INTERSMARTS project are summarized in Table 1 below:

Table 1: Overdevelopment’s impact on tourism sustainability in the Bulgarian Black Sea Region

Dimension	Impact
Challenges	<ul style="list-style-type: none"> • Overcrowding, pollution, and environmental degradation are major concerns. • Resource depletion, including water and energy shortages, impacts sustainability. • Increased cost of living and loss of cultural identity due to high tourism demand. • Conflicts between tourists and residents arise from overcrowding and strained infrastructure.
Current state and practices	<ul style="list-style-type: none"> • Tourism development has mixed effects: 37% see it as mostly supportive, while 27% consider it balanced between supportive and unsupportive. • Major resorts have developed infrastructure, but cities like Varna and Burgas struggle with overdevelopment. • Lack of pedestrian-friendly infrastructure, poor waste management, and inadequate water supply systems are significant concerns. • Sustainable tourism practices exist but are not widely or consistently implemented.
Adopted Solutions	<ul style="list-style-type: none"> • Implementation of energy-efficient technologies, such as smart lighting and water conservation systems. • Some resorts restrict vehicle access, promoting electric shuttles and smart mobility solutions. • Solar energy adoption is increasing in new hotel developments. • Waste reduction programs and digital monitoring systems are being introduced selectively.
Effectiveness of	<ul style="list-style-type: none"> • Municipalities have Integrated Development Plans (2021–2027) and Natura 2000 regulations, but enforcement remains weak. • Private investor interests often take precedence over sustainability concerns.

Dimension	Impact
policies and regulations	<ul style="list-style-type: none"> • 40% of respondents consider stricter regulations essential for sustainable tourism. • Strong public support exists for improved policy enforcement and greater accountability.
Local communities' perspective and future needs	<ul style="list-style-type: none"> • Locals experience reduced quality of life due to congestion, seasonal resource shortages, and pollution. • There is a strong demand for green urban planning, improved public services, and stricter regulatory enforcement. • Community participation in planning and governance is necessary to ensure sustainability. • Eco-certification programs, green infrastructure projects, and community-led environmental monitoring could enhance sustainability efforts.

Source: (own elaboration)

Greece

The analysis of the research results regarding perceptions of tourism overdevelopment in Greece highlights several key insights related to sustainable infrastructure and resource management. Regarding the extent to which tourism development supports sustainable infrastructure and resource management, the responses indicate a relatively balanced distribution of opinions. While 32% of respondents believe that tourism is "mainly supportive" of sustainability, a nearly equal proportion (33%) perceive it as "mostly unsupportive". Additionally, 22% of respondents consider its impact to be balanced—neither particularly supportive nor unsupportive. However, only 9% believe that tourism "fully supports" sustainability, while 4% view it as "completely unsupportive". This distribution suggests a divided perception, indicating that while sustainability efforts exist, they are not perceived as sufficient to generate a clearly positive impact. In terms of the main sustainability challenges caused by tourism overdevelopment, "overcrowding and pollution" emerged as the most significant concerns, cited by 41% of respondents. This was followed by "rising cost of living and loss of cultural identity" (27%), reflecting major concerns about the economic and social impacts of tourism on local communities. Other notable challenges include "environmental degradation and depletion of natural resources" and "conflicts between tourists and residents," although these issues appear to be less dominant. These findings emphasize the need for more effective policies to manage tourism's adverse effects on the environment and local communities. When asked how frequently they notice sustainable practices in tourism infrastructure, such as eco-friendly transport or energy-saving initiatives, most respondents indicated that these efforts are only "occasionally" visible (44%). A significant portion (32%) stated that they "rarely" observe such initiatives, while only 16% reported seeing them "often." Just 7% of respondents claimed to witness sustainable practices "very often," and a negligible 1% reported that they see them "constantly." These results suggest that while sustainable tourism efforts exist, they remain insufficiently visible and consistently implemented within communities. Regarding the importance of regulating tourist numbers and ensuring sustainable infrastructure management, the majority of respondents consider this aspect to

be crucial. A significant 46% of participants view it as "very important," while 23% believe it is "absolutely essential for sustainable development". In contrast, only 3% consider it "not important at all," and 2% regard it as "less important" (please see Fig. 1-4 from Annex 3). These findings indicate strong support for government intervention in managing tourism development to prevent negative impacts on sustainability. In conclusion, the analysis reveals mixed perceptions of tourism sustainability in Greece. While some respondents acknowledge efforts to support sustainable infrastructure, many believe these efforts are inadequate. Overcrowding, pollution, and increased living costs due to tourism overdevelopment remain primary concerns. In this context, respondents emphasize the importance of regulating tourist flows and implementing stricter measures to protect the environment and local communities.

The discussions within the *focus group* in Greece have shed light on the pressing challenges of tourism overdevelopment and the necessary measures for fostering sustainable infrastructure and resource management. As tourism continues to expand, the strain on natural ecosystems, public services, and local communities has become increasingly evident. While tourism remains a vital economic driver, the absence of effective regulatory mechanisms and long-term planning has led to an imbalance between growth and sustainability. One of the most frequently mentioned concerns is the environmental degradation resulting from unregulated urban expansion. Participants highlighted that coastal areas, such as Halkidiki, have been particularly affected, with unchecked construction replacing natural landscapes and leading to significant biodiversity loss. What were once pristine shorelines and ecological havens are now overdeveloped spaces struggling with pollution, erosion, and resource depletion. Beyond environmental issues, the strain on infrastructure has emerged as a critical challenge. Roads and public transport systems, initially designed to support local populations, are now overwhelmed by the influx of seasonal visitors. Waste management, a fundamental aspect of urban sustainability, has proven insufficient, with landfills exceeding capacity during peak seasons and beaches frequently grappling with pollution. Without a comprehensive strategy for handling tourism waste, local environments suffer, and the very attractions that draw visitors are placed at risk. The seasonal nature of tourism exacerbates these issues, creating an uneven demand for infrastructure. While summer months bring overwhelming visitor numbers, resulting in overused and inadequate facilities, the rest of the year sees these same spaces underutilized, creating economic inefficiencies and preventing sustainable investment. Without a shift towards a more balanced, year-round tourism model, the burden on infrastructure will continue to create long-term sustainability concerns.

Recognizing these challenges, participants emphasized the need for a more diversified tourism offering. By expanding sectors such as wellness tourism, cultural tourism, and medical tourism, destinations could attract visitors beyond the peak summer months, reducing seasonal strain. This shift would not only alleviate the impact on infrastructure but also create stable employment opportunities for local communities. Investment in sustainable infrastructure was another key recommendation. Participants advocated for improved waste

management systems, eco-friendly transportation options, and modernized water treatment facilities. These investments, if implemented strategically, could significantly reduce tourism's environmental footprint while enhancing the quality of life for both residents and visitors. A recurring theme in discussions was the necessity of stronger local involvement in tourism planning. Many communities feel disconnected from decisions that directly affect their daily lives, with large-scale development projects often prioritizing economic gains over the well-being of residents. By integrating local voices into tourism management, authorities can ensure that new initiatives align with both environmental and social sustainability goals.

While participants acknowledged the importance of sustainability, they also identified significant obstacles that hinder its implementation. Regulatory and bureaucratic inefficiencies were frequently cited as a primary challenge. Sustainable projects, such as solar panel installations or waste treatment facilities, face lengthy approval processes, often taking years due to bureaucratic red tape. The lack of coordination between government agencies further complicates matters, making it difficult to implement large-scale infrastructure improvements in a timely and effective manner. To address these administrative bottlenecks, participants proposed the creation of a centralized permit processing system—a 'one-stop-shop' for sustainability project approvals. Such a system would streamline decision-making, encourage investment, and reduce delays that currently hinder green infrastructure projects. Financial constraints also pose a major challenge. Sustainable infrastructure often requires significant initial investment, which many small businesses and municipalities cannot afford. Even when European Union funding is available, local businesses struggle to access these grants due to complex application procedures and a lack of awareness regarding funding opportunities. Participants suggested that local governments establish advisory offices to assist businesses in applying for EU grants and that financial incentives, such as tax breaks, be introduced to encourage private sector participation in sustainability efforts. Aging and inadequate infrastructure further complicates the shift toward sustainability. Many regions still rely on outdated water and energy systems that are inefficient and ill-equipped to handle peak tourist seasons. Wastewater treatment facilities, in particular, are often overwhelmed, leading to pollution and environmental degradation. To combat this, a phased approach to infrastructure modernization was proposed, prioritizing critical areas that experience the highest levels of strain. Public-private partnerships (PPPs) could play a key role in financing and implementing these much-needed upgrades. Public resistance and a lack of awareness also act as barriers to sustainable transformation. Some communities perceive sustainability initiatives as expensive and disruptive rather than beneficial in the long term. Additionally, many tourists continue to engage in unsustainable behaviors, such as excessive water consumption and littering, due to a lack of awareness about local conservation efforts. To shift these mindsets, educational campaigns were recommended, both for locals and visitors, emphasizing the long-term benefits of sustainable tourism. Hotels and businesses could be encouraged to implement incentive programs, rewarding guests who participate in eco-friendly initiatives.

Despite these challenges, several innovative projects in Greece demonstrate that sustainable tourism is both achievable and beneficial. Participants highlighted initiatives such as the Circular Economy Park in Central Macedonia, which focuses on waste reduction and resource efficiency. By fostering collaboration between businesses and municipalities, this model presents a replicable framework for other regions seeking to implement sustainable practices. Renewable energy integration was another area of progress. In Eastern Macedonia and Thrace, efforts are underway to transition toward solar and wind power, reducing reliance on fossil fuels and mitigating tourism's carbon footprint. Such initiatives, if adopted across the Black Sea Basin, could significantly enhance regional sustainability. Marine sustainability efforts are also making strides through the BRIDGE-BS project, which employs predictive tools and AI-driven models to monitor climate change and human activity impacts on marine ecosystems. Expanding these data-driven strategies across the Black Sea could lead to more effective conservation measures. Support for sustainable start-ups has emerged as another promising avenue for change. The Black Sea Accelerator provides training and funding for entrepreneurs developing eco-friendly business models, from waste management solutions to smart energy initiatives. Expanding such programs to other Black Sea countries could stimulate innovation and drive regional sustainability efforts forward. To facilitate the sharing of these innovations, participants proposed the establishment of knowledge-sharing platforms, collaborative research initiatives, and policy harmonization efforts. By aligning sustainability regulations across the Black Sea region, cross-border investments in green infrastructure could be encouraged, fostering a collective approach to sustainable tourism.

The discussions concluded with a strong emphasis on the need for improved cooperation between public and private stakeholders. Currently, collaboration remains fragmented, with businesses focusing on short-term profits while public authorities grapple with bureaucratic constraints. A dedicated regional task force, composed of government representatives, business owners, and environmental experts, was suggested as a means of establishing common sustainability goals and aligning strategies. Public-private partnerships, though promising, face challenges in terms of profitability and long-term commitment. Participants stressed the need to study successful PPP models from other regions and adapt them to local contexts, ensuring transparency and fair cooperation between the public and private sectors. Securing adequate funding remains a persistent hurdle. While EU funds are available, accessibility remains limited due to complex application processes and co-financing requirements. Establishing advisory offices to assist businesses in grant applications, along with offering tax incentives for private investors in sustainability projects, could enhance financial participation. Finally, enforcement of environmental regulations must be strengthened. While agreements between public authorities and businesses exist, weak oversight allows non-compliance to persist. More frequent inspections, stricter penalties for non-compliance, and reward mechanisms for exemplary sustainability efforts could incentivize adherence to sustainability standards.

The insights gathered from the focus group discussions in Greece illustrate the multifaceted nature of tourism overdevelopment and the urgent need for sustainable intervention. While significant challenges persist—ranging from environmental degradation to financial constraints—the proposed strategies offer a pathway toward a more resilient and balanced tourism model. By fostering local involvement, enhancing regulatory efficiency, investing in sustainable infrastructure, and promoting innovative technologies, Greece can serve as a model for sustainable tourism governance across the Black Sea Basin. The transition to a greener tourism industry requires a collective effort, but with the right policies and collaborations, it is both feasible and necessary for the long-term viability of the sector.

Based on the *in-depth interview* we can see that the tourism has long been a cornerstone of economic development in Macedonia and Thessaloniki, offering prosperity to many communities. However, its rapid and often unregulated expansion has begun to strain the very resources that sustain it. The voices of experts paint a complex picture of a sector at a crossroads—where continued growth threatens environmental stability, social cohesion, and long-term economic viability. The conversation surrounding overdevelopment is no longer just about economic gains but about finding a way to harmonize tourism with the region’s cultural heritage and ecological balance.

Infrastructure development has been uneven across the region. While well-known tourist hubs benefit from modern motorways and well-maintained facilities, many areas rich in cultural and natural value remain largely inaccessible. Poor road conditions and the lack of reliable public transportation deter visitors from exploring lesser-known sites, limiting tourism’s potential to distribute economic benefits more equitably. For communities that rely on tourism but remain disconnected from major transport networks, the gap between potential and reality continues to widen. Waste management has also emerged as a critical concern. Some municipalities have made strides in improving recycling and waste collection, but in many cases, these systems remain fragmented. In tourist-heavy areas where informal tourism thrives—such as makeshift campsites and unregulated lodging—the absence of waste management infrastructure is acutely felt. Beaches, forests, and public spaces struggle to cope with the sheer volume of waste generated during peak seasons. The problem extends beyond solid waste; insufficient wastewater treatment facilities mean that untreated or poorly treated effluents seep into rivers and coastal waters, accelerating ecological decline. More visibly, the effects of unplanned urban expansion are reshaping the landscape. In some parts of Macedonia, rapid tourism development has led to uncontrolled construction, with hotels and resorts encroaching on green spaces. Open land is disappearing, and with it, the character of traditional communities. As property values soar, long-time residents find themselves priced out of their own neighborhoods, forced to either adapt to a tourism-driven economy or relocate. What was once a source of pride—cultural heritage deeply rooted in local traditions—is increasingly being diluted by the pressures of mass tourism. The challenges are not only economic. Social tensions have surfaced as the presence of tourists in residential neighborhoods grows. While tourism brings employment and business opportunities, it also

disrupts the rhythm of daily life. Noise, overcrowding, and cultural clashes between residents and visitors are becoming more pronounced, raising concerns about the sustainability of unchecked tourism growth.

Tourism overdevelopment is taking a toll on Macedonia's natural resources, particularly in water, land use, and energy consumption. Nowhere is this pressure more evident than in coastal areas such as Halkidiki, where excessive water demand is straining local supplies. Water consumption skyrockets during the summer months, far exceeding the capacity of existing infrastructure. Meanwhile, wastewater treatment plants struggle to keep up, resulting in pollution that affects both marine ecosystems and local water reserves. The consequences are felt beyond the environment; they impact agriculture, public health, and the overall quality of life for local communities. Land use is another area of concern. The steady transformation of agricultural land into tourism infrastructure is altering traditional ways of life. Once fertile lands that supported local food production are being repurposed for hotels, resorts, and vacation homes. As a result, the reliance on imported food is increasing, driving up costs and weakening the resilience of local markets. Farmers find themselves in a difficult position—competing with tourism developers for land, struggling to maintain profitability, and witnessing the slow erosion of rural economies. Energy consumption, too, has surged due to tourism expansion. Hotels, restaurants, and tourist facilities require vast amounts of electricity, much of it still sourced from fossil fuels. During peak seasons, the demand for air conditioning, lighting, and transportation infrastructure pushes energy grids to their limits. Despite the region's favorable climate for renewable energy production, the transition to sustainable energy sources remains slow. Tourism businesses, while aware of the issue, often hesitate to invest in alternative energy due to high initial costs and uncertain regulatory incentives.

Amidst these challenges, experts stress the urgency of adopting a more sustainable approach to tourism management. Several key strategies could help mitigate the impact of overdevelopment and ensure that tourism remains a long-term asset rather than a liability. Water conservation efforts must take priority. Experts advocate for the implementation of water-saving technologies in hotels and tourist accommodations, such as greywater recycling systems and smart water monitoring. Additionally, stricter regulations on development near water sources could help protect fragile ecosystems from further degradation. In terms of land use, a more balanced approach is needed. Designating agricultural protection zones could prevent the unchecked conversion of farmland into tourist infrastructure. Encouraging rural tourism—such as agritourism and eco-tourism—would allow for economic growth without compromising traditional livelihoods. These initiatives not only preserve local culture but also diversify tourism offerings beyond the high-impact resort model. Renewable energy must also play a more central role in tourism planning. Experts suggest expanding investments in solar and wind energy to reduce dependence on unsustainable power sources. In parallel, improving energy efficiency in hotels and public infrastructure could significantly cut down on unnecessary consumption. The integration of electric transport solutions, such

as charging networks for electric vehicles and improved public transport, could also reduce the carbon footprint of tourism activities. Beyond infrastructure, there is a pressing need for a cultural shift—both among tourists and local stakeholders. Education campaigns could encourage responsible tourist behavior, while stricter environmental regulations would ensure compliance from businesses. Offering financial incentives for sustainable practices, such as tax benefits for eco-friendly hotels, could further accelerate the transition toward greener tourism.

Addressing these challenges requires coordinated action across multiple sectors. In recent years, efforts have been made to establish Destination Management Organizations (DMOs), which serve as intermediaries between local authorities, tourism businesses, and communities. Ideally, these bodies facilitate cooperation, ensuring that tourism development aligns with sustainability goals. However, gaps in strategic planning and weak synergies between public and private actors still hinder progress. Public authorities, in partnership with universities and the private sector, are investing in smart resource management systems. Some regions have begun implementing data platforms that monitor water and energy consumption in real-time, helping to optimize resource use. While promising, these innovations require greater financial support and broader adoption to be truly effective. Urban planning also plays a critical role in regulating tourism development. Several experts stress the importance of stricter zoning laws and the creation of environmental protection zones around sensitive tourist areas. However, bureaucratic obstacles and conflicting interests often slow the implementation of such measures. In the face of these challenges, it is clear that sustainable tourism cannot be achieved through isolated interventions. It requires a long-term vision, proactive policies, and the engagement of all stakeholders—government agencies, local communities, businesses, and tourists themselves.

The findings from this in-depth interview reveal a stark reality: while tourism has undeniably contributed to economic prosperity in Macedonia and Thessaloniki, its unchecked expansion is threatening the very resources and cultural assets that make the region attractive in the first place. The consequences of overdevelopment—ranging from environmental degradation to social displacement—underscore the urgent need for a paradigm shift in tourism governance. A balanced, well-regulated approach can ensure that tourism remains a sustainable driver of economic growth rather than a source of irreversible damage. By investing in sustainable infrastructure, enforcing stricter environmental policies, and fostering a culture of responsible tourism, the region has the opportunity to transform its tourism model into one that benefits both present and future generations. The choice ahead is clear: continue down the path of short-term gains at the expense of long-term sustainability, or embrace a model of tourism that respects and preserves the land, the people, and the culture that make Macedonia and Thessaloniki truly unique.

The main findings about the evaluation of the effects of overdevelopment on the sustainability of tourism in the Greek Black Sea region, performed in the INTERSMARTS project are summarized in Table 2 below:

Table 2: Overdevelopment's impact on tourism sustainability in the Greek Black Sea Region

Dimension	Impact
Challenges	<ul style="list-style-type: none"> • Overcrowding and pollution are the most critical concerns (41% of respondents). • Rising cost of living and loss of cultural identity due to tourism demand (27%). • Environmental degradation and depletion of natural resources threaten long-term sustainability. • Infrastructure strain, including inadequate transport systems and waste management, worsens seasonal imbalances.
Current state and practices	<ul style="list-style-type: none"> • Public opinion is divided: 32% consider tourism "mainly supportive" of sustainability, while 33% see it as "mostly unsupportive." • Coastal areas like Halkidiki suffer from unregulated urban expansion, leading to biodiversity loss. • Roads, public transport, and waste management systems are overwhelmed during peak seasons. • Sustainable tourism practices are only "occasionally" visible (44% of respondents), indicating inconsistent implementation.
Adopted Solutions	<ul style="list-style-type: none"> • Proposals to diversify tourism by expanding wellness, cultural, and medical tourism to reduce seasonal strain. • Investment in sustainable infrastructure, including eco-friendly transport, improved waste management, and modernized water treatment facilities. • Greater local involvement in tourism planning to align development with environmental and social goals.
Effectiveness of policies and regulations	<ul style="list-style-type: none"> • 46% of respondents see strict regulations as "very important," while 23% believe they are "absolutely essential" for sustainability. • Bureaucratic inefficiencies and fragmented governance slow the approval of green projects. • Public-private partnerships (PPPs) and EU grants remain underutilized due to administrative barriers. • Weak enforcement of environmental regulations allows unchecked development to continue.
Local communities' perspective and future needs	<ul style="list-style-type: none"> • Communities feel disconnected from decision-making processes and advocate for stronger local participation. • Resistance to sustainability measures stems from a lack of awareness and financial constraints. • Suggestions include tax incentives for green investments, centralized approval systems for sustainability projects, and educational campaigns for responsible tourism. • Successful initiatives like the Circular Economy Park and renewable energy projects in Eastern Macedonia demonstrate that sustainable tourism is achievable.

Source: (own elaboration)

Republic of Moldova

The analysis of the research results regarding the overdevelopment of tourism in the Republic of Moldova highlights community perceptions on the sustainability of infrastructure and resource management, the negative impact of tourism on the environment and social life, the frequency of sustainable practices in tourism, and the importance of regulating tourist numbers to balance economic growth with resource conservation.

The findings on how tourism development has supported sustainable infrastructure and resource management reveal a range of perceptions among respondents. A significant proportion, 38%, believe that tourism development is balanced between supportive and unsupportive, suggesting an uncertain situation where sustainability measures are partially adopted but not fully effective. At the same time, 34% of respondents consider tourism infrastructure to be mostly supportive of sustainability, while only 15% believe it fully supports sustainability. These figures indicate that there are positive initiatives, but they are not widespread enough. Conversely, a total of 13% of respondents perceive tourism infrastructure as either mostly or completely unsupportive of sustainability, raising concerns about the lack of clear policies for resource protection in the face of tourism expansion.

The analysis of tourism's impact on local communities highlights that the most pressing issue, identified by 37% of respondents, is overcrowding and pollution. This is a direct consequence of a high tourist influx that exceeds local infrastructure capacity, affecting both residents' quality of life and the tourist experience. Additionally, 27% of participants believe that rising living costs and loss of cultural identity are among the main challenges of excessive tourism, indicating that tourism can lead to gentrification and a transformation of local values and traditions. Environmental degradation and depletion of natural resources are a concern for approximately 34% of respondents, pointing to the need for stricter policies to protect natural heritage. In contrast, only 2% of respondents mentioned conflicts between tourists and locals as a major issue, suggesting that social interactions are not perceived as particularly problematic.

Regarding the observation of sustainable practices in tourism infrastructure, the data suggest that eco-friendly initiatives exist but are not frequent enough. 51% of respondents state that they notice such measures occasionally, indicating sporadic implementation of ecological strategies. 21% report seeing sustainable practices quite frequently, while 6% observe them constantly, which suggests that, while there are positive initiatives, they are not widespread. On the other hand, 20% of respondents state that they rarely see such measures, and 2% say they have never observed them. This underscores the need to expand and promote sustainable solutions more effectively within tourism infrastructure.

A key aspect of the study was the perception of the importance of regulating tourist numbers and managing infrastructure sustainably. The findings indicate a strong consensus in favor of such measures: 45% of respondents consider regulation very important, while 29% view it as

essential for sustainable development. Thus, over 74% of participants believe that authorities should actively intervene to prevent the negative effects of overdeveloped tourism. Meanwhile, 21% consider regulation to be of moderate importance, and only 5% perceive it as slightly important. These results highlight a growing concern for environmental protection and community well-being, with high expectations for government action in this area (please see Fig. 1-4 from Annex 3).

In conclusion, the research findings indicate a clear need for policies and strategies for the sustainable management of tourism in the Republic of Moldova. While some eco-friendly initiatives exist, they are insufficient to counteract the negative effects of tourism overdevelopment, such as overcrowding, pollution, rising living costs, and environmental degradation. Furthermore, there is a clear expectation from the community for authorities to take a more proactive role in regulating tourism to ensure a balance between economic growth and the protection of natural and cultural heritage.

During **the focus group session**, the following issues were identified that current tourism infrastructure needs revealed that accessibility and waste management represent two major challenges in regions affected by overdevelopment. Participants identified inadequate road infrastructure as a significant barrier to tourism development, particularly in less accessible areas along the Dniester River. While well-developed infrastructure, such as in the village of Donici (Orhei district), facilitates tourism flows, it simultaneously increases the demand for improved waste sorting and management systems. Additionally, some localities experience unstructured tourism growth, where visitors frequent these areas without designated facilities, exacerbating the issue of waste accumulation and environmental degradation. To address these challenges, a coordinated, national-level intervention is required. Improving road infrastructure should be prioritized to enhance accessibility and promote tourism in underdeveloped areas. Additionally, investments in sustainable waste management systems are crucial to preventing pollution and ensuring an environmentally friendly tourism model. The development of designated tourism areas with appropriate facilities will enhance visitor experiences while minimizing adverse environmental impacts. Effective collaboration between local authorities, government institutions, and local communities is imperative to achieving sustainable and well-regulated tourism infrastructure.

The discussion identified several barriers to implementing sustainable infrastructure projects. One key challenge is the lack of centralized waste collection and recycling services. Efforts to introduce plastic sorting projects have been hindered by the reluctance of recycling companies to engage in collection efforts unless a minimum threshold is met. Additionally, logistical constraints, such as the distance between rural areas and collection facilities, pose further challenges. In many cases, local administrations must assume responsibility for waste collection and transport, despite insufficient budgets and limited resources. To overcome these obstacles, participants suggested forming Local Action Groups (GALs) or NGOs to facilitate collective waste management initiatives among multiple villages. Encouraging private

sector involvement in sustainable waste practices and developing educational programs to raise awareness and promote best practices were also highlighted as potential strategies. Furthermore, an integrated governance model is necessary to ensure effective coordination between local and central authorities, enabling villages to share resources and implement sustainable waste collection, sorting, and transportation solutions.

The discussion explored the role of technology in promoting sustainable infrastructure. One notable example included the use of drones for monitoring illegal logging and waste disposal in protected areas. This approach demonstrates the potential of technological innovations in environmental management and surveillance. Participants emphasized the importance of developing expertise in technological applications for sustainability. While some regions have experimented with geolocation systems and digital platforms for tracking waste collection sites, a broader national implementation remains a challenge due to resource constraints and limited awareness. It was suggested that expanding existing digital tools, such as "My Municipality" in Chişinău, to a nationwide scale could enhance reporting mechanisms and facilitate more effective responses to environmental concerns. Ensuring sustainable infrastructure amidst overdevelopment requires stronger cooperation between local governments and private organizations. Local authorities often struggle with budget constraints when maintaining essential infrastructure, such as roads, sewage systems, and lighting. Additionally, the overuse of popular tourist destinations, such as Orheiul Vechi, has resulted in environmental degradation, necessitating alternative tourism strategies to distribute visitor flows more evenly across multiple sites.

Water scarcity emerged as a pressing issue, with some localities resorting to private well installations to meet their needs. However, the quality of artesian water in certain areas fails to meet required standards, limiting the feasibility of well network expansions. Similarly, inadequate sewage management systems pose risks to local water bodies, with guesthouses increasingly opting to construct private wastewater filtration systems due to the lack of municipal alternatives. A proposed solution involved integrating smaller filtration systems into larger, regional treatment facilities, improving efficiency and coverage. Policy interventions should focus on the sustainable management of water resources and the implementation of wastewater filtration systems, particularly in tourist-heavy regions. Better regulation of tourism flows is necessary to prevent excessive environmental strain on popular destinations. Furthermore, long-term collaborations between public and private stakeholders are crucial for developing sustainable infrastructure solutions that cater to both tourism and local community needs.

The implementation of sustainable resource management practices in the Republic of Moldova requires a combination of strategic planning, technical expertise, and public awareness. The location of wastewater treatment facilities must be carefully planned to ensure efficiency, while the availability of skilled personnel is essential for their maintenance and proper operation. Additionally, educating the local population on the correct usage of

sustainability infrastructure plays a vital role in the long-term success of these initiatives. Expanding these best practices to other areas within the Black Sea Basin requires the development of a robust framework for knowledge sharing and capacity building. Cross-border collaboration and training programs could enhance the ability of local authorities to adopt and adapt sustainable practices based on regional needs and environmental conditions. The integration of digital platforms for monitoring and coordinating sustainability efforts could further optimize resource management and improve policy implementation.

The focus group discussions underscored the urgent need for a structured and collaborative approach to managing tourism overdevelopment and ensuring sustainable infrastructure. Key challenges include inadequate waste management systems, lack of centralized coordination, limited funding for infrastructure improvements, and inefficient tourism flow distribution. Proposed solutions emphasize the importance of cross-sectoral collaboration, technological innovation, regulatory interventions, and community engagement to achieve sustainable tourism development. A multi-stakeholder governance model, integrating local authorities, private entities, and civil society, is essential to fostering long-term sustainability. Investments in education, digital tools, and resource-sharing initiatives will further enhance the capacity of local communities to implement and sustain environmentally friendly tourism practices. By addressing these challenges through targeted policy measures and strategic planning, the Republic of Moldova can achieve a more resilient and sustainable tourism sector that benefits both visitors and local populations.

Based on the *in-depth interview* we can see that tourism in the Republic of Moldova is at a turning point, balancing its potential for growth with the urgent need for sustainability. Expert insights reveal a fragmented landscape where progress is hindered by structural, financial, and administrative challenges. While efforts are being made to improve infrastructure and attract visitors, deep-rooted issues—poor accessibility, weak institutional coordination, and environmental degradation—threaten long-term sustainability. Without a unified strategy, Moldova risks losing both economic opportunities and its natural assets.

Moldova's tourism infrastructure remains unevenly developed. Some areas have received investments, yet poor road conditions, lack of signage, and limited public transport hinder access to key destinations. Waste management is another critical issue, with many tourist areas struggling with pollution due to inadequate collection and recycling systems. The imbalance in tourism development—overcrowding in some regions and neglect of others—further highlights the need for a more diversified and structured approach.

Unregulated tourism is placing growing pressure on Moldova's natural resources. Water pollution is a major concern, exacerbated by insufficient wastewater treatment infrastructure. Soil degradation due to unchecked development and the overuse of conventional energy sources also threaten sustainability. While some businesses and organizations have begun investing in renewable energy and eco-friendly solutions, these efforts remain fragmented. Experts stress the need for modern wastewater treatment, stronger environmental education,

and incentives for green energy adoption. However, financial constraints and poor institutional coordination continue to slow progress.

Despite challenges, local initiatives demonstrate that sustainable tourism is possible. Municipalities organize clean-up campaigns and reforestation projects, but limited resources often hinder long-term impact. NGOs play a vital role in promoting sustainability through circular economy projects, green energy programs, and waste management initiatives. Some businesses have begun adopting eco-friendly solutions, such as energy-efficient buildings and rainwater harvesting, yet without national policy support, these efforts remain isolated.

Technological and regulatory solutions could significantly enhance tourism sustainability. Investments in solar energy, water recycling, and electric vehicle infrastructure would reduce environmental pressure. Implementing sustainability standards and policies would encourage responsible tourism development, while education and awareness campaigns would foster long-term commitment to environmental protection. However, financial and regulatory obstacles continue to impede widespread adoption of these practices.

Experts emphasize that sustainable tourism requires stronger collaboration between government institutions, private businesses, NGOs, and international organizations. While some successful partnerships exist, poor coordination and bureaucratic inefficiencies often weaken their impact. Moldova must do more to streamline public-private partnerships, attract international funding, and integrate sustainability into its national tourism strategy.

Moldova’s tourism sector has great potential, but without a coordinated, long-term strategy, sustainability remains a distant goal. Developing a national framework that balances economic growth with environmental responsibility, fostering innovation, and strengthening institutional cooperation will be crucial. Through collective effort and strategic investment, Moldova can position itself as a competitive and sustainable tourism destination, ensuring that its landscapes, heritage, and communities thrive for generations to come.

The main findings about the evaluation of the effects of overdevelopment on the sustainability of tourism in the Republic of Moldova, performed in the INTERSMARTS project are summarized in Table 3 below:

Table 3: Overdevelopment impact on tourism sustainability in the Republic of Moldova

Dimension	Impact
Challenges	<ul style="list-style-type: none"> • Overcrowding and pollution are increasingly affecting both residents’ quality of life and the visitor experience. • The rising cost of living and loss of cultural identity create tensions between tourism development and local traditions. • Environmental degradation, particularly inadequate waste management and unregulated expansion, threatens the long-term viability of key destinations.

Dimension	Impact
Current state and practices	<ul style="list-style-type: none"> • Sustainable tourism practices are applied inconsistently, with some regions adopting eco-friendly initiatives while others lack basic infrastructure. • Tourism development remains largely unregulated in certain areas, leading to disorganized growth and strain on resources. • While there is a growing awareness of sustainability, the lack of clear guidelines and enforcement limits the effectiveness of existing efforts.
Adopted Solutions	<ul style="list-style-type: none"> • Some businesses and local administrations have introduced eco-friendly initiatives, such as improved waste management, renewable energy solutions, and conservation programs. • There are pilot projects for responsible tourism, but they are not widely replicated due to funding and logistical challenges. • Collaboration between tourism operators, local authorities, and NGOs is emerging as a key factor in advancing sustainable practices.
Effectiveness of policies and regulations	<ul style="list-style-type: none"> • Policies exist but lack proper enforcement, leading to gaps in resource management and environmental protection. • Local authorities often struggle to implement sustainability measures due to financial and administrative constraints. • Greater coordination is needed between public institutions and private stakeholders to ensure long-term sustainability in tourism.
Local communities' perspective and future needs	<ul style="list-style-type: none"> • Many communities recognize the benefits of tourism but feel that unregulated growth is negatively impacting their quality of life. • There is an increasing demand for infrastructure improvements, particularly in road access, waste management, and water conservation. • Locals advocate for stronger regulations, clearer sustainability standards, and more inclusive decision-making processes that consider both economic and environmental priorities.

Source: (own elaboration)

Türkiye

The research findings on the impact of excessive tourism development on sustainable infrastructure and resource management in Türkiye reflect the perceptions of the community regarding the extent of support for sustainability, major challenges faced, the visibility of sustainable practices, and the need for regulatory intervention by authorities.

The results indicate a predominantly skeptical perception regarding tourism's contribution to sustainability. Only 4% of respondents believe that tourism fully supports sustainability, while a small percentage (11%) considers it to be mostly supportive. Conversely, 27% view tourism development as largely unsustainable, and 44% hold a balanced perspective, acknowledging both positive and negative impacts. These findings suggest that while some beneficial initiatives exist, the overall impact of tourism on sustainable infrastructure is perceived as inadequate or insufficient.

Overcrowding and pollution emerge as the most pressing concerns, identified by 43% of respondents. This indicates significant pressure on urban and natural ecosystems, reflecting the negative impact of mass tourism on the quality of life and the environment. Additionally, 22% of respondents highlight the rising cost of living and the loss of cultural identity as key issues, indicating concerns about socio-economic transformations driven by excessive tourism. Environmental degradation and depletion of natural resources are also notable concerns, though conflicts between tourists and locals are seen as a minor issue (1%). This suggests that the economic and environmental consequences of tourism are felt more acutely than social tensions.

The general perception among respondents suggests low visibility of sustainable practices in tourism infrastructure. Only 2% frequently notice eco-friendly initiatives, while 8% observe them quite often. The majority report that such measures are either rarely (37%) or occasionally (37%) present, while 16% see no sustainable practices at all. These findings reflect limited implementation of green transportation, energy-saving initiatives, or other sustainability measures within the tourism sector.

A significant majority of respondents believe that regulating tourist numbers and managing infrastructure sustainably should be a priority. Specifically, 48% consider it very important, while 39% believe it is essential for sustainable development. Only 4% see it as slightly important, and 1% deem it irrelevant. These findings emphasize the need for stronger government intervention to prevent the negative effects of tourism on local communities (please see Fig. 1-4 from Annex 3).

Overall, the study highlights an ambivalent perception of tourism development in Türkiye in terms of sustainability. While some positive initiatives exist, they are not yet sufficiently visible or effective in the eyes of the community. The key issues identified—overcrowding, pollution, rising living costs, and environmental degradation—underscore the need for stricter regulations and urban planning policies to balance tourism's economic benefits with the protection of natural and cultural heritage. Thus, the research results indicate a clear need for concrete actions to ensure sustainable tourism development, with a stronger commitment from authorities and the tourism industry to promote responsible environmental and social practices.

The **focus group** participants discussed that tourism overdevelopment in Türkiye, particularly in major destinations such as Istanbul, Antalya, and Trabzon, has led to significant socio-economic and environmental challenges. A primary concern is the economic burden placed on local residents, who face escalating housing costs, increased rents, and higher prices for goods and services. This phenomenon is particularly evident in high-tourism areas where the influx of visitors has reshaped the local economy to cater primarily to tourists, often at the expense of long-term residents. From an environmental perspective, overdevelopment in coastal regions—particularly in the Aegean and Mediterranean areas—has resulted in significant ecosystem degradation due to excessive construction activities. In Istanbul, the

strain on water resources, waste management, and transportation infrastructure has intensified due to both its large resident population and an ever-increasing number of tourists. Furthermore, cultural heritage faces increasing risks, as overcrowding and commercialization threaten the preservation of historical landmarks, especially within Istanbul's historic peninsula. Addressing these issues requires a multi-faceted approach. Comprehensive carrying capacity assessments must be conducted for Istanbul and other high-tourism regions to establish sustainable limits on visitor numbers and future development. Green infrastructure initiatives—such as renewable energy adoption, waste recycling programs, and energy-efficient facilities—should be integrated into tourism hotspots. Additionally, stricter enforcement of zoning and urban planning regulations is necessary to protect ecologically and historically significant areas from uncontrolled construction. To alleviate pressure on overburdened destinations, tourism diversification should be encouraged, particularly by promoting cultural, ecological, and rural tourism in less-developed regions such as Eastern Anatolia. Finally, robust monitoring and enforcement mechanisms must be established to prevent unauthorized developments and ensure adherence to sustainability standards.

The implementation of sustainable infrastructure in tourism is hindered by several systemic barriers. Financial constraints represent a significant challenge, as the high initial costs of green infrastructure deter both private sector investment and public funding allocation. Additionally, regulatory inconsistencies and weak enforcement mechanisms enable unsustainable development practices to persist, particularly in high-demand tourism areas. Another critical barrier is the lack of awareness and participation among key stakeholders, including local governments and private businesses, who may not fully understand the long-term benefits of sustainable tourism initiatives. To mitigate these challenges, strategic policy interventions are required. Government incentives, such as tax reductions, grants, and low-interest financing, should be introduced to encourage investments in green infrastructure. Strengthening regulatory frameworks is essential to ensure stricter adherence to Environmental Impact Assessments (EIAs) and to impose more severe penalties for non-compliance. Additionally, stakeholder education should be prioritized through structured training programs and awareness campaigns that emphasize the economic, environmental, and social advantages of sustainability.

Türkiye has made significant progress in integrating smart technologies to enhance sustainable tourism infrastructure and resource management. In Istanbul, smart water management systems have been introduced to optimize water usage and detect leaks, a model that can be replicated in other cities facing similar water scarcity challenges. Moreover, the country has expanded its renewable energy initiatives, particularly solar and wind power, with numerous coastal tourism facilities adopting green energy solutions. Another noteworthy innovation is the development of digital tourism platforms that provide real-time data on tourist congestion in popular sites such as Sultanahmet and Hagia Sophia. These platforms enable better visitor flow management, reducing the negative impact of over-

tourism on cultural and historical landmarks. Scaling these innovations across the Black Sea Basin necessitates regional cooperation. Establishing platforms for knowledge exchange and best practice sharing among countries in the region would facilitate the widespread adoption of successful sustainability initiatives. Additionally, the creation of joint funding mechanisms, supported by international organizations, could provide financial resources to support green infrastructure development. Finally, a standardized policy framework aligning sustainability regulations across the Black Sea countries would ensure uniform progress and impact.

Collaboration between local governments and private organizations plays a critical role in mitigating the negative impacts of tourism overdevelopment. Various initiatives, such as Istanbul's cultural heritage protection programs, illustrate how partnerships between municipalities, non-governmental organizations (NGOs), and businesses can successfully preserve historical sites while promoting sustainable tourism practices. Additionally, the Turkish government's Zero Waste Initiative highlights how community-driven sustainability programs can significantly improve waste management in urban and rural areas alike. Overdevelopment has also exacerbated the depletion of natural resources, particularly in Istanbul. During peak tourist seasons, water scarcity becomes a major issue, compounded by inadequate wastewater treatment facilities that contribute to pollution in nearby waterways. Urban sprawl, driven by tourism-related infrastructure expansion, has encroached upon natural reserves, reducing green spaces and agricultural land. Furthermore, the tourism industry's high energy consumption has led to increased reliance on fossil fuels, driving up carbon emissions. To counteract these adverse effects, a series of strategic interventions should be implemented. Sustainable water management policies—including the installation of water-saving fixtures and the expansion of advanced wastewater treatment facilities—should be prioritized in high-tourism regions. Zoning laws must be reinforced to prevent further encroachment into forests and agricultural zones. Additionally, the transition to renewable energy in the tourism sector should be accelerated, with incentives provided for the adoption of solar energy in hotels and resorts.

Community-driven sustainability initiatives have played an instrumental role in addressing the challenges of overdevelopment in Türkiye. The Blue Flag Certification Program, which recognizes beaches and marinas that meet high environmental standards, has successfully promoted sustainable coastal tourism. Likewise, the Zero Waste Initiative has led to a significant reduction in waste generation while increasing recycling rates across urban and rural areas. Eco-tourism development in regions such as Rize and Artvin serves as a model for balancing economic growth with environmental preservation. These projects highlight the potential of alternative tourism models to generate revenue while minimizing ecological impact. To replicate these successes across the Black Sea Basin, cross-border partnerships should be strengthened to facilitate knowledge sharing and regional collaboration on sustainable tourism policies. Awareness campaigns should be launched to educate stakeholders about the long-term benefits of adopting sustainability-oriented tourism

practices. Moreover, policy harmonization efforts should be undertaken to ensure that sustainability regulations and frameworks are aligned across national and regional levels.

The findings from the focus group discussions in Türkiye underscore the pressing need for a more structured and proactive approach to mitigating the negative effects of tourism overdevelopment. While innovative technologies and sustainable initiatives have been introduced, financial, regulatory, and awareness-related barriers continue to hinder large-scale implementation. Addressing these challenges requires a combination of policy reforms, cross-sector collaboration, and regional cooperation to establish a more resilient and sustainable tourism sector. By prioritizing responsible tourism development, Türkiye and other Black Sea countries can create long-term economic and environmental benefits while preserving cultural heritage and natural resources.

The **interviewed** sector professionals suggest that overdevelopment in Türkiye's tourism sector has emerged as a pressing issue, driven by the rapid expansion of infrastructure beyond sustainable limits. Experts interviewed have emphasized the economic, social, and environmental consequences of this phenomenon, highlighting the need for a more balanced and strategic approach to tourism development.

As Türkiye's tourism industry has flourished, so too have the challenges associated with its unchecked expansion. Many regions, particularly Istanbul, Antalya, and the Aegean coast, have experienced rising rents and an increased cost of living, making it more difficult for local residents to maintain their quality of life. While some argue that tourism-driven investment has strengthened regional and international connectivity—through the construction of airports, hotels, and expanded transportation networks—others express concerns that this development has prioritized economic gain over long-term sustainability. Beyond financial considerations, the social fabric of many communities has been profoundly affected. Quiet neighborhoods, once defined by their local character, now contend with the constant presence of tourists, creating a sense of displacement among long-term residents. Experts have raised concerns that this shift is contributing to the erosion of cultural heritage, as historical sites and local traditions are increasingly commercialized to cater to tourism demand. The environmental impact of overdevelopment has also been widely discussed. In coastal regions, the damage inflicted on ecosystems by unplanned construction has been substantial, while cities like Istanbul struggle to support a growing number of visitors with limited infrastructure. Waste management, water supply, and transportation networks are frequently overwhelmed, exacerbating existing pressures on urban environments. Faced with these challenges, specialists have underscored the importance of conducting carrying capacity assessments to regulate the number of visitors and limit further development in ecologically fragile areas. Strengthening urban planning regulations, promoting green energy solutions, and expanding public transportation have been identified as essential steps toward sustainability. Many have also advocated for the redistribution of tourism demand by incentivizing travel to lesser-known regions, such as Eastern Anatolia, which could alleviate

the burden on overcrowded destinations while fostering economic growth in underdeveloped areas.

As tourism has expanded, so too has its impact on Türkiye's natural resources. Experts have pointed to excessive water consumption as a critical concern, particularly in the hospitality sector, where hotels and resorts require large amounts of water for daily operations. In regions with insufficient wastewater treatment facilities, pollution has become an escalating problem. The Golden Horn and the Sea of Marmara have been cited as areas where untreated wastewater has degraded water quality, raising alarms about the long-term sustainability of tourism in these locations. To address these concerns, specialists have emphasized the need for innovative water management strategies. Solutions such as wastewater recycling, low-flow fixtures, and greywater systems have been recommended to reduce water consumption, while stricter regulations on construction near water basins have been proposed to protect vital resources. Agricultural land has also come under threat due to urban expansion driven by tourism infrastructure. The loss of fertile soil to large-scale developments has disrupted local food production, increasing reliance on imported goods and straining regional supply chains. Experts have stressed the need for stricter zoning laws to preserve agricultural land and prevent further encroachment by tourism-related construction projects. Energy consumption has been another major focus of discussion, particularly in Türkiye's southern coastal regions, where the high demand for air conditioning during peak summer months places significant pressure on electricity grids. The tourism sector, as a whole, has been identified as a key contributor to rising carbon emissions. To mitigate this, many have called for greater investment in renewable energy, advocating for the widespread adoption of solar power in hotels and resorts. Additionally, the expansion of electric vehicle infrastructure and improvements in public transportation have been proposed as measures to reduce the sector's carbon footprint.

Recognizing the need for a more responsible approach to tourism, Türkiye has begun integrating sustainability into its tourism policies. Experts have highlighted the importance of programs aimed at reducing the environmental impact of tourism-related activities. Key among these initiatives has been the incorporation of green transformation strategies into national development plans, ensuring that sustainability is prioritized in both policy and practice. Efforts have focused on improving waste and water management, increasing energy efficiency, and enhancing environmental awareness across the tourism industry. The introduction of new financing models to support sustainable investments has been welcomed, as these initiatives offer economic incentives for businesses that prioritize environmental responsibility. Furthermore, the preservation of protected areas has been reinforced, with a greater emphasis placed on balancing tourism growth with ecosystem conservation. Another significant aspect of Türkiye's sustainability efforts has been its focus on community-driven tourism development. Experts have emphasized the need to support local economies by integrating small businesses into the tourism supply chain, promoting boutique accommodations, and fostering environmentally responsible tourism practices.

Awareness campaigns have been launched to encourage responsible travel behavior, aiming to educate both tourists and industry stakeholders on the importance of sustainability.

Türkiye's commitment to sustainable tourism has been reflected in its adoption of innovative technologies and certification programs. The Sustainable Tourism Program, developed in collaboration with the Global Sustainable Tourism Council (GSTC), has set clear benchmarks for environmental responsibility in the sector. Under this initiative, accommodation facilities are required to meet sustainability standards, with phased targets set for compliance by 2030. Experts have noted that over 17,969 accommodation facilities have already obtained certification, demonstrating the industry's growing commitment to sustainability. Investments in wastewater treatment and renewable energy projects have further reinforced Türkiye's efforts to minimize tourism's environmental impact. In Antalya, significant resources have been allocated to improving water management infrastructure, ensuring that wastewater is treated before being released into the environment. Additionally, policies have been introduced to encourage hotels and resorts to transition to solar power, reducing their reliance on conventional energy sources. Experts have highlighted these initiatives as essential steps in reducing tourism's ecological footprint. However, they have also cautioned that continued progress will require stronger enforcement mechanisms, better coordination between public and private stakeholders, and an ongoing commitment to innovation.

Given the tourism sector's reliance on environmental resources, experts have stressed the importance of collaboration between public authorities, businesses, and local communities to ensure sustainable development. Climate change, in particular, has been identified as a major challenge, with rising temperatures, extreme weather events, and forest fires posing new threats to Türkiye's tourism industry. To mitigate these risks, experts have called for the integration of climate adaptation strategies into tourism planning. The collection and analysis of environmental impact data have been cited as crucial tools for monitoring progress, with institutions such as the Turkish Statistical Institute (TÜİK) playing a key role in developing new sustainability indicators. At the municipal level, local governments have prioritized environmental management through programs such as the Blue Flag Certification, which promotes sustainable practices on Türkiye's beaches. Collaborative initiatives, such as the SENTRUM Project, developed in partnership with the United Nations Development Program (UNDP), have further reinforced Türkiye's commitment to sustainability by supporting energy-efficient tourism models. Experts have suggested that such initiatives be expanded to other regions to maximize their impact.

Despite these advancements, experts acknowledge that sustainable infrastructure projects often face significant barriers. High initial costs have been identified as a key challenge, particularly for small businesses seeking to transition to greener operations. To address this, innovative financing models—including support from international organizations such as the World Bank—have been proposed as potential solutions. Another concern is the decision-making process surrounding tourism investments, where short-term economic gains often

take precedence over long-term environmental sustainability. Experts have called for greater transparency in the approval of development projects, advocating for stricter environmental assessments and stronger oversight mechanisms. Comprehensive planning, they argue, is the key to ensuring sustainability in the tourism sector. A long-term vision that incorporates the perspectives of all stakeholders—government authorities, private enterprises, and local communities—will be essential in addressing the challenges posed by overdevelopment. Strengthening destination management frameworks and continuously monitoring sustainability indicators will further enhance the sector’s resilience. Ultimately, the insights gathered from this in-depth interview process reinforce the urgent need for a more responsible and strategic approach to tourism development in Türkiye. By integrating sustainability into every stage of the tourism lifecycle—from infrastructure planning to visitor management—Türkiye can ensure that its tourism industry remains both economically viable and environmentally sustainable for future generations.

The main findings about the evaluation of the effects of overdevelopment on the sustainability of tourism in Türkiye, performed in the INTERSMARTS project are summarized in Table 4 below:

Table 4: Overdevelopment impact on tourism sustainability in Türkiye

Dimension	Impact
Challenges	<ul style="list-style-type: none"> • Overcrowding and pollution are increasingly affecting both residents’ quality of life and the visitor experience, particularly in high-tourism regions such as Istanbul, Antalya, and the Aegean coast. • The rising cost of living and the loss of cultural identity are generating socio-economic tensions, with local communities struggling to maintain affordability and authenticity in tourism-driven economies. • Environmental degradation, including ecosystem damage and inadequate waste management, threatens the long-term viability of key destinations, particularly in coastal and urban areas. • High water and energy consumption in the tourism sector places additional strain on infrastructure, exacerbating resource depletion and increasing carbon emissions.
Current state and practices	<ul style="list-style-type: none"> • Sustainable tourism practices are applied inconsistently, with some regions adopting eco-friendly initiatives, while others lack basic green infrastructure. • Awareness and visibility of sustainability measures remain low, as only a small percentage of stakeholders actively implement green technologies and responsible tourism strategies. • Although regulatory frameworks exist, enforcement remains weak, allowing uncontrolled development to persist in high-demand tourist areas.
Adopted Solutions	<ul style="list-style-type: none"> • Government and private sector initiatives have introduced waste recycling programs, energy-efficient infrastructure, and renewable energy projects to mitigate the environmental impact of tourism. • Green tourism certification programs, such as the Sustainable Tourism Program, have been launched to encourage compliance with sustainability standards. • Efforts to promote alternative tourism, such as eco-tourism and cultural tourism in less crowded regions, aim to alleviate pressure on overdeveloped areas.

Dimension	Impact
<p>Effectiveness of policies and regulations</p>	<ul style="list-style-type: none"> • Regulations exist to control overdevelopment and promote sustainability, but their enforcement remains inconsistent, allowing profit-driven expansion to continue. • Financial constraints limit the ability of businesses and municipalities to implement large-scale sustainability initiatives. • Stronger zoning laws, financial incentives for green infrastructure, and stricter penalties for non-compliance are needed to enhance policy effectiveness.
<p>Local communities' perspective and future needs</p>	<ul style="list-style-type: none"> • Local residents express concerns about economic strain due to rising costs and the commercialization of cultural heritage. • Community-driven sustainability initiatives, such as the Zero Waste Initiative and eco-tourism projects, are gaining traction as viable solutions. • Greater investment in infrastructure, waste management, and renewable energy is required to ensure long-term sustainability while balancing economic benefits and social well-being.

Source: (own elaboration)

Table 5: Comparative Grid Analysis of Overdevelopment Impact on Tourism Sustainability

Dimension	Bulgaria	Greece	Republic of Moldova	Türkiye
Challenges	<ul style="list-style-type: none"> - Overcrowding, pollution, and environmental degradation. - Resource depletion, including water and energy shortages. - Increased cost of living and loss of cultural identity. - Conflicts between tourists and residents due to infrastructure strain. 	<ul style="list-style-type: none"> - Overcrowding and pollution are major concerns (41% of respondents). - Rising cost of living and loss of cultural identity due to tourism (27%). - Environmental degradation and depletion of natural resources. - Infrastructure strain and seasonal imbalances in waste management. 	<ul style="list-style-type: none"> - Overcrowding and pollution affect both residents and visitors. - Rising cost of living and cultural identity tensions. - Environmental degradation and inadequate waste management. - Unregulated tourism expansion threatens key destinations. 	<ul style="list-style-type: none"> - Overcrowding and pollution affect both residents and tourists. - Rising cost of living and loss of cultural identity. - Environmental degradation threatens long-term sustainability. - High water and energy consumption in tourism worsens infrastructure strain.
Current state and practices	<ul style="list-style-type: none"> - Mixed effects of tourism development: 37% see it as supportive. - Major resorts have developed infrastructure, but cities like Varna and Burgas struggle with overdevelopment. - Poor pedestrian infrastructure, waste management, and water supply systems. - Sustainable tourism practices exist but are not consistently implemented. 	<ul style="list-style-type: none"> - Public opinion is divided: 32% consider tourism "mainly supportive," 39% "mostly unsupportive." - Coastal areas suffer from unregulated urban expansion, causing biodiversity loss. - Roads, public transport, and water management systems are overwhelmed during peak seasons. - Sustainable tourism practices are inconsistently implemented (44% visibility). 	<ul style="list-style-type: none"> - Sustainable tourism practices are inconsistently applied. - Some regions adopt eco-friendly initiatives, while others lack infrastructure. - Tourism development remains largely unregulated, leading to resource strain. - Growing awareness of sustainability but weak enforcement. 	<ul style="list-style-type: none"> - Sustainable tourism practices applied inconsistently. - Awareness of sustainability is low, and few stakeholders implement green technologies. - Regulatory frameworks exist but weak enforcement leads to uncontrolled development.

Dimension	Bulgaria	Greece	Republic of Moldova	Türkiye
Adopted Solutions	<ul style="list-style-type: none"> - Energy-efficient technologies (smart lighting, water conservation systems). - Vehicle access restrictions in some resorts. - Increased adoption of solar energy in new hotel developments. - Waste reduction programs and digital monitoring systems. 	<ul style="list-style-type: none"> - Diversification into wellness, cultural, and medical tourism to reduce seasonality. - Investment in sustainable infrastructure, including eco-friendly transport and waste management. - Modernization of water-treatment facilities. - Greater local involvement in tourism planning. 	<ul style="list-style-type: none"> - Some businesses and local administrations introduced eco-friendly initiatives. - Pilot projects for responsible tourism exist but face funding/logistical challenges. - Collaboration between operators, authorities, and NGOs is emerging as a key factor. 	<ul style="list-style-type: none"> - Government and private sector introduced waste recycling and renewable energy projects. - Green tourism certification programs encourage sustainability compliance. - Efforts to promote alternative tourism in less-crowded regions.
Effectiveness of policies and regulations	<ul style="list-style-type: none"> - Municipalities have Integrated Development Plans (2021-2027) and Natura 2000 regulations, but enforcement is weak. - Private investors' interests often take precedence over sustainability concerns. - 40% of respondents demand stricter regulations for sustainable tourism. - Strong public support for improved policy enforcement. 	<ul style="list-style-type: none"> - 46% of respondents see strict regulations as "very important," 36% as "essential" for sustainability. - Bureaucratic inefficiencies slow green projects. - Public-private partnerships (PPPs) and EU grants face administrative barriers. - Weak enforcement of environmental regulations. 	<ul style="list-style-type: none"> - Policies exist but lack proper enforcement, leading to resource mismanagement. - Local authorities struggle with financial and administrative constraints. - Greater coordination needed between public institutions and private stakeholders. 	<ul style="list-style-type: none"> - Regulations exist but enforcement remains inconsistent. - Financial constraints limit large-scale sustainability initiatives. - Zoning laws and incentives for eco-tourism expansion are weakly applied.

Dimension	Bulgaria	Greece	Republic of Moldova	Türkiye
Local communities' perspective and future needs	<ul style="list-style-type: none"> - Locals experience reduced quality of life due to congestion, pollution, and seasonal resource shortages. - Demand for green urban planning, improved public services, and stricter regulation enforcement. - Community participation in planning is necessary. - Eco-certification programs and community-led monitoring could enhance sustainability. 	<ul style="list-style-type: none"> - Communities feel disconnected from decision-making. - Resistance to sustainability measures due to short-term financial concerns. - Suggestions for tax incentives for green investments. - Green employment programs proposed for sustainable tourism jobs. 	<ul style="list-style-type: none"> - Many communities recognize tourism benefits but feel negatively impacted by unregulated growth. - Increasing demand for infrastructure improvements. - Local advocacy for stricter regulations and sustainable tourism strategies. 	<ul style="list-style-type: none"> - Local residents express concerns about economic instability due to rising costs. - Community-driven sustainability initiatives remain limited. - Demand for long-term sustainability measures and infrastructure upgrades.

Source: (own elaboration)

V. Policy Recommendations

The analysis highlights the need for a coherent integration of sustainability and blue growth principles in the development of tourism in the Black Sea Basin, avoiding the risks of overdevelopment. Factors such as uncontrolled expansion of tourism infrastructure, pressure on natural resources, and increased strain on local communities call for intervention at the national and regional levels. Based on the needs assessment, the following strategic directions for future policies are proposed:

- **Efficient Resource Management and Sustainable Infrastructure Development**, including: (i) implementing stricter regulations on resource consumption, including energy efficiency and responsible water use in the tourism sector; (ii) stimulating public investment in smart infrastructure that balances economic development with environmental protection; (iii) strengthening public-private partnerships to upgrade waste management, wastewater treatment, and the integration of renewable energy sources in tourism.

- **Enhancing Governance and Stakeholder Coordination**, including: (i) developing effective communication mechanisms between public administration, businesses, and local communities for integrated tourism planning; (ii) reactivating tourism advisory councils to align local strategies with national and international policies.

- **Limiting Overdevelopment and Optimizing Tourism Infrastructure Use**, including: (i) enforcing strict zoning and land-use regulations to prevent uncontrolled expansion in ecologically sensitive areas; (ii) introducing a dynamic capacity planning system to align infrastructure with real tourism demand and avoid underutilization or overcrowding; (iii) repurposing underutilized buildings to diversify tourism offerings during the off-season.

- **Addressing Labor Shortages and Improving Workforce Management in Tourism**, including: (i) developing vocational training programs tailored to the hospitality and tourism industry; (ii) providing incentives for seasonal workers, such as tax benefits, housing support, and long-term employment opportunities; (iii) promoting fair wages and working conditions to attract and retain skilled labor in the tourism sector.

- **Promoting Resource Efficiency and Sustainable Practices**, including: (i) supporting tourism businesses in adopting circular economy principles, such as waste reduction and ethical consumption; (ii) funding off-season conservation projects that engage local communities in preserving natural and cultural heritage; (iii) encouraging businesses to implement sustainability certification programs.

- **Diversifying Tourism Offerings and Improving Marketing Coordination**, including: (i) developing and promoting alternative tourism products, such as ecotourism, wellness tourism, and cultural tourism, to reduce seasonal dependence; (ii) creating centralized digital platforms for tourism information to enhance coordination and visibility;

(iii) supporting local businesses in adopting data-driven marketing strategies for targeted outreach.

• **Strengthening Construction Control and Infrastructure Oversight**, including: (i) reinforcing monitoring mechanisms for tourism infrastructure projects to ensure compliance with sustainability principles; (ii) promoting green building practices through incentives and certification programs; (iii) expanding pedestrian areas and implementing zero-emission mobility solutions, such as electric public transport and cycling networks.

• **Supporting Sustainability at Local and Community Levels**, including: (i) introducing community-led tourism initiatives that ensure a fair distribution of economic benefits; (ii) providing financial support for local businesses and cooperatives focused on sustainable tourism; (iii) fostering community engagement in decision-making processes to ensure tourism development aligns with local needs and values.

By integrating these policy measures, Black Sea Basin countries can balance economic growth with sustainability, ensuring long-term resilience in the tourism sector.

Annex 1: Survey Questions

Annex 1.1. QUESTIONS FOR THE GENERAL SURVEY

I. Section "Overdevelopment"

1. To what extent do you believe that tourism development in your community has supported sustainable infrastructure and resource management?
 - a. Completely supportive of sustainability
 - b. Mostly supportive
 - c. Balanced between supportive and unsupportive
 - d. Mostly unsupportive
 - e. Completely unsupportive
2. In your opinion, what are the main sustainability challenges caused by the overdevelopment of tourism in popular destinations?
 - a. Overcrowding and pollution
 - b. Increased cost of living and loss of cultural identity
 - c. Environmental degradation and depletion of natural resources
 - d. Conflicts between tourists and residents
 - e. Other (please specify)
3. How often do you notice sustainable practices in tourism infrastructure, such as eco-friendly transport or energy-saving initiatives, within your community?
 - a. Constantly
 - b. Quite frequently
 - c. Occasionally
 - d. Rarely
 - e. Never
4. How important do you consider it for authorities to regulate tourist numbers and ensure that infrastructure is managed sustainably in popular destinations?
 - a. Essential for sustainable development
 - b. Very important
 - c. Moderately important
 - d. Slightly important
 - e. Not important at all

Annex 1.2. QUESTIONS FOR THE FOCUS GROUP

I. Section "Overdevelopment"

1. Effectiveness of Development Control Practices:

How do you assess the current tourism infrastructure needs in your region to address the challenges posed by overdevelopment, and what improvements are necessary to ensure sustainability?

2. Challenges in Implementing Overdevelopment Control:

What barriers do you encounter when trying to implement sustainable infrastructure projects, and what solutions can be proposed to overcome these challenges?

3. Adopting Smart Technologies and Innovation about Sustainable Infrastructure:

What innovative technologies or methods have been employed in your region to promote sustainable infrastructure and efficient resource management? How can these innovations be shared or replicated across the Black Sea Basin?

Extra questions:

4. Future Needs and Policy Development for Pollution Control:

How do local public authorities and private organizations collaborate to create and maintain sustainable infrastructure that supports resource management in the face of overdevelopment?

In what ways has overdevelopment affected the availability and quality of natural resources (such as water, soil, and energy) in your region? What strategies can be implemented to mitigate these effects?

5. Local Communities

What best practices in sustainable resource management have been implemented in your region, and how can these practices be scaled or adapted for other areas in the Black Sea Basin?

Annex 1.3. INTERVIEW QUESTIONS

I. Section "Overdevelopment"

1. How do you evaluate the current state of tourism infrastructure in your region in the context of overdevelopment, and what aspects need improvement to become more sustainable?
2. What impact does overdevelopment have on natural resources (water, soil, energy) in your region, and what measures are necessary to protect these resources?
3. What strategies do you implement to manage resources sustainably, and how do they contribute to preventing the negative effects of overdevelopment?
4. What innovative measures or technologies do you use to promote sustainable infrastructure and efficient resource management in the context of overdevelopment?
5. How do various public authorities and organizations collaborate to develop sustainable infrastructure and manage resources in the context of overdevelopment issues?
6. What are the main challenges encountered in implementing sustainable infrastructure in the face of overdevelopment, and how can these challenges be overcome?

Annex 2: Respondents Profiles

Annex 2.1. Respondents Profiles GENERAL SURVEY

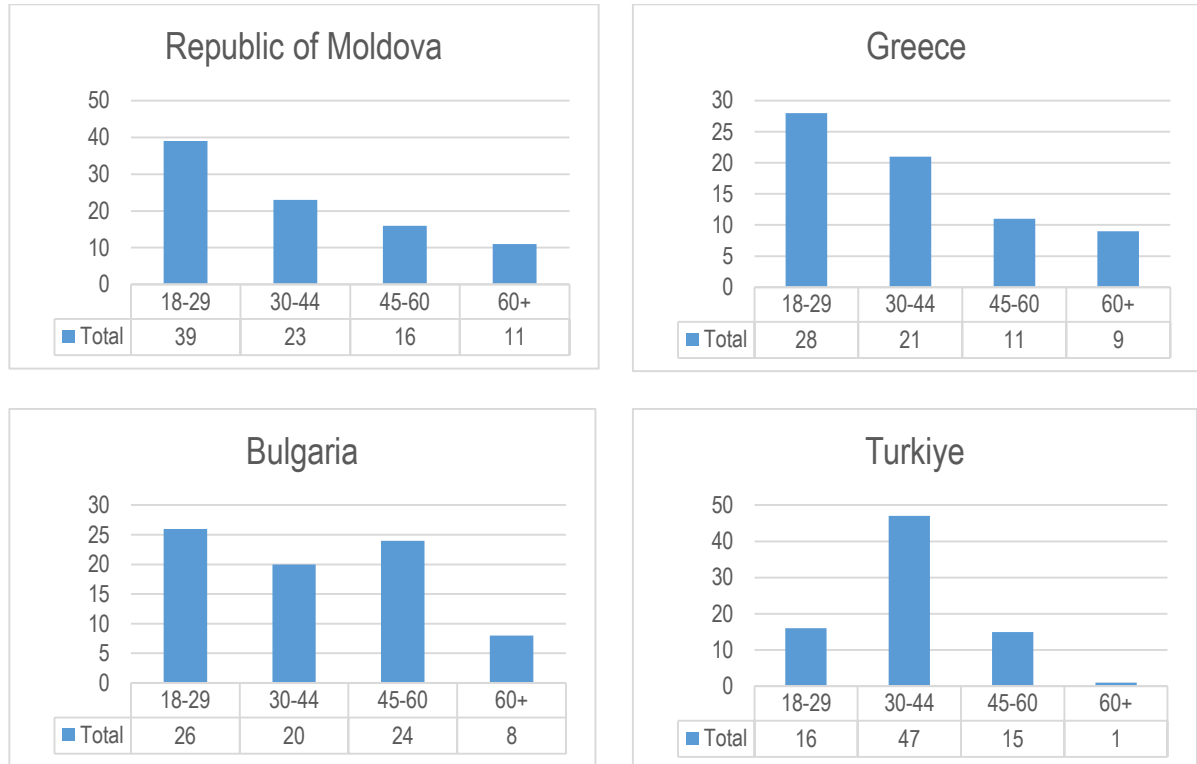


Fig. 1. Demographic structure of respondents by age group in project member countries

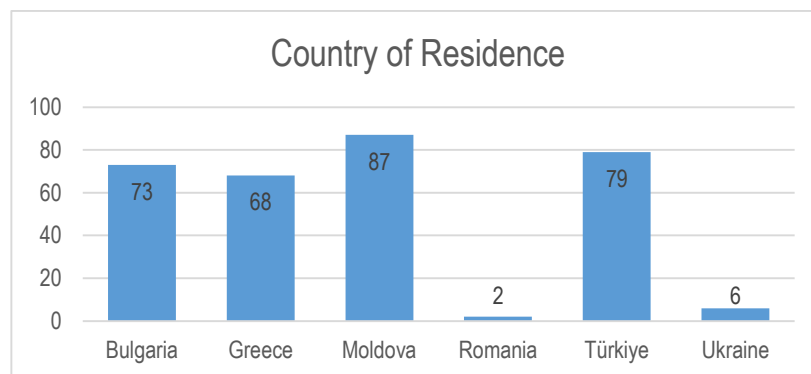


Fig. 2. Geographical Distribution of Respondents by Country of Residence

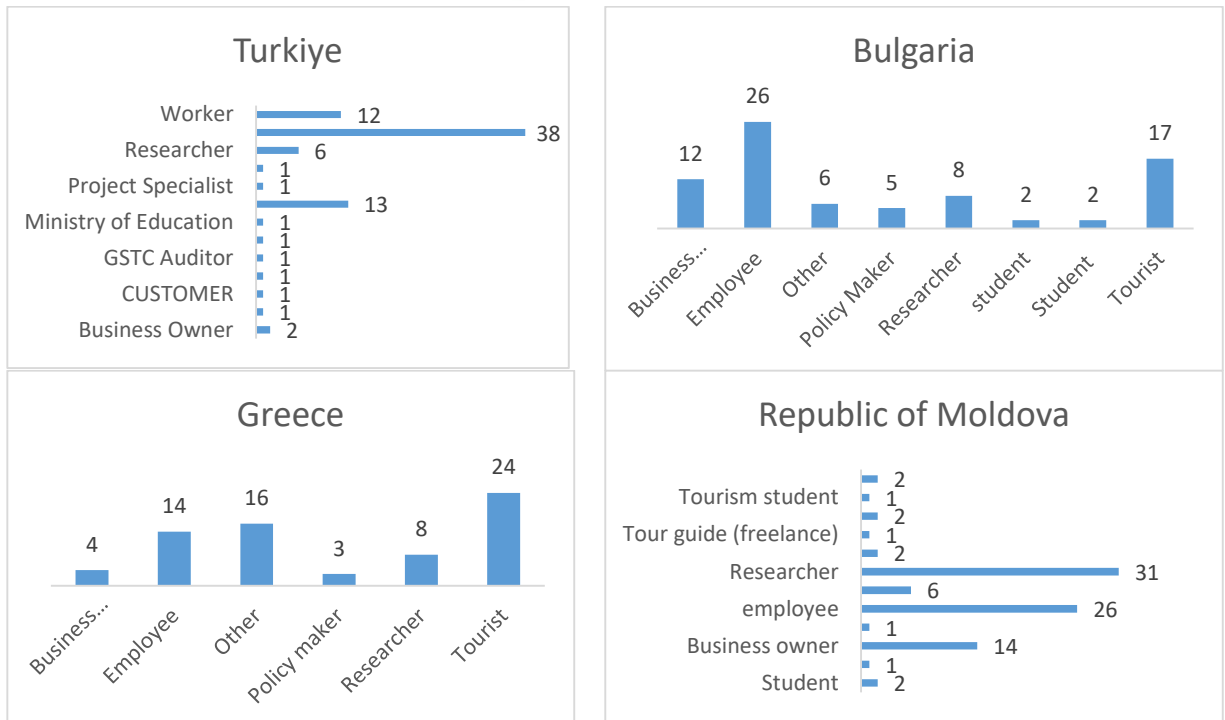


Fig. 3. Occupational Profiles of Respondents Across Participating Countries

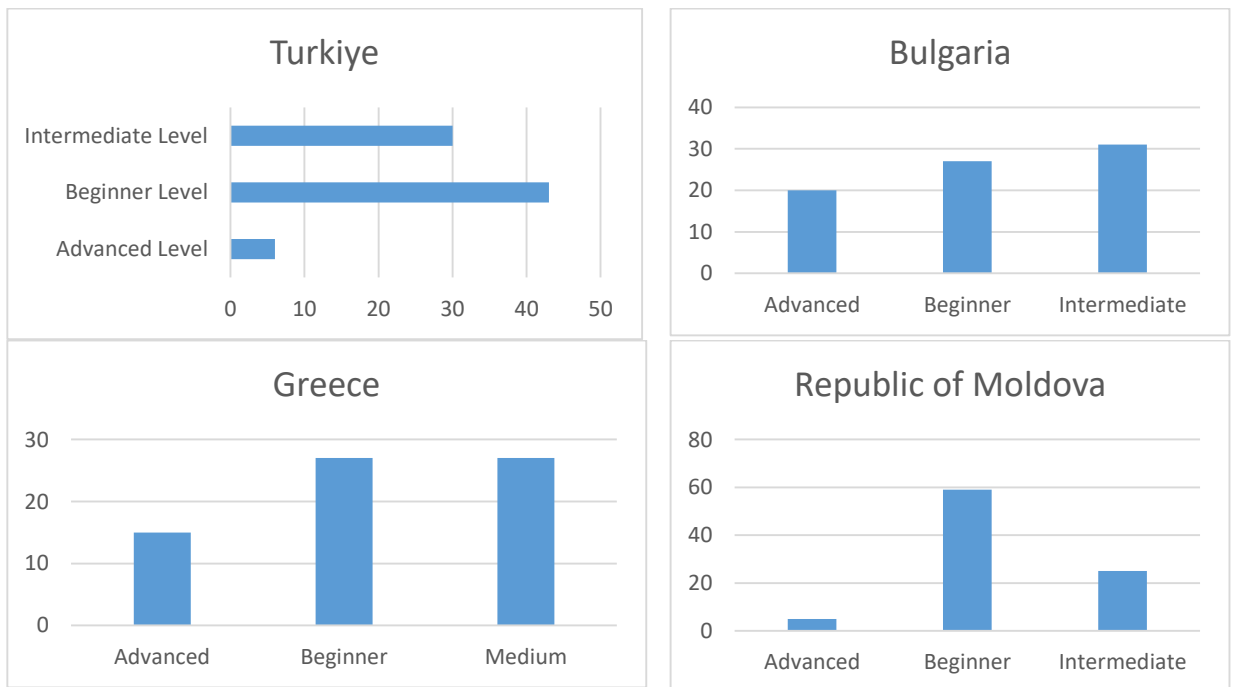


Fig. 4. Experience in Tourism and Sustainability Among Respondents

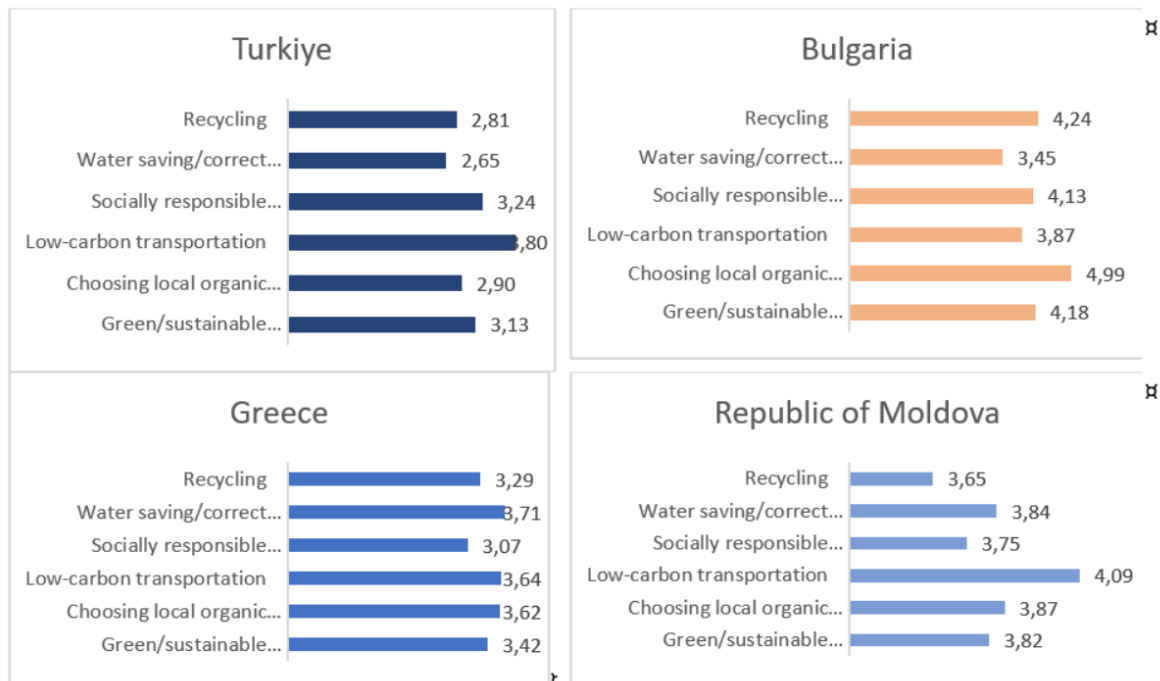


Fig. 5. Sustainable Practices Adopted by Tourists During Holidays

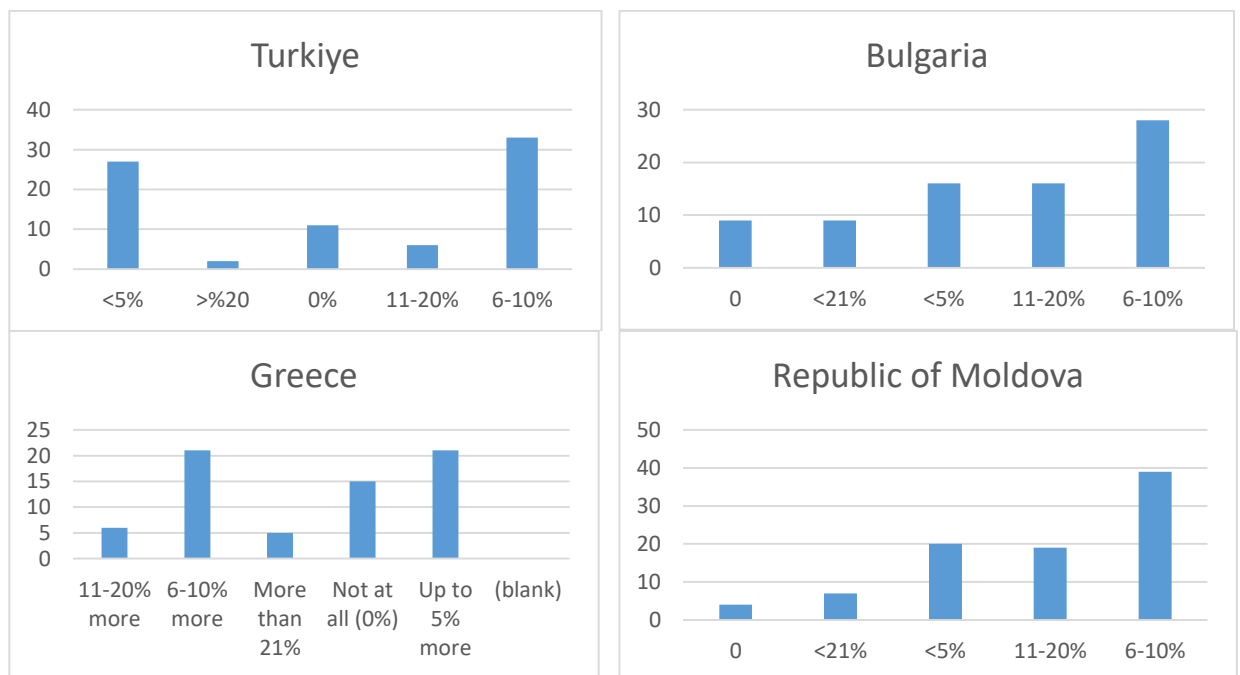


Fig. 6. Willingness to Pay More for Sustainable Tourism Services

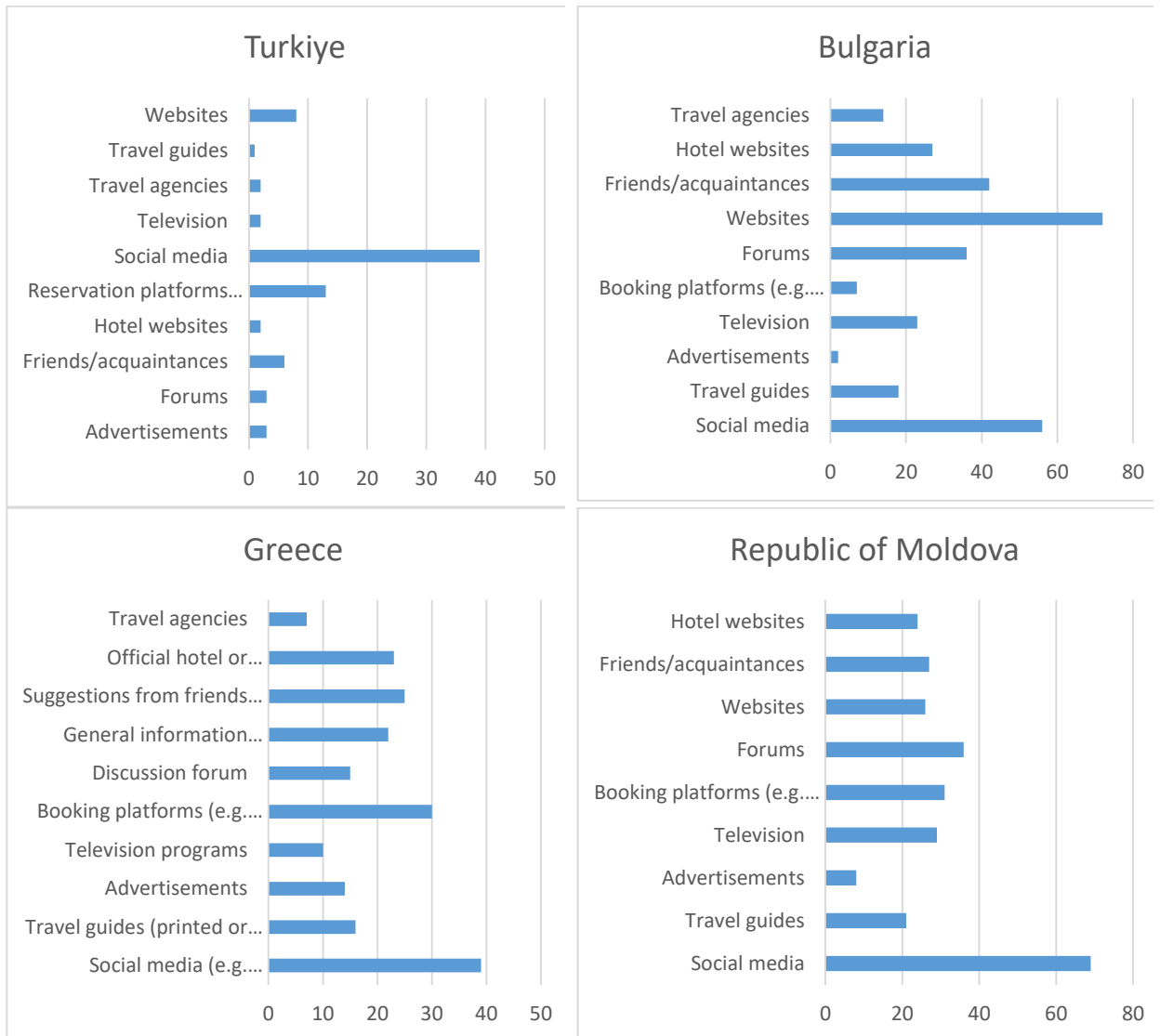


Fig. 7. Sources of Information on Environmentally Friendly Tourism Options

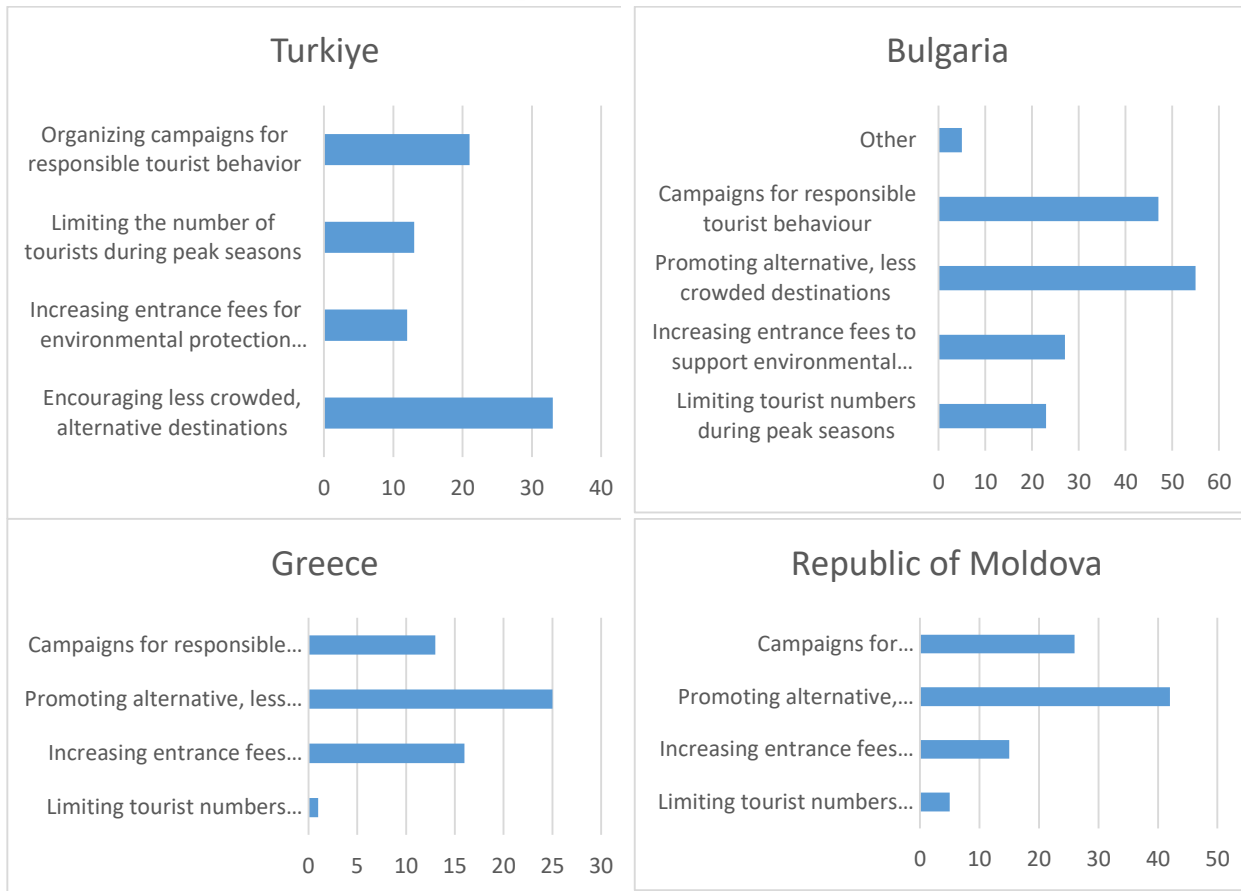


Fig. 8. Preferred Strategies for Managing Over-Tourism and Promoting Sustainable Infrastructure

Annex 2.2. Respondents Profiles FOCUS GROUPS

Bulgaria

<i>Organization /Institution</i>	<i>Participants</i>	<i>Sector and target group</i>
E Tours Ltd	2	Business/SME
Lotos Ltd	1	Business/SME
Andrium Ltd	1	Business/SME
Ecotel Ltd	1	Business/SME
Simpex	1	Business/SME
Center for Civic Initiative and Education	1	NGO
Varna University of Management	8	HEI and research
Varna Free University	1	HEI and research

Greece

<i>Organization /Institution</i>	<i>Participants</i>	<i>Sector and target group</i>
Association of Tour Guides	1	NGO
Hotel 3*	3	Business
Hotel 4*	1	Business
Hotel 5*	1	Business
Travel agency	1	Business
Tour operator	1	Business

Republic of Moldova

<i>Organization /Institution</i>	<i>Participant</i>	<i>Sector</i>
Ministry of Culture	1	National public authority
Village Văleni and Cluster VIA Cahul	1	Local authority and NGO
Hill&Valley Agrotourism Complex	1	Business/SME
InnoVillage	1	Business/SME
ONG EcoStrategii	1	NGO
GAL "Grădina Bunătăților"	1	NGO
Forest Services	1	NGO
Institute of Ecology and Geography	1	HEI and research
Agency "Apele Moldovei"	1	Public authority
ARBORETUM	1	NGO

Türkiye

<i>Organization /Institution</i>	<i>Participants</i>	<i>Sector and target group</i>
Provincial Directorate of Ministry of Culture and Tourism	1	Regional Authority
İstanbul Metropolitan Municipality (İBB)	2	Local Authority
Hotel Association of Türkiye (TUROB)	1	BSO
Tourist Guides Chamber of Istanbul (İRO)	1	BSO
Medipol University	1	HEI and Research
Özyeğin University	1	HEI and Research
İstanbul University	1	HEI and Research
İstanbul Development Agency (İSTKA)	5	BSO

Annex 2.3. Respondents Profiles IN-DEPTH INTERVIEWS

Bulgaria

<i>Profile</i>	<i>Participants</i>	<i>Sector and target group</i>
Researcher	1	HEI and Research
Expert	1	Local public authority
Coordinator/Expert	2	NGO
Manager	13	SME

Greece

<i>Profile</i>	<i>Participants</i>	<i>Sector and target group</i>
Researcher	1	HEI and Research
Expert	1	Local public authority
Manager	15	SME

Republic of Moldova

<i>Profile</i>	<i>Participants</i>	<i>Sector and target group</i>
Lecturer	1	Moldova State University
Expert	2	NGO
Coordinator/expert	2	BSO
Expert	1	Local public authority
Expert	2	Local regional authority
Manager/ Expert	7	SME

Türkiye

<i>Profile</i>	<i>Participants</i>	<i>Sector and target group</i>
Expert	2	National Public Authority
Expert	2	BSO
Researcher	2	HEI and research
Expert	4	Local public authority
Expert	2	Local regional authority
Manager/ Expert	4	SME/business

Annex 3: General Survey

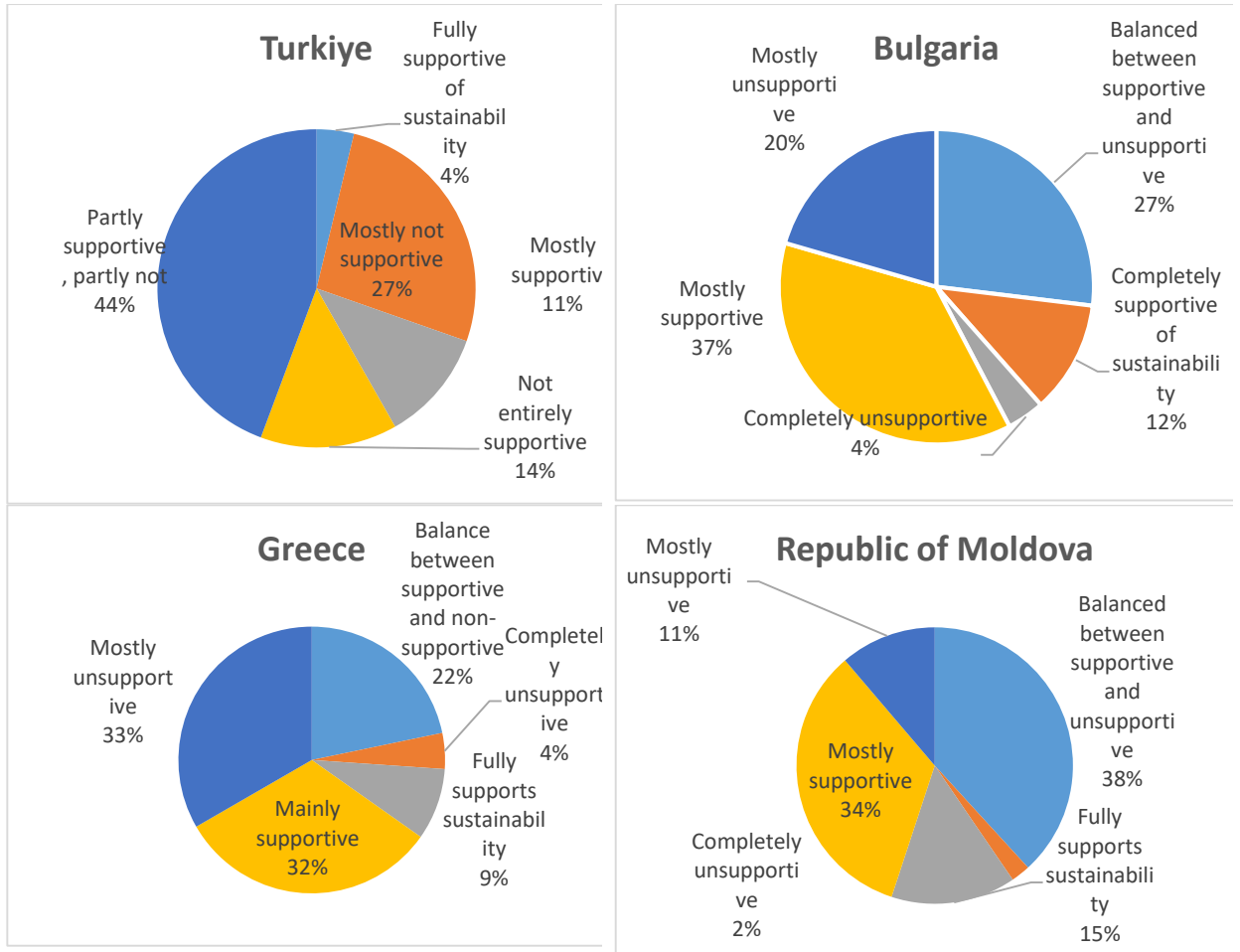


Fig. 1. Responses for the Q1.1: To what extent do you believe that tourism development in your community has supported sustainable infrastructure and resource management?

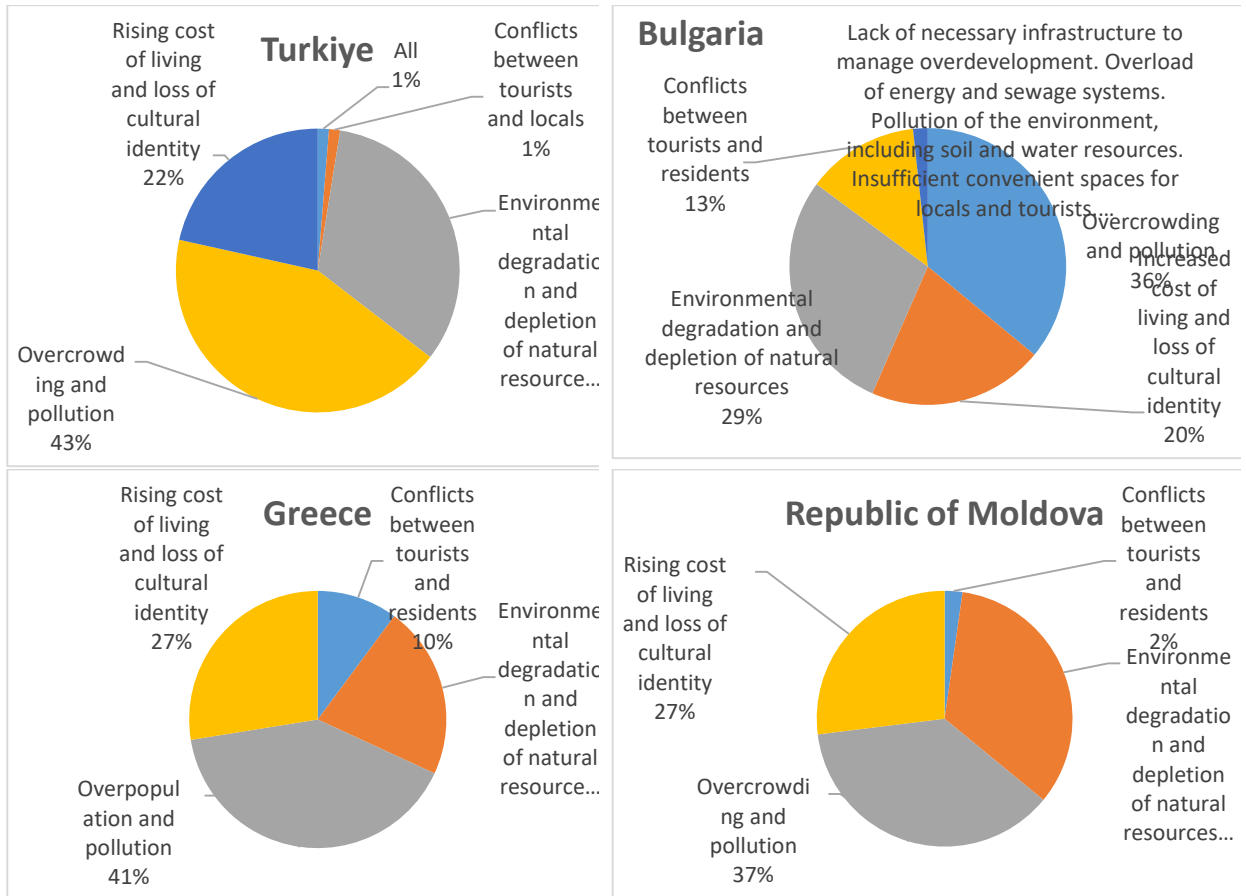


Fig.2. Responses for the Q1.2: In your opinion, what are the main sustainability challenges caused by the overdevelopment of tourism in popular destinations?

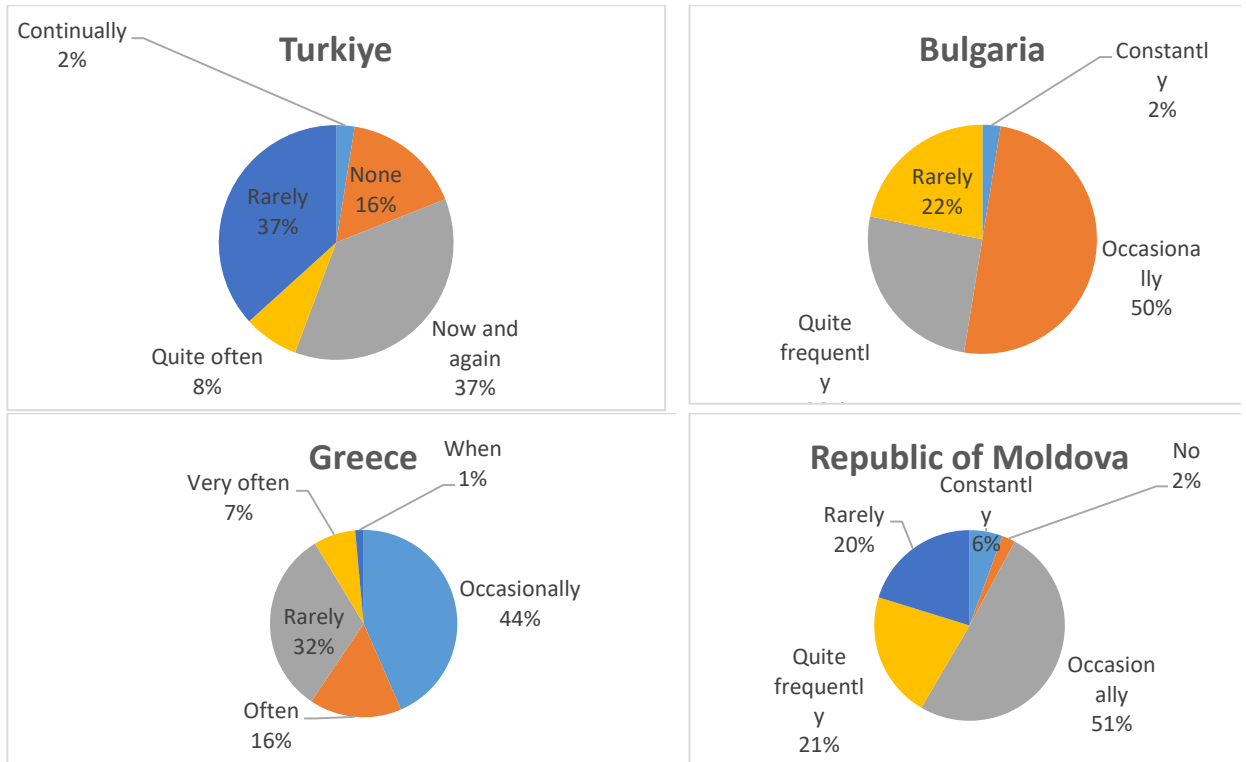


Fig.3. Responses for the Q1.3: How often do you notice sustainable practices in tourism infrastructure, such as eco-friendly transport or energy-saving initiatives, within your community?

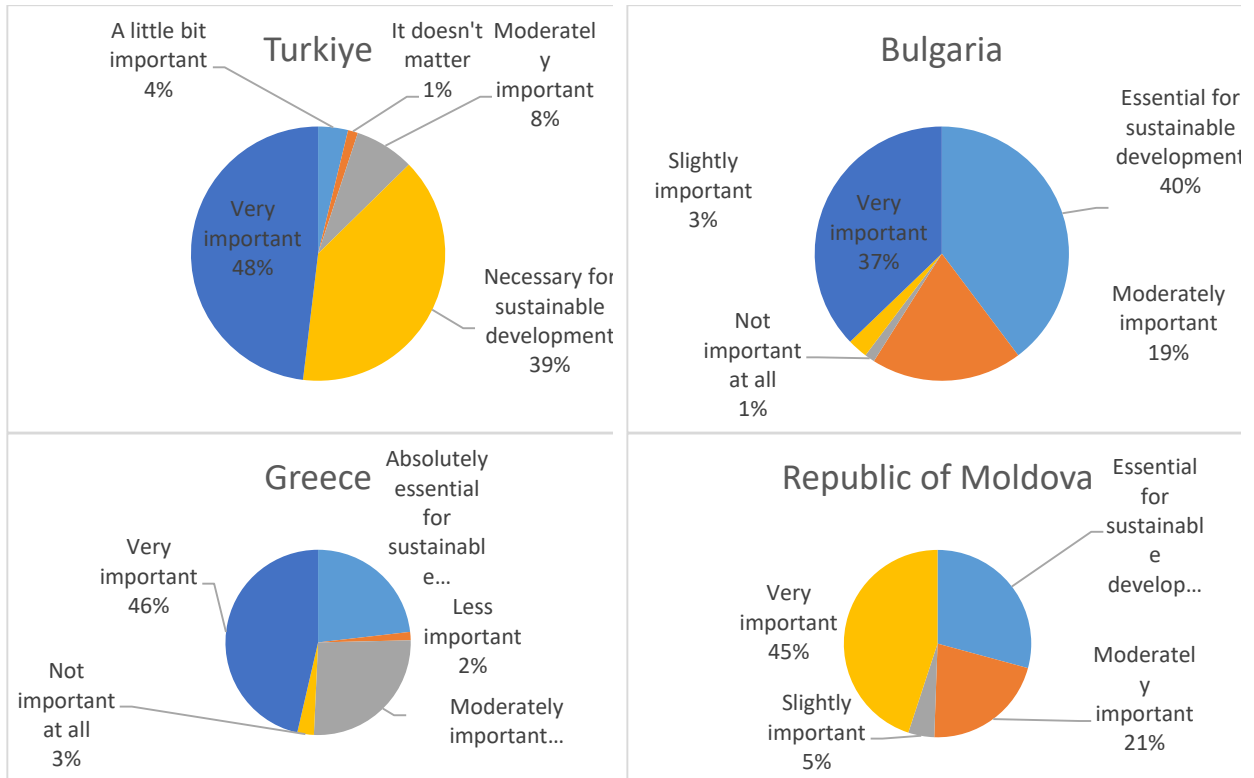


Fig. 4. Responses for the Q1.4: How important do you consider it for authorities to regulate tourist numbers and ensure that infrastructure is managed sustainably in popular destinations?

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