THE INHIBITORY ROLE OF NATURAL CONDITIONS IN THE USE OF SPACE AND REGULATION OF GJIROKASTRA IN THE SOUTHERN OF ALBANIA

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ABSTRACT

In rural area the impact of natural conditions on the use of space, production activities and ways of life is permanent and more sensitive than in urban space. The degree of impact depends on the particulars of building land, relief, climate, hydrographs, land, flora, fauna and level of development of society, which says the size and way of human intervention in the environment. As part of the Mediterranean space, Gjirokastra, with mountainous relief and climate caprices, is very exposed to the influence of natural factors.

INTRODUCTION

For a long time use of natural resources Gjirokastra district has been irrational, so the study of ways to use natural factors in the function of organizing the rational use of space and territory regulation is a problem that requires research and long-term solution. To check the exploitation of natural resources, plays an important role in legislation, so it is important to recognized that companies have obligations to the environment and forms the measure of punishment if the harm it. Also they must be equipped with the appropriate permit, certificate of quality of data on the amount of material used in the year.

The use of natural conditions in view of the use of space and territory regulation

In geographical terms the interest lies in the adaptation of human activity with the environment and resources it offers. Adaptation to the characteristics of the environment is the concern of geography today in two main aspects: to protect against the damaging impact of natural factors (especially climate) and for a rational use of natural resources to realize a complex of sustainable development.

As for the district of Gjirokastra, natural assets are diversified. A significant amount of its mineral assets are identified, but unexploited. A part of the assets, such as construction materials, are subject to an intensive exploitation, with serious consequences for the environment. This is because demand from the construction sector are high and expected to be so in the future, as the country achieve a comparable level of development of developed countries in the region. But to have for the future today for a healthy environment should be strictly controlled use of construction materials.

For a more rational use of this material in spatial terms will serve as introduction to the economic exploitation of reserves in the complex structural generation of Upper Kurevejsh. This will not only serve the development of the region Tepelena-Memalaj, but also the spaces of valleys mountain Bënça Belica.

At the current stage of development are of particular importance to the county water resources, therefore required to become a scientific assessment of water resources of permanent and temporary, and the potential of this space water.

Drilling for water balances are hurting hydrogeologic, as statements of groundwater has a seasonal character. For this reason, any interference of this kind must be authorized by the licensed geological experts.

- Natural hazards and land use
- Geological and seismic hazards
  - Risks from earthquakes

Makes the study of space in the area seized by differences, tectonic, quaternary movement, especially break-ins that create lines along which tectonic seismic processes continue to be active. This is a space with high activity of earthquakes, especially along the severance active stretch northwest-southeast, where are most earthquakes epicentres. There are two main lines: first, mountain Drovjan – Wide-neck of Skërfica – Polje – Kolonja – Shitetpëz – Mountain of Griba – Golem – Bënça – Valley of Luftja – Neck of Glava – Izvor – Rabie and further, in the district of Berat; second, Golik – Hormovë – Lekël – Lunxhëri – Sartaqinistë – Bureto – Libohova – Vilahogorani – Gllina – Peshkepi – Radat – Llongo – Kosovci. In high intensity earthquakes have affected mainly two factors: soil conditions and sharp relief and steep one. In Gjirokastra, Permet and Tepelene has built many residential area on the river terraces which can be easily captured by the risk of earthquakes. Gjirokastra and Tepelena (The Encyclopedia of Tepelena, 100) by earthquakes historically have been captured 8 Scale Richter, and 7 Scale Richter earthquakes. Mentioned earthquakes in the region of Delvina 10/10/1858, 13/08/1859, 10/04/1860, 10/10/1865, Izvor villages hit the Rabie and caused many casualties (Sulstarova, E., and Nesim Koçaj, 47), 14/06/1893, 1896 who seized the Lunxhëri radius, Zagorie, Polican, Catështi and valley of Karqiq, 14/03/1917 in the Delvina, Drovjan, 26/11/1920 when an earthquake hit Tepelena (9 Scale Richter) and its surrounding villages, 26/11/1926 that was associated with fracture of the land subsidence, the year 1930 in Libohova, the year 1953 in Lazarat etc.,on 15/09/1941 Tepelene of 1952 in Permet, 22/02/1963 in Shitetpëz, 09/02/1967 in flysch-limestone contact (7.5 front), the Tepelena district 03/04/1969. The earthquake of the year 1971 (8° Scale Richter) in Libohova, Sofratiqi, Selo, Bamatat, Klesh and finally Grapsh and earthquakes of December 1977, March 1988 and 2003 in Gjirokastra. The epicentres of the earthquakes of the years 1800-1970 have been in line Selo-Rabie. This line is active today, mainly in fault Selo-Rabie, Picar-Shitetpëz and Izvor-Rabie. To study and warning of earthquakes in the district has been operating Tepelena a seismological station.
Earthquakes are associated with phenomena such as ground cracks, exit, loss and disturbance of surface waters and underground resources level fluctuations, temperature changes and their country, sliding slopes, slide, crash, injury incoming water and infrastructure. Along the tectonic contacts of the above mentioned detachment occurred limestone blocks, falls, gravitational sliding etc., as the extent of Black Scale, Zhulai, Bënga, Golem, Lekdush, Majkosh, Izvor, Rabie and Koshovica, which caused subsidence damage to the canal and hydropower 15m in length. The nature of the parent rock should be considered especially for the construction of settlements, economic and infrastructural facilities, which must be preceded by studies and geological-geomorphologic engineering. The map of regional micro-seismic space perspective contributes to an assessment of seismic tremors.

- **Risks from geological works**

Geological works have serious consequences on the environment, as mineral law in this case is not applicable. So in settlements Andon Poci, Polokastër, Libohova, Erind get ahead of the old deposits that meet the conditions for oil and gas research. Drilling for oil search mountain range foot Šenđdëli-Lunxheri-Bureto are made by an Austro-Hungarian firm, while the foot Bureto in Libohova, Erind, Bylysh and neck of Buz by a Greek firm. Geological studies the company has made for problematic areas as Pogoni, brook and Cullo-Granićë, Virua, while Oil and Gas Institute has done survey works in areas of Postenan-Çarçovë, Progonat-Kalivac, Vagala, Osmanzezë, Krahës, Dragot, Hormovë. These geological works have hampered or prevented the efficient use and regulation of rural space for other purposes such as agriculture, tourism etc...

- **Risks from mine collapse**

In the area Cernëllë-Danaj are performed processes to extract the coal. Abandonment and lack of maintenance of mining territories have resulted in damage micro ambient.

- **Threats from possible poisoning**

Output of methane gas from the throat of old wells and galleries is seriously damaging the environment of the area.

- **Geomorphological hazards**

- Mudslides

The slopes of the enrichment plant in the village of Izwor-Memalaj by and between the Memalaj-Tepelenë areas are some who are a danger to be slide area. Below the rock Orlos on villages of Kellez and Dhoskats, reactivated in 1982 is a slide that constantly threatens the brook Grabovica and sources of drinking water to village of Dhoskats.

Negative impact on the environment have been drove in the village municipality of Picar-Kolonjë (since 2002), Fratari in Tepelenë – Cold Water, Black Scale (often blocked by the mountain quarry of clay, Mogila, Qesarat), that threaten buildings in the deforested hills, rural roads as Memalaj-Qesarat-Danaj, Kardhiq Bridge, Çepune-Karduq, Kardiq-Taroninë etc. In Zhapokika have been slide a road segment of 100m to the east, by approaching the river bed. Damages so far are sufficient to understand the importance of topographical studies and unstable territories geomorphologic to be performed so that construction activities of any kind. Especially important is to avoid construction along tectonic lines in shrigths lands in molasses and fitch of the inclined slopes.

- **Activity slope processes**

As a result of the use of inert materials, groundwater activity, reduction of plant cover, etc., are activated processes such as mudslides, falls, collapse, leakage of mud in Vasjar bridge, the road sector in Memalaj, Tepelena – Cold Water, Black Scale (often blocked by the mountain quarry of clay, Mogila, Qesarat), that threaten buildings in the deforested hills, rural roads as Memalaj-Qesarat-Danaj, Kardhiq Bridge, Çepune-Karduq, Kardiq-Taroninë etc. In Zhapokika have been slide a road segment of 100m to the east, by approaching the river bed. Damages so far are sufficient to understand the importance of topographical studies and unstable territories geomorphologic to be performed so that construction activities of any kind. Especially important is to avoid construction along tectonic lines in shrigths lands in molasses and fitch of the inclined slopes.

- **Damage from atmospheric phenomena and climate obstacles**

Lightening and electric discharges lead to damage in people, livestock, forestry, socio-economic facilities, etc...

Adding water to rivers, floods, storms, avalanches, drought continued to pose threats to natural environment, social and economic Gjirokastër district. So, great droughts of 1931 led to sharp drop in agricultural production. Strong winds pose a natural threat, as it could break and grubbing trees, damaging roofs and overthrow the stacks, hindering the movement of people, animals, vehicles, aircraft etc... To reduce the damage caused by wind should be carefully selected areas to build settlements, airports, sports centres etc...

In Gjirokastër and Permet strong winds have significant happening throughout the year and in some cases have caused damage in the apartments, cultures drum fructose, vegetables in greenhouses, cattle stalls, etc... So in 1970, strong wind that came from the southeast, fell down the roofs of houses Matohasanaj-Lopes, in Sinanaj hospital and dropped some electric pillars. Frost have caused significant damage to agricultural crops, such as 1971 when temperatures in mountain areas down to -5 ° C, while the area of low -1.3 ° C, damaging 75 ha with corn used for feeding livestock, 136 ha of corn for grain and 25 ha of vegetables. Hail also caused damage, such as in 2001,
when the shower (a grain weighed 300gr.) damaged vineyards especially in municipalities of Çarçova and Petran in the district of Permet. Active avalanches on slopes inclined by 20-60°, but especially in 20-40°. In shady slopes avalanches fall in December, January, February, while the sunny slopes in March and April. They destroy head ambush, dams, reservoirs and residential centres. In villages, especially in the eastern slopes of the mountain of Lunxheria (from inhabitants called mountain of Rapavica), every winter avalanches noticed the small size, associated with displacement of tweek and timber. Floods constitute a natural phenomenon common in Gjirokastra district and have influenced the agricultural environment, settlements, agricultural land, irrigation and drainage network, livestock, infrastructure, promoting processes of erosion and environmental degradation.

Main causes of floods are intense rainfall leading to the emergence of Vjosa the bed, use of inert materials in riverbeds, destruction of vegetation by deforestation, exaggeration pasturing, fires, works mineral deficiencies works (Mëcaj, N, The Applicative Geography GIS / RS and Development 30-40) supporting (ambushes, dike, levee), interventions hydrological (drainage, dams, channels).

Among the consequences that cause floods are breaking the embankment, coming of irrigation and drainage channels; damage forests, shrubs and herbaceous vegetation, destruction of agricultural products; stimulation of the slide; damage to livestock and their food base; collapse of fruit trees; erosion layer of soil production; suspension and contamination of drinking water, damage to sewage and sanitation, damage to road networks, transport and commerce; damage to telephone lines, electric and electric cab; flood of fuel, destruction of health infrastructure, etc...

In 15-16-17/11/1962 in Gjirokastra district fell 264-294 mm precipitation, which was graded near disaster.

The flooding of the Lower Dropull and scope of Gjirokastra caused by rain that fell in the regions of Vjosa, which flooded on agricultural land, flats were damaged and 7500 families were evacuated in 2000, went out of use 5 stations and 4 electrical substations, electric substations were flooded two of Gjirokastra and Tepelena and walked out of work 2 pumping stations. During the winter of the years 2001, 2002 and 2003 were flooded rural roads in the municipalities of Çarçova- Picar and apartments in Ballina. Damage of the embankment, construction and waste collection within the beds of rivers, etc., favour the emergence of river beds in case of intense rainfall. This is the case in the north-eastern area of Memalaj, Qesarat- Toc area, in areas Arshi Lengo, Valaresë, the eastern part of the scope of Dervicant, area by Viroi, by Çepunë, in place of union with river Drino-Nimica, so settlements should be built far away from them.

Some of the measures affecting the restriction to prevent flooding are:

- Systematization of agricultural lands in slope, their paper under izoipsos and, where slope is greater, creating generations of plant creation of conditions for development of forest vegetation, able to prevent mudslides, collapse and erosion.
- Systematization of water leaks, pools of leaks, construction water collector, dams and mountain accommodation space protection from erosion. For 30.4% of the county area located in the heights above 1000m, use for forestry, phonology, viticulture and tourism purposes makes necessary the execution of works and hydro technical agro techniques.

Forecasting in time of natural phenomena and processes hazardous is of particular importance to avoid the damage they can cause in agricultural cultures, settlements, infrastructure, etc...

- Risks of assaults by man (burning, deforestation, chemical pollution)

A serious problem for all Mediterranean countries is fires, most of which is caused by man. Burnt lands are completely exposed to erosion (water and oleic) and destined to destroy. Protection of ecological systems from damage and pollution will help in maintaining the balance hydro space. Pollution problems are noticed in Lufina waters due to mining and enrichment plant waste. There is a risk of pollution from urban and industrial wastes, for countries where collected and processing which must be carried out studies of environmental sound-geographic. Another risk is that growth countries where the jump
surfaces of solid waste in open careers and fundamental rocks in eastern Montenegro page wide, what damages, pollutes blocks and funnel, holes and caves. The medieval buildings of the district as a defensive castle of Gjirokastra, the most mature in the architectural view, referred to in the years 1388-1389, after 1990, as a result of the impact of natural conditions and human activity have not escaped without injuries, especially from mudslides. Urgent task related to these historical monuments, cultural heritage is undertaking the engineering safeguards. The problem of stability is especially sensitive when construction carried out on slopes with slope over 10° and mostly clay composition. As in the territory of our district has sectors with highly developed building grounds and other human activities should be selected very carefully.

- Risks caused by pollution.

Water air and land are seriously threatened by pollution that comes from multiple sources and different. In rural area they pollution from using chemicals in agriculture, farms pigs, poultry and other livestock, food processing waste for livestock, agro-industry, detergents and household waste, handicrafts and industries that developed in rural area (mining) and urban (processing of skins and wood in Gjirokastra, etc.), dumping etc. tourists. Strict control of pollution sources and implement sustainable development principles will significantly affect the protection and pollution sources and implement sustainable development of products (agro-industrial) is a mechanism that operates inter perfectly, where marketing and sale of products (fresh and industrialized) create full cycle of modern agricultural economy. In Spanish huertas intensively cultivated land by farmers organized in collective production (cooperative), supported financially (loans, donations, etc.). Animal husbandry is developed in the Mediterranean relatively difficult conditions. Relief mainly mountainous and Mediterranean climate (especially prolonged drought) has conditioned the selection of animal species that grow, which dominate the fine cattle (sheep and goats).

These factors, as well as water supply and timber-oriented and have human settlements. Rural areas are mostly concentrated type, built near a spring or river, or along the coast, in places more suitable for anchoring ships. In traditional settlements and in areas where the missing timber, brick houses are built of baked clay or stone. In all cases they are coated with lime, to be more refreshing during the summer season.

Roof, in many cases are in the form of loge terrace, which serves to collect rain water, which subsequently stored in special deposits. In addition to agricultural activity, population is oriented Mediterranean sea, as the trade of products, both for the exercise of fishing and tourism economy.

This analysis of the role of natural conditions, allows reaching the conclusion that environmental features are important in determining the forms and methods of intervention to regulate rural territories around the Mediterranean, including the district of Gjirokastra.

Mediterranean climate does not allow annual plants (corn) to finish their vegetative cycle before summer. Also slow technical progress and technological and cultivation of plants with high labour demand side, along with low fertility lands are flinty characteristics that differ agriculture of this region. But even in this region does not lack examples of deeply specialized agriculture, of rationally and effectively higher as Spanish huertas - an example of modern agriculture where the quantity, quality and distribution of water are scientifically controlled and programmed, where agricultural production and industrial processing of products (agro-industrial) is a mechanism that operates inter perfectly, where marketing and sale of products (fresh and industrialized) create full cycle of modern agricultural economy. In Spanish huertas intensively cultivated land by farmers organized in collective production (cooperative), supported financially (loans, donations, etc.). Animal husbandry is developed in the Mediterranean relatively difficult conditions. Relief mainly mountainous and Mediterranean climate (especially prolonged drought) has conditioned the selection of animal species that grow, which dominate the fine cattle (sheep and goats).

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Makes the study of space in the area seized by differences, tectonic, quaternary movement, especially leverage, break-ins that create lines along which tectonic seismic processes continue to be active. The slopes of the enrichment plant in the village of Izvor Memaliaj by and between the Memaliaj Tepelena are some who are a danger to slide area. In conditions when the above factors are a constant threat to the natural environment, social and economic development in the district of Gjirokastra, it is urgent to take measures to identify and prevent them and to increase readiness, resources and the creation of teams trained to control of difficult situations and the restoration of normality.

Conclusion
The nature of the parent rock should be considered especially for the construction of settlements, economic and infrastructural facilities, which must be preceded by studies and geological-geomorphologic engineering. Floods constitute a natural phenomenon common in Gjirokastra district and have influenced the agricultural environment, settlements, agricultural land, irrigation and drainage network, livestock, infrastructure, promoting processes of erosion and environmental degradation. Forecasting in time of natural phenomena and processes hazardous is of particular importance to avoid the damage they can cause in agricultural cultures, settlements, infrastructure, etc. As in the territory of our district has sectors with highly developed building grounds and other human activities should be selected very carefully. Strict control of pollution sources and implement sustainable development principles will significantly affect the protection and improvement of water quality, air and soil. In addition to agricultural activity, population is oriented Mediterranean sea, as the trade of products, both for the exercise of fishing and tourism economy. This analysis of the role of natural conditions, allows reaching the conclusion that environmental features are important in determining the forms and methods of intervention to regulate rural territories around the Mediterranean, including the district of Gjirokastra.

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