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CONCLUSIONS

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

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Introduction- This issue opens with a foreword by Prof. Besnik Alija and Prof. Sotir Dhamo analyzing through a descriptive and analytical-critical reflection a series of proposals made by the participants of the research workshop between Ferrara and Polis.

The innovative character of this issue is immediately distinguished by the analysis of the sustainability of Albanian settlements and of the main administrative actors made by Dr. Rudina Toto. The author analyzes the concept of sustainability and resilience at a theoretical level, focusing continuously on the local context. The interaction between the main actors to have a stable and resilient settlements is synthesized in the second scheme of Toto's essay. There it is clearly described how a resilient system works in relation to its goals.

After the theoretical and practical framework has been laid out in the first two chapters, the same scheme is followed with the previous issue on the Region of Lezha, where proposals for a sustainable region have been made. These proposals have been synthesized into intervention strategies in similar contexts with similar critical points. The proposals follow the same scheme, starting from those for infrastructure to those for the environment and ending with the proposals for dwelling and housing.

New proposals for planning and settlement models through Infrastructure and service interventions (part II).

As it was emphasized in the first part of these conclusions, the interventions in the

infrastructure were seen in the service of the specialization of the region in different topics, setting as the main objective the improvement of the quality of the space with the aim of increasing well-being and tourism.

In this line, there are also the suggestions made by Filippo Petrocchi, who proposes a multimodal transport based on different types of transport, starting from the classic ones to alternative transports that focus on environmental and sustainability issues. In his article Petrocchi states "... it is needed an inclusive and multi-modal mobility, able to connect Lezha region with national and international routes, not only by car but also with public transport such as bus, ships, or trains." This proposal, that overlap all types of routes in a single point, has to be more clarified about his spatial pertinence according to the real needs of the Region of Lezha. The proposed routes, in addition to classical itineraries, can be done by using not conventional types of transport as horses or donkeys. This solution can be applied in areas with slopy terrains or different kind of realities. The proposal made by Irene Ruzzier on the use of art as a catalyst for improving the quality of life in innovative cities places emphasis on art included in public space. Ruzzier considers the infrastructure not only as a "connector" between two settlements but also gives infrastructure interventions a touristic "theme". In fact, her writing holds in the embryo the creation of different "paths" for different touristic purposes. The author considers art and artistic interventions in public space as a kind of "infrastructure" that improves

the quality of life. Here the references to "Nuova Gibellina" are as clear as they are silent. From these proposals, tourist itineraries can emerge that focus on the art and history of Lezha, but without forgetting the proposals for agricultural itineraries, agro-tourism, natural and recreational itineraries.

The article written by Otello Palmioli proposes to adopt a context-based and small-scale approach to maximize the positive effects of the digitalization of some spaces related to agritourism, mobility and environmental conservation. The author considers digital spatial integration as "an opportunity for regional development, promotion and conservation for Lezha: tourism, mobility and nature preservation can certainly be the focal points of this intervention." The discussion made in this paper sees digital integration not only as a need of the context to modernize but as a way to increase community and social awareness and the author shows this through references such as Richard Sennett or Shannon Mattern.

These three proposals that consider infrastructure and services from an alternative point of view, together with the proposals given in the first part by other authors, cover a holistic panorama for the treatment of settlements after the pandemic period.

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

Beyond the proposals made in the first part of the conclusions on the protection and conservation of biodiversity in this

issue, we have the explanation made by Dr. Endri Duro on the intervention strategy in the context of Lezha. Duro explains, in his article, in a clear and comprehensive way the strategy of superimposition that translates into an interdisciplinary approach for the control and re-thinking of the territory. In fact, the working group led by Endri Duro envisages three main categories of interventions that are listed below and builds on these the proposals for specific projects. The first category is the one that considers Landscape as an infrastructure, the second is Biodiversity preservation by web of channels and the third is Ecological Connections. These three categories that are considered as three main actions to carry out in the future will be explained after a short general description of the Lezha region.

Lezha district – a region of 479 km² located in the northwest of Albania – has a large diverse ecosystem, its environmental and landscape features are of considerable importance and constitute intrinsic characteristics of the region itself. Therefore, disaster risks constitute an issue of prime importance. Extremely important phenomena impacting territorial safety are environmental process changes and sudden spatial transformations caused by climate change. Specifically, the region faces risks related to hazards like surface water flooding, due to extreme rainfall, sea level rise, rock falls, forest fires and also seismic-triggered events. The above-mentioned hazards combined with high levels of vulnerability are consequently followed by losses in terms of physical, economic, environmental and also impact

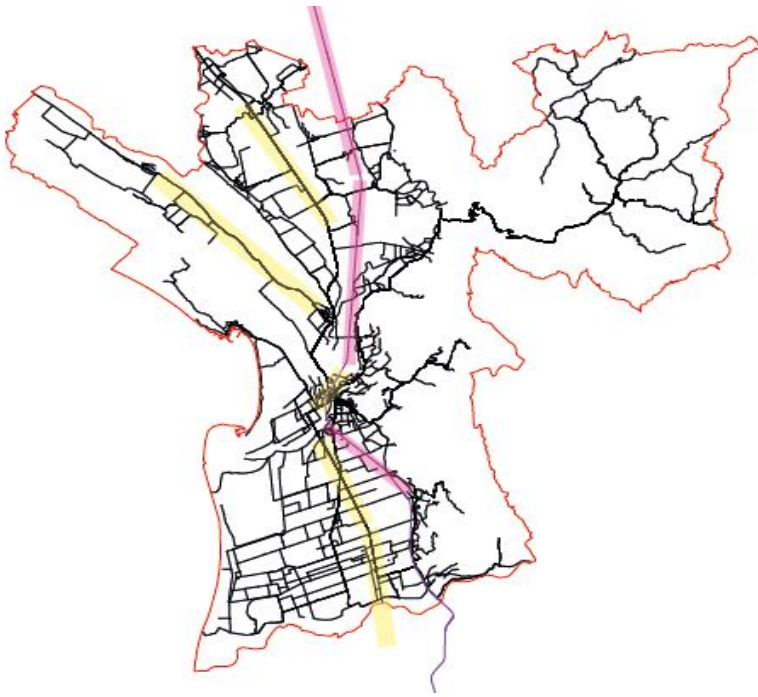


Fig. 1 / Landscape as infrastructures

on biodiversity. The aim is that of proposing several design strategies through a multi-disciplinary approach that tackle such issues in Lezhë region.

Through an extensive work, with a combination of site visits, meetings with local authorities, communities, literature review and mapping processes, the working group proposed a total of five strategic actions (P01 to P03), among these actions the main ones are as follows: P01- Landscape as Infrastructure - This strategic action required a careful analysis of the water as a modifier of the existing system. Therefore, a risk scenario was developed to project the condition of extreme territorial transformation. The extreme risk scenario was achieved through the analysis of the flooding caused by surface water and extreme rainfall and a sea level rise of 1.5m since they represent the main problems facing the Lezha district. Such representation on a district scale allows us to understand which areas coexist with a high risk that needs to be addressed to mitigate their impacts. A reinterpretation of the landscape, identifying linear infrastructures as elements that can be used to improve territorial resilience performance is the first strategic action. The aim is that of a transition from wetland to agricultural land in a hybrid way rather than rigid measures using for example high embankments.

P02- Biodiversity preservation by web of channels - It is proposed that through improved water resource management it is possible to protect the land from salinization that comes as a result of the

advancement of the sea. At the same time a reduction of pollution is reached caused by cultural eutrophication in the lagoon. By digging a web of water channels from the Drin River to the shores near the delta to dilute the pollutants and by bordering them with cane thickets to boost the purification it will be possible to create new environments for wild animals that are lowering in number because of the reduction of their natural habitat for nesting, rubbing and feeding; this solution will also reduce the presence of typical invasive species, like phytoplankton, mesophytes and crustaceans that are profiting of the actual condition of cultural pollution of the Kune-Vain lagoon, due to the human activities.

P03- Ecological Connections - This proposal consists in developing an ecological corridor that connects the wetland and lagoon with high-land, connecting also two natural protected areas of the region: Rana e Hedhun and Kune Vain Lagoon. The need for such eco-corridor is due to fragmented natural landscape and protected areas, biodiversity trapped in case of wildfires, hazardous accidents or floods, the decrease in ecosystem services due to deforestation and finally such corridor would serve as a "fence" to urbanization processes. Biodiversity safe passage, the increase in ecosystem services through forestation and the development of a wind energy park are some of the functions of the ecological corridor in addition to the aforementioned connection functions that it has. The specific proposal for the

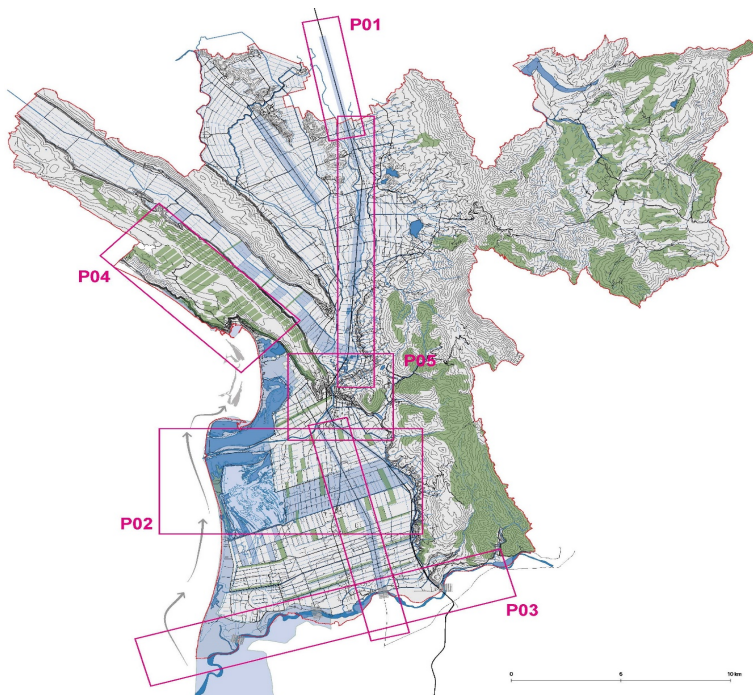


Fig. 2 / Lezhe as a superimposed system

connection of the areas consists in two proposal areas, Marlekaj Hill (proposal one) and a connection NOD (proposal two). The existing situation in the connection NOD is characterized by a combination of wetland areas with some high-risk areas around dangerous infrastructures. These high-risk areas can be encapsulated through the development of buffer areas to avoid any issues related to this kind of dangerous infrastructure. Three eco bridges can be integrated with a natural path to connect with Proposal Area 1.

Lorenzo Tinti's proposal for a "Linear infrastructure assets as a territorial system for flood disturbances control" is added to these three strategic actions to protect and conserve Biodiversity and the environment. In his article, Tinti seeks to establish a relationship between linear infrastructure and flooding. The proposals made are aimed at solving the problem of flooding not only from rivers but also what can happen due to the rise of the sea level caused by global temperature increase. Anira Gjoni's article also explores the topic of floods. The author analyzes the amount of rainfall in the years 2020 and 2021 by comparing it with the average rainfall from 1962-1990. The information presented in the precipitation table (Table 1) is very interesting to analyze. If we compare the annual total amount of rainfall for the year 2020 (1264 mm) and for the year 2021 (1416 mm) with the annual average total for the period '62-'90 (1362 mm), it is clear that the total amount is close to the total amount of the average for the period 62-90. What is different from the monthly

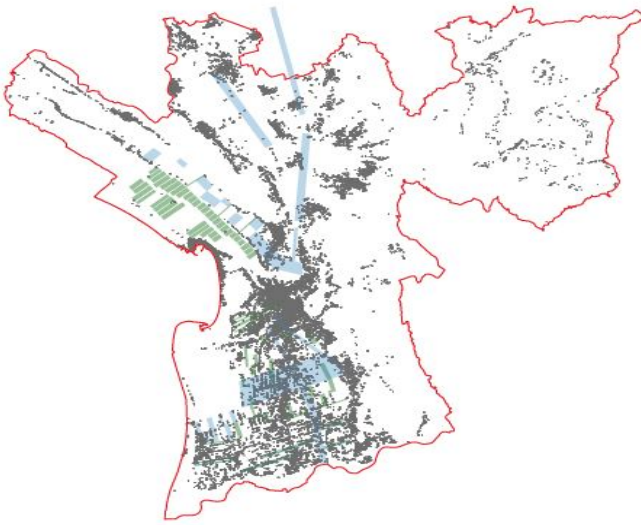
analysis is a shifting of the biggest rainfall amount from the autumn months to the spring months.

If the total annual quantity has remained the same but the period of rainfall and the intensity at a certain moment has changed for the author, it is logical that the problem of flooding is of an urban character. She highlights the problems in the occupation of public space by informal buildings and in the permeability of the city's surface. At this point, the proposal is logical and oriented towards strategies for increasing the ability of the soil to absorb rainfall. With these proposals, the suggestions to protect diversity and conserve the environment are closed.

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

This paragraph concludes a series of proposals and suggestions for the city of Lezhe in the framework of the "Spatial solutions for the post pandemic city" project co-financed by POLIS University and AKKSHI.

Proposals for innovative housing models are addressed in the article by Malvina Istrefaj and Lllazar Kumaraku that opens chapter five of this issue and is titled "Innovative housing models that reflect the needs of contemporary society (Post-pandemic context)". In this article, the authors, together with a group of PhD candidates, analyze the urban space and typologies of buildings in the city of Lezhe and propose different kind of solution for post pandemic age housing. From the urban analysis and the needs caused by

**BLUE & GREEN SYSTEMS**

The proposed strategic actions adopt a bottom-up approach. They focus on the two predominant environmental systems (the hydrological system and the forest system) by strengthening and expanding them.

P01 Flooding caused by surface water (river floods, extreme rainfall) and sea level rise is one of the main problems facing Lezha district. A reinterpretation of the landscape is proposed, identifying linear infrastructures as elements that can be used to improve territorial resilience performance. They are superimposed on the agricultural drainage system consisting of countless canals of different hierarchies. This hybridisation of systems makes it possible to create new water storage tanks and green ecosystems that formed a barrier with native plants resistant to water and salt. Through improved water resource management it is possible to protect the land from salinization that comes as a result of the advancement of the sea.



the pandemic situation, it is passed to a series of typologies of urban forms that meet the new needs of society dictated by the critical moments of recent years.

The authors continue with the analysis of different typologies of housing where they highlight three main typologies of housing present in Lezha. They underline the "detached type", "linear type" and "Tower type". These three main types have been analyzed on their current state and have been made schematic proposals for possible alternative configurations.

An important paragraph within the article is the proposal of new typologies of apartments that reflect the needs of the society dictated by the actual crisis. These proposals for the transformation of the current structures and for new typologies of apartments and the different ways of their aggregation make the context of Lezha able to withstand not only the current crises but also those that may appear in the future.

Following the above article, we find a literature review by Luca Lanzoni on "Indoor pollutant evaluation and new building solutions to reduce them". In this article, the author makes a critical reading of the literature on this topic and proposes strategies for how pollution can be reduced in the indoor environments of housing. The author emphasizes the fact that in the current period and especially after the pandemic, people spend more time inside the home environment and for this reason must be considered the quality of the materials used, which are the main pollutants inside the houses and the direct ventilation of houses.

Lanzoni also emphasizes the importance of paying attention to the pollutants present in the ventilated air filters, which can be transformed into one of the main pollutants for domestic environments.

The article by Elena Verzella titled "Beyond boundaries. Exploring new post pandemic housing models through the reformulation of collective spaces" takes in consideration two different space typologies: the "in-between" space, resulting from the aggregation logics driven by the different historical settlements models; and the "residential/outdoor space interface" between private buildings and the adjoining common areas (streets, squares, parks, etc.). For each of these two categories, the article tries to establish potential design principles, strategies and tools which can embrace the twofold necessity of creating spaces where to integrate the new recreational, social or working activities which have been making their way into the post-pandemic idea of living, but also to give possible answers to the forementioned impending climate issues.

At the level of typology of new constructions researches the article by Bianka Madhi, which proposes three new modalities of housing construction. The new modalities are presented through the "Linear Typology, Box Massing Typology and Unit House Typology. These three typologies are presented as design strategies for new urban morphologies built on innovative typological configurations. These typologies appear flexible to the existing urban contexts and to the terrain.

P02 At the same time we reach a reduction of pollution caused by cultural eutrophication in the lagoon. By digging a web of water channels from the Drin River to the shores near the delta to dilute the pollutants and by bordering them with cane thickets to boost the purification we will create new environments for wild animals that are actually lowering in number because of the reduction of their natural habitat for nesting, hubbing and feeding; this solution will also reduce the presence of typical invasive species, like phytoplankton, mesophytes and crustaceans that are profiting of the actual condition of cultural pollution of the Kune-Vain lagoon, due to the human activities.

P03 In addition to these proposals, a reorganisation of Mat River dynamics is being implemented through the removal of quarries, this action allows fluvial aggregates to reach the coast and compensate for the erosive action of the sea, thus mitigating sea level rise.

P04 Forests have a fundamentally protective role against the effects of climate change, such as foods and water scarcity, while also contributing to CO2 reduction in the atmosphere through their sink function. Yet, forests remain largely unprotected or poorly managed in Albania, still prone to illegal logging and trade, regardless of the respective moratorium approved by the Parliament in 2016. The other face of the proposal consists of connecting two natural areas by creating a green ecological corridor on the hill. In addition a pillar system for the use of wind energy capable of serving the entire district and triggering energy independence is suggested.

P05 Furthermore, beside the interventions on non-urban sites, a reinterpretation of the existing city fabric is proposed. The increase of green spaces in the city of Lezha as there is a pronounced lack of them. Adding them, besides reducing pollution of the air and creating spaces that citizens can use, would help in the levels of permeability of the rainwater into the ground thus contributing to the reduction of floods. This can be done by intervening in the city neighborhoods by planting vegetation that adapts to the northern plain mediterranean climate zone.



These are, not only alternative proposals, but by placing in the center the real problems of the space and giving them solutions that take into account the environment issues and sustainability, build the image of a resilient region that is able to face the challenges of a new millennium that has as keyword the crisis.

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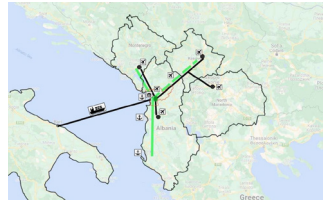
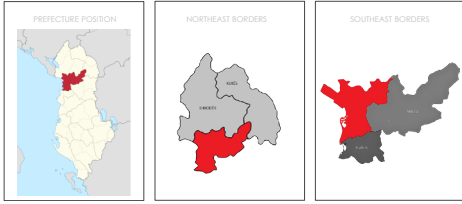
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1

Planning Cities for the (Post-)Pandemic/Crisis Era

Aspects of territorial sustainability and resilience @ Lezha Region, Albania.

Kristiana Meço, Filippo Petrocchi, Albina Toçilla, Irene Ruzzler, Otello Palmirini, Andrea Gjoka, Flogerta Krosi



Lezha Connections

- Shangjin - Bari
Water distance - 150 miles
- Lezha - Tirana
Earth distance 64 km
- Lezha - Pristina
Earth distance 225 km
Air distance 108 km
- Lezha - Podgorica
Earth distance 97 km
Air distance - 87 km
- Lezha - Skopje
Earth distance 300 km
Air distance 131 km

Objectives

Development of a more sustainable tourism during summer;
Foster alternative tourism during the rest of the year.

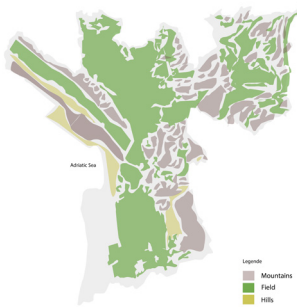
The key for the achievement of this goals is infrastructure development.

Methodology

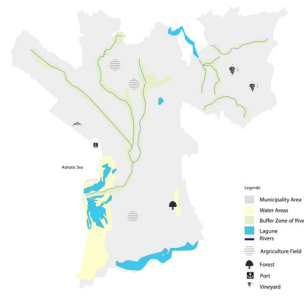
Two main phases:

1. Field research, observations, interviews with the local actors;
2. Infrastructural, settlement, morphological, hydrographic and cross-cutting analysis.

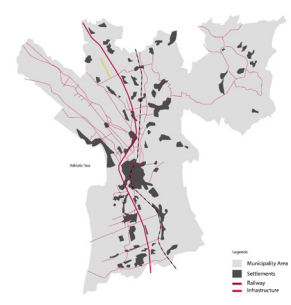
Morphology Analysis



Hydrography Analysis



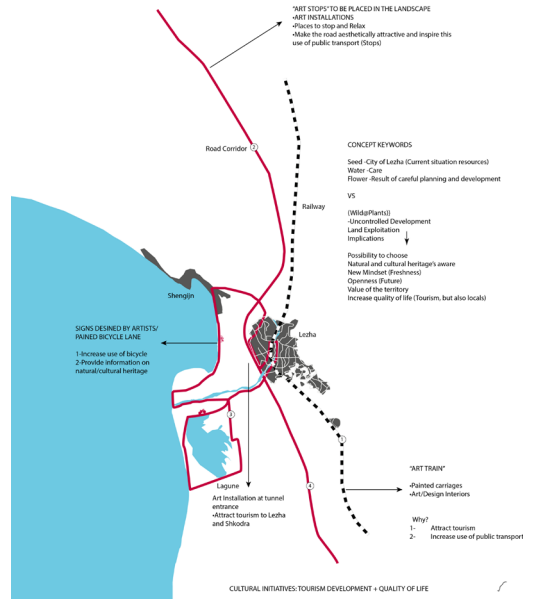
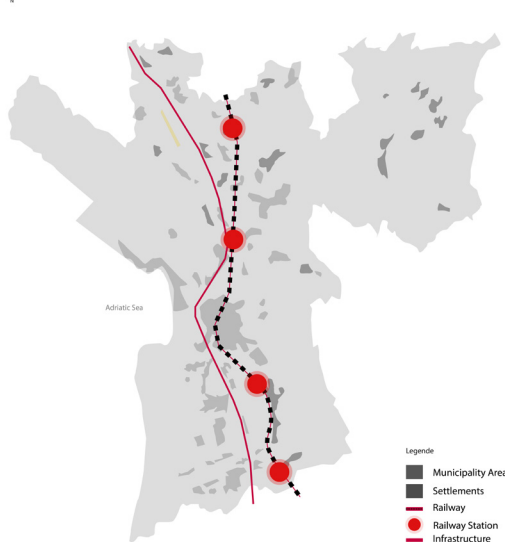
Infrastructure-Settlement Analysis



AGRITOURISTICAL

CULTURAL

Train Stations

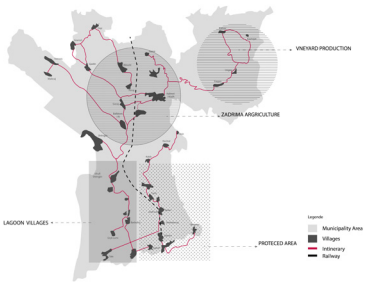


Spatial Conclusions

Main areas of interventions

INFRASTRUCTURE Seaside

Villages Potentials Clusters



1. Vineyard production

Ungrej
Fregen
Kalivaç
Kashnjët

2. Zadrima Agriculture

Fishtë
Kallmet I madh
Blinisht
Dajç
Balldren
Gocaj
Gjader
Pirraj
Gramsh

3. Lagoon Villages

Ishull shengjin
Barbuloj
Gryk lumi
Tale
Gajush

4. Protected area

Velë
Kaçinar
Kolç
Tresh
Spiten
Markatomaj
Zajmen
berzanë

Issues:

- Traffic reduction in the intersection in the entrance of the city Roundabout
- Enhancement of Shëngjin accessibility

Solutions:

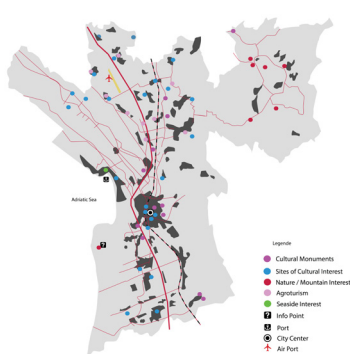
- Restoration of the railway for commercial and civil purposes
- Reactivate the railway to increase the communication between Tirana and Lezha and between Lezha and the piedmont areas.
- Development of a cycle path to improve and promote sustainable mobility in the section between Lezha and all the areas nearby.
- Improvement of the road signal and tunnel construction
- Blue corridor

Territory Cross-Cutting



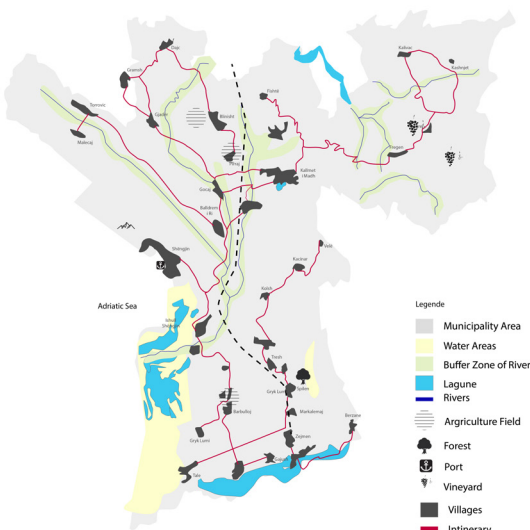
Railway agriculture land cutting
Road corridor agriculture land cutting

Tourism & Services Analysis



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Overlapping Proposal



Issues:

- Lack of connections to access and promote local cultural sites

Solutions:

- Connect Shëngjin with Lezha through a cycle path
- Artistic interventions to enhance attractiveness and to promote cultural tourism during the whole year.

Issues:

- Lack of connections between mountain, small villages and the Zadrima site.

Solutions:

- Introduce train stops in the Zadrima plain to make those areas more accessible;
- Creation of a widespread road network to improve goods trade between local farmers and agritourism and to make this area enjoyable for tourists.

Issues:

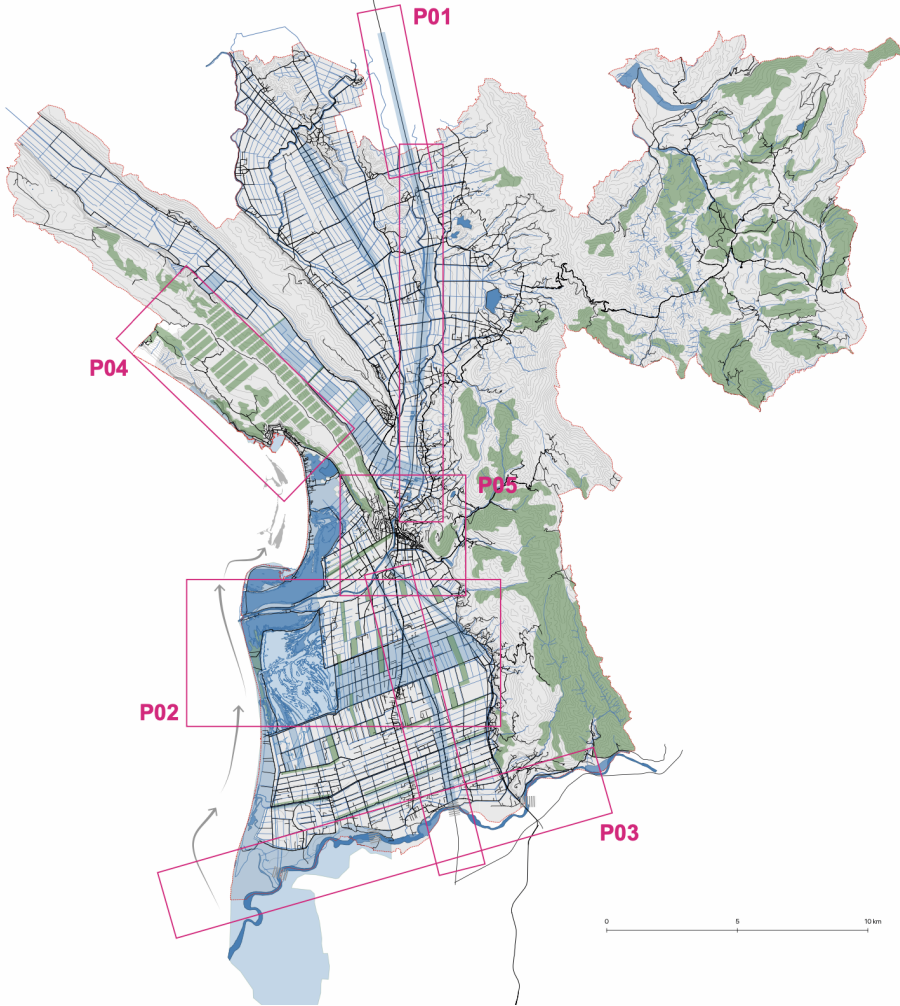
- Preservation of protected areas
- Integration of naturalistic tourism with the rest of the region's activity

Solutions:

- Creation of a cycle path from Lezha to the Lagoon to reduce the use of cars in the protected areas
- Panoramic cycle path from the lagoon to Shengjin
- Improve the railway line in the piedmont area and develop a series of trails for trekking and tracks for bike tourism

Spatial Conclusions

C.1 LEZHE AS A SUPERIMPOSED SYSTEM

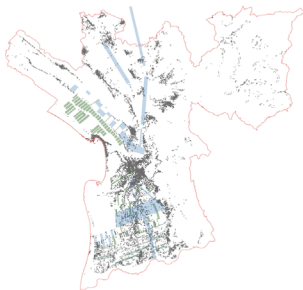


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WATER AS A MODIFIER

The strategic directions taken then have concrete repercussions on the territory. The new landscape is a hybrid, highly dynamic and expressly resilient landscape. Its adaptive capacity is implemented through the inclusion of new devices that perform well in the face of sudden changes, such as floods and fires. Thanks to the development of specific project themes, smaller-scale points were also touched upon with pilot projects of high environmental value. The result is a new territory that accommodates different ecosystems with a high adaptive value.

B.3 STRATEGIC ACTIONS



LANDSCAPE AS INFRASTRUCTURE

P01 Flooding caused by surface water (river floods, extreme rainfall) and sea level rise is one of the main problems facing Lezha district. A reinterpretation of the landscape is proposed, identifying linear infrastructures as elements that can be used to improve territorial resilience performance. They are superimposed on the agricultural drainage system consisting of countless canals of different hierarchies. This hybridisation of systems makes it possible to create new water storage tanks and green ecosystems that formed a barrier with native plants resistant to water and salt. Through improved water resource management it is possible to protect the land from salinization that comes as a result of the advancement of the sea.



CHANNEL IMPLEMENTATIONS

P02 At the same time we reach a reduction of pollution caused by cultural eutrophication in the lagoon. By digging a web of water channels from the Drin River to the shores near the delta to dilute the pollutants and by bordering them with cane thickets to boost the purification we will create new environments for wild animals that are actually lowering in number because of the reduction of their natural habitat for nesting, hunting and feeding; this solution will also reduce the presence of typical invasive species, like phytoplankton, mesophytes and crustaceans that are profiting of the actual condition of cultural pollution of the Kurun-Vain lagoon, due to the human activities.



RIVER MANAGEMENT

P03 In addition to these proposals, a reorganisation of Mat River dynamics is being implemented through the removal of quarries. This action allows fluvial aggregates to reach the coast and compensate for the erosive action of the sea, thus mitigating sea level rise.



ECOLOGICAL CONNECTIONS

P04 Forests have a fundamentally protective role against the effects of climate change, such as floods and water scarcity, while also contributing to CO2 reduction in the atmosphere through their sink function. Yet, forests remain largely unprotected or poorly managed in Albania, still prone to illegal logging and trade, regardless of the respective moratorium approved by the Parliament in 2016. The other face of the proposal consists of connecting two natural areas by creating a green ecological corridor on the hill. In addition a pillar system for the use of wind energy capable of serving the entire district and triggering energy independence is suggested.



URBAN GERNEERY

P05 Furthermore, beside the interventions on non-urban sites, a reinterpretation of the existing city fabric is proposed. The increase of green spaces in the city of Lezha as there is a pronounced lack of them. Adding them, besides reducing pollution of the air and creating spaces that citizens can use, would help in the levels of permeability of the rainwater into the ground thus contributing to the reduction of floods. This can be done by intervening in the city neighborhoods by planting vegetation that adapts to the northern plain mediterranean climate zone.



BLUE & GREEN SYSTEMS

The proposed strategic actions adopt a bottom-up approach. They focus on the two predominant environmental systems (the hydrological system and the forest system) by strengthening and expanding them.



3

Planning Cities for the (Post-)Pandemic/Crisis Era

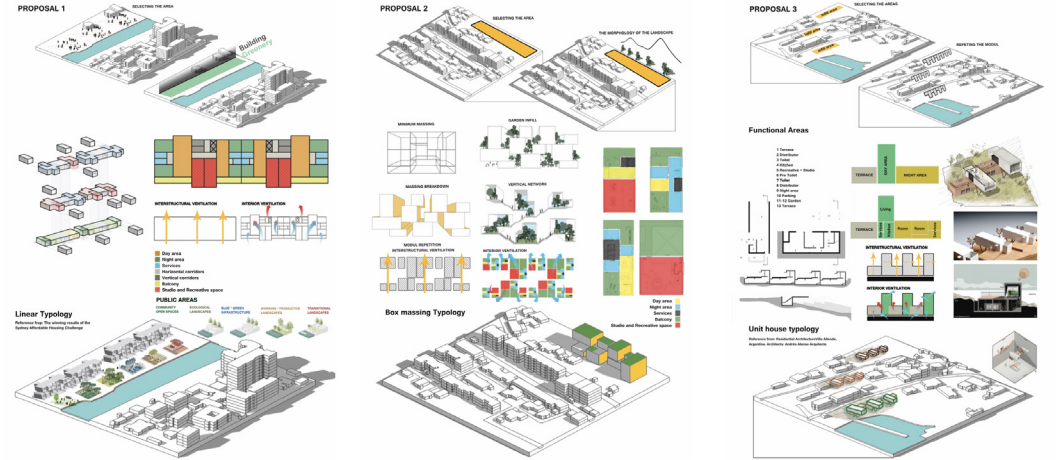
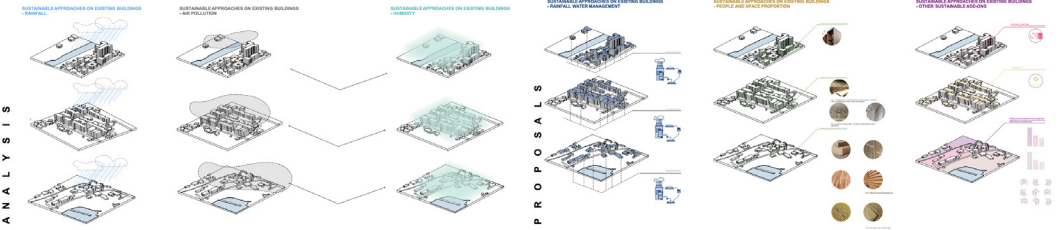
Aspects of territorial sustainability and resilience @ Lezha Region, Albania.
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MAP OF LEZHË



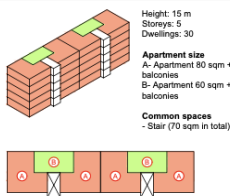
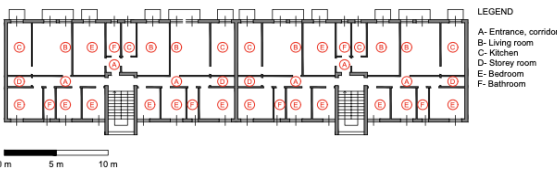
EXISTING SITUATION CONDITION AND ISSUES

POSSIBLE ELEMENTS TO IMPROVE SUSTAINABILITY/PREVENT RISKS



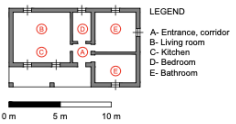
TYPOLOGY: Linear house - current state

Type floor plan (1:200)

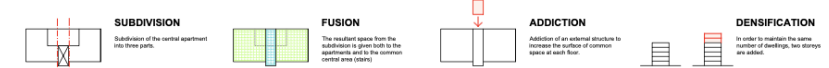


TYPOLOGY: Detached house - current state

Type floor plan (1:200)

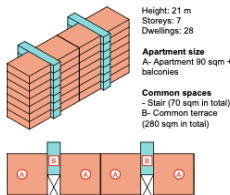
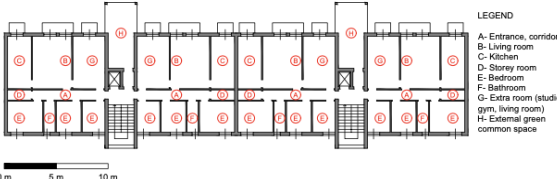


TYPOLOGY: Linear house - proposals of intervention



TYPOLOGY: Linear house - proposal

Type floor plan (1:200)

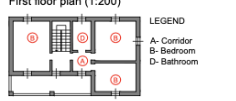


TYPOLOGY: Detached house - proposal

Ground floor plan (1:200)



First floor plan (1:200)



TAXONOMY | in between spaces | residential edges

ANALYSIS

EXISTING AREA

EXISTING ZONING

MAPS & SCENARIOS

TERRAIN MORPHOLOGY

MAPS

VIEWS

AXONOMETRY

THE FORM

Meth Identity Analog

FORM

GRID

MORPHOLOGY

TERRAIN

SEQUENCE

PATTERN

VARIABLES

SUSTAINABILITY

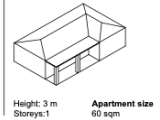
PROPOSALS

Form's morphology

Form's expansion



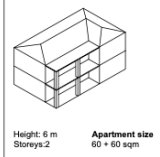
Current state



Proposal of intervention

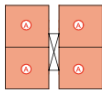
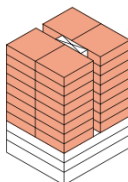
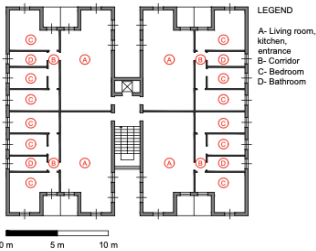
Order to expand to expand the interior spaces (stair, entrance living room) without permitting land consumption, one way to achieve

Proposal

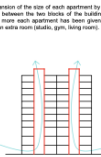
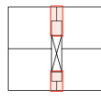


TPOLOGY: Tower house - current state

Type floor plan (1:200)

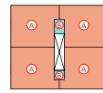
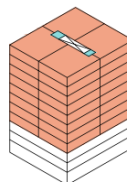
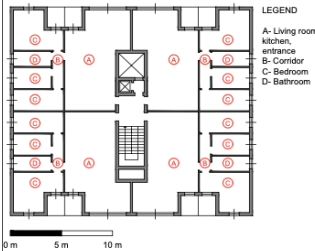


Common spaces
- Stair (70 sqm in total)



TPOLOGY: Tower house - proposal

Type floor plan (1:200)



Common spaces
- Stair (70 sqm in total)