

GEOGRAPHICAL KNOWLEDGE SYNTHESIS OF THE UHERSKÉ HRADIŠTĚ-DISTRICT

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SUMMARY

Following physical and socioeconomic geography contemporary regional geography in its “neoregional phase” is more intellectual than classical regional geography. It is including progress of component geographical disciplines, physical landscape and socioeconomic syntheses, landscape ecology. The main task of regional geography is a question of regional development in relation to nature conservation. GEWOBRUN research strategy is for balanced socioeconomic and nature saving development with purposeful spatial organization. Geographical knowledge synthesis means, in the case of Uherské Hradiště – District, integrated knowledge choice portraying spatial holons – geons – their structure, processes, situations. Special attention is given to knowledge representation in the form of metaphores, cartogeographic models, topic maps, tables intended for intellectual communication. Research project stresses regional individuality in the context of general regional planning of socioeconomic/ecological development.

INTRODUCTION

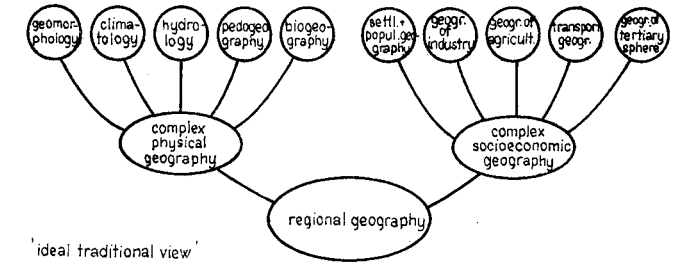
GEWOBRUN — an acronym of geographical workshop of the Brno University takes part in geographical research of the Geography Department, Faculty of Science, J. E. Purkyně University, Brno. Members of GEWOBRUN are not stable ones, coming and leaving. The objectives of GEWOBRUN also change, now we are in the period of “neoregional wave”. We present a contribution, regional study of the Uherské Hradiště-District, shortly: UHRAD.

It is a working paper for geographical research project coordinated by the Institute of Geography, Czechoslovak Academy of Science, sponsor: profesor V. Gardavský, who is leading the main project: Geographical evaluation of regional development conditions. A single project concerning UHRAD is implemented on microregional level and consists of two phases: geographical knowledge synthesis, and geographical situations identification. Here we are solving the former task having in mind relevant knowledge for situations management. But the contextual framework is wider and deeper: how to balance and manage socioeconomic/environmental/ecological development, which processes will cause intraregional changes? what future for UHRAD?

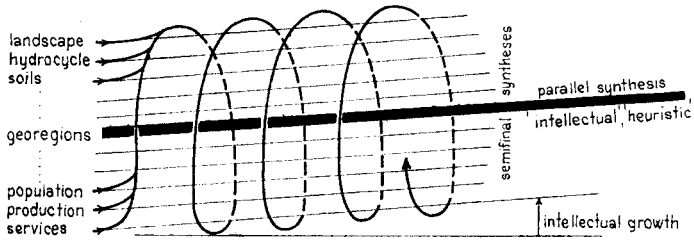
The choice of GEWOBRUN'S UHRAD geographical inquiry methodology has been done by continuing progress of traditional methods and applying new ones. Fig. 1 is showing traditional cumulative approach from component disciplines to their complexes: physico-geographical, socioeconomic-geographical, and total geographical. Other procedures can be called as parallel. Using intellectual commun-

Fig. 1

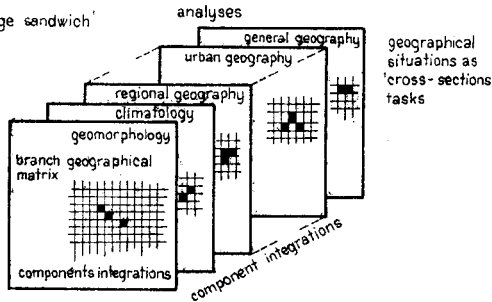
Geographical inquiry



balanced SED/NAC



geographical knowledge sandwich



ication it is starting with objectives oriented initial synthesis based on knowledge before research. A synthesis is going on developed more precisely by verification/falsification, solving a research task to final, relatively, synthesis. Deeper layer of GEWOBRUN research is linking up geographical theory, empiricism — fieldwork, social communication, etc., and applications via conceptualization. General research objective is a changing face of geography: from stating to creative geography. What do we understand by this statement? We mean geographical knowledge relevant for regional planning, environmental/ecological adjustment, spatial locations/allocations, situations solvability, economic progress, social development, etc.

Research parallel intellectual informatics is impossible without knowledge representation, conceptualization, knowledge base. If we are to evaluate conditions for UHRAD regional development, we firstly need authentic geographical knowledge on UHRAD, secondly: world/Czechoslovak socioeconomic/ecological prognoses, thirdly: local/regional context of considered development. We are not so naive to recommend universal economic growth of UHRAD to the detriment of nature conservation, human ecological/cultural quality, social welfare. But which strategy of regional policy, scenario, coordination, spatial organization of UHRAD regional development? Which locations/allocations will be subdued and which ones will be the growth poles? What kind of land use? Do we know possibilities/feasibilities and limitations given not only by natural resources but even human/socioeconomic factors, intraregional/interregional situation/evolution? Too many questions ... not only for geographers.

GEWOBRUN technique for such tasks solving is shown on Fig. 1, below — “knowledge sandwich” integrating geographical knowledge of component/complex disciplines for tasks/situations solving. Geographical knowledge is a hierarchically ordered semantic network of terms, concepts, theories, as far spatially identified, changing due to reality, and intellectual evolution/revolution — communication. GEWOBRUN intellectual informatics is intended for efficient geographical obtain processing, representation/communication linked with decisions, activities, practice, on the one hand, and with theory, explanation, understanding, interpretation on the other. That is a reason for using key words, acronyms, codes which are stored in empirical/conceptual/practical knowledge base including, or linked with facts and procedures, or conceptual, contextual, and contentual attributes of geographical knowledge/information. Geographical knowledge base also serves for communication with non-geographers.

GEWOBRUN has developed a procedure for cartogeographical representation of geographical knowledge — cartography assisted geography (CAG) starting with metaphores, and several procedures up to computers for geographical knowledge representation. Some of them are used in our paper, openly said, we prefer such representation.

UHRAD: LOCATION

The Uherské Hradiště-District (UHRAD) is situated in the central part of Czechoslovakia, called Moravia, in its south-eastern part, bordering with Slovakia, the eastern part of Czechoslovakia. The UHRAD area is 993 km² and the number of inhabitants to the date 80-11-01 was 143,731 ones and the density of population about 145 inhabitants . 1 km⁻².

The present UHRAD was prolongedated in 1960 when districts administrative redistribution was done. The former districts: Uherské Hradiště and Uherský Brod, a small parts of Veselí n. Mor. and Kyjov were integrated into UHRAD while small parts were affiliated to the district of Gottwaldov. Before World War II there were next two district subcentres: Ostroh and Bojkovice, with judicial power. Both districts of Uherské Hradiště and Uherský Brod functioned from 1848, Uherské Hradiště-town (UHA) had been the centre of the Uherské Hradiště-County from the end of the 17th century. This county lasted till the 1920's to 1930's when the northern part of both districts changed into separate district Zlín/Gottwaldov and Valašské Klobouky.

UHRAD has natural boundary in the East and in the West, where are the highest parts of the Bílé Karpaty — White Carpatians Mts. and the Chřiby Highlands. They are barriers with several transits. The northern and southern UHRAD boundaries are rather controversial, functioning only administratively. An integration of the south-eastern Moravia into a specific region, not so large like present counties and not small like districts, maybe the South-East Moravia Region (SEMR) is an acute task.

Relative location of UHRAD is given with respect to higher order centres as Gottwaldov and Brno and the same order ones: Hodonín, Kroměříž, Vyškov, Trenčín. They are linked by railways and roads, the North-South transit is more important.

UHRAD is an agricultural/food allocating producer, man-power allocator as well as wood, light machinery, building materials. The energy, fuels, chemicals, metals, plastics, textile, clothes are being allocated here.

UHRAD: EVOLUTION

UHRAD belongs to one of the three cores of Czechoslovakia, a Moravian one. It has been permanently settled since the younger paleolithic witnessed by archaeological artifacts in Buchlovice, Boršice, mesolithic ones in Staré Město, Uherský Ostroh. During neolithic there was settled the Dolnomoravský úval — the Lower Moravian Vale bulge, the piedmont areas of the Chřiby and the Bílé Karpaty-Mts. They have a remarkable number of archaeological artifacts from the Bronze and the Iron Age. In the course of Roman Empire, from the 1st century, B.C., till the 4th century, A.D. a node had formed here in Staré Město (Budorgis?) as a centre of continuously settled region. This development culminated in the 8th century when there was one of the Great Moravia nodes in Staré Město, maybe, the central one? Further settlement subcentres were in Modrá, Osvětimany, Sady.

The fall of Great Moravia involved exposure to Hungarian troops, the adjective, 'Uherský' means 'Hungarian' in the case of Uherské Hradiště, Uherský Brod, Uherský Ostroh. After a period of frontier conflicts it passed definitely an integral part of the Czech Crown. This feudal medieval history includes the royal Uherské Hradiště, Uherský Brod, royal castle Buchlov and also monastery of Velehrad, fortified settle of Bánov. The Hussite movement had a Moravian centre in Nedačovice. It is impossible to omit noted cultural vigour in the 15th—16th centuries at the end of the 16th century Jan Amos Komenský — John Amos Comenius — was born here. UHRAD of that period was a granary with viticulture, fruit growing, the towns of Uherské Hradiště, Uherský Brod, Polešovice, Bánov, Kunovice, and further important seats: Buchlovice, Staré Město, Ostroh, Hluk, Nivnice, Bojkovice. Uherské Hradiště was a node with centripetal location, radial transport network, some roads were transit ones connecting Moravia and Slovakia, central, northern Moravia, Moravian Walachia and southern Moravia with Western Moravia via Uherské Hradiště-County. The 18th century UHRAD had prevailing, agriculture, followed by forestry, breweries, glassworks, commerce, but the centres of innovations were in other regions, UHRAD was slowly retarding...

The Velehrad monastery, the Buchlov castle, the Lichtensteins, the Kounitzs, the royal town of Uherské Hradiště had been dominating in tenure of land for about 250 years in the form of estates. Their way of land use, management was changed only when land reforms were implemented after World War I, and speci-

UHRAD development in spatial context (approximations)

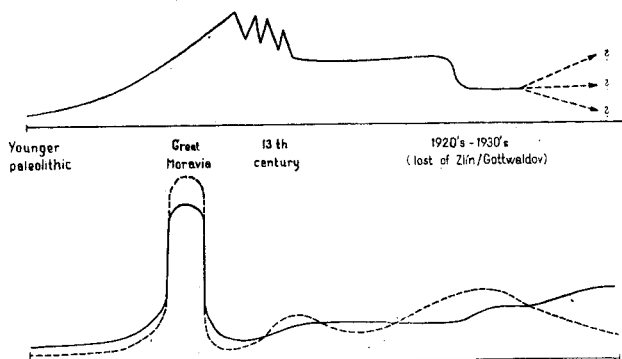


Fig. 2

UHRAD : a geographic metaphore

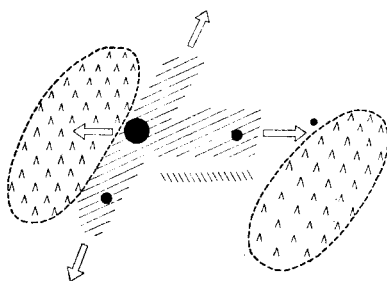


Fig. 3

ally after World War II. Certain, though slight revival came in the half of the 19th century, mainly in food-growing and processing — sugar factories, distilleries breweries, further to railway Wien—Přerov in the year 1841, Brno—Trenčianská Teplá, 1884—88. That period's land use of the former districts Uherské Hradiště and Uherský Brod was the same: arable land — 50 %, meadows, pasture, orchards — 25 %, forests — 25 %. Animal production: cattle — 60—65 %, pigs — 30—20 %, horses — 10—5 %, sheep in Uherský Brod District — 10 %.

In the early 20th century agriculture with food processing dominated, partly textile, wood factories, glassworks, though the volume of production was under-sized in relation to Czech countries.

The economic growth pole of Zlín/Gottwaldov, starting at the end of 19th century, caused in the 1920's—1930's the loss of the northern parts of both districts Uherské Hradiště and Uherský Brod for the benefit of Zlín/Gottwaldov. Moderate growth of light machinery slightly compensated northern loss'. General economic growth of Czechoslovakia in the socialist period has been leading to machinery's

growth in Uherské Hradiště, Kunovice, Uherský Brod, Hluk, Bojkovice, Babice and it has become a staple trade of industry. A steady population growth, though slow, supplies manpower not fully used in UHRAD. Therefore over 20 % of manpower is employed outside UHRAD, but people keep staying here. Fig. 2 is showing UHRAD development, it is only relative view emphasizing relative decrease in relation to other growth poles, though socioeconomic growth in the socialist period has lead to relatively high standard of living.

UHRAD: SPATIAL ORGANIZATION

Very simple sketch in the form of geographic metaphore is given in Fig. 3. It portrays UHRAD as two forest massives in the West and East, central node of Uherské Hradiště and T shaped corridor into Uherský Brod/Bojkovice and

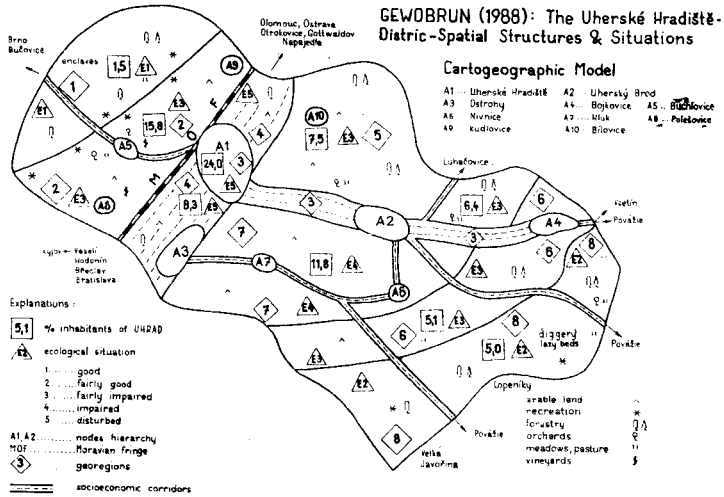


Fig. 4

UHRAD: Physico-geographical Chores Hierarchy

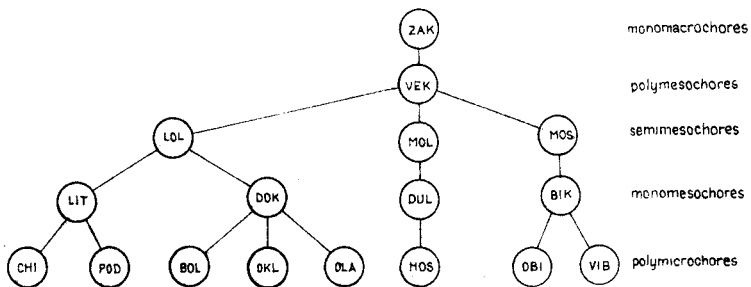


Fig. 5

Table 1

UHRAD: Physico- geographical Chores Hierarchy

- ZAK ... the West Carpathians (Západní Karpaty)
- VEK ... Outer West Carpathians (Vnější Západní Karpaty)
- LOL ... Litavsko-olšavská
- MOL ... Moravian Vales (Moravské úvaly)
- MOS ... Moravia-Slovakia Carpathians (Moravsko-slovenské Karpaty)
- LIT ... Litavská
- DOK ... Dřevnicko-olšavská
- DUL ... the Low Moravian Vale (Dolnomoravský úval)
- BIK ... the White Carpathians (Bílé Karpaty)
- CHI ... Chřiby
- POD ... Pouchřibí
- BOL ... Březnicko-olšavská
- OKL ... Ověřsko-kladenská
- OLA ... Okluecko-olšavská
- HOS ... Hradištsko-otrožská
- OBI ... the White Carpathians fringe (okraj Bílých Karpat)
- VIB ... the White Carpathians centre (středové Bílé Karpaty)

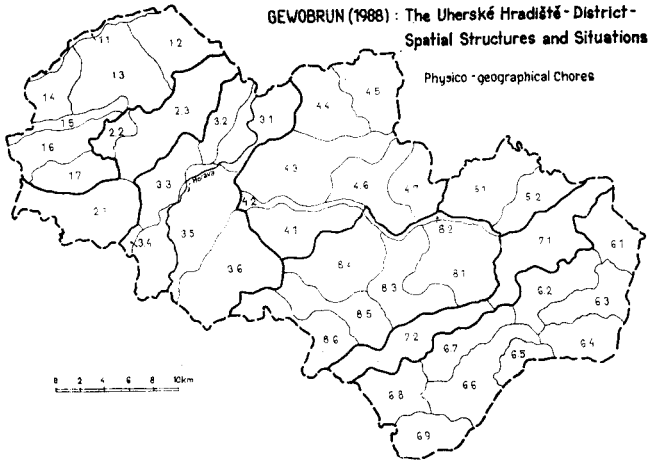


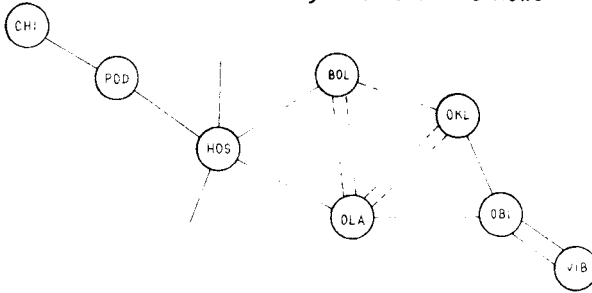
Fig. 6

Uherský Ostroh, continuing to the North and South outside UHRAD, and sub-corridor in the South.

Fig. 4 — cartogeographical model is a sketch by hand of georegions with more details: relative share of inhabitants for every georegion, ecological situation rank, nodes hierarchy, socioeconomic corridors and land use.

Physical landscape of UHRAD is represented in wider hierarchical context in Fig. 5 and explained in Table 1. Physico-geographical regions — physgeons are identified for UHRAD in Fig. 6, where polymicrochores and monomicrochores are distinguished. Their horizontal links are given in Fig. 7 and natural resources and hazards in Fig. 8. Recources and hazards are differentiated into two levels: high and low, expressed by capital and small letters. A list of physgeons is in

UHRAD Polymicrochores interflows



UHRAD: Polymicrochores natural resources and hazards

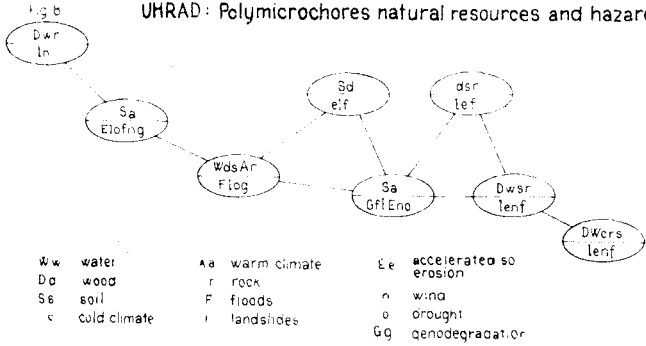


Fig. 7

Fig. 8

UHRAD: NW-SE cross section/land use, climate, vegetation, soils, geology/

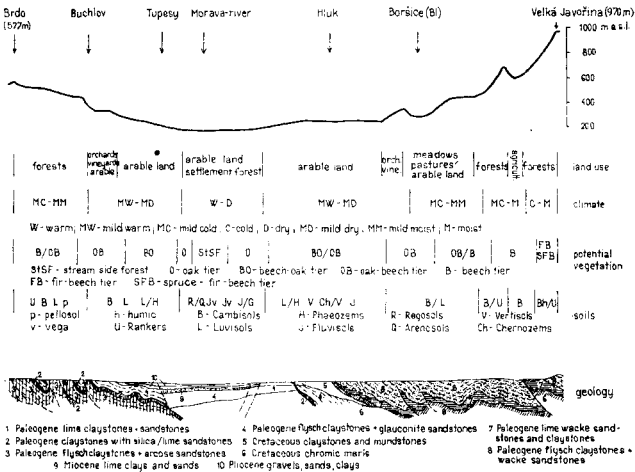


Fig. 9

Table 2

UHRAD: Physicogeographical regionalization — physgeons

polymicrochores	monomicrochores	
1 CHI Chříby	11 Brdská	Brdy
	12 Kozinecká	Kozinec
	13 Salašská	Salaš
	14 Stupavská	Stupava
	15 Buchlovská	Buchlov
	16 Žlebská	Žleby
	17 Stříbrnická	Stříbrnice
2 POD Poděhrbí	21 Vážanská	Vážany
	22 Buchlovická	Buchlovice
	23 Velehradská	Velehrad
3 HOS Hradištsko-ostrožská	31 northern floodplain	
	32 Babická	Babice
	33 Boršická	Boršice
	34 Polešovická	Polešovice
	35 southern floodplain	
4 BOL Březnicko-olšavská	36 Ostrožská	Ostroh
	41 Hlubočanská	Hluboček
	42 lower Olšava	
	43 Rovnická	Rovná
	44 Březnická	Březnice
	45 Zlámanecká	Zlámanec
	46 Pašovická	Pašovice
5 OKL Ovčírsko-kladenská	47 Újezdecká	Újezdec
	51 Ovčírská	Ovčírka
6 VIB the White Carpathians centre	52 Kladenská	Kladenka
	61 Ochozská	Ochoz
	62 Lokovská	Lokov
	63 Hrozenkovská	Hrozenkov
	64 Vyškovská	Vyškovec
	65 Lopenická	Lopeník
	66 Klanečnicko-hrubáarská	Klanečnice, Hrubár
	67 Studená	
	68 Lesná	
7 OBI the White Carpathians fringe	69 Javořinská	Velká Javořina
	71 Komňanská	Komňa
	72 Korytenská	Korytná
8 OLA Oklucko-olšavská	81 Bánovská	Bánov
	82 central Olšava	
	83 Nivničská	Nivnička
	84 Vlčnovská	Vlčnov
	85 Hlucká	Hluk
	86 Jasenovská	Jasenov

Table 2. UHRAD NW-SE cross section, Fig. 9, offers geology, landforms, soils, potential vegetation, climate and land use for 8 polymicrochores. More details are in the form of frame/slot representation in Tables 3 + 4. The full circle means dominant attribute, asterisk — moderate one, dagger is for rare occurrence and minus sign for relevant short supply. UHRAD lithology with respect to rocks quality and their spatial distribution in polymicrochores is in Tables 5 + 6.

Table 4

UHRAD : Geomorphological spatial structures

1	Chřiby		*				+			+				*	+			-		
		+					•						•		*			+	+	•
2	Podchřibí		*			*	•	•		•				*					•	
		+					*		+					•	•			•		
3	Hradišsko-Ostrožská					*	*	•		+	*	+		*			*	•	•	+
					+	•	*	+		+				•				+	+	
4	Březnicko-Olšavská		+	*	*			*		+	*			*	•				•	
								+					•		*	*		•		
5	Ovčírsko-Kladenská			*			*			•				*	•				*	
			+					+		•				*				•		
6	Vnitřní Bílé Karpaty			*			•							*	•				*	
				*				+		*	*			*	*			*	•	
7	Okrajové Bílé Karpaty			*	•		•			•				*	+				*	
				•			•				*			*				*	•	
8	Oklucko-Olšavská		+	*	*		*	*		+				*	•				*	
			•							*	•			*	*			•		

Passive morphostructure

	cretaceous	flysch Rača unit	flysch Bílé Karpaty unit	flysch Bystřice unit
1	block structure	fold structurally-controlled relief	fold structurally-controlled inversion relief	fault-slopes

Morphosculpture

3	asymmetric valleys	dellens	oxbow lakes	"lumps"
	dry valleys	pediments	mesas	slope periglacial processes

Recent geomorphic processes

5	floods	accelerated erosion	agricultural stress	open cast mining
	mass-wasting	mechanical weathering	man-made forms	wind erosion

Active morphostructure

	sands and gravels (piocene)	neovolcanic rocks	loess covers	air-borne sands
2	terrace accumulations	neotectonic downcasting and shifting	neotectonic uplifting	piedmont fans

Orographic characteristics

4	accumulative landforms	erosion-denudational landforms	structural depressions graben	graben benchland
	benchlands hills	hills	highlands	mountains

Figures 10, 11 and 12 portray hydrocycle of UHRAD: stream orders, water discharge in drainage basins, and spatial organization of water management. The lack of water is a very serious limit to socioeconomic development of UHRAD, and in the case of the Morava-river is the problem of water quality, too, being polluted.

More detail landscape ecological survey was done in the Chřiby-Highlands (Fig. 13). It is getting over UHRAD borders into neighbour districts because the

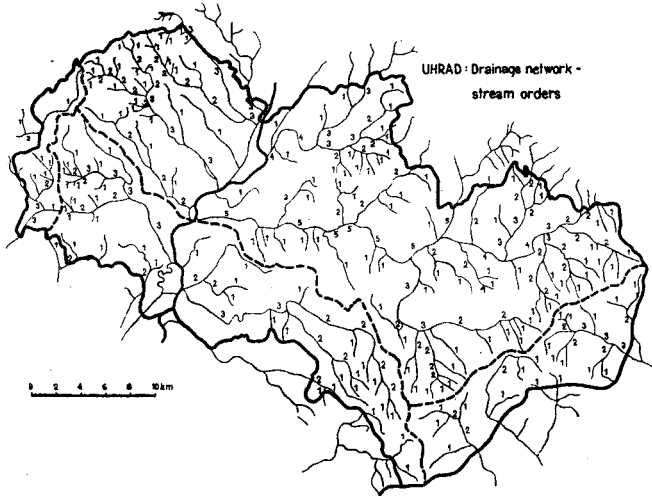


Fig. 10

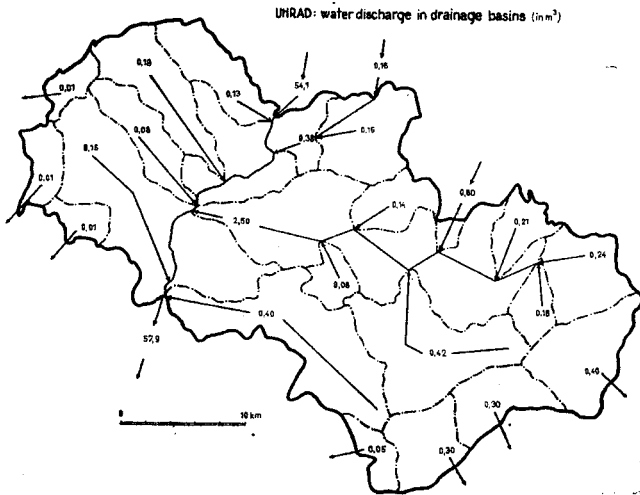


Fig. 11

landscape ecological problems ought to be solved in interdistrict cooperation. GEWOBRUN knowledge base includes a special project for the Chřiby, not published here, only mentioned in Table 7. A comprehensive survey on cultural landscape

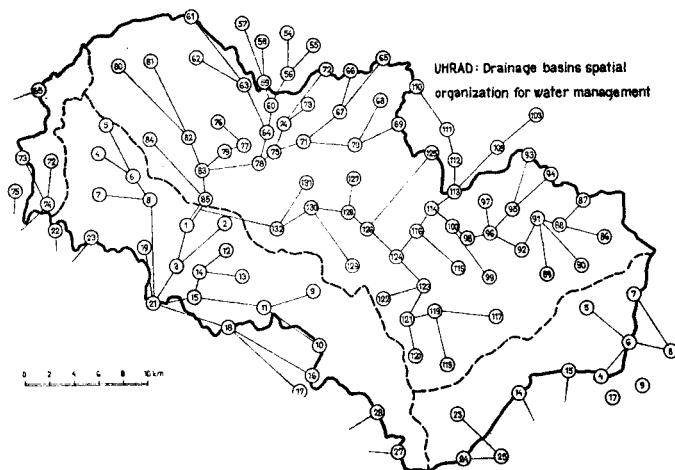


Fig. 12

Table 5

UHRAD: Lithology

Magura flysch

Rača unit

MRZ ... Eocene Zlín layers: flysch claystones (partly limed), glauconite sandstones

MRB ... Paleocene/Eocene below layers: claystones (partly chromic), interlayered silica/lime sandstones

MRS ... Paleocene/Eocene solán layers: claystones with interlayered sandstones, conglomerates/sandstones

MRC ... Cretaceous lime claystones and marls with lime/silica sandstones

Bystrica unit

MBZ ... Eocene Zlín layers (as MRZ)

MBB ... Eocene below layers (as MRB)

Bílé Karpaty unit

MK F ... Eocene flysch claystones partly limed and wacke sandstones

MKS ... Paleocene/Eocene lime wacke sandstones, claystones partly chromic

MKM ... Cretaceous chromic marls

MKC ... Cretaceous dark claystones and mudstones

MAB ... Miocene andsites, partly basalts

NGS ... Pliocene gravels and sands

NCC ... Neogene/Pliocene chromic clays, partly with gravels and sands

NCS ... Pliocene lime clays and clays, sands, rare gravels

PPG ... Pleistocene proluvial loamy gravels and sands

PFG ... Pleistocene fluvial gravels and sands

PES ... Pleistocene eolian sands

PLP ... Pleistocene loess, loams, paleosols

SPD ... slope polygenetic deposits

HFL ... Holocene fluvial loams with sands, clays, partly gravels

Table 6

Lithological spatial distribution

CHI	MRZ	MRB	MRS	SPD	PLP	HFL				
POD	NCC	PLP	SPD	NCS	NGS	MRS	MRS	MRB	PGF	HFL
BOL	MRZ	MRB	NCC	PLP	SPD	HFL				
OKL	MRZ	MTB	MBB	MBZ	MRC	MRC	SPD	PLP	HFL	
OLA	MKF	MKS	MRZ	MRB	MKM	MKC	MAB	PLP	SPD	HFL
HOS	HFL	PGF	PPG	PES	PLP	SPD	MRZ	MKF	MKM	MKC
OBI	MKF	MBZ	MBB	MAB	SPD	HFL	PLP			
VIB	MKF	MKS	MAB	HFL	SPD					

Landscape Ecological Spatial Situations of the Chřibý Highlands

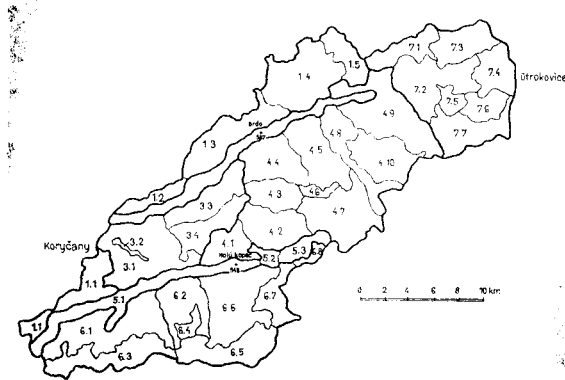


Fig. 13

GEWOBRUN (1988): The Uherské Hradiště - District - Spatial Structures and Situations

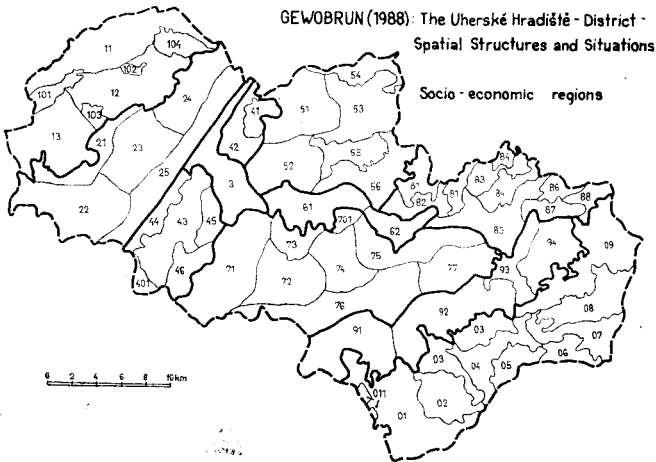


Fig. 14

is represented by not usual procedure in Table 8 in the form of standard square grid, but in non-absolute space, each small letter is a segment of cultural landscape with size of 1 km sq. It is intended for computerization and this GEWOBRUN standard square grid is also suitable for intellectual communication.

Two most important maps are in Fig. 14 + 15: socioeconomic regions (segeons) and georegions (geons), they are explained in Tables 9 + 10. Segeons and geons were identified in team work rounds and are defined as complex structures/processes wholes with spatial attribute. Alternative georegions (Fig. 16 and Table 11),

Table 7

Landscape Ecological Spatial Situations of the Chřiby-Highlands

1. Severní okraj	Northern fringe
1.1 Chlumeck	
1.2 Hrad	
1.3 Koutky	
1.4 Kamencec	
1.5 Chřibsko	
2. Hřeben Brda	Brdo range
3. Stupavská část	Stupava
3.1 Skelná huť	
3.2 Stupava	
3.3 Mořdířka	
3.4 Staré Hutě	
4. Kudlovičká část	Kudlovice
4.1 Spálený dub	
4.2 Kočí hora	
4.3 Buchlovský kámen	
4.4 Lipová	
4.5 Vápenky	
4.6 Salaš	
4.7 Salaška	
4.8 Zelená hlávka	
4.9 Jeřabčina	
4.10 Košíky	
5. Hřeben Holého kopce	Holý range
5.1 Ocásek	
5.2 Buchlov	
5.3 Komínek	
6. Jižní okraj	Southern fringe
6.1 Kameňák	
6.2 Čertova stěna	
6.3 Vřešovice	
6.4 Vranovy žleby	
6.5 Stříbrnické paseky	
6.6 Karlova skála	
6.7 Trnávky	
6.8 Chabaně	
7. Východní okraj	Eastern fringe
7.1 Pece	
7.2 Vrbka	
7.3 Bělov	
7.4 Žlutava	
7.5 Kržle	
7.6 Halenkovičké pole	
7.7 Pláňavy	

UHRAD: cultural landscape segments

1	1234567890123456789012345678901234567890123456789012	Explanations:
2	z	
3	snnii	a A1 centre
4	oirsrliii	b A2 centre
5	rrrirszjvoi	c other centres
6	rirririszveot	d central villages
7	irriirorisstjttj	e other,villages, hamlets
8	sizwiizeziqndvj	f surface water
9	ixszriirirwqvvdvew jvvvwwvw	g floodplain forests
0	kwsirrioiwptevvvgjjduddwve	h woods
1	wrnslroewqgvjvjdgjggjtjjjwev	i other forests
2	irriisojejwvttvjgjevdtvttvw	j agriculture
3	iririxtdvptjttttjjjvtvwwqwww	k pasture, meadows
4	iririroqdtvjjaajjtteqevwhhhhev	l castle
5	iooiroojtutdtvtaaaaavjjvjhhwheew	m recreation / gardening
6	rxooxvtddjjtsgaaapjwwjhjjwewwh	n protected areas
7	jtdeqqepvqjttjgjaavjwvuvvjthhhwhhwhh tw	o recreation / forestry
8	tjvxxxvpejttvgjvateteqveetjjhwwhwhhwtwttter	p vineyards
9	tjejevdpdjjggjvateteqveevhhtvvvethjwuocctevwi	q orchards
0	jevjpdtjggjtvvjqqqthpbbetteettvttvkkvw	r forestry / water
1	ttjjjttjggfuttjjhhhjvpttvvtjjjjeevvwxvrrrr	s forestry / transport
2	tjgguijddjjthhhjddtjjjvuttjjjvvviuxkrrrii	t agriculture / transport
3	ggjuudvjjttjhjjvdjjjttuvvtjjtwwxvwrri	u agriculture / water
4	tuvctvjjjjdvjttjwjjtjvjvdttliivewwwewi	v villages / gardens / agriculture
5	uvccjttttvtdvjjjtdvjvjvwwwwwswiew	w agriculture / forestry
6	uu ttjjjvejjjjttvvtvdjjjvtvveyissiseew	x pasture / agriculture / forestry
7	jtjjjjjjjvvdvjtttteeftvtsrveeve	y agriculture / water / villages
8	jjjjjtttjjkkwiwwkkkewt	z forestry / villages
9	jjjjtetjhwwwwlieexlwrrii	
0	jvjvethvwwiieexwwerri	
1	tteelewtvwwrreexiikkeerr	
2	jjjuikkswriirvir	
3	wiwiistvwur	
4	wiwkwjkr	
5	wiriwvdw	
6	iirrii	
7	rrrii	
8	inn	

Tab. 8

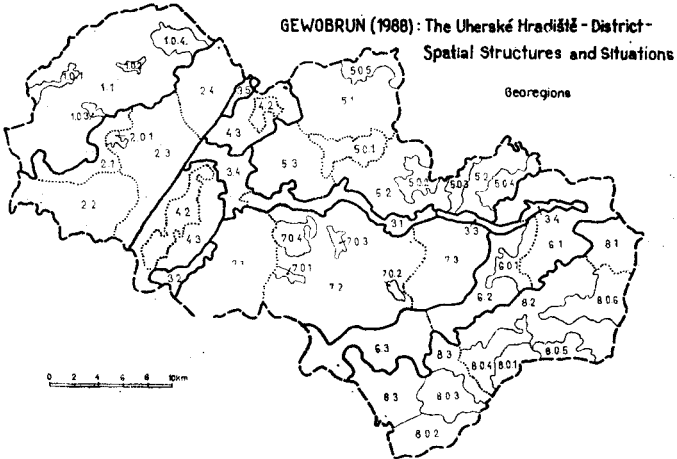


Fig. 15

administrative regions (Fig. 17) are for correlation. Maps and tables of settlement pattern, Fig. 18, municipalities distribution, Fig. 19, 20, nodal regions, Fig. 21, and following municipalities shorts, Fig. 22 and their standardization into GEWOBRUN UHRAD standard square grid code are needed for understanding next, tables and figures: settlement code, Table 12, inhabitants number and seats function for segeons, Table 13, population growth, Table 14, municipalities growth Table 15, economic activity growth, Table 16, population distribution, transport and settlement types, Fig. 23, municipalities population growth, Fig. 24, population distribution, Fig. 25, manpower Fig. 26.

A special attention is given to UHRAD agriculture: production is in Table 17, spatial organization of production is in Fig. 27, 28, 29.

A brief comprehensive geographical survey on geons — georegions:

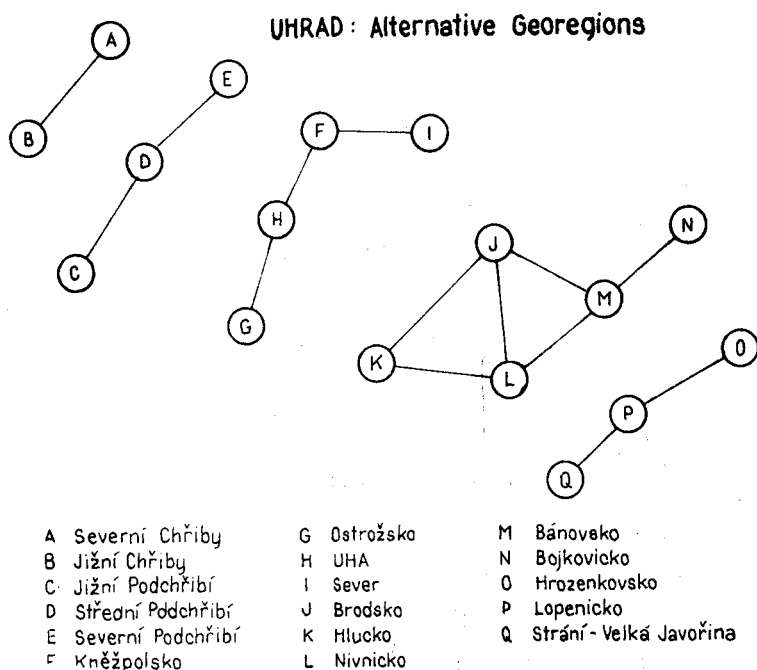


Fig. 16

1 CHI the Chřiby-Highlands

dominant productive forestry, sustained yield silvicultures, water resources, relevant recreation: forests, Buchlov-castle, hunting, camping, enclaves — hamlets, submountain settlement and agriculture, transit transport function via highland barrier, valuable forest cultural landscape with high natural diversity, not to be conserved, but culturally used

UHRAD : Administrative regions (1987)

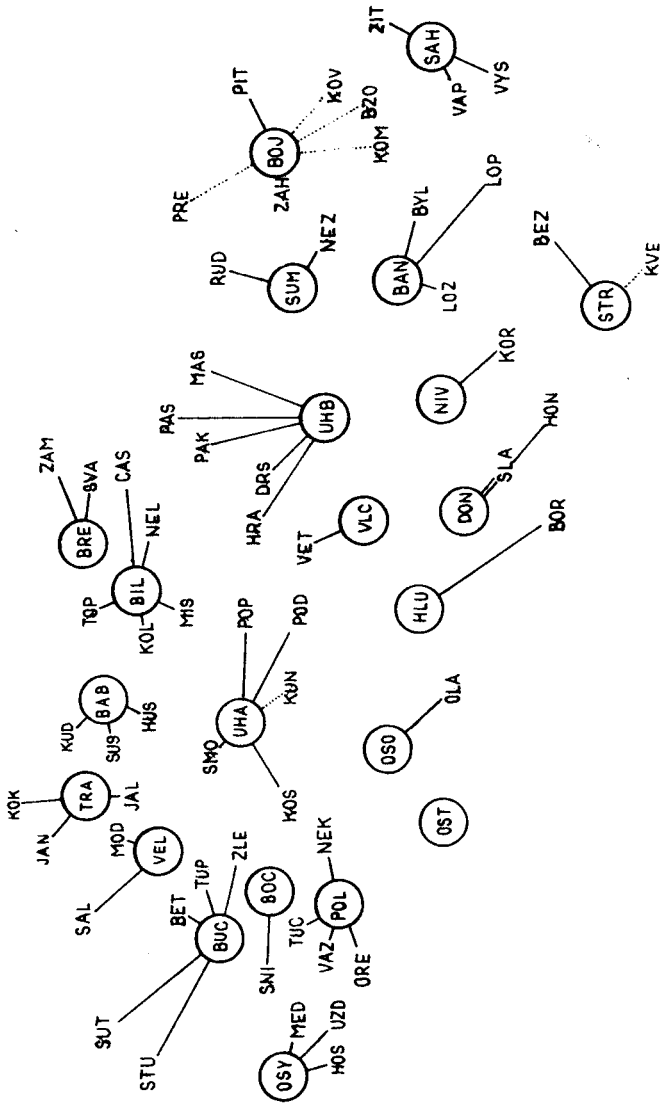


Fig. 17

GEWOBRUN (1988): The Uherské Hradiště-District
Spatial Structures and Situations

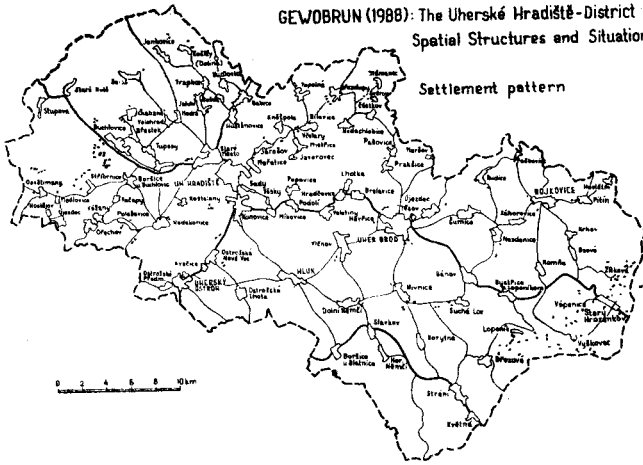


Fig. 18

UHRAD: Settlement spatial pattern
(Gewobrun grid square code, 1988)

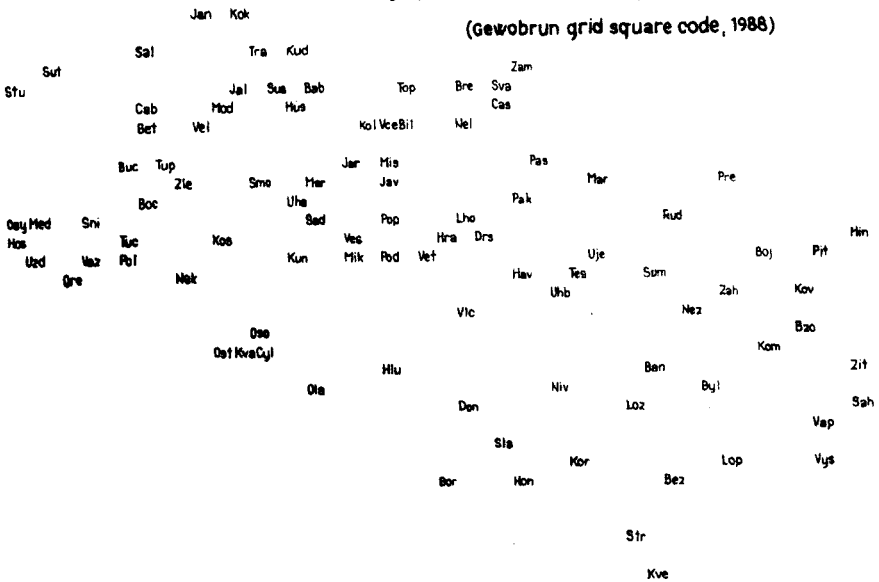


Fig. 19

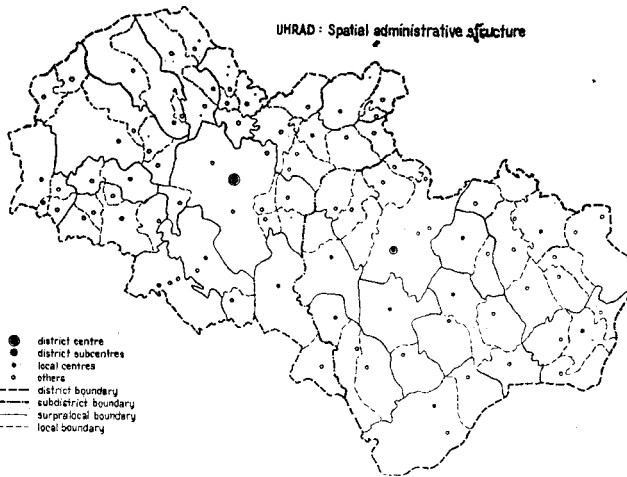


Fig. 20

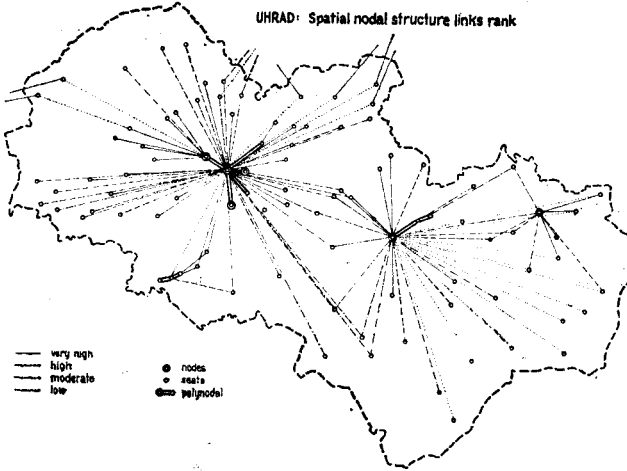


Fig. 21

UHRAD: Municipalities shorts (Mun)

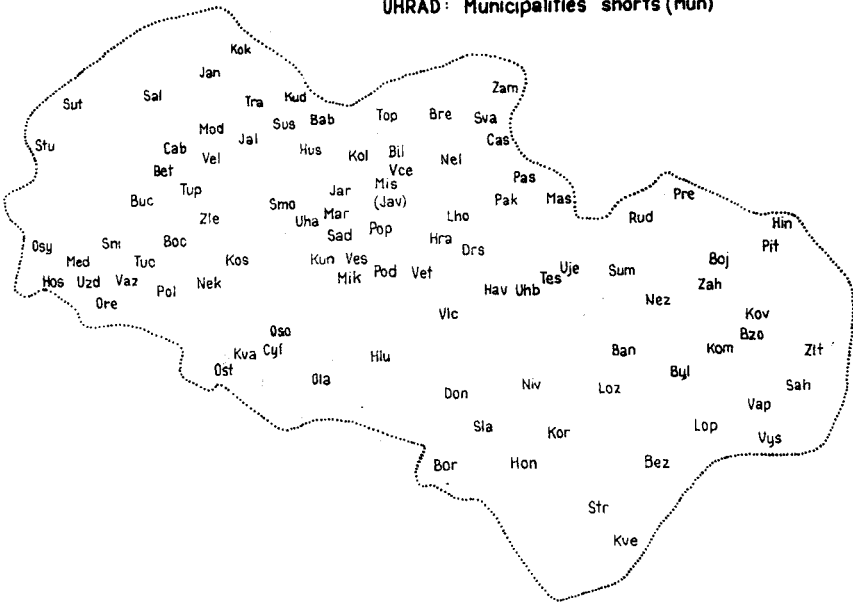


Fig. 22

**GEWOBRUN (1988): The Uherské Hradiště District
Spatial Structures and Situations
Population distribution,
transport, settlement types**

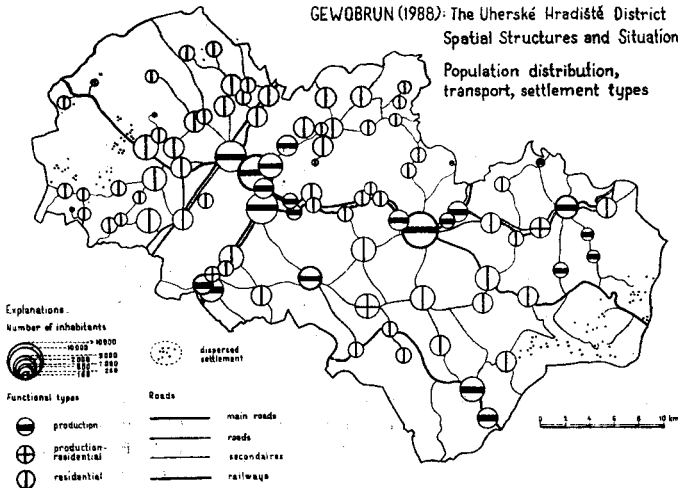


Fig. 23

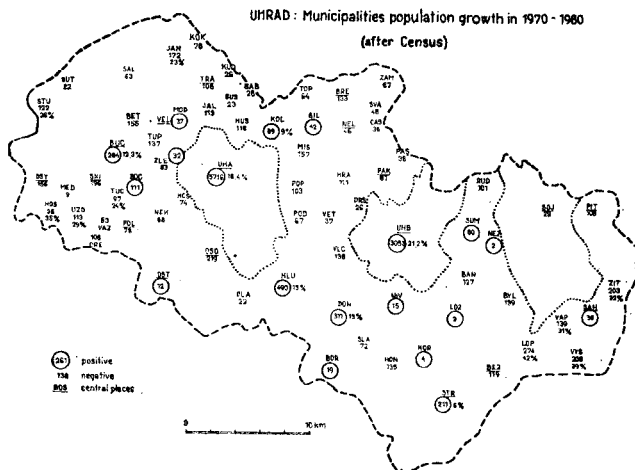


Fig. 24

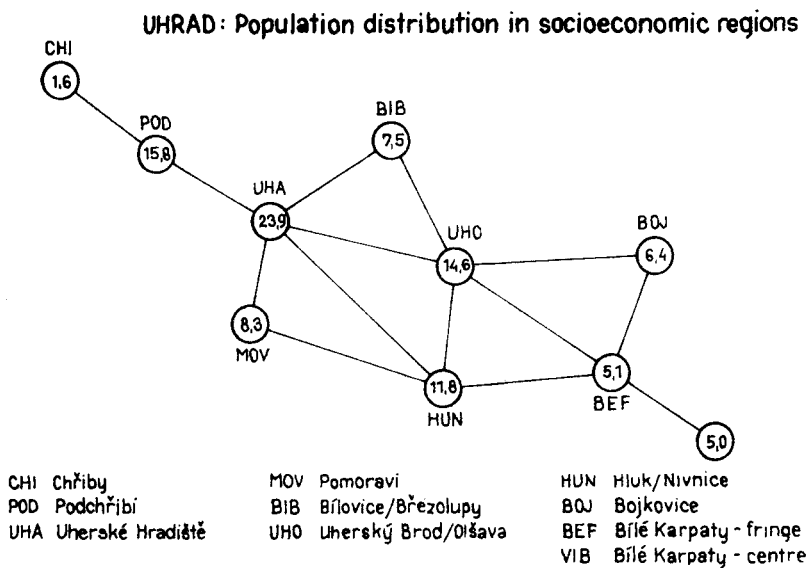


Fig. 25

UHRAD : Manpower, after Census, 1980, in percent

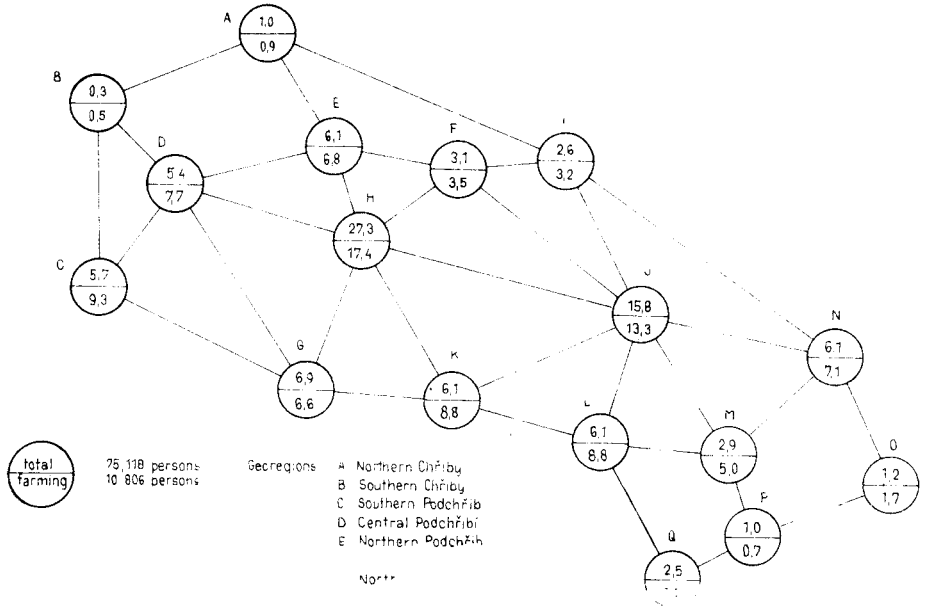


Fig. 26

UHRAD : Spatial organization of farms-agricultural production

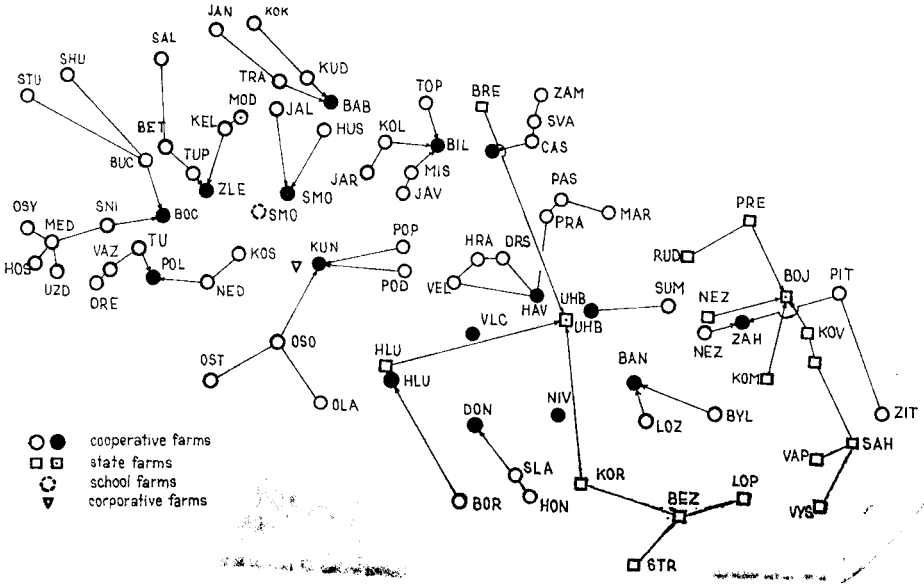


Fig. 27

Table 9

UHRAD: Socioeconomic Regionalization — segeons

polysegeons	monosegeons	enclaves
1 CHI Chřiby	11 Brdský 12 Komárnický 13 Čertovský	101 Stupavská 102 Salašská 103 Buchlovská 104 Košíkovská
2 POD Podehřibí	21 western fringe 22 Polešovický 23 Buchlovický 24 Kudlovický 25 eastern fringe	
3 UHA Great Uherské Hradiště		
4 Pomoraví	41 Kněžopole forest 42 northern floodplain 43 southern forest 44 Nedakonický 45 Podkunovický 46 Ostrožský	401 Nová Morava
5 Bílovicko-březolupský	51 Bílovický 52 Mistřícký 53 Březolupský 54 Březnice forest 55 Rovnohorský 56 Praktický	
6 Olšavsko-uherskobrodský	61 Olšavský 62 Great Uherský Brod	
7 Hlucko-nivnický	71 western 72 Hlucký 73 Hluboček 74 Vlčnovský 75 northern 76 Nivnický 77 eastern	701 Obora
8 Bojkovický	81 Újezdský forest 82 Újezdský 83 Rudický 84 Sečský 85 Šumický 86 Háj 87 Bojkovický 88 Hostěnický	
9 BEF the White Carpathians outer fringe	91 Slavskovsko-boršický 92 Bystřicko-sucholozský 93 Hráčovina 94 Bzovský	
0 VIB the inner Carpathians	01 Javořínský 02 Stránský 03 Doubravský 04 Březovský 05 Malolopenický 06 Vyškovecký 07 Velkolopenický 08 Starohrozenkovský 09 Hradisko	

Table 10

UHRAD: GEWOBRUN normative georegions

polygeoregions	monogeoregions	enclaves
1 CHI Chřibský	11 forest	101 STU 102 SAL 103 Buchlov castle 104 JAN 201 BUC
2 POD Podchříbí	21 SNI 22 VAZ 23 BUC (great) 24 KUD	
3 CEA Central axis	31 UHB 32 OST 33 Poolšaví 34 UHA (great) 35 HUS-BAB 36 BOJ (great)	
4 MOV Pomoraví	41 river 42 forest 43 agricultural	
5 NOF Northern fringe	51 BRE 52 PAK/RUD 53 MIS	501 rovnohorská 502 maršovská 503 štávnická 504 kladenská 505 zlámanská 601 nezdenická
6 BEF White Carpathians fringe	61 northern 62 central 63 southern	
7 SOF Southern fringe	71 western 72 central 73 eastern	701 HLU 702 NIV 703 VLC 704 VLC forest
8 VIB Central White Carpathians	81 northern 82 central 83 southern	801 Lopenfk 802 Velká Javořina 803 STR 804 BEZ 805 VYS 806 SAH

Table 11

UHRAD: Alternative Georegions

A	KOK	JAN	SAL									
B	STU	SUT										
C	OSY	MED	HOS	UZD	SNI	TUC	VAZ	ORE	POL	NEK	KOS	
D	BUC	BOC	ZLE	TUP	BRE	MOD	VEL					
E	TRA	KUD	BAB	JAL	SUS	HUS						
F	KOL	TOP	BIL	MIS								
G	OST	OSO	OLA									
H	UHA	SMO	JAR	MAR	POP	POD	MIK	KUN				
I	BRE	NEL	SVA	ZAM	CAS							
J	UHB	HAV	VET	HRA	DRS	PAK	PAS	TES	UJE	SUM		
K	HLU	VLC	BOR									
L	NIV	DON	HON	SLA	KOR							
M	BAN	LOZ	BYL									
N	BOJ	ZAH	NEZ	RUD	PRE	KOM	BZO	KOV	PIT			
O	SAH	ZIT	VAP	VYS								
P	STR	KVE										

Table 12

UHRAD: Settlement code (after GEWOBRUN)

BAB	Babice	NEŽ	Nezdenice
BAN	Bánov	NIV	Nivnice
BET	Břestek	OLA	Ostrožská Lhota
BEZ	Březová	OPE	Ostrožské Předměstí
BIL	Bilovice	ORE	Ořehov
BOC	Boršice u Buchlovic	OSO	Ostrožská Nová Ves
BOJ	Bojkovice	OST	Uherský Ostroh
BOR	Boršice u Blatnice	OSY	Osvětimany
BRE	Brezolupy	PAK	Prakšice
BUC	Buchlovice	PAS	Pašovice
BYL	Bystřice pod Lopeníkem	PIT	Pitín
BZO	Bzová	POD	Podolí
CAB	Chabaně	POL	Polešovice
CAS	Částkov	POP	Popovice
CYL	Chylice	PRE	Přeckovice
DON	Dolní Němčí	RUD	Rudice
DRS	Drslavice	SAD	Sady
HAV	Havříce	SAH	Starý Hrozenkov
HIN	Hostěnin	SAL	Salaš
HLU	Hluk	SLA	Slavkov
HON	Horní Němčí	SMO	Staré Město
HOS	Hostějov	SNI	Stříbrnice
HRA	Hradčovice	STR	Strání
HUS	Huštěnovice	STU	Stupava
JAL	Jalubí	SUM	Šumice
JAN	Jankovice	SUS	Sušice
JAR	Javorovec	SUT	Staré Hutě
JAV	Javorovec	SVA	Svárov
KOK	Košíky	TES	Těšov
KOL	Kněžopole	TOP	Topolná
KOM	Komňa	TRA	Traplice
KOR	Korytná	TUC	Tučapy
KOS	Kostelany	TUP	Tupesy
KOV	Krhov	UHA	Uherské Hradiště
KUD	Kudlovice	UHB	Uherský Brod
KUN	Kunovice	UJE	Újezdec (eastern)
KVA	Kvačice	UZD	Újezdec (western)
KVE	Květná	VAP	Vápenice
LHO	Lhotka	VAZ	Vážany
LOP	Lopeník	VCE	Včelary
LOZ	Suchá Loz	VEL	Velehrad
MAR	Mařatice	VES	Věsky
MAS	Maršov	VET	Veletiny
MED	Medlovice	VLC	Vlčnov
MIK	Mikovice	VYS	Vyškovec
MIS	Mistřice	ZAH	Záhorovice
MOD	Modrá	ZAM	Zlámanec
NEK	Nedakonice	ZIT	Žitková
NEL	Nedachlebice	ZLE	Zlechov

Table 13

number of inhabitants in socioeconomic regions

A ... productional
 B ... production/residential
 C ... residential

UHRAD total (1980) 143,731 inhabitants
 97 settlements
 73 municipalities

Table 14

UHRAD: Populational growth, 1970—1980 (after Census)

births	25,452	17.6 %
deaths	16,632	11.5 %
natural change	8,819	6.1 %
immigrants	12,207	8.4 %
emigrants	16,791	11.4 %
migration balance	-4,584	-3.2 %
total growth	4,236	2.9 %

5 urban areas with 47,4 inhabitants (UHA, UHB, BOJ, HLU, OST)

central places

A1	UHA	35,275	inhabitants, i.e.	23.9 %
A2	UHB	17,420		11.8 %
A3	OST	8,274		5.6 %
A4	BOJ	4,688		3.2 %
A5	BUC	7,857		5.3 %
A6	NIV	5,909		4.0 %
A7	HLU	4,293		2.9 %
A8	POL	5,472		3.7 %
A9	KUD	5,245		3.6 %
A10	BIL	4,351		3.0 %
A11	DON	4,139		2.8 %

UHRAD: Number of inhabitants and settlement socioeconomic functional type in socioeconomic regions

		101:	521 C	
		102:	365 C	
		103:	310 C	
		104:	1,081 C	
1. CHI	2,279	1,55 %		C
	21:	515		
	22:	5,472		C
	23:	7,857		C
	24:	5,245		C
	25:	4,123		C
2. POD	23,212	15,75 %		C
3. UHA	35,275	23,94 %		A
	41:		0	
	42:	1,481		A
	43:		0	
	44:	2,419		C
	45:		0	
	46:	8,274		B

4. MOV	12,174	8,26 %		B
	51:	4,351		C
	52:	1,329		C
	53:	3,704		C
	54:		0	
	55:		0	
	56:	1,688		C
5. BIB	11,072	7,51 %		C
	61:	4,139		C
	62:	17,420		A
6. UHO	21,559	14,63 %		A
	71:	1,741		C
	72:	4,293		A
	73:		0	
	74:	3,276		C
	75:		0	
	76:	5,909		C
	77:	2,159		C
7. HUN	17,378	11,79 %		C
	81:	39		A
	82:		0	
	83:	823		C
	84:		0	
	85:	3,631		C
	86:		0	
	87:	4,688		A
	88:	304		C
8. BOJ	9,485	6,44 %		C
	91:	2,657		C
	92:	3,449		C
	93:		0	
	94:	1,429		A
9. BEF	7,535	5,11 %		C
	01:		0	
	02:	3,736		A
	03:		0	
	04:	1,619		C
	05:		0	
	06:	324		C
	07:		0	
	08:	1,723		C
	09:		0	
10. VIB	7,402	5,02 %		C

Table 15

UHRAD: Municipalities growth, 1970—1980 (after Census)

UHA	5,716	18,4 % (natural: 57 %)
UHB	3,053	21,2 % (natural: 45 %)
positive growth	17 municipalities	
negative growth	54 municipalities	

UHRAD: Economic activity, 1980 (after Census)

agriculture, forestry	14.9 %
industries	47.4 %
engineering	10.1 %
transport, communications	4.4 %
trade	7.6 %
social activities	11.1 %
others	4.5 %

Table 16

UHRAD: Economic activity growth, 1970-1980 (after Census)

	persons
total growth	6,000
industries	2,924
social activities	2,837
trade	638
others	449
transport, communications	-22
agriculture, forestry	-332
engineering	-410

Table 17

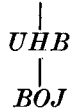
UHRAD: agriculture/farming production (1987) in percent

	maize silage	fodder	vegetables	corn	sugar-beet	cattle	pigs	poultry	sheep
cooperative farms									
POL	4.4	4.3	0	5.9	8.1	6.8	4.6	0	0
BOC	3.9	4.1	0	3.9	4.8	4.9	0.7	4.3	39.2
ZLE	2.3	3.0	0	3.0	5.1	3.7	7.6	6.2	0
BAB	3.4	3.3	1.8	2.1	3.1	4.8	0	4.9	11.7
SMO	4.2	4.1	1.3	4.4	6.9	3.9	1.3	2.3	0
KUN	13.9	12.5	49.8	13.4	43.7	13.4	8.3	1.7	5.4
BIL	5.8	5.3	9.9	6.1	7.4	4.9	7.9	7.6	0
NED	2.3	2.4	0	2.6	0	2.5	1.9	0	6.2
UHB	5.6	5.9	0.6	6.0	5.1	4.9	2.0	5.7	0
HAV	8.0	7.3	0.2	5.7	4.6	5.3	4.5	5.8	0
VLC	3.3	3.4	0.3	4.9	8.1	3.8	5.0	0	0
HLU	2.9	3.0	5.7	4.4	4.2	2.9	7.2	0	6.2
DON	3.7	4.1	4.2	5.1	2.8	7.7	0.1	0	11.0
NIV	3.0	3.0	0.1	4.3	6.3	3.9	6.1	0	0
BAN	3.5	4.0	3.6	4.5	0	7.7	0.1	9.7	0
SAH	4.9	4.8	0	2.4	0	4.8	1.3	2.8	9.6
state farms									
UHB	23.8	24.2	7.0	20.0	10.9	12.6	5.0	3.7	10.9
school farms									
UHA	0.7	0.7	0	1.0	1.5	0.8	0.4	0	0
corporate farms							36.0	45.2	

2 *POD Podchřibí — the Chřiby-piedmont*

valuable settlement/agricultural rural landscape, recreational fringes along the forests and villages borders, productive agriculture: corn-growing, stock farming, technical crops, orchards, journey to work — UHA, accelerated anthropic soil erosion, landslides, low natural diversity, the lacking water, or polluted surface water by agrochemicals, not balanced agriculture and cultural landscape

3 *T-shaped corridors: OST—UHA—BAB*



transport axes — railways, roads, transit and chain function, dominant A1 centre — UHA, a node with the highest concentration of population, industries, retail, services, administrative bodies, effective suburban agriculture + gardening, developed recreation, nevertheless, lower urban environmental quality, the Olšava-river valley with A2 centre — UHB with distinct concentration of population, industries and services, vital district transport corridor W—E, productive agriculture, BOJ — a centre for UHRAD East, T-landscape is highly transformed natural landscape into urban/suburban one

4 *The Morava-river Vale*

reclaimed land from swampy flood plain, two tracks of floodplain forests, but with changed vegetation species, intensive agriculture — vegetables, corn, animal production, low water quality in the Morava — river, resources: gravels and underground water, fertile soils, low natural diversity, abused landscape

5 *The North*

rural landscape with villages, agriculture, patches of forests, woodlands, orchards, developed journey to work — UH, Gottwaldov district, subsidiary area — periphery, accelerated anthropic soil erosion and landslides, patches of abandoned valley slopes with former fields, gardens, orchards — seminatural succession, partly wildlife

6 *The Bílé Karpaty-fringe (The White Carpathians submountain fringe)*

rural landscape of arable land, pastures, meadows, forests, very diverse space with row villages, scarcely populated, mainly agricultural production, peripheral/subsidiary economy — stock farming, quarry, forestry, fodder production, gradually transformed into not balanced landscape without respect to submountain conditions

7 *The South*

rural agricultural abused landscape, very productive agriculture, larger villages, manpower resources, dominant crops/animals farming and processing, local industries, very low natural diversity — oversized blocks of fields, accelerated water and wind anthropic soil erosion, landslides, otherwise, fade landscape

8 *Bílé Karpaty — the White Carpathians-mountains*

mountain forest/agrarian landscape, high relief of elevations and depressions, barrier effect with transits, disperse settlement, former 'lazy beds, diggery land',

UHRAD : Agriculture spatial organization - growing crops /1987/

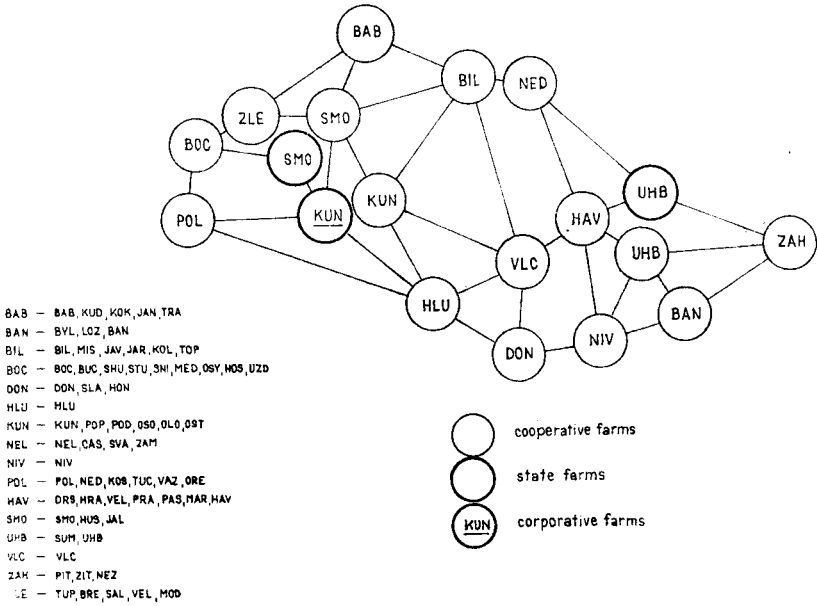


Fig. 28

UHRAD : Spatial organizations of farming production

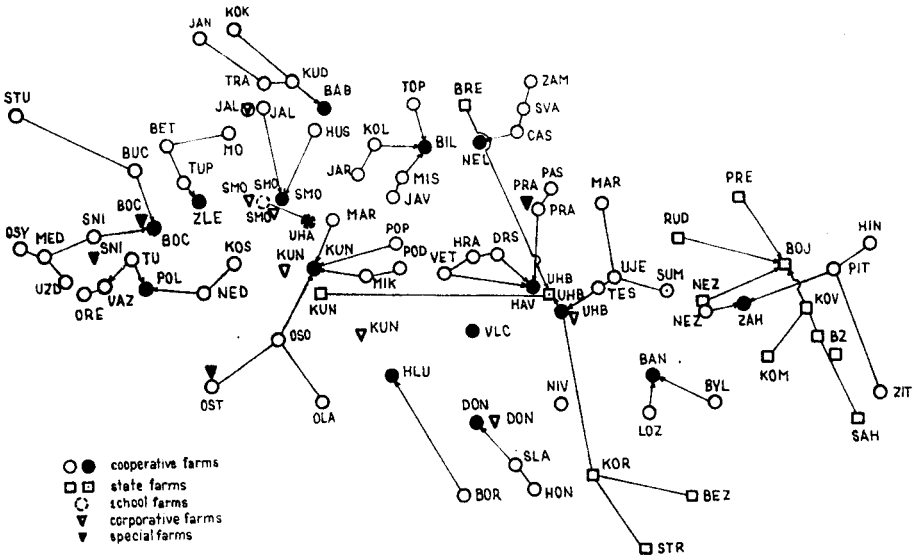


Fig. 29

sustained yield forestry, summer und winter recreation, water resources, controverse agriculture in depressions — not wise transformation of mountain economy, population removal — new trippers preferring recreation, landscape protected area, not only natural, but cultural one, e.g. cultural meadows, questions of integrative approach development, cultivation, conservation.

CONCLUSION

Proposed regional survey in the form of knowledge synthesis, knowledge representation is the first phase of GEWOBRUN UHRAD research. We have represented only a part of our results. They are intended for intellectual communication with users, decision-makers, experts. Therefore we prefer knowledge representation in topic maps, tables, metaphores, etc.

The next, and final phase of GEWOBRUN research will be oriented on spatial situations in geons: sustained yield forestry, recreational development and limits, water management, soil erosion + landslides, natural and cultural landscape conservatin/cultivation, nature saving technologies, rural/urban standard of living, environmental quality, controverse land use, transport networks — development and impacts, diffusion of innovations, location/allocation processes, settlement development, regional reproduction process, interregional context, core-periphery development, etc. Precise tasks will be more clear after contacting district authorities, common people, experts.

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