

# FLOWARD

*Towards a safer and more sustainable Albania*



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Delft the Netherlands 2018

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# 1 PREFACE

From the 26th to the 30th April 2018 a group of students from TU Delft travelled to Albania to analyze the management of flooding events in the municipality of Tirana, Albania. The scope of the workshops organized was gaining a better insight in the interaction between public and private parties in the interventions as a response to floods.

The partnership between TU Delft and BRIGRID was fundamental to obtain the maximum profit of the work done in Albania. The collaboration of Albanian students in combination of local expert engineers made it easier to set a context for the project, by sharing data, experience and means.



## 2 INTERDISCIPLINARY APPROACH

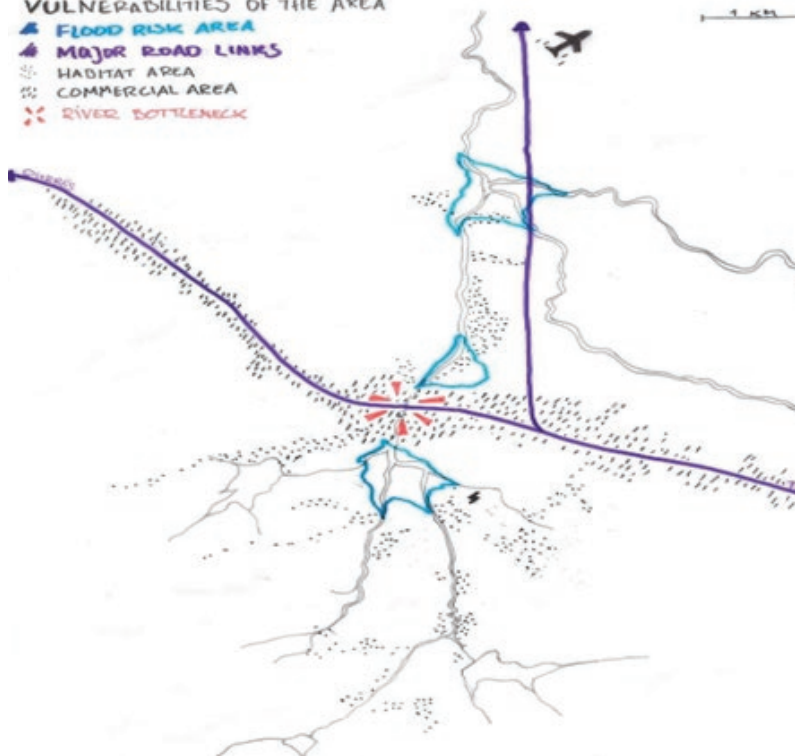
The main goal of the project is achieve an integral design that can solve the flood risk hazards. To reach so, it is necessary to carry out independent studies in the different fields of knowledge intervening in the project and, subsequently, find the solution that suits all the disciplines.

In the interventions suggested, concepts of transport, infrastructure, transport & logistics, landscape architecture and hydraulic engineering have been brought together, in order to arrive to proposals based on sustainability, strategic planning and technical feasibility, thus combining our different study backgrounds.

*“The challenge in this project is to find the optimal balance between the different fields intervening. The resulting concept should be solid from a technical point of view, but it also should suit in the environment. For this reason, it was necessary to take a step back to have a global perspective of the project.”*

## VULNERABILITIES OF THE AREA

-  FLOOD RISK AREA
-  MAJOR ROAD LINKS
-  HABITAT AREA
-  COMMERCIAL AREA
-  RIVER BOTTLENECK





## 3 CONTEXT

Throughout the last couple of years, Tirana and its surroundings areas have been coping with flooding events in different spots of the municipality. The most remarkable ones occurred during the 2nd and 3rd of December 2017. One of the most affected point was the City Park, that settles in the Western outskirts of the city.

The City Park has a strategic positioning in the map, since it is placed right at the crossroad between one of the main roads connecting the North and the South of Albania, and the main connection from Tirana to the port of Durres. For this reason, private investors were attracted to set a new business in this spot, and in 2012 a shopping mall and an aquapark were constructed.

The launching of new commercial facilities in the area clearly benefits the local citizens. However, due to the change in land use from agricultural to commercial use – which is considered more valuable in standardized monetary terms – the consequences of flooding are increased. In order to protect the mentioned commerces and create confidence in new companies to settle there, a master plan has been developed to offer different alternatives to tackle flooding.



## 4 VISION

Sustainability responds to generation of solutions that create long term potential in the area. We look for a combination of interventions that are technically solid, friendly with the environment and cost limited.

For the the City Park area, there is a need for an integrated, multidisciplinary approach by a combination of implementing both rock-solid and soft interventions along the rivers. Considering the rising economy, the diminishing unemployment rates and the prospect entering the European Union, Albania is already moving towards a brighter future.

On the other hand, there exists a need to enforce the social and property regulations, and the creation of flood hazards awareness. For this reason, the design proposed also looks for the respect among the citizens.

Certainly, Albania has a great compromise with renewable energies. The vast majority of the energy consumed in the country is produced in their hydropower plants. This project is, hence, a great opportunity for those companies who bet for a sustainable future.

*“The vision of the project is based on the creation of a safe and sustainable water system for the Limuthi river. We aim to create a model of design applicable in the rest of Albania.”*



## 5 TENSION FIELD BETWEEN STAKEHOLDERS

Solving the externalities emerging from the floods cannot be done without taking into consideration the interests of the multiple stakeholders involved.

On the one hand, the Government must fulfill the needs of the inhabitants and facilitate the easy settlement of companies in the area. The main goal is to set the stage and create more awareness among the citizens of Albania, accompanied by the increase of the dynamism of the Albanian economy.

Other stakeholders are the Aquapark, the shopping mall and the construction and shipping companies, which also might be interested in the protection of their businesses, which were directly affected during the last year flood event.

On the social dimension, both the municipality and the residents show at global scale that their willingness is serious when it comes to change. The municipality wants to create an Albania that is known for its safe and sustainable character by 2030 (Stefano Boerri, 2018).

*“The project aims, eventually, to enhance the cohesion between the citizens of the municipality of Tirana.”*



## 6 PUBLIC - PRIVATE PARTNERSHIPS

The Albanian government is determined to open himself to the international market. Particularly in the capital, Tirana, the presence of international investors is growing notoriously. Due to the migration of albanians from the rural areas to the city, the service sector is overwhelmed. As a result, facilities are given to investors.

This dynamism in the economy impulse the rest of the sectors. One of the most important ones, which is basic to the development of the society, is the infrastructural sector. The Municipality and the Government are aware of the large investments this business carries. For this reason, they have impulsed initiatives to assume an important part of the risks of the project, in order to attract private investment.

Besides, the state promotes policies of reduced taxes and the land use prices are still low. In addition, investors will have access to the funds given by the EU to the state members, while enjoying of a safe and regulated market.

*“The imminent entrance of Albania in the European Union and its still undiscovered market make it very convenient to stablish business in the country.”*





# 7 INTERVENTIONS

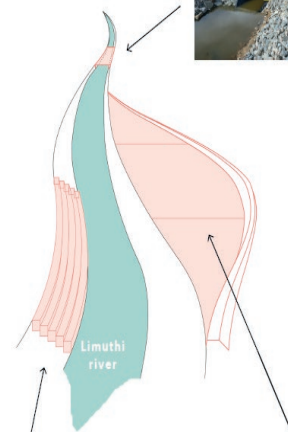
According to the vision of the project developers, several solutions are proposed:

**1 Technical:** construction of culverts to control the discharge of the river, use of gabion walls to protect the slopes and the river bed and flood plains to increase the capacity of the river.

**2 Social and Environmental:** increase of the number of waste disposal points and reward system, by which the citizens obtain discounts in certain articles in case of proper disposal.

**3 Economical:** modal split to incentivate public transport and cycling, reduction of emissions and mitigation of the effects of the interruption of arterial highways. Impulse of railway transport from the port of Durres.

culvert Lossie River, SL



gabion wall Limuthi river, AL



flood plain Nederrijn, NL



Entities such as the Municipality of Tirana and the European Bank for Reconstruction and Development (EBRD) are working together to upgrade the municipal infrastructure in Albania. Their plan is to make the capital more environmentally conscious and promote sustainable growth and development.

The municipality of Tirana and the EBRD are working through a memorandum of understanding for the development of urban transport, roads, water and wastewater services, solid waste management, street lights and improving energy efficiency. Albania shows the great benefits of international aid: poverty reduction, roads being built, developing cities and providing for the people of the state.

However, improvement growth models need to represent sustainability, investment-strong and export-led ideals. Focusing on macroeconomic and government fiscal sustainability enhances reform and development for Albania. This, in turn, will benefit all sectors within infrastructure in Albania.

*“Foreign aid in the form of investments will allow Albania to continue to decrease its poverty rate and boost the economy enough to further state development.”*



## 9 BENEFITS FOR THE SOCIETY

For the City Park area, we want to achieve the following benefits that accompany the sustainable developments in the area:

**1 Raising awareness:** Showing and encouraging people to think and act in a sustainable way, this project can be used as an example for future sustainable projects in Albania.

**2 Creating a safe environment:** The system should be safe and less vulnerable for floods by the implementation of hydraulic interventions along the river banks in the commercial area around City Park, but also further up- and downstream the Limuthi river.

**3 Increasing the attractiveness of sustainable transportation:** The aim is to develop new and improve existing more sustainable modes of transportation with regard to public transport as well as the transportation of cargo.

**4 Creating social cohesion between the commerce and citizens:** we would like to move people and companies to act sustainably by creating incentives which will focus on waste management and that involves interactions between the different stakeholders.

**5 Providing the tools for innovative economic growth and increased land value:** The goal is to make the area both more attractive for visitors, but also to make the industries and other businesses in the area more accessible, through the implementation of new and improved infrastructure.



## 10 CONCLUSION

The economical growth of a country has a narrow relationship with the development of the infrastructures. An advanced and safe network of supplies and transportation guarantees the interconnection of economical nodes.

Several ideas have been proposed to build a more prosperous Albania, additionally benefitted from the advantages of becoming a new EU partner. This climate of goodness is feedbacked by investment, which is facilitated by the Governmental entities.

These aspects make this moment unique for private companies to look into Albania, to find their spot in this still unexplored Balcanic country.