P4 presentation
Mentors: Daniel Jauslin/Ulf Hackauf
Student: Nikolaos Margaritis (3181344)

Landscape as educational interface: The Open Food-production University of Danube
Problems of the agricultural sector in Bulgaria and Romania
Crop output (without forage) per hectare (2007)
source: Eurostat

- <=1000
- 1000-<2000
- 2000-<4000
- 4000-<8000
- >8000
Agriculture: statistics

Contribution of agriculture to gross value added (2007)
source: Eurostat

- <0.5%
- 0.5%–<1.5%
- 1.5%–<3%
- 3%–<6%
- >6%
**Agriculture: statistics**

Arable land _hectares per person (2009) source: data.worldbank.org

- Romania: 0.41 ha/per
- Bulgaria: 0.41 ha/per
- Netherlands: 0.06 ha/per

Nevertheless, The soil-type is among the most fertile in the world (black soil)
What could be a viable and sustainable solution?
Rural Romania XXI intents to substantiate in order to achieve:

1. High competitiveness of yields and quotas
2. High ecological value
3. Food security for the country’s population and balanced diet
4. Educational improvement of farmers and stuff of consultancy
Rural Romania XXI: multifunctional agriculture

+ecology
+agrotourism
+society
Key problems at agricultural education

1. Low share of young farmers
2. Insufficient training (Only 2.4% of farms managers have tertiary education level in the field of agriculture)
3. Agricultural education programs and students are declining
Landscape as educational interface

The idea of educational landscape /University

The new idea is that the production and spread of knowledge happens at the same place. Farmers and potential farmers confront a spatial condition that in an inevitable way bears and transfers knowledge and initiatives. Locals grow up within an environment that gradually teaches them the idea of sustainable food production.
Landscape as educational interface: spatial limits
Landscape as *educational* interface
Landscape as *educational* interface
The open Food-production University at Danube
The open Food-production University at Danube: the area
The area: Giurgiu-Ruse
The area: Giurgiu-Ruse

_Green structure_
The area: Giurgiu-Ruse
_Urban structure
The area: Giurgiu-Ruse

_Transportation infrastructure
The area: Giurgiu-Ruse

1) Crossing of transportation networks and infrastructure
The area: Giurgiu-Ruse

Transportation infrastructure
The area: Giurgiu-Ruse

2) Farmland geography
The area: Giurgiu-Ruse
The area: Giurgiu-Ruse

3) Regional landscape qualities
The area: Giurgiu-Ruse
The area: Giurgiu-Ruse
The area: Giurgiu-Ruse
The area: Giurgiu-Ruse

4) Symbolic reasons
The area: Giurgiu-Ruse
The open *Food-production University* at Danube
The open Food-production University at Danube: the design
Landscape as educational interface: the interventions

1. University Campus
   - Studies
   - Research
   - Consulting
   - Recreation
   - Transportation hub

2. “Satellite” landscape fragments
   Dialogue with the landscape: receiving new ideas and creating the new research content
Flowscapes
The Open Food-production University of Danube
Masterplan 1:10000
The knowledge strips:

Aquaculture
The knowledge strips:

Rice cultivation
The knowledge strips:

Stockraising
The knowledge strips:

Algaculture
The knowledge strips:

Wetland
The knowledge strips:

Forestry
The knowledge strips:

Cereal production
The knowledge strips:

Flowers_apiculture
The knowledge strips:

Greenhouses and vegetables
The knowledge strips:

Crop rotation
The knowledge strips:

Renewable energy production
The knowledge strips:

Vineyards
The knowledge strips:

Fruit-trees
The knowledge strips:

herbs
Flowscapes
The Open Food-production University of Danube
Masterplan 1:10000
The knowledge strips: section
Moving in the Campus
Moving in the Campus: The routes
Moving in the Campus: Transportation corridors

- Car
- Train
- Tram
- Boat
Moving in the Campus: Transportation corridors - the new tram line
Moving in the Campus: Transportation corridors _the new tram line
Moving in the Campus: section and plan A in the fruit trees forest
Moving in the Campus: section and plan Δ seminar in the vegetables garden
Moving in the Campus: section and plan ΣΤ in the greenhouses
Moving in the Campus: section and plan Z_between flowers and the Canal
Moving in the Campus: section and plan Θ Algaculture next to natural reserve area
Flood protection interventions
Flood protection interventions: geomorphological map
Flood protection interventions: geomorphological map
Flood protection interventions: prediction with flood of 1-2 m.
Flood protection interventions: prediction with flood of 2-4 m.
Flood protection interventions: The Campus area
Flood protection interventions: The Campus area (light yellow) and its vulnerable areas (bright yellow).
Flood protection interventions: first type
Flood protection interventions: second type
Flowscapes

Flood protection interventions: third type
Flood protection interventions: free flow
The open Food-production University at Danube
The open Food-production University at Danube: The satellite landscape fragments
The area:

- Over fragmentation
- Narrow fields
- No trust to state or other farmers
- Unsuccessful co-operations
Solution A1: Rearrangement in pairs of ownerships
Solution A2: General rearrangement of the whole block:

- Same amount of land and of same quality
- More efficient
- No effect at landscape qualities
- Introduction of two diagonals
Solution B:

- No changes on ownership limits
- Change in crops
- A “cooperative” infrastructure strip
- Access by everybody through a path
The area:
• Next to Danube
• Surrounded by forested land
• Comparatively large ownerships
The solution:

- Cooperation of agriculture with stockraising
- Special breed (*Bos brachyceros europaeus*)
- Extension of the woodlands
- Construction of ponds
Fragment 2
The area:
- Slope next to floodplain
- Existing basins
- Fields difficult to cultivate
The concept:

- Manure from stockraising functions as food for algae
- Natural slope helps at the distribution
- Algaculture remnants is useful as food for fish in aquaculture
The concept:
• Manure from stockraising functions as food for algae
• Natural slope helps at the distribution
• Algaculture remnants is useful as food for fish in aquaculture
The area:
- Typical, large size, Romanian field
- Normally used for monoculture
Fragment 4

First year of crop rotation
Fragment 4

Second year of crop rotation
Fragment 4

Third year of crop rotation
Fragment 4
The area:
• Next to Mihailesti, the second biggest city of Giurgiu county
• Big plot
The intervention:
- Flower fields for unemployed people or farmers with small ownership
- Combination with apiculture
- Use as urban park
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http://www.youtube.com/watch?v=a4KPdFPFCk

Thank you for your attention!