

A CRITICAL ANALYSIS OF TURKEY'S TOURISM STRATEGY PLAN (2023) BASED ON THE KEY FACTORS IN MITIGATION AND ADAPTATION TO CLIMATE CHANGE¹

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ABSTRACT

This study aims to analyze Turkey's current tourism development plan (Turkey Tourism Strategy Plan 2023) from the perspective of climate change management, and to identify the gaps in the plan and provide an alternative framework for the climate change responsive tourism development plan. In order to achieve these targets, the study is constructed on three steps. Firstly, the study examines the literature on tourism development and climate change impact management with a focus on mitigation of and adaptation to, climate change in the tourism industry. Secondly, based on these key factors compiled from the literature, the Turkey Tourism Strategy Plan 2023 is analyzed and it is considered whether it includes strategies in correlation with these key factors or not. Finally, a conceptual framework of climate change management in the tourism industry is provided. The results of this analysis shed light on the gaps in the plan and, considering these gaps, a new climate change responsive strategic development plan framework has been suggested for further planning practices. The results of the plan analysis show that there are some important strategies in the plan that will contribute to eliminating climate change impacts, however, these efforts may not be sufficient in the long term when climate change impacts are more destructive. There is an urgent need for revision, which can be enhanced by the suggested strategic plan framework. This study is significant in defining the gaps in Turkey's tourism development strategies. It is also important for providing suggestions for future climate-proof tourism development in Turkey.

1. Introduction

There is a two-way relationship between tourism and climate change. The emissions due to tourism activities such as transportation, accommodation and other activities make up 5% of global CO₂ emissions (United Nations World Tourism Organization (UNWTO), 2008). Transport is especially damaging and responsible for 2.5%-3.5% of the total global emissions (Scheelhaase and Grimme, 2007). On the other hand, climate change has significant impacts on tourism. Tourism is dependent on the areas of natural beauty such as coastlines, and other features of nature such as biodiversity, natural attractiveness, and natural resources such as water and energy whose sustainable existence is threatened by climate change (Gössling and Hall, 2006).

According to International Panel on Climate Change (IPCC, 2014), by the end of 21st century (2081-2100), the average global surface temperature will likely increase between 0.3°C-4.8°C under different

scenarios, relative to 1986-2005 while the warming will be greater in Arctic region. Consequently, there will be more frequent and severe heat waves and fewer cold extremes. Changes in precipitation are likely to differ according to the region as increasing in already tropical and wet regions while decreasing in already dry regions. The glacier volume is likely to decrease between 15-85% under different scenarios with medium confidence. The global mean sea level rise is likely to be between 0.26-0.82m under different scenarios however, each coastal region will experience this increase differently regarding their geographic conditions. The projected climate change impacts clearly present the future crisis in the natural and human environment.

The requirement for a response to the ongoing and upcoming climate crisis has been recognized by leading international organizations in the last decade. The World Tourism Organization (UNWTO), the United Nations Environment Programme

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(UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO), United Nations Convention to Combat Desertification (UNCCD), came together in Tunisia for the First International Conference on Climate Change and Tourism in 2003 in order to increase the awareness of climate change impacts on tourism industry among tourism stakeholders and governments. In this conference, the impacts of climate change, mitigation measures, its impacts on the industry and the responsibility of actors on GHG (Greenhouse Gas) reduction were discussed (Simpson et al., 2008).

The Second International Conference on Climate Change and Tourism was held in Davos, Switzerland in 1-3 October 2007 with the joint support of the World Tourism Organization (UNWTO), United Nations Environment Program (UNEP) and World Meteorological organization (WMO). The conference was finalized with Davos Declaration. The principals that agreed with the declaration was; i) accepting tourism industry's sensitivity to climate change and its importance as an economic sector, which need to maintain its function, ii) the necessity of urgent action, iii) benefiting the technology and iv) financially supporting poor and tourism dependent regions. The conference defined the responsibility of all stakeholders, including governments, international organizations, tourism industry, consumers, and communication networks (UNWTO, 2008). Tourism and climate change cannot be considered as separate issues, therefore, a comprehensive, integrated and communicative approach is necessary to manage climate change impacts.

The Mediterranean coastal region is one of the most vulnerable regions to climate change. The tourism destinations in the Mediterranean region will inevitably be affected by climate change due to the climate-dependent attributes of dominant tourism activities. The projected climate change impacts are change in precipitation, temperature and the frequency and the severity of extreme weather events (UNWTO, 2008). These impacts may cause changes in tourism demand, shifts in seasons, low comfort levels, water scarcity, decreasing snow cover and safety concerns (Amelung et al., 2007; Hamilton and Lau, 2005; Hamilton and Tol, 2007; Lise and Tol, 2002; Michailidou et al., 2016; Scott, 2003; Scott and Lemieux, 2010). Turkey, as one of the most popular tourism destinations in the Mediterranean region, is under threat of climate change as well.

Turkey has invested heavily in the tourism sector since the 1980s and has currently reached a remarkable position in the country's economy with more than 48 million international tourists and 3.1% contribution to the GDP in 2018 (Turkish Ministry of Culture and Tourism (TMCT), 2019). It has become one of the most popular destinations in the world with its natural, cultural and historical heritage. In the short term, climate change is not expected to have negative impacts on international tourism for

Turkey, yet, in the long-term, the destructive impacts might be observed. The climate change projections claim an increase in temperatures in Turkey which means decreasing comfort levels especially in the summer period. Some studies state that Turkey may experience more extreme hot days with temperatures reaching over 40°C by 2100 (Turkish General Directorate of Meteorology (TGDM), 2015; Viner and Agnew, 1999). The climate change impact models state that Turkey may lose its climatic attractiveness specifically in coastal regions where the highest number of tourists are hosted, the demand may shift to alternative destinations, peak tourism period may shift to alternative seasons like autumn and spring, the natural habitat and biodiversity may be harmed (Aydemir and Şenerol, 2014; Gülbahar, 2008; Sevim and Ünlüönen, 2010; Yıldız, 2009). Although the awareness of climate change has increased in the world, especially for the popular tourism destinations, it remains insufficiently recognized in Turkey. Despite the dominance of climate-dependent tourism activities in Turkey, the institutional concern on climate change impacts on tourism is significantly low. The strategic tourism development documents of Turkey don't refer to climate change or they have limited considerations on its impacts. The main document directing tourism development and investments is "Turkey Tourism Strategy Plan (2023)" (Turkey Ministry of Culture and Tourism (TMCT), 2007), which is sensitive to sustainability framework, however, shows limited concern on the issue of climate change. Therefore, there is a significant knowledge gap on how to manage tourism development in Turkey under climate change scenario. An adaptive, responsive and comprehensive climate change impact management approach is required for the viability of the tourism industry against the threatening climate crisis in Turkey.

This study aims to analyze the current tourism development plan of Turkey from the perspective of climate change management, identify the gaps in plan and provide an alternative framework for the climate change responsive tourism development plan. For this purpose, Turkey's Tourism Strategy Plan (2023) has been analyzed as the main document that determines strategic and spatial tourism development and directs public and private tourism investments. This national strategic plan is a roadmap for the regional and local tourism development plans. Therefore, the consideration of climate change in this strategic plan will direct regional and local authorities to take action for climate change impacts. From this perspective, the research question is formed as to whether the Turkey Tourism Strategy Plan (2023) is inclusive of the key factors that have defined the literature for an effective strategy to struggle with climate change impacts on the tourism industry, and which strategies should it include to be more effective in climate change management. In order to answer this,

the methodology of this study has been modeled in 3 steps; firstly, the literature on climate change responsive tourism planning and climate change management strategies has been investigated deeply. Regarding literature review, the key factors for climate responsive tourism development have been defined as i) Sustainability, ii) Mitigation options, iii) Climate change assessment iv) Adaptation options, v) Key actors. Secondly, the Turkey Tourism Strategy Plan (2023) has been evaluated as to whether it contains the key factors of climate change management strategies or not. In order to evaluate the strategic plan from this perspective, each factor has been searched within the plan. Finally, based on this analysis, the gaps of the plan have been defined and an alternative strategic plan suggestion has been provided. This study is important for creating an analysis framework regarding tourism management under climate change scenario discourse, and assigning a roadmap for the future development of tourism in Turkey. The results of this study will help decision makers to make climate-proof development plans and to be prepared for the complex climate change phenomenon.

The first part of the paper is literature review focusing on climate change adaptation and mitigation strategies. After summarizing the discourse, the conceptual framework of climate responsive tourism development and conceptual framework is presented in this part. In the next part, the methodology of the study is explained and the key factors are defined. In the third part the tourism strategic plan of Turkey is analyzed and the findings are discussed. In the last part of the study, the gaps of the current plan discussed and the climate change responsive planning framework suggestion is presented.

2. Literature Review

In the literature, two strategic concepts are defined in order to minimize and avoid climate change impacts; adaptation and mitigation. Adaptation focuses on the responses to climate change in order to minimize the negative impacts it causes, while mitigation focuses on minimizing the emissions originating from tourism activities which contribute to global warming (Hernandez and Ryan, 2011; UNWTO, 2008). Climate change adaptation and mitigation are independent concepts but at the same time they are dependent on for each other. Both are essential concepts in that mitigation is required to reduce the unconventional changes in the climate system while adaptation is required to avoid ongoing impacts of an already changing climatic system (IPCC, 2007a).

Mitigation and adaptation are multi-level from global to destination level process that includes various actors from different scales. Additionally, a national holistic policy is required for tourism-dependent countries with the cooperation of the private and public sector for an implementable roadmap (Dodds and Graci, 2009). Climate change

mitigation and adaptation are managing and reducing the vulnerability process which involves governments, businesses and society (Jopp et al., 2010). It requires modification of behavior, resource management and adoption of technology (Simpson et al., 2008). Moreover, sustainable development needs to cover climate change impacts on tourism development for effective solutions (Scott, 2011; Scott et al., 2006). Sustainable tourism management policies are crucial to increase the awareness of tourists and local citizens on climate change and environmental protection (United Nations Environment Programme/Division of Technology, Industry and Economics (UNEP/DTIE) – Priority Actions Programme/Regional Activity Center (PAP/RAC) - UNWTO, 2009).

2.1. Mitigation of Climate Change in Tourism Industry

As stated above, mitigation to climate change considers decreasing GHG emissions and minimizing the harm to nature. When tourism's contribution to GHG emissions is compared with other industries such as energy or manufacturing, it is far less from these industries. However, reducing emissions is still a priority for tourism due to its growing contribution to emissions. Tourist mobilization has been increasing globally which means more demand for long-haul travels and energy consumption. According to estimations, in case of no action to mitigate emissions, the contribution of the travel industry to GHG will increase by 169% by 2050 (Scott and Gössling, 2018). There are two main sub-sectors of tourism causing a significant amount of GHG emissions. 75% of CO₂ emissions are caused by transportation of which 40% is caused by aviation alone. Although it seems a small part of global GHG emissions, effective measures should be taken considering the future and the possibly growing demand in the aviation sector. The other sector creates 20% of emissions of the tourism industry which is the accommodation sub-sector. However, there is an important potential of reducing this emission about 30-40% (UNWTO, 2008). On the one hand, emissions due to tourism activities, primarily aviation, need to be reduced, but on the other hand, the tourism industry should be maintained without losing its role on socio-economic development (Scott and Gössling, 2018).

The mitigation studies on the tourism industry generally focus on transportation as the primary contributor to GHG emissions (Hernandez and Ryan, 2011; Scott et al., 2012), accommodation as the main energy consuming sub-sector and tour operators as the critical sub-sector on influencing behaviors and decisions (Scott and Gössling, 2018). Therefore, the mitigation area can be grouped as; transportation (air, and automobile), accommodation, tour operators, tourists and destinations.

For air transportation, the aircraft with younger technology are suggested for emission reduction.

Through technology, the operational procedures and aircraft design may modify in order to diminish fuel consumption or alternative, less harmful fuels can be produced. Furthermore, increasing the average load factors will reduce per passenger emissions. This can be supplied by airline cooperation flying the same direction. The weight reduction on aircraft by removing unnecessary services, limiting the passenger baggage weight will also help to reduce emissions. In addition, non-stop flights which are more energy efficient, may also be preferred by tour operators. In order to limit air transport emissions, the literature also proposes including air transport in emission trade systems. Eco-tax is another mitigation strategy which is assumed to benefit not only GHG reduction but also increase passenger's awareness of air transportation contribution to climate change. Instead of air transit, preferring other modes of transport such as railway transport especially for short-haul flights is another mitigation that requires behavioral change of tourists and agencies. For diminishing emission from the automobile transportation for tourists, low emission cars can be promoted by car rentals and the old cars can be replaced with new technology, environmentally friendly cars. Travelers should be directed to rail transportation by promoting its advantages such as frequencies, comfort, accessibility in settlements, and punctuality (Chapman, 2007; Hernandez and Ryan, 2011; Scott and Gössling, 2018).

The mitigation strategy in the accommodation sub-sector is up to the behavior of tourists and employees as well as the innovation capacity of companies. By increasing knowledge among tourists and staff, promoting energy saving, certification of accommodation facilities in energy management shifting to alternative energy sources and less energy demanding operations will contribute to mitigation (Bode et al., 2003; Lee, 2000; Michailidou et al., 2016; UNWTO, 2008). For the accommodation sub-sector, establishing "Environmental Management Systems (EMS)" is suggested to monitor resource consumption (Scott and Gössling, 2018).

Tour operators have also an important role in mitigation because of their influence on supply chain and demand patterns. Low-carbon holiday packages in terms of accommodation, transportation and activities should be recommended to travelers (Scott and Gössling, 2018; UNWTO, 2008). Tourist can avoid contributing to emissions by planning less often but longer trips especially for long distance, using less air travel, preferring closer destinations that can be reached by alternative more environmentally friendly transportation modes, and favoring airlines, tour operators or accommodations with environmentally friendly management system (Scott and Gössling, 2018). In turn, destinations should target sustainability in tourism and engage all stakeholders in this goal. Low-carbon and high spending tourists should be targeted in promotions. The public transportation in destinations needs to

be enhanced and a low-carbon system should be included (Scott and Gössling, 2018).

The mitigation strategies eliminate the harmful activities, factors or usages, reduce the emissions and over-consumption, substitute the certain activities, tools or facilities with more environmentally friendly, low carbon ones and offset the negativities from multiple perspectives. While planning the mitigation policies, the potential negative impacts of these policies to the tourism industry should be taken into consideration. The mitigation policies especially for air transit may have negative impacts on long-haul destinations and tourism markets (Scott et al., 2012). For effective mitigation, technology, regulatory measures, market-based measures and behavioral changes are required. While doing these, the tourism industry of destination should be maintained, poverty reduction objectives should be considered and the sector should not be jeopardized in economic and social terms (UNWTO, 2008). Table 1 summarizes the climate change mitigation in tourism literature based on their focus and mitigation strategies.

2.2. Adaptation to Climate Change in Tourism Industry

TIPCC (2007b) defines climate change adaptation as; systems' - natural or human - adjustment to expected climatic shocks to decrease harm and exploit opportunity. These adjustments cover technologies, resources and behaviors. Adaptation measures include social and economic activity adjustment for the viability of the tourism industry. Among the adaptation principals provided by The United Nations Development Programme (UNDP, 2005) there are some guiding concept relevant for tourism; i) integration of adaptation in a development context; ii) benefit past experience on adaptation for the future; iii) awareness of multi-level adaptation, yet particularly local level; iv) adaptation is a progressive concept. These principles highlight that the adaptation of the tourism industry cannot be handled unless it is placed in a national concept on sustainable development strategies and policies. The adaptation policies can be provided at the national level but the implementation will take place at the local level, so for the involvement of all different stakeholders the process is essential.

The essential point in sustaining the destination's viability is developing well-informed and long-term strategies (Jopp et al., 2010). The strategic approach to adaptation and mitigation of climate change impacts should be accountable, flexible, inclusive and participatory (Dodds and Graci, 2009). According to studies, the businesses are unwilling to invest on climate change adaptation due to the low awareness and lack of information. Therefore, education and knowledge share are significantly important for adaptation (Scott et al., 2012).

Scott et al., (2006) defines three adaptation perspectives; technical adaptation, business

Table 1. Overview of climate change mitigation strategies in tourism

Source	Focus	Mitigation Strategies
Lee, 2000	Behavioral change Energy saving strategies	Increasing knowledge among visitors and staff Certification of accommodation facilities in energy management Shifting to alternative energy sources Shifting less energy demanding operations Increasing innovation capacity of companies
Bode et al., 2003	Behavioral change Energy saving strategies	Using solar panels Energy saving bulbs and lighting Room keys to operate lights Light sensors Education to tourists and employees
Chapman, 2007	Behavioral change Limiting air transport emissions Technological modifications	Including air transport in emission trade systems Preferring railway transport especially for short-haul flights Behavioral change of tourists and agencies Engaging technology to the operational procedures and aircraft design
UNWTO, 2008	Behavioral change GHG reduction in sub-sectors Technological improvements Energy management	Shift the transportation mode to lower GHG mobility Developing cooperation between tour operators and railway systems Promoting neighboring countries while increasing the length of stay Engaging technology and increasing innovation capacity of companies Increasing knowledge among visitors and staff Promoting energy saving in accommodation facilities Using alternative energy sources Decreasing energy consumption in operations of activities Educating tourists and directing them to easy behavioral shifts
Hernandez and Ryan, 2011	GHG reduction Increase the awareness	Eco-tax air transportation Transportation as the prior area in mitigation
Scott et al., 2012	GHG reduction	Transportation as the prior area in mitigation Managing the negative impacts of mitigation strategies on tourism industry
Michailidou et al., 2016	Behavioral change Energy saving strategies Increase the awareness	Using solar panels Energy saving bulbs and lighting Room keys to operate lights Light sensors Education to tourists and employees to change the behavior of tourists and employees Increasing awareness of tourists and staff Promoting energy saving in accommodation facilities Shifting to alternative energy sources Less energy demanding operations

management adaptation and behavioral adaptation. Technical adaptation addresses technology and innovation in order to minimize the climate change impacts. Business management adaptation involves tourism operators, regional governments and tourism industry associations to adjust their marketing strategies, the timings of vacations or redirect tourists to different locations or different activities.

Behavioral adaptation is related to tourist behavior, which can be modified by external impulses. Similarly, the measures are grouped as behavioral, policy, managerial, technological/technical, research and education by Scott and Gössling (2018). Behavioral measures include real time weather conditions' observations for activities, adapting to less resource consuming and GHG emission attitudes; policy measures regard adaptation related regulations, funding, building

standards; managerial measures address plans to conserve resources, seasonal managements, regional diversification, planning of marketing activities, impact management plans, and risk management; technical measures consider extreme natural event proof designs, rainwater collection and recycling, early warning systems, developing communication infrastructure; and fill the knowledge gaps; and education measures cover increasing awareness of employees, civilians and tourists on climate change and conservation of natural resources. Institutions have a significant role to contribute to businesses to overcome flexibility problems (Hernandez and Ryan, 2011). The flexibility of institutions on the timing of public holidays, school vacations, the opening and closing of attractiveness such as parks or museums and adjustment of these timing considering new weather conditions will impinge tourism destinations (Wall, 2007).

The adaptation measures taken in Fiji are investigated by Becken (2005) within their negative and positive impacts on mitigation, economy and environmental management. In this study, the outshining measures are; “tree planting”, which helps biodiversity enhancement, water management, creating CO₂ sinks and could be included in carbon trading; “water conservation”, which saves cost and energy; “using natural building materials”, which helps reducing carbon footprints; “coral reef production” helps to protect biodiversity and tourism resources. The other adaptation measures that may negative or neutral impacts on mitigation or economy are constructing seawalls to prevent coastal erosion, beach nourishment, air conditioning, desalination, water-proofing tourist activities, diversification of markets, education to guests and employees, building structures away from beachfront, rainwater collection. Tompkins et al. (2005) compiled the common points of adaptation frameworks in the literature. According to their study, there are eight essential elements of an adaptation strategy. These are; risk management plans, responsibility for development, education and communication, information and good science, financing adaptation, support network, legislation and enforcement, linking with other planning processes. The priority of these key concepts changes depending on the specific local requirements during the adaptation process.

The Assessments of Impacts of and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) project results present “Framework for Climate Change Adaptation in the Tourism Sector” based on 24 cases in developing countries in different regions (AIACC, 2007). The project compiled the components defined in adaptation frameworks of United States Agency of International Development (USAID, 2007), UNDP (2004), United Nations Framework Convention on Climate Change– National Adaptation Programmes of Action and UNEP (1998) and developed a 7-step adaptation process; engage the stakeholders, define the problem, assessment of adaptive capacity, identifying adaptation options, evaluate adaptation options and select action, implement adaptation, monitor and evaluate adaptation. The dynamic structure of the scheme represents back and forward linkages among steps rather than a rigid circular system.

Jopp et al., (2010) developed a conceptual framework called “Regional Tourism Adaptation Framework” (RTAF) on adaptation models illustrating the climate change adaptation process stages and including the role of tourists which was underestimated in literature. It contains two stages as mostly addressed in the literature. In the first stage it defines the vulnerability and resilience of the destination and reveals the risks and opportunities in order to determine the adaptive capacity of the tourism system. In the second stage, it focuses on increasing the resilience and decreasing

vulnerabilities through identifying, evaluating and implementing adaptation options. The model defines the adaptation process step by step, involves the stakeholders including tourists, has a holistic perspective, including the whole system, considers possible opportunities and takes the demand side into consideration.

Njoroge (2014) enhanced RTAF by integrating sustainable adaptation principles and created “Regional Tourism Sustainable Adaptation Framework (RTSAF)”. Adaptation strategies need to be sustainable in terms of social equality and justice, environmental concerns and economic development. He extended the framework by evaluating adaptation options within sustainability principles to oversee economic viability, environmental integrity and social justice. The model requires clear investigation of all proposed adaptation options moreover, before implementation he addresses the business and host community’s opinion. Njoroge also adds the requirements for back and forward communication between local and global processes.

The studies in the literature either focus on defining adaptation processes step by step or determining necessary adaptation options, strategies and specific measures. Defining adaptation framework literature is more comprehensive and can be considered in different destinations, however, the measures are specific to climate change exposure, attributes of destinations and local requirements. For example, winter tourism, beach tourism, nature tourism needs different implementations due to their activity offerings or geographical conditions. On the other hand, extreme heat waves, extreme weather events or drought requires different adaptation measures. Table 2 presents the literature summary based on their focus and proposed adaptation options.

In general, the conceptual framework of adaptation starts with evaluation of climate related impacts regarding climate change scenarios. The impact research is followed by climate change vulnerability assessment. Without defining the key actors, these studies wouldn’t be adequate. The adaptation should include the specific information that policy-makers would need. In order to have a wider perspective, the process should be participatory, especially for local participation (Kajan and Saarinen, 2013). A national holistic policy is required (Dodds and Graci, 2009), however, the adaptation measures change regarding tourism type, destination and activities (Hernandez and Ryan, 2011) due to their exposure on different climate related stresses (UNWTO, 2008). Although the need for research still remains, local knowledge is valuable in adaptation (Kajan and Saarinen, 2013).

2.3. Defining Key Factors of Climate Change Impact Management for Tourism Industry

The literature review clearly states that climate change impact management has two main strategies; mitigation and adaptation (Hernandez and Ryan, 2011; IPCC, 2007a; UNWTO, 2008). In addition,

Table 2. Overview of climate change adaptation literature in tourism

Source	Focus	Adaptation Option
Becken 2005	Evaluating the negative and positive impacts of adaptation measures in small island tourism destinations, Fiji example	Tree planting Water conservation Using natural building material Coral reef production Seawalls to prevent coastal erosion Desalination Beach nourishment Air conditioning Water-proofing tourist activities Diversification of markets Education to guests and employees Building structures away from beachfront Rainwater collection
Tompkins et al., 2005	Defining essential elements of adaptation strategy	Risk management plans Responsibility for development Education and communication Information and good science Financing adaptation Support network Legislation and enforcement Linking with other planning process
Scott et al., 2006	Categorizing the adaptation measures; Technical adaptation Business management adaptation Behavioral adaptation	<i>Technical adaptation;</i> Technology and innovation <i>Business management adaptation;</i> Adjusting marketing strategies Timing of the vacations Redirect tourists to different locations or different activities <i>Behavioral adaptation;</i> Modifying tourist behavior
AIACC, 2007	Defining adaptation process	Engage the stakeholders Define the problem Assessment of adaptive capacity Identifying adaptation options Evaluate adaptation options and select action Implement adaptation Monitor and evaluate
Wall, 2007	Institutional adjustments	Adjusting timing of public holidays School vacations Opening and closing of attractiveness
Jopp et al., 2010	Developing a conceptual framework; “Regional Tourism Adaptation Framework” Defining climate change adaptation process stages	Defining the vulnerability and resilience of the destination Revealing risks and opportunities Determining adaptive capacity Increasing the resilience and decreasing vulnerabilities Implementing adaptation options
Njoroge, 2014	Integrating sustainable adaptation principles with “Regional Tourism Adaptation Framework”	Defining the vulnerability and resilience of the destination Revealing risks and opportunities Determining adaptive capacity Investigation of adaptation options from sustainability perspective Local - global communication
Scott and Gössling, 2018	Categorizing the adaptation measures; Behavioral adaptation Policy adaptation Managerial adaptation Technological/technical adaptation Research and education adaptation	<i>Behavioral measures;</i> Observing real time weather conditions Adapting to less resource consuming <i>Policy measures;</i> Funding Establishing building standards <i>Managerial measures;</i> Conserving resources Seasonal managements Regional diversification Planning of marketing activities Impact management plans Risk management <i>Technical measures;</i> Extreme natural event proof designs Rainwater collection and recycling Early warning systems Developing communication infrastructure; <i>Research and education measures;</i> Increasing awareness of employees, civilians and tourists

these strategies should be within economic, ecologic and social sustainability framework (Njoroge, 2014; Scott, 2011; Scott et al., 2006; Scott and Gössling, 2018; UNEP/DTIE - PAP/RAC - UNWTO, 2009). The mitigation and adaptation strategies should be multi-level (from local to national and regional) (Dodds and Graci, 2009; Scott et al., 2012; UNDP, 2005), multi-sectoral (Richard et al., 2010), flexible, accountable, inclusive and participatory (Dodds and Graci, 2009; Kajan and Saarinen, 2013). Figure 1 synthesizes the literature review on adaptation and mitigation strategies and summarizes the key factors. The components of mitigation strategies are; reducing GHG emissions and energy usage in transportation, accommodation and destination management sub-sectors; while increasing awareness and changing behavior for destination management, tour operators and tourists.

Adaptation strategies have a more complex structure; first, the key factors include essential steps for the adaptation process which are evaluating climate change impacts, assessing adaptive capacity, identifying adaptation options, defining the key actors. Later, adaptation options cover sub-components such as encouraging innovation and technological improvements, reducing GHG emissions and energy usage, increasing awareness, changing behavior, diversification of seasons/destinations/activities, institutional flexibility, link with disaster risk management plans, resource management, ecosystem enhancement within behavioral, managerial and technical adaptation options. Sub-components are defined considering adaptation and mitigation strategies but avoiding specific measure descriptions. Therefore, the strategies and measures in the literature are

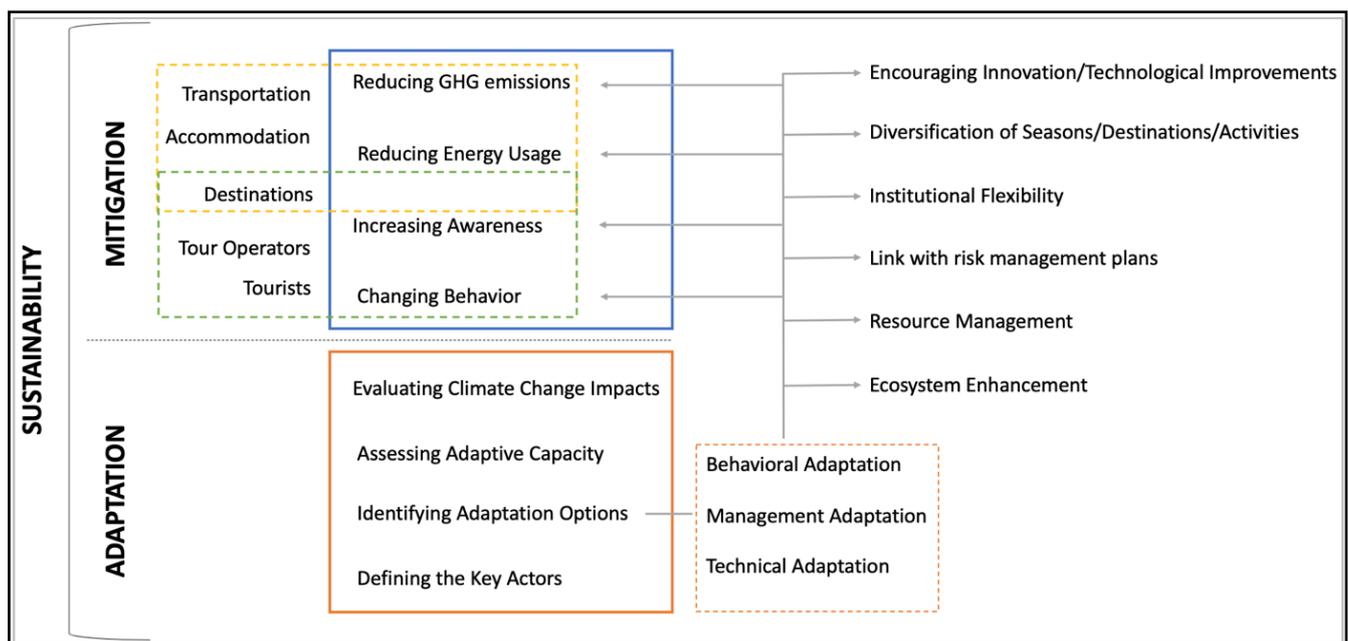
grouped as sub-components which cover site-specific measures.

2.4. Turkey's Tourism Strategy Plan (2023)

In accordance with the goal of the master plan development for the tourism industry stated in the 9th development plan, "Turkey's Tourism Strategy 2023" plan and "Action Plan 2013" were prepared in 2007 in order to provide a guide for the sector. In these plans, the short, medium, and long-term tourism strategies developed considering priority issues, problems definitions, solutions of these problems, determination of responsible institutions and their roles for actions. The plan adopts sustainable tourism development approach, aims increasing employment through the tourism industry as well as diminishing the regional development inequalities. Tourism is defined as a pioneer development sector for Turkey and with this perspective, the 2023 target is defined as becoming one of the top five destinations in the world in terms of number of visitors and tourism incomes, as well as a brand destination.

The vision of Turkey's Tourism Strategy Plan 2023 (2007, p.4) is defined as "Leading industry in employment increase and regional development within sustainable tourism approach, and becoming an international brand and in top five destinations in terms of number of tourists and tourism incomes in the international market until 2023." Within this vision the strategies for strengthening the tourism sector are defined. These strategies are categorized as the following; planning, investments, organization, domestic tourism, research and development, transportation and infrastructure, promoting and marketing, education, service quality, branding in

Figure 1. Conceptualized Climate Change Impact Management (Produced by Authors)



urban scale, diversification of tourism, improvements of existing tourism areas, tourism development regions, tourism development corridors, tourism cities and eco-tourism regions. For each strategy, the 2023 targets and the requirements to achieve the presented target are defined. The final part of the plan focuses on implementation of tourism strategy and provides decisions on institutional structuring and governance, action planning and monitoring and evaluating.

3. Method

This study aims to analyze the Turkey Tourism Strategy Plan (2023) in terms of its contribution to climate change responsive tourism development and suggest a strategic plan framework. In order to achieve this aim, it has been constructed on three main steps; identifying the key factors of climate change management strategies; analyzing the Turkey Tourism Strategy Plan (2023) regarding these factors and providing suggestions for a climate responsive strategic plan. In the first step, this paper has drawn on an interdisciplinary literature review on climate change impact management strategies for tourism destinations. By synthesizing insights from academic conceptual framework studies in the literature and existing practices, it has identified key factors of strategies that should guide national tourism development plans regarding climate change impacts.

These factors are defined as i) Sustainability (Njoroge, 2014; Scott, 2011; Scott et al., 2006; Scott and Gössling, 2018; UNEP/DTIE – PAP/RAC-UNWTO, 2009), ii) Mitigation options (UNWTO, 2008; Scott and Gössling, 2018), iii) Climate change assessment (AIACC, 2007; Jopp et al., 2010; Njoroge, 2014) iv) Adaptation options (AIACC, 2007; Scott et al., 2006; Scott and Gössling, 2018) v) Key actors (AIACC, 2007; Jopp et al., 2010; Njoroge, 2014). In the second stage, the Turkey Tourism Strategy Plan (2023) has been evaluated from the perspective of climate change impact management by searching whether or not it contains the key factors. This investigation has revealed the gaps in the tourism development plan and enlightens the roadmap for the further steps. In the final step, considering the analysis of the tourism development plan, suggestions have been provided for the further climate change responsive strategic tourism development plans.

The conceptual framework is obtained from existing literature by initially examining the frontrunner climate change and tourism institution's documents such as UNWTO and IPCC and subsequently researching referenced authors, case studies and research projects that are accessible through online libraries. In order to draw a frame in literature review, the libraries were scanned by using "climate change adaptation in tourism", "climate change mitigation in tourism" and "climate change management in tourism" key words. The resources accessed by using these key-words are examined in

detail and the key factors of this study is constructed on this examination.

Regarding the key factors, the Table 3 is formulated to evaluate the Turkey Tourism Strategy Plan (2023) and identify gaps. There are five key factors and their components covering the literature, and related strategies. In this part, no specific actions are addressed or targeted, instead, the conceptual framework is created to encompass any strategy in the plan that would contribute to climate change responsive development in the tourism industry.

4. Findings and Discussion

4.1. Sustainability

Turkey Tourism Strategy Plan 2023 focuses on sustainable development principles and within this perspective the plan is clearly sensitive to environmental, cultural and social issues. The planning strategy of the plan is defined as "Supporting economic development; applicable on a physical level; introducing a planning approach that includes the principle of community-oriented and sustainable tourism" (TMCT, 2007, p.6). It concerns protection of nature, eliminating the negative impacts of tourism activities, sustaining the development balance among regions, energy efficiency and resource management. It also promotes nature friendly tourism types such as eco-tourism. The awareness on negativities of wild tourism development can be recognized in the plan and the effort on sustainable development and qualification of tourism within this approach is remarkable in the plan. However, there is no concern on climate change, the impacts of tourism development on climate change or the impacts of climate change on the tourism sector.

4.2. Mitigation Options

Emission reductions measures

Enhancing transportation infrastructure to increase accessibility to both popular tourism destinations and the emerging alternative destinations among priorities of this plan. The strategy of transportation and infrastructure is defined as "Elimination of infrastructure and transportation problems of settlements where the rapidly developing tourism sector is concentrated" (TMCT, 2007, p.19). The plan suggests airport investments to enlarge the existing airport capacities as well as to construct new airports to alternative destinations due to aviation's time saver opportunities.

On the other hand, it suggests to enhance the connections of regions by increasing the share of railway transportation in tourism mobility. One of the targets of transportation strategy is "developing connections between regions in order to increase the share of rail transport in transportation" (TMCT, 2007, p.21). Within this perspective, it addresses high speed railway investments, and connection of existing routes. The improvements of highways and connection of tourism centers to each other by improved motorway infrastructure is among the plan

Table 3. Definition of key factors for climate responsive tourism strategies

Key Factors	Content	Definitions
Sustainability	Sustainable framework	Strategies considering social, economic and environmental sustainability
	Emission reduction measures	Strategies on transportation
	Energy management measures	Strategies on energy efficiency, consumption reduction, renewable energy Promotions of energy efficient facilities and activities
Mitigation options	Awareness on climate change	Emphasizing climate change impacts Education or workshops on climate change management
	Behavioral change	Suggestions on consumption and activity pattern changes regarding adaptation and mitigation Promotions of less-carbon destination, transportation and vacation Adjustments on marketing strategies
		Climate change impacts
Climate change assessment	Adaptive capacity	Investigation of institutional, structural and behavioral adaptive capacity Defining vulnerabilities
	Ecosystem protection/enhancement measures	Strategies on environmental protection, biodiversity conservation
Adaptation options	Resource management measures	Strategies on water management, recycling, renewable energy systems, reducing carbon footprints
	Link with risk management plans	Strategies regarding other disaster and risk management plans Link to other planning processes
	Institutional flexibility	Strategies about institutional adaptation to seasonal shifts
	Diversification in terms of season, destination and activities	Promoting different tourism types, destinations and other seasons rather than peak period Adjustments on marketing strategies
	Innovation or technological improvement	Strategies on financial support, incentives for R&D and innovation
		Strategies on research, monitoring and evaluating the climatic changes
Key actors	Defining tourism stakeholders	Defining the roles, embracing participatory approach

decisions. Moreover, the decisions on development of cruise ports, marinas and mega-yachts will create an alternative transportation route.

Energy management measures

Despite there being no specific mention on energy management of the tourism sector, Turkey has had significant attempts to develop sustainable tourism. "Eco-brands" have developed, such as the "environmentally friendly accommodation facility certificate" and "green star" ratings in order to protect the environment, increased environmental awareness and encourage tourism accommodations to contribute positively to the environment. The "Green Flag" brand is given to accommodation facilities that supply energy efficiency, alternative energy usage, water saving, waste management, and environmental education (Turkey Ministry of Environment and Urbanism (TMEU), 2016). This kind of conducive efforts should be supported in the tourism strategic plan.

Awareness on climate change

The plan focuses on the awareness of the local community on tourism, management of tourism, service, local product production, hand crafts, their marketing, business management and quality rather than environmental awareness. In order to raise public awareness in tourism, non-formal education programs are targeted to be organized and measures to be taken to encourage the media to handle these issues. The awareness and education strategies don't directly refer to climate change management and environment issues however, it is an opportunity to create a climate change communication infrastructure for the further concerns.

Behavioral change

The plan promotes alternative and more sustainable tourism types such as eco-tourism. It indicates that the tour routes and destinations will be determined and planned for eco-tourism within a sustainable tourism perspective. Moreover, the plan

targets high-spending, wealthy tourists. It suggests enhancement of comfort levels of facilities and diversifications of activities to make tourists stay longer. These decisions are related to behaviors that will contribute to mitigation and adaptation but they are not sufficient.

4.3. Climate Change Assessment

Climate change impacts and adaptive capacity

It has found that despite the plan's consideration on sustainable and environmentally friendly tourism development, the impacts of climate change on the industry isn't mentioned in terms of neither adaptive capacity assessment nor climate change management strategy.

4.4. Adaptation Options

Ecosystem protection/enhancement measures

The plan targets protecting and enhancing ecosystem and biodiversity within a sustainable approach especially in eco-tourism corridors. This approach is not comprehensive for the whole tourism development and doesn't include any focused measure that defines how to protect and enhance the environment.

Resource management measures

In the planning strategy the 2023 targets regarding resources are defined as; "planning, which protects and uses natural resources within the framework of sustainability principles in accordance with the ecological and economic efficiency principle" and "using tourism resources in a sense of balanced conservation and development without exceeding their carrying capacity" (TMCT, 2007, pp. 7-8). The plan proposes thermal resources as an alternative energy source for heating.

Link with risk management plans

The plan doesn't refer to risk management and doesn't suggest to link tourism development plan and risk management plans. It is also found that the plan doesn't even have any consideration on environmental risk.

Institutional flexibility

Since the plan targets 12 months tourism in Turkey, there are decisions considering business management, stakeholder involvement and increased tourism infrastructure. However, none of these covers institutional flexibility.

Diversification in terms of season, destination and activities

The potential for Turkey in alternative tourism is emphasized, and these alternative tourism types such as; health, thermal, winter, mountain, nature, highland, countryside, eco-tourism, convention, fair, cruise, yacht, golf tourism are defined as focus strategies of the plan in tourism diversification section of the plan. It is aimed to bring this potential,

which has not been adequately utilized until today, into tourism by considering the balance of protection and use and to increase the share of the country in the global tourism industry and extend the tourism season to 12 months.

Within the tourism diversification strategy, priority has been given to health, thermal, winter, golf, sea, eco-tourism, plateau (highland), congress and fair tourism. It is emphasized that the spread of tourism throughout the year is only possible by increasing the diversity of tourism. Moreover, the marketing strategies include alternative tourism opportunities, and target high income tourists with longer stay.

These decisions contribute to climate change management strategies however, they are not taken considering climate change impacts and not aiming to adapt the changing conditions. The only concern is the contemporary trend of tourism demand. Therefore, this approach should be enhanced by including a climate change perspective.

Innovation or technological improvement

The research and development strategy of the paper is defined as; "Addressing R&D primarily in the public, private and tourism sectors" (TMCT, 2007, p.17). The targets of the strategy are "determining what can be done to eliminate the negative aspects of tourism" and "investigation of the systems that produce the least waste by using the least energy and natural resources in the business management" (TMCT, 2007, p.17). The plan encourages the technological improvement also for the marketing and communication fields.

4.5. Key Actors

The plan supports local participation in tourism and encourages cooperation with NGOs for especially alternative tourism types such as agro-tourism, adventure tourism, highland tourism, cave tourism, and sport tourism. Supporting the local people to participate in tourism industry and encouraging pensioning are among priorities. These decisions of plan don't directly define the actors, yet, by encouraging local citizens' and NGOs' cooperation with each other and other stakeholders, it defines these actors as a part of further strategic plans. In the planning strategy, it defines one of 2023 targets as "participating mechanisms such as Local Agenda 21 will be ensured by making the councils work on a local basis" (TMCT, 2007, p. 7).

The organization strategy section of the plan is defined as "Within the framework of the Good Governance principle, institutionalization based on councils that will enable the participation of public, private sector organizations and NGOs related to the tourism sector at the national, regional, provincial and point level" (TMCT, 2007, p.10).

The institutional structuring model, the roles and responsibilities of the inter-institutional and intra-institutional actors have been regulated in

the strategy document. The plan proposes a new structure with national and local tourism councils which enable participation of actors and defines their responsibilities. This approach cannot be efficient without tourists, tourism business managers, tourism employees, local citizens and tour operators.

5. Conclusion and Recommendation

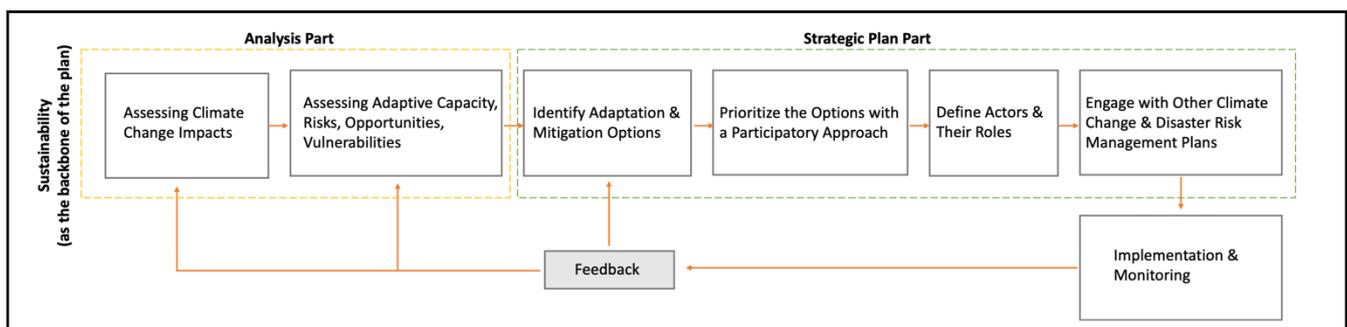
The contribution of the Turkey Tourism Strategy Plan (2023) to a climate change responsive tourism development is excessively limited. The adopted sustainable framework is the backbone of the plan and the main contributing component. However, sustainability stands just as a frame but not infused to the strategies sufficiently in terms of balanced social, economic and environmental structures. Economic concern outweighs while social sustainability is attempted to sustain by including local actors to the tourism industry. Environmental issues are the most shaded aspects since the conservative strategies for nature and biodiversity are not explicit. The clear awareness and intent for reducing GHG emissions, energy management, resource protection and management, environmental protection aren't attained in the investigation of the plan. The transportation decisions in the plan only focus on increasing accessibility without any special consideration of GHG emission reduction. The investments on railway infrastructure will contribute to climate change mitigation, however, it is not sufficient without putting railway transport ahead of other mobilization modes in marketing strategies. Diversification of activities, destinations and seasons is another remarkable decision in the plan that would contribute to the climate change adaptation process. Offering different activities and extending the tourism period will help to adjust industry to shifting peak periods or changing demand for destinations. However, the knowledge on climate change impacts is essential to make right decisions to respond to climate impacts effectively. Climate change isn't considered in the plan in any sense which is the major deficiency of the plan. For the short term, this plan can respond to the minor climate change impacts, yet, in the long term, the plan may not be sufficient to struggle with expected negative effects of changing climate. The Turkey

Tourism Strategy Plan needs to be revised regarding climate change impacts on the tourism industry. The suggested strategic planning framework is presented in Figure 2.

For the future tourism development strategy, sustainability needs to be again the framework and it should have a balanced approach to economic, social and environmental issues. The plan requires climate change impact assessment, enlightened climate change risk, opportunity and vulnerabilities as well as assessing adaptive capacity of the tourism industry. Subsequently, it needs to focus on mitigation and adaptation measures; including emission reduction, energy efficiency, resource conservation and sector adjustment. The actors and their roles in the tourism industry needs to be defined and the responsibilities of them should be determined. The different climate and disaster risk management plans should be interconnected. The isolated approach wouldn't be effective so the multi-sectoral and multi-scale connections should be sustained. Finally, the strategies need to direct the implementation process, the climate change impacts and the plan implementations require to be carefully monitored and feedback provided to eliminate the gaps in the plan. In order to achieve the targeted climate change responsive tourism development, the strategies need to be flexible, participatory, accountable, multi-sectoral, multi-actor and multi-level.

This study is only focused on the national tourism development strategy plan, however, there are regional or sub-regional tourism development plans that are site specific and partially considering climate change in their strategies. However, the leading document on tourism development in Turkey is national tourism development plan and it enables to provide inter-regional strategies instead of site-specific ones. Therefore, the framework of the study is limited with only this national plan as initial step on defining gaps. For the further studies, the regional and sub-regional tourism development plans can be analyzed in a multi-scale perspective regarding their climate change considerations and multi-level strategic suggestions can be provided. Moreover, there are some critical climate change national documents that also considers climate change impacts on tourism, tourism industry's

Figure 2. Climate Change Responsive Tourism Development Plan Framework (Produced by Authors)



impacts on climate change, climate change adaptation and mitigation strategies; such as; Turkey Ministry of Environment and Forest, Climate Change and Related Works, 2008; Turkey Ministry of Environment and Urbanism, Turkey Climate Change Strategy 2010-2023; Turkey Ministry of Environment and Urbanism, Turkey Climate Change Adaptation Strategy and Action Plan 2011-2023; Turkey Ministry of Environment and Urbanism, Climate Change and Turkey Report, 2012; Turkey Ministry of Environment and Urbanism, UNDP, Risk Management of Climate Change in Turkey, 2012; Turkey Ministry of Environment and Urbanism, 7th National Communication of Turkey Under the UNFCCC, 2018. All of these documents were prepared after the Turkey Tourism Strategy Plan, therefore, there is no link between these documents and strategy plan. The existing of these documents is an advantage for improving the current tourism strategy plan from the perspective of climate change while enhancing the interlinkages between these strategies and documents which can be a subject of further researches.

This study has provided a framework for Turkey's tourism strategic plan by identifying the gaps in the current one. It contributes to climate change awareness in the tourism industry and draws a roadmap for the future of Turkey's tourism strategies.

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