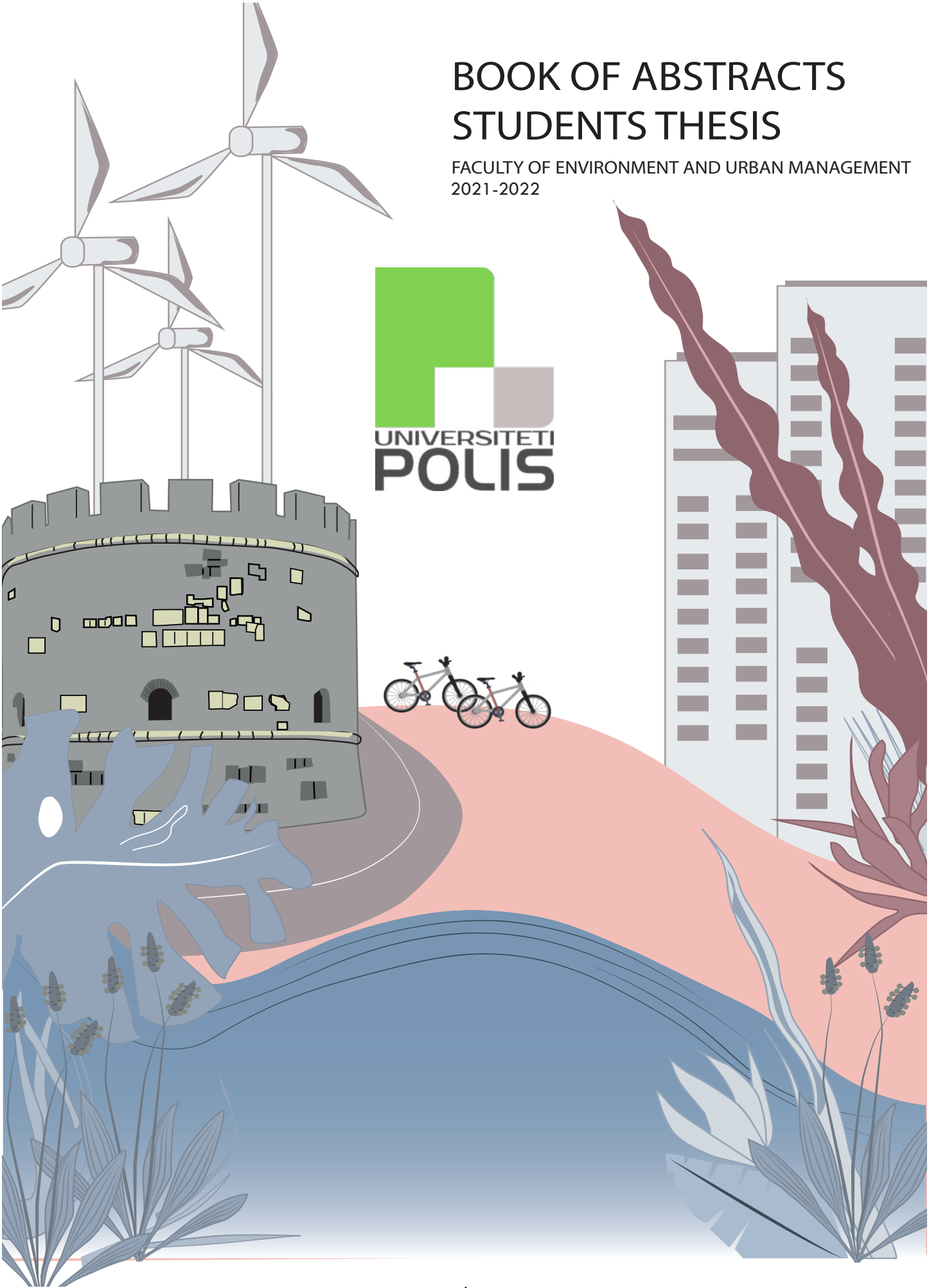
BOOK OF ABSTRACTS STUDENTS THESIS

FACULTY OF ENVIRONMENT AND URBAN MANAGEMENT
2021-2022

UNIVERSITETI POLIS



POLIS UN

[PROJECTING ALBANIA]
Ideas generated from research and thesis works
2021-2022

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POLIS UNIVERSITY - Faculty of Environment and Urban Managemen (FPMMU).

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NIVERSITY

ACKNOWLEGMENT

POLIS University is a private university founded in 2006 as a spinoff entity of Co-PLAN / Institute for Habitat Development, a non for profit organization established since 1995. POLIS represents an experimental, avant-garde, and progressive university with main focus on raising human capacities in fields of architecture, urban planning, art design, environmental studies, energy efficiency and civil engineering. It was in 2011 that the first generation of POLIS students graduated, and most of the graduates were soon after employed at public and private administration or self-employed in their own private studios.

The publication presented is a modest summary of the ideas coming from Research Thesis Works of the graduates of Bachelor Programs (3-year programs, full-time, 180 ECTS); Professional Masters Programs (2 year-programs, part-time, 90 ECTS), Master of Science Programs (2 year-programs, full time, 120 ECTS) and Integrated Master of Science Programs (5 year-programs, full-time, 300 ECTS).

On the occasion of this publication POLIS University would like to acknowledge the great role of the academic staff and tutors, the hard and excellent work of students, and all passion and commitment of their families and support staff. We have joined efforts and are doing our best to build a better country and fairer society and to do this we have chosen the way of investing in human capital because we strongly believe that it is through this investment that the progress and development of this country will come.

Dr. Prof. Besnik Aliaj
POLIS University Rector
Dr. Sotir Dhamo
POLIS University Administrator

Dear friends of POLIS,

In these few lines, we would like to share with you some values, ideas, and efforts that led us to the establishment of POLIS and its further consolidation as an institution of education and alternative intellectual ideas. Together with other co-founder colleagues of POLIS, members of the "generation of changes" in the '90s, we were all witnesses and participants of the events that occurred in Albania before and after the change. Considering this, POLIS aims to test the social impact of a new generation of alternatively educated students in the fields of architecture, urban and environmental planning, applied design, and engineering. Thus, Polis tries to influence the entire society by viewing the educational process as a form of optimism which enables continuity and growth through the transmission of knowledge and confidence to students. We would not consider our job complete if we transmit to our students expertise and passion only in these areas; above all, we must equip students with the ability to transform such fields in Albania.

Trust in the concept of partnership, processes and debate, practical experience at a higher academic level, are the basis of the DNA inherited from Co-PLAN, a community-based organization founded in the early '90s which later became an institution of training and a promoter of good governance, author of many projects thanks to the assistance of international and local funding. In this sense, as an institution, POLIS is a reflection of how we have tried to involve, work, and learn. Within its extended family, Polis has already generated several initiatives, social movements and trends of different natures which aim to bring new perspectives to society.

An important role here is also played by the academic processes and scientific works, including thesis works from the graduation process. Although this is just the beginning, through these tools POLIS has created discussions and debates on topics almost untouched by Albanian society in relevant professional fields of design and city sciences, making younger generation realize that there are many ways of solving concrete problems. Opening the mind and a positive approach to problems are an important part of the transmission of "secret knowledge" and its translation into action. In essence, we strongly believe in the real possibility of positive change and growth of the Albanian society!

POLIS aims to set an example as an expert group bringing alternative ideas to development policies; we think that policy is not only done by the politicians but needs professional expertise. In the Albanian context, in which scientific research with practical value has so far been discontinued and does not correspond to the international standards, for POLIS and the generation of researchers and talented young people, research and innovation are a way to help development. This is why POLIS aims to go beyond its academic role as an institution. To do this, beside two faculties, it has now established also the Research and Development Institute(RDI), as well as a experimental center for innovation (IF).

The complexity of issues of Albanian reality is among the most challenging, and their confrontation with the expertise and the international consultancy of academic institutions becomes even more complex. Such exchange and confrontation with international partners with whom POLIS has established institutional partnerships, will enable us to

overcome the "monopoly of mind" which still "holds hostage" the knowledge and information in Albania and isolates it from younger generations. Beyond that, we strongly believe in the ability to bring innovation to our areas of interest and to impact society. Therefore thesis research works has been one important instrument. All these factors made POLIS a reference point within the country, with the respect of academic circles and associations of higher education in Europe. This is also reflected in the recently granted "Research University' status and the certification of the programmatic and institutional accreditation.

POLIS is a private institution but it has a clear social mission determined by its origin. The university includes many volunteering and social responsibility activities, expressed in the assistance provided for marginalized local authorities and people in need, in the assistance provided to local governments and the governments in general, through volunteer work and assistance which is manifested in free consultancy projects, awareness campaigns on social problems, etc. Similarly important to us is the educational and research motto '…Being good professional means first of all to know how to give love to people…'. In this regard POLIS is a long term project, in which we want to share our modest efforts with others because we believe that in this way we can better achieve our social mission!

We continue to hold the conviction that in order to change the world, one must dream. Thus, do not hesitate to join us sharing our space for thought!

FPMMU

Faculty of Urban and Environmental Planning

Urban Planning

1. 5-years, Integrated Master of Science, full time, 300 ECTS

Environmental Studies

1. Bachelor Studies (Full-time, 180 ECTS, 3 years)
2. Master of Science (Full or Part-time, 120 ECTS, 2 years)

Prof. Assoc. Dr. Xhimi Hysa
Dean of the Faculty of Planning, Environment, and Urban Management

The faculty of "Planning, Environment and Urban Management" (FPMMU) is an interdisciplinary faculty that develops professionals ready for the local and global market, melting knowledge stemming from territorial governance, environmental studies, and business management studies. Territory, environment and entrepreneurship (trade) constitute a millennial ecosystem, which is explored and applied to the FPMMU with the most progressive pedagogical and scientific methods.

The main units of the FPMMU Faculty are: i) Department of Planning and Urban Management, ii) Department of Environment, iii) Sustainability Research Unit (including the Observatory of Mediterranean Basin, a centre of excellence affiliated with UNECE). The faculty has 3 basic units, 3 profiled schools, and 6 academic programs (Bachelor, Professional, Scientific and Integrated Master). The faculty has several laboratories and "Ad-Hock" consulting units.

FPMMMU, as part of Polis University, is a member of the European School of Planning School (AESOP / ENHR / ISOCARP), environment and landscape (ECLAS), as well as (CEEMAN) entrepreneurship. The study programs of this faculty have shown high sustainability in time, passing important stages of international accreditation and membership, as well as predicting the labour market dynamics.

The curricula and topics included in the teach¬ing process and diploma preparation of the Master's program go hand in hand with national and global priorities of territorial planning and environmental protection. In line with the mission and vision of the University, aiming at an in-depth specialization of students, who have completed the first cycle studies in the same or similar fields in both environment and in the urban planning programs.

The Diploma Book, reflected in this publica¬tion, is a summary document of all diploma topics, prepared by the students of the aforementioned programs during the academic year 2021-2022.

The preparation of theses is a comprehensive process, involving several steps and stakeholders. Keywords in the field of environment and urban planning include aspects of local and regional planning, infrastructure, transport, sustainable development, environmen¬tal sustainability, pollution, nature conservation and regeneration, etc.

Themes, objectives and subject matter are part of the knowledge dissemination of academic staff and students, studio work and the use of exten¬sive literature. In this edition, the reader will find the diploma topics for which students have dedicated their passion, will and precious time. These papers reflect not only the scientific achievements that students have acquired during their studies, but also their perspective, desire and vision for the environment, urban planning and territorial protec¬tion, and the increasing contribution to society. Some have focused on the creation of new waste manage¬ment models; others have addressed the problems of protected areas management, and others on aban¬donment of rural areas, affordable housing, locally developed plans, decentralization, transport, regional links, community development, landscape resource protection and many more.

POLIS University, under the slogan "space for thinking" and the concerned Faculty, will continuously support the professional courage and social concern of future professionals. The faculty remains committed to increasing the quality of theses, so that they become valid for the whole society.

URBAN PLANNING

Faculty of Urban and Environmental Planning

2021-2022

Urban Planning 2021-2022

THESIS LIST FROM URBAN PLANNING

LIVABILITY IN HISTORICAL AREAS CASE STUDY: THE CITY OF BERAT

Student: **Armela REKA**
Supervisor: Prof. Dr. GODIVA REMBECI, Dr. KEJT DHRAMI, Dr. LEDIO ALLKJA, Dr. AMANDA TERPO, Dr. FIONA IMAMI

Abstract:

The level of livability in cities is an issue faced widely discussed around the world. A city that offers comprehensive opportunities for all residents, access to green spaces, public spaces, an efficient public transport system, and the accessibility of health/ education/ entertainment, etc. - are the hallmarks of a healthy and livable city. Spatial relations between urban elements such as: buildings, roads, public spaces, etc. affect the quality of urban spaces, thus creating more or less livable cities. Liability is the ability of the space to meet the expectations of its inhabitants for the well-being and quality of life, how comfortable a certain space can be, how well the city works, etc.

This study focuses on bringing back the discussion from the theoretical point of view of the concept of livability, and then empirically analyzes the livability in the city of Berat. Living issues become perhaps more important to study in areas that belong to cultural heritage sites because they have high cultural, architectural, and monumental values. The city of Berat is a shrinking city which means that the preservation of cultural heritage and mainly the physical preservation of buildings is already taken care of, but this does not guarantee viability for the future. Current heritage preservation focuses on material preservation while livability means adapting physical environments for everyday use. The local community's well-being will add a unique identity to the country. So, the preservation of history and the livability of the inhabitants shall be linked together.

The study aims at theoretical research on the concept of livability and its dimensions and to be able to measure the level of livability in historical areas. Livability has four dimensions, first, we will study the relevant dimensions and indicators and then I will put them in context, of Berat and finally I will try to conclude with the respective values of the dimensions and indicators which cause more impact.

The study aims to identify a series of methods on which the measurement of livability in cities of a historical character is evaluated and made possible, also providing a list of recommendations for increasing livability in historic areas in these cities. Investigating on the case study of the city of Berat, the study concludes with the presentation of several different design scenarios.

Keywords:

Livability, historical preservation, quality of life, dimensions of livability, city in contraction.

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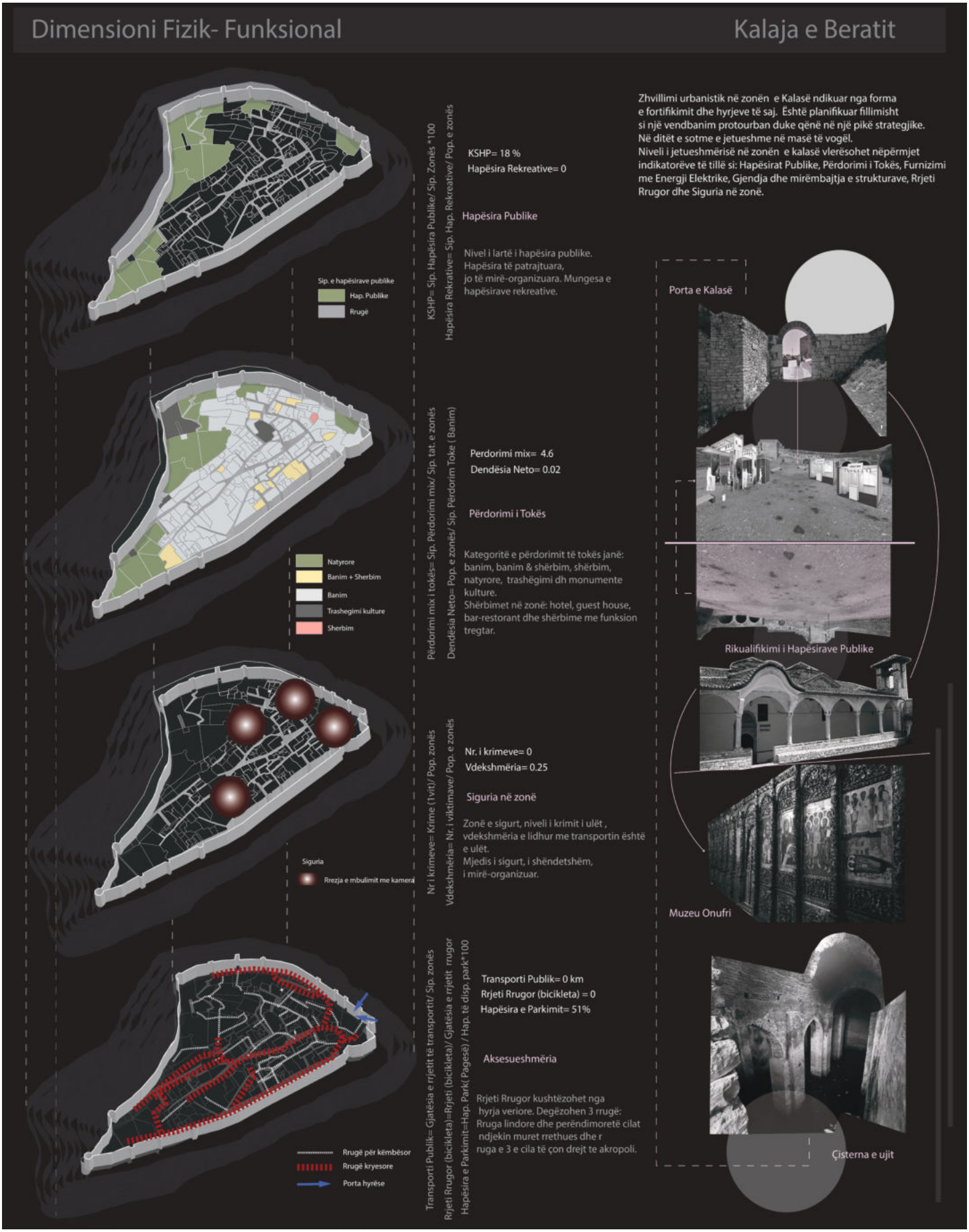

Fig 1.1 Physical-Functional Dimension in the area of Kala, Berat

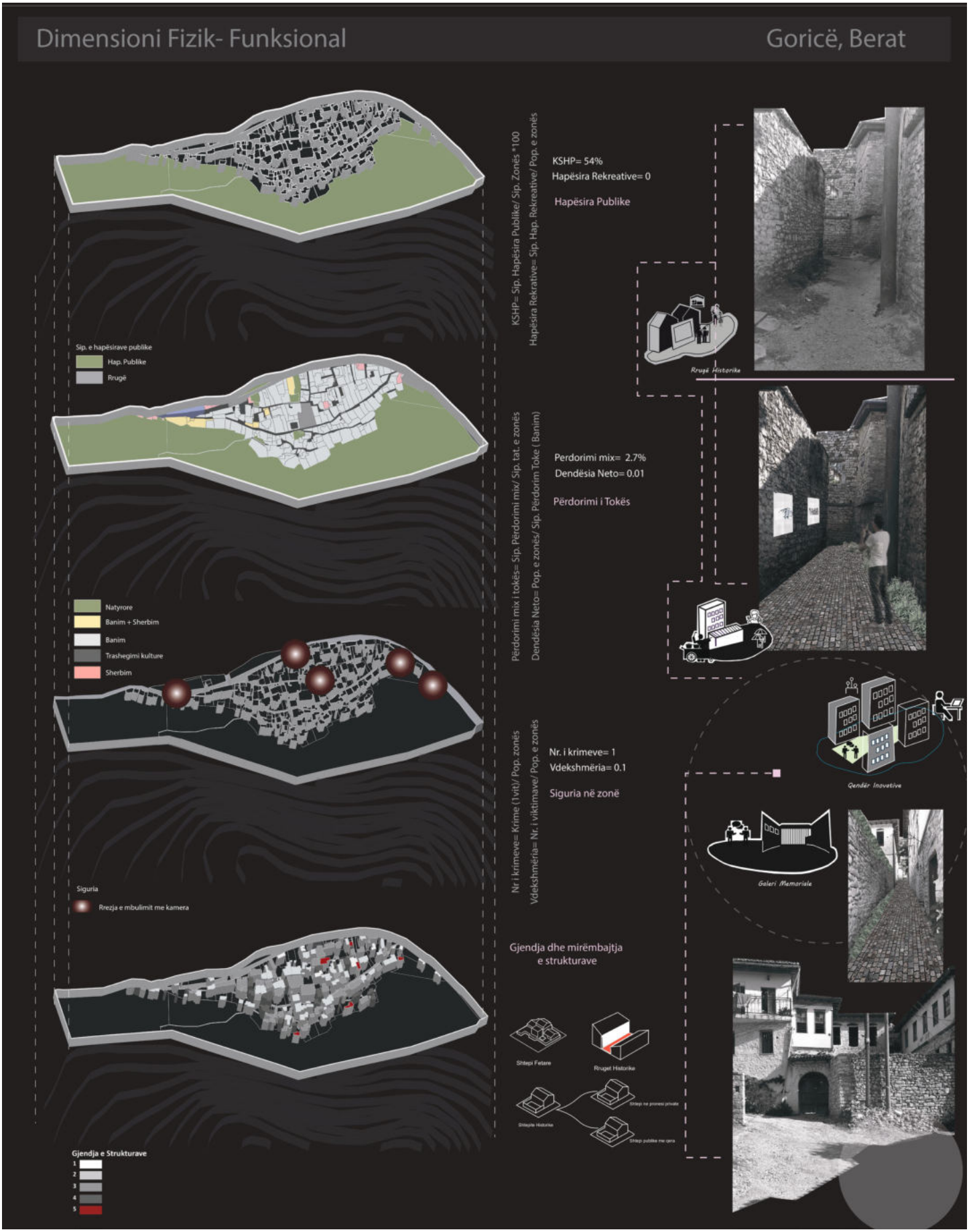

Fig 1.2 Physical-Functional Dimension in the area of Gorica, Berat

ASSESSMENT OF PUBLIC SPACES THROUGH THE STAR MODEL HOW "PUBLIC" IS PUBLIC SPACE IN TIRANA?

Student: **Enton BANI**
Supervisor: Prof. Dr. GODIVA REMBECI, Dr. KEJT DHRAMI, Dr. LEDIO ALLKJA, Dr. AMANDA TERPO, Dr. FIONA IMAMI

Abstract:

In the urban world there is a growing concern for sustainable development, for competitive cities, for cities with social cohesion, green cities and livable spaces. Public spaces are essential to achieving urban sustainability, through their many functions. There are many debates regarding urban space policy. Who controls it? Who has the right over the space? Who benefits from its development? These concerns have set up an academic stream that seeks to understand public space, which ranges from architecture to the social sciences and politics.

One of the main problems in this field is that the studies have been mostly subjective and qualitative, which make it difficult to understand and address the quality of public space. Thus arises the need to have a study that reflects the reality of the 'quality' of space, showing how 'public' they are, in order to have a sustainable public sphere.

To understand the situation of public space and its problems in Tirana, a quantitative method has been chosen which measures the quality of public space in each of its dimensions, the Star model. This model studies space based on its many dimensions, evaluating it for how complex it is. Using the Star model, the study thesis evaluates three different cases of public spaces to better understand their problems and to give a measurable conclusion, a figure that shows how public the space is. This thesis will focus on the heart of the city of Tirana and its spaces, as they are geographically more favored to be the best and most frequented public spaces.

By conducting a public evaluation, answering the question: 'How public are these spaces?', A direction can be created that will help professionals and scholars working for Tirana to transform its public space in the future, for to give the public sphere and the city the stability and strength it requires.

Keywords:

Publicness, social cohesion, green cities, urban sustainability, liveable cities

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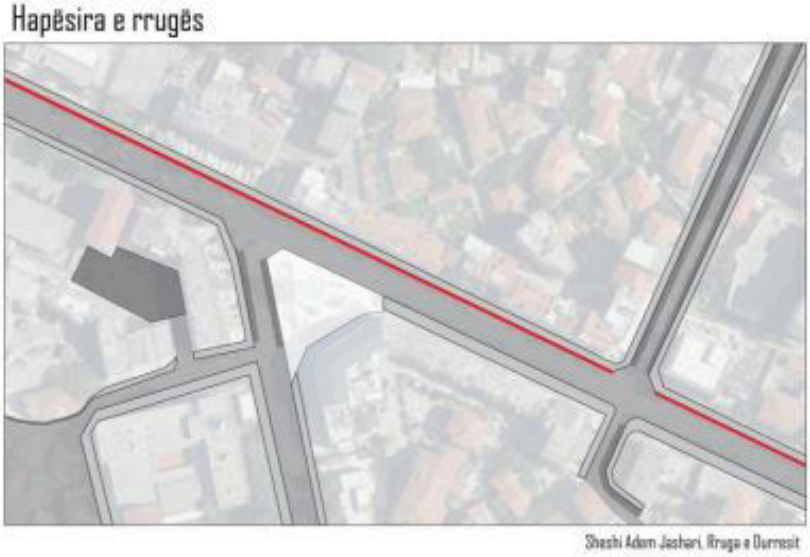

Figura 9 Hapësira e rrugës

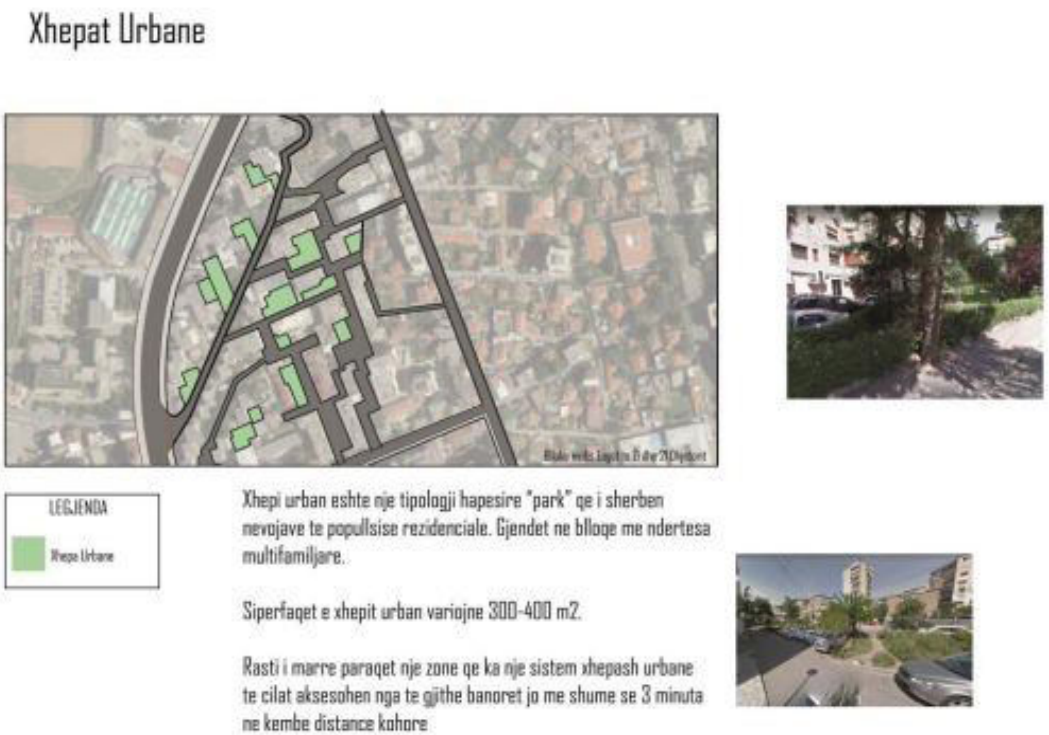

Fig. 1. Road spaces in Tirana

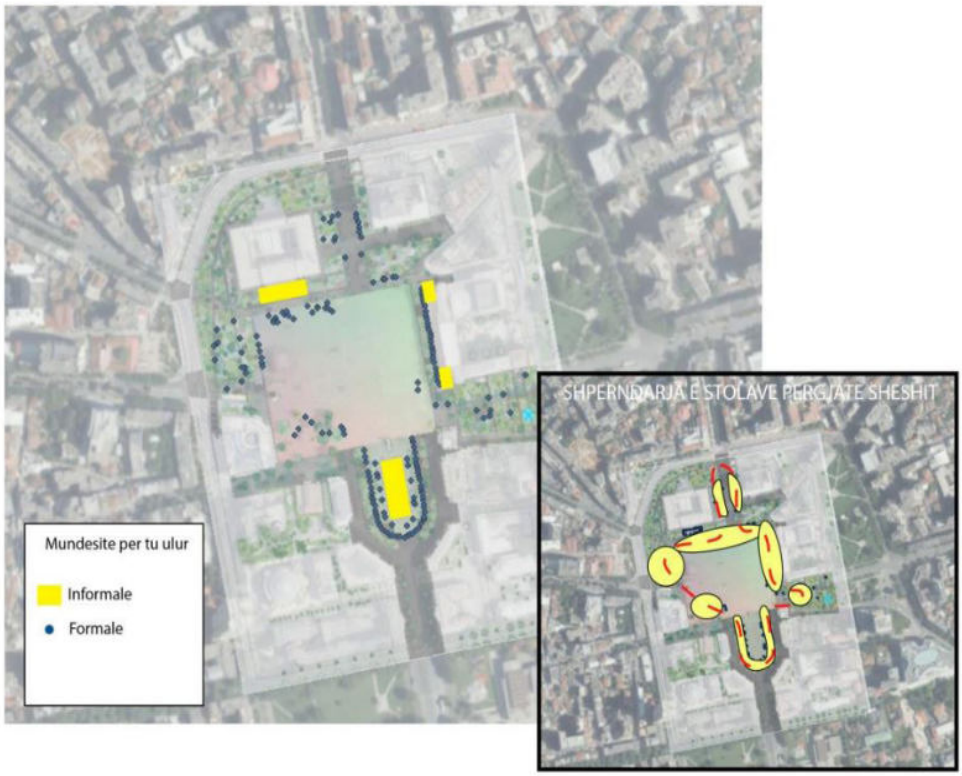

Fig. 1.1 Opportunities to sit and their distribution

Kategoria 2 "Hapesirat e hapura publike" te lokalizuara brenda unazes se Tiranes

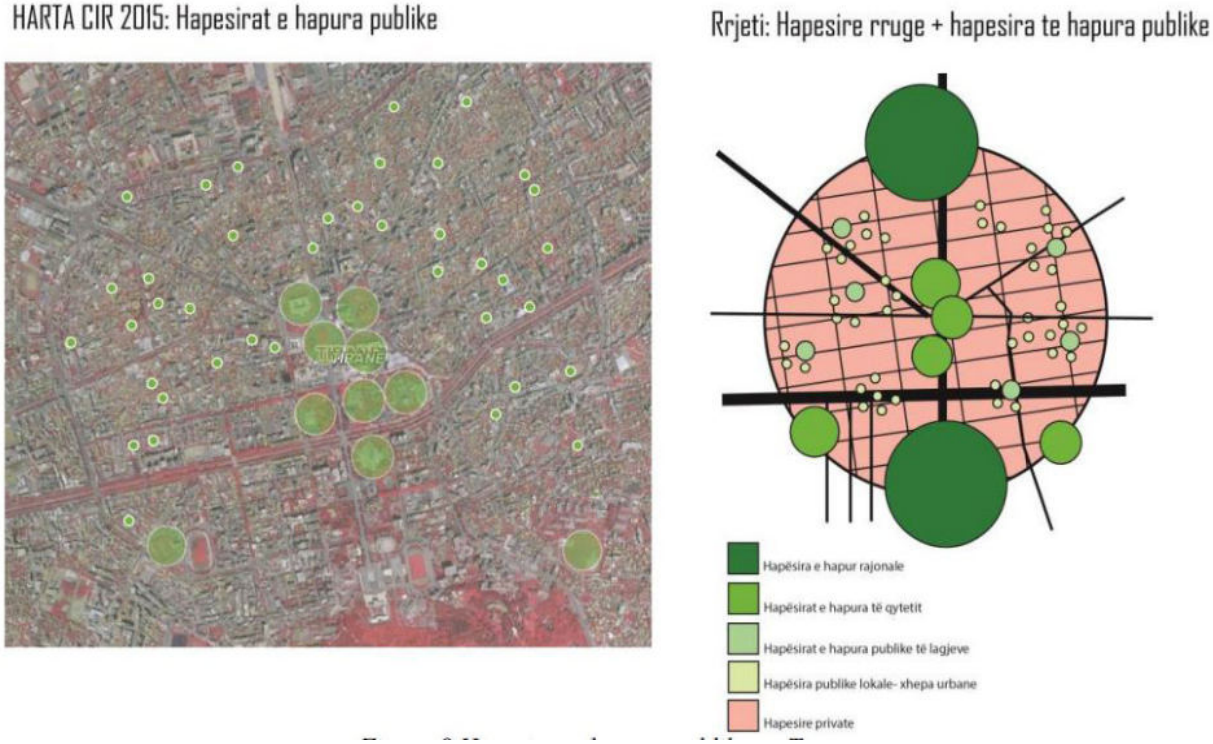

Fig. 1.2 Public open spaces in Tirana

Figura 11 Hapësira e hapur e lagjes

Fig. 1.3 Open spaces of the neighborhood

URBAN ENVIRONMENTAL MANAGEMENT

Faculty of Environment and Urban Management

2021-2022

Urban Environmental Management 2021-2022

THESIS LIST FROM URBAN ENVIRONMENTAL MANAGEMENT

REHABILITATION OF THE ERZEN RIVER AND PLANNING OF PROTECTIVE MEASURES "PEZA HELMES - ESTUARY"

Student: **Adrian DEMA**
Supervisor: Prof. Dr. GJERGJI IKONOMI

Abstract:

The Erzen River flows in the most central part of our country. The geographical position and geological composition of the river basin has a special importance of study because it has been the area with many changes and developments recently, affecting the aquatic ecosystem in the end and influencing the water characteristics. The main objective of the study has been the apparent flood and water process in the lower reaches of the Erzen River basin. The monitoring program is in the general methodology in the Water Framework Directive as part of the potential program. For physico-chemical study of river water are highly related to its bed. The quality of these waters serves as a good view of the biodiversity and habitat environment and its presence is related to the overall ecological condition of the river ecosystem. Sampling stations are along the entire length refer to the characteristics of the river bank and according to the comprehensive criteria of the general surface areas of the water people, in which are the levels of human activity. At each sampling station, parameters such as temperature, pH and dissolved oxygen (DO), chemical oxygen demand (COD), biological oxygen demand (BOD5), nutrients - nitrogen form NH4, NO2 and NO3, phosphorus forms were analyzed. . P- PO4 and P-total.

as in this study made possible the estimation of floods in different time periods. Selection of a methodical method, in accordance with the special topographic physical, mechanical and geological characteristics of the source, as environmentally friendly as possible.

Reducing and preventing the effects of damage, should have the beginning from the beginning of an activity taken to the completion of the mining project.

For this reason, the installation methods of an inert company should be chosen in such a way as to have little impact on the environment, because mining operations are in direct contrast to the ecosystem. Moreover, in many parts of the world, the mining industry has been heavily trafficked, due to the fact that it has a significant impact on the environment, so these effects should be part of project audit and audit decisions regarding the sustainability of accounts. his.

Keywords:

flood monitoring, river ecosystem, water characteristics, environmental problems.

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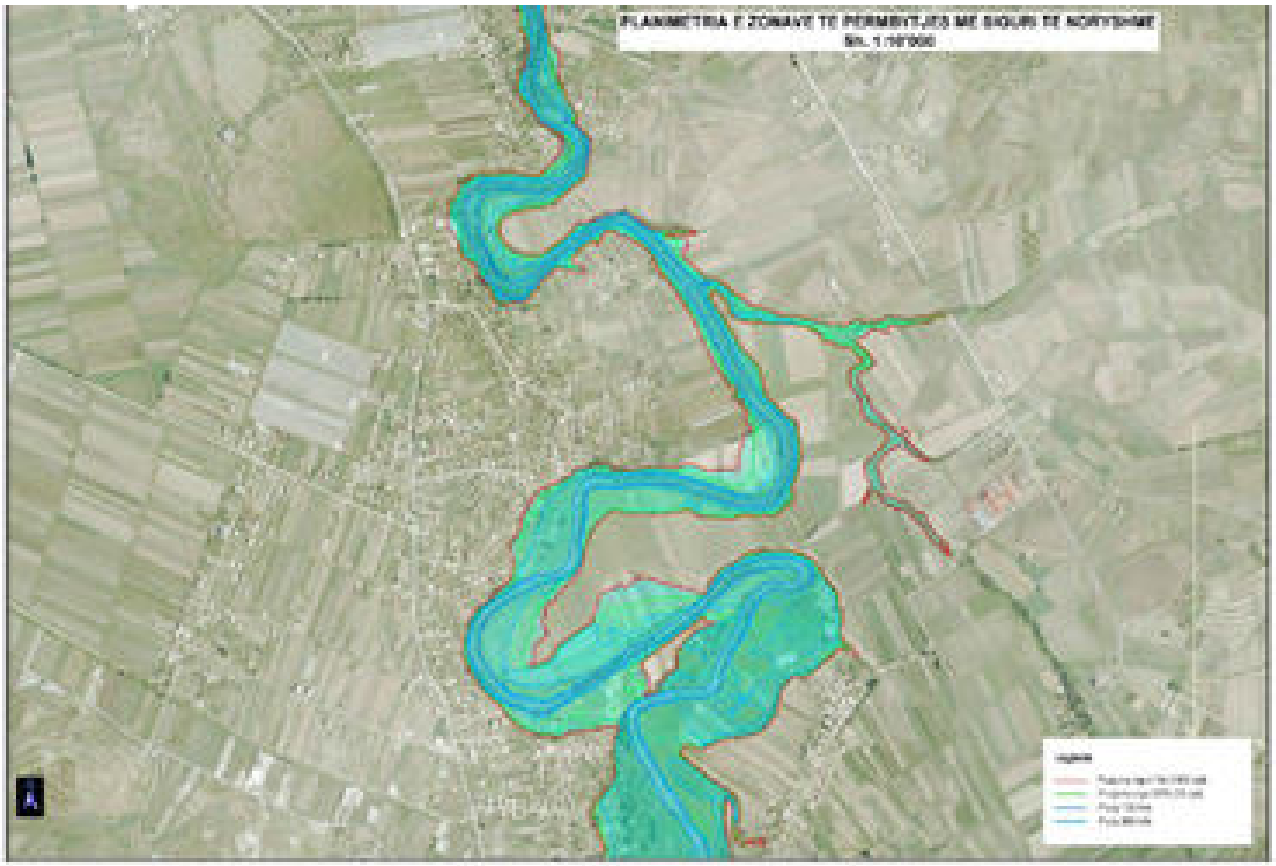

Floor plan of flood zones with different hydraulic security

THE IMPACT OF URBANIZATION ON THE ENVIRONMENTAL DEGRADATION OF THE FARKA LAKE. MEASURES FOR THE PROTECTION AND SUSTAINABLE DEVELOPMENT OF THE AREA.

Student: **Arbër HOTI**
Supervisor: Dr. ENKELJDA KUCAJ

Abstract:

Farka Lake and its sorrounding area its probably the last remaining space in the city of Tirana, which can be transformed into a second large park similar to the park of the Artificial Lake of Tirana. The importance of such a space with high environmental and recreational potential for the capital has become more apparent with the expansion of the city to the suburbs and the almost complete loss of large green spaces within the urban area.

Although the plans of the Municipality of Tirana constantly mention the idea of the park of Lake Farka, in reality this idea is significantly reduced and serves more as a decoration for new construction complexes near the shores of the lake than as a real park. The General Local Plan of the Municipality of Tirana has significantly reduced the use of free spaces around Lake Farka that can be used for the construction of a large park, giving a significant part of them a destination for the construction of residential complexes. Another part of the free spaces are defined as agricultural land, but based on previous experience this is not enough to protect them from urbanization.

Our study highlights the great values and potential of the Farka Lake park in relation to the city of Tirana, and examines the possibilities for sustainable development by preserving the space around it through good practices and concrete proposals.

Keywords:

Lake, urbanization, environmental degration, sustainable development.

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The currently planted areas along the lake promenade of Farkëndryshme hydraulically

ASSESSMENT OF THE IMPACT ON THE ENVIRONMENT FROM THE USE OF LIMESTONE IN THE MUNICIPALITY OF DIMAL

Student: **Brixhilda HAJDARI**
Supervisor: Prof. Dr. GJERGJI IKONOMI

Abstract:

Environmental impact assessments of various public or private projects are very important documents as well as necessary processes. In one way or another, projects that utilize natural resources affect the natural environment. The main purpose of this paper is to assess the environmental impact of the process of using limestone in the Municipality of Dimal. Given that this area has always been distinguished for the number of quarries operating there, this topic is of particular interest. Qualitative and quantitative methodologies have been implemented for the preparation of this paper. Qualitative methodology was employed in order to review the available literature on the topic, as well as to collect case study data, using the qualitative instrument of the questionnaire. Quantitative methodology has been implemented for the development of the analysis of the data extracted from the questionnaire. The main findings are presented by means of graphs. Through this study, we conclude that the quarries in Dimal Municipality have a mainly negative impact on the surrounding environment. We advocate for stricter legal procedures and regulations regarding the protection of the natural environment from the use of resources such as limestone.

Keywords:

EIA, environment, quarry, mining, pollution.

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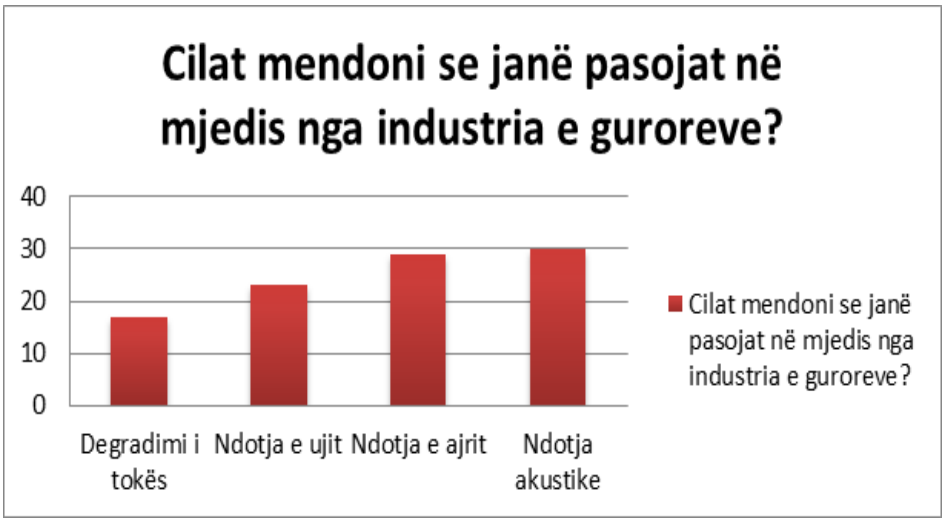
Pollution in the "Guri i Bardhë" neighborhood



Consequences of the quarry industry on the environment

REHABILITATION OF THE IRON-NICKEL MINING AREA OF PRRENJAS

Student: **Drita BOGDANI**
Supervisor: Prof. Dr. GJERGJI IKONOMI

Abstract:

Albania is a country rich in various mineral resources. Discovering, exploiting and processing them is an important activity for the country's economy.
The districts of Librazhd and Përrenjas are considered very important in Albania in terms of mineral reserves. The subsoil of these two municipalities is very rich in Iron-Nickel ore. According to estimates, these reserves were 300 million tons, 85 million tons were used for the Metallurgical Plant and for export. The iron-nickel ore was transported to metallurgy and where it was processed to smelting furnaces. Where high quality iron was produced from it. It is thought that Përrenjas currently maintains an iron-nickel mineral reserve estimated at about 215 million tons. There is also another reserve of about 103 million tons of nickel-silicate which has not been exploited. Iron-Nickel ores. Mineral aggregates. Containing iron and nickel as well as cobalt, in economically valuable quantities X, H, N that were formed during the Cretaceous and partly during the Paleogene have lateritic origins, are formed by the alteration of ultrabasic mem rocks and accumulation of laterites rich in iron, nickel and cobalt, near these rich rocks and in special cases away from them. In the province of Kukës, these ores are filled with Lower Cretaceous limestones, between the Ibrazhd and Pogradec, are covered with Upper Cretaceous limestones. area, this is due to dusts that cause the extraction processes of metals such as iron (FE) and nickel (Ni) but the greatest pollution is caused after stopping at the punk This is due to the lack of implementation of the rehabilitation plan where all heavy metal residues are left on the surface and the area is overcrowded and near the area the land is used for the cultivation of plants for consumption. The work of this study is focused on determining the quality of soil, forming and supplementing a database with data of indicators analyzed and based on these data by categorizing soil quality and determining the degree of pollution and impact on plants in absorption of heavy elements. sampling in order to analyze and determine the degree of pollution in 3 different stations, 2 sister soil at different distances referring to the facility used for the extraction of heavy metals and a plant sample. Analysis in the laboratory did High identification of pollution with a pronounced concentration of heavy metals Fe and Ni near the mining area as well as in lands used for agricultural cultivation. Negative effects of this pollution are on the health of residents, where pollution passes into surface waters and underground, then to plants and humans. Or even directly through the particles emitted into the air because any measures on the surface of the land, pollution with an impact on the biodiversity of the area. indigenous flora and fauna.

Keywords:

Biodiversity, mining, heavy metals, measures, parameters.

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Occasional interventions in the area by replacing plants that can dry out with other plants

View during the removal of the most damaged top layer of the former mining area to replace it with an uncontaminated layer.

ASSESSMENT OF THE ENVIRONMENTAL CONDITION OF THE DRINO RIVER AND DRAFTING OF THE PROTECTION PLAN

Student: **Edlira SHEHU**
Supervisor: Prof. Dr. SHERIF LUSHAJ

Abstract:

The Drino River has a length of 84.6 km and originates in Greece from the Elatos Mount. It enters Albania between Radat and Kakavija, traversing a wide plain that lies between the Lunxhwri - Bureto mountain range in the northeast and the Broad Mountain - Kurvelesh in the southwest until it meets Vjosa River a little further from the Lekli Bridge in Tepelena. The main streams that feed the river are Kseria, Kardhiqi, Suha, Nimica and other karst springs such as Viroi, Cold Water in Tepelena, Gurra e Picarit etc. Drino is one of the main rivers of Vjosa River.

Despite the fact that it falls under the category of "small rivers", as it passes areas closer to communities it reflects the ecological state of the environment of these areas. This river creates an interesting landscape in the Dropulli valley where for a short amount of time, its water is used for irrigation while creating a microclimate for the vegetation and the diverse fauna of wild birds that migrate from other places. The river collects the water of numerous streams that descend from the heights of sorrounding mountain slopes, avoiding the flooding of the Dropull plain and beyond. Simultaneously, the Drino River is under the pressure of many harmful and external factors with negative impact in the environment as a result of natural phenomena actions, as well as activities with anthropogenic origin. In the latest years, Drino River has had quite a few problems in the lower area of the city of Gjirokastra, after the water systemization of the Valare plain. The new embankment protected the area from other floods happening but on the other hand it increased the frequency of flooding cases of the national road Gjirokastra - Tepelena and the electrical substation of the city of Gjirokastra.

Due to the poor conditions of the environmental indicators as well as the problems carried over time which continue to deepen affecting the state of water quality of the Drino River, arises the need for an in-depth study of the environmental condition of the river taking into account also the fact that studies of this kind are very sparse.

The main purpose of this study is to present a broader view of the current environmental state in which Drino River is situated from its entrance into the Albanian land to its union with Vjosa River near Tepelena. Also an important point of this study is the proposal of protection measures in the framework of the rehabilitation of the hydro-ecological features of the river as well as the prevention of further deterioration of the environmental and socio-economic indicators in the area according to a protection plan.

Conducting this study requires the gathering and the processing of the information for the assessment of the environmental condition of the study area in the framework of proposing measures for the rehabilitation of the area, pollution reduction and increasing the water quality. For this purpose will be used integrated methods such as quantitative and qualitative methods. The importance of this study lies on the answers that will be given to some of the most important theoretical questions that arise as a need to assess the general environmental condition of the area and especially that of the Drino River.

Keywords:

Rivers, River's health, Environment, Pollution, Erosion, Flood

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Zonat e rrezikuara nga përmbytjet
Lumi Drino
Legjenda
Lumi Drino
Përmbytje
Vendbanime urbane
Rezervuar
Punoi Ing. Edlira Shehu

ADMINISTRATION OF AGRICULTURAL LAND FOR THE PRESERVATION OF ENVIRONMENTAL SUSTAINABILITY AND PRODUCTION CAPACITY IN THE DISTRICT OF TIRANA

Student: **Elsa XHAJA**
Supervisor: Prof. Dr. SHERIF LUSHAJ

Abstract:

Agricultural land in Albania occupies about 24% of the total area, ë ith about 0.17 ha per inhabitant. Agricultural land administration, basic legislation and property rights have changed in relation to the economic and political system, forms of organization, agricultural distribution, and the implementation of privatization reforms. The administration of agricultural land requires efforts in terms of management, the establishment of an administrative system and database, as ë ell as in relation to progress in the transition years. These issues include: pressure from informal urbanization around 7730.7 ha in 2021, and ongoing fragmentation; reduction of agricultural land area to 482.72 (ha); cultivation to a considerable extent of the surface; loë level of property oë nership; and environmental changes. This study aims to highlight the current state of agricultural land management to maintain productive capacity, through the analysis of the links betë een the main management indicators and the environmental impacts on agricultural land. The purpose of this study is to analyze the main problems of agricultural land management at all levels, the role and responsibilities of institutions and agencies in agricultural land management, the right to oë nership, the organization of management structures to protect and protect land from losses. and degradation and increase of production capacity ë ith the aim of increasing the production, income and welfare of the inhabitants of the rural area.

Keywords:

Tirana Region, agricultural land, land administration, land governance, ownership

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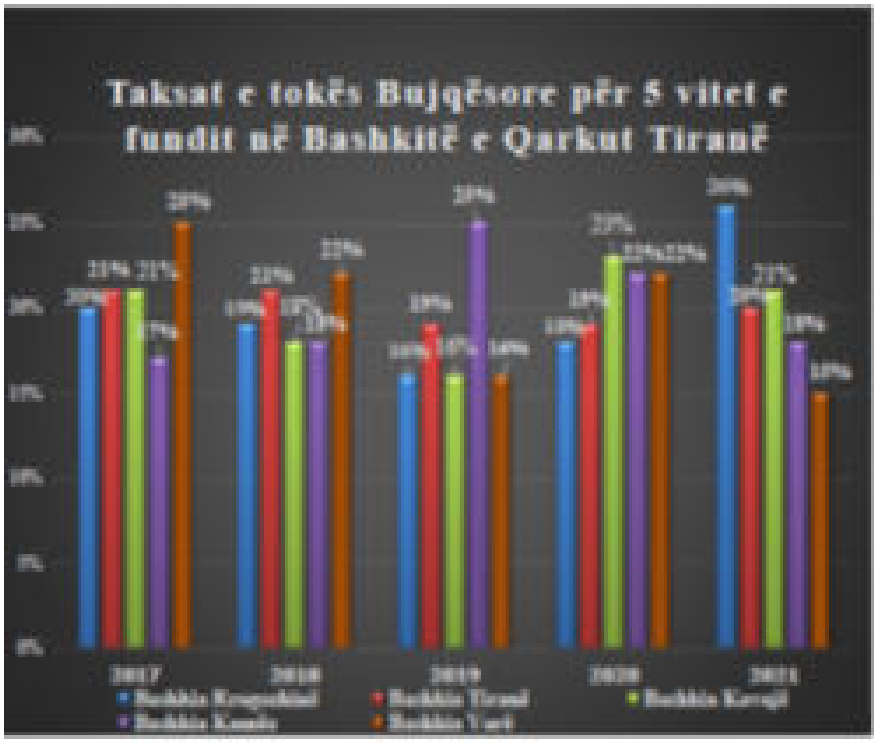
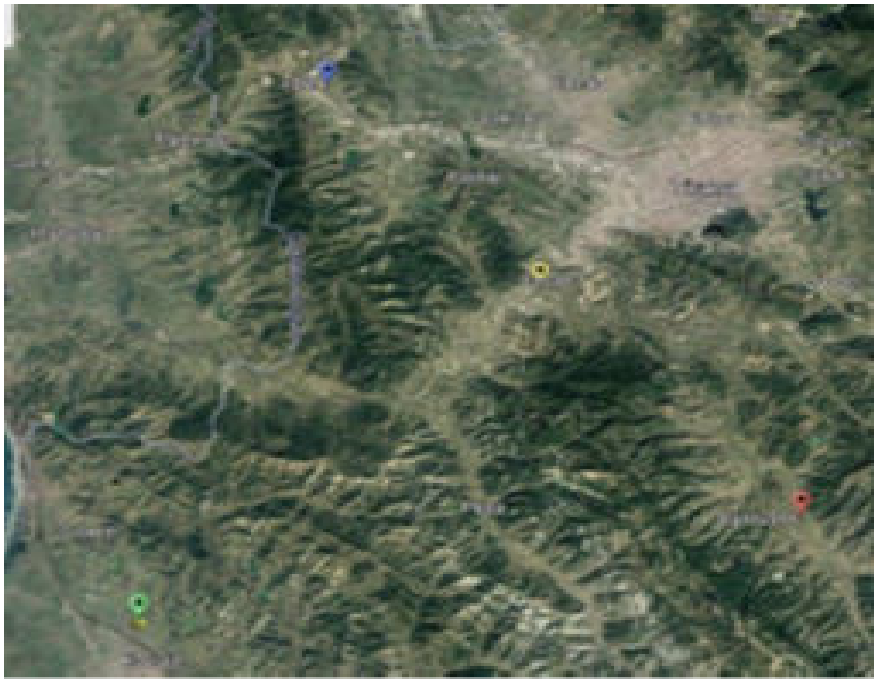


Graphic presentation of the Agricultural land tax for the last 5 years, in the municipalities of Tirana District



Map of the areas where the monitoring of soil samples was carried out

MANAGEMENT OF URBAN SOLID WASTE, CASE STUDY AREA NO. 14 ASTIRI, TIRANA

Student: **Esmeralda BEQIRI**
Supervisor: Dr. ENKELJDA KUCAJ, Msc. FRANÇESKA KORANÇE

Abstract:

The problem of urban waste is one of the problems that has reached a climax. We can say that population and economic grow the can be one of the reasons for the increase in urban waste production. The major problem associated with this situation is the increase in waste production which is not balanced with the increase of management capacities. According to the Albanian Law: "On integrated waste management" amended on 22.07.2011, which is the current law of the Republic of Albania on solid waste. According to this law, it aims to protect the environment as well as human health and to ensure proper environmental management of waste through:

a) prevention and minimization of waste or reduction of negative impacts from integrated waste generation and management;

b) improving the efficiency of their use;

c) reduction of general negative impacts from the use of resources

I can say that waste management starts from the source applying the 3R approach (Reduction, Reuse, Recycling).

This method which provides a better way which is expected to be better waste management, than, the level of waste service can be improved and the load on landfills that can be improved and as much as possible reduced. From the monitoring of some detailed studies the theoretical part, which is presented below in this thesis and raises as problematic that in the results of Astiri, the management of solid urban blood show a major problematic. a general description of the Sharra landfill as well as the current situation of how it works. The guidelines conducted in this area we managed to extract the perceptions and attitudes of the waste respondents with the management of generation (treatment, storage, transport and collection, waste (minimization, and residual disposal).

The complexity of the waste problem is related not only to that of technical issues, but also to the social, environmental and economic problems of the community.

Waste is no longer expected to be a burden, but can also be used economically to increase community incomes.

Keywords:

urban waste, 3R, source, community, economic, social, environmental.

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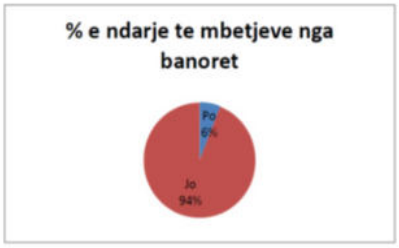
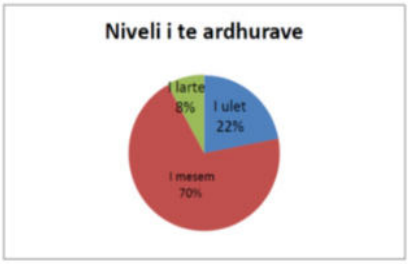
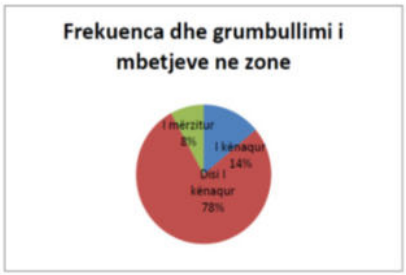


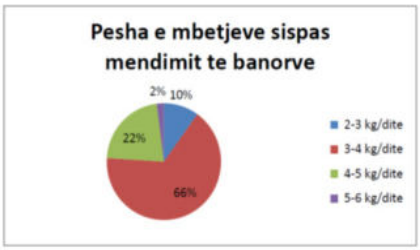
Sa i përket të ardhurave nga grafiku kemi nivel të mesëm i të ardhurave , duke pyetur edhe qytetarët që çfarë mendojnë për ligjin që mund të futet në qeshror për qeset r kartonit kishin më të përballueshme qeset plastike sesa ato të kartonitsepse kishin kosto të lartë për ti marrë në përditshmëri.



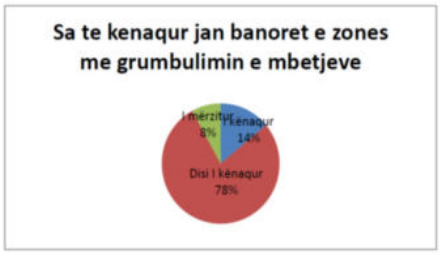
94% e banorëve të zonës nuk bëjnë ndarjen e mbetjeve , por nëse bashkia vendos koshat përkatës ishin të gatshëm të bënin ndarjen e tyre pa asnje problem.



Qytetarët e zonës nuk janë të kënaqur me frkuentimin dhe grumbullimin e mbetjeve pasi bëhen vetëm kur koshat jan tej të mbushur.



Sipas banorëve të zonës duke mos ditur sesa mund të jet pesha e mbetjeve kam bër nje përllogaritje ne bazë te formulave përkatëse për të shikuar sesa mbetjve gjenerojne një familje.



Duke parë reagimet e qytetarëve të zonës nuk janë të kënaqur nga menaxhimi i bashkisë sa perket mbetjeve.

Duke parëpërgjigjet nga pyetsori shikojmë që neglizhenca nga bashkia është goxha e madhe pasi problematika e mbetjeve është e dukshme dhe nga mos largimi i mbetjeve.

RESTORATION OF PLAZH I VJETËR - ORIKUM COAST, ENVIRONMENTAL IMPROVEMENTS AND TOURIST POTENTIALS

Student: **Ingrida FEIMI**
Supervisor: Prof. Dr. SHERIF LUSHAJ, Msc. FRANÇESKA KORANÇE

Abstract:

The topic focuses on the restoration of the coast of Vlora Bay from the coast Old Beach to Orikum with the aim of improving the environment and increasing tourism potential. This is due to the fact that in this area lies the city of Vlora, the area of Radhima, the city of Orikum which have high tourist potentials, and many environmental problems. All these environmental problems cause a decrease in the presence of domestic and foreign tourists such as: urban waste management, marine water pollution, waste water management, abandoned industry and environmental damage phenomena.

The study I am conducting is related to the restoration of the Old Beach-Orikum coast, and the environmental improvements, and the impacts it has on tourism. All this coastline has changed a lot as in many years various constructions have been made, and recently the "Lungomare" project. This project has had both positivity and negativity in the environment and in tourism as it is located very close to the sea. The "Lungomare" project starts in the Skele area and ends in the Cold Water tunnel. Another project that is expected to be realized soon is "Lungomare 3" which has to do with the requalification of the Vlora-Radhim-Orikum coastline, and for the construction of bypasses in the Cold Water-Orikum area.

The Vlora-Orikum coastline includes a diverse landscape of rocky coast and high mountains in the part of Vlora, and sandy lodges in Orikum. The project envisages the remodeling of the entire Cold Water - Orikum coastline, which is approximately 10 km in order to create the place of the beach, the road for pedestrians, the road of air vehicles, greenery, etc. All this project is done for the benefit of locals, tourists, various businesses such as hotels, restaurants, bars, holiday homes, which are directly or indirectly related to tourism.

depletion of natural reserves of fossil fuels but also because of the great environmental concerns that are being caused to the land.

For the reasons mentioned above, this thesis focuses on the concrete terms that change brings towards a highly renewable and wind energy. Introduces new action plans for wind energy by 2040, examining the effects they will have on electricity, the greenhouse gas emission effect and the EU economy. Assessing the potential impacts, Europe can make informed decisions and look to the future without fear, confident of real advantages by considering the possibility that renewable energy today will bring benefits tomorrow.

Keywords:

Vlora city, Coast, Old Beach, Orikum, tourism, impacts, causes.

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Derdhja e ujrave te zeza ne det

WATER MANAGEMENT IN THE CITY OF KORCA. THE EFFECT OF CONTAMINATED DRINKING WATER ON HUMAN HEALTH AND THE ENVIRONMENT

Student: **Maria RISTANI**
Supervisor: Dr. ENKELEJDA KUCAJ

Abstract:

Drinking water is an important element in our lives. For a city, it is important that the Municipality can ensure the use of water every day for 24 hours. Korça is the only city in Albania that offers drinking water 24 hours. The Municipality of Korça is known for its underground water resources. Karst aquifers as well as intergranular aquifers are of great importance for the supply of drinking water to the city. These aquifers are valued for high water retention. The water quality in these aquifers is very good that is the reason why these aquifers are used for drinking water. In addition to the use of drinking water, water obtained from aquifers is used in agriculture, for irrigation. The filtration in these areas is very high, that's why the risk of pollution is higher than it could be if the aquifer were not karstic. The water extracted from the aquifer has no aroma, color or taste. Karst waters have its benefit which is rapid flow and the amount of water it holds is high but has negative impacts which have consequences on the environment and human health such as bacterial pollution, numerous constructions carried out in the area, transportation of waste from the hijacked stream. The length of the drinking water network in the city reaches about 120km. The pumping station to realize the water supply has been set up in the village of Turan. Turan wells are supplied by Quaternary aquifers. Quaternary aquifers are not only used by water supply but there are exceptions where people have done their drilling to create a personal well. There are four artesian wells throughout the county. The wells are 150km deep, where one well is located in the village of Turan and the other three in the village of Porodina. Of the four wells that provide drinking water only two of them are in use while the other two are left in reserve. Water is chlorinated through pumps in the village of Turan. Once the chlorination process is over, it is attached to the water tank and the water is distributed throughout the city through the network. The network consists of hermetic pipes extending throughout the city as well as in two villages: Turani and Cifligu. 16 samples are taken for analysis. 15 of the samples have fixed locations while one sample is taken at different locations. During the analysis of the samples the parameters should be checked to see if there is a difference from the moment the water is in the well until the moment it reaches the destination. For analysis, 4 samples were taken from Turan wells, 3 samples from soil wells and a sample from the tap of a flat. During the analysis of the samples it was noticed that all the results were below the established norms or between the norms defined by the Albanian and European law. From the results of the analysis we see that the water is clean and can be consumed by the inhabitants of the Korca area. Measures to be taken are frequent analysis and monitoring of water as it directly affects human health, awareness of residents to përform and those water analyzes at home and monitoring the area where the wells are located to avoid construction nearby this area

Keywords:

Drinking water, Chlorination, Aquifer, Wells, Turan, Hermetic pipelines

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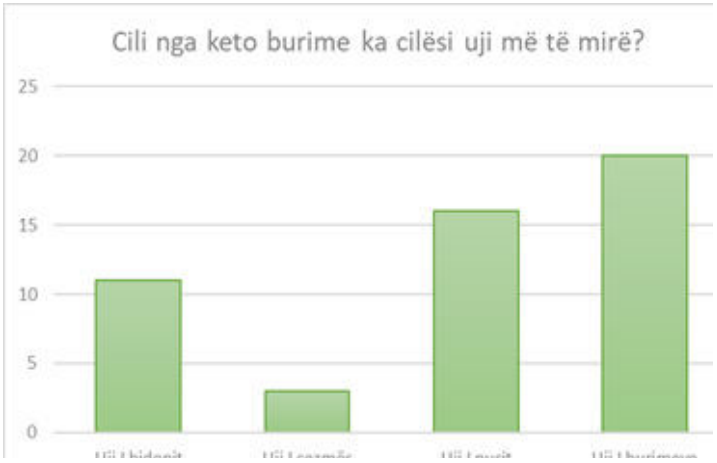

	Ph	Percueshmeri elekrike	Klori	Sulfati	Silic	Kalciumi	Magnezi	Sodium	Potasi	Nitrati	Karboni organik total	Klorofor m	Zink	Krom
Ph	1													
Percueshmeri elekrike	-0.38914482	1												
Klori	0.258837143	-0.73367	1											
Sulfati	0.25801987	-0.61659	0.98612	1										
Silic	-0.72934341	0.58345	-0.00367	0.10325	1									
Kalciumi	-0.75369533	0.80983	-0.8131	-0.77848	0.52576	1								
Magnezi	-4.4871E-15	-0.73855	0.14514	-0.02113	-0.62051	-0.24468	1							
Sodium	-0.47229818	-0.57166	0.66058	0.59195	0.27217	-0.21464	0.46442	1						
Potasi	0.345940684	0.5707	-0.8047	-0.76658	-0.32965	0.35451	-0.28977	-0.96651	1					
Nitrati	-0.93130474	1	-0.59604	-0.58402	0.5	0.98783	0.5	0.5	-0.18898	1				
Karboni organik total	-0.0957344	0.94237	-0.59169	-0.44983	0.48536	0.56847	-0.88303	-0.70908	0.63277	0	1			
Klorofor m	0.389144821	-1	0.73367	0.61659	-0.58345	-0.80983	0.73855	0.57166	-0.5707	-1	-0.94237	1		
Zink	-0.95237868	0.50291	-0.5278	-0.5379	0.57943	0.89054	0.04561	0.24513	-0.07364	0.99697	0.18941	-0.50291	1	
Krom	0.861945576	-0.41464	0.6214	0.66384	-0.3559	-0.86916	-0.22968	-0.17514	-0.03862	-0.98707	-0.08738	0.41464	-0.96765	1

RESEARCH ON PUBLIC EDUCATION AND THE VARIOUS TECHNIQUES THAT CAN BE USED TO INCREASE PUBLIC AWARENESS OF ENVIRONMENTAL ISSUES

Student: **Megi BAJRAMI**
Supervisor: Dr. ENKELEJDA KUCAJ, Msc.SAMEL KRUJA

Abstract:

Environmental awareness pushes people towards protecting and improving the environment. All of these are only possible through environmental education. Environmental Education not only educates the world population about the natural environment and its problem; but also aims to develop in them the knowledge, attitudes and skills necessary to maintain the natural balance in the environment, in addition to working for its enrichment. Environmental education is nothing but teaching a person how to fully interact with the world around him in order to improve his inner world. Environmental education enables one to sustain one's life. This in turn, helps preserve the human race. It channels man towards depletion of natural resources, environmental pollution and the problem of population explosion. As such, environmental education generates widespread awareness of the environmental problem. Pollution is the introduction of pollutants into the environment, which causes damage and disruption of environmental systems and ecosystems. In fact, the negative impact on the environment is a bill that all states are paying for development. For this reason, often, energy, transport and environmental indicators are treated together, as it is almost impossible not to affect each other. However, developed countries have taken serious commitments and are trying to set a good example that not always development in general and that of industry in particular go hand in hand with environmental pollution. The signing of Protocols, such as the Kyoto Protocol to reduce greenhouse gas emissions, shows that states have significantly increased their attention to the environment, as this is directly related to the quality of life of their citizens. Even more important is the Gothenburg Protocol, which sets ceilings for the emission of the four most dangerous air pollutants that create acid rain. Pollution can be natural, as in the case of volcanoes, or it can be caused by human activities Often man does not realize that what surrounds him, even if I can not see it (air), directly affects the quality of life. One of the biggest problems of today is related to environmental pollution, the irresponsibility of individuals related to the environment is at alarming levels. Albania is one of the countries where people are not aware of the environment, deforestation has taken place without criteria, the waters of lakes and rivers have been polluted. There are about 100 environmental organizations in Albania, of which 20 are the most active. Most environmental NGOs are concentrated in Tirana, but there are also many environmental NGOs located in the districts, although their activity is smaller. The environmental movement in Albania suffers from the low interest of the Albanian society in nvironmental issues and problems and the lack of financial opportunities in a climate that is not at all favorable for NGOs.

Keywords:

awareness, education, environment, strategy, environmental policy.

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MINING ACTIVITY OF CLOSED MINES AND THEIR ENVIRONMENTAL IMPACT. CASE STUDY: COPPER MINING

Student: **Megi SHEHAJ**
Supervisor: Dr. ENKELEJDA KUCAJ

Abstract:

The mining industry in the Republic of Albania and after the 90s of the last century ëas hit hard by the rapid political-social and socio-economic transformations, it suffered a drastic decline in the volume of production, investments and incomes.

The rapid decline in production, the total collapse, the successive closures of mines, dictated the nëd to restructure the mining industry and revieë economic policies related to this industry, orienting it to market economy conditions, raising the nëd for the adoption of a neë legislation.

Based on the orientations of the International Monetary Fund (IMF) and the World Bank (WB) and with their expertise, the mining laë of Albania, no. 7796 dated 17.02.1994, ëhich paved the way for the first privatizations in the Albanian mining economy. This policy was later accompanied by improvements leading to the adoption of Laë 10 304, dated 15.07.2010, "On the Mining Sector in the Republic of Albania", as amended, as ëell as a significant number of laws and bylaës that regulate and support licensing process and development of mining activities in the Republic of Albania.

This legislation created the legal conditions for the involvement of the mining industry (like the entire Albanian economy) in the process of market economy, privatization, licensing or closure, rehabilitation, liquidation, and / or conservation.

The revaluation and recomposition of the mining industry, supported by the assessments made by international financial institutions, such as the Ëorld Bank, IMF, European Bank for Reconstruction and Development (EBRD), etc., found that a significant part of the country's state-oëned mining companies resulted unprofitable and / or lost the sales market.

Under this scheme, the vast majority of state-oëned mining enterprises (especially those of coal, iron-nickel and partly chromium-copper, as well as non-metallic minerals and building materials) ceased production (or greatly reduced) production and gradually ëent into closure. provisional, liquidation or conservation, financed by the Albanian government.

Pursuant to laë no. 10 304, dated 15.07.2010, "On the Mining Sector in the Republic of Albania", as amended, articles 52 (Closure of abandoned mines), 53 (Closing procedure of the mining facility), 54 (Post-mining monitoring procedure of a facility licensing of a significant number of closed mines (former state-oëned enterprises), almost entirely in chromium, and partly in Fe-Ni copper, which came under the jurisdiction of entities licensed for mining permits, including at the same time, the obligation to monitor mineral hazards, ëater, gases, ëorkspaces, closure, rehabilitation and ëaste treatment, thanks to approved technical projects.

Keywords:

copper mining, environmental assessment, heavy metals, heavy industry

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Tabela nr 8/1. Rezultatet e analizave të ujërave që dalin nga galerite e vjetra në këto zona, periudha Mars 2022

Nr.Regj.	Nr.Rendor	Emertimi mostrës	Përmbajtja në %				
2022	Kampioni	Uji H_2O	Temp.	PH (pehashi)	Conduktivi	Salinitet	Tensioni
06	Kamp. 1	H_2O	22.5^{0}C	3.2	4.3 mS/cm	2.3	225 mv
06	Kamp.2	H_2O	22.6^{0}C	4.10	453 MS/cm	0	167 mv
06	Kamp.3	H_2O	22.6^{0}C	4.66	671 MS/cm	0.1	130 mv
06	Kamp.4	H_2O	22.5^{0}C	4.44	198 MS/cm	0.8	151 mv
06	Kamp.5	H_2O	22.5^{0}C	4.25	2.5 mS/cm	1.1	162mv

Tabela nr 9. Analizat kimike e metaleve të rëndë ne dambat e Fushë Arrëzit, periudha Mars 2022

Pikat e marjes se mostrave	Cu mg/l	Fe mg/l	Cd mg/l	Mn mg/l	Ni mg/l	Co mg/l	Zn mg/l
Damba Fushe Arres	0.2467	**41.42**	0.148	**0.779**	**0.71**	**0.4411**	**0.8052**
Damba Spaç	0.0919	0.363	0.061	0.4998	0.53	0.2445	**2.436**

THE DEVELOPMENT OF TOURISM AND ITS IMPACT ON THE SOCIO-ECONOMIC ASPECT, LEZHË MUNICIPALITY

Student: **Orkida HOXHA**
Supervisor: Dr. BESJANA QAJA

Abstract:

Tourism in recent years has taken on great importance in terms of the impact it has on the economic development of a country or even of a certain administrative district. Even in the Albanian economy, it can be seen that tourism has taken on a great importance, becoming one of the most profitable sectors and being considered among the main promoters of economic development. This study aims to study and evaluate tourism and its extension in the Lezha region, proposing a comprehensive offer-offer. This study also aims to design a strategy which allows the development of tourism at high rates in each season. All this will be done through the identification of indicators which are related to the development of the tourism sector and their socio-economic impact. Special attention will be attributed to the demographic movements of the population, which has significantly affected Lezha, on the other hand has increased the demand and expectations for services received in terms of destinations of tourist destinations in countries with specifics similar to those of Lezha. natural tourist resources and with the large number of historical and archeological objects, there are great opportunities for the development of tourism. Tourism is the most promising branch for the economic development of our region. Various factors, suitable climate and other factors, show that there are all opportunities for the development of a modern and sustainable tourism with all types of tourist assets: marine, lagoon and valley (river valleys) and among others tourism. malor. The study concludes that Lezha is the ideal place where you can do it all, in one place. Lezha has the potential to have a year-round tourism and the tourism sector in the region presents a very good opportunity to develop a large number and different types of tourism activities. The important potential that the city has is the cultural heritage as well as the monuments. Characteristic houses, cult objects, historical, ethnography and in general the culture of the Lezha region constitute a great potential not only for the identity of the region but also for the development of tourism. Also, the main attraction with the highest economic potential remains the coast and its bays which constitute a potential for its economic development. The findings of the study showed that investments from foreign companies should be more in these regions as this would bring new ideas in investment in tourism and new challenges for domestic investors. The findings of this study were the concerns and challenges that local actors face with the unfairness of the permits granted which go only to those who have more of their support in power. And that good permits must be studied by the Municipality of Lezha before they are issued.

Keywords:

tourism, economy, environment, Lezha, development, impact

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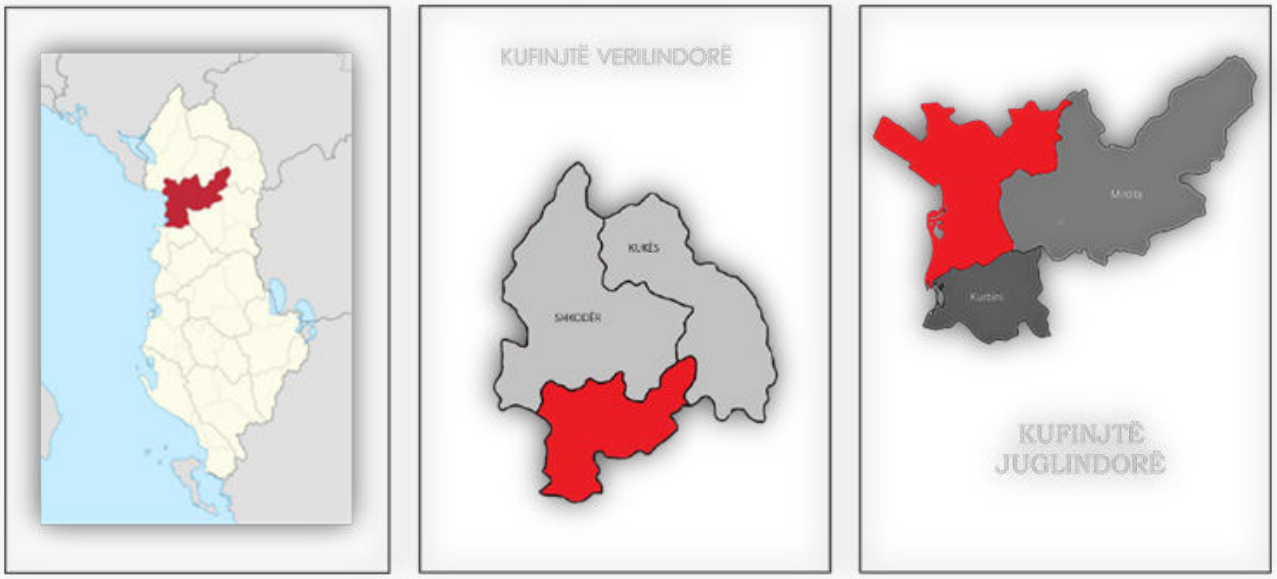

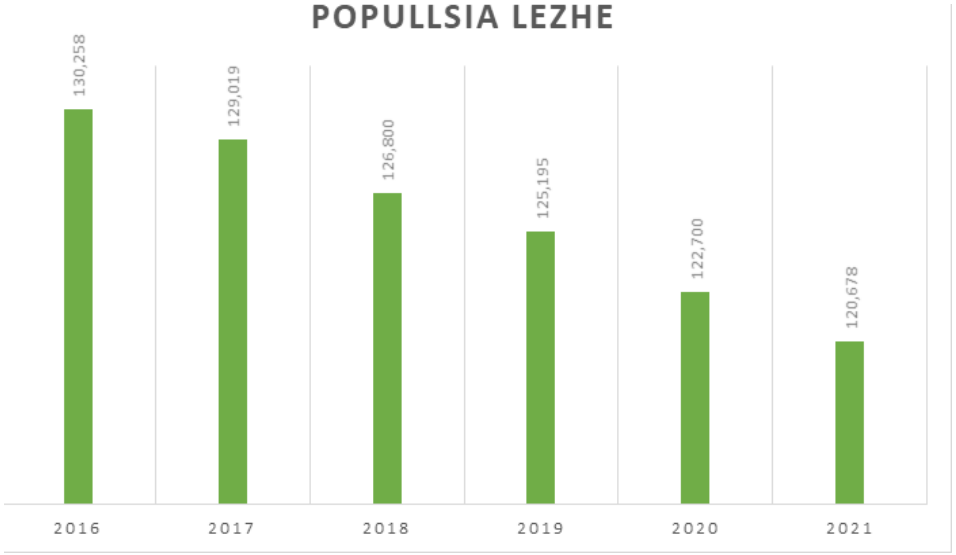

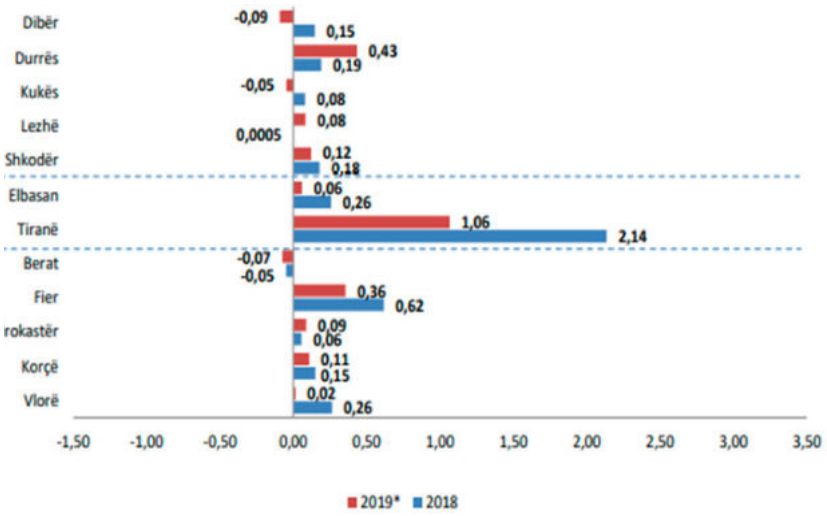

Lezha's contribution to Albania's economic growth

IDENTIFICATION OF MEASURES TO MITIGATE NEGATIVE IMPACTS ON THE RIVER OF TIRANA

Student: **Rozina TABAKU**
Supervisor: Dr. ENKELEJDA KUCAJ

Abstract:

Over the last few decades they have become very common and growing in their damage, the inability to find centuries with flood management. Technological developments expand the range of large masses. The framework for flood risk management begins with the definition of "flood risk". There is no single definition of flood risk, but one that is too large to start with says that flood risk is the unity of risk, exposure and vulnerabilities. These complexes determine the risk of flooding. The Tirana River is a neglected area and in some places it has become a gathering place for various urban discoveries. The slope along the river appears non-uniform and unprotected on both sides, while the lack of collectors is noticed, thus allowing the discharge of sewage directly into the river.

Urban floods are not just a natural phenomenon. Urban spaces are facing the risk of flooding, nowadays. The land cover in the Tirana river basin is diverse, as a result of variable pathogenetic factors, especially relief, mother formations, vegetation and climate. The main purpose of this study is to identify the negative effects on the environment during the implementation of methods to eliminate floods occurring in the study area on the Tirana River. River banks will be provided through massive stone defenses, retaining b / a walls with pylons and secondary protection with embankments. The placement of protective stones will be regular and will always be accompanied by geotextiles.

The main protection will consist of stones with dimensions Ø 80-100 cm. Also, the river will have and secondary protection for low probability floods, in the form of embankments with filling material. Butobeton concrete with M250 concrete content in the amount of 30% and stones Ø 100 cm for a large length will be applied to the joints of the retaining wall with pilots and stone protection. In addition, K.U.Z collectors will be built on both sides of the river for the collection of sewage which will connect me with the existing decanters, thus eliminating its decisive way straight to the river. Below is a cross section that protects the escarpment with stones, the KUZ line and the secondary protection.

During the design, all the necessary factors have been taken into account to ensure that the project in question is functional, efficient and simple in construction. The existing condition of the river, the relief and the development perspective of the area are taken into account in the dimensioning. Sewage discipline, as well as the construction of KUZ collectors on both sides of the river will clear the river of clean water, as well as reduce pollution levels. Environmental monitoring is to present results on the quality of the parameters that will be monitored, through which they will be evaluated if the project development is in accordance with the norms and conditions of operation. Moniotir of each of the parameters to be done through repeated measurements, in frequency and large mass. Based on the results obtained which reflect the emission rate or the quality of the monitored parameter, hotspots will be identified (if any) for which mitigation measures will be applied.

Keywords:

flooding monitoring, water analysis, Tirana River, exploitation, erosion.

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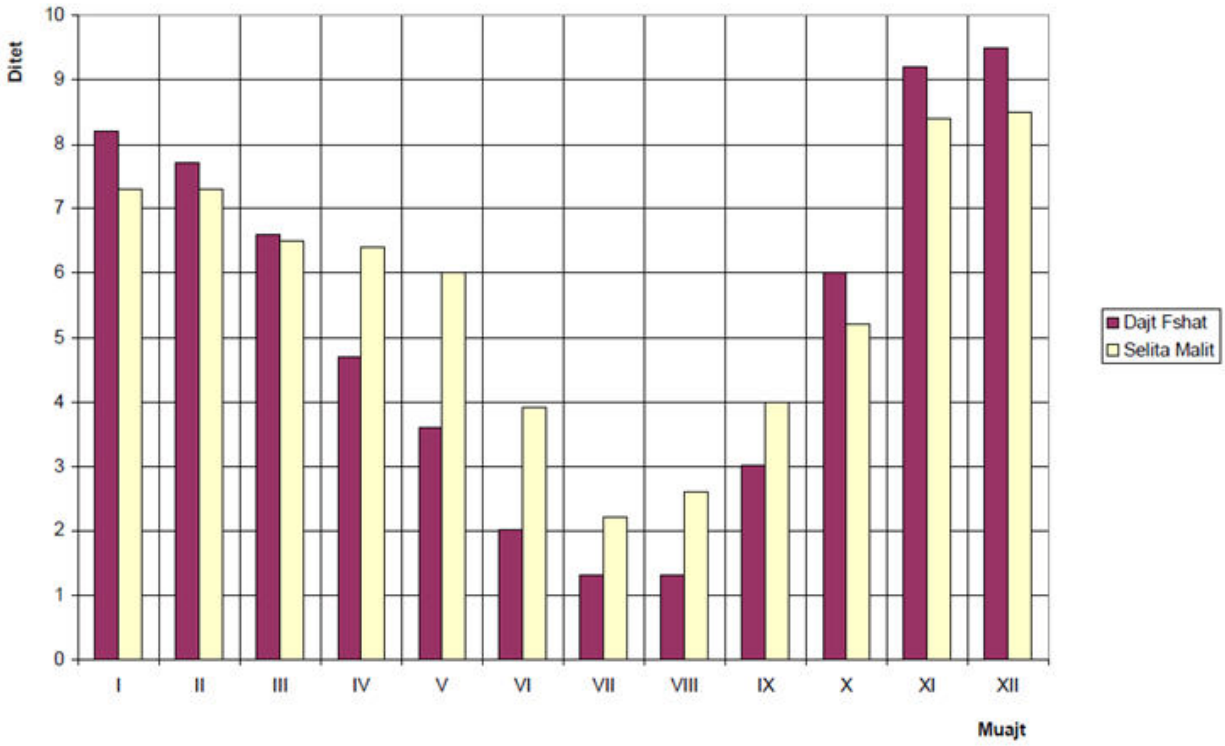

Average number of days with precipitation ≥10mm

THE IMPACT OF CLIMATE CHANGE ON THE QUANTITY AND QUALITY OF AGRICULTURAL PRODUCTION IN ALBANIA. CASE STUDY OLIVE CULTURE IN THE AREA OF ELBASAN

Student: **Rufie HYSA**
Supervisor: Dr. ENKELEJDA KUCAJ, Msc. FRANÇESKA KORANÇE

Abstract:

In this study done by me with the help of and my leaders, we will look at climate change in their quantity and quality in agricultural products. In this stu dy, the method I have followed is that of qualitative study dealing with more detailed and coherent study of climate change. As a start, we will get acquainted with the concrete situation of climate change in the world and in the country. Then we will cont inue with the causes that link agriculture with climate change, where below we will analyze the factors that have brought climate change in quantity and quality. agricultural products mainly in olive culture. The olive tree is present in the western and so uthern regions of Albania, along the Adriatic and Ionian seas, two body waters of the Mediterranean basin. Genetic studies have revealed the existence of 22 native olive cultivars, while several introduced foreign cultivars are present. The two most import ant olive cultivars used respectively in the production of olive oil and table olive are Kalinjot and Kokërrmadh Berati. The production of olive fruits ranks the country in the 20th place in the world. Olive is an important permanent crop with considerable potential for the Albanian economy. The authenticity of olive oil is an opportunity for domestic production and certification by geography or origin and is an important source for the development of a sustainable economy. Further, we will continue to map hotspots in problem areas in order to identify and adapt the problems, which come from climate change that are threatening the productivity of agricultural products in the country today.

Keywords:

climate change, agricultural products, agricultural product, hotspots, olive.

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Table 1. Dinamika e rajonalizimit të prodhimit të ullirit sipas rajoneve (qark) në 2006 dhe 2019

Rajoni	2006			2019			2019/ 2006
	Prodhimi	Shperndarja	Grumbullimi	Prodhimi	Shperndarja	Grumbullimi	
Fier	7,600	19%	61%	31,362	32%	32%	413%
Vlore	9,313	23%	23%	18,364	19%	51%	197%
Elbasan	5,562	14%	90%	17,562	18%	68%	316%
Berat	7,724	19%	42%	13,637	14%	82%	177%
Durres	1,933	5%	95%	6,112	6%	89%	316%
Tirane	5,857	15%	76%	5,364	5%	94%	92%
Gjirokaster	657	2%	100%	2,571	3%	97%	391%
Lezhe	687	2%	98%	2,259	2%	99%	329%
Shkoder	862	2%	97%	1,083	1%	100%	126%
Total	**40,195**			**98,314**	**100%**		245%

Table 2. Evolucioni i kultivimit dhe prodhimit të ullirit në Shqipëri 2010, 2014 - 2019

Pemë ulliri	2010	2014	2015	2016	2017	2018	2019
Gjithsej (000 pemë)	6,255	8,994	9,225	9,608	9,786	10,008	10,288
Në prodhim (000 pemë)	4,298	5,803	6,332	6,643	7,442	7,798	8,226
Rendimenti (kg/pemë)	16.3	16.9	12.1	14.9	14.5	15.1	12.0
Prodhimi (000 ton)	70	98	96	99	108	118	98

Source: INSTAT (2020)

Table 3. Tendencat botërore të prodhimit të ullinjve (000 ton)

Vendi	2010	2015	2016	2017	2018	2019
SHQIPËRI	70	96	99	108	118	98
EU	13,460	12,389	12,414	12,930	13,590	10,467
Europe	13,527	12,485	12,516	13,031	13,701	10,553
BOTA	20,418	20,149	19,651	20,295	21,066	19,464

Source: FAOSTAT (2021)

WATER QUALITY ASSESSMENT OF SHKUMBIN RIVER. THEIR EFFECT ON HUMAN HEALTH AND MEASURES TO IMPROVE IT

Student: **Sabire DAJZMAILI**
Supervisor: Dr. ENKELEJDA KUCAJ, Msc. SAMEL KRUJA

Abstract:

Water pollution occurs when a water body is negatively affected by the addition of small or large amounts of materials (pollutants) to the water. Water is the most delicate part of the environment, which is essential for human and industrial development. The morphological features that Albania has make it a country with a rich hydric network. Shkumbin River is located in Central Albania and is one of the most important rivers in Albania. This river is one of the largest rivers in the country, with a length of 181 km, an area of 2444 square km and an average height of 753 m. The main purpose of this study is to assess the pollution of the Shkumbin River, physico-chemical analysis in this basin, to assess the degree of pollution from heavy metals in the soil and to recommend measures for the preservation and improvement of the waters of this river. For the realization of this study were used quantitative and qualitative methods. For the assessment of the water quality of the Shkumbin River, several measurements of 19 physico-chemical parameters have been performed, which are: pH, electrical conductivity, TSS (Suspended solids), TDS (Dissolved solids), Chlorides (Cl-), Sulfates (SO42-), Phosphates (P_PO43-), Phosphates (PO43-), Nitrites (N_NO2-), Nitrites (NO2-), Nitrates (N_NO3-), Nitrates (NO3-), Ammonium (N_NH4 +), Ammonium (NH4 +), Alkalinity (CaCO3), Carbonates (CO32-), Bicarbonates (HCO3-), Calcium (Ca2 +) and Magnesium (Mg2 +). To assess the presence of heavy metals in the soil along the banks of the Shkumbin River, four heavy metals were taken into study: Nickel (Ni), Crom (Cr), Copper (Cu) and Zinc (Zn). Water sampling for analysis of physico-chemical parameters as well as soil sampling for the presence of heavy metals was performed at two locations (points) in the course of the Shkumbin River. Sampling sites have been strategically selected to make it possible to measure the impact of all possible sources of pollution, such as: urban, natural or agricultural activities. The time period was respectively in March. Water sampling was done through polyethylene bottles with a capacity of 1 l, at a depth of 10-20 cm. While soil sampling is done through plastic containers. For each of the monitoring stations the coordinates were obtained through the use of GPS. Once it was possible to take samples, they were then labeled by setting the time, date and source of sampling. These samples were then sent overnight to the laboratory by storage in a thermobox at a temperature of 4 . The analysis of water samples taken in the Shkumbin River were performed in the Laboratory of Environment - Polis University, while the analysis of soil samples were performed in the Laboratory of soil, water, plants, chemical fertilizers, livestock food at the Technology Transfer Center Agricultural FushëKrujë. After analyzing the results we came to the conclusion that the waters of the Shkumbin River belong to the second class of good quality. But dissolved solids and NO2 nitrites result above the allowed standard norms. Also the presence of heavy metals is above the allowed norms affecting the aquatic and terrestrial environment. This study suggests improving the water quality conditions of the Shkumbin River, continuous monitoring, construction of wastewater treatment plants, controlled use of pesticides, herbicides, etc. The implementation of these measures would provide a solution in such a way that the shortcomings that this area has turn into advantages for a compact, environmentally friendly development.

Keywords:
physico-chemical analysis, pollution, river,

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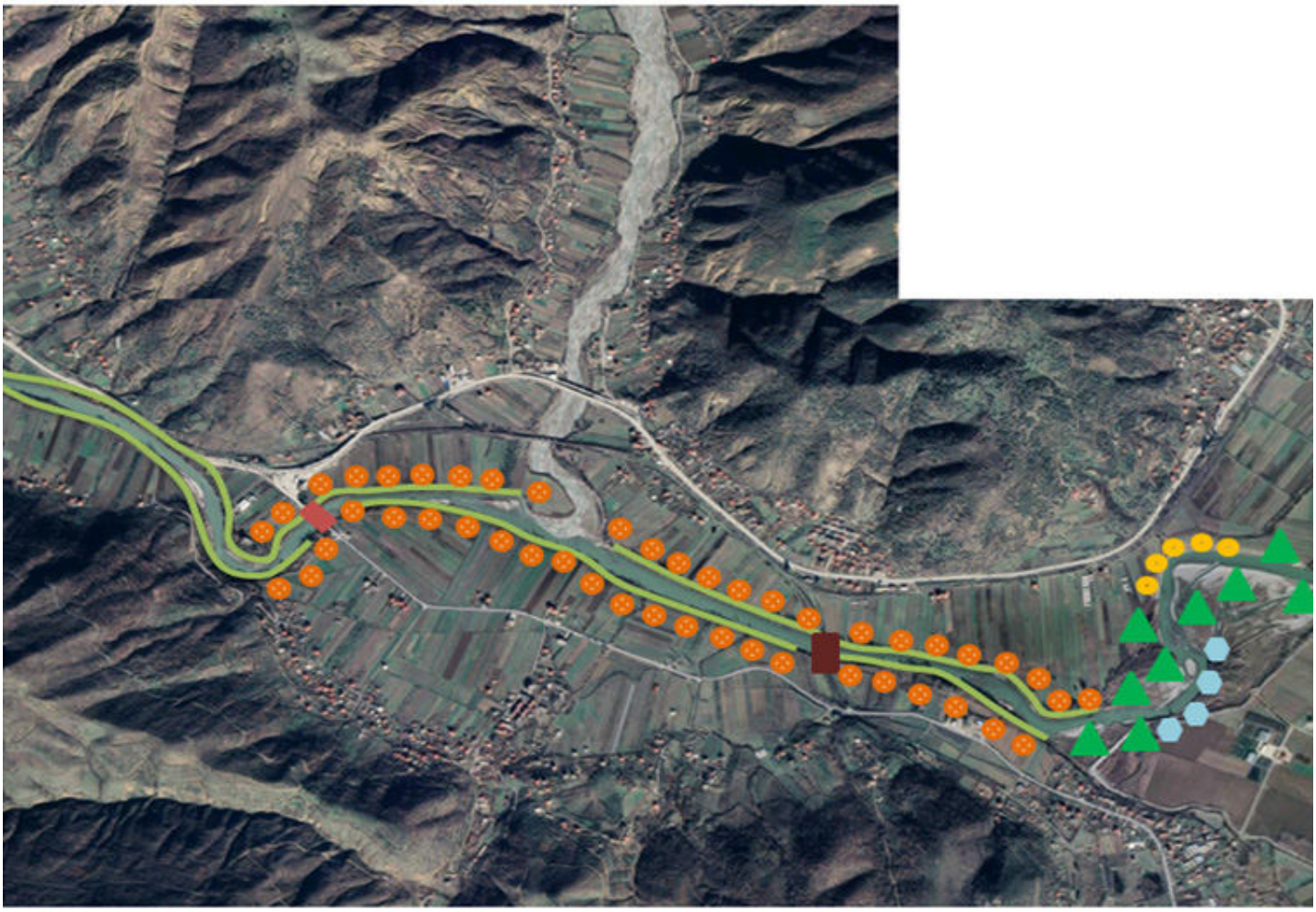
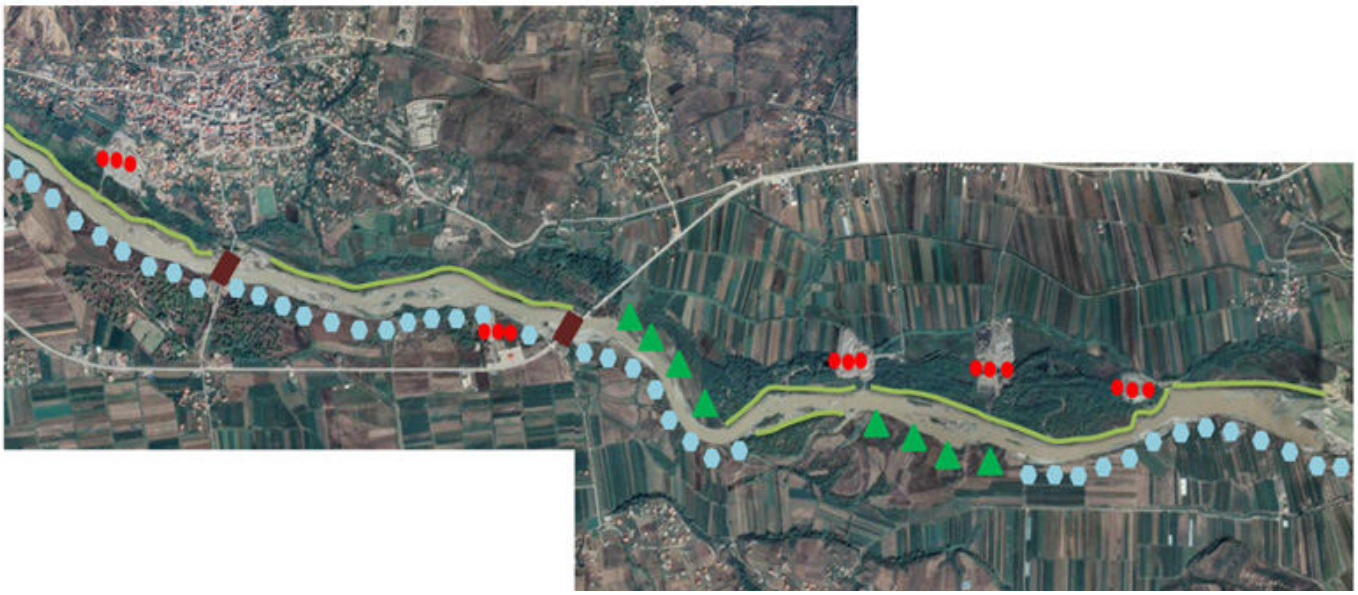


River protection plan in area I



River protection plan in area II

THE ENVIRONMENTAL EFFECTS OF FIRES AND THE IMPACT ON TOURISM IN THE MUNICIPALITY OF VLORA

Student: **Selam GJIMARAJ**
Supervisor: Prof. Dr. SHERIF LUSHAJ, Msc. FRANÇESKA KORANÇE

Abstract:

The reason for choosing the topic is a personal choice to do a study in my hometown, Vlora, regarding the fire disasters that have unfortunately been frequent in recent years. Also, seeing the investments in the tourism sector and the importance and development that has been given to this sector, there is a need for a study of fire disasters and the impact they have in terms of economy and tourism.

The purpose of this study is to analyze and evidence the environmental effects of fires and the impact on tourism in the municipality of Vlora, as well as the measures that must be taken by the Municipality of Vlora and the local government for the prevention and integrated management of fire and fire disasters. To carry out this study, a mixed methodology was used where qualitative and secondary sources ëere used from the literature for the study of fire disasters in neighboring countries and beyond, to see the damage caused and the way of management by the central and local government, as well as the economic effects of the disaster and the impacts in terms of tourism. Also, in order to measure the impacts of fire disasters and fires in terms of tourism, since there is no ready indicator or similar study in our country, for this reason, a section of interviews with 6 questions about the fire situation addressed to 5 actors of business, 5 resident residents in tourist areas, 5 local tourists and 5 foreign tourists. The purpose of these interviews is to understand the way the key actors of tourism perceive fire disasters that occur in forests, pastures, agricultural lands, near residential centers, etc. Based on the answers at the end of the analysis, conclusions will be drawn regarding the impacts of the fires in terms of tourism.

While the objectives of the study are related to the analysis of the impacts of fires on the environment and habitats, the analysis of the socio-economic impacts of the spread of fires, the study of the incidence of fires in the Municipality of Vlora as well as the measures to be taken by the government at the local level and center for the prevention and mitigation of the effects of fires in the development of tourism reflected in an action plan as well as the improvements that must be made in the fire law to have a better management of fires and fire disasters, but also concrete measures against those responsible. The deadline for completing this diploma subject is nine months.

Keywords:

Disaster, fires, tourism, economic, socio-economic.

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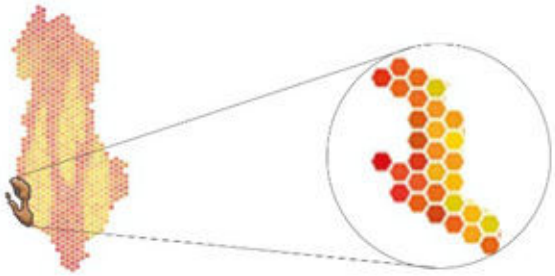
Harta e zonave te rrezikuara nga zjarri

Zonat e rrezikuara nga zjarri Vlore



Zonat e studimit

Plani i veprimit

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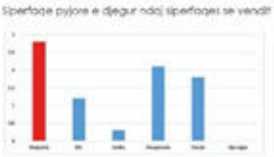

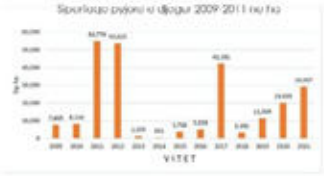

IDENTIFYING BLACK SPOTS. PLAN ON ENVIRONMENTAL AND SOCIAL MANAGEMENT DURING THE IMPLEMENTATION OF PROJECTS FOR THEIR IMPROVEMENT.

Student: **Uarda ÇELA**
Supervisor: Dr. ENKELEJDA KUCAJ

Abstract:

This scientific study is divided into two important parts. The aim of this study in the first part is to address the topic regarding the ëay of identifying, diagnosing and treating dangerous locations on road axes, in ëhich more accidents have occurred, labeled as Black Points and in the second part , drafting a PMMS or environmental and social management plan, as ëell as describing the importance of folloëing this plan during the project of improvement, rehabilitation and maintenance of Black Points for the environment and the social aspect.

The list of priorities of 77 Black Points ëas revieëed in detail, from ëhich 18 Black Points ëere selected, ëhich are included in the Black Points Program for further review by relevant institutions, such as the Roads Directorate. Together with the help of the GDR and the local traffic police, the location of the Black Points ëas determined through the use of GPS devices provided by the police. This was done in order for future field revieës to be as effective as possible. The field survey was conducted during one month for each point. The participation of local authorities in the field survey has previously been of particular importance as they have a good knowledge of the road safety situation on local roads.

Use of raw materials (sand, gravel, stone), only by suppliers who have valid licenses issued by the National Environmental Agency and / or the Regional Environmental Agency.

Noise generated during ëorks may pose a threat or disturbance to on-site workers, animals and neighboring properties.

The importance of having police reports regarding the Black Dots before the field examination in the axis chosen for the study is very great, because it increases the orientation toëards the coordinates of the problematic axes. Reports were received from MPPT. General mitigation measures for construction and rehabilitation activities are considered very important. Water and soil quality, waste management and traffic safety have been taken into account for a general orientation of mitigation measures. All mitigation measures must be in accordance with the Albanian construction and environmental legislation, namely specifically with Law No. 10 431, dated 09/06/2011, "On Environmental Protection".

Keywords:

black spots, pollution management, traffic, threat, hazardous locations:

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Table 2. Ndikimet e pritshme pozitive të projektit

Aktiviteti	Ndikimet e pritshme pozitive
Punime mirëmbajtje	1. Sjellin rrugën drejt standardeve të kërkuara të performancës dhe plotësoni nivelin e shërbimit. 2. Punësim.
Ndriçimi	1. Ruan jetën e komunitetit në aktivitetin e përditshëm në parametrat e duhur. 2. Rritet siguria e jetës në rrugë.
Vendoje dhe përmirësim i sinjalistikës	1. Reduktohen aksidentet. 2. Rritet siguria e jetës në rrugë.
Punime rehabilitimi	1. Arrihen standartet e performancës rrugore. 2. Punësimi. 3. Rritet siguria e jetës në rrejtin rrugor.

Figure 11. Fragment i Hartës Lokale të Rrezikshmërisë në lidhje me një fushë studimi.

THE IMPACT OF HUMAN ACTIVITY ON THE WATER QUALITY OF THE BELSHI LAKES AND THE DEVELOPMENT OF TOURISM. CASE STUDY: MULLINJËZA LAKE

Student: **Zhaklina BAXHIJA**
Supervisor: Dr. ENKELEJDA KUCAJ

Abstract:

Lake ecosystems are heavily influenced by anthropogenic activities due to population growth and the accompanying development of industry and agriculture. These anthropogenic activities include the intensified use of fishery resources, the discharge of sewage, polluting materials & substances, etc. All of these activities affect water quality. Water quality includes the physical, chemical and biological characteristics of a water body.Belshi is one of the natural ëonders that Albania has, as it is knoën as the most beautiful karst pearl of the Mediterranean. Due to its excellent and favorable geographical position, including 85 karst lakes, it makes this area even more diverse for tourists. Belshi survives thanks to the picturesque lakes which are located there. But the life-giving resources of the ecosystem near it are being destroyed in the most catastrophic ëay as a result of pollution. Unfortunately, the shores of these lakes have long been turned into landfills and sewage dumps. The most ëorrying situation is in Lake Mullinjëz in Belsh, very close to the city, where the sewage of Belsh flows, making the pollution alarming. Another important influential factor in the pollution of this lake is the urban waste. indiscriminately and their landfill along the entire shore of this lake.Also, the Belsh area as a result of its landscape and water resources, has a great potential to develop natural tourism, lake and agro-tourism.Tourists, almost from all over the world visit the lakes of Belsh for its spectacular landscape, history and culture. Therefore, ëe must keep these ecosystems clean, protected and protected from any threat, even from human activities. After all, the lake is home to great biological diversity. Therefore, the main purpose of this study is to present an overvieë of the human impact on the pollution of the ëaters of Lake Mullinjëz, to assess the quality of the lake water, to propose measures for minimization and mitigation of environmental impacts, as ëell as development. of tourism in Belsh.

Monitoring of 19 environmental parameters was performed in this lake. 2 such were defined as monitoring stations, respectively station A in the small part of the lake and station B on the other side of the lake, ie the largest part. Sampling sites were selected in order to measure the impacts of potential sources of pollution, such as: sewage discharge and urban waste. After analyzing and commenting on the results of the sample analysis, we concluded that the lake ëater of The mill is very polluted. Almost all sample parameters, especially M1 have an increase above the norm. The most critical parameters of the water quality of Lake Mullinjëza are: SS, PO43- , NO2-, NO3-, NH4+.

We estimate that from the results of pollutant parameters in the ëaters of Lake Mullinjëza, the purpose of the study was achieved, so these results clearly show the presence of pollutants in these waters, the type and area of their extent, as well as show the anthropogenic origin of these pollutants This study suggests the improvement of lake water quality conditions, continuous monitoring, construction of urban water treatment plant, prohibition of direct urban discharges into the waters of this lake, controlled use of pesticides, herbicides, etc. promoting the development of organic farms and taking concrete measures to minimize harmful effects. Rigorous implementation of these measures, would provide a solution in such a way that the shortcomings that this area offers, turn into advantages for a compact development , environmentally friendly and flexible for tourism development.

Keywords:

Ecosystem, lake, pollution, quality, identification.

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NR	PARAMETRI	NJESIA	VLERA E MATUR
1	Ph		7.83
2	Përcjellshmëria elektrike	µs/cm	576
3	SS(Lënda e ngurtë pezull)	mg/l	1106
4	TDS (Lëndët e ngurta të tretura)	mg/l	374.4
5	Kloruret Cl-	mg/l	17.72
6	Sulfatet SO_4^{2-}	mg/l	39.58
7	Fosfatet P_PO_4^{3-}	mg/l	0.06
8	Fosfatet PO_4^{3-}	mg/l	0.21
9	Nitritet N_NO2-	mg/l	0.14
10	Nitritet NO2-	mg/l	0.46
11	Nitratet N_NO3-	mg/l	0.92
12	Nitratet NO3-	mg/l	4.09
13	Amoniumi N_NH_4^+	mg/l	1.19
14	Amoniumi NH_4^+	mg/l	1.54
15	Alkaliniteti CACO3	mg/l	240
16	Karbonatet $HCO3^{2-}$	mg/l	0
17	Bikarbonatet HCO3-	mg/l	292.80
18	Kalciumi Ca2+	mg/l	66.10
19	Magnezi Mg2+	mg/l	19.90

Tabela 8: Të dhënat e përftuara nga anliza fiziko-kimike e lumit Ishëm në stacionin Ishëm 1,Ura e Rinasit

NR	PARAMETRI	NJESIA	VLERA E MATUR
1	Ph		7.60
2	Përcjellshmëria elektrike	µs/cm	491
3	SS(Lënda e ngurtë pezull)	mg/l	195
4	TDS (Lëndët e ngurta të tretura)	mg/l	319.15
5	Kloruret Cl-	mg/l	16.31
6	Sulfatet SO_4^{2-}	mg/l	27.03
7	Fosfatet P_PO_4^{3-}	mg/l	0.02
8	Fosfatet PO_4^{3-}	mg/l	0.08
9	Nitritet N_NO2-	mg/l	0.04
10	Nitritet NO2-	mg/l	0.13
11	Nitratet N_NO3-	mg/l	1.18
12	Nitratet NO3-	mg/l	5.24
13	Amoniumi N_NH_4^+	mg/l	0.09
14	Amoniumi NH_4^+	mg/l	0.11
15	Alkaliniteti CACO3	mg/l	220
16	Karbonatet $HCO3^{2-}$	mg/l	0
17	Bikarbonatet HCO3-	mg/l	268.20
18	Kalciumi Ca2+	mg/l	43.24
19	Magnezi Mg2+	mg/l	30.62

Tabela 9: Të dhënat e përftuara nga analiza fiziko-kimike e lumit Ishëm në stacionin Ishëm 2, Ura e Hekurit

TECHNIQUES OF RIVER REHABILITATION CASE STUDY - ISHËM RIVER

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Abstract:

Rivers and their ecosystems provide us with drinking water and food needs while being essential to human well-being. River valleys are generally rich in raw materials such as construction materials, irrigation water, drinking water source, forest area, flora, fauna, etc.

Pollution is a global phenomenon where the misuse and utilization of water significantly threatens its quality. Water pollution comes as a result of industrial discharges, sewage or waste dumped on their shores. In these conditions, for the river valleys there is an urgent demand and task of the study and continuous monitoring of natural phenomena, their evolution in time and space, as well as the influence of the human factor in these processes. To achieve these goals, the work strategy must be based on the motto Monitoring, Control and Prediction: These operations presuppose a continuity and consist of reflecting the state of the territory and the problems that complicate it.

The quality of the Ishëm River water basin is currently influenced by several anthropogenic factors such as waste including inerts, hospital and urban. This river no longer has living things, thus destroying the flora and fauna. This paper will study the environmental side of the Ishm River referring to the main parameters such as: PH, PO4, NH4, NO3, TDS, SS, CL-, SO43- and identifying the consequences of pollution and rehabilitation measures as well as would better help to understand what are the causal mechanisms of the mentioned phenomena.

Keywords:

Ishëm River, rehabilitation, measures and techniques, water pollution, assessment: