

The Values and the Problems of the Natural Heritage of the Region of Elbasan

Dr.Vladimir Tavaxhi

Department of History and Geography, "Aleksandër Xhuvani" University
tavaxhiu2001@yahoo.co.uk

Doi:10.5901/jesr.2014.v4n2p103

Abstract

Various studies, among them geographical ones, like the application of the new concepts on the Natural Heritage, since 1990, helped in the construction of the biodiversity protection strategy, which served as a basis for providing legal support conservation and management of Natural heritage for identifying and proposing new protected sites, which now accounts around 16% of the territory of Albania and are represented by the six categories of protected areas provided by the IUCN. Studies continue to expand about the protected areas and preparation of their management plans. In this context, particular importance have the studies of the natural heritage for particular regions of the country. Our article has the object of study of Natural Heritage of the region of Elbasan, concentrating mostly on the natural monuments of this region. This article makes evident this valuable asset emphasising in this way the scientific, ecological, cultural, spiritual and turistic values of its sites: in the many problems of the protected areas and it analyses and proposes the application of better models in the management with the purpose: the protection and regeneration of the values, their return in a source of scientific information, in didactic laboratories and ecological and patriotic education notably in attractive turistic objects with the intention of the stable development of the region.

Keywords: Natural Heritage, natural monuments, regeneration, turistic objects, region.

1. General Considerations

The study, evaluation, the protection and management of the Natural and Cultural Heritage constitutes an urgent need to avoid the harmful consequences toward this Heritage of the latest development in the world and in Albania, like: globalisation, the massive displacement of people from mountain areas toward the fields and otherwise the galloping urbanization with major environmental problems.¹

Like the new concepts applied in Albania after the 1990 the Natural heritage² is considered an unique value of biotic and abiotic area transmitted in generations. It is composed by objects, habitats, specific ecosystems, special or unique, relic, endemic or in danger to disappear. Being with these characteristics they have scientific values, cultural didactic and turistic ones. These special values are preserved and protected not only with the forms and laws that are applicable to common natural heritage, but also with special laws. In these the human activities are exercised to protect and identify their values, that are expressed in the rich biodiversity and unique landscape.

The content of re-conceptualisation, evaluation and management of the natural heritage that is expressed with the protected areas³ it gives to the geography a broad base of study, the ability to run the planes of management of this Natural heritage.

So geographers in developed countries, but also in Albania, are indisputably part of the group of specialists that are concerned with the study and management of natural heritage, providing valuable contribution in the evidencing and scientific justification for the status of natural heritage natural sites, in the application the best models of management of sites for their return to scientific source, in didactic laboratories, environmental and patriotic education, especially the

¹ Qiriaz P. Tavaxhiu. V. " Natural Heritage - Innovation studies and the curricula of Albanian geography " " Albanian Studies, Geography 2013.

² IUCN (1994) Guidelines for the protected area and management categories . CNNP with the assistance of WCMC. IUNC, Gland, Switzerland and Cambridge . UK

³ Initially the concept of protected area included only biodiversity, but now much more: biodiversity, landscape beauty, rare geological formations, particular forms of relief, hydrographic values, rich cultural traditions, artiteturore, etc. archaeological treasures. Already the protected area is qualified as land space, water or ground water, with particular values and protected by law, special regulations that restrict the presence of human activity and manage the scientific method.

return of natural heritage sites in tourist facilities, with the purpose of sustainable development.⁴

It is the time when our Natural Heritage must be saved, so rich and diverse but in the same time is in danger from the natural factors and mostly by anthropogenic ones in the conditions of the rapid and caotic developement of the prolonged transition. ⁵ In the same time it must be appreciated for the turistic development in our country, considered a priority in the stable development. In Today conditions of globalization, it is noticed the decline of the tourism industry of the sea and the sun while the tourism of the particuar interes,that includes the natural and cultural heritage, is going to a stable and rapid development. The visitors of this Natural and cultural heritage are in search of educational experiences around the culture, history and local nature,choosing to stay in small and qualitative hotels to test the tradicional kitchen and buying characteristic and artisan products.

The condition of the Natural heritage, the damage of its sites mostly after the 1990 and the narrow concept, worried the researchers of the Albanian nature. For this reason they began to work for the study and the real valuation of them, applying the today's concept of the natural heritage from the IUCN. An important step in the recognition and protection of the natural monuments marks the study of " The strategy of the defence of Albanian Biodiversity" and " The Natural Monuments -cadastre, their protection and preservation".⁶ The author of this publication was in the same time his collaborator.

Nevertheless the results of these studies, for the Albanian Natural Heritage are problematic for their scientific character legislativ and instuticional one. To help on the resolving of these problems the work is in the way for the preservation, mapping study sites with special natural values of the country, the state and their problems, to determine the protective measures and ways of using them for research purposes, didactic and tourist.⁷ Successes were recorded in the monuments of nature studies, published in the form of monographs and electronic format.⁸ There were showed the natural monuments of the country, values, problems, concerns, and on the basis of a special program,also was created the computerized monument of natural landmarks, the first of its kind in the country.

Different studies among them and geografical ones after 1990 in Albania,helped in the construction of the strategy for the protection of the biodiversity that served as the basis for providing legal support conservation and management of natural heritage, to identify and propose new protected sites, which now accounts for around 16% of the territory of Albania and represented by the six categories of protected data by IUCN: 2 strictly protected reserves, 15 national parks, 697 natural monuments, 22 natural reserves managed, 5 protected landscapes, 4 managed resource areas and 1 regional park.⁹

The Studies continue for the expansion of the protected territories also the preparation for their management plans to. There have been made proposals to the extent of 20% for the protect areas of our country, getting closer to developed European countries. In this context, particular importance are studies of natural heritage for particular regions of the country. The object of the article is our national natural heritage of the region of Elbasan.

2. The Natural Heritage of the Region of Elbasan

The region of Elbasan lies in the central part of Albania ; in several tectonic zones with lithological composition of different geological structure (terrigenous, carbonate, evaporate, magmatic) lies partly in the flat, but hilly and mountainous of the country, ie with different hypsometric large levels; in three climatic zones : Mediterranean plains, hilly and mountainous Mediterranean, in some watersheds, land and plant generations .

In this region are studied, proposed and approved 19 natural monuments and managed nature reserve of "Qafe Bushi"

But recent studies have shown that it is completely possible the further expansion of the protected area .¹⁰This relates to the special geographical position of the region .¹¹As all of Albania, located in the region of overlap band that is influenced with tropical latitude average, sea and land, low and large heights, conditioned by putting the country on the

⁴ Qiriaz P. Tavanxhiu. V. " Natural Heritage - Innovation studies and the curricula of Albanian geography " " Albanian Studies, nr 4 Geography 2012.

⁵ Agenda for a sustainable and competitive European tourism" (COM (2007)0621) ("Agenda 21")

⁶ Alliance Biological Studies Center - Museum of Natural Sciences. Biodiversity Protection Strategy in Albania, 1998.

⁷ Qiriaz P, Sala S, Nature Monuments of Albania, Tirana 2006.

⁸ Qiriaz P, Sala S, Nature Monuments Albania electronic edition CD, Tirana 2005.

⁹ Ministry of Environment, Forests and Water Administration, 2013.

¹⁰ Qiriaz P, Sala S, Nature Monuments of Albania, Tirana 2006.

¹¹ The Council of Ministers of RA, no. 676, dated 20.12.2002, "On the declaration of protected areas, natural monuments".

path of migration of many creatures from the north south and vice versa ; is related with the evolution of his nature, which is too long and complex, full of events, along with traces and consequences of natural and ecological, that are preserved in the current landscape, diverse and interesting too.¹²

All these have created highlighting of the natural diversity, the special values of natural heritage much more than are studied and identified so far, many others deserve the status of the protected area, but they should be studied with details and on this basis they should be argued and proposed for inclusion in the list of such property.

3. The Monuments of the Nature of the Region

Nature monuments are of different types : 3 geo-monuments, 3 hydro-monuments and 13 bio-monuments. Following are some features of these monuments differentiated according to their categories. In geo-monument category, according to the new concept are included: geological objects (exposure or unique fossils, geological formations and rare structures) geomorphological objects (microforms, relief forms and landscapes created or modeled by wind, ice, snow, frost, rivers, sea or lake waves, erosion of natural causes and intensified by man, etc.) . Important place in this category occupies forms of karst underworld : wells, Stern and caves . Geo-monuments of our study region are associated with karst process, developed in gypsum and limestone, as surface and the underground forms . They have scientific geomorphological, aesthetic, didactic, ecological values .

They are :

- "Hinka e kosoves".It is stated in Dumre, near the rural road that goes toward the village of Kosovo . Represents karst funnel, formed in gypsum - triasit permon . Its diameter reaches about 50 m and 30 m depth. At the end of her blotter ponor, where water depth is lost in run off. They point to the continuation of the karst.
- *Mali i Gradishtes*.It is stated in the southeast of Belesh . Also known as the "Rock of Gradishta". Represents the activity waste gypsum karst of permo-trias. It is about 350 m high and several hundred meters long and 100 m wide. The Uvala is surrounded by karst areas. In the crest there are archaeological remains of a prehistoric settlement, and residents to have labeled "Gradishta" then "city".
- *The cave of Graceni*.It is stated near the village Graceni. Formed in limestone of Crete, is not yet fully explored.The known length is about 20 m.

In hydro-category monuments are considered: karst lakes, vast resources and interesting karst, mining and thermo-mineral hot steam explosions, waterfalls, wetlands, etc.. Hydro category monuments of our study region are associated with karst process, developed in the dome plateau gypsum and geothermal processes. They have scientific value (hydrological, biological), aesthetic, didactic, ecological. Hydromonuments These are:

- *Seferani Lake*.It is located near the village of Seferani in Dumre. Constitutes karst lake formed in plaster, by merging several karst funnel, filled with water after blocking ponor with clay at the bottom of this funnel. There the area is 87.5 ha, average depth 4.5 m, while the largest 20,8 m, length 2,05 km, width up to 500 m. Forms the lake ecosystem, with rich vibrant world. The water lilies are distinguished, in spring turning to a thriving garden.
- *Branch Lake* .It is located near the village of Fierza in the dome plateau, about 160 m above the sea level. Karst lake is about 1600 m long, 300 m wide, 17.9 m deep, while the surface 37,4 ha. It is among the most beautiful ones in Dumre and is special for the lively and the rich world founded there. The water temperature in winter is 7.8 to 8 ° C. Up to 15 m depth, it has dissolved oxygen content in water is 1.5 mg / l. Below this depth, acid appears sulf-hydro
- *The Spa sources of the Hibratit*. It is located in the upper stream of Thermal Bath Complex, about 200 m above sea level. Resources are thermo mineral temperature around 40°C, content of dissolved salts and gases. Long used to treat diseases of polyarthritis, arthritis, rheumatism etc.. There are hotels and medical service facilities, add improved in recent years. Nearby is the oak forest, natural monument.

In the category of bio-monuments are included rare occurrences of biodiversity such as trees, groups of trees with interesting crown or early stage; habitats consisting of virgin vegetables or characteristic of living and rare creatures, endangered, endemic. Our region's bio- monuments are related with research groups isolated trees or trees, which are known for the large size, early age, virgin habitats, rare plant communities, etc.. They have scientific value of biological, aesthetic, religious tourism. These bio-monuments are:

¹² *Natural monument is the subject of nature with unique values: scientific, ecological, cultural, historical, aesthetic, didactic, religious, habitat of rare species, endemic, threatened or of special importance to the area of 50 ha.*

- **Dushku i Lleshanit.** It is located in the Lleshan village, near the road to Gjinar municipality of the same name, about 1000 m above sea level. Represents a separate wood, aged 250 years, height about 21 m, diameter trunk circumference 120 cm 240 cm. There are 32 branches of regular shape of crown circumference about 92 m.
- **Mështekna Zavalinës.** It is located near the village Zavalinë municipality of the same name, 1000-1170 m above sea level. Represents the birch forest (7.5 ha) of trees aged 130 years, height about 16 m, trunk diameter to 22 cm. Is damaged by logging.
- **Pisha e fushe Kuqes.** It is located in the field in the village Gjinar, 920-1000 m above sea level. Represents black pine forest, with 2 ha area, old trees and young, with 18-20 m height, trunk diameter of 38-50 cm, age 149-158 years.
- **Dushku i Kishes .** It is located in Gjinar near the village church, 900 meters above sea level . Represents a 300 years oak apart in age, height 22 m, diameter 210 cm, 670 cm trunk circumference . 9 branches that form a crown form with 82 m circumference, damaged by natural factors .
- **Lisat e Pashtreshit.** It is located near the village of Pashtresh, Gjinar municipality, about 700 above sea level . Oak trees make up a well-preserved, with 16-18 m height, trunk diameter of 68-70 cm, age 200-250 years . Nearby are the ruins of a church.
- **Mani i Zi i Joronishtit.** It is located in the Joronisht village, municipality Zavaline, represented by wood dangling craze . Nobody knows how it is well situated . There are 320 years of age, height 8 m, diameter 72 cm trunk circumference of 226 cm . 4 its subsidiaries form the perimeter crown ombrellore 26 m ..
- **Rrepet e Byshekut .** It is located in Shushice village, about 175 m above sea level . Some of the groups are plane trees (0.4 ha), with 18-22 m height, trunk diameter of 50-90 cm, age 500-600 years . Nearby are several sources that are visited by residents of Elbasan . Beets are damaged by natural factors, the age of the fires .
- **Rrobulli i Zeleshnjës.** It is located near the village of Zeleshnje in the municipality of Gjinar, 1650-1700 m above sea level . Rrobulli forest area represents the 1.5 ha . Is also known as Stan Verçes forest . The height of the tree is 18-20, 35-40 cm diameter trees, while their age is about 100-120 years.
- **Rrapi i Bezistanit.** It is located in the center of the city of Elbasan, 120 m above the sea level, 500 -year-old, it has a round crown, with four branches of perimeter 30 m, height of 20 m, diameter of trunk circumference 110 cm and 700 cm . Under his crown are developed : shopping, meetings, assemblies, etc. .
- **Rrapi i Vojvodës.** It is located in the eastern part of Elbasan, near the Martyrs Cemetery, 130 m above sea level . There are 600 years of age . Is damaged by natural factors and man . The height was 23 m (cut over 3 m from the ground), trunk diameter of 173 cm and 180 cm circumference . 5 branches form a crown with 30 m circumference. Its trunk is hollow . There are 2-3 seedlings .
- **Rrapi i Gurrës së Labinotit.** It is located in the village of Labinotit near the Labinot municipality of the same name, 820 m above sea level . There are 120 years of age, regular crown and well maintained, serving as a meeting point for residents and resort, because it is near the karst source of Labinot Gurrës . The height is 16 m, trunk diameter of 94 cm, while its circumference 194 cm . Over 20 branches form a crown with 42 m circumference .
- **Frasheri i Madh ne Polis Valë .** It is located in Polis in the neighborhood of the village of Val Polis . Wood ash is between shrubs . It is 20 meters tall and old age, has natural damage .
- **Pylli aluvial i shushices.** It is located to the left of the river Shkumbin Shushicë near the village and the municipality with the same name . The woods represents more hygrophilous (willows, rapishte etc.), over 15-20 years.

The Values of the monuments of natures of the study region are related to the specificity of action and natural factors that have conditioned a clear distinction from other objects of nature . These values are numerous, unrepeatable and irreversible for our nature and society :

- Irreplaceable source of information for many sciences ; resource for scientific research ;
- Source culture for people of different professions and ages;
- Irreplaceable teaching tools, pupils and students in these natural laboratories receive and specify true scientific knowledge ;
- Recognising the value of the protected monuments of nature, they become a source of ecological education for the citizens .

- If the natural monuments are maintained and protected, if they are carefully studied, defined and propagated their values, then they can not be a small source of financial income. Tourists are interested to be known with the curiosities of nature. So they visit them with pleasure paying in this way the tax of this visit.

In our study of this category of protected areas the attention was devoted on the spiritual values of its sites, exploring their relationship with the legend, the pagan religious rites, or historical events. The present research have identified more spiritual value of nature monuments. But these results should not be considered final. Rather it should work in this direction in the future because in this way it is known well and preserved the history of our world that is very spiritual, and is evidenced further our national identity, our rich traditions and monuments of nature can become more interesting to be visited by tourists. Among these values we emphasize:

- The monuments of nature give spiritual satisfaction for all visitors to enjoy and understand their values, especially aesthetic. The sensations when looking at Graceni are unforgettable that arise at Graceni karst cave of wonders and mysteries of the underworld crystals, when visiting Lake Branch of Seferani or, especially in the time of blooming water lilies, Kosovo karst sink, or the mountain of the Gradishta, which rises like a giant castle on septic fields surrounding Hibrajt thermal springs, secular beets in the center of villages and the city of Elbasan.
- Rrapi i Bezistanit is in the center of the city of Elbasan and Labinot Gurres, Lleshanit oaks and the Church of Zeleshnje Rrobulle, the Black craze of Joronishtit is turned back in symbol, in identifier for residents. This served as the starting point for the growth and expansion of the township, in the shadow of them are developed, and held conversations, meetings and large assemblies, where decisions are important for the life in the downtown, or the whole region. Their values are transmitted from generation to generation, becoming an integral part of the spiritual world community's strong ties to his spiritual abode. Nobody goes in mind to intend to harm the monument but in the contrary to always show special care, everyone will feel themselves badly if any 'crazy' would undermine the "century plane", or damage the symbol of their city.

4. The Natural Managed Reserves of Qafë Bushi (500 ha)

This reservoir is located in the mountainous extremely rugged, in the two slopes of the mountain ridge of Qerret, at heights of about 500-600 m to about 1400 m, in the stream of the watersheds of Kuturmani and Xibrakes. Its territory is composed of diverse geological, ultrabasic and limestone mixed with each other and with tectonic contacts between them. The reserve has value as a representation of the oak forest, accompanying flora and fauna characteristic of this type of forest. It used to chase the wild boar (*Sus stanza*), rabbit, etc. They have also eco-tourism values.

5. Some Problems of the Region's Natural Heritage

5.1 *The natural managed reserves of Qafë Bushi*

The problems associated with this reserve it is related with the erosion rather developed, which is conditioned by the geological features of the building, the landscape and climate, but also by human intervention, which has been damaged and exhausted. This erosion is not the same development. According to its degree of development are distinguished: the suburbs and inside the reserve. Erosion in the suburbs is very intense, especially in western and southern outskirts, where vegetation as a result of human activity (there are several villages), is degraded scrub stage, even Graminace stage, but not missing completely the open surfaces. In these surroundings are all forms of surface erosion and concentrated, as runlets, streams, ravines, streams and sliding torrential old and new. On the river's erosive of Xibraka, which it is famous for the steep incline of the bed and the watershed. the river in many sectors, is highly erosive. This stream is temporary, has water only during heavy rainfall when more flow takes the form of raging mud, eroding the river and banks. In the river there is no built mountain ambush or other disposition. This further increases its vulnerability. The river and other forms of erosion from the suburbs tend to penetrate inward, following the trend of increasing human interference inside the reserve. This intervention has different forms: cutting the forest, use of oak leaves for winter feed for livestock and overgrazing. This interference is more intense in the vicinity of residential areas. It is the main cause of degradation of vegetation and intensive erosion, posing a real threat to vegetation degradation and erosion of progress in terms of interior and reservoir heights.

This part of the reserve is covered with fairly dense vegetation, mostly high forest, not degrade, or with a very small degradation. It also relates to the erosion of the weak, so insignificant, that takes place in the interior of the reserve

territory .

The only erosive processes that take place in this part are falling gravitational craggy. But the extent of damage to vegetation is still small, because vegetation is thick and high forest . As mentioned above, this part compromised by erosive forms of penetration of the hinterland towards the center . In these conditions, we would recommend:

- Discipline of human intervention in the territory of the reserve and its surroundings.
- Detailed survey of all problematic sectors where operating speed the process of erosion and sectors most threatened by him .
- On the basis of surveying, to study and to determine the protective measures.

5.2 The monuments of nature

Studies, documentation and our field workers protected areas, forests and nature dashamirsve indicate that protected areas across the country, and the region of Elbasan, are facing many problems and too disturbing for the present and future . These problems relate to the action of natural factors (floods, landslides, earthquakes, natural aging of bio etc.), but rather with human activity :

- Lack of understanding of the concept of natural heritage values of its importance, for the identification and protection paths;
- Deficiencies in the preparation of plans and strategies for the recognition, protection, management and use of science for sustainable development values of protected areas;
- Deficiencies in the legal and institutional support, infrastructure and financial resources;
- Damage to measure the values of protected areas: abusive cutting of forests, indiscriminate hunting of wild animals and vehicles prohibited deliberate fires,
- Building chaotic, disturbing the ecological balance of some protected areas;
- Lack of experience and training for management of protected areas according to current concepts etc..
- Particularly significant problems have the monuments of nature, which are outside the attention of local authorities, who did not know the nature of the values of the territory it administers . Otherwise how do you explain that there is no monument to the nature of the plane tree of Bezistani downtown Elbasan are labeled " Monument of Culture " . Outside attention to these monuments are the makers and implementers of strategies and programs for tourism development in the region . No missing case of damage to monuments of nature. This will emphasize the case of drying the Voivode plane, speed of construction and concreting of land around its root . If they continue, will soon disappear forever precious natural values and irreversible . This, among other things, talks about the many shortcomings of public awareness of one's opinion on all levels of the value of its monuments of nature.

6. Conclusions and Recommendations

Drawing on new concepts of natural heritage in the region of Elbasan are identified, studied, proposed and declared 19 monuments of nature and wildlife reserve managed "Qafa e Bushit".

Natyrae region, the development of long, complex, with unique geographical position, against knit continental marine impacts, the lower areas of high migration in the way of living things, is rich with diverse and unique site, to be expansionated for continue studies of the area of protected natural heritage site .

In nowadays the research is to identify more spiritual value of nature monuments . But in this direction will work hard in the future . Because so well known and preserved history and our world was very spiritual, and root evidenced further our national identity, our rich traditions and monuments of nature become more interesting to be visited by tourists.

Natural heritage of the region of Elbasan faces with numerous problems, such as damage and destruction of its sites; lack of scientific management plans, funding etc. Deficiency recognition of new concepts appreciation of natural heritage for sustainable development of the drafters of enforcement this development strategies etc..

Protecting the natural heritage, as a more complex process, requires the recognition and application of new concepts of ecological, social, economic, political, participation of many partners as actors: state bodies, local community residents, seeks assistance from all citizens. It is realized through: legal and institutional support, formulation of appropriate policies and strategies, preparation and implementation of programs of study.

Attention should be paid to scientific management of natural heritage sites in the region, applying best models of

this order management, protection of natural values , return to source scientific, didactic and laboratory in environmental education and patriotic ; their integration plans and programs of sustainable development the region, turning the facilities and tourist center in a more attractive for sustainable tourism development . Special attention should be given to public awareness of the value of protected areas and the expansion of participation of the population in the region's heritage management etc..

References

- Aleanca Qendra e Studimeve Biologjike – Muzeu i Shkencave të Natyrës. Strategjia e Mbrojtjes së Biodiversitetit në Shqipëri, 1998.
- Alterosio D. Spedizione Imprese in Albania. Boll.Gr.Speleologico Imprese, nr. 43, 1994
- Bego F. Konsiderata paraprake rreth vlerave kiropterologjike të disa shpellave të Shqipërisë, Konferenca Ndërkombëtare Speleologjike, Tiranë maj 1998.
- Bernabei T. Grotte d'Albania, "ALP" Torino, 1993
- Gruppo Speleo. Neritino Gruppo Speleo Martinese, Prima ricerche in Albania, Speleologia nr. 27, Milano, 1992.
- IUCN (1994), Guidelines for Protected area management categories. CNPPA with the assistance of WCMC. IUCN, Gland, Switzerland and Cambridge, UK.
- J.P. van der Perk, R.S. de Groot (1998) Criteria, registration and regulation for Natural Monument in Albania, FSD.
- Kadastra e Monumenteve të Natyrës të Shqipërisë, Tiranë, 1999.
- Krutaj F. Mendime rreth morfologjisë së brendëshme të shpellave, Konferenca Ndërkombëtare Speleologjike, Tiranë maj 1998.
- Ligji i Zonave të mbrojtura, nr. 8906 datë 06.06.2002 dhe Ligji Nr.9868, dt. 04.02.2008 "PërdisashesadhendryshimenëligjinPërzonat e mbrojtura"
- Qendra e Studimeve Gjeografike, Gjeografia Fizike e Shqipërisë, Tiranë 1990.
- Qiriaz P. Shpellat karstike – tempujt e natyrës bëjnë apel për status të veçantë, Konferenca Ndërkombëtare Speleologjike, Tiranë maj 1998.
- Qiriaz P, Bego F, Monumentet e Natyrës të Shqipërisë, Tiranë, 1999.
- Qiriaz P, Sala S. etj Ekosistemet karstike të Shqipërisë, Tiranë 1999.
- Qiriaz P, Monumentet e natyrës në Shqipëri – Vlera të pavlerësuara, Studime Gjeografike, 13/2002.Qiriaz P, Gjeografia Fizike e Shqipërisë, Tiranë, 2011.
- Qiriaz P, Sala S, Monumentet e Natyrës të Shqipërisë, Tiranë 2006.
- Qiriaz P, Sala S, Monumentet e Natyrës të Shqipërisë, CD botim elektronik, Tiranë 2005.
- Qiriaz P, Sala S, Harta e Monumenteve të Natyrës të Shqipërisë, shk.1:200000,Tiranë 2006.
- Sala S, Qiriaz P. Dumreja, mjedisi dhe njerëzit, Tiranë 2006.
- Vendimi i Këshillit të Ministrave të RSH, për "Mirëadministrimin e Shpellave", 1993.
- Vendimi i Këshillit të Ministrave të RSH, nr. 676, datë 20.12.2002, mbi shpalljen e zonave të mbrojtura, monumentet e natyrës.