Znojmo-Retz Czech-Austrian Rural Area

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Retz/Znojmo Austrian and Czech Borderland: searching for environmental security

Project design:

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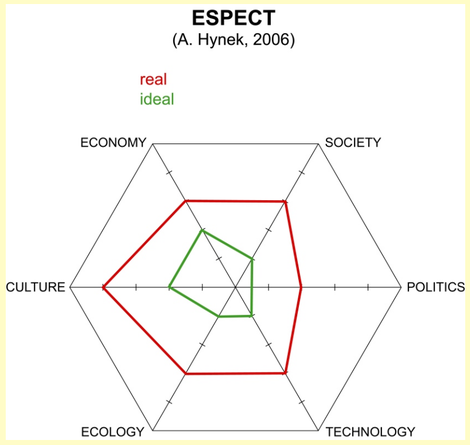
Nikola Hynek, University of Plymouth and Masaryk University

Aims:

- To compare changes in environmental situation in both parts of the Austrian/Czech borderland after the fall of the Iron Curtain of 1989, environmental loads and risks/hazards in particular
- To fulfill this aim, Vienna and Brno research groups will be established for joint environmental survey in RZA
- To empower initiatives in the field of environmental cooperation between Retz and Znojmo which will pursue sustainability, security, stewardship and sound science at the local level (R.T.Wright: Environmental Science) -
- To apply principles of multilevel governance and governmentality (local-regional-national-the EU; non-state actors will become subjects of governance) which will render possible the dissemination and transfer of the gained experience regarding environmental security at all levels
- Publication covering joint environmental research and survey in Retz/Znojmo Area intended for target groups in public administration (Znojmo, Retz regional bodies), rural communities, business/entrepreneurship, education, nature/landscape management (national parks Dyje/Thaya), stakeholders/citizens, visitors with texts, photos, maps, tables



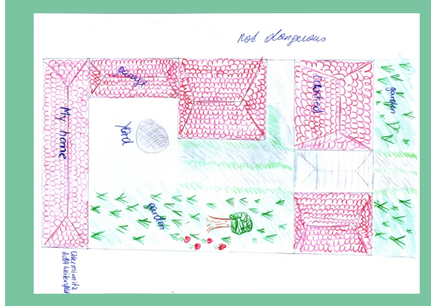
QUESTIONNAIRE

1. The state of the environment before the fall of Iron Curtain
2. Environmental changes after 1989
3. Environmental SWOT analysis
4. Who is active/initiative in environmental issues?
5. Who are the actors of environmental damages? Residents, visitors, larger municipalities? Czechs/Austrians, casual/intentional marauders, individuals, groups, gangs
6. Are the inhabitants able to improve their environment?
7. Who threatens environmental quality?
8. Who helps to improve environmental quality?
9. Are the national parks - Dyje/Thaya rivers positive/negative/barier/controversial/neutral part of your environment?
10. Whom do you trust to help you with environmental quality? Experts, technicians, scientists, politicians, local authority, entrepreneurs/businessmen, non governmental organizations (NGOs), strong/powerful individuals, church, physicians, lawyer, they/themselves
11. Is there any environmental course, public education in your municipality?
12. Are there any records in your chronicle on natural hazards?
13. Which natural hazards are you anticipating?

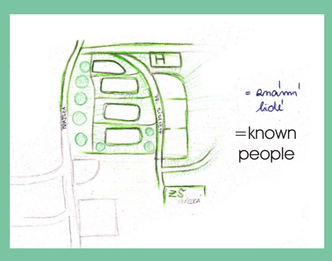
Mental mapping

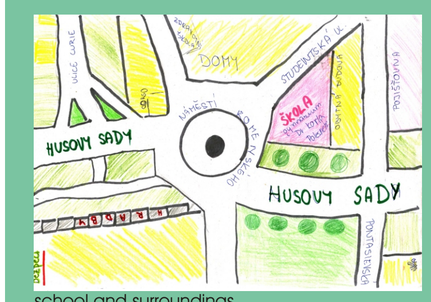
The main research question was set as follows:"What do you perceive as main environmental threats in your lived space what do you consider safe and unsafe in your neighbourhood?"

The purpose of mental mapping in the Znojmo/Retz area (2006) has been sketching negatives, positives and generally significant principles of students perception.

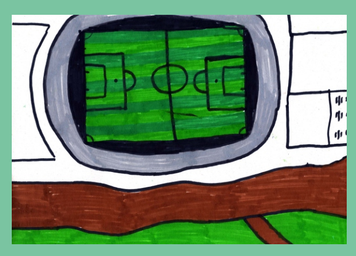


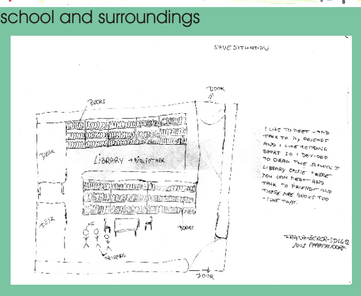
The perception of the safe place



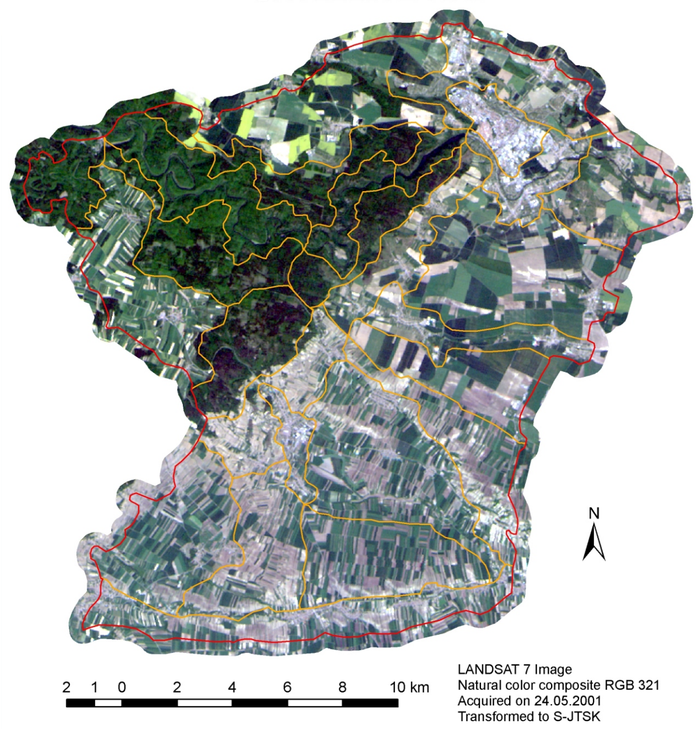


school and surroundings





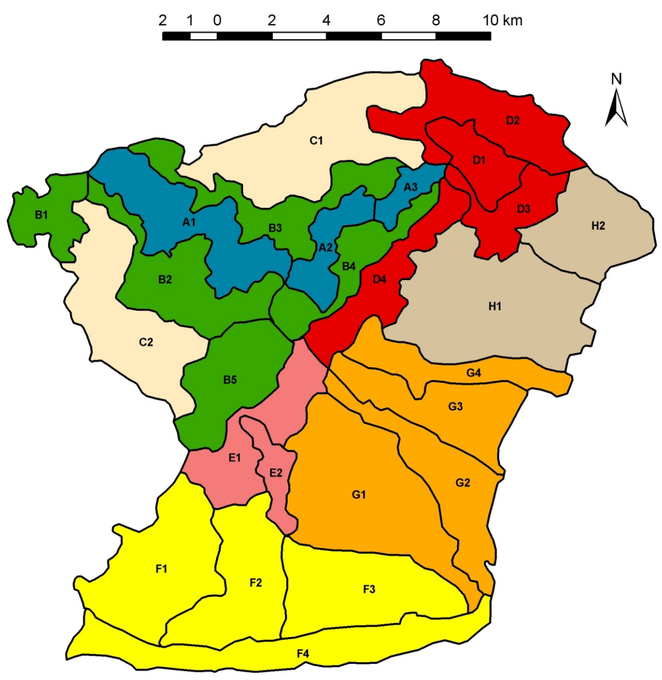
RETZ – ZNOJMO
SATELLITE MAP



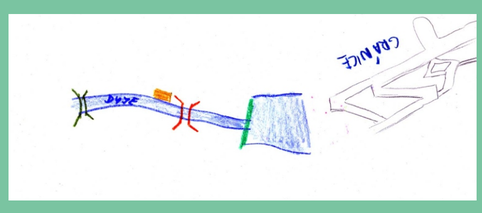
LANDSAT 7 Image
Natural color composite RGB 321
Acquired on 24.05.2001
Transformed to S-JTSK

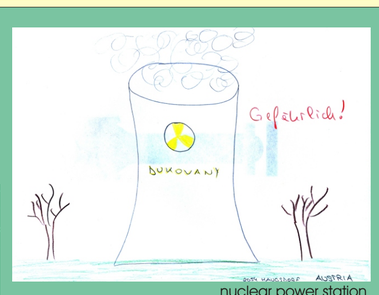
CULTURAL LANDSCAPE UNITS
RETZ-ZNOJMO

Alois HYNEK, Kateřina KEPRTOVÁ, BRNO 2006

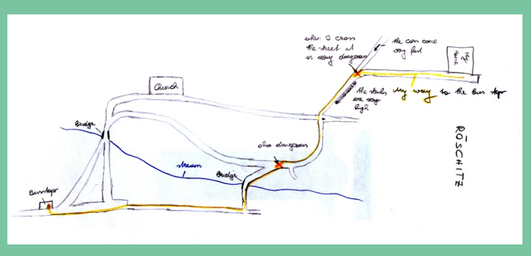


The perception of the unsafe place





nuclear power station



Some results of mental maps analysis

1. The view of Znojmo represented by media (as a victim by this year's floods) nonconforming reality disagree with experiences of the local people.
2. Mental maps showed that students perception of natural components play insignificant role.
3. The important and main themes for students are these which have social context.
4. Students perceive the most often their surroundings like safe place, on the contrary unsafe is everything, what is made by humans and where is a direct human interaction.safe, presented in mass media during „flood period"?

Physical landscape spatial units and their component structure

	rocks	landforms	topoclimate	hydricity	soil cover	Potential vegetation
A Dyje/Thaya canyon	crystalline	deep/steep valley floodplain	contrast aspect inverse	wet moist dry	lithosols rankers cambizems	oak hornbeam pine beech fir floodplain
B Dyje/Thaya rim	crystalline sediments	groughs gullies ridges	contrast aspect inverse	semidry semiwet	cambisols luvisols rankers	oak hornbeam pine beech fir elm alder
C Highland agricultural	sediments crystalline	plains low ridges vales	equal horizontal	semidry semiwet	luvisols pseudogleys	oak-beech--hornbeam
D Znojmo	loess sediments crystalline	valleys basin steps	contrast aspect inverse	semidry	mollisols fluvisols luvisols	oak-hornbeam-elm willow poplar
E Retz	sediments crystalline	step piedmont	sunny slopes	semidry	cambisols mollisols	oak hornbeam pine
F Pulkau	loess sediments	low ridge shallow valley	equal slight inversion	semidry	fluvisols mollisols cambisols	oak-hornbeam-elm willow poplar
G Retzbach/Daníž	loess sediments	valleys ridges	sunny slopes	semidry	mollisols pellosols pararendzinas	oak-hornbeam-elm willow poplar
H Dyje gorge	crystalline sediments	valley basin plain	contrast aspect inverse	moist dry	cambisols fluvisols luvisols	oak beech pine elm willow poplar

Cultural landscape spatial units - land use

	settlement	land use	agriculture	industry	nature/culture	transport
A Dyje/ Thaya canyon	no permanent Hardegg	forests meadows Šobes	no except Šobes	no	national parks recreation	foot/bike paths lumber
B Dyje/ Thaya rim	no permanent	forests meadows shrubs	no	no	national parks heath forestry	foot/bike paths lumber
C Highland agricultural	small villages	arable meadows gardens	intensive without vineyards	workshops	rural monotonous	roads II III railway
D Znojmo	the city of Znojmo	urban suburban subrural	orchards vineyards gardening	very diverse	historical monuments node/hub	roads I II III railway
E Retz	the city of Retz	urban suburban subrural	vineyards orchards gardening	diverse	historical monuments node	roads II III railway bike
F Pulkau	string of villages/ townships	arable vineyards orchards	intensive with vineyards	food workshops	rural valley vineyards heath	roads III railway bike
G Retzbach/ Daníž	villages	vineyards arable orchards	intensive vineyards orchards	food workshops	rural valleys vineyards	roads I II III transit
H Dyje gorge	villages	arable vineyards woods	intensive vineyards orchards	workshops	rural diversity heath	roads II III

The main natural hazards in the cultural landscape spatial units

	Rivers/ streams	Nature	Weather	Agriculture	Waste	Industry	Settlement
A Dyje/ Thaya canyon Austrian site	Floods Twice a day increased water table Fishing/Angling	Neophytes spreading Wind fallen trees Landslides Rock falling	Heavy rains soil sheet wash and erosion	Sheet wash/mud from the fields to the park/ streams	***Toxic waste come from Czech site***	***Nuclear power station - Czech site: Temelín***	Construction and using of buildings › disturbances in ecosystem
A Dyje/ Thaya canyon Czech site	Floods Twice a day increased water table	Neophytes spreading Wind fallen trees Landslides Rock falling Ravines and gullies	Southern aspect **extreme drought** grass burning, forest wildfires **change of vegetation cover** Heavy rains soil sheet wash/erosion	Sheet wash/mud from the fields to the park/streams Agrochemicals application	**Black dumps**	Cutting practices of logging	Careless built-up areas› dykes Displacement
B Dyje/ Thaya forestland	Local flooding	Ravines and gullies Landslides Rock falling	Southern aspect increasing temperature extremes forest wildfires	Agrochemicals deposition	**Black dumps**	Cutting practices of logging Stone/sand pits	**Old dilapidated houses, farmsteads** › landscape character (CZ)
C Highland agrarian fringe	**Local flooding** Stone quarries › **source of local ground-water pollution**	Oversized natural resources consumption any bio-corridors, bio-centres	**Extreme drought area** dust storms **Heavy rains** soil sheet wash **Accelerated wind and water soil erosion**	Agrochemical contamination **Biodiversity reduction** large blocks of fields **Rash ploughing**	**Sewage** from piggeries (Mašovice) Black dumps	Industrial waste deposition	Housing maintenance and character
D Znojmian	Local flooding Water pollution › sewerage, industry Extreme regulation of water streams	**Stronger biodiversity reduction** landscape covered with concrete Disease dissemination by animals › rats	**Hot spot**› increasing temperature, drought/ moisture extremes **Extreme drought area** - dust storms and wind erosion **Local windstorms** and **whirlwinds** ("leprechauns")	Using **agrochemical preparations** › **soil, water pollution** Accelerated soil erosion Heavy rains soil sheet wash	**Unsorted waste Illegal waste disposal site Black dumps** rubble, clay	**Noise pollution** from ventilators of factories Industry zones	**Inappropriate land use** industry zones, apartment houses, stores and supermarkets New buildings in flooded areas **non-respecting nature in environment**
E Retzian	Pollution of water	***Genetic modify organisms*** *from CZ*	Extreme drought area **Frequent strong winds** – soil erosion **Heavy rains** and snowing, **black ice**	**Soil sheet wash** agrochemical pollution coming from CZ › **soil, water pollution**	***Radioactive toxic waste*** *comes from CZ*	***Nuclear power station - Czech site****: Dukovany, Temelín.*	Second homes
F Pulkau	Streams regulation Bank plants removal **Local flooding Strong water pollution** Drainage	Disease dissemination by water Biodiversity reduction	Extreme drought area disappeared water resources Dust storms Soil and wind erosion Heavy rains soil sheet wash Black ice	Soil cover overuse	***Radioactive toxic waste*** *comes from CZ*	***Nuclear power station - Czech site****: Dukovany, Temelín.*	Partly decaying rural areas
G Retzbach/ Daníž	**Local flooding** Regulated streams	**Disease dissemination by plants/animals** Landslides Biodiversity reduction	**Black ice, heavy snowing and rains** Very high summer temperatures › **growing temperatures extremes** Extreme drought area	**Local wet of arable land Soil erosion Rash ploughing**	**Wastes along roads** Black dumps	Missing local industries	**Deterioration of landscape** › old dilapidated houses **Careless built-up area** Partly decaying rural areas (CZ)
H Vrbovec/ Načeratice	Water pollution: **eutrophication of water** Local floods	Unconcern to the protection of the environment › weak contractor's activities	Extreme drought area **in summer time** › increase amount of **dust** in the air Strong wind erosion	**Stronger biodiversity reduction** large blocks of fields **featureless landscape Agrochemical pollution** Cattle/poultry production sewage debasement	**Illegal waste disposal site** Black dumps	Stone quarries Sand pit (Tasovice) Missing local industries	Partly decaying rural areas Winter air inversions