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CONCLUSIONS

Rethinking and inventing Territory, Infrastructure and Housing in the case of Post pandemic Region of Lezha (Albania)

Dr. Llazar Kumaraku- Orcid Id: 0000-0002-0414-1578

Polis University, Tirana, Albania.

1. Introduction- The region of Lezhe is located in a strategic position of Albania. This region is bordered by the Region of Shkodra in the North, Kukesi in the Northeast, Dibra in the East, Durres in the South and the Adriatic Sea in the West. The favorable geographical position makes Lezha an important exchange node for the north-south and east-west traffic arteries. This favorable location, where the "blue corridor" is expected to pass and where the "Kombi" road currently passes, makes Lezha a strategic node for the future. In fact, the influence of the geographical position is currently felt in the economic and touristic development of Lezha. It is transforming rapidly by entering the global race of innovative cities.

Beyond this development, which until now has been based on the regulations of various urban plans, this study brings several proposals and strategies that seek to transform Lezha into a resilient city that adapts to the state of post-pandemic cities.

The proposals are divided into three categories that firstly affect Infrastructure and Services, secondly biodiversity and the environment and finally urban development and housing. These proposals are divided into two parts, since it was attempted to contain the comments or suggestions that were received from the meetings with the local actors.

New proposals for planning and settlement models through infrastructure and service interventions (Part I).

Lezha has an immense potential for further development and also to be one

of the most crucial cities in the Republic of Albania, due to its strategic geographical position.

Lezha is connected to the national highway Tirana-Shkodra that will be part of the "Blue Corridor". Lezha has also a distance of 15 km from the national highway Durres-Kukes-Morina and is directly connected to the north-south railway. Unfortunately, actually this railway function only in rare cases for the transporting of special goods. Regarding the distance of the Municipality of Lezha from the customs points, it is located at a distance of 123 km from the customs point of Morina on the border with Kosovo, 48 km and 70 km, on the border with Montenegro. The municipality is located at a distance of 7 km from the Port of Shengjin), 64 km from the Port of Durres, and 45 km from Rinas Airport, only 56 km away from the capital of the country, Tirana and the duration of the trip is less than an hour. The territory of the Municipality is crossed by 4.1 km of national roads and 10.3 km of urban roads. (Lezhë, n.d.).

In this moment Lezha has great potential for increasing the quality of the space in order to improve the lives of the residents and attract tourists. This publication emphasize that the proposed interventions do not aim to turn the Lezha Region into a "Disney" city for tourists, but to improve the quality of the space first for the residents and then to use the tourist capacities as a way to exchange tradition and culture with local communities.

Based on the state of the infrastructure described a paragraph above, the proposals made in this issue affect

the connection between the different settlements of Lezhe with the center of the region represented by the city of Lezhe itself.

In fact, infrastructure interventions are considered a catalyst for improving the well-being of the Lezhe region. These detailed interventions in the article written by Besjana Qaja in chapter 3 (three) of this issue strategically affect the entire region and focus on the growth of agriculture, agritourism and maritime tourism.

In the aforementioned article on the proposed interventions, the thematization of the areas is more important. By thematization is meant what Franco Purini (2022) writes about innovative cities, which to be such must have a theme. According to Purini, the theme is reflected in a specific function which can be based on local tradition and culture. In fact, the Lezhe region is proposed to be based on agriculture (growing vineyards and wine processing), agrotourism and marine tourism. This specialization of areas and their connection through infrastructure - the railway, the blue corridor, various connections and networks of bicycle tracks - build the new image of a city that is oriented beyond the crises of the pandemic and the earthquake.

The intervention in the infrastructure is conceived in the service of increasing the quality of the region's space. First, from this point of view, the first intervention that has been considered is the connection of settlements on the concept of the organic network. Currently, rural settlements are connected by direct main road only to the center of Lezhe. It is proposed to connect

them with each other not only within the region but also outside it. In this sense, the revitalization of the railway, which would offer international connections but also the road to Balldren, to Shkoder, the axis Lezhe-Shengjin and the port connection becomes important.

Another important aspect regarding infrastructure is the one addressed by Albina Tocilla in article 3.1. on the intelligent transition of the infrastructure where the use of intelligent itineraries is made in the service of tourism but also of the residents.

The proposal made by Flogerta Krosi on the treatment of construction industry waste solves a series of major problems caused by their non-treatment. Krosi proposes that the waste from the construction industry be used with road substrates in the asphaltting process. This proposal reduces the amount of waste in landfills and solves a big problem that affects not only the Lezha region but also all of Albania.

New Proposals for the protection and conservation of biodiversity and the Environment (part I)..

The proposals of this paragraph aim to conserve biodiversity and improve the environmental condition.

Lezha's coastal and lagoon areas are among the first declared National Protected Areas in Albania. Historically acknowledged for their high importance that their natural diversity bears at a regional level, ecosystem services provided contribute to decrease urban pollution before being discharged at Adriatic waters

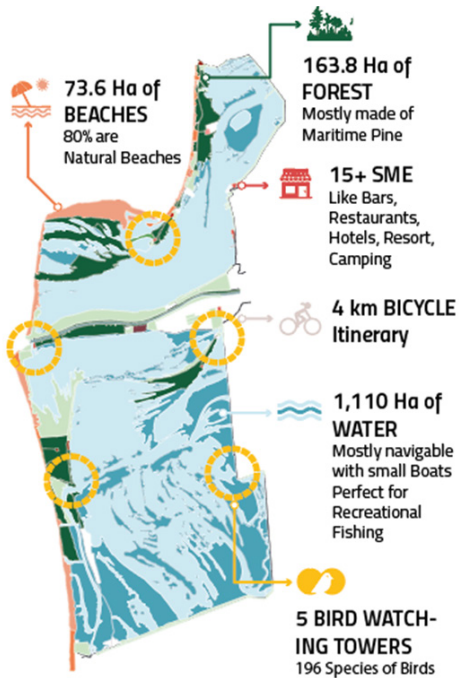


Fig. 1 / Natural assets of Kune -Vain Lagoons in Lezha

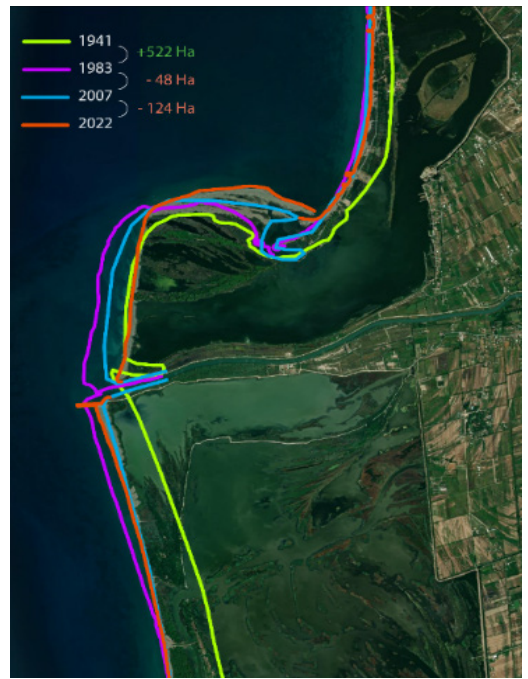


Fig. 2 / Temporal effect of coastal erosion 1941-2022

and even more these areas nest numerous of biodiversity species. Nevertheless, this area is prone to certain environmental challenges. Currently the area lacks monitoring and maintenance practices that have led to what could be considered a critical point to its accumulative capacity without any irreversible effect on the natural cycles taking place in these protected areas. From a temporal perspective, we could mention that the extensive interventions during 1950-1975 with land reclamation practices within the lagoon and industrial discharges from mining activities are now combined with the effects from 1995 - 2023 whereas urbanization and partial industrialization of the areas is contributing to the to what could be considered the recent environmental issues affecting these areas:

a. Pollution, particularly from human activities, can have a detrimental impact on Lezha's coast and lagoon. Industrial discharges, sewage, and improper waste disposal can introduce pollutants into the water, affecting the quality and health of the ecosystem.

b. Coastal erosion is a significant issue along Lezha's coast. Factors such as natural processes, climate change, and human interventions can contribute to the erosion of beaches and coastal areas. This can lead to the loss of land, damage to infrastructure, and disruption of the coastal ecosystem.

c. Human development and urbanization resulted in the destruction and fragmentation of natural habitats along the coast and in the lagoon area.

The conversion of natural land for tourism infrastructure, residential areas, and agricultural activities can disrupt the delicate balance of the local ecosystem and lead to the loss of biodiversity.

d. Overfishing: Overfishing is a concern in Lezha's coastal waters. Unregulated and unsustainable fishing practices can deplete fish populations and disrupt the natural balance of the marine ecosystem. This can have long-term consequences for both the fish populations and the livelihoods of local fishermen.

e. Invasive Species: The introduction of non-native species can disrupt the native flora and fauna of Lezha's coastal and lagoon areas. Invasive species can outcompete and displace native species, leading to a loss of biodiversity and altering the functioning of the ecosystem.

f. Climate Change: Like many coastal areas worldwide, Lezha's coast and lagoon are vulnerable to the impacts of climate change. Rising sea levels, increased storm intensity, and changes in weather patterns can result in coastal flooding, erosion, and loss of habitat. These changes can have significant consequences for the local ecosystem and communities.

In fact, the proposals go from the proposal of strategies for the blue and green corridors by Rodion Gjoka to the proposals for educating society for climate risks made by Remijon Pronja.

The artistic intervention proposed by Pronja through a "line" that shows how flooded the buildings and the region are in

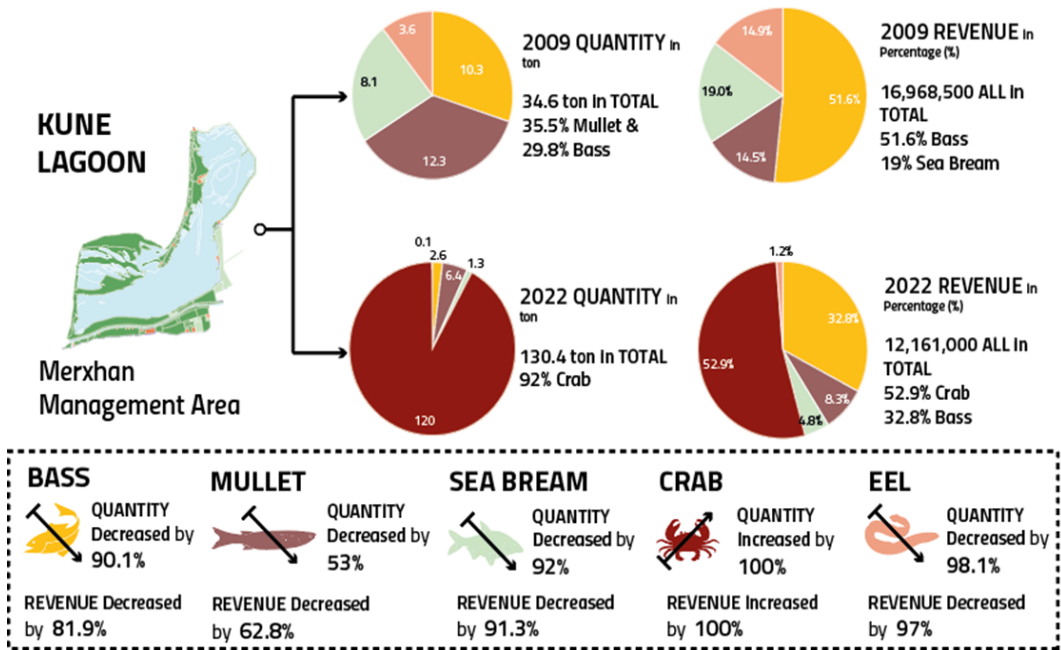


Fig. 3 / Overview of invasive species from the fishing data

the event that temperatures will increase by 1.5 or two degrees Celsius is a proposal that is as disturbing as it is awareness-raising. In fact, the Albanian artist tries through this intervention to sensitize us on climate change and its effect before the events actually happen. He warns us, like a hermes, about the dangers that threaten us if we do not take the appropriate measures to protect the environment. Matteo Bisi propozon nderhyrje ne lidhje me Lagunen Kune-Vain per rehabilitimin mjedisor te saj. According to him human activities such as urbanization and agriculture cause the release of nutritious chemical species into waters. In particular compounds based on phosphorus and nitrogen. Their accumulation in the waters of the Kune-Vain lagoon causes the phenomenon of eutrophication (water too rich in nutrients). The richness of nutrients triggers the uncontrolled growth of invasive microorganisms, such as microalgae and bacteria, with consequent decrease of oxygen in the water and impoverishment of the natural aquatic fauna and flora. 4. This leads, on the one hand, to the disappearance of the biodiversity characteristic of the lagoon and its natural ecosystem, with the consequent disappearance of bird and mammal species, and on the other to the proliferation of further invasive species such as the blue crab. To mitigate the seriousness of the situation it would be necessary to carry out periodic monitoring of the trophic state of the waters (i.e. of their content in terms of concentration of Phosphorus and Nitrogen), furthermore it would be useful to plant aquatic reeds of

the genus Phragmites which are capable of an efficient filtering activity which would reduce the levels of these chemical species, helping to restore the natural lagoon ecosystem.

In relation to Kune-Vain Antonella Volta thinks that coastal lagoons are transition ecosystems on the border between land and sea characterized by strong environmental fluctuations that influence the physiological and ecological adaptations of living species. The coastal lagoon is a heterogeneous environment that is easily subject to changes of various kinds which cause the loss of wetlands, the increase in coastal erosion and frequent flooding. Human activities are also important stressors that can lead to significant biological changes.

It is known that any alteration of an ecosystem can affect the state of the biological community, reducing its richness and determining the selection of more opportunistic species to the detriment of the more vulnerable ones.

Studying the biodiversity of the population and the biological dynamics of the community in relation to climate change and human influence becomes an important starting point for identifying suitable biological markers, also called "Bioindicators". The identification of specific Bioindicators becomes fundamental for an assessment of the "state of health" of the population and the quality of its habitat and can evaluate the environmental capacity to sustain life.

The continuous monitoring of the bioindicators over time allows to define the interventions that adapt ecosystems

to environmental changes early, strengthening environmental conditions and improving resilience to climate change. Through constant monitoring over time, important parameters can be obtained from the search for suitable Bioindicators, characteristic of that environment. Bioindicators allow early identification of the effects of ecosystem changes on living beings and the environment. The investigation process can be facilitated by the calculation of an Index capable of defining a range of the state of danger to which the environment may be subject, given for example by environmental, climatic and anthropic events. Understanding the development of a lagoon ecosystem early allows you to intervene promptly to prevent living species from being endangered.

New Proposals for innovative housing models that reflect the needs of contemporary society (part I).

Lezha offers a history and an architectural wealth that crosses the boundaries of thousands of years. According to MALAJ (2017, p. 6), the historical traces that talk about Lezha go back to the third century BC through historians such as Polybi or Diodorus. According to Malaj (2017: 10) Lezha may have taken its full form as a city from the end of the 4th century BC through the colony established there by Dionysius of Syracuse.

Lezha, although of ancient origin, has an architectural asset that has been developed mostly in the last 100 years. Beyond the Castle and the Basilica of the Skanderbeg monument, there are few other traces of a city mentioned in history books 23 centuries ago.

In this publication, the interventions proposed for further urban and housing development have touched two important dimensions: the first is that of public space and the second is that of housing.

From the morphological point of view, an exhaustive analysis was made by Rine Zogiani, which considers the interaction between architecture and nature as one of the pillars on which the post-Pandemic city is supported. The author proposes morphological solutions where formal aspects are interwoven with natural aspects. In her essay, Zogiani clearly states that:

" intervene on the zones by different approaches regarding natural elements like wind, orientation, ventilation and insulation conform terrain morphology, environmental characteristics of the zone - based on blocks and plots - to achieve sustainability through natural elements

and existing buildings considering the last pandemic better management and overall contribution on efficiency."

After the analysis and proposals at the morphological level, a detailed analysis at the typological level of the existing apartments divisions and new proposals is done by Nicola Talamonti. In fact, Talamonti has analyzed the typologies of the apartments located in the linear type buildings built during communism and has proposed a series of transformations of the current apartments to adapt to the needs of the modern city.

This study is further detailed by Kumaraku and Istrefaj (2023) where different apartment typologies are proposed for linear buildings. These new apartment typologies respond to the needs for flexible and sustainable spaces over time. They are valid not only for the local context of the Lezha Region, but also at the international level.

This issue closes with an article by Armela Lamaj who studies the appearance of the city of Lezha and seeks to build a visual relationship between textiles and the way the space appears. Here Semper's influences in the conception of architecture and urban form are direct and propose an alternative way of reading space.

All the above proposals emphasize the critical situation of the Lezha Region and through the suggestions for infrastructure, environment and housing seek to build the image of a space that surpasses the crises of these years. A series of other proposals that are closely related to the proposals of this issue can be found below.