



Rural Spatial Sustainable Development. Șimian Case Study

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Romania, as an European country, must subscribe to the sustainable development by respecting all the international or regional documents: The European Charta of the Spatial Planning (Torremolinos-1983), *The European Spatial Development Perspective (ESDP)*, Agenda 21 (1992) or Lisboa Agenda (2000). The European Charta of the Spatial Planning sets up the common principles and the main objectives that rule regional strategies to reduce the spatial disparities and to achieve a good concept of land use.

Spatial development policies focus on the balanced and sustainable development of the EU through the following objectives:

- economic and social cohesion;
- preserving and management of nature and culture;
- dispersed competitiveness all over Europe.

ESDP proposes three guide lines:

- polycentric spatial development and revigoration of the synergy between rural and urban areas;
- equal accessibility to communication, transport and knowledge;
- sustainable management of the natural and cultural heritage.

The rural space is very important for Romania; here there live 45% of the population, having 47% of dwellings. In this situation, the “*development of rural economy*” becomes a priority mentioned in all regional development strategies. The nowadays rural environment assessment points out the necessity for sustainable development of rural infrastructure. The programmes that are now implemented focus on the modernisation of rural roads and on building of a new water supply network. Șimian is a rural settlement closed to Drobeta Turnu-Severin town, located between the Severin Depression and the Getic Plateau, on all five Danube terraces at the confluence with Toplonita River. Actually, its beneath is the Pericarpethians Depression with its fundament made of crystalline and paleo-mesozoic sedimentary Autochthon (L. Badea, 1974). The relief is 65% plain, spread out in the West and South-Central parts, made of the Danube terraces with an altitude of 60-120 m and Topolnița terrace, striped out by gullies, with an altitude of 50-60 m. The Hills are located in the East at an average of 350 m. In the lower parts there are: Șimian, Cerneți, Dudașu and Dedovița Nouă villages and in the higher ones there are: Dedovița Veche, Erghevița, Poroina, Valea Copcii villages. The climate is mild with an annual average temperature that rises from 11° C up to 12° C, 661 mm/yearly rainfalls and the West winds prevail. This commune is favoured by the presence of the Danube River on a 6 km length (km 922-928), which is under a hydrologic lake regime. Its main tributary is Topolnița River (1,48m³/sec), which is very polluted by the industrial units from Halânga. Others temporary rivers are: Erghevița, Băran, Copcii, Sec, Purcel, Chiosmac. The underground waters are scattered in the Danube terraces, but some springs are contaminated by nitrates or unknown particles that cause a rare kidney illness called NEB.

Vegetation is composed of oak-tree forests: *Quercus cerris*, *Q. fraineto* on the low areas and *Quercus petraea*, *Carpinus betulus*, *Tilia argentea*, *Fagus silvatica* associated with several endemic vegetation *Ruscus acuealtus*, *R. hypoglossum* on the hills. The wet vegetation covers flood plains especially *Agrostis stolonifera*, *Carex* and even *Proa pratensis*, *Alopecurus pratensis*.

The environmental conditions gave birth to poor soils mixed with fertile ones.

The favourability of this settlement is illustrated by the population dynamics (table1). The birth rate is the biggest from all rural settlements of Mehedinti county, being of 15,4‰, between the years 1985-1992. After 1992, it was of over 11‰ but the high death rate allows no increase in the population number.

Table 1. Dynamics of population (1990-2004).

Year	Total population	Birth rate (‰)	Death rate (‰)	Natural demographic balance (‰)	Migration demographic balance (‰)	General demographic balance (‰)
1990	8.799	18,8	12,4	6,4	3,6	10,0
1991	8.872	16,7	10,1	6,6	2,7	9,3
1992	8.582	15,4	9,9	5,5	2,0	7,5
1993	8.643	12,4	9,7	2,7	4,3	6,9
1994	8.871	10,1	11,0	-0,9	9,2	8,3
1995	8.664	13,4	1,6	0,6	2,7	3,5
1996	8.782	13,3	12,6	0,7	13,8	14,5
1998	9.026	13,9	12,6	1,3	10,2	11,5
1999	9.132	11,2	12,6	-0,6	20,0	19,4
2002	9.737	11,9	11,0	0,9	7,5	8,4
2003	9.441	11,6	11,6	0,0	11,8	11,8
2004	9.554	11,5	11,5	0,0	10,7	10,7

The main causes of the death rate are related to heart diseases, cancer and respiratory illnesses; even the age structure of the population shows a great proportion of youth. So, it can be connected to pollution, NEB, and poor medical services.

Migration is characterized by commuters to Drobeta Turnu-Severin town or by emigration to other countries, and /or definitive change of residence to other counties (5,5‰, 1977 – 2002). Before 1990, Simian received many people from Halanga village as a result of Heavy Water Plant implementation North to this area (figure 1).



Figure 1. Houses of moved population from Halanga.

After 1990 because of the political changes in Romania, many former inhabitants returned here (minimum 130 in 1993 and maximum 265 in 2002). The general demographic balance has positive values that demonstrate the attractiveness of the area. Its lowest values were of 3,5‰ in 1995 and the highest ones of 19,4‰ in 1999.

The population density in core is the urban one 1.456,9 loc/km², because of the social factors: government policy, Law no. 18, economic factors, closeness to Drobeta Turnu-Severin, the variety of

transportation means, the complementary of farming as a supply region for the biggest town of Mehedinti county and obviously natural favourable conditions.

The gender structure is very useful to prospect the potential of the future workforce. So, after 2002, there three categories differentiate within the gender structure:

- settlements with big male deficit (45-47,9%): Dedovița Veche, Valea Copcii because of the predominance of the older population, their specialization in farming and the remoteness factor;
- settlements with small male deficit (48-49,9%): Șimian;
- settlements with male equilibrium or surplus, due to the presence of industry: Erghevița, Cerneți, Dedovița Nouă, Poroina.

The real workforce resource is of over 3.300 persons from which over 2.400 are employed in an economic activity, due to the closeness to the coal mine of Pietrele Roșii. In the farm working system, 27% of all the inhabitants give a farming function to this commune.

The farm resources are connected to the pedo-climatic conditions, the technical level and the specific policy. The farm area is of 3.802 ha, which means 61,2% from total surface of

this commune, but the arable surface 33,5% (2.172 ha) of farm land, and meadows cover 20%, as well as the forests, vineyards and orchards. The Political changes after 1989 have modified the land tenure, so 78,7% of the farm land is owned by farmers.

The largest arable area (2.099 ha) is used for cereals: wheat 505 ha (38%), maize 1.224 ha (29%), vegetables 280 ha, potatoes 30 ha, tomatoes, 50 ha (table 2). The waters cover 339 ha, the settlements 344,5 ha, the transports 259 ha, and 571 ha are unused (figure 2).

Table 1. The farm land structure in 2002 (ha).

Unit	Total farmland	Arable	Meadows	Vineyards	Orchards
Şimian commune	3.802	2172,75	1141,8	475,5	12,3
Mehedinţi county	293.977	185.732	89.294	9.831	9.120

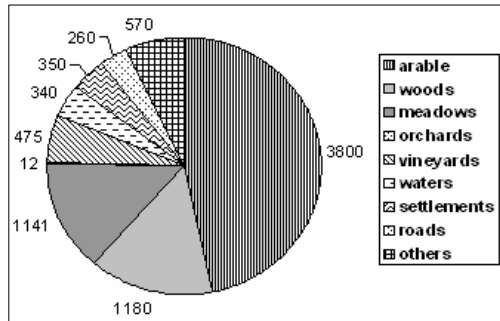


Figure 2. Şimian land use structure.

Spatially speaking, this structure of land use differs because the West and North West parts belong to the settlements, meanwhile the forest and meadows are specific to the East part and the arable areas are located in the South. From the point of view of property, dwellers have 96% of the arable land, 68% of the meadows and 8% of the vineyards, but in many cases the land use is the most suitable one.

Breeding animals is the second farm branch in this area, but because of social and economic causes it is in decrease. Every family breeds 0,33 caws, 0,31 sheep, 0,28 pigs and The Avicola SA assures 7.200 chickens. The farm land potential is higher and many families see it as having only a purpose of subsistence. Land tenure works have been reduced for 15 years, only irrigation remained (126 ha) but organized by stakeholders. But the land is divided into small size farms (1 ha/family) and commercial business units: Horticola SA, Avicola SA, Agromec. The level of mechanization is good: the private sector has: 38 tractors, 9 seeders and 10 ploughs and AGROMECA: 55 tractors, 40 combines and 20 ploughs.

Forestry is lead by the Simian Forest Office. According to the Law no 18/1991, the forest is divided into three sectors:

- 5% belong to the Major House;
- 80% belong to Romsilva;
- 15% belong to private owners.

The woods belong to the second category, the one aiming on production and protection. The forest production in wood is of almost 30.000 m³/year, but there were many illegal deforestation episodes, which induced land slopes in the Eastern part, last summer. Industry is focused on mining, ware fuel, processing food, wood and metallurgy. The transportation system is favorised by the presence of the European Highway-E70, the thoroughfare Bucharest-Timişoara railway and other types of roads: DN 56A, DJ 607A and DC 23, DC 21. Simian has no local transportation services, but it uses other operators (SETRACOM) for local purposes. The water way is under construction, but for the individual interest or transit. The commerce activity is developed in all the 100 small units.

A great potential consists in tourism, as a part of The Iron Gate destination, continued by cultural tourism specific for Drobeta Turnu-Severin town and Simian itself. Its cultural resources are made of:

- Histor's House named „cula”(1820);
- Tudor Vladimirescu's (1800) House and Museum;
- St. Trinity Church (1662), which played a great role in Tudor Vladimirescu revolution built by Gh. Ghica Reign and Gr. Ghica;
- St. Dumitru Church (1814);
- St. Nicolas Church (1784-1784) built by Radu and Ştefan Pleşoianu brothers;
- Tudor Vladimirescu statue, made by C-tin Bălăcescu artist.

The Ada-Kaleh citadel was moved in Şimian Isle from the former Ada-Kaleh with a great potential by a good management, plus the Turk cemetery and the Neolithic settlement (III century BC) from Sălcuţa. To the East there are „Brazda lui Novac” - necropolis from II-IV

century and a roman old settlement, „Lilieci” etc. Tourism can be improved by fisheries and water sport activities. Many houses can be involved in tourism through ANTREC certification and farmers can set up local restaurants. Urban facilities are undeveloped. Parks, sports areas, leisure cover only 9.5 ha, placed only in the central parts of the villages, many of them of poor quality. The running water system is organized in Șimian, Cerneți and Dudașu, but only Șimian has sewage drainage. As an out going energy region, through three hydroelectric power stations: Porțile de Fier and Ostrovul Mare and CET Halânga, all villages have a good input of, but there is no central heating system as towns have. Telephony is accessible in all settlements. The threat remains in: the illegal deforestation that causes soil erosion, the renouncement of terraced agriculture, the informal waste disposal everywhere that gives many risks, the coal waste in Cocoa valley (85.000 t), to many fuel whares, the air pollution coming from industrial areas closed to Simian, Cernet, Dudasu, the water transboundary or local pollution. In this context, risks must be analyzed and managed to reduce their effects as much as possible. The most dangerous is the climate through droughts and flooding phenomena (1999, 2005). The second risk is technological because of the polluting factors, the closeness to Drobeta Turnu-Severin industrial area and the possibility of road accidents. In the third place there are the socio-political factors: unemployment, hunger, robberies, fires, poor housing etc.

In this context, Simian needs an urgent *Sustainable planning* “Agenda 21” upheld by:

- economic management focusing on decreasing of waste, eco-labelling, renewable energy sources;
- respect the human rights: high quality of life, rising environment awareness, reducing the rate of unemployment;
- preserving nature and landscape;
- introduction of eco-technologies;
- correlation between local, national and European strategies;
- tourism and commerce development;
- restoring terraces farming, greenhouses and fisheries;
- diminishing poverty and economical social segregation and injustice;
- developing small enterprises (IMM);
- rehabilitation of the transport infrastructure;
- turning tourism into benefits.

Conclusion

Simian has a great potential given by its geographical position closed to the biggest town of the Mehedinți County, The Danube River, but it suffers because of the local population, local policy established by former communist involved in administrative structure. Many citizens have good initiatives and they organize all by their own force. Simian will have the possibility for a sustainable development as a result of its designation as a free commercial zone, the income brought here by wealth people from Drobeta Turnu Severin town.

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