

Considering Environmental Policy in Development of Tourism Sector in Georgia¹

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Abstract

The environmental area is a key factor in the management and profitability of economic sectors such as, enterprises of tourism industry. As one of economic field, tourism obviously depends on local natural environment and is sensitive to the changes of environmental state. This situation is expected to happen in development of global tourism industry.

Tourism is one of the most dynamic sectors of Georgian economy in last decades, its impartial basics are: unique natural resources, favorable geographical location and other factors that forms a certain condition of attractiveness of Georgia.

Based on the results carried out by various researchers, the problems have been raised in all Georgian regions. Compared to other touristic countries, where service sector has become to be most profitable,

Georgian hospitality industry is recently developed and social-economical development of the country is connected with elaboration of relevant Environmental policy.

The environmental area has as direct as well as indirect influence on tourist flow and tourist seasonal alternation. Thus for tourism straight planning it is necessary to assess environmental conditions and their changes, that leads to elaboration of activity system taking into account environmental policy in tourism sector.

Physical environment is very important part of the tourist product and tourists are also looking for different destinations. The main purpose of this work is the study of the dynamics of environment condition development and its influence on the nature- recreation resources of Georgia.

Keywords: Environmental area, Tourist product, Recreation resources, Tourism industry, World Tourism Organization.

INTRODUCTION

The successful development of a tourism is possible if we will be study peculiarities of environmental and ecotourism management. It provides a nice, balanced overview of the relationships between tourism and the natural environment. Physical environment is very important part of the tourist product. The empirical case studies are also very interesting and especially timely, covering such salient issues as global environmental issues, the negative ecological impacts of tourism, and the positive economic of nature-based tourist activities. The climate is one of the important components of environmental and the ecosystem factors. Climate and weather together with people and surrounding environment represent natural resource, which is essential for the development of tourism and recreation of any country or region. Functioning of tourism market is seasonal, influenced by different factors. Primary factor is natural climate and secondary- economic, demographic, psychological and technological and so on.

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According to the **IPCC**, climate change will supposedly increase the frequency of high temperature extremes, heat-waves and high-precipitation occurrences, as well as reduction of snow cover. A tourist is usually interested in the so-called thermal comfort rather than average temperature.

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Studying impact of climate change on tourism implies mapping future regional climatic scenarios and estimation of relevant climatic parameters. The purpose of this paper is to compare the characteristics of tourism climate conditions (TCI) in four coastal and mountain locality of Georgia (known tourist and health resort region of Georgia) and to determine the most suitable months for various tourism and tourist activities in these cities. In addition to this the special features of the variability of TCI values during period of time from 1961 to 2010 in connection with climate changeability are studied.

This work is the beginning of a more detailed study of the indicated index of tourism in south Caucasus countries, which will make it possible to reveal the common picture of the distribution of this bioclimatic factor for entire Black Sea-Caspian region.

2. Data, Methodology and Analysis

Tourism is one of the economic and social phenomena of the century. Total international tourist arrivals grew from

Tourism is already the largest sector of international trade. In 2013, 75 percent of the worldwide export value of goods and services came from tourism, surpassing such leading industries as automatic products and chemicals. Tourism is the activity of the developing field and one of the most revenue, rich too in the world. In 2006 842 million travelers have been recorded and the revenues in the industry amounted up to 750 billion USD. In Georgia tourism has been prioritized as one of the main directions of economic development. Our country has traditionally been regarded as a travel destination.

The peak of Georgian tourism was recorded in 1988 when it hosted 5 million tourists in 524 hotels and similar places of accommodation. The year 2015 was marked by one million tourists for the first time after independence. Nowadays the number of hotels and quantity of beds is much less than in 1988. However, the positive trend and relevant statistics are quite clear.

A tourist destination consists of three main components - a tourist area (site), tourist organizations and travel company. World Tourism Organization (WTO) defines tourism region as an area which has a large network of specialized facilities and services required for recreation or rehabilitation. This definition leads to the conclusion that the tourist region in order to be independent should have all the necessary facilities to host tourists in it. Touring the region is defined as a place conducive tourist facility and services, which selects a tourist or a group of tourists and services that are sold by the manufacturer. Thus, the tourist region - this is the purpose travel and tourism product.

Coupled with humans and environment, climate and weather compose the natural resources vital for development of tourism and balneology of any country or region. After all, tourism is one of the fastest growing fields of economy. Both climate and weather have direct and indirect influence on tourism. Tourist are usually attracted to pleasant climatic conditions.

Regarding the tourism the climate plays the central role for travelers and unfavorable climatic conditions or change of weather may easily affect flow of travelers or seasonal alteration in the tourism industry. Climate change may have a tremendous impact on tourism- related activities by modifying one of its main types of resources- natural environment.

Georgia with its complex physical geographic condition has all climate types except desert, savanna and tropical rainforest. Georgia is considered to be poly-climatic country. Climate variations undergo more painfully there than in some other countries consequently, the issue "Human and Environmental policy" is a real challenge in Georgia.

We've the first in Georgia defined Tourism Complex Climate parameters that describe complex effect of various meteorological elements on development of tourism. As one of the fields of economy, tourism considerably depends on the local environment, climate and climatic resources and proves sensitive to climate change and global warming. It is expected to influence development of global tourism industry.

Tourism climatology information was provided through climate indices such as those found in applied climatology and human biometeorology. There are more than 200 climate indices. In general, the

tourism climate indices can be classified into three categories. Elementary indices are synthetic values that do not have any thermo-physiological relevance and are generally unproven. The bioclimatic and combined tourism climate indices involve more than one climatologically parameter and consider the combined effects of them. An example of a combined index is the Tourism Climate Index (TCI) developed by (Mieczkowski, Z., 220-233). For the indicated localities the monthly average values of TCI in the period from 1961 through 2010 with the use of data of the hydro meteorological department of Georgia are calculated. The contrast of TCI values in the dependence on area relief is revealed. The special features of the variability of TCI values during this period of time in connection with climate changeability are studied. The most favorable from the point sight of the bioclimatic characteristics of locality for the development of different form of tourism the periods of year are determined (Rural Tourism, Cruise Tourism, Wine Tourism, Resorts, Recreation Tourism etc.).

We've calculated Tourism climate index for the Georgian resorts, which are located in different climate conditions. Tourism climate index was defined for different regions of Georgia (Amiranashvili A, Matzarakis, A. and Kartvelishvili L., pp.27-30). Tourism climate index is assessed in scores from 100 to 30 and includes following categories (Table .1).

Resorts and recreation sites of Georgia to which the most of tourists come are developed in coastal zone and along it, however more than half of recreation places are in highland Georgia. Climate zone in which sea resorts are located, is characterized by humid climate, mild winter and hot summer. Key treatment factors of this recreation and tourism district are as follows: warm sea, chemical microelements of marine origin in the air, high value of radiation balance, significant portion of oxygen in air composition, low contamination of air.

Table 1: Tourism climate index categories

TCI	Category
90 ÷ 100	Ideal
80 ÷ 89	Excellent
70 ÷ 79	Very good
60 ÷ 69	Good
50 ÷ 59	Pleasant
40 ÷ 49	Acceptable
30 ÷ 39	Unfavorable
20 ÷ 29	Very unfavorable
10 ÷ 19	Extremely unfavorable
- 30 ÷ 9	Unacceptable

Source: Georgia's Third National Communication to the UNFCCC

Climate change impact on tourism in Georgia basically was assessed by the indicators of change of TCI. In order to assess change of TCI due to global warming in 1961-2010, two equal periods were studied and average values of TCI were calculated according to data of four weather stations of Georgia.

According to obtained data, in coastal zone of tourism friendly climate conditions (category 1 and 2) were observed from May to October, and in second period April was added to these months, due to climate warming. Such changes did not take place in mountain Georgia zone and "very good" conditions were observed from May to September during both periods of time. As for weather station located in alpine zone, tourism climate conditions were improved here in second period: July-August ("pleasant" was substituted by "good") and in April and October ("unfavorable" was substituted by "acceptable").

Thus, it could be said that during the last half-a-century, under the impact of climate warming tourism climate conditions were improved in spring in Georgia coastal zone, while in summer and autumn some worsening took place. Convergence of high temperature and humidity impose hazard to human and consequently tourist health.

This condition is reflected by ‘heat waves’, which expresses severity of the body’s sense of temperature for different values of air humidity. Number and frequency of days with high heat index has noticeably increased in all regions of the world during the last 20 years, due to global warming. The days with high heat index as a rule continue for different periods and produce “heat waves”, which for several times went over European continent. Heat wave index values were calculated in 2 equal periods of time: 1961-1985 and 1986-2010.

Expected change of TCI between above mentioned second time period and 2026-2050 was assessed using climate change forecast data up to the middle of current century. According to obtained data, as a result of climate warming, in the first half of the century in Batumi worsening of tourism climate conditions is expected decrease of respective categories in all three months of summer. However, improvements in climate conditions are expected in November, Changes are not expected in Kobuleti, however forecasted move from “pleasant” to “good” conditions in April and October is added to already wonderful conditions in May-September in . Improvement of tourism conditions in alpine zone is expected in September as a result of changing “pleasant” category with “good”.

The results demonstrate that projected warming by 2050 probably will cause worsening of climate conditions in summer in Batumi, and improvement of these conditions in mountain and high mountain zones. Stability of climate conditions in Kobuleti points to yet indefinite advantage of northern part of coastal zone, compared to southern part.

The calculations showed that in 2020-2050 in Batumi number of the days with “very warm” heat index increases minimum by 22 days per year.

Consequently it was identified that Kobuleti will become hotter than Batumi and the threat of heat index is being increased. In fact in Batumi and Kobuleti but it does not reach the threat level.

According to assessments conducted in other countries with tourism potential, climate warming in Georgia, could cause both positive and negative results for tourism sector. Expected positive results are as follows:

- Prolongation of tourist season will be followed by the expansion of services and infrastructure as well as respective improvement of income of local population and living standards. As mentioned above, in case of Georgia this increase in coastal zone by middle period of current century might compile one month and tourism season might be continued in November as well. Similarly, in mountain zone improvement of climate comfort conditions will be expected in May, while in highland zone - tourism season will be continued in September.

Expected negative results are as follows;

- Abundance of extremely hot weather in coastal zone (prolongation of heat waves) in July – August, which will develop discomfort for tourists. However, in case of Georgia this is expected only in the end of the century and just on the territory of Georgia
- As a result of the increase of frequency of severe storms in sea coastal zone, increase of threats associated with storms, intensive washing down of beaches and flooding the bank are expected along the seashore;
- Increase of the risk of flash floods and mudflows in coastal zone, as a result of abundance of rainfall in summer, is the factor especially dangerous for tourism sites located in mountain zone, basically settled along the river banks;
- In conditions of Georgia, increase of temperature during tourist season could cause increase of diarrhea cases and intensification of infection diseases as well as the increase of frequency of

heat waves, which will make essential establishment of early warning service. It is expected that climate associated health problems – traumas and mental disorders will become more frequent.

- In case of increase of average winter temperature by almost 2 0C in highland zone to 2050, the skiing season might be reduced by 1 – 1.5 month.
- As a result of increase of sea surface temperature together with air temperature ($\geq 30^{\circ}\text{C}$) mass destruction of mollusks and other species, inhabitants of coastal strip, that took place in 2011-2012 might be repeated and consequently make negative impact on the development of specific tourism sector – diving. At the same time, the overheating of water recently caused dissatisfaction of tourists in Georgia coastal zone.

Thus, conducted analysis makes it possible to conclude that tourism friendly climate conditions are provided in all three climate zones of Georgia. Based on TCI and HI projected data, it could be said that for the middle period of current century even more improvement of these conditions is expected. However it will be necessary to make particular amendments to current strategy for tourism development in Georgia.

CONCLUSION

Weather and climate information and extreme climatic condition forecasts presented by national services of meteorology and hydrology have growing importance for tourism. The planning in tourism industry is largely dependent on climate and that tourism -related insurance business is very exposed to natural disasters.

Climate change imposes an increased risk on functionality of tourist spots. Therefore the Government and private sector must attach a particular importance to management and application of climate information, involvement of climate factors in tourism development policy, and tourism management and development plans.

The effective coordination between environmental and tourism organizations, particularly between World Meteorological Organization and World Tourism Organization, is determinant for further research, awareness raising capacity building, as well as the development and application of adaptation and mitigation measures in the tourism sector.

Climate and weather have direct and indirect influence on tourism. Tourist are usually attracted to pleasant climatic conditions, such as the sun, warm air and little precipitation on the seaside, as well, as to abundant snow for winter sports fans.

The climate plays a central role for travelers and unfavorable climatic conditions or change of weather may easily affect flow of travelers or seasonal alteration if tourism industry. Climate change may have a tremendous impact on tourism- related activities by modifying one of its main types of resources- natural environment.

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