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PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF THE TATRAS

Introduction — Sustainable Development and its Regional Aspects

The notion of *sustainable development* in this study is understood (in consensus with the general Environmental Act in Slovakia — No. 17/1992) as a development, which allows only such kind of satisfaction of contemporary needs and demands, which do not compromise the satisfaction of basic needs of future generations, disturb life-supporting systems or reduce biodiversity. In other words, it means (Huba, 1996) a search for:

- Principle of self-regulating a self-supporting development;
- Efficiency principle;
- Adequate sufficiency principle;
- Principle of precaution/prevention;
- Principle of respecting needs, demands and rights of future generations;
- Principle of intra-generational, inter-generational and global equity;
- Principle of cultural and social integrity;
- Principle of non-violence;
- Emancipation and participation principle;
- Solidarity principle;
- Principle of acceptable mistakes;
- Optimisation principle;
- Principle of environmentally positive economic and decision-making behaviour.

Among the most frequently mentioned weaknesses of the sustainable development concept was its weak elaboration and applicability for concrete regional conditions. At the same time the system of (political, legislative, economic, etc.) tools able to secure practical implementation of this concept were not in place. Thanks to the UN Conference on Environment and Development in 1992 and the work that has resulted from it, there are now several strategic documents for the implementation of the sustainable development concept at a global level, but similar documents are lacking on the national, and especially regional and/or local levels.

The aim of this study is:

- To apply the concept of sustainability in geographical research at regional level (specifically the region of Tatras and Sub-Tatras territory in Slovakia);
- To analyse preconditions for sustainable development on the basis of its objective characteristics as well as subjective reflections by a sample of people inhabiting the region and local leaders, opinion making personalities, res.

Methods used and delimitation of region

Reflections about the sustainable development in a territory with important natural-landscape and cultural landscape values (National Park, Biosphere Reserve) led us to analyse the sustainable development potential on the basis of subjective estimates by its population. We chose the method of questionnaire as it reliably supplies information for desegregated analysis. Data collection was done in the year 1996–1997. The basic set consisted of 364 inhabitants of the Tatras region. The respondents were people older than 15. The selected set was gathered by a quota selection with randomisation at the final step. Aside from the basic structural characteristics (sex, age), territorial proportionality (rate of population in a single community) was included into the control variables. The questions were focused on perception of environmental problems of the particular community, evaluation of the perceptions evoked by the community's environment, estimation of the social infrastructure, accessibility and quality, and relations among the community's inhabitants. A portion of the questions were oriented to evaluating the willingness of inhabitants to contribute to the sustainable development of their community. The concluding part of the questionnaire concentrated on the evaluation of the opinion on the programme of economically, socially and environmentally balanced (i.e. sustainable) development of the community.

As second method applied was structuralised interviews consisting of 100 questions. They were completed in 1996 and 1997 with representatives of the region, mostly with local mayors, local/regional state administrative representatives and local/regional personalities with a good overview on local/regional issues.

The aim was to receive information on the contemporary state and perspective of development in individual communities, as well as on the region as whole, in relationship to the potential implementation of the sustainable development concept.

The important objective in this part of the research was the gathering of reflections of reality from the side of the respondents, their attitudes, comments, proposals, etc. The main motive was to find out the advantages, priorities and challenges, as well as the main barriers influencing the implementation of the sustainable development concept, and also the potential level of its acceptance within communities.

For the purpose of this study the region studied was divided into three subregions with discernible regional-geographical differences:

- Sub-Tatras — west: Bobrovček, Bobrovec, Huty, Hybe, Jakubovany, Jalovec, Jamník, Kanská, Kvačany, Liptovská Kokava, Liptovská Sielnica, Liptovské Behárovice, Liptovské Matiašovce, Liptovský Ondrej, Liptovský Peter, Liptovský Trnovec, Malé Borové, Pavlova Ves, Pribylina, Smrečany, Trstené, Veľké Borové, Vavrišovo, Važec, Veterná Poruba, Východná, Zuberec, Žiar;
- Sub-Tatras — east: Batizovce, Gerlachov, Huncovce, Lučivná, Malý Slavkov, Mengusovce, Mlynčeky, Mlynica, Nová Lesná, Rakúsy, Stará Lesná, Stráne pod Tatrami, Štola, Štrba, Tatranská Javorina, Veľká Lomnica, Veľký Slavkov, Ždiar;
- Tatras (settlements within administrative unit of Starý Smokovec).

Development of region and contemporary social and demographic situation

Despite the hard terrain conditions, the Sub-Tatras region was continually settled in the primeval period. In the course of the 12th century, this territory gradually became a part of the Hungarian Kingdom. From that time, the German newcomers prevailing from Saxonia, who contributed to the development of cities, trade and the mining industry, started being invited. In the 15th century, trading centres grew up along the significant thoroughfare. At the same time, Wallachian colonisation of shepherd's folk strengthened already existing settlement especially in the peripheral areas.

In the 18th century, the first manufactures began supplying small crafts.

A new era in the history of the Sub-Tatras region was closely connected with the building up of the Košice–Bohumín railway that crossed the foothills of the Tatras Mts. (1871). This was important for the development of industry and the economy, and also for the development of travel and tourism. The majority of the other Tatras centres were built for travel the latter part of the 19th century. In the 1930's the Tatras main road gradually grew. In 1948, in the territory of Tatras (Vysoké and Belianská Tatra), the Tatras National Park was established (an area more than 50,000 hectares) (Vološčuk, 1994).

After the Second World War plenty of new inns and sanatoriums were built. Hotel capacities increased before The World Championship in Nordic skiing was held in 1970. Not far from city of Poprad, the Tatra airport was built. Strong industrialisation of Sub-Tatras centres was characteristic for the post-war period. Emigration of Carpathian Germans after the Second World War from the eastern part of region studied as well as collectivisation of agriculture significantly influenced physiognomy and management of landscape.

Analysis of the development of population in the second half of the 20th century shows significant differentiation among successive settlements. The most significant growth was noted in the demographically young communities in the eastern sub-

region (growth index 1.3–2.9). The population in the first half of the nineties shows that this number on average per year in communities in the western part of the region dropped, but many Sub-Tatras communities in the east noted an average yearly growth.

The age structure of the population of the Tatras region is significantly differentiated. A large portion of the population in post-productive age live in the western part of the region. The lower average age-group lives in many communities in eastern part of region.

As for ethnicity and religion, the Tatras region is a differentiated area. (Podolák, 1997). A significant majority of the population is of Slovak nationality. A higher percentage of the Romy ethnic group is found in a few communities (in 7 communities the share of Romanies is more than one tenth of the population). From the religious standpoint, in the western part of the region Evangelicals prevail and in the eastern part, the Roman-Catholic faith prevails.

The economically active population in most of the communities does not find a sufficient amount of jobs, and more than 50 % migrate pursuing work. The highest share of the economically active population is found in the communities surrounding industrial centres.

In the district of Liptovský Mikuláš on the 31st of March 1997, the rate of unemployment reached 9.1 % which was below the national average unemployment rate of 13.4 %. The situation in the district of Poprad was unfavourable (15.5 %), and in the district of Kežmarok the rate reached 25.5 %.

The average month's wage in the first three months of 1997 in the district of Liptovský Mikuláš reached 7947 SKK, which represents 90.4 % of Slovak average. The average month's wage in the district of Poprad was slightly higher at 7868.00 SKK (5.2 % below national average). The lowest average month's wage was in the district of Kežmarok at 6746.00 SKK (81.3 % of national average).

Perception of environmental problems and subjective estimates of the potential for sustainable development (Questionnaires and results of their analysis)

Almost half of inhabitants (47.0 %) considered the quality of environment in their community to be good or very good. Only 10.7 % of the respondents estimated it bad or very bad.

Out of the 12 chosen problems, the respondents of the Tatras region estimated damage of the forest growth (50.3 %) to be most serious (in the Tatras settlements even 75.2 %). According to the respondents, the impaired or neglected housing (35.2 %), inadequate storage of waste (43.1 %), endangerment of wildlife (33.2 %, in the Tatras settlements even 60.6 %), air pollution (30.2 %) and unpleasant image of settlements (30.0 %) were included among other serious environmental problems. Respondents

from the Tatras region think that surface water pollution, inadequate storage of waste, and damage of the forest growth need to be addressed as high priority issues.

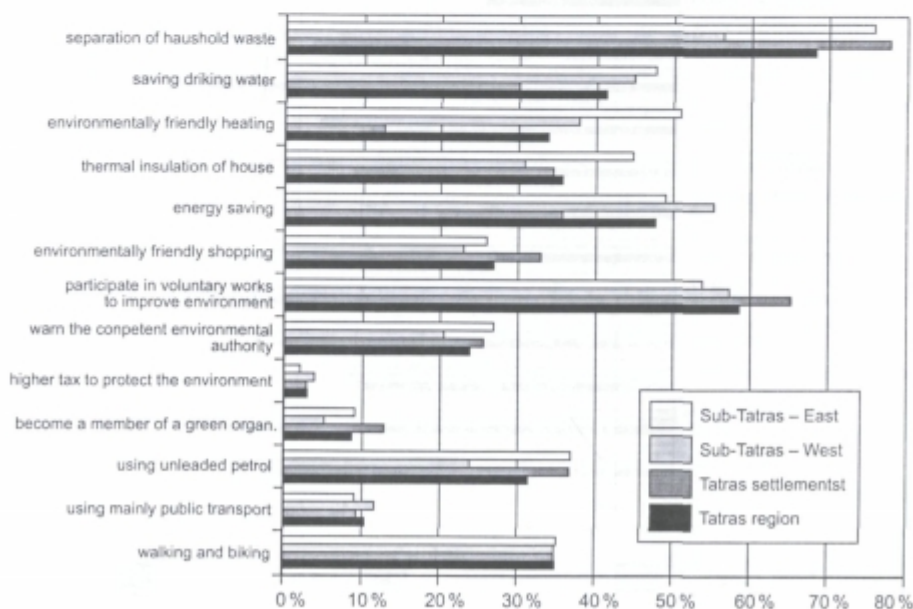
According to respondents, the inhabitants themselves (69.8 %) and motor transport, (41.2 %, in the Tatras settlements even 61.5 %), were tagged as the most important agents of environmental deterioration.

In the opinion of the respondents from the whole region studied the development in environmental protection is improving (35.7 %) rather than deteriorating (23.1 %). In the settlements of western sub-region the rate is 45.2 %: 12.3 %.

Analysis of the means of transportation to work or school shows relatively favourable structure from the point of view of sustainable development (35.5 % on foot and 29.1 % by public transport).

Analysis of the satisfaction with life conditions in the community shows that less than three fifths (59.3 %) of the respondents were satisfied or very satisfied with the availability of food shopping, and 46.7 % of the respondents were satisfied with the availability of shopping in drug stores. Possibilities of trade/industrial item shopping were not as favourable. More than half of the respondents expressed satisfaction with the quality of medical care (51.9 %), recreation possibilities (53.9 %), availability of transport to centre of state administration (54.7 %) and with transport availability to the nearest city (54.1 %).

Fig. 1: What are you willing to do for sustainable development in your community?

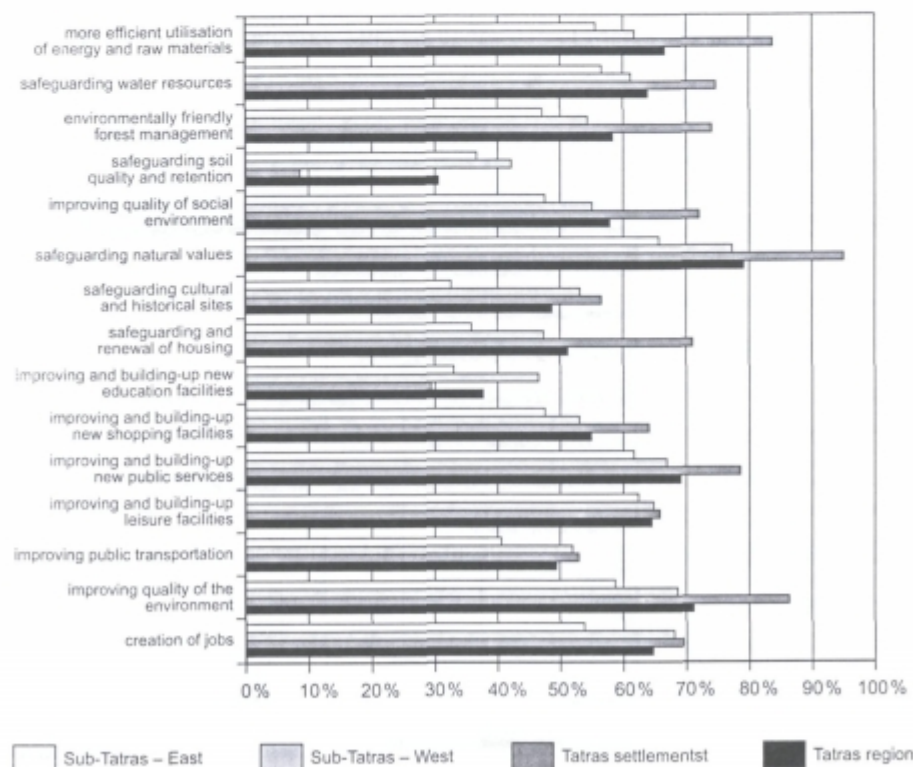


The preconditions for a positive course of development in the community are made up by self-government. According to 9.9 % of the respondents the self-governments in communities are very active. Almost 47 % of those questioned evaluate self-governments as not active enough or even passive (in Sub-Tatras west only 38.1 %).

None of the communities (church communities — 19.2 %, environmental NGOs — 20.1 %, political parties and movements — 3.6 %) participates in improving quality of life in the community in any significant manner.

The analysis of answers to the question “What would you be willing to do in/for improving of the environment and sustainable development of your community?” (Fig. 1) shows that more than two thirds of those questioned (68.4 %, in the Tatras settlements even 78.0 %) would separate the house waste and 58.8 % would readily participate in events that help to improve the state of the environment. More than one third of the respondents were willing to walk or ride bikes, save electric energy, insu-

Fig. 2: What should the programme of sustainable development of your community include?



late their houses or flats, change heating system to more environment friendly system and save drinking water.

For the purpose of analysing the potential possibilities for sustainable development, the final part of the questionnaire requested opinion concerning the possible contents of an economically, socially and environmentally balanced programme for the community and entire region (Fig. 2). According to nearly four fifths of the respondents (in the Tatras settlements even 95.4 %), the programme should contain activities aimed at preservation of natural values. More than two thirds of the respondents consider the improvement of general environmental quality, improvement and building up of the service trades industries, and more efficient utilisation of energy and raw materials to be an important part of a development programme. More than one half would support projects aimed at creation of new jobs, improvement and building up new shopping facilities, improvement and building up the facilities for leisure and recreation, safeguarding and renewal housing, improving the quality of the social environment, and projects concentrated on environmentally friendly forest management and economical water source utilisation.

Interviews with local/regional representatives (Comments to results of structuralised interviews)

One set of 38 questions was devoted to the selected problems which limit the implementation of sustainable development strategies. In the Tatras region, problems of an economic character (lack of subsidies, inadequate sharing fees) were ranked as most important. These economic problems have the highest average coefficient among all categories of problems.

The second most important category of problems are of an environmental character, and the top positions among them are public drainage, sewage purification and waste management.

Social issues are perceived by interviewed respondents as less important. The most important among the social problems are lack of jobs and the disturbed social behaviour of the population.

The activities compatible with the sustainable development concept that are being realised most commonly and to the largest extent are as follows: substitution of solid fuels by more environmentally friendly ones, assistance to handicapped people, greening of public areas, waste separation and recycling.

The activities with the smallest extent and intensity of realisation among those selected are: utilisation of traditional knowledge and skills of local people, restoration of traditional activities, preference of public transportation to individual, and restoration of association activities and folklore (table 1).

Activities:

1 — separation and recycling of waste, 2 — waste disposal reclamation, 3 — energy saving measures, 4 — water husbandry, 5 — utilisation of renewable sources, 6 — water waste treatment, 7 — fossil fuel substitution, 8 — transit transport exclusion, 9 — increasing public transport share against individual, 10 — greening the public open space, 11 — renovation and renewal of historical houses, 12 — biodiversity increase in the rural (esp. agricultural) landscape, 13 — improved care after the nature values, 14 — utilisation of traditional knowledge and skills of inhabitants, 15 — renewal of folk customs, 16 — reopening of traditional activities, like traditional services, local markets, seasonal activities, 17 — support of development of socially and environmentally oriented job possibilities, 18 — renewal of club and community, NGO and/or non-profit activities, 19 — renewal of self-help and self supply, 20 — guidance to the social and health aid ned inhabitants, 21 — reinforcement of social control.

We can make following general conclusions:

1. According to interviews, it is evident (with some exceptions), that most rural communities are characteristically close and conservative. Due to this fact, it is useful to dedicate more interest to the mentioned exceptions.
2. Local mayors, as well as local governments, are under the pressure from both everyday and acute problems which more or less automatically limits their conceptual and long-term oriented considerations.
3. The majority of local mayors are not able, or do not have opportunity to think multialternatively. Another problem is that not all representatives of local government anticipate which alternatives exist, their feasibility, their financial return, etc.
4. Several communities are really poor, which often leads to a passive reaction (e.g. the sale of community property) instead of searching for domestic resources and/or reserves in the area of savings, efficiency improvement, human development mobilisation, etc.
5. The demand for system changes concerning the increase of the share of local communities in taxes and fees is perceived almost universally.
6. The lack of both intra- and inter-regional (both domestic and international) co-operation is evident. The existing isolation of rural communities results from the underdeveloped structures and mechanisms of the civil society in Slovak regions.

A partial exception is the Tatras Euroregion initiative and activities of A-Project in Liptovský Hrádok.

7. In spite of the fact that lack of available jobs is considered one of the main social problems and declared relationships to entrepreneurs are more positive than negative, none of respondents mentioned their role in the area of jobs creation.

Table 1: Frequency of activities compatible with the sustainable development concept by different intensity of realisation in 3 sub-regions.

Activities/sub-regions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Coef	
Sub-Tatras – west																							
Realised	6	6	0	2	0	3	7	5	0	5	0	1	0	0	1	0	0	0	5	3	0	0.18	
Partly realised	12	12	10	15	4	5	8	3	5	15	16	14	14	8	7	5	9	12	17	17	2	0.45	
Planned	3	1	3	0	4	12	7	1	1	0	3	1	1	0	1	2	4	2	0	0	1	0.13	
Perspective	0	0	5	1	7	0	0	0	5	0	1	1	1	8	2	4	4	0	0	0	5	0.17	
Out of persp.	1	2	1	3	4	2	0	13	9	2	2	1	5	6	9	10	2	6	0	1	11	0.22	
Sub-Tatras – east																							
Realised	5	2	3	3	0	4	13	1	1	4	2	4	2	2	3	2	0	5	5	6	2	0.20	
Partly realised	6	4	1	4	2	2	2	1	1	11	4	3	7	2	2	2	5	3	7	4	0	0.22	
Planned	5	2	2	3	4	9	1	4	2	0	0	3	0	0	2	2	4	3	0	4	0	0.20	
Perspective	1	1	7	4	5	4	0	1	3	1	0	5	3	5	3	2	3	1	2	0	5	0.18	
Out of persp.	0	7	1	1	2	1	0	8	6	1	9	1	2	8	8	7	2	4	1	1	2	0.22	
Tatras (St. Sm.)																							
Realised	1	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.24	
Partly realised	0	1	1	1	1	0	0	0	1	0	1	0	1	0	0	0	2	0	0	1	1	0.52	
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
Perspective	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	1	0	1	0	0	0	0.19	
Out of persp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0.10	

8. In general, a retreat from the past megalomaniac projects and development plans is evident — instead of new buildings, reconstruction and renovation prevail. On the other hand, only a few initiative of local governments to reconstruct historical zones of rural villages is evident.
9. Respondents mainly had positive attitudes towards the natural values, as well as to institutions and bodies concerning nature protection and conservation.
10. In general, a small chance is given to the possibility of restoring traditional unions, associations, and clubs, as well as traditional activities, folk handicrafts and folk traditions in general. It is evidence of underestimation of these issues in the area of socio-economic commotion of Slovak regions as well as in the field of human resources creation and the development of civil society development. (There exist several positive exceptions, like Oblazy foundation in Kvačany).
11. It is evident that co-operation between NGOs and municipalities is still underdeveloped.
12. Nearly all of the respondents declared non-partisanship and willingness to cooperate, and their expectations from political parties are among the lowest priorities.
13. Practically no vision of a sustainable settlement was mentioned or outlined by representatives of local governments. There are only a few activities and/or projects that are compatible with the concept of sustainable development. The character of this approach is often accidental or ad hoc and only sometimes more conceptual and long-term oriented.
14. Concerning differences among 3 sub-regions it is evident that the highest intensity of activities, which are compatible with the sustainable development concept is in the Tatras sub-region, before Sub-Tatras west and Sub-Tatras east sub-regions.

Conclusions

The research in Tatras region confirmed that in spite of the post World War II development, the importance of the territory from the point of view of both natural and cultural values is significant. Human resources of the region (e.g. leadership potential, civil society building, utilisation of traditional skills, inter- and intra-regional co-operation, creativity, etc.) were limited in the last four decades, and in many cases are underdeveloped.

Preconditions to overcome the current situation and to orient the region towards sustainable development are in carrying for protected areas and historical monuments, as well as in preservation and promotion of traditions, traditional skills like handicrafts and folklore in the region.

The further important precondition is to stop the process of depopulation and implement measures leading to the improvement of the demographic structure of

rural settlements (especially in the western part) as well as to solve the problems of the Romany population with the creation of sustainable jobs (especially in the eastern part), both social and technical infrastructure improvement, and the enlargement of cultural, social and sporting possibilities. Another precondition is to improve school facilities and the whole educational system with the eventual introduction of special education, addressing sustainable regional development.

It is also important to preserve (and develop) traditions, and spirit of the region ("genius loci"), which represents a cross-road of different religious and ethnic streams, which produces a wide spectrum of cultural (both spiritual and material) manifestations.

The challenge for this region is to use the boundary location for the development of cross-boundary co-operation in the field of nature and landscape conservation, culture, sport, exchange of experience, common projects, etc.

Strategically important is to involve local people as much as possible into the process of preparation, adoption a realisation of decisions.

Finally, a key strategic precondition should be decision-making activities resulting into the syntheses of environmental, economic and social dimensions of development.

The region and all of Slovakia are presently at a cross-roads. There are more alternatives for future development (return to the past tendencies especially coming from the period 1948–1989, or prolongation of contemporary tendencies — lack of jobs, rising unemployment, marginalisation of remote localities and zones, underestimation of non-profit activities, and growth of consumer style of life and expectations, etc., or uncritical modernisation based on technocratic approach). The research showed that an optimal alternative is a sustainable development alternative, characterised by the combination of natural and cultural values preservation with the support of new activities, relevant and adopted for the region. This would include creation of new sustainable jobs in relationship to the above mentioned activities, and stabilisation of the rural population, measures that lead to improvement of the demographic structure, return to adequate land utilisation, revitalisation of settlements and the whole region. And to make these measures flexible and responsive to community needs, assessment should be employed which could include re-definition as well as elimination of inadequate activities which contradict the key nature protection function of the region.

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