

Speleotourism Potential in Imereti Region on the Example of Tetra Cave

Nana Bliadze¹; Magdana Kvabziridze²
Academic Doctor of Geography,
Assistant Professor Department of Geography,
Akaki Tsereteli State University, Kutaisi, Georgia

Abstract: With speleotourism potential, Imereti region is an outstanding region throughout the country. Effective, reasonable utilization of the mentioned resource can bring significant economic and social benefits. From the point of view of tourist motivation, modern speleotourism is divided into 3 main directions: extreme, spectacular and healing tourism. Imereti region has the opportunity to develop all three speleotourism destinations. As for the speleotourism potential of Tetra cave, along with extreme and spectacular destinations, it is also interesting from the point of view of speleotherapy. In general, healing speleotourism is related to the unique microclimatic conditions of caves: particularly dry or humid air, constant temperature, concentration of mineral salts. The air of Tetra Cave is characterized by high, negative ionization and a relatively high background of natural radioactivity, these properties give it important healing properties and provide the opportunity for the development of speleotherapy.

Keywords: - Speleotourism, Speleotherapy, Microclimate, Protected Area.

I. INTRODUCTION

Tourism is considered one of the fastest growing industries of the 21st century, it has covered almost all areas of our coexistence and has actually changed the world around us.

The tourism industry is one of the largest sectors of the world economy. Its development started at an accelerated pace in the 1950s, soon it took a mass form and acquired a global scale. Tourism is big business and a serious source of income for many countries. Today, this field has become one of the priorities of the economic policy of our state. The country has quite a lot of resources for the development of this field, and their effective, reasonable use can bring significant economic and social benefits.

Tourism, first of all, is the discovery of new countries, peoples, cultures, civilizations, acquaintance and satisfaction of geographical curiosity; On the other hand, tourism today is already an important public activity involving hundreds of millions of people, and the third tourism is a large branch of the economy – an industry with

its own subjects, objects, faces and peculiarities of relations, and finally tourism is a specific business – a comprehensive branch of the service sector.

Among the types of tourism, in the Imereti region, from the economic point of view, the role of speleoresources and speleotourism is important. Speleotourism is a trip to the underground world, the natural resources for the development of which are caves with different geological formations, terrain, structure, hydrographic network and fauna, which have a certain touristic-recreational value. Tourists are attracted to the caves by the strange, different, peculiarly attractive underground natural environment: variety of terrain, large underground halls, karst forms colored by minerals (stalagmites and stalactites), underground rivers and lakes, narrow passages, specific flora and fauna. The attractiveness of the cave landscape determines that caves are one of the most visited objects by tourists. This regularity applies to all regions of the world.

II. LITERATURE REVIEW

From the point of view of tourist motivation, modern speleotourism is divided into 3 main directions: extreme, spectacular and healing tourism.

Extreme speleotourism (Caving) is a type of recreational sport, which is related to the discovery and exploration of unimproved, pristinely preserved caves. There are less unexploited caves in the world for extreme speleotourism, so the unexplored factor may even turn out to be favorable for the caves of our country.

Spectacular speleotourism (Show Cave Tourism) is organized in the most attractive and easily accessible caves, in which it is possible to allow visitors and are equipped accordingly. The category of similar caves includes Sataplia, Prometheus, Navenakhevi and Tetra caves (Imereti).

Therapeutic speleotourism (Speleotherapy) is related to the unique microclimatic conditions of the caves: the special dryness or humidity of the air, the constant temperature, the concentration of mineral salts. Healing properties of caves have been used for a long time in the treatment of bronchial asthma, bronchitis, allergic diseases, immunodeficiency conditions 3.

Georgia is very rich in speleological resources. With the abundance of karst caves, it is one of the first in the world, therefore Georgia has the opportunity to develop all three speleotourism destinations. At the regional level, the Imereti region has the greatest potential for the development of speleotourism, where the caves of Sataplia, Prometheus, Tetra and others are united within the protected area of caves.

Among speleotourism destinations in Imereti region, therapeutic speleotourism, namely speleotherapy, is an important direction. In the mentioned direction, the Sataplia cave is interesting, which can be used for balneological treatment, in particular, since the Soviet period, bronchial asthma, bronchitis, allergic diseases and functional diseases of the cardiovascular system have been treated here. Sataplia cave is located in the territory of Tskaltubo municipality, in the village of Banoja. For the first time, it was equipped and made available for mass tourism. In addition to the Sataplia Cave, recently the Speleotherapy potential was added to the speleo-tourism potential of the Tetra Cave, which during the Soviet period served users from the point of view of speleotherapy, although it stopped functioning in the 90s, and now the cave has resumed its work in this direction by 2020.

III. RESULT AND DISCUSSION

Tetra Cave is located in the Tskaltubo municipality, in the territory of the Tskaltubo resort, 80 m above sea level, 1.5 km to the northeast of the city. It is produced in lower cretaceous limestones. The formation of the cave took place in the phreatic regime by the active action of pressurized waters. Later, temporary water flows played an active role in its formation. Currently, the cave is in the dry-talan stage of development.

Tetra Cave is interesting for its variety of old siphon channels. The natural entrance of the cave is represented by a hollow hole 7 m deep and 2 m in diameter. The cave is also connected by an artificially cut horizontal tunnel to a vast hall with a horizontal floor, the length of which is about 100 m, the width is 10-25 m, and the ceiling height varies in the range of 6-10 m. The single space is conventionally divided into three halls of different sizes. The bottom area is about 2000 m², the volume is 9000 m³. The cave is rich in a variety of rock formations, including stalagmites, stalactites, columns, "floating calcites", "curbs" and more. In some areas, the thickness of clay layers reaches 9-10 m. Crack systems formed by disjunctive dislocations are weakly expressed.

The average air temperature in the cave is 13 degrees. The air of the cave is characterized by high, negative ionization and a relatively high background of natural radioactivity, these properties give it important healing properties. The cave enjoyed great popularity in the 70-90s of the last century, when it was actively used for speleo-remedial therapy: bronchial asthma, chronic bronchial problems and hypertensive patients were successfully treated in the cave

It should be noted that during the "Soviet Union" period, "Tetra" was also a training and rehabilitation place for cosmonauts. During the expedition conducted in April 2008, it was found that the doors of the cave were broken, and traces of unauthorized presence of people were left in the cave.

By 2010, proposals were processed to restore the natural healing potential of the Tetra Cave. Implementation of various measures practically completely restored the unique microclimatic and bioclimatic properties of the cave. According to the results of expedition measurements on June 24, 2018, the radioactive and ionization state of the cave was restored and the indicators returned to the previous values.

The cave is an important archaeological monument. Archaeologically studied in 1954-55 (leader Aleksandre Kalandadze) and from 1956 (leader Karlo Kalandadze). Traces of human life dating back 30,000 years are also confirmed in "Tetra Cave". As a result of archaeological excavations, 15,000 artefacts have been found here, after the relevant works are carried out, in the future, visitors will be given the opportunity to view copies of the said material on the spot.

In the cave were found the bones of primitive people, household items made by them and military tools, including a copper arrowhead, which was a unique product at the time and indicated the technology of copper processing in Georgia from ancient times.

As a result of the auction, in 2019, the cave was transferred to LLC "Tetra Group" under a lease agreement. The lessee company invested up to 400,000 GEL in the arrangement of the ecotourism space of Tetra Cave within 1 year of signing the contract. Ceilings and walls were cleaned of vandal marks, household and construction wastes were cleaned, and eco-tourism spaces were organized for visitors.

The climate and temperature regime of the cave (humidity and constant temperature of 13-14 degrees) create an excellent environment for wine aging. In order to promote wine tourism in Imereti, the current investor company has created storage and aging spaces in "Tetra". Accordingly, guests have the opportunity to taste and buy high-class and different types of Imerian wines. Therefore, "Tetra Group" retrained a group of guide-sommeliers who will provide high-quality services to Georgian and foreign visitors.

Currently, up to 20 companies age and store their best wines in Tetra Cave. Many of them have been placing wine here for more than a year at +14 degrees, in bottled form.

➤ *Types of Services and Cost*

- Cognitive tour of the cave - 15 GEL
- Cognitive tour of the cave (6-18 years) - 7 GEL
- Cognitive tour of the cave (under 6) - free of charge
- Speleo-healing therapy (1 hour) - 20 GEL
- Speleo-remedial therapy (6-18 years) - 10 GEL
- Wine tour with tasting of three types of wine - 25 GEL

- The cave currently holds the status of a natural monument and is a profitable object from the economic point of view, which is part of the protected area of Imereti caves.

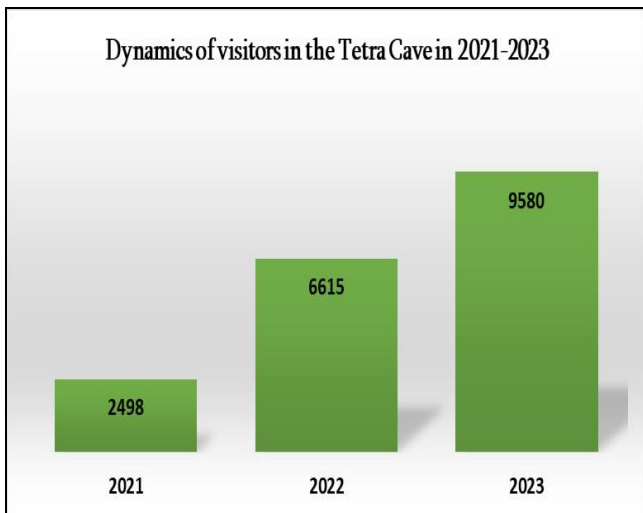


Fig 1: Dynamics of Visitors in the Tetra Cave in 2021-2023

Source: <http://apa.gov.ge/ge/statistika/vizitorta-statistika>

IV. CONCLUSION

In conclusion, it can be said that despite the small size of the territory (6.6 thousand square kilometers), there is a full possibility of successful development of three main directions of speleotourism (extreme, spectacular and healing tourism) in the territory of Imereti, and this possibility is due to its diverse speleoresources.

It should be noted that speleotourism facilities are easily accessible to all types of users (tourists), whether they want an extreme tour or a medical tour, depending on their geographical location. 99% of these facilities are equipped at least to the extent that they can freely meet the demand for all three types of speleotourism.

REFERENCES

- [1]. M.Metreveli "Tourism Economy", Tbilisi, pp.145-255, 2013.
- [2]. Vakhushti Bagrationi Institute of Geography, Cadastre of Karst Caves of Georgia, Authors: Z. Tatashidze, K.Tsikrishvili, J. Jishkariani (Work Collection), New, 3(82) pp.182-190, Tbilisi 2009.
- [3]. D. Maisuradze, G. Khomeriki, T. Khutsishvili, "Perspectives for the development of speleotourism in Georgia and tasks of Georgian geography". Pp. 118-245, Tbilisi, 2005.
- [4]. Caves of Georgia, Shak. The periodical collection of the speleological complex, 1963 year.
- [5]. O. Chkheidze - physical geography of Imereti vol.1,2. Pp 280-299. Kutaisi 2008.
- [6]. Kartvelishvili L., Kurdashvili L. Tourism and environmental policy. Modern problems of geography, collection of works, new series. Proceedings of the international conference. TSU. Vakhushti Bagration Institute of Geography. Tbilisi, 2013
- [7]. D.UKleba - "Natural resources and conditions of Imereti" Works of Vakhushti Bagrationi Institute of Geography, Volume 11, Tbilisi, 1959.
- [8]. Marketing strategy of tourism development in Imereti (Georgia). Analysis of tourism statistics. Barcelona/Tbilisi, 2012/2017/2024
- [9]. <https://nationalparks.ge/ka/site/TetraCave>
- [10]. <https://apa.gov.ge/ge/eco-tourism/servisebi-dar-tarifebi/tetra-mgvime>