Cross section through the area. Overview of all proposed interventions: the integration of the RHESI project on the left side, the redesign of the dam, the agroforestry zones as well as the integration of a highly divers flora and fauna.

RE-INTRODUCING AGROFORESTRY AND INTEGRATING A DIVERS FLORA & FAUNA IN THE UNDER-UTILISED RIVER AREA

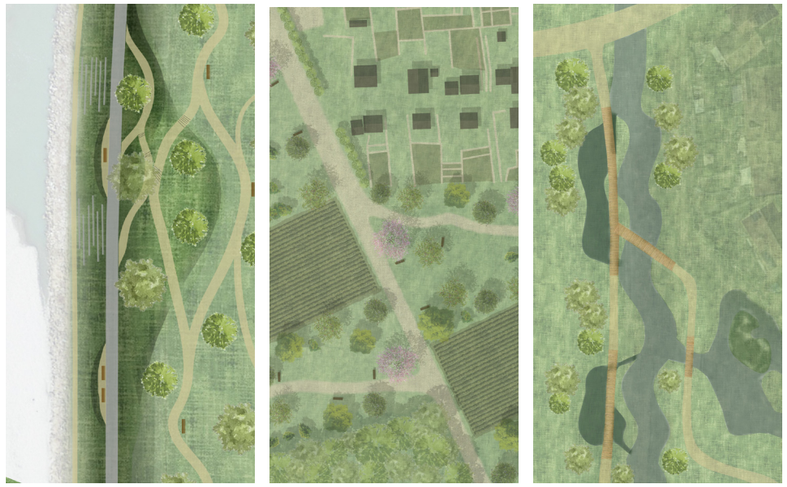
Today, large parts of the fertile landscape along the Rhine river are fairly unutilised. The fields mainly serve as grasslands, of which the local population hardly benefits from. The existing recreational facilities are underemployed and the asphalt road on top of the dam is not attractively designed and divides the river bank from its surroundings. This part of Liechtenstein's territory could be put much more in value for all involved stakeholders. To that purpose, this new overall concept can be applied all along the Rhine valley after the suggested pilot project works successfully. The process integrates the enrichment of the existing fauna and flora, the connection of the river to its surroundings as well as strongly linking forestry with agriculture. All these aspects increase the biodiversity and make the population familiar with the advantages of agroforestry. The development over time can be understood as a subtle expansion, which does not have a precisely shaped timeline. Incorporating already existing projects like the canal project 'Lettensteg' or the revitalisation project 'RHESI' for the Rhine river, this project proposal transforms the under-utilised and unattractive areas along the Rhine river into a fertile, seminal landscape generating food, energy, biodiversity and leisure time activities in abundance. They will evolve into an attractive fruitful garden that provides a high living quality for everybody and that will be regenerating soil, air and water in the same time.

The main idea throughout the whole project is to deal with the already mentioned combination of agriculture and forestry. This allows for a win-win situation for the citizens, the farmers, the government and nature itself as well. Different types of fruit trees and bushes are going to be planted in a mixed culture system. This mixed system allows the soil to become more active and nutrient-rich and further leads to a higher biodiversity. In the future, the diverse fruit yields will be a bonny incentive for the local population.

The newly established association 'Fruit Friends of Liechtenstein' uses its annual membership fees to pay the agroforestry farmers for the cultivation of meadow orchards, bushes and fields. Therefore, whenever a member desires fruits, they can pick them by themselves. Beside the agro forestry orchards, the redesign of the existing dam and its various pathways along the Rhine river plays an important role within this project.

The dam itself is part of one of the most scenic landscapes in Liechtenstein, right next to the river and sunlit nearly all day long. This enormous potential shall be activated and the dam structure be transformed into an attractive recreational area for the local population. The new park strip along the Rhine river provides for various pathways that can accommodate 'linear' sports of different speeds: The 'faster' park area will be located on top of the dam and mainly be used by cyclists. More calm and slower gravel walks will be situated along the slopes on both sides of the dam. Those slopes will be easily accessible for everyone and be equipped with park features as benches, terracing or seating elements.

The third intervention is the one that already gained some interest in the public: the re-integration of endangered flora and fauna. Some successful projects relating to this topic do already exist in Liechtenstein. The pilot project focuses on the area of the 'Oberaukanal', which is situated in the eastern part of the Rhine river. Nature reserve sections with a special focus on specific local species such as frogs, bees or fishes shall be established. Similar projects in the region, increasing the number of fish species rapidly, were already pretty sucessfull. Another ongoing project that can be directly integrated serving as a basis is the project 'Lettensteg'. The riverbed of the canal locally needs careful excavations to provide for different flow speeds which are important for the biodiversity inside the canal. To prevent storm floods buffer zones with bigger water surface shall be installed in meandering form. Furthermore, flat still water bodies should be attached to the canal for the amphibians. This shall promote the awareness and evaluation of revitalisation. For a successful start of this pilot project, creating space for nature experience and revitalisation, a broad variety of organisations will be involved. The project allows for a closer get-together between nature and humans and offers a prolific space for all creatures.



Zoom-Ins. New recreational areas along the dam (1); Agroforestry zone with various planting and additions (2); Integration of additional flora and fauna throughout the valley (3).

FRUITION

The territory along the Rhine river in Liechtenstein comprises large underutilised areas with fertile soils. The project aims to put these spaces into more productive use for forestry, agriculture and local recreation by allowing for a high biodiversity, creating attractive local recreational areas, increasing agricultural and forestal production and overall providing a better connection between man and nature.
To achieve these goals, three main fields of action have been identified: Further connective pathways shall be added to the dam and better connections to the river banks. The area around the 'Binnenkanal' shall accommodate for a larger variety of different trees and plants. And a new cooperative, the 'Fruit Friends of Liechtenstein', shall be founded and offer to its members the possibility to harvest fresh fruits and learn more about nature. Integrating local farmers, the government and all the members of the Fruit Friend's this project ensures a win-win situation for the local population and nature as well.

Final project proposal Nina Meusburger, Louis Beck, Peter Amann, Nina Beck (SS17).
Initial project idea: René Caamaño, Luis Santiago Caridad, Viktoria Khokhlova, Michal Mráz, Ovidiu Serghe, Christophe Suberville (SS15).

REGENERATIVE.LI

Exhibition: September 14 to October 6, 2017
Architecture Foyer, University of Liechtenstein

Over the past three years students participating the course *Regenerative Environments* had a close look at the Alpenrhein Valley focusing on Liechtenstein and its surroundings. Aiming at the design of integrated approaches for sustainable, regenerative environments, a broad variety of topics have been discussed, wrought and finally distilled into project proposals that could contribute to render Liechtenstein more regenerative. The topics range from habitation, commercial or mixed use to infrastructure, mobility, renewable energy production and supply, agriculture, forestry, biodiversity, carbon sequestration and water resource management.
The ten projects on display in the exhibition are intended to be thought-provoking impulses for the ongoing discussion about the future sustainable development within the region.

Further information: WWW.REGENERATIVE.LI

UNIVERSITÄT LIECHTENSTEIN
INSTITUTE FOR ARCHITECTURE AND SPATIAL DEVELOPMENT
Regenerative Environments
Michael Wagner (lecturer)

FRUITION

BUSINESS CONCEPT

fruit friends association liechtenstein

3 LAYERS OF AGROFORESTRY

Rhine river project ‚RHESI'

- Flood protection control
- First stage of a concentrated co-operation between CH, A and FL
- Sustainable regional developement process
- Using ecological potential for improvement
- Protection of drinking water supply
- Using synergies of agriculture, forestry and water management
- Protection of alluvial forest areas (www.rhesi.org)

Rhine river dam

- One of the most scenic locations in Liechtenstein
- Renovation and redesign of the existing dam structure
- Transformation into an attractive recreational area
- Narrow park alongside the entire riverbank
- 'Faster' park area is located on top of the dam (e.g. for cyclists)
- 'Slower' gravelled pathways on both sides of the dam
- High accessibility for everyone

Agroforestry

- Criteria of trees
- Business plan to work out
- use areas leased by local farmers dedicated to agriculture
- win-win situation for farmers and the general public
- New products within this production area
- Big gardening and landscape concepts
- Support through govern-mental and other institutions
- Contractual partners

Fauna and flora

- Establishment of nature reserve sections where fauna and flora can unfold freely
- Special focus on specific local species as frogs, bees or fishes
- Integration of successful existing projects like 'Lettensteg'
- Excavation of riverbed
- Introducing different flow speeds to increase biodiversity
- Buffer areas for storm floods
- Systematic increase of awareness of flora and fauna

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